



**←INSIZE→**

# MEASURING INSTRUMENTS

CATALOG NO. US25

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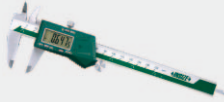
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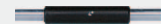
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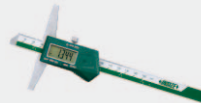
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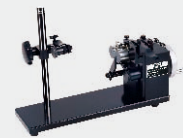
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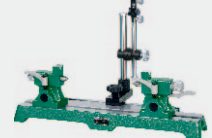
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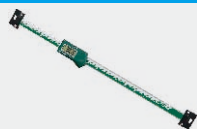
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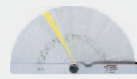
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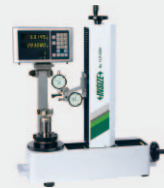
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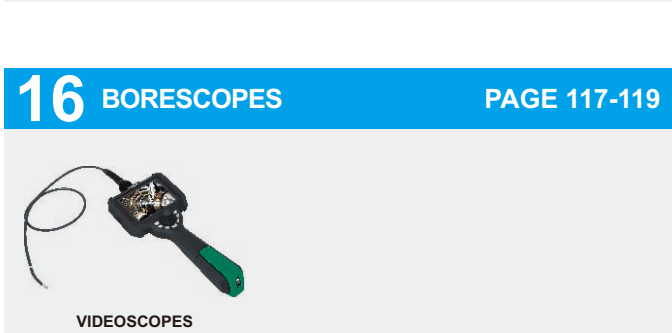


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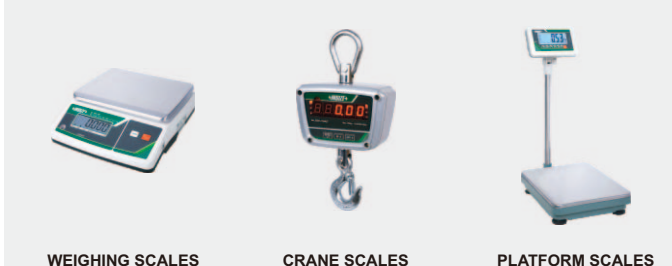


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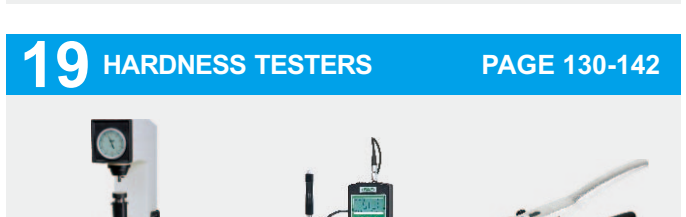
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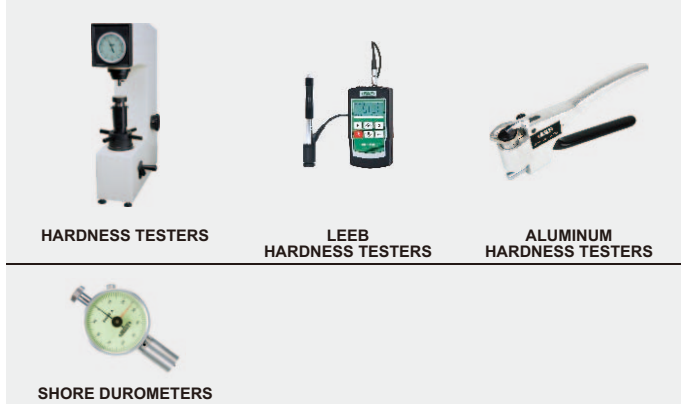


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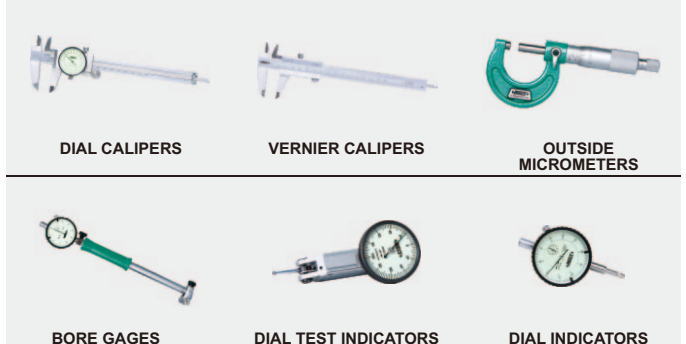
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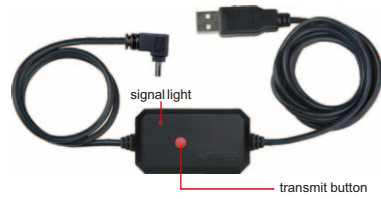
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DIAL INDICATORS



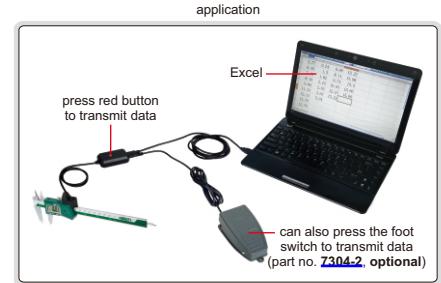


## DATA OUTPUT CABLES (KEYBOARD FORMAT)



**7302-40M**

- Recognized as HID keyboard device by computer, no need to install drivers and softwares
- Data can be transmitted to Excel, Word, txt and other files (press transmit button, which is recognized by the computer as keyboard input data and press enter, such as 1.34 ✓)
- Suitable for any softwares which can receive keyboard signal
- Optional accessory: foot switch (part no. [7304-2](#)), hub (part no. [7324-HUB4](#), [7324-HUB7](#)) extension cables (part no. [7325-ADD5](#), [7325-ADD10](#))



Part No.	Description	Plug to product	Plug to computer	Applicable products
<a href="#">7302-21</a>	cable for digital calipers (length 120")	transmit button		<p>digital calipers and digital depth gages</p>
<a href="#">7302-22</a>	cable for large digital calipers (length 100")			<p>large digital calipers (range ≤ 40") and digital height gages</p>
<a href="#">7302-30</a>	cable for digital micrometers (length 100")			<p>digital micrometers</p>
<a href="#">7302-40M</a>	cable for digital indicators (length 100")			<p>digital indicators</p>
<a href="#">7302-50M</a>	cable for digital gages (length 100")			<p>digital thickness gages and digital internal/external caliper gages</p>
<a href="#">7302-60</a>	cable for high precision digital indicators (length 100")			<p><a href="#">2140-6</a> and 2133 series high precision digital indicators</p>

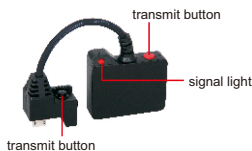
## WIRELESS DATA TRANSMISSION SYSTEM

- Through wireless transmission, the measurement data can be transmitted to computers or mobile phones
- For windows and android systems
- Wireless zigbee protocol, conforming to IEEE802, 2.4GHz band
- Transmission distance is 49ft (Under the condition of no obstruction and no electromagnetic interference. The transmission distance of built-in wireless measuring tools can be found in their respective introduction.)

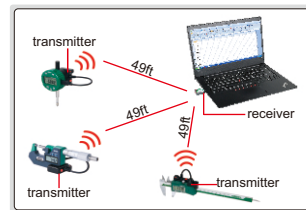
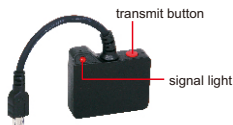
### Transmitter


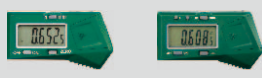
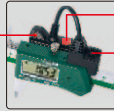


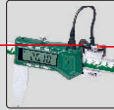


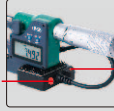






- Connecting to digital measuring tools such as calipers, micrometers and indicators
- Press the transmit button to send data
- CR2032 battery

7315-21



7315-22







Part No.	Description	Plug to product	Remark
<a href="#">7315-21</a>	transmitter for digital calipers	 transmit button	 digital calipers and digital depth gages  signal light transmit button
<a href="#">7315-22</a>	transmitter for large digital calipers		 large digital calipers (range ≤40") and digital height gages  signal light transmit button
<a href="#">7315-30</a>	transmitter for digital micrometers		 digital micrometers  transmit button signal light
<a href="#">7315-50M</a>	transmitter for digital indicators		 digital indicators, digital thickness gages and digital internal/external caliper gages  signal light transmit button
<a href="#">7315-60</a>	transmitter for high precision digital indicators		 <a href="#">2140-6</a> and 2133 series high precision digital indicators  signal light transmit button


### Receiver (keyboard signal)

- For computers and mobile phones with windows and android systems
- Recognized as HID keyboard device, press transmit button of transmitter, which is recognized by computers or mobile phones as keyboard input data and press enter, such as 1.34√.
- No need to install drivers and softwares
- Data can be transmitted to excel, word, txt etc.
- Suitable for any softwares which can receive keyboard signal

### Receiver (text format, virtual com port)

- Suitable for computers with windows system
- Text format virtual com port, converted to keyboard format with supplied software
- Supplied with EXCEL directional input software (please refer to the next page for details)
- Measurement data can be transmitted to excel, word, txt etc. and any software which receives keyboard signal

Part No.	Product	Description	Remark
<a href="#">7315-3</a>	 USB port	single channel receiver	connected with 1 transmitter only
<a href="#">7315-6</a>	 USB port	multichannel receiver	connected with 6 transmitter, each channel has a transmitter status indicator
<a href="#">7315-7</a>	 Type-C port		
<a href="#">7315-8</a>	 Micro USB port		

Part No.	Product	Description	Remark
7315-2	 antenna USB port	multichannel receiver	connected with maximum 16 transmitters, each of them has unique identification code

To be continued



Continued from previous page

### EXCEL directional input software

- Included in **7315-2** receiver
- The measurement data of multiple measuring tools can be transmitted to the designated area of excel, which facilitates data management and improves efficiency

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

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

Project	Length	Width	Height
Dimension and Tolerance	50±0.05	24±0.01	10±0.05/0.06
Measuring tool	Caliper	Micrometer	Height gage
1	50.02	24.004	9.98
2	50.01	24.010	10.01
3	49.99	23.990	10.02
4	50.00	23.996	9.99
5	50.04	24.000	10.01
6	Channel 1	Channel 2	Channel 3

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

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

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

Project	External diameter1	External diameter2	Length	Depth
Dimension and Tolerance	Φ21±0.01/0.02	Φ21±0.01/0.02	50±0.04	28±0.05
Measuring tool	Micrometer	Micrometer	Caliper	Depth gage
1	23.010	21.008	49.98	28.01
2	23.010	21.000	49.98	27.98
3	22.999	21.000	50	28
4	23.007	20.998	50	28
5	23.000	20.985	50.01	28.01
6	23.008	Channel 1	Channel 2	Channel 3

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

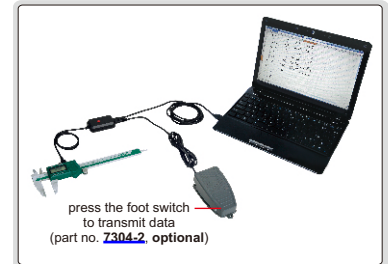
### FOOT SWITCH

- For data transmission



**7304-2**

application



press the foot switch to transmit data (part no. **7304-2**, optional)

Part No.	Description	Applicable products
<b>7304-2</b>	data transmission foot switch with cable (length 80")	<b>7302</b> series data cables <b>7305</b> series data cables

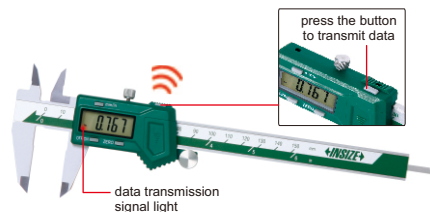
### WIRELESS DIGITAL CALIPERS



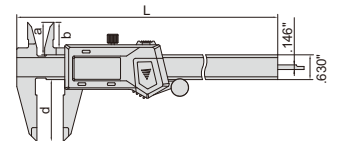
**ATTENTION: THE WORKING LIFE OF A BATTERY IS ABOUT 3-5 MONTHS**



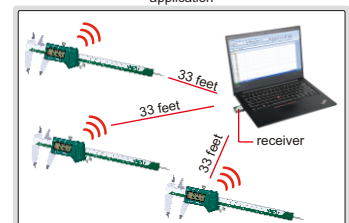
- Built-in wireless data transmission module, Zigbee signal
- Transmission distance is 33 feet (under the condition of no obstruction and no electromagnetic interference)
- Resolution .0005"/0.01mm
- Accuracy: ±.0015"
- Buttons: on/off, zero, inch/mm, data transmission
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel
- Optional accessory: receiver (part no. **7315-2/3/6/7/8**)



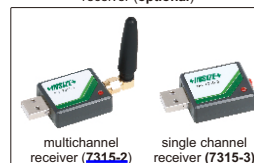
**1113-150**



application



receiver (optional)



Part No.	Range	L	a	b	d
<b>1113-150*</b>	0-6"/0-150mm	9.291"	.827"	.630"	1.575"
<b>1113-200*</b>	0-8"/0-200mm	11.260"	.945"	.748"	1.969"
<b>1113-300*</b>	0-12"/0-300mm	15.748"	.984"	.807"	2.362"

\*Supplied with manufacturer inspection certificate traceable to NIST

## IP67 WATERPROOF DIGITAL CALIPERS



- IP67 dust/waterproof
- Resolution .0005"/0.01mm
- Accuracy: ±.0015"
- Button function: zero, on/off, inch/mm, ABS/REL, hold
- Battery CR2032
- Made of stainless steel

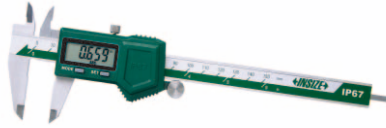
Part No.	Range	Type	L	a	b	c	d
1118-150B*	0-6"/0-150mm	B	9.291"	.827"	.630"	.630"	1.575"
1118-200B*	0-8"/0-200mm	B	11.260"	.945"	.748"	.630"	1.969"
1118-300B*	0-12"/0-300mm	B	15.748"	.984"	.807"	.630"	2.362"
1118-150R*	0-6"/0-150mm	R	9.291"	.827"	.630"	.630"	1.575"

\*Supplied with manufacturer inspection certificate traceable to NIST

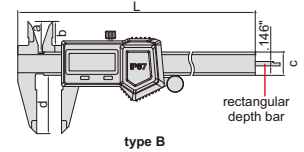
ATTENTION: IT IS NECESSARY TO SET ZERO AFTER POWER ON EACH TIME

ATTENTION: NO DATA OUTPUT

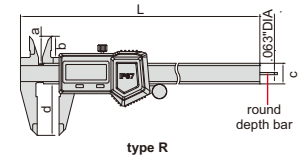
IP67 WATERPROOF



1118-150B



1118-150R



## IP67 WATERPROOF DIGITAL CALIPERS



- Accuracy: ±.0015"
- IP67 dust/waterproof
- Resolution .0005"/0.01mm
- Large display
- Button function: zero, on/off, inch/mm
- Battery CR2032, automatic power off
- Made of stainless steel

Part No.	Range	Type	L	a	b	d
1126-150*	0-6"/0-150mm	A	9.213"	.787"	.591"	1.575"
1126-200*	0-8"/0-200mm	A	11.260"	.945"	.748"	1.969"
1126-300*	0-12"/0-300mm	A	15.354"	1.024"	.846"	2.362"
1126-150R*	0-6"/0-150mm	R	9.213"	.787"	.591"	1.575"

\*Supplied with manufacturer inspection certificate traceable to NIST

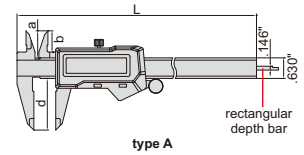
ATTENTION: WHEN POWER ON 8 HOURS AFTER SHUTDOWN, IT IS NECESSARY TO SET ZERO

ATTENTION: NO DATA OUTPUT

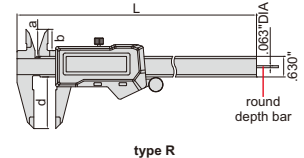
IP67 WATERPROOF



1126-150



1126-150R

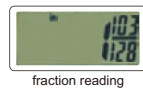


## DIGITAL CALIPERS (FRACTION READING)

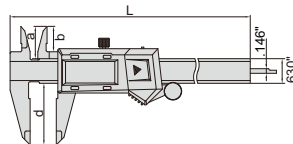
ATTENTION: NO DATA OUTPUT



1102-150



- 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



Part No.	Range	Accuracy	L	a	b	d
1102-150*	0-6"/0-150mm	±.0015"	9.213"	.787"	.630"	1.575"
1102-200*	0-8"/0-200mm	±.0015"	11.260"	.945"	.748"	1.969"
1102-300*	0-12"/0-300mm	±.0015"	15.354"	1.024"	.846"	2.362"

\*Supplied with manufacturer inspection certificate traceable to NIST

## DIGITAL CALIPERS (STANDARD TYPE)

DATA OUTPUT

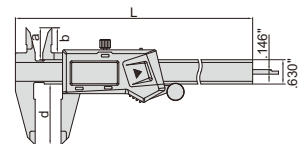


POPULAR MODEL



1108-150

- 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. [7315-21](#), [7302-21](#))



Part No.	Range	Accuracy	L	a	b	d
1108-150*	0-6"/0-150mm	±.0010"	9.291"	.827"	.630"	1.575"
1108-200*	0-8"/0-200mm	±.0015"	11.260"	.945"	.748"	1.969"
1108-300*	0-12"/0-300mm	±.0015"	15.748"	.984"	.807"	2.362"

\*Supplied with manufacturer inspection certificate traceable to NIST



## DIGITAL CALIPER WITH ROUND DEPTH BAR

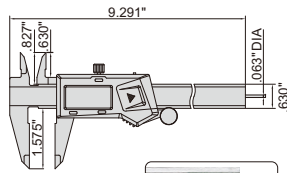
**INSPECTION CERTIFICATE**  
TRACEABLE TO NIST

**DATA OUTPUT**



1119-150

- Resolution .0005"/0.01mm
- Accuracy:  $\pm 0.015"$
- 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. [7315-21](#), [7302-21](#))



round depth bar .063" DIA

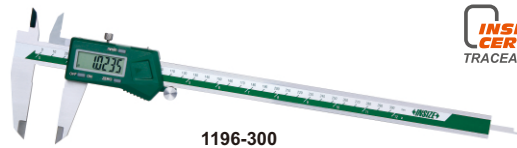
Part No.	Range
1119-150*	0-6"/0-150mm

\*Supplied with manufacturer inspection certificate traceable to NIST

## HEAVY DUTY 12" DIGITAL CALIPER

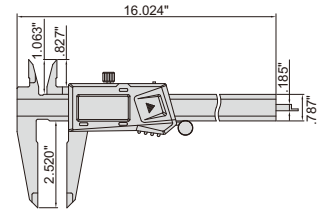
**DATA OUTPUT**

**INSPECTION CERTIFICATE**  
TRACEABLE TO NIST



1196-300

- Resolution .0005"/0.01mm
- Accuracy:  $\pm 0.015"$
- 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. [7315-22](#), [7302-22](#))



Part No.	Range
1196-300*	0-12"/0-300mm

\*Supplied with manufacturer inspection certificate traceable to NIST

## DIGITAL CALIPERS WITH CARBIDE TIPPED JAWS

**DATA OUTPUT**

**INSPECTION CERTIFICATE**  
TRACEABLE TO NIST

- 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. [7315-21](#), [7302-21](#))

### Carbide tipped upper and lower jaws

Part No.	Range	Accuracy	L	a	b	d
1110-150A*	0-6"/0-150mm	$\pm 0.015"$	9.291"	.827"	.630"	1.575"
1110-200A*	0-8"/0-200mm	$\pm 0.015"$	11.260"	.945"	.748"	1.969"
1110-300A*	0-12"/0-300mm	$\pm 0.015"$	15.748"	.984"	.807"	2.362"

### Carbide tipped lower jaws

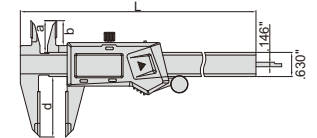
Part No.	Range	Accuracy	L	a	b	d
1110-150B*	0-6"/0-150mm	$\pm 0.015"$	9.291"	.827"	.630"	1.575"
1110-200B*	0-8"/0-200mm	$\pm 0.015"$	11.260"	.945"	.748"	1.969"
1110-300B*	0-12"/0-300mm	$\pm 0.015"$	15.748"	.984"	.807"	2.362"

\*Supplied with manufacturer inspection certificate traceable to NIST



1110-150A

carbide measuring faces  
carbide measuring faces



1110-150B

steel measuring faces  
carbide measuring faces

## DIGITAL CALIPERS

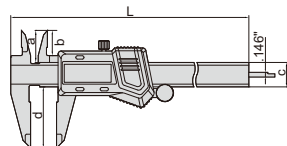
**ATTENTION: NO DATA OUTPUT**

**INSPECTION CERTIFICATE**  
TRACEABLE TO NIST



1114-150A

- Zinc alloy housing for digital 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



Part No.	Range	Accuracy	L	a	b	c	d
1114-150A*	0-6"/0-150mm	$\pm 0.015"$	9.291"	.827"	.630"	.630"	1.575"
1114-200A*	0-8"/0-200mm	$\pm 0.015"$	11.260"	.945"	.748"	.630"	1.969"
1114-300A*	0-12"/0-300mm	$\pm 0.015"$	15.748"	.984"	.807"	.669"	2.362"

\*Supplied with manufacturer inspection certificate traceable to NIST

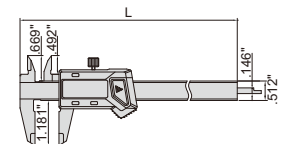
## MINI DIGITAL CALIPERS

**ATTENTION: NO DATA OUTPUT**



1111-100A

- 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



Part No.	Range	Accuracy	L
1111-75A	0-3"/0-75mm	$\pm 0.010"$	5.669"
1111-100A	0-4"/0-100mm	$\pm 0.010"$	6.693"

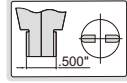
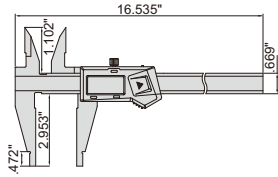
**DIGITAL CALIPER**

DATA OUTPUT



1523-127

- 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. [7315-22](#), [7302-22](#))



Part No.	Range	Accuracy
1523-127	0-12"/0-300mm	±.0025"

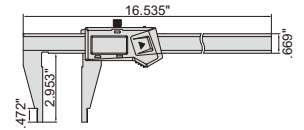
**DIGITAL CALIPER**

DATA OUTPUT



1522-127

- 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. [7315-22](#), [7302-22](#))



Part No.	Range	Accuracy
1522-127	0-12"/0-300mm	±.0025"

**LEFT HAND DIGITAL CALIPERS**

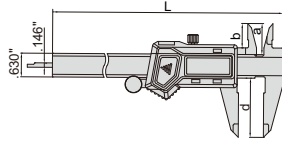
INSPECTION CERTIFICATE TRACEABLE TO NIST

DATA OUTPUT



1130-150

- 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. [7315-22](#), [7302-22](#))



Part No.	Range	Accuracy	L	a	b	d
1130-150*	0-6"/0-150mm	±.0015"	9.291"	.827"	.630"	1.575"
1130-200*	0-8"/0-200mm	±.0015"	11.260"	.945"	.748"	1.969"
1130-300*	0-12"/0-300mm	±.0015"	15.748"	.984"	.807"	2.362"

\*Supplied with manufacturer inspection certificate traceable to NIST

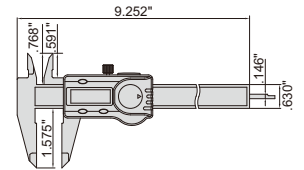
**PLASTIC DIGITAL CALIPER**

ATTENTION: NO DATA OUTPUT



1139-150

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



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

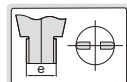
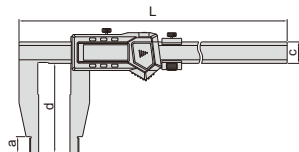
**DIGITAL CALIPERS**

DATA OUTPUT



1131-24

- Resolution .0005"/0.01mm
- Button function: on/off, zero, inch/mm, ABS, data preset
- Battery CR2032
- Made of stainless steel
- Data output
- Optional accessory: data output cable (part no. [7315-22](#), [7302-22](#))



Part No.	Range	Accuracy	a	c	d	e	L
1131-24	0-24"/0-600mm	±.0020"	.709"	.945"	3.937"	.800"	30.315"
1131-40	0-40"/0-1000mm	±.0030"	.945"	1.220"	5.906"	.800"	48.031"
1131-60	0-60"/0-1500mm	±.0045"	.945"	1.654"	5.906"	.800"	70.079"

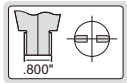
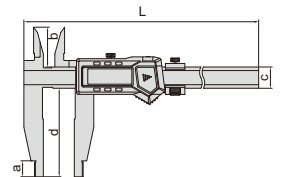
**DIGITAL CALIPERS**

DATA OUTPUT



1133-24

- 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. [7315-22](#), [7302-22](#))



Part No.	Range	Accuracy	a	b	c	d	L
1133-24	0-24"/0-600mm	±.0020"	.709"	1.772"	.945"	3.937"	30.315"
1133-40	0-40"/0-1000mm	±.0030"	.945"	2.362"	1.220"	5.906"	48.031"



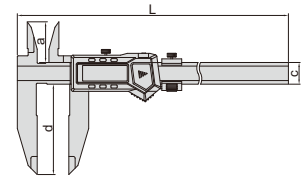
## DIGITAL CALIPERS

DATA  
OUTPUT

- 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. [7315-22](#), [7302-22](#))



1135-601



Part No.	Range	Accuracy	a	c	d	L
1135-451	0-18"/0-450mm	±.0020"	1.772"	.945"	3.937"	24.606"
1135-601	0-24"/0-600mm	±.0020"	1.772"	.945"	3.937"	30.315"
1135-1002	0-40"/0-1000mm	±.0030"	2.362"	1.220"	5.906"	48.031"

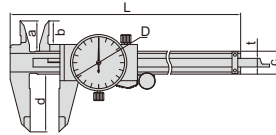
## DIAL CALIPERS

INSPECTION  
CERTIFICATE  
TRACEABLE TO NIST

SHOCK  
PROOF

INSIZE  
ISO17025 CERTIFICATE  
AVAILABLE AT  
EXTRA CHARGE  
(REFER TO BACK COVER)

- Dial indicator graduation .001"
- Shockproof dial indicator
- Made of stainless steel



1311-6

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

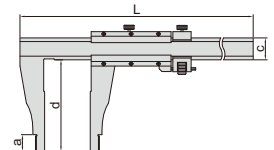
\*Supplied with manufacturer inspection certificate traceable to NIST

## VERNIER CALIPERS

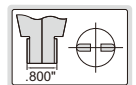
- Graduation .001"/0.02mm
- With fine adjustment
- Made of stainless steel
- Satin chrome plated reading surface



1211-24



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



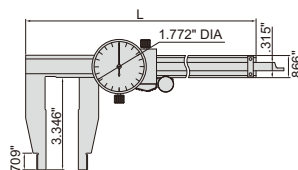
## DIAL CALIPERS

SHOCK  
PROOF

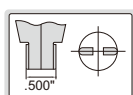


1316-18

- Shockproof dial indicator
- Graduation .001"
- Accuracy: ±.0020"
- Made of stainless steel



Part No.	Range	L
1316-18	0-18"	22.835"
1316-24	0-24"	28.740"

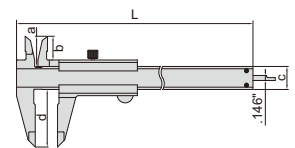


## VERNIER CALIPERS



1205-1502E

- Graduation .001"/0.02mm
- Accuracy: ±.0012"
- Made of stainless steel
- Satin chrome plated reading surface



Part No.	Range	L	a	b	c	d
1205-1502E	0-6"/0-150mm	9.252"	.807"	.610"	.630"	1.575"
1205-2002E	0-8"/0-200mm	11.417"	.925"	.748"	.669"	1.969"

## DEPTH BASE ATTACHMENTS

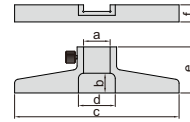
- To increase the stability of depth measurement
- Suitable for digital calipers and dial calipers
- Made of stainless steel



**6140**



**6140-16B**

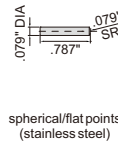
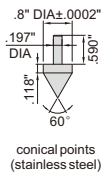
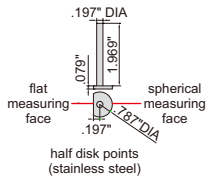
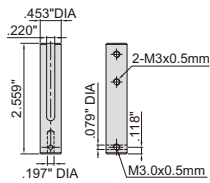


Part No.	a	b	c	d	e	f	Type	Application
<b>6140</b>	.650"	.354"	2.953"	.709"	1.181"	.236"	narrow base (f=.236")	suitable for calipers with beam width (w) .630"
<b>6140-300A</b>	.787"	.591"	4.921"	.866"	1.339"	.354"	narrow base (f=.354")	suitable for calipers with beam width (w) .787"
<b>6140-16B</b>	.630"	.492"	2.953"	.965"	1.181"	.433"	wide base (f=.433"), high stability	suitable for calipers with beam width (w) .630"

## ACCESSORY SET FOR LARGE DIGITAL CALIPERS PART NO. 6145-500



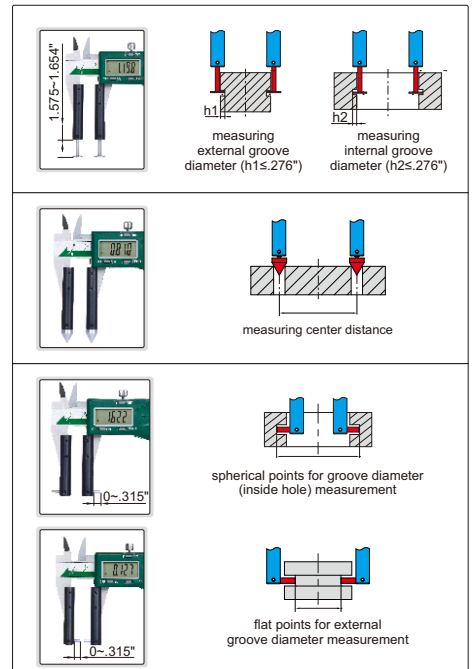
**6145-500**



- Suitable for 0-20"/0-500mm and 0-24"/0-600mm digital calipers (thickness of lower jaws  $\leq$  .220")

**Part No.**

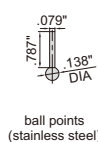
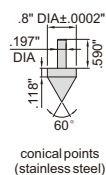
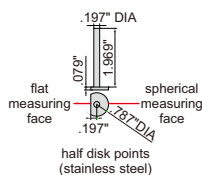
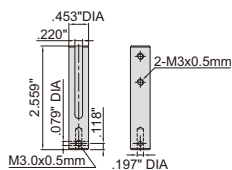
**6145-500**



## ACCESSORY SET FOR LARGE DIGITAL CALIPERS (WITH SIDE POINTS) PART NO. 6146-500B



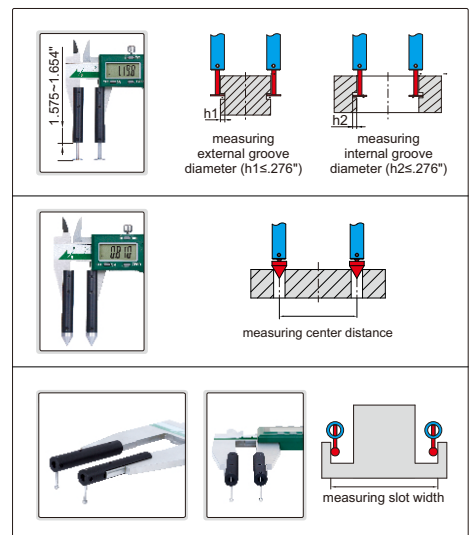
**6146-500B**



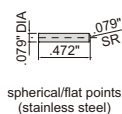
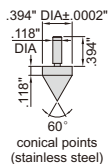
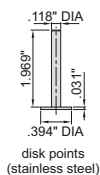
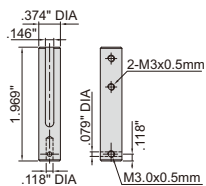
- Suitable for 0-20"/0-500mm and 0-24"/0-600mm digital calipers (thickness of lower jaws  $\leq$  .220")

**Part No.**

**6146-500B**

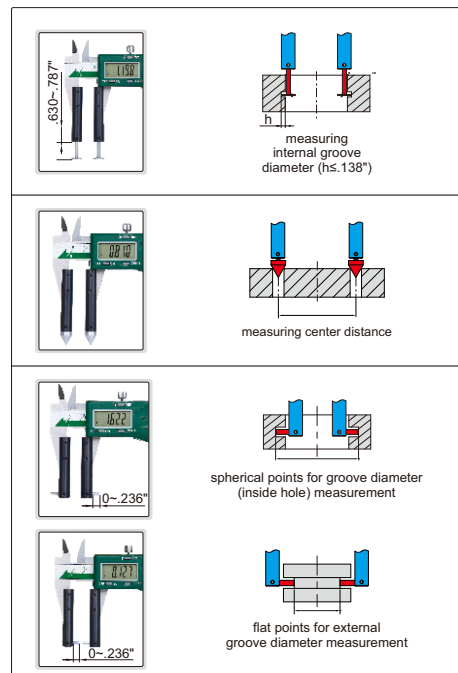


## ACCESSORY SET FOR DIGITAL CALIPERS PART NO. 6144



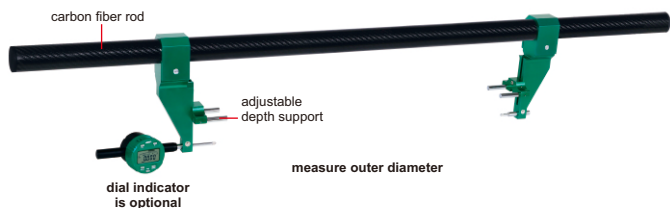
- Suitable for 0-6"/0-150mm and 0-8"/0-200mm digital calipers (thickness of lower jaws ≤ .146")

Part No.  
**6144**

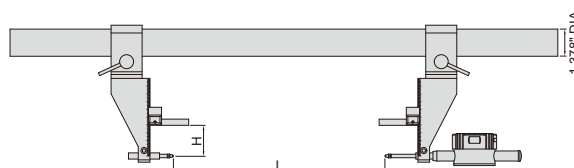


## CARBON FIBER COMPARISON GAGES

CARBON FIBER RODS, LIGHT WEIGHT, NOT EASY TO DEFORM, NO TEMPERATURE EXPAND, SUITABLE FOR THIN-WALL WORKPIECES AND LARGE-SIZE WORKPIECES



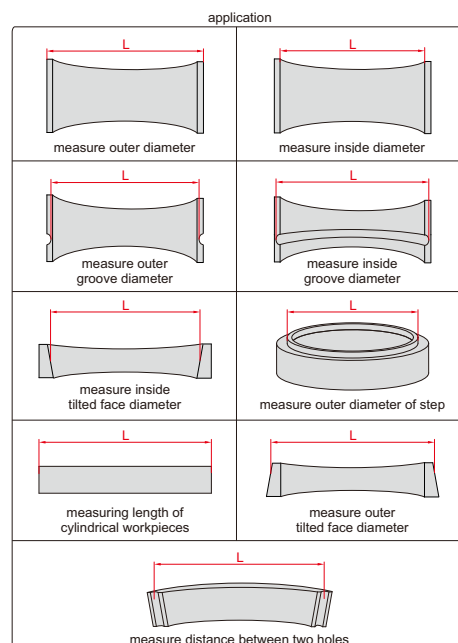
2931-D1000AE



- Measure outer diameter, inside diameter, holes distance and cylindrical workpiece length
- Carbon fiber rods, light weight, not easy to deform, no temperature expand
- Optional accessory: cylinder gage blocks (part no. 4001)



Part No.	Maximum measuring range (L)	Measuring depth (H)	Repeatability	Weight
2931-D1000AE	40"	0-4"	.0002"	4.41lb
2931-D2000BE	80"	0-8"	.0008"	6.39lb
2931-D3000BE	120"	0-8"	.0012"	7.72lb





**UNIVERSAL CALIPER  
PART NO. 1125-600**

DATA OUTPUT

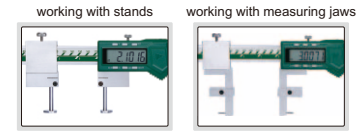
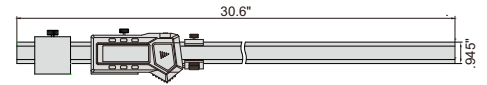


1125-600

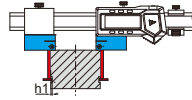
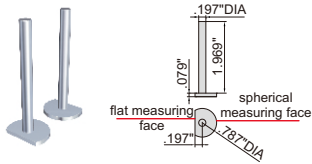
- Buttons: on/off, set, inch/mm, ABS, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel
- Optional accessory: data output cable (part no. [7315-22](#), [7302-22](#))

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

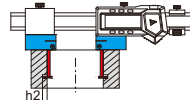
\*The range changes according to different points



**Half disk points (included)**

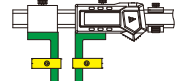
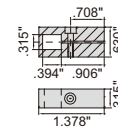


Measuring external groove diameter with flat measuring face (depth h1 ≤ .098")

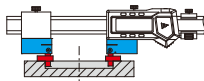
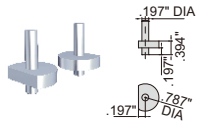


Measuring internal groove diameter with spherical measuring face (depth h2 ≤ .295")

**Depth stop (included)**



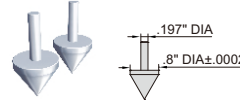
**Round shoulder points (optional)**



Measure inside diameter of shallow hole

Part No.  
1125-T102

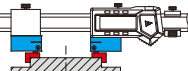
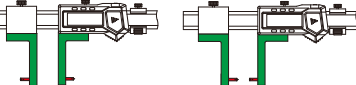
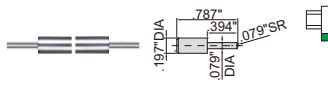
**Conical points (optional)**



Measuring center distance

Part No.  
1125-T101

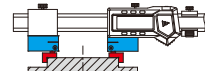
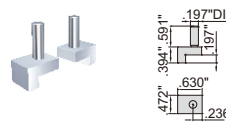
**Spherical points (included)**



Measure outside diameter of low boss

Part No.  
1125-T103

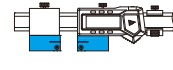
**Flat shoulder points (optional)**



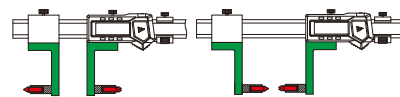
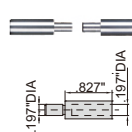
Measure outside diameter of low boss

Part No.  
1125-T104

**Stands (included)**

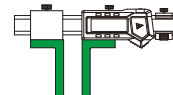


**Point sleeve (optional)**



Working with multifunctional points, ball points and screw thread points

**Measuring jaws (included)**



**Multifunctional points 7392 (optional)**



**Ball points 7391 (optional)**



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

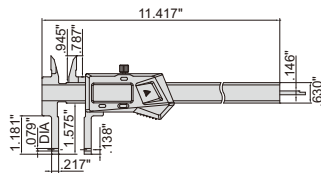
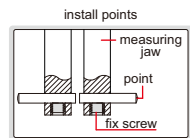


**DIGITAL CALIPER WITH INTERCHANGEABLE POINTS  
PART NO. 1526-200**

DATA OUTPUT



1526-200



**preset buttons**



**depth stop 6143 (optional)**



**zero setting block for external measurement (included)**



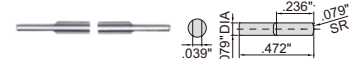
**short spherical points (included)**



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



**spherical blade points (included)**



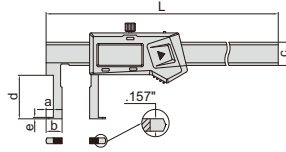
- Supplied with 3 pairs of points and zero setting block for external measurement
- Resolution .0005"/0.01mm
- Buttons: on/off, set, inch/mm, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032, data output
- Made of stainless steel
- Optional accessory: points (part no. [1526-T101](#), [7392](#), [7391](#), [7381](#), [7321](#)), depth stop (part no. [6143](#)), data output cable (part no. [7315-21](#), [7302-21](#))

Point	Range	Accuracy	Application
short spherical points	.5-8.5"/12-212mm (internal)	±.0015"	for grooves inside small hole
long spherical/flat points	1-8.8"/24-224mm (internal) 0-7.5"/0-187mm (external)	±.0015"	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)	±.0015"	for narrow grooves inside hole



## DIGITAL INSIDE GROOVE CALIPERS

- Measure groove diameter
- Resolution .0005"/0.01mm
- Buttons type A: on/off, set, inch/mm, preset (+, -), type C: on/off, zero, inch/mm, ABS/REL, hold
- Battery CR2032
- Made of stainless steel
- Optional accessory: depth stop (part no. [6143](#), for calipers with c=.630")



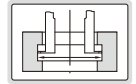
1120-150AE  
type A



1120-150P  
type C

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

Part No.	Range	Type	Accuracy	L	a	b	c	d	e	Data output cable (optional)
1120-150AE	1-6"/25.4-150mm	A	±.0015"	9.843"	.197"	.500"	.630"	1.181"	.039"	7315-21, 7302-21
1120-200A	1-8"/25-200mm	A	±.0015"	12.205"	.197"	.492"	.630"	1.575"	.039"	7315-21, 7302-21
1120-300A	1.2-12"/30-300mm	A	±.0020"	16.142"	.197"	.591"	.630"	1.969"	.059"	7315-21, 7302-21
1120-500	1.57-20"/40-500mm	A	±.0030"	26.772"	.197"	.787"	.945"	3.543"	.087"	7315-22, 7302-22



depth stop 6143  
(optional)



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

Part No.	Range	Type	Accuracy	L	a	b	c	d	e
1120-150P	.87-6"/22-150mm	C	±.0015"	9.843"	.197"	.433"	.630"	1.181"	.039"

## DIGITAL INSIDE POINT CALIPERS

- 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](#), for calipers with c=.630"), data output cable (part no. [7315-21](#), [7302-21](#))

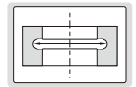
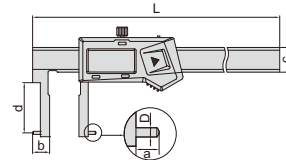


1121-150A

DATA  
OUTPUT



Part No.	Range	Accuracy	L	a	b	c	d	D
1121-150A	.9-6"/24-150mm	±.0015"	9.843"	.197"	.4724"	.630"	1.102"	.079" DIA
1121-200A	1-8"/25-200mm	±.0015"	12.205"	.197"	.4921"	.630"	1.457"	.079" DIA
1121-3001A	2-12"/50-300mm	±.0025"	16.142"	.315"	.9843"	.630"	3.031"	.118" DIA

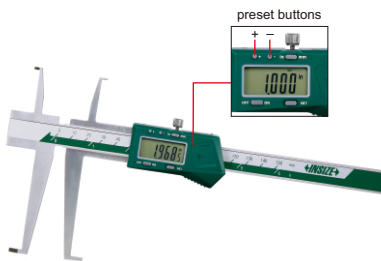


## DIGITAL INSIDE GROOVE CALIPERS

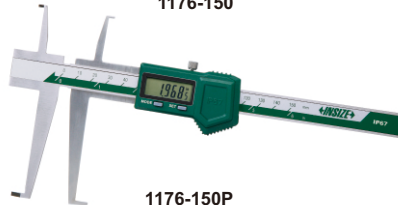
depth stop 6143  
(optional)



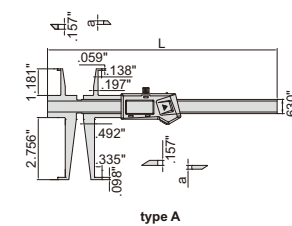
- Measure diameter of grooves inside bores
- Resolution .0005"/0.01mm
- Buttons type A: on/off, set, inch/mm, preset (+, -), type B: on/off, zero, inch/mm, ABS/REL, hold
- Battery CR2032
- Made of stainless steel
- Optional accessory: depth stop (part no. [6143](#))



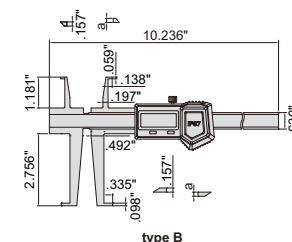
1176-150



1176-150P

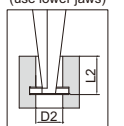


type A



type B

sizes to be measured  
(use lower jaws)



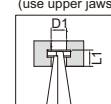
No dust/waterproof, with data interface (data output cable part no. 7315-21, 7302-21, optional)

Part No.	Range of upper jaw	Range of lower jaw	Type	Accuracy	L	a
1176-150	.35-6"/9-150mm	.70-6"/17-150mm	A	±.0015"	10.236"	.118"
1176-200	.35-8"/9-200mm	.70-8"/17-200mm	A	±.0020"	12.598"	.138"

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

Part No.	Range of upper jaw	Range of lower jaw	Type	Accuracy	a
1176-150P	.35-6"/9-150mm	.70-6"/17-150mm	B	±.0015"	.157"

sizes to be measured  
(use upper jaws)



D1	L1
.354" DIA	<.315"
.394" DIA	<.591"
.433"-8" DIA	<1.181"

D2	L2
.669" DIA	<.630"
.709" DIA	<1.102"
.748" DIA	<1.575"
.787" DIA	<1.969"
.827" DIA	<2.283"
.866"-8" DIA	<2.756"



## DIGITAL INSIDE GROOVE CALIPERS

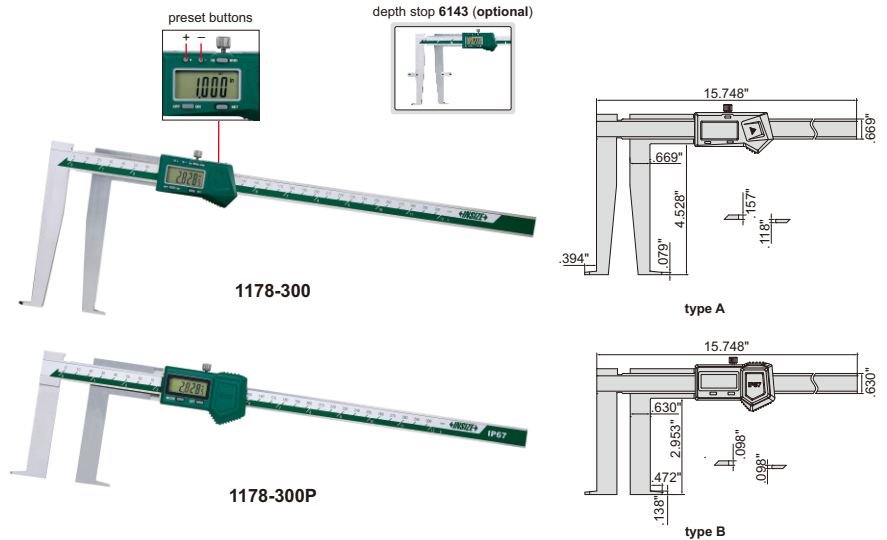
- Measure diameter of grooves inside bores
- Resolution .0005"/0.01mm
- Buttons type A: on/off, set, inch/mm, preset (+, -), type B: on/off, zero, inch/mm, ABS/REL, hold
- Battery CR2032
- Made of stainless steel
- Optional accessory: depth stop (part no. [6143](#))

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

Part No.	Range	Type	Accuracy
1178-300	1.18-12"/25-300mm	A	±.0020"

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

Part No.	Range	Type	Accuracy
1178-300P	1.30-12"/33-300mm	B	±.0020"



## DIGITAL INSIDE GROOVE CALIPERS

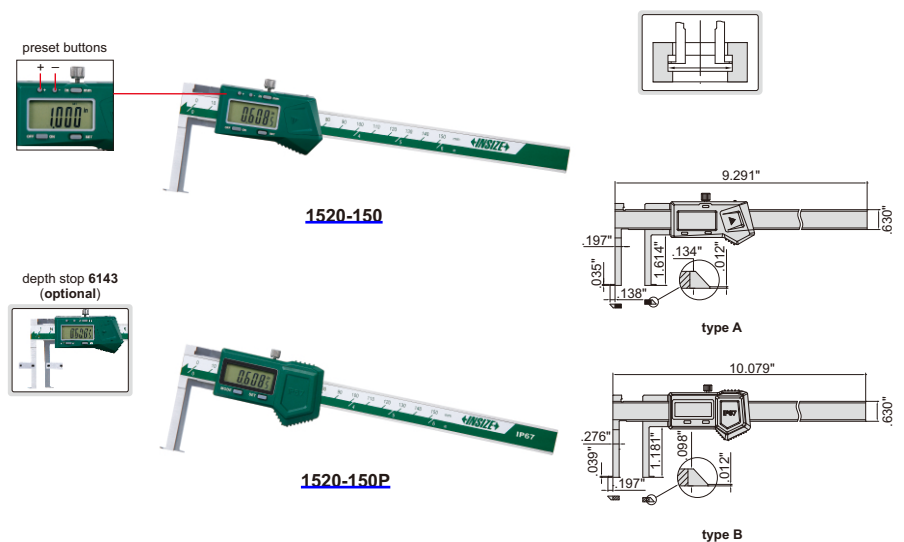
- Measure diameter of grooves inside small bores
- Resolution .0005"/0.01mm
- Buttons type A: on/off, set, inch/mm, preset (+, -), type B: on/off, zero, inch/mm, ABS/REL, hold
- Battery CR2032
- Made of stainless steel
- Optional accessory: depth stop (part no. [6143](#))

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

Part No.	Range	Type	Accuracy
1520-150	.43-6"/11-150mm	A	±.0015"

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

Part No.	Range	Type	Accuracy
1520-150P	.56-6"/14-150mm	B	±.0015"

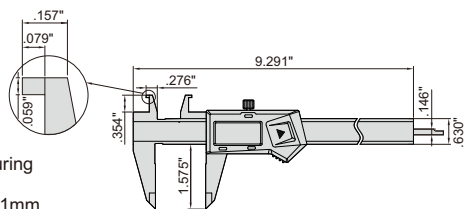


## DIGITAL INSIDE GROOVE CALIPER

DATA OUTPUT



1191-150



- Upper jaws for measuring diameter of 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. 7315-21, 7302-21)

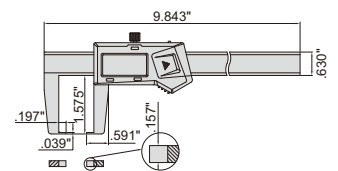
Part No.	Range of upper jaw	Range of lower jaw	Accuracy
1191-150	.3-6"/8-150mm	0-6"/0-150mm	±.0015"

## DIGITAL OUTSIDE NECK CALIPER

DATA OUTPUT

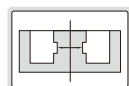


1187-150A



- 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. [7315-21](#), [7302-21](#))

Part No.	Range	Accuracy
1187-150A	0-6"/0-150mm	±.0015"



depth stop 6143 (optional)



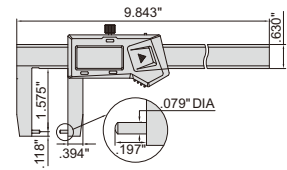
## DIGITAL OUTSIDE POINT CALIPER

DATA OUTPUT

- 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. [7315-21](#), [7302-21](#))



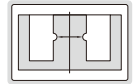
1185-150A



depth stop [6143](#) (optional)



Part No.	Range	Accuracy
1185-150A	0-6"/0-150mm	±.0015"

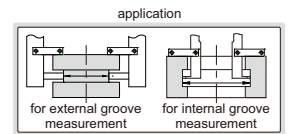
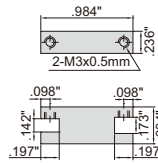


## DEPTH STOP FOR CALIPERS

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

Part No.  
[6143](#)

[6143](#)



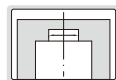
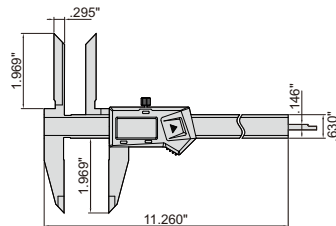
## DIGITAL CALIPER WITH LONG UPPER JAWS

DATA OUTPUT



1138-200

- Long upper jaws for measuring diameter of deep 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. [7315-21](#), [7302-21](#))



Part No.	Range	Accuracy
1138-200	0-8"/0-200mm	±.0015"

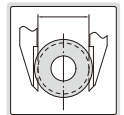
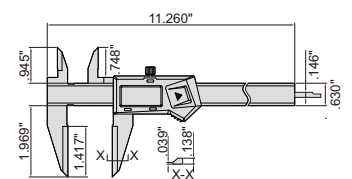
## DIGITAL CALIPER WITH KNIFE EDGE LOWER JAWS

DATA OUTPUT



1532-200

- Measure diameter of narrow 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. [7315-21](#), [7302-21](#))



Part No.	Range	Accuracy
1532-200	0-8"/0-200mm	±.0015"

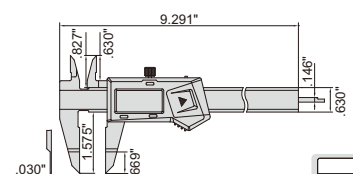
## DIGITAL BLADE CALIPER

DATA OUTPUT

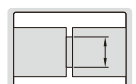
- The blade jaws fit into small grooves
- Resolution .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (part no. [7315-21](#), [7302-21](#))



1188-150A



Part No.	Range	Accuracy
1188-150A	0-6"/0-150mm	±.0015"



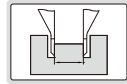
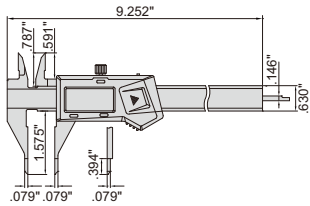
### DIGITAL SMALL POINT CALIPER

DATA OUTPUT



1169-150

- 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. [7315-21](#), [7302-21](#))



Part No.	Range	Accuracy
1169-150	0-6"/0-150mm	±.0015"

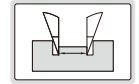
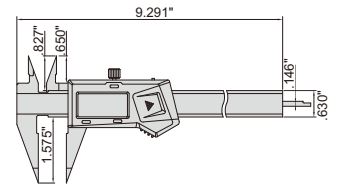
### DIGITAL POINT CALIPER

DATA OUTPUT



1183-150A

- 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. [7315-21](#), [7302-21](#))



Part No.	Range	Accuracy
1183-150A	0-6"/0-150mm	±.0015"

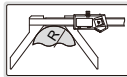
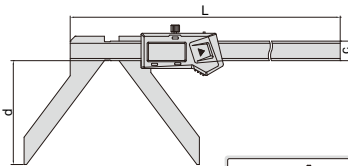
### DIGITAL ARC RADIUS CALIPERS

DATA OUTPUT



1189-200B

- Measure the radius of arc less than half round
- 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. [7315-21](#), [7302-21](#))



Part No.	Range (R)	Accuracy	L	c	d
1189-150B	.2-6"/5-150mm	±.0020"	10.354"	.630"	2.559"
1189-200B	.2-8"/5-200mm	±.0030"	12.323"	.630"	3.346"

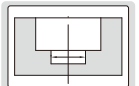
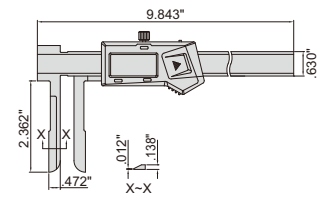
### DIGITAL INSIDE KNIFE-EDGE CALIPER

DATA OUTPUT



1123-150A

- 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. [7315-21](#), [7302-21](#))



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

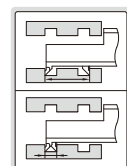
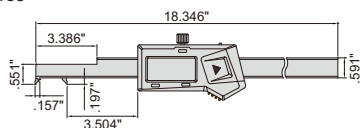
### DIGITAL HOOK CALIPER

DATA OUTPUT



1122-300

- 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. [7315-21](#), [7302-21](#))



Part No.	Range	Accuracy
1122-300	.16-12"/4-300mm	±.0015"

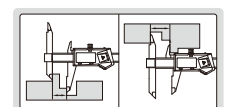
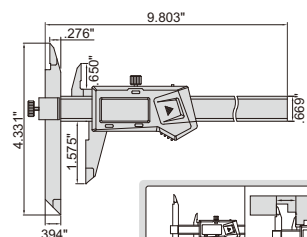
### DIGITAL OFFSET CALIPER

DATA OUTPUT



1186-150A

- 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. [7315-21](#), [7302-21](#))



Part No.	Range	Accuracy
1186-150A	0-6"/0-150mm	±.0015"



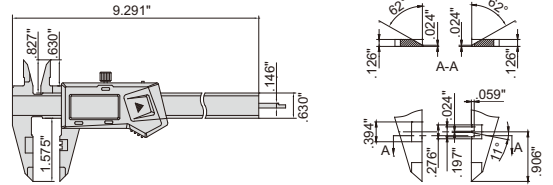
## DIGITAL CRIMP HEIGHT CALIPER

DATA OUTPUT

- Measure crimp height
- 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. [7315-21](#), [7302-21](#))



1165-150A



Part No.	Range	Resolution	Accuracy
1165-150A	0-6"/0-150mm	.0005"/0.01mm	±.0015"

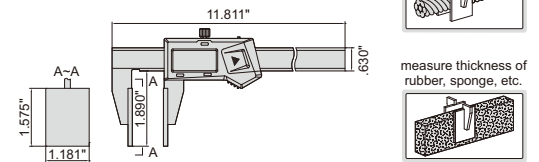
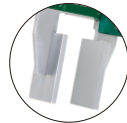
## DIGITAL CALIPER WITH LARGE MEASURING FACES

DATA OUTPUT

- 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. [7315-21](#), [7302-21](#))



1172-200



Part No.	Range	Accuracy
1172-200	0-8"/0-200mm	±.0030"

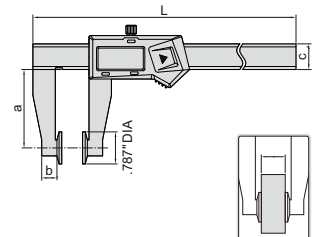
## DIGITAL CALIPER WITH DISK FACES

DATA OUTPUT

- Measure thickness of soft sheets
- 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. [7315-21](#), [7302-21](#))



1533-150



Part No.	Range	Accuracy	L	a	b	c
1533-150	0-6"/0-150mm	±.0015"	9.646"	1.969"	.433"	.630"

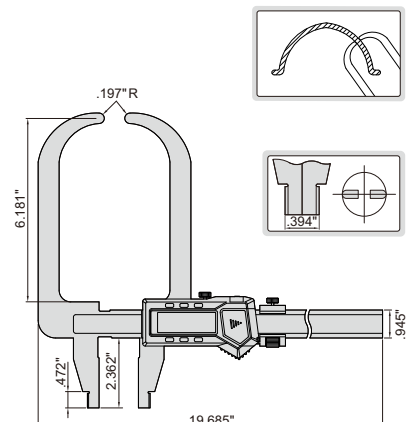
## DIGITAL WALL THICKNESS CALIPER

DATA OUTPUT

- Measure wall thickness of helmets, domes and curved pots
- Resolution .0005"/0.01mm
- Buttons: on/off, zero, inch/mm, ABS, data preset
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (part no. [7315-22](#), [7302-22](#))



1536-300



Part No.	Range	Accuracy
1536-300	0-12"/0-300mm	±.0020"

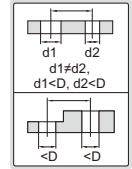
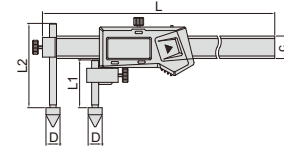
## DIGITAL OFFSET CENTERLINE CALIPER

DATA OUTPUT

- 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. [7315-21](#), [7302-21](#))



1192-300AE



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

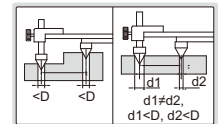
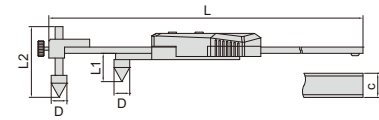
## DIGITAL BACK-JAW CENTERLINE CALIPERS

DATA OUTPUT

- 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



1177-300E



With data interface

Part No.	Range	Accuracy	c	D (DIA)	L1	L2	L	Data output cable (optional)
1177-300E	.4-12"/10.5-300mm	±.0040"	.630"	.4"	.709"	1.772"	16.142"	<a href="#">7315-21</a> , <a href="#">7302-21</a>
1177-500E	.8-20"/20.5-500mm	±.0040"	.945"	.8"	1.024"	2.756"	27.244"	<a href="#">7315-22</a> , <a href="#">7302-22</a>

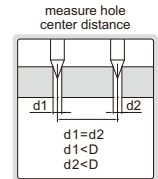
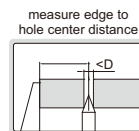
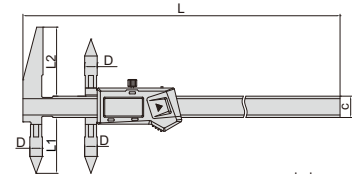
## DIGITAL CENTERLINE AND EDGE TO CENTER CALIPERS

DATA OUTPUT

- Measure hole center distance or edge to hole center distance
- 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



1525-300E



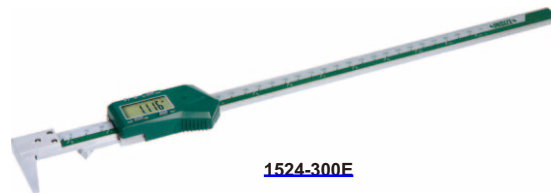
With data interface

Part No.	Range of upper jaw (edge to center)	Range of lower jaw (center to center)	Accuracy	c	D (DIA)	L1	L2	L	Data output cable (optional)
1525-300E	.2-12"/5.5-300mm	.4-12"/10.5-300mm	±.0030"	.669"	.4"	1.752"	2.165"	16.142"	<a href="#">7315-21</a> , <a href="#">7302-21</a>
1525-500E	.4-20"/10.5-500mm	.8-20"/20.5-500mm	±.0035"	.945"	.8"	1.575"	1.969"	27.165"	<a href="#">7315-22</a> , <a href="#">7302-22</a>

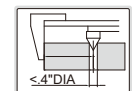
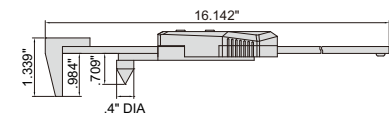
## DIGITAL BACK-JAW EDGE TO CENTER CALIPER

DATA OUTPUT

- Measure edge to hole center distance
- 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. [7315-21](#), [7302-21](#))



1524-300E



Part No.	Range	Accuracy
1524-300E	.2-12"/5.5-300mm	±.0040"

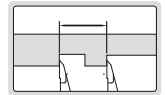
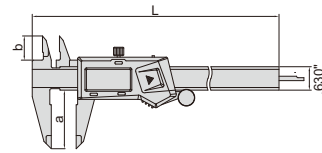
## DIGITAL CALIPER WITH ONE DIRECTION UPPER JAWS

DATA  
OUTPUT

- Resolution .0005"/0.01mm
- Buttons: zero, power on/off, 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. 7315-21, 7302-21)



1184-150



jaws with same height used for measuring the distance in same level

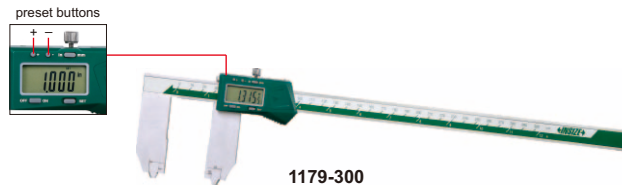
### Jaws with same height

Part No.	Range	Accuracy	L	a	b
1184-150	0-6"/0-150mm	±.0015"	9.291"	1.575"	.669"

## DIGITAL RTJ RING GROOVE CALIPERS

DATA  
OUTPUT

- 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



1179-300  
type A



1179-600  
type B

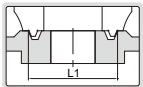
applicable for RTJ ring grooves with angle 23°



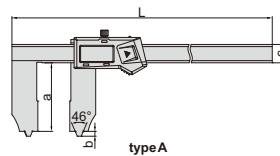
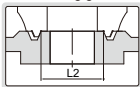
d and e need to be added on the reading



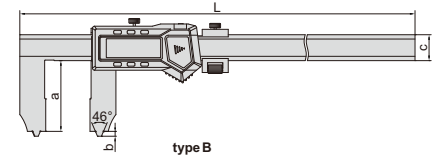
measure outside diameter of RTJ ring groove



measure inside diameter of RTJ ring groove



type A

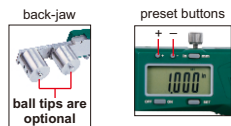


type B

Part No.	Range (inside diameter of RTJ ring groove)	Range (outside diameter of RTJ ring groove)	Angle of RTJ ring groove	Accuracy	Type	L	a	b	c	d	e	Data output cable (optional)
1179-300	.4-12"/10-300mm	1-12"/25-300mm	23°	±.0025"	A	16.142"	2.500"	.177"	.669"	.984"	.394"	7315-21, 7302-21
1179-600	.4-24"/10-600mm	1-24"/25-600mm	23°	±.0030"	B	30.315"	2.579"	.177"	.945"	.984"	.394"	7315-22, 7302-22

## DIGITAL CALIPER WITH INTERCHANGEABLE BALL TIPS

DATA  
OUTPUT



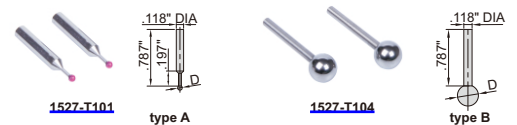
ball tips are optional

- 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: ball tips, data output cable (part no. 7315-21, 7302-21)



1527-3001

ball tips (optional, supplied in pair)



Part No.	Diameter (D)	Accuracy of diameter	Type	Material
1527-T101	1/16" DIA	.0002"	A	ruby
1527-T102	1/8" DIA	.0002"	B	stainless steel
1527-T103	3/16" DIA	.0002"	B	stainless steel
1527-T104	1/4" DIA	.0002"	B	stainless steel
1527-T105	3/8" DIA	.0002"	B	stainless steel
1527-T106	1/2" DIA	.0002"	B	stainless steel

Part No.	Range	Accuracy
1527-3001	(7/8"+D)~12"*	±.0015"

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



## DIGITAL CALIPER WITH INTERCHANGEABLE BALL TIPS

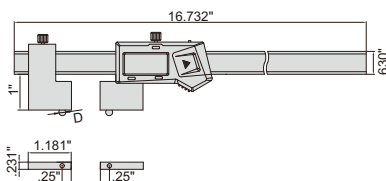
DATA OUTPUT



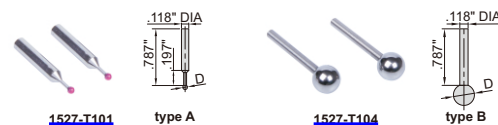
ball tips are optional

1528-3001

- 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: ball tips, data output cable (part no. 7315-21, 7302-21)



ball tips (optional, supplied in pair)



Part No.	Diameter (D)	Accuracy of diameter	Type	Material
1527-T101	1/16" DIA	.0002"	A	ruby
1527-T102	1/8" DIA	.0002"	B	stainless steel
1527-T103	3/16" DIA	.0002"	B	stainless steel
1527-T104	1/4" DIA	.0002"	B	stainless steel
1527-T105	3/8" DIA	.0002"	B	stainless steel
1527-T106	1/2" DIA	.0002"	B	stainless steel

Part No.	Range	Accuracy
1528-3001	(.5"+D)~12"*	±.0015"

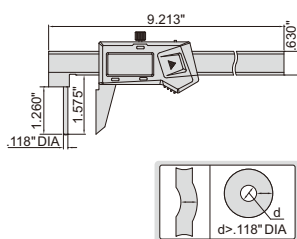
\*"D" is the diameter of ball tips.

## DIGITAL TUBE THICKNESS CALIPER

DATA OUTPUT



1161-150A

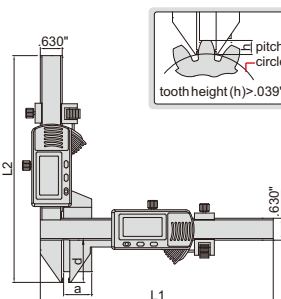


- Measure wall thickness of tubes
- Resolution .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032, data output
- Made of stainless steel
- Optional accessory: data output cable (part no. 7315-21, 7302-21)

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

## DIGITAL GEAR TOOTH CALIPERS

ATTENTION: NO DATA OUTPUT



1181-M25A

- Resolution .0005"/0.01mm
- Carbide tips
- Measure the tooth thickness by positioning the tooth height (for tooth height > .039")
- Buttons: zero, on/off, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel

Part No.	Range	Accuracy	L1	L2	a	d
1181-M25A	P1-P24	±.0015"	6.693"	6.516"	.827"	1.201"
1181-M50A	P1/2-P5	±.0015"	8.661"	7.480"	1.988"	2.165"

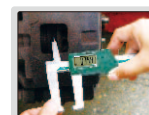
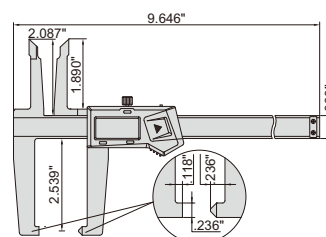
## DIGITAL DISK BRAKE AND PAD CALIPER

DATA OUTPUT

- 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. 7315-21, 7302-21)



1167-150A

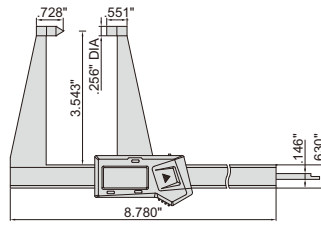


Part No.	Range	Accuracy
1167-150A	0-6"/0-150mm	±.0030"

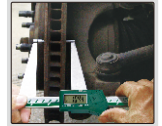
### DIGITAL DISK BRAKE CALIPER

DATA OUTPUT

- Measure thickness of disk brakes
- 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. [7315-21](#), [7302-21](#))



1162-125A

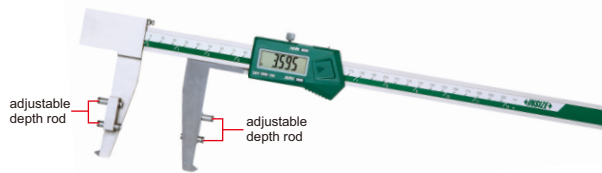


Part No.	Range	Accuracy
1162-125A	0-5"/0-125mm	±.0020"

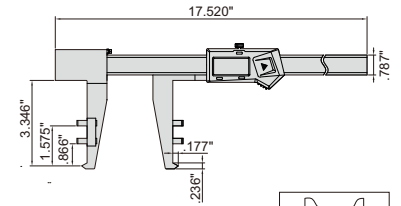
### DIGITAL DRUM BRAKE CALIPER

DATA OUTPUT

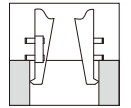
- Measure internal diameter of drum brakes
- Resolution .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (part no. [7315-22](#), [7302-22](#))



1538-300



calibration block (included)



Part No.	Range	Accuracy
1538-300	1.2-12"/30-300mm	±.0020"

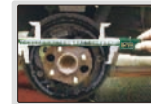
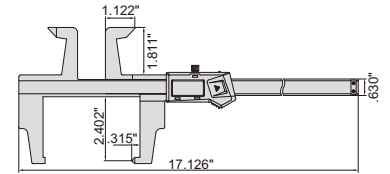
### DIGITAL DRUM BRAKE CALIPER

DATA OUTPUT

- Measure internal and external diameter of drum brakes
- 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. [7315-21](#), [7302-21](#))



1168-300A



Part No.	Range	Accuracy
1168-300A	0-12"/0-300mm	±.0030"

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

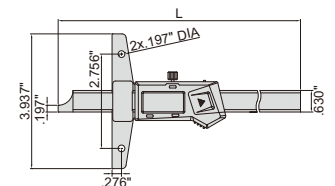
DATA OUTPUT

- 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. [7315-21](#), [7302-21](#)), extension base (part no. [6141](#))



1147-300

extension base (optional)



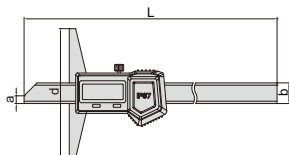
Part No.	Range	Accuracy	L
1147-150	0-6"/0-150mm	±.0015"	9.331"
1147-200	0-8"/0-200mm	±.0015"	11.299"
1147-300	0-12"/0-300mm	±.0015"	15.866"

## IP67 WATERPROOF DIGITAL DEPTH GAGES

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

ATTENTION: NO DATA OUTPUT

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



1149-150

**IP67**  
WATERPROOF

Part No.	Range	Accuracy	L	a	b	d
1149-150	0-6"/0-150mm	±.0015"	9.449"	.236"	.630"	3.937"
1149-200	0-8"/0-200mm	±.0015"	11.417"	.236"	.630"	3.937"
1149-300	0-12"/0-300mm	±.0015"	15.354"	.236"	.630"	5.906"

## DIGITAL DEPTH GAGES (STANDARD TYPE)

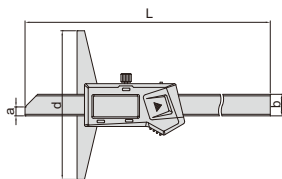
DATA OUTPUT

POPULAR MODEL



1141-150A

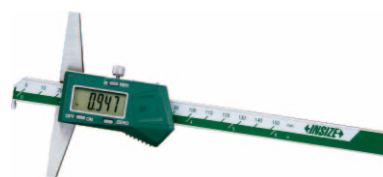
- Resolution .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (part no. [7315-21](#), [7302-21](#))



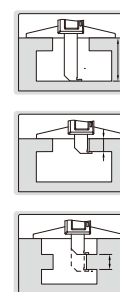
Part No.	Range	Accuracy	L	a	b	d
1141-150A	0-6"/0-150mm	±.0015"	9.055"	.236"	.571"	3.937"
1141-200A	0-8"/0-200mm	±.0015"	11.024"	.236"	.571"	3.937"
1141-300A	0-12"/0-300mm	±.0015"	14.961"	.236"	.571"	5.906"
1141-500A	0-20"/0-500mm	±.0020"	23.031"	.276"	.591"	5.906"

## DIGITAL HOOK DEPTH GAGE

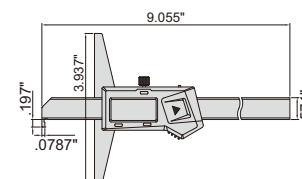
DATA OUTPUT



1142-150A



- 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. [7315-21](#), [7302-21](#))



Part No.	Range	Accuracy
1142-150A	0-6"/0-150mm	±.0015"

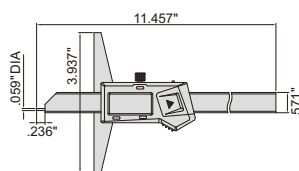
## DIGITAL POINT DEPTH GAGE

DATA OUTPUT

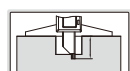


1143-200A

- 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. [7315-21](#), [7302-21](#))

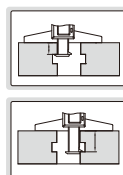


Part No.	Range	Accuracy
1143-200A	0-8"/0-200mm	±.0015"



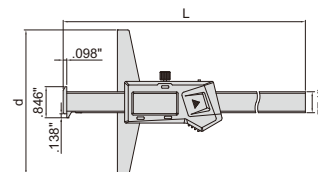
## DIGITAL DOUBLE HOOK DEPTH GAGES

DATA OUTPUT



1144-150A

- 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. [7315-21](#), [7302-21](#))



Part No.	Range	Accuracy	L	d
1144-150A	0-6"/0-150mm	±.0015"	9.173"	3.937"
1144-200A	0-8"/0-200mm	±.0015"	11.142"	3.937"
1144-300A	0-12"/0-300mm	±.0015"	15.079"	5.906"

**DIGITAL DEPTH GAGES WITH ROUND DEPTH BAR**

**DATA OUTPUT**

**MEASURE WIDTH AND DEPTH OF GROOVES INSIDE BORE**

**MEASURE DEPTH OF SMALL HOLES (>.157" DIA)**



**1148-200E**

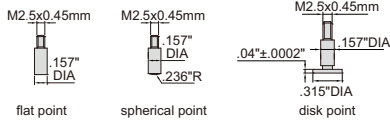


preset buttons



extension base for 1148-200E (optional)

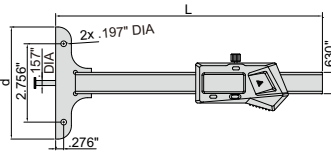
6141 series



flat point

spherical point

disk point

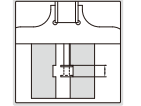
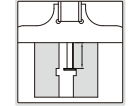
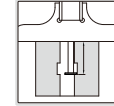
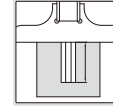


measure depth of small holes (>.157"DIA)

measure depth of grooves inside bore

measure depth of grooves inside bore

measure width of grooves inside bore



- 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. [7315-21](#), [7302-21](#)), extension base (part no. [6141](#), for [1148-200E](#))

Part No.	Range*	Accuracy	L	d	Remark
<a href="#">1148-100E</a>	0-4"/0-100mm	±.0010"	7.874"	3.346"	
<a href="#">1148-200E</a>	0-8"/0-200mm	±.0015"	11.811"	3.976"	with mounting holes for extension base

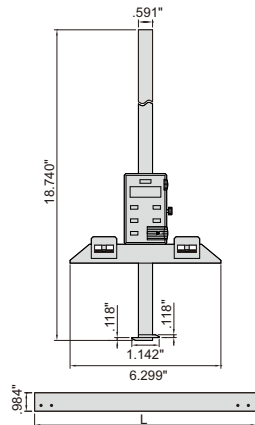
\*When disk points are used, the range is reduced by .394"

**DIGITAL DOUBLE HOOK DEPTH GAGE**

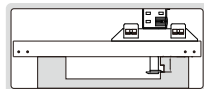
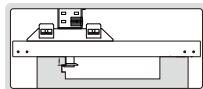
**DATA OUTPUT**



**1540-300E**



gage block for zero setting (included)



- 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
- Made of stainless steel
- LR44 battery, data output
- Supplied with gage block for zero setting
- Optional accessory: extension base, wireless transmitter (part no. [7315-1150](#)), data output cable (part no. [7302-SPC7](#), keyboard format)

extension base

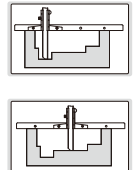
Part No.	L
<a href="#">1540-L 300</a>	11.811"
<a href="#">1540-L 400</a>	15.748"
<a href="#">1540-L 500</a>	19.685"
<a href="#">1540-L 600</a>	23.622"
<a href="#">1540-L 800</a>	31.496"

Part No.	Range	Accuracy
<a href="#">1540-300E</a>	0-12"/0-300mm	±.0015"

**EXTENSION BASES**

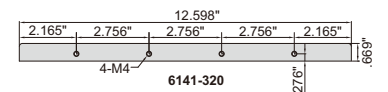
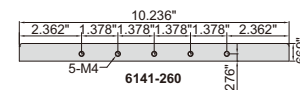
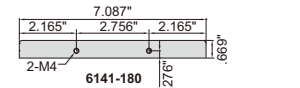


**6141-260**



- Supplied with two screws
- Made of stainless steel
- Suitable for depth gages series [1147](#) and [1148](#)

Part No.	Length
<a href="#">6141-180</a>	7.087"
<a href="#">6141-260</a>	10.236"
<a href="#">6141-320</a>	12.598"

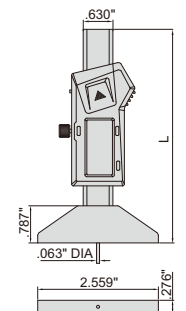


**MINI DIGITAL DEPTH GAGES WITH ROUND BAR**

**DATA OUTPUT**



**1140-25**



- Measure depth of small groove and hole
- 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. [7315-21](#), [7302-21](#))

Part No.	Range	Accuracy	L
<a href="#">1140-25</a>	0-1"/0-25mm	±.0010"	4.488"
<a href="#">1140-50</a>	0-2"/0-50mm	±.0010"	5.512"

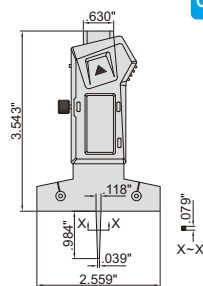




## MINI DIGITAL DEPTH GAGE

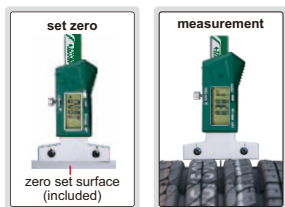


1145-25A



DATA  
OUTPUT

- Measure depth of small groove and hole, also measure depth of tire tread
- 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. [7315-21](#), [7302-21](#))

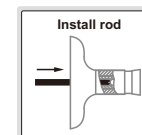


Part No.	Range	Accuracy	Resolution
1145-25A	0-1"/0-25mm	±.0015"	.0005"/0.01mm

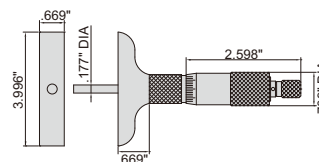
## DEPTH MICROMETER



3240-6



- Graduation .001"
- Micrometer head accuracy: ±.00012"
- Rod accuracy: ±[.001+.0005(L/3)]", L is the measuring range in inch
- Rods with flat end
- Ratchet stop

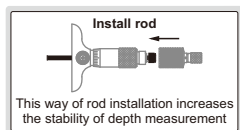
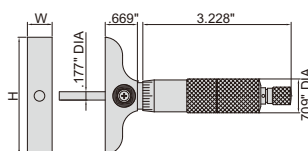


Part No.	Range	Rods
3240-6	0-6"	6 pcs

## DEPTH MICROMETERS



3241-4



- Graduation .001"
- Micrometer head accuracy: ±.00012"
- Rod accuracy: ±[.001+.0005(L/3)]", L is the measuring range in inch
- Rods with flat end
- Ratchet stop

Base: H x W = 2.480 x .669"

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

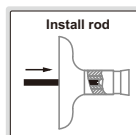
Base: H x W = 3.996 x .669"

Part No.	Range	Rods
3241-1	0-1"	1 pc
3241-2	0-2"	2 pcs
3241-4	0-4"	4 pcs
3241-6	0-6"	6 pcs
3241-12	0-12"	12 pcs

## DIGITAL DEPTH MICROMETERS

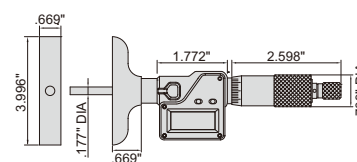
IP65  
WATERPROOF

DATA  
OUTPUT



3540-150E

- Resolution .00005"/0.001mm
- 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/waterproof
- Data output
- Automatic power off
- Rods with flat end
- Ratchet stop
- Optional accessory: data output cable (part no. [7315-30](#), [7302-30](#))



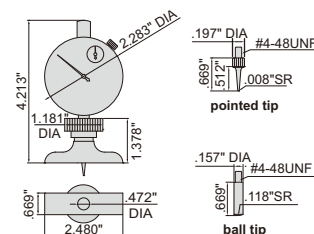
Part No.	Range	Rods
3540-150E	0-6"/0-150mm	6 pcs
3540-300E	0-12"/0-300mm	12 pcs

## DIAL DEPTH GAGE

- Stainless steel base
- Supplied with pointed tip and ball tip



2341-E1



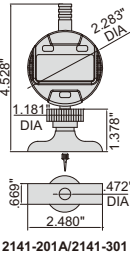
Part No.	Range	Dial indicator stroke	Dial indicator graduation	Accuracy
2341-E1	0-1.2"	.5"	.001"	±.0012"

## DIGITAL DEPTH GAGES

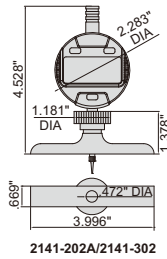


**2141-202A**

DATA  
OUTPUT



**2141-201A/2141-301**

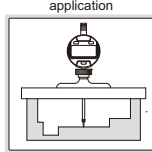


**2141-202A/2141-302**

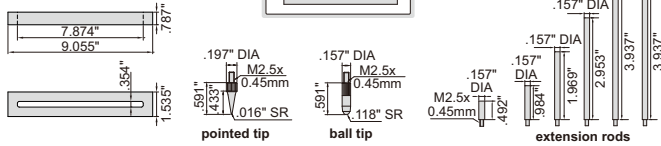
- Digital indicator stroke .5"/12.7mm
- Button function: on/off, zero, inch/mm, ABS, data preset, change measuring direction
- CR2032 battery
- Automatic power off (time is adjustable)
- Data output, stainless steel base
- Supplied with pointed tip and ball tip
- Optional accessory: data output cable (part no. **7315-50M**, **7302-40M**), granite extension holder (part no. **2141-10**)



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



application



pointed tip

ball tip

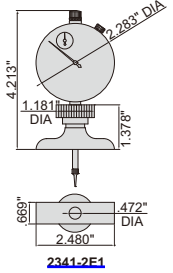
extension rods

Part No.	Range	Digital indicator resolution	Accuracy	Base
<b>2141-201A</b>	0-12"/0-300mm	.0005"/0.01mm	±.0008"	2.480x.669"
<b>2141-202A</b>	0-12"/0-300mm	.0005"/0.01mm	±.0008"	3.996x.669"
<b>2141-301</b>	0-12"/0-300mm	.00005"/0.001mm	±.0002"	2.480 x .669"
<b>2141-302</b>	0-12"/0-300mm	.00005"/0.001mm	±.0002"	3.996 x .669"

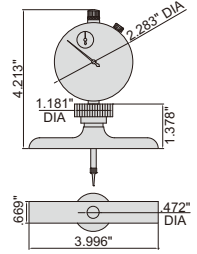
## DIAL DEPTH GAGES



**2341-2E2**



**2341-2E1**

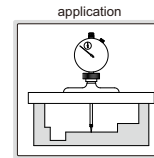


**2341-2E2**

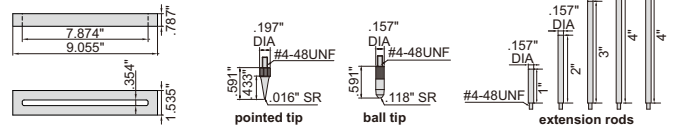
- Dial indicator graduation .001"
- Stainless steel base
- Extension rods: 1" (1 pc), 2" (1 pc), 3" (1 pc), 4" (2 pcs)
- Supplied with pointed tip and ball tip
- Optional accessory: granite extension holder (part no. **2141-10**)



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



application



pointed tip

ball tip

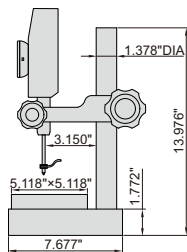
extension rods

Part No.	Range	Dial indicator stroke	Accuracy	Base
<b>2341-2E1</b>	0-12"	1"	±.002"	2.480x.669"
<b>2341-2E2</b>	0-12"	1"	±.002"	3.996x.669"

## HIGH PRECISION DIGITAL HEIGHT GAGES



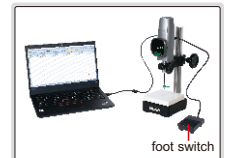
- Power supply: 5V/1A (adapter or charge pal)
- High stability, high precision, high response speed (200"/s)
- High brightness LED display
- Ceramic base flatness: 39µin



**1155-505**



power supplied by charge pal



foot switch

data transmitted to Excel without software, short press the foot switch to transmit data, long press to zero

Part No.	Range	Resolution	Accuracy (68°F)	Measuring force	Output
<b>1155-505</b>	0~2"	.00002"/.5µm (can switch to .00005"/1µm)	59µin	.18lbf~.27lbf	USB
<b>1155-510</b>	0~2"	.000005"/.1µm (can switch to .00005"/1µm)	39µin	.18lbf~.27lbf	USB

### STANDARD DELIVERY

Main unit	1 pc
-----------	------

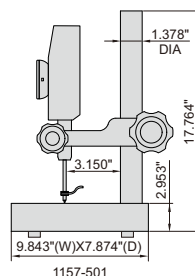
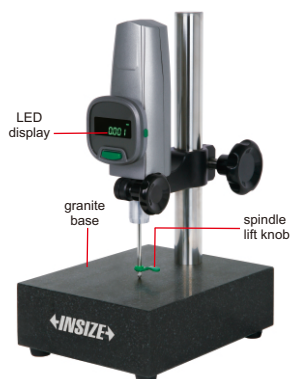
### OPTIONAL ACCESSORY

Contact point	part no. <b>6282</b>
Charge pal	<b>1155-5-POB</b>
Data output cables (including foot switch)	<b>1155-5-FOS</b>

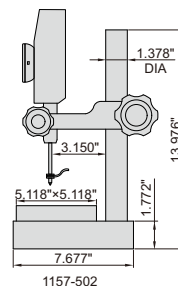
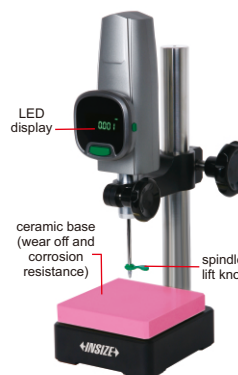
## DIGITAL HEIGHT GAGES



- Accuracy (68°F): 118µin
- Measuring force .18lbf~ .27lbf
- Power supply: 5V/1A (adapter or charge pal)
- Buttons: on/off, zero, inch/mm, mix/min/mix-min
- High response speed (200"/s)
- High brightness LED display



1157-501



1157-502



data transmitted to Excel without software; short press the foot switch to transmit data, long press to zero



power supplied by charge pal

### OPTIONAL ACCESSORY

Contact point	part no. 6282
Charge pal	1155-5-POB
Data output cables (including foot switch)	1155-5-FOS

Part No.	Range	Resolution	Output	Base
1157-501	0~2"	.00005"/1µm	USB	granite (flatness: 78µin)
1157-502	0~2"	.00005"/1µm	USB	ceramic (flatness: 39µin)

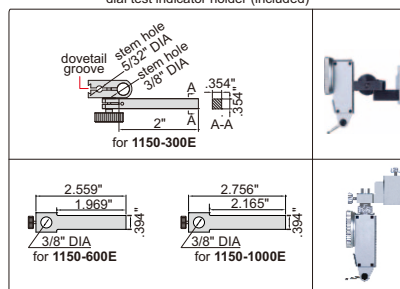
### STANDARD DELIVERY

Main unit	1 pc
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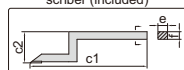
## DIGITAL HEIGHT GAGES

### DATA OUTPUT

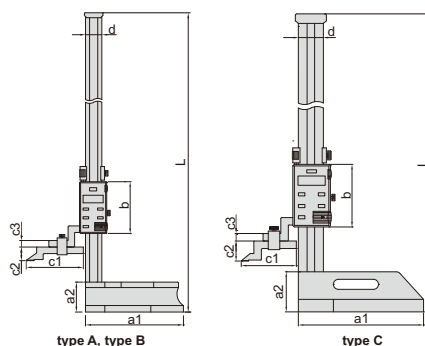
dial test indicator holder (included)



scraper (included)



- 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: wireless transmitter (part no. 7315-1150), data output cable (part no. 7302-SPC7, keyboard format), clamp for protractors (part no. 2372-CLAMP, for 1150-300E)



Part No.	Range	Type	Accuracy	L	a1	a2	b	c1	c2	c3	d	e	f
1150-300E	0-12"/0-300mm	A	±.0015"	19.094"	5.433"	1.772"	3.740"	3.150"	1.181"	.394"	1.102"	.354"	.354"
1150-600E	0-24"/0-600mm	B	±.0025"	32.283"	7.087"	2.165"	3.740"	4.055"	.984"	.472"	1.181"	.394"	.472"
1150-1000E	0-40"/0-1000mm	C	±.0030"	50.197"	9.843"	3.150"	4.921"	4.331"	1.535"	.591"	1.969"	.394"	.591"

clamp for protractors (optional) for 1150-300E



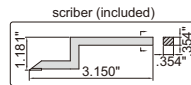
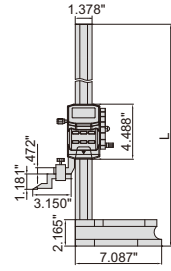
**DIGITAL HEIGHT GAGES WITH DRIVING WHEEL**

**POPULAR MODEL**

**INSPECTION CERTIFICATE**  
TRACEABLE TO NIST

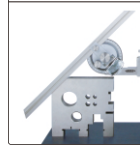
**DATA OUTPUT**

- Resolution .0005"/0.01mm
- Buttons: on/off, zero, inch/mm, preset +, preset -, ABS/INC
- Automatic power off, move the digital unit to turn on power
- Carbide tipped scriber
- Made of stainless steel
- Battery CR2032, data output
- Supplied with dust cover
- With dial test indicator holder
- Optional accessory:  
data output cable (part no. [7315-22](#), [7302-22](#)),  
clamp for protractors (part no. [2372-CLAMP](#))

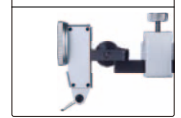
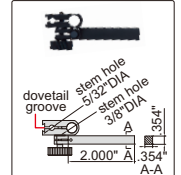


**1156-300**

clamp for protractors (optional)



dial test indicator holder (included)

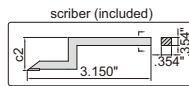


Part No.	Range	Accuracy	L
<b>1156-300</b>	0-12"/0-300mm	±.0015"	20.276"
<b>1156-600</b>	0-24"/0-600mm	±.0020"	32.867"

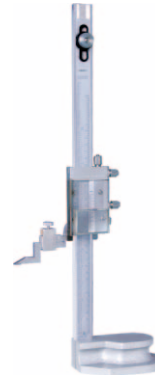
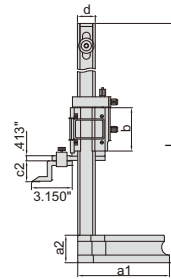
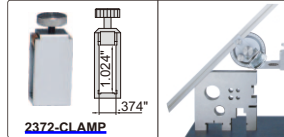
\*Supplied with manufacturer inspection certificate traceable to NIST

**VERNIER HEIGHT GAGES**

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

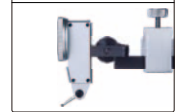
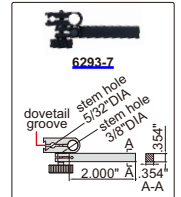


clamp for protractors (optional)



**1250-300**

dial test indicator holder (optional)



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

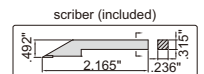
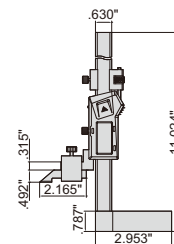
**DIGITAL HEIGHT GAGES**

**DATA OUTPUT**

- 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
- Optional accessory: dial test indicator holder (part no. [7151-CL1](#))



**1154-150**



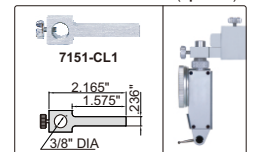
With data interface (data output cable part no. [7315-22](#), [7302-22](#), optional)

Part No.	Range	Resolution	Accuracy
<b>1154-150</b>	0-6"/0-150mm	.0005"/0.01mm	±.0015"

Built-in wireless (receiver part no. [7315-2/3/6/7/8](#) is required)

Part No.	Range	Resolution	Accuracy
<b>1154-150WL</b>	0-6"/0-150mm	.0005"/0.01mm	±.0015"

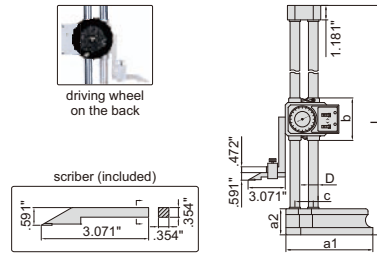
dial test indicator holder (optional)



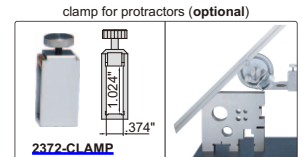
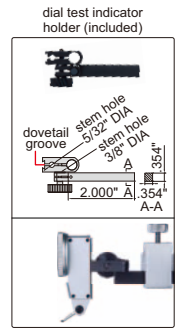


## DIAL HEIGHT GAGES

- Dial indicator graduation .001"
- One counter reads in the plus direction and another in the minus direction, so incremental measurement can be made in either direction
- Carbide tipped scriber
- Made of stainless steel (except the base)
- With driving wheel
- With dial test indicator holder
- Supplied with dust cover
- Optional accessory: clamp for protractors (part no. [2372-CLAMP](#))



1351-12

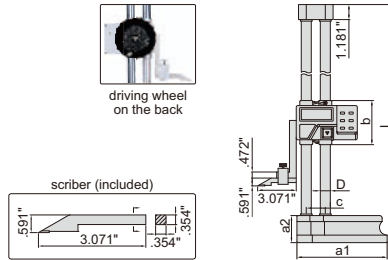


Part No.	Range	Accuracy	L	a1	a2	b	c	D
1351-12	0-12"	±.0016"	18.701"	5.315"	1.693"	3.307"	1.299"	.591" DIA
1351-18	0-18"	±.0020"	25.984"	7.087"	2.126"	3.465"	1.496"	.787" DIA

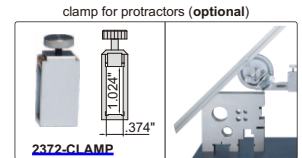
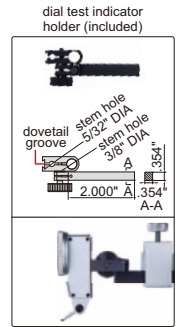
## DIGITAL HEIGHT GAGES

DATA OUTPUT

- Resolution .0005"/0.01mm
- Buttons: on/off, zero, inch/mm, data hold, ABS/INC, preset
- ABS/INC is for absolute and incremental measurement
- Automatic power off, move the digital unit to turn on power
- Carbide tipped scriber
- Made of stainless steel
- Battery CR2032, data output
- With driving wheel
- With dial test indicator holder
- Supplied with dust cover
- Optional accessory: data output cable (part no. [7302-1151](#), [7315-1151](#)), clamp for protractors (part no. [2372-CLAMP](#))



1151-300AE

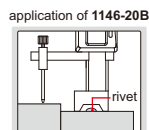
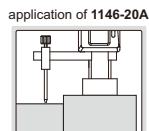


Part No.	Range	Accuracy	L	a1	a2	b	c	D
1151-300AE	0-12"/0-300mm	±.0015"	18.701"	5.315"	1.693"	3.307"	1.299"	.591" DIA
1151-600AE	0-24"/0-600mm	±.0020"	31.890"	7.087"	2.126"	3.465"	1.496"	.787" DIA

## MINI DIGITAL HEIGHT GAGES

DATA OUTPUT

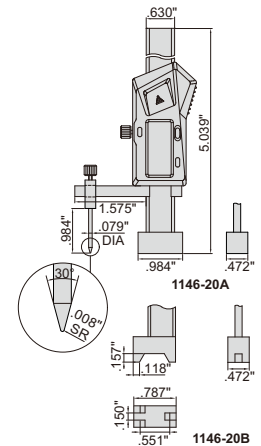
- Measure height difference of two surfaces (1146-20B suitable for surfaces with barrier, such as rivet)
- Resolution .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032, data output
- Made of stainless steel
- Optional accessory: data output cable (part no. [7315-21](#), [7302-21](#))



1146-20A



1146-20B



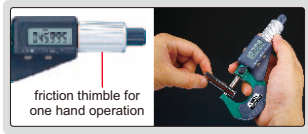
Part No.	Range	Accuracy
1146-20A	0-.8"/0-20mm	±.0010"
1146-20B	0-.8"/0-20mm	±.0010"

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

**INSPECTION CERTIFICATE**  
TRACEABLE TO NIST

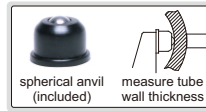
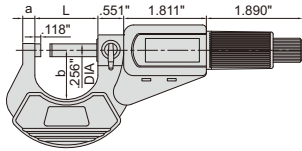
**ATTENTION: NO DATA OUTPUT**

**POPULAR MODEL**



**3109-25E**

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



**3109-33E**



**3109-66E**

### Individual

Part No.	Range	Accuracy	L	a	b
<b>3109-25E*</b>	0-1"/0-25mm	±.00010"	1.260"	.236"	1.083"
<b>3109-50E*</b>	1-2"/25-50mm	±.00015"	2.244"	.315"	1.457"
<b>3109-75E*</b>	2-3"/50-75mm	±.00015"	3.228"	.315"	1.969"
<b>3109-100E*</b>	3-4"/75-100mm	±.00015"	4.213"	.394"	2.402"
<b>3109-125E</b>	4-5"/100-125mm	±.00015"	5.197"	.394"	2.874"
<b>3109-150E</b>	5-6"/125-150mm	±.00015"	6.181"	.394"	3.346"

\*Supplied with manufacturer inspection certificate traceable to NIST

### Set

Part No.	Range	Micrometers included	Packaging
<b>3109-33E*</b>	0-3"/0-75mm	3109-25E, 3109-50E, 3109-75E	blow mould case
<b>3109-44E*</b>	0-4"/0-100mm	3109-25E, 3109-50E, 3109-75E, 3109-100E	blow mould case
<b>3109-66E</b>	0-6"/0-150mm	3109-25E, 3109-50E, 3109-75E, 3109-100E, 3109-125E, 3109-150E	aluminum box

## HIGH PRECISION DIGITAL MICROMETERS/SNAP GAGES

**ATTENTION: RECHARGEABLE BATTERY, FOR 24 HOURS CONTINUOUS WORKING**

**MEASUREMENT ACCURACY IS NOT AFFECTED BY THE USE OF SLEEVE**

**IP65 WATERPROOF**

- Absolute encoder, the original data remains after power off
- Adjustable resolution .00001"/0.0002mm, .00005"/0.001mm, .0005"/0.01mm
- One turn of sleeve makes .2" spindle feed
- Measurement accuracy is not affected by the use of sleeve
- Press the fork, the spindle retracts .12"
- Linear ball bearings for ten million times use
- Carbide spindle and anvil
- Measuring force 7-10N. Customizable measuring force range 2-12N. Attention: small measuring force will reduce the dustproof and waterproof level
- Button function: data output, tolerance, data preset, data hold, measuring direction change, max./min./TIR, power off time, on/off, zero, inch/mm, adjust resolution
- Supplied with gage blocks for zero setting (except 0-1"/0-25mm)
- Power: rechargeable battery, for 24 hours continuous working

**ONE TURN OF SLEEVE MAKES .2" SPINDLE FEED, PRESS THE FORK, THE SPINDLE RETRACTS .12"**

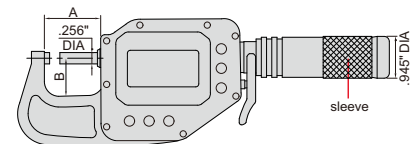
**ABSOLUTE ENCODER, THE ORIGINAL DATA REMAINS AFTER POWER OFF**

**DATA OUTPUT**

**NON-ROTATING SPINDLE**



**3350-25**



**INSPECTION CERTIFICATE**

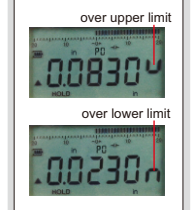
### With data interface

Optional accessory:  
wireless transmitter, part no. **7315-3350**, wireless receiver, part no. **7315-2, 7315-3**  
data output cable (keyboard format), part no. **7302-3350**  
data output cable (serial port format), part no. **7305-G60**  
(cable length 10ft, optional cable length maximum 50ft; RS232 protocol, optional RS485 protocol)

Part No.	Range	Accuracy	Repeatability	Measuring faces		A	B
				Flatness	Parallelism		
<b>3350-25*</b>	0-1"/0-25mm	±.00005"	.00002"	.00002"	.00004"	1.496"	.945"
<b>3350-50*</b>	1-2"/25-50mm	±.00006"	.00004"	.00002"	.00004"	2.480"	1.102"
<b>3350-75*</b>	2-3"/50-75mm	±.00007"	.00004"	.00002"	.00004"	3.464"	1.772"
<b>3350-100*</b>	3-4"/75-100mm	±.00008"	.00004"	.00002"	.00004"	4.449"	2.244"



warning when over tolerance



### Built-in wireless

Optional accessory:  
wireless receiver (keyboard format, connect up to 15 digital indicators), part no. **2134-R1**  
wireless receiver (serial port format, connect up to 15 digital indicators), part no. **2134-R2**

Part No.	Range	Accuracy	Repeatability	Measuring faces		A	B
				Flatness	Parallelism		
<b>3350-25WL*</b>	0-1"/0-25mm	±.00005"	.00002"	.00002"	.00004"	1.496"	.945"
<b>3350-50WL*</b>	1-2"/25-50mm	±.00006"	.00004"	.00002"	.00004"	2.480"	1.102"
<b>3350-75WL*</b>	2-3"/50-75mm	±.00007"	.00004"	.00002"	.00004"	3.464"	1.772"
<b>3350-100WL*</b>	3-4"/75-100mm	±.00008"	.00004"	.00002"	.00004"	4.449"	2.244"

wireless receiver 2134-R1, 2134-R2 (optional)



\*Supplied with manufacturer inspection certificate

## HIGH PRECISION DIGITAL MICROMETERS/SNAP GAGES

ATTENTION: RECHARGEABLE BATTERY, FOR 24 HOURS CONTINUOUS WORKING

MEASUREMENT ACCURACY IS NOT AFFECTED BY THE USE OF SLEEVE

IP65 WATERPROOF

DATA OUTPUT

ONE TURN OF SLEEVE MAKES .2" SPINDLE FEED, PRESS THE FORK, THE SPINDLE RETRACTS .12"

ABSOLUTE ENCODER, THE ORIGINAL DATA REMAINS AFTER POWER OFF

- Absolute encoder, the original data remains after power off
- Adjustable resolution .00001"/0.0002mm  
.00005"/0.001mm  
.0005"/0.01mm
- One turn of sleeve makes .2" spindle feed
- Measurement accuracy is not affected by the use of sleeve
- Press the fork, the spindle retracts .12"
- Linear ball bearings for ten million times use
- Carbide spindle and anvil
- Measuring force 5-8N.
- Customizable measuring force range 2-12N.
- Attention: small measuring force will reduce the dustproof and waterproof level
- Button function: data output, tolerance, data preset, data hold, measuring direction change, max./min./TIR, power off time, on/off, zero, inch/mm, adjust resolution
- Supplied with setting standards
- Power: rechargeable battery, for 24 hours continuous working



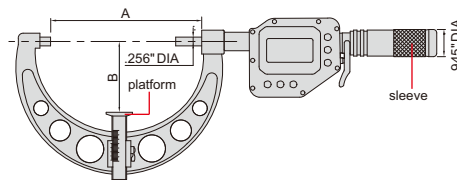
3351-125

NON-ROTATING SPINDLE

INSPECTION CERTIFICATE



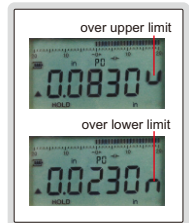
VIDEO



setting standard (included)



warning when over tolerance



wireless receiver

2134-R1, 2134-R2 (optional)



### With data interface

Optional accessory:  
wireless transmitter, part no. **7315-3350**, wireless receiver, part no. **7315-2**, **7315-3**  
data output cable (keyboard format), part no. **7302-3350**  
data output cable (serial port format), part no. **7305-G60**  
(cable length 10ft, optional cable length maximum 50ft; RS232 protocol, optional RS485 protocol)

Part No.	Range	Accuracy	Repeatability	Measuring faces		A	B
				Flatness	Parallelism		
<b>3351-125*</b>	4-5"/100-125mm	±.00012"	.00004"	.00002"	.00008"	5.039"	2.461"
<b>3351-150*</b>	5-6"/125-150mm	±.00012"	.00004"	.00002"	.00008"	6.024"	2.953"
<b>3351-175*</b>	6-7"/150-175mm	±.00016"	.00004"	.00002"	.00010"	7.008"	3.445"
<b>3351-200*</b>	7-8"/175-200mm	±.00016"	.00004"	.00002"	.00010"	7.992"	3.937"

\*Supplied with manufacturer inspection certificate

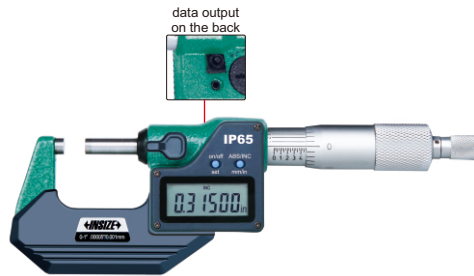
## WATERPROOF DIGITAL OUTSIDE MICROMETERS (WITH DATA OUTPUT)

DATA OUTPUT

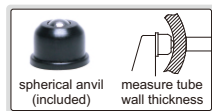
IP65 WATERPROOF

INSPECTION CERTIFICATE TRACEABLE TO NIST

- Resolution .00005"/0.001mm
- Button function: on/off, set, inch/mm, ABS/INC
- IP65 dust/waterproof
- Data output
- Automatic power off
- Carbide measuring faces
- Ratchet stop
- Supplied with spherical anvil
- Setting standards are included (except 0-1"/0-25mm)
- Optional accessory:  
data output cable (part no. **7315-30**, **7302-30**)

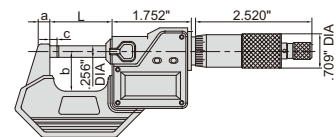


3101-25E



spherical anvil (included)

measure tube wall thickness



3101-33E



3101-66E

### Individual

Part No.	Range	Accuracy	L	a	b	c
<b>3101-25E*</b>	0-1"/0-25mm	±.00010"	1.358"	.236"	.984"	.118"
<b>3101-50E*</b>	1-2"/25-50mm	±.00010"	2.343"	.315"	1.260"	.118"
<b>3101-75E*</b>	2-3"/50-75mm	±.00015"	3.327"	.315"	1.752"	.118"
<b>3101-100E*</b>	3-4"/75-100mm	±.00015"	4.311"	.315"	2.244"	.118"
<b>3101-125E</b>	4-5"/100-125mm	±.00015"	5.315"	.394"	2.756"	.118"
<b>3101-150E</b>	5-6"/125-150mm	±.00015"	6.319"	.394"	3.228"	.118"
<b>3101-175E</b>	6-7"/150-175mm	±.00015"	7.323"	.472"	3.720"	.217"

### Set

Part No.	Range	Micrometers included	Packaging
<b>3101-33E*</b>	0-3"/0-75mm	3101-25E, 3101-50E, 3101-75E	blow mould case
<b>3101-44E*</b>	0-4"/0-100mm	3101-25E, 3101-50E, 3101-75E, 3101-100E	blow mould case
<b>3101-66E</b>	0-6"/0-150mm	3101-25E, 3101-50E, 3101-75E, 3101-100E, 3101-125E, 3101-150E	aluminum box

\*Supplied with manufacturer inspection certificate traceable to NIST

## WATERPROOF DIGITAL OUTSIDE MICROMETERS (WITHOUT DATA OUTPUT)

**IP65**  
WATERPROOF

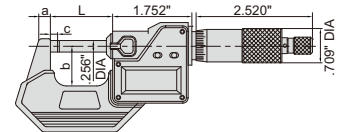
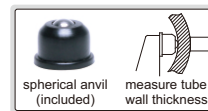
**ATTENTION: NO DATA OUTPUT**

**INSPECTION CERTIFICATE**  
TRACEABLE TO NIST

- Resolution .00005"/0.001mm
- IP65 dust/waterproof
- Button function: on/off, set, inch/mm, ABS/INC
- No data output
- Automatic power off
- Carbide measuring faces
- Ratchet stop
- Supplied with spherical anvil
- Setting standards are included (except 0-1"/0-25mm)



**3108-1**



Part No.	Range	Accuracy	L	a	b	c
<b>3108-1*</b>	0-1"/0-25mm	±.00010"	1.358"	.236"	.984"	.118"
<b>3108-2*</b>	1-2"/25-50mm	±.00010"	2.343"	.315"	1.260"	.118"
<b>3108-3*</b>	2-3"/50-75mm	±.00015"	3.327"	.315"	1.752"	.118"
<b>3108-4*</b>	3-4"/75-100mm	±.00015"	4.311"	.315"	2.244"	.118"

\*Supplied with manufacturer inspection certificate traceable to NIST

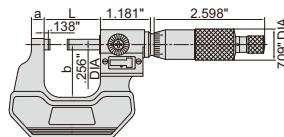
## OUTSIDE MICROMETERS WITH COUNTER

**INSPECTION CERTIFICATE**  
TRACEABLE TO NIST



**3400-1**

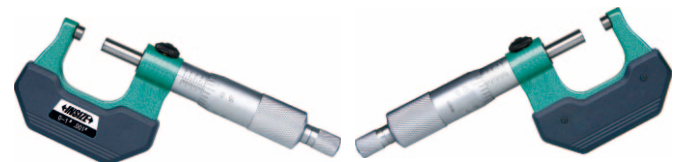
- Counter resolution .001"
- Thimble graduation .0001"
- Carbide measuring faces, ratchet stop
- Supplied with setting standards (except 0-1")



Part No.	Range	Accuracy	L	a	b
<b>3400-1*</b>	0-1"	.00015"	1.260"	.236"	1.024"
<b>3400-2*</b>	1-2"	.00015"	2.244"	.315"	1.260"
<b>3400-3*</b>	2-3"	.00020"	3.228"	.315"	1.752"
<b>3400-4*</b>	3-4"	.00020"	4.213"	.315"	2.244"

\*Supplied with manufacturer inspection certificate traceable to NIST

## OUTSIDE MICROMETER FOR LEFT OR RIGHT HANDERS

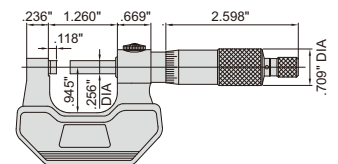


front

back

**3236-1B**

- Graduation .001"
- Graduations on two sides
- Ratchet stop
- Carbide measuring faces

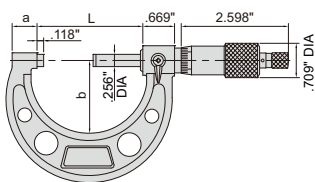


Part No.	Range	Accuracy
<b>3236-1B</b>	0-1"	.00015"

## OUTSIDE MICROMETERS

**INSPECTION CERTIFICATE**  
TRACEABLE TO NIST

**POPULAR MODEL**



**3203-2A**

- Graduation .0001"
- Carbide measuring faces
- Ratchet stop type
- Supplied with setting standards

### Set

Part No.	Range	Micrometers included	Packaging
<b>3203-33A*</b>	0-3"	3203-1A, 3203-2A, 3203-3A	blow mould case
<b>3203-44A*</b>	0-4"	3203-1A, 3203-2A, 3203-3A, 3203-4A	blow mould case
<b>3203-66A*</b>	0-6"	3203-1A, 3203-2A, 3203-3A, 3203-4A, 3203-5A, 3203-6A	blow mould case
<b>3203-126A</b>	6-12"	3203-7A, 3203-8A, 3203-9A, 3203-10A, 3203-11A, 3203-12A	aluminum box
<b>3203-1212A</b>	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

\*Supplied with manufacturer inspection certificate traceable to NIST

### Individual

Part No.	Range	Accuracy	L	a	b
<b>3203-1A*</b>	0-1"	.00015"	1.260"	.354"	1.102"
<b>3203-2A*</b>	1-2"	.00015"	2.244"	.551"	1.496"
<b>3203-3A*</b>	2-3"	.00020"	3.228"	.591"	1.929"
<b>3203-4A*</b>	3-4"	.00020"	4.213"	.591"	2.362"
<b>3203-5A*</b>	4-5"	.00025"	5.236"	.650"	2.874"
<b>3203-6A*</b>	5-6"	.00025"	6.220"	.650"	3.346"
<b>3203-7A</b>	6-7"	.00030"	7.205"	.764"	4.094"
<b>3203-8A</b>	7-8"	.00030"	8.228"	.764"	4.606"
<b>3203-9A</b>	8-9"	.00030"	9.213"	.764"	5.118"
<b>3203-10A</b>	9-10"	.00030"	10.236"	.764"	5.591"
<b>3203-11A</b>	10-11"	.00035"	11.220"	.764"	6.102"
<b>3203-12A</b>	11-12"	.00035"	12.205"	.764"	6.614"



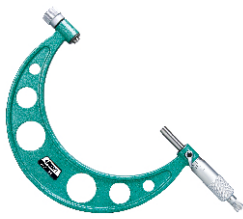
**3203-44A**



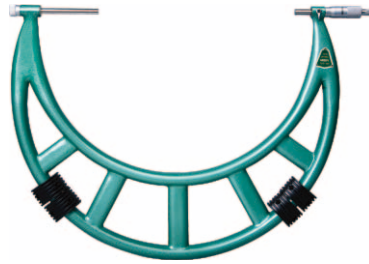
**3203-126A**



## OUTSIDE MICROMETERS WITH INTERCHANGEABLE ANVILS

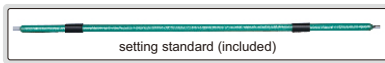
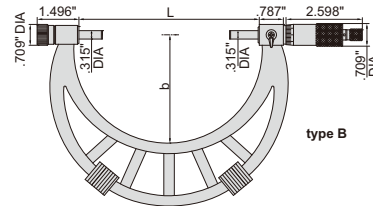
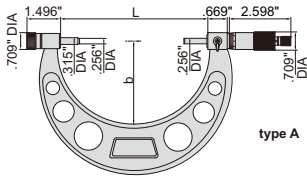
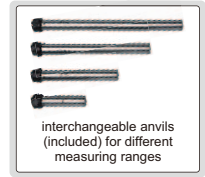


**3206-6**



**3206-16**

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



Part No.	Range	Type	Accuracy	L	b	Setting standard (included)
<b>3206-4</b>	0-4"	A	.00020"	4.252"	2.244"	1", 2", 3"
<b>3206-6</b>	0-6"	A	.00025"	6.220"	3.228"	1", 2", 3", 4", 5"
<b>3206-8</b>	4-8"	A	.00030"	8.189"	4.488"	4", 5", 6", 7"
<b>3206-12</b>	6-12"	A	.00035"	12.126"	6.496"	6", 7", 8", 9", 10", 11"
<b>3206-12A</b>	8-12"	A	.00035"	12.126"	6.496"	8", 9", 10", 11"
<b>3206-16</b>	12-16"	B	.00045"	16.102"	8.819"	13", 15"
<b>3206-20</b>	16-20"	B	.00050"	20.039"	10.827"	17", 19"
<b>3206-24</b>	20-24"	B	.00055"	23.976"	12.638"	21", 23"
<b>3206-28</b>	24-28"	B	.00065"	27.913"	14.606"	25", 27"
<b>3206-32</b>	28-32"	B	.00070"	31.850"	16.772"	29", 31"
<b>3206-36</b>	32-36"	B	.00080"	35.787"	18.740"	33", 35"
<b>3206-40</b>	36-40"	B	.00085"	39.724"	22.677"	37", 39"

## DIGITAL OUTSIDE MICROMETERS WITH INTERCHANGEABLE ANVILS

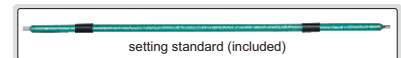
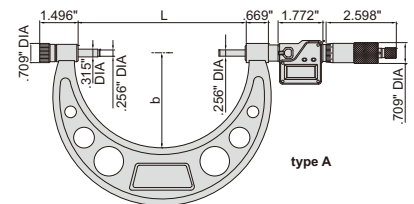
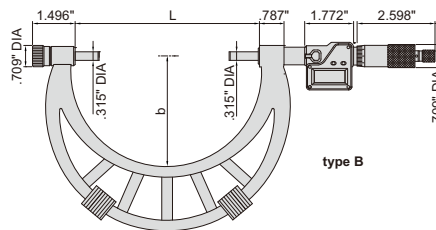
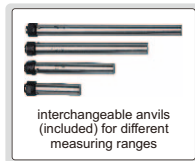
DATA OUTPUT

IP65 WATERPROOF



**3506-400E**

- Resolution .0001"/0.001mm
- IP65 dust/waterproof
- Button function: on/off, set, inch/mm, ABS/INC
- Data output
- Automatic power off
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards
- Optional accessory: data output cable (part no. [7315-30](#), [7302-30](#))

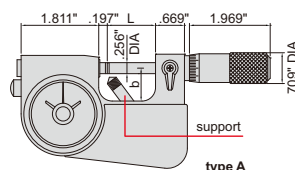


Part No.	Range	Type	Accuracy	L	b	Setting standard (included)
<b>3506-300E</b>	6-12"/150-300mm	A	±.00030"	12.008"	6.496"	6", 7", 8", 9", 10"
<b>3506-400E</b>	12-16"/300-400mm	B	±.00035"	15.945"	8.819"	13", 15"
<b>3506-500E</b>	16-20"/400-500mm	B	±.00045"	19.882"	10.827"	17", 19"

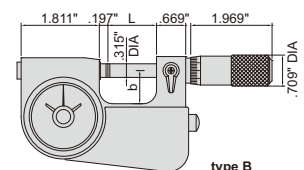
## INDICATING MICROMETERS



**3332-1**



**3332-1B**



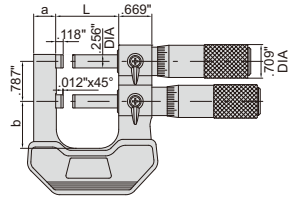
- Micrometer head graduation .0001"
- Micrometer head accuracy .00015"
- Dial indicator: range ±.0015", graduation .00005", accuracy .00005"
- Carbide measuring faces
- Supplied with setting standards (except 0-1")
- Optional accessory: gage blocks grade 0, for zero setting

Part No.	Micrometer head range	Type	L	b	Remark
<b>3332-1</b>	0-1"	A	1.122"	.748"	with support
<b>3332-2</b>	1-2"	A	2.106"	1.181"	with support
<b>3332-1B</b>	0-1"	B	1.122"	.748"	without support

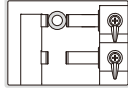
## LIMIT MICROMETER



**3235-1**



application



- Used as Go/No-Go gauge by setting upper and lower limits
- Carbide measuring face

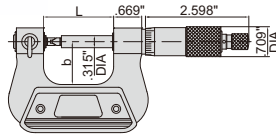
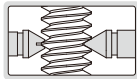
Part No.	Range	Graduation	Accuracy	L	a	b
<b>3235-1</b>	0-1"	.0001"	.00015"	1.260"	.472"	.945"

## SCREW THREAD MICROMETERS

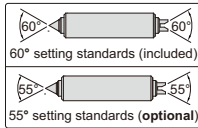


**3281-1**  
(measuring tips are optional)

NON-ROTATING SPINDLE



- Measures pitch diameter of screw threads
- Graduation .001"
- Non-rotating spindle
- Ratchet stop
- Supplied with 60° setting standards (except 0-1")
- Optional accessory: 55° setting standards, measuring tips (part no. 7381)



accuracy of micrometers with tips

Pitch	Range					
	0-1"	1-2"	2-3"	3-4"	4-5"	5-8"
64~48TPI	.00040"	-	-	-	-	-
44~32TPI	.00040"	.00050"	-	-	-	-
28~20TPI	.00045"	.00060"	.00065"	.00065"	-	-
18~13TPI	.00055"	.00065"	.00075"	.00075"	.00080"	.00090"
12~7TPI	.00065"	.00075"	.00085"	.00085"	.00090"	.00100"
6-3.5TPI	-	.00085"	.00090"	.00090"	.00100"	.00110"

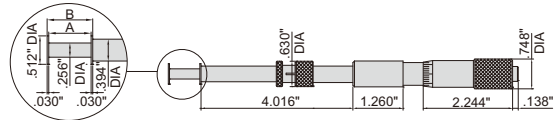
Measuring tips are optional

Part No.	Range	L	b	55° setting standard (optional)
<b>3281-1</b>	0-1"	1.654"	1.024"	-
<b>3281-2</b>	1-2"	2.638"	1.496"	<b>3281-SPE1</b>
<b>3281-3</b>	2-3"	3.622"	1.969"	<b>3281-SPE2</b>
<b>3281-4</b>	3-4"	4.630"	2.441"	<b>3281-SPE3</b>
<b>3281-5</b>	4-5"	5.630"	2.756"	<b>3281-SPE4</b>
<b>3281-6</b>	5-6"	6.622"	3.228"	<b>3281-SPE5</b>
<b>3281-7</b>	6-7"	7.559"	3.720"	<b>3281-SPE6</b>

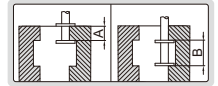
## GROOVE MICROMETERS



**3287-1**



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



Part No.	Range (outside A)	Range (inside B)	Graduation	Accuracy
<b>3287-1</b>	0-1"	.06-1.05"	.001"	.00040"
<b>3287-2</b>	1-2"	1.05-2.05"	.001"	.00040"
<b>3287-3</b>	2-3"	2.05-3.05"	.001"	.00040"
<b>3287-4</b>	3-4"	3.05-4.05"	.001"	.00040"

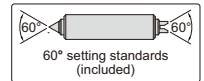
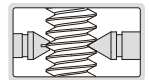
## DIGITAL SCREW THREAD MICROMETER



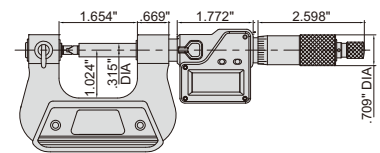
**3581-25E**  
(measuring tips are optional)

NON-ROTATING SPINDLE

DATA OUTPUT



- Measure pitch diameter of screw threads
- Resolution .00005"/0.001mm
- Button function: on/off, set, inch/mm, ABS/INC
- Data output
- Automatic power off
- Non-rotating spindle
- Ratchet stop
- Optional accessory: 55° setting standards, measuring tips (part no. 7381), data output cable (part no. 7315-30, 7302-30)



accuracy of micrometers with tips

Pitch	Range (0-1")
64~48TPI	.00040"
44~32TPI	.00040"
28~20TPI	.00045"
18~13TPI	.00055"
12~7TPI	.00065"

Measuring tips are optional

Part No.	Range
<b>3581-25E</b>	0-1"/0-25mm

## MEASURING TIPS FOR SCREW THREAD MICROMETERS

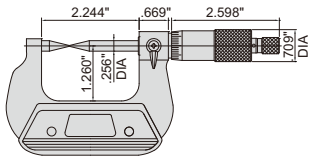


- Supplied in pair
- Suitable for 3281, 3581 series micrometers

Unified and metric thread (60° thread angle)

Part No.	Pitch
<b>7381-TS</b>	6 pairs/set: 64-48TPI/0.4-0.5mm, 44-28TPI/0.6-0.9mm, 24-14TPI/1-1.75mm, 13-9TPI/2-3mm, 8-5TPI/3.5-5mm, 4.5-3.5TPI/5.5-7mm

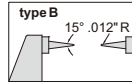
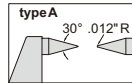
## POINT MICROMETERS



**3230-1**

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

Part No.	Range	Type	Accuracy	Graduation
<b>3230-1</b>	0-1"	A	.00015"	.0001"
<b>3230-1B</b>	0-1"	B	.00015"	.0001"

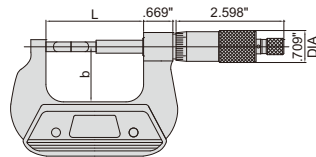
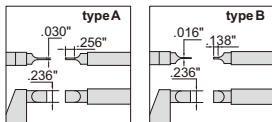


## BLADE MICROMETERS

**NON-ROTATING SPINDLE**



**3232-1**



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

Part No.	Range	Type	Accuracy	Graduation	L	b
<b>3232-1</b>	0-1"	A	.00015"	.0001"	2.244"	1.260"
<b>3232-2</b>	1-2"	A	.00015"	.0001"	3.228"	1.752"
<b>3232-3</b>	2-3"	A	.00020"	.0001"	4.213"	2.244"
<b>3232-4</b>	3-4"	A	.00020"	.0001"	5.220"	2.736"
<b>3232-5</b>	4-5"	A	.00025"	.0001"	6.220"	3.228"
<b>3232-6</b>	5-6"	A	.00025"	.0001"	7.220"	3.720"
<b>3232-7</b>	6-7"	A	.00030"	.0001"	8.220"	4.213"
<b>3232-1B</b>	0-1"	B	.00015"	.0001"	2.244"	1.260"

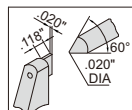
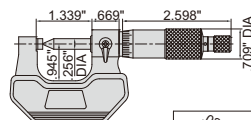
## CRIMP HEIGHT MICROMETER



**3266-1B**

- Measure the height of crimp contact
- Graduation .0001"
- Ratchet stop

Part No.	Range	Accuracy
<b>3266-1B</b>	0-1"	.00015"



## DIGITAL POINT MICROMETER

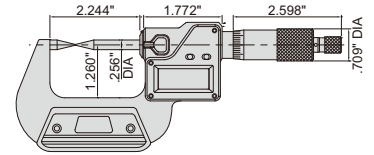
**IP65 WATERPROOF**

**DATA OUTPUT**

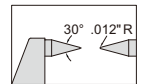


**3530-25E**

- Measure the web thickness of drills, small grooves and keyways
- Resolution .00005"/0.001mm
- IP65 dust/waterproof
- Button function: on/off, set, inch/mm, ABS/INC
- Data output
- Automatic power off
- Ratchet stop, carbide tips
- Optional accessory: data output cable (part no. **7315-30**, **7302-30**)



Part No.	Range	Accuracy
<b>3530-25E</b>	0-1"/0-25mm	±.00015"



## DIGITAL BLADE MICROMETERS

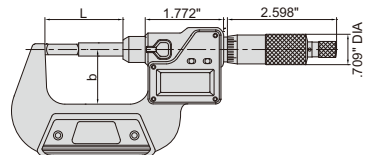
**NON-ROTATING SPINDLE**

**DATA OUTPUT**

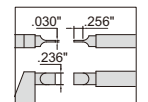


**3532-25E**

- 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
- Automatic power off
- Ratchet stop
- Supplied with setting standards (except 0-1"/0-25mm)
- Optional accessory: data output cable (part no. **7315-30**, **7302-30**)



Part No.	Range	Accuracy	L	b
<b>3532-25E</b>	0-1"/0-25mm	±.00015"	2.244"	1.260"
<b>3532-50E</b>	1-2"/25-50mm	±.00015"	3.228"	1.752"



## DIGITAL CRIMP HEIGHT MICROMETER

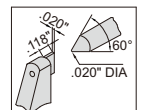
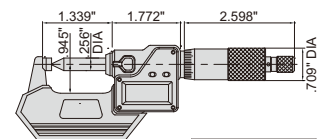
**DATA OUTPUT**

**IP65 WATERPROOF**



**3566-25BE**

- Measure the height of crimp contact
- Resolution .00005"/0.001mm
- IP65 dust/waterproof
- Button function: on/off, set, inch/mm, ABS/INC
- Data output
- Automatic power off
- Ratchet stop
- Optional accessory: data output cable (part no. **7315-30**, **7302-30**)



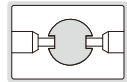
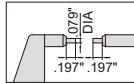
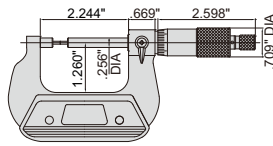
Part No.	Range	Accuracy
<b>3566-25BE</b>	0-1"/0-25mm	±.00015"

### SPLINE MICROMETER



**3233-1**

- Measure splined shafts, slots and keyways
- Graduation .0001"
- Ratchet stop
- Carbide measuring faces



Part No.	Range	Accuracy
<b>3233-1</b>	0-1"	.00015"

### DIGITAL SPLINE MICROMETER

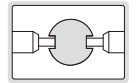
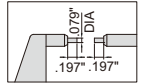
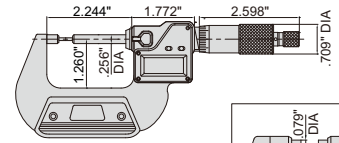
**IP65**  
WATERPROOF

**DATA**  
OUTPUT



**3533-25E**

- Measure splined shafts, slots and keyways
- Resolution .00005"/0.001mm
- IP65 dust/waterproof
- Button function: on/off, set, inch/mm, ABS/INC
- Data output
- Automatic power off
- Ratchet stop
- Carbide measuring faces
- Optional accessory: data output cable (part no. [7315-30](#), [7302-30](#))



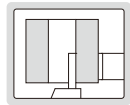
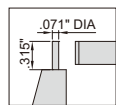
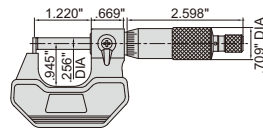
Part No.	Range	Accuracy	Resolution
<b>3533-25E</b>	0-1"/0-25mm	±.00015"	.00005"/0.001mm

### CYLINDRICAL ANVIL TUBE MICROMETER



**3261-1**

- Measure wall thickness of tubes
- Graduation .0001"
- Ratchet stop
- Carbide spindle tip

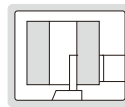


Part No.	Range	Accuracy	Graduation
<b>3261-1</b>	0-1"	.00025"	.0001"

### DIGITAL CYLINDRICAL ANVIL TUBE MICROMETER

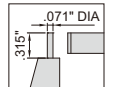
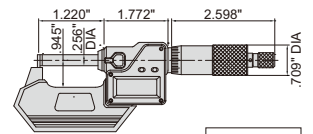
**IP65**  
WATERPROOF

**DATA**  
OUTPUT



**3561-25E**

- Measure wall thickness of tubes
- Resolution .00005"/0.001mm
- IP65 dust/waterproof
- Button function: on/off, set, inch/mm, ABS/INC
- Data output, automatic power off
- Ratchet stop
- Carbide spindle tip
- Optional accessory: data output cable (part no. [7315-30](#), [7302-30](#))



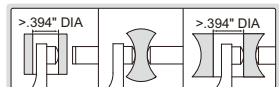
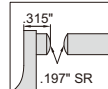
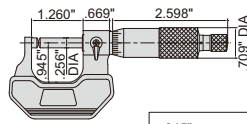
Part No.	Range	Accuracy
<b>3561-25E</b>	0-1"/0-25mm	±.00025"

### SPHERICAL ANVIL TUBE MICROMETER



**3260-1S**

- Measure wall thickness of tubes
- Ratchet stop
- Carbide measuring faces



Part No.	Range	Accuracy	Graduation
<b>3260-1S</b>	0-1"	.00015"	.0001"

### DIGITAL SPHERICAL ANVIL TUBE MICROMETERS

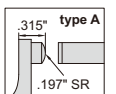
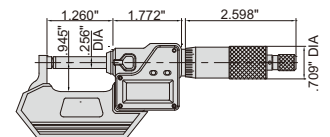
**IP65**  
WATERPROOF

**DATA**  
OUTPUT



**3560-25E**

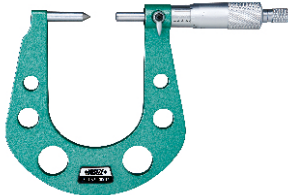
- Measure wall thickness of tubes
- Resolution .00005"/0.001mm
- IP65 dust/waterproof
- Button function: on/off, set, inch/mm, ABS/INC
- Data output
- Automatic power off
- Ratchet stop
- Carbide measuring faces
- Optional accessory: data output cable (part no. [7315-30](#), [7302-30](#))



Part No.	Range	Type	Accuracy
<b>3560-25E</b>	0-1"/0-25mm	A	±.00015"
<b>3560-25SE</b>	0-1"/0-25mm	B	±.00015"

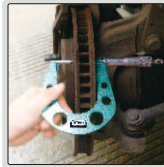
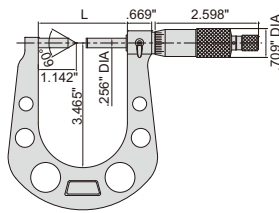


### DISK BRAKE MICROMETER



**3288-1**

- Measure thickness of disk brakes
- Graduation .0001"
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards



Part No.	Range	Accuracy	L
<b>3288-1</b>	.3-1.3"	.00020"	2.539"

### DIGITAL DISK BRAKE MICROMETER

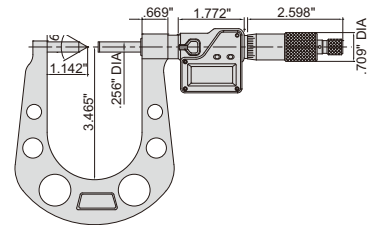
**IP65**  
WATERPROOF

**DATA**  
OUTPUT



**3588-33E**

- Measure thickness of disk brakes
- IP65 dust/waterproof
- Button function: on/off, set, inch/mm, ABS/INC
- Data output, automatic power off
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards
- Optional accessory: data output cable (part no. 7315-30, 7302-30)



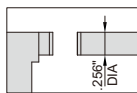
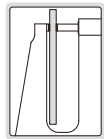
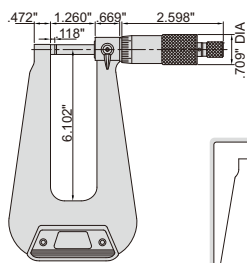
Part No.	Range	Resolution	Accuracy	L
<b>3588-33E</b>	.3-1.3"/7.6-33mm	.00005"/0.001mm	.00020"	2.539"

### SHEET METAL MICROMETER



**3239-13**

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

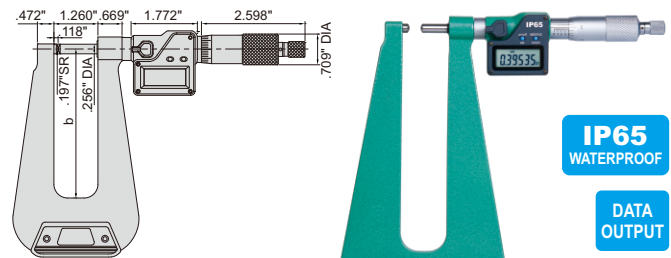


Part No.	Range	Accuracy	Graduation
<b>3239-13</b>	0-1"	.00030"	.0001"

### DIGITAL SHEET METAL MICROMETER

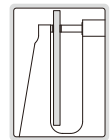
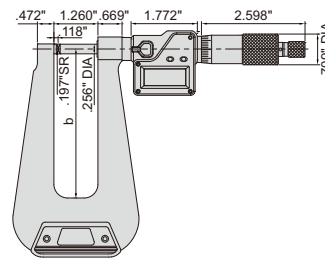
**IP65**  
WATERPROOF

**DATA**  
OUTPUT



**3539-253SE**

- Deep frame suitable for sheet metal, paper and plastic
- IP65 dust/waterproof
- Button function: on/off, set, inch/mm, ABS/INC
- Data output, automatic power off
- Ratchet stop
- Carbide measuring faces
- Optional accessory: data output cable (part no. 7315-30, 7302-30)



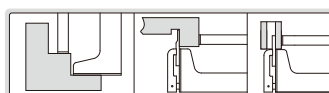
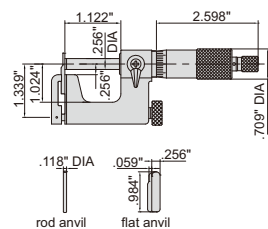
Part No.	Range	Accuracy	Resolution
<b>3539-253SE</b>	0-1"/0-25mm	±.00030"	.00005"/0.001mm

### INTERCHANGEABLE ANVIL MICROMETER



**3262-1**

- Measure tube thickness, shoulder edge distance, rivet head height, etc.
- Supplied with flat anvil and rod anvil
- Graduation .0001"
- Ratchet stop
- Carbide spindle tip



Part No.	Range	Accuracy
<b>3262-1</b>	0-1"	.00015"

### DIGITAL INTERCHANGEABLE ANVIL MICROMETER

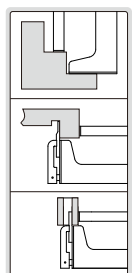
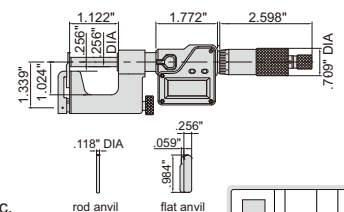
**IP65**  
WATERPROOF

**DATA**  
OUTPUT



**3562-25E**

- Measure tube thickness, shoulder edge distance, rivet head height, etc.
- Supplied with flat anvil and rod anvil
- IP65 dust/waterproof
- Button function: on/off, set, inch/mm, ABS/INC
- Data output, automatic power off
- Ratchet stop
- Carbide spindle tip
- Optional accessory: data output cable (part no. 7315-30, 7302-30)

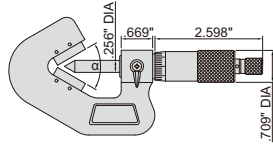


Part No.	Range	Resolution	Accuracy
<b>3562-25E</b>	0-1"/0-25mm	.00005"/0.001mm	±.00015"

**V-ANVIL MICROMETER**



**3290-063**



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

Part No.	Range	Flutes	$\alpha$	Accuracy	Graduation
<b>3290-063</b>	.04-.6"	3	60°	.00015"	.0001"

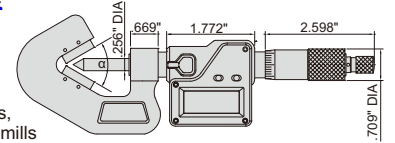
**DIGITAL V-ANVIL MICROMETER**

**IP65**  
WATERPROOF

**DATA**  
OUTPUT



**3590-153E**



- Measure the diameter of parts or cutting tools with odd grooves, such as taps, reamers and end mills
- IP65 dust/waterproof
- Button function: on/off, set, inch/mm, ABS/INC
- Data output, automatic power off
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards
- Optional accessory: data output cable (part no. **7315-30**, **7302-30**)

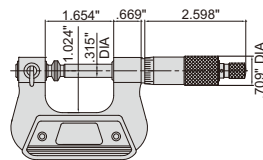
Part No.	Range	Flutes	$\alpha$	Accuracy	Resolution
<b>3590-153E</b>	.04-.6"/1-15mm	3	60°	.00015"	.00005"/0.001mm

**NON-ROTATING SPINDLE UNIVERSAL MICROMETER**

**NON-ROTATING**  
**SPINDLE**



**3280-1**



Part No.	Range
<b>3280-1</b>	0-1"

- Accuracy .00015"
- Graduation .0001"
- Non-rotating spindle
- Ratchet stop
- Supplied with 7 pairs of anvil/spindle tip
- Optional accessory: 55° anvil/spindle tip

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		

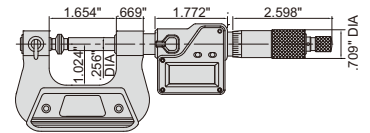
**DIGITAL UNIVERSAL MICROMETER**

**NON-ROTATING**  
**SPINDLE**

**DATA**  
OUTPUT



**3580-25E**



Part No.	Range
<b>3580-25E</b>	0-1"/0-25mm

- Accuracy .00015"
- Resolution .00005"/0.001mm
- Non-rotating spindle
- Button function: on/off, set, inch/mm, ABS/INC
- Data output
- Automatic power off
- Ratchet stop
- Supplied with 7 pairs of anvil/spindle tip
- Optional accessory: 55° anvil/spindle tip part no. **3280-SP1** and **3280-SP2**, data output cable (part no. **7315-30**, **7302-30**)

Anvil/spindle tip (included)

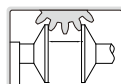
Flat		
Spherical		
Spline		
Disk		
Blade		
Knife-edge		
Point		

55° anvil/spindle tip (optional)

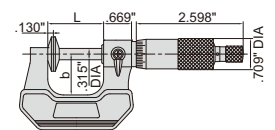
Part No. <b>3280-SP1</b> Knife-edge		
Part No. <b>3280-SP2</b> Point		

**DISK MICROMETERS**

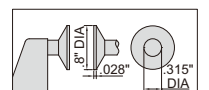
- Measure root tangent length of gear
- Ratchet stop
- Supplied with setting standards



**3282-1**



Part No.	Range	Graduation	Accuracy	Parallelism	L	b
<b>3282-1</b>	0-1"	.0001"	.00015"	.00020"	1.339"	.945"
<b>3282-2</b>	1-2"	.0001"	.00015"	.00020"	2.323"	1.260"
<b>3282-3</b>	2-3"	.0001"	.00020"	.00020"	3.346"	1.772"
<b>3282-4</b>	3-4"	.0001"	.00020"	.00020"	4.331"	2.244"



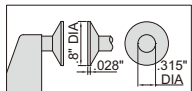
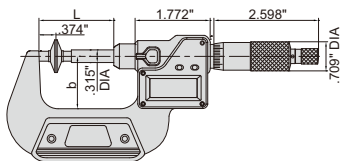
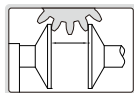
## DIGITAL NON-ROTATING SPINDLE DISK MICROMETERS

NON-ROTATING SPINDLE

DATA OUTPUT



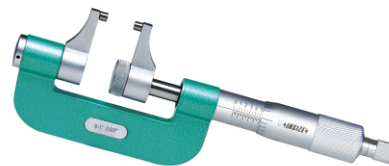
3594-1



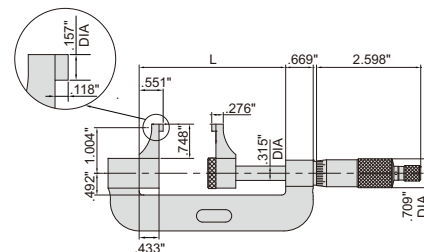
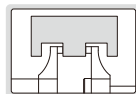
- Measure root tangent length of gear
- Resolution .00005"/0.001mm
- Non-rotating spindle
- Button function: on/off, set, inch/mm, ABS/INC
- Data output, automatic power off
- Ratchet stop
- Supplied with setting standards
- Optional accessory: data output cable (part no. [7315-30](#), [7302-30](#))

Part No.	Range	Accuracy	Parallelism	L	b
<a href="#">3594-1</a>	0-1"/0-25mm	±.00015"	±.00020"	1.693"	1.260"
<a href="#">3594-2</a>	1-2"/25-50mm	±.00015"	±.00020"	2.677"	1.752"
<a href="#">3594-3</a>	2-3"/50-75mm	±.00020"	±.00020"	3.661"	2.244"
<a href="#">3594-4</a>	3-4"/75-100mm	±.00020"	±.00020"	4.665"	2.756"

## CALIPER TYPE MICROMETER



3238-1



- Graduation .001"
- Non-rotating spindle
- Ratchet stop
- Carbide measuring faces

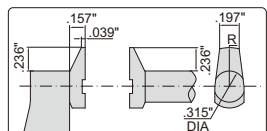
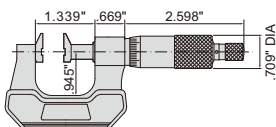
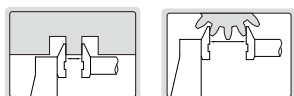
Part No.	Range	Accuracy	L
<a href="#">3238-1</a>	0-1"	.00040"	2.205"

## JAW TYPE MICROMETER

NON-ROTATING SPINDLE



3283-1



- Graduation .0001"
- Non-rotating spindle
- Ratchet stop

Part No.	Range	Accuracy	R
<a href="#">3283-1</a>	0-1"	.00015"	.394"

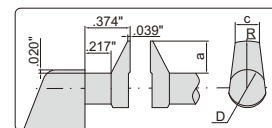
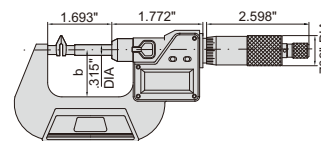
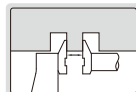
## DIGITAL JAW TYPE MICROMETER

NON-ROTATING SPINDLE

DATA OUTPUT



3583-25AE

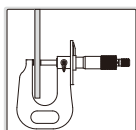


- Resolution .00005"/0.001mm
- Non-rotating spindle
- Button function: on/off, set, inch/mm, ABS/INC
- Data output
- Automatic power off
- Ratchet stop
- Optional accessory: data output cable (part no. [7315-30](#), [7302-30](#))

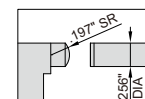
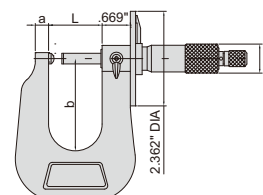
Part No.	Range	Accuracy	a	b	c	R	D
<a href="#">3583-25AE</a>	0-1"/0-25mm	±.00015"	.256"	1.260"	.197"	.394"	.315" DIA

## SHEET METAL MICROMETER

- Measure thickness of sheet metal, paper, plastic and rubber parts
- Graduation .001"
- Ratchet stop
- Carbide measuring faces



3263-1



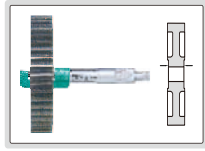
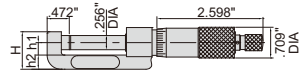
Part No.	Range	Accuracy	L	a	b
<a href="#">3263-1</a>	0-1"	.00015"	1.260"	.315"	1.969"

**HUB MICROMETERS**



**3292-1**

- Measure hub thickness and shoulder inside a bore
- Graduation .0001"
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards (except 0-1")



Part No.	Range	Accuracy	h1	h2	H
<a href="#">3292-1</a>	0-1"	.00015"	.236"	.354"	.736"
<a href="#">3292-2</a>	1-2"	.00015"	.256"	.433"	.835"
<a href="#">3292-3</a>	2-3"	.00020"	.256"	.433"	.835"
<a href="#">3292-4</a>	3-4"	.00020"	.256"	.433"	.835"

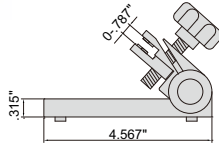
**MICROMETER STAND**



**6300**

Part No.  
**6300**

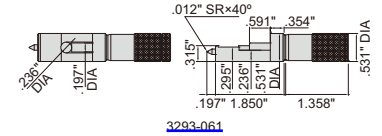
- Suitable for outside micrometers up to 4"



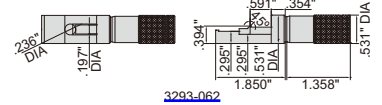
**CAN SEAM MICROMETERS**



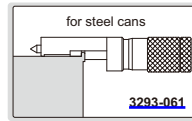
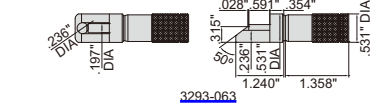
**3293-061**



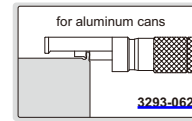
**3293-062**



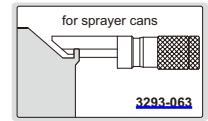
**3293-063**



**3293-061**



**3293-062**



**3293-063**

- Measure the width, height and depth of can seams
- Graduation .001"

Part No.	Range	Accuracy
<a href="#">3293-061</a>	0-.5"	.00015"
<a href="#">3293-062</a>	0-.5"	.00015"
<a href="#">3293-063</a>	0-.5"	.00015"

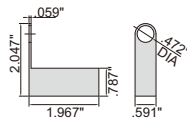
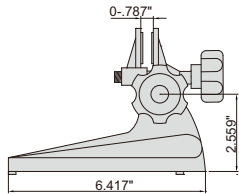
**MICROMETER STAND**



**6301**

- Suitable for outside micrometers up to 4"

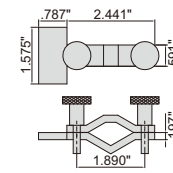
Part No.  
**6301**



- Suitable for inside micrometers



**6301-1**



- Suitable for three points internal micrometers



**6301-2**



Part No.	Description	Applicable products
<a href="#">6301-1</a>	clamp for inside micrometers	all sizes of 3220 series

Part No.	Description	Applicable products
<a href="#">6301-2</a>	clamp for three points internal micrometers	up to 4" of 3127 and 3227 series

**MICROMETER SETTING STANDARDS**



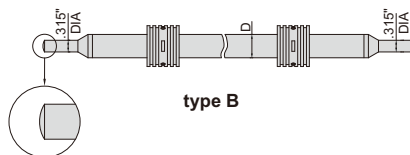
**6311-4**



**6311-12**



type A



type B

Part No.	Length	Type	Accuracy	D (DIA)
<a href="#">6311-1</a>	1"	A	±.00006"	.276"
<a href="#">6311-2</a>	2"	A	±.00008"	.276"
<a href="#">6311-3</a>	3"	A	±.00010"	.276"
<a href="#">6311-4</a>	4"	A	±.00012"	.315"
<a href="#">6311-5</a>	5"	A	±.00014"	.315"
<a href="#">6311-6</a>	6"	A	±.00016"	.315"
<a href="#">6311-7</a>	7"	A	±.00018"	.315"
<a href="#">6311-8</a>	8"	A	±.00020"	.315"
<a href="#">6311-9</a>	9"	A	±.00022"	.315"
<a href="#">6311-10</a>	10"	A	±.00024"	.315"
<a href="#">6311-11</a>	11"	A	±.00026"	.315"
<a href="#">6311-12</a>	12"	B	±.00028"	.630"



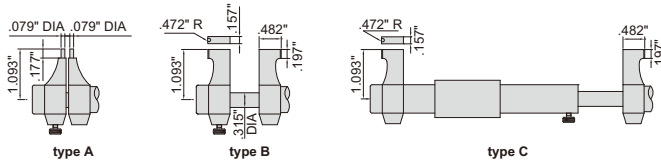
## INSIDE MICROMETERS (ECONOMIC TYPE)

ATTENTION: LOW PARALLELISM OF TWO MEASURING FACES



**3220-2**

micrometer stand with clamp (optional)



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

Part No.	Range	Type	Setting ring	Accuracy
<b>3220-1</b>	.2-1.2"	A	.2" DIA (included)	.00030"
<b>3220-2</b>	1-2"	B	1" DIA (included)	.00035"
<b>3220-3</b>	2-3"	B	2" DIA (optional)	.00035"
<b>3220-4</b>	3-4"	C	3" DIA (optional)	.00040"

## DIGITAL INSIDE MICROMETERS (ECONOMIC TYPE)

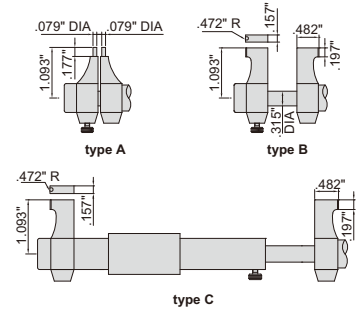
ATTENTION: LOW PARALLELISM OF TWO MEASURING FACES



**3520-30E**

DATA OUTPUT

- Resolution .00005"/0.001mm
- Button function: on/off, set, inch/mm, ABS/INC
- Data output
- Automatic power off
- Ratchet stop
- Carbide measuring faces
- Optional accessory: data output cable (part no. **7315-30**, **7302-30**), setting ring (part no. **6313**)



Part No.	Range	Type	Setting ring	Accuracy
<b>3520-30E</b>	.2-1.2"/5-30mm	A	2" DIA (included)	±.00020"
<b>3520-50E</b>	1-2"/25-50mm	B	1" DIA (included)	±.00025"
<b>3520-75E</b>	2-3"/50-75mm	B	2" DIA (optional)	±.00030"
<b>3520-100E</b>	3-4"/75-100mm	C	3" DIA (optional)	±.00035"

## DIGITAL TUBULAR INSIDE MICROMETERS

IP65 WATERPROOF

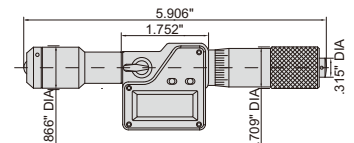
DATA OUTPUT

- Micrometer head: 6-7"
- Graduation .00005"/0.001mm
- Accuracy:  $[\pm.00005(3+n+L/2)]$ "  
n=number of rods  
L=maximum measuring length (inch)
- Carbide measuring faces
- The diameter of extension rods is .866"
- IP65 dust/waterproof
- Button function: on/off, set, inch/mm, ABS/INC
- Data output
- Automatic power off
- Supplied with setting standards
- Optional accessory: data output cable (part no. **7315-30**, **7302-30**)



**3521-40**

Part No.	Range	Travel of micrometer head	Extension rods
<b>3521-7</b>	6-7"	1"	—
<b>3521-40</b>	6-40"	1"	1", 2" (2 pcs), 4", 8", 16"
<b>3521-60</b>	6-60"	1"	1", 2" (2 pcs), 4" (2 pcs), 8", 16" (2 pcs)



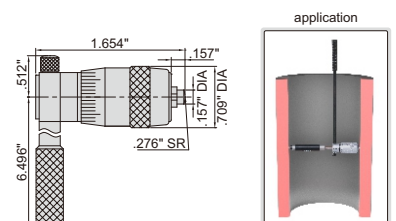
## TUBULAR INSIDE MICROMETERS

- Graduation .001"
- Accuracy:  $[\pm.0003+\pm.00005(L/2)]$ "  
L=maximum measuring length (inch)
- Optional accessory: setting ring (part no. **6313**), gage block accessory (part no. **6881**), cylinder gage block (part no. **4001**), caliper/height gage checker (part no. **6884**)

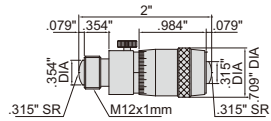


**3221-8**

Part No.	Range	Travel of micrometer head	Extension rods
<b>3221-8</b>	2-8"	.5"	6 pcs
<b>3221-12</b>	2-12"	.5"	10 pcs
<b>3221-20</b>	8-20"	1"	3 pcs
<b>3221-40</b>	8-40"	1"	8 pcs



## TUBULAR INSIDE MICROMETERS



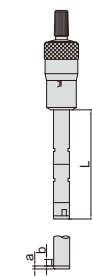
- Micrometer head 2-6"
- Graduation .001"
- Accuracy:  $[\pm .00005(3+n+L/2)]''$   
n=number of rods  
L=maximum measuring length (inch)
- Travel of micrometer head .5"
- Supplied with setting standards
- Carbide measuring faces

Part No.	Range	Extension rods
<a href="#">3222-6</a>	2-6"	.5", 1", 2"
<a href="#">3222-12</a>	2-12"	.5", 1", 2" (2 pcs), 4"
<a href="#">3222-20</a>	2-20"	.5", 1", 2" (2 pcs), 4", 8"
<a href="#">3222-40</a>	2-40"	.5", 1", 2" (2 pcs), 4", 8" (2 pcs), 12"

## THREE POINTS INTERNAL MICROMETERS



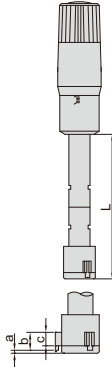
[3227-E035](#)



**Type B**  
.275-.5", steel  
measuring points  
three points



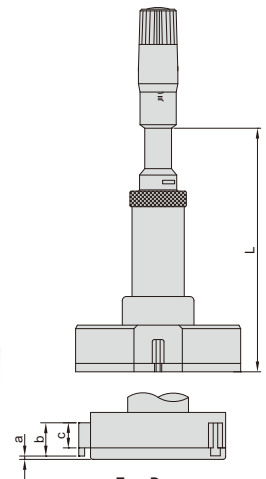
[3227-E065](#)



**Type C**  
.5-2", carbide  
measuring points  
three points



[3227-E4](#)



**Type D**  
2-6", carbide  
measuring points  
three points

- .275-.5": graduation .0001"
- .5-6": graduation .0002"
- Ratchet stop
- Optional accessory:  
setting rings (part no. [6313](#)),  
micrometer stand and clamp  
(part no. [6301](#) and [6301-2](#))

Manufacturer Inspection Certificate			
INSIZE Inspection Certificate			
Product name	Three Points Internal Micrometer	Trademark In	Germany (32222-04-110115-01-022011-01)
Code No.	3227-E112	Inspector	Germany 31-08103-DND-K-09001-0012-05
Measuring range	1-2"	Judgment	Passed
Graduation	.0002"		
Serial No.	0910142544		
Standard temperature	68 °F		
Adjusting Standard	Permissible Error	Measured Deviation	Unit
1.0220		0	
1.0220	.00015"	.00015"	
1.0210		.00010"	

micrometer stand with  
clamp (optional)



setting ring



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

extension rod



included

### Individual

Part No.	Range	Type	Accuracy	Setting ring	Extension rod (included)	L	a	b	c
<a href="#">3227-E035</a> *	.275-.35"	B (three points)	.00015"	.275" DIA (included)	4"	2.146"	.059"	.098"	—
<a href="#">3227-E0425</a> *	.35-.425"	B (three points)	.00015"	.35" DIA (included)	4"	2.146"	.059"	.098"	—
<a href="#">3227-E05</a> *	.425-.5"	B (three points)	.00015"	.5" DIA (included)	4"	2.146"	.059"	.098"	—
<a href="#">3227-E065</a> *	.5-.65"	C (three points)	.00015"	.65" DIA (included)	6"	3.150"	.020"	.236"	.177"
<a href="#">3227-E08</a> *	.65-.8"	C (three points)	.00015"	.65" DIA (included)	6"	3.150"	.020"	.236"	.177"
<a href="#">3227-E1</a> *	.8-1"	C (three points)	.00015"	1" DIA (included)	6"	3.543"	.020"	.315"	.236"
<a href="#">3227-E112</a> *	1-1.2"	C (three points)	.00015"	1" DIA (included)	6"	3.543"	.020"	.315"	.236"
<a href="#">3227-E16</a> *	1.2-1.6"	C (three points)	.00015"	1.6" DIA (included)	6"	3.819"	.020"	.551"	.472"
<a href="#">3227-E2</a> *	1.6-2"	C (three points)	.00020"	1.6" DIA (included)	6"	3.819"	.020"	.551"	.472"
<a href="#">3227-E25</a> *	2-2.5"	D (three points)	.00020"	2.5" DIA (included)	6"	4.488"	.020"	.689"	.571"
<a href="#">3227-E3</a> *	2.5-3"	D (three points)	.00020"	2.5" DIA (included)	6"	4.488"	.020"	.689"	.571"
<a href="#">3227-E35</a> *	3-3.5"	D (three points)	.00020"	3.5" DIA (included)	6"	4.488"	.020"	.689"	.571"
<a href="#">3227-E4</a> *	3.5-4"	D (three points)	.00020"	3.5" DIA (included)	6"	4.488"	.020"	.689"	.571"
<a href="#">3227-E5</a> *	4-5"	D (three points)	.00025"	optional	6"	5.512"	.035"	1.142"	.984"
<a href="#">3227-E6</a> *	5-6"	D (three points)	.00025"	optional	6"	5.512"	.035"	1.142"	.984"

### Set

Part No.	Range	Micrometers included	Setting ring (included)	Extension rod (included)
<a href="#">3227-E053</a> *	.275-.5"	.275-.35", .35-.425", .425-.5"	.275" DIA, .35" DIA, .5" DIA	4"
<a href="#">3227-E082</a> *	.5-.8"	.5-.65", .65-.8"	.65" DIA	6"
<a href="#">3227-E24</a> *	.8-2"	.8-1", 1-1.2", 1.2-1.6", 1.6-2"	1" DIA, 1.6" DIA	6"
<a href="#">3227-E44</a> *	2-4"	2-2.5", 2.5-3", 3-3.5", 3.5-4"	2.5" DIA, 3.5" DIA	6"



[3227-E24](#)

\*Supplied with manufacturer inspection certificate

## DIGITAL THREE POINTS INTERNAL MICROMETERS

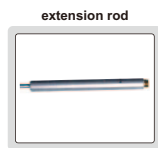
DATA  
OUTPUT

IP65  
WATERPROOF

INSIZE  
CERTIFICATE



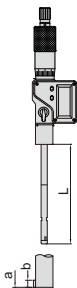
setting ring  
.275-4": included  
4-6": optional



extension rod  
included



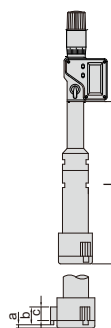
3127-E05



Type B  
.275-.3", steel  
measuring points  
three points



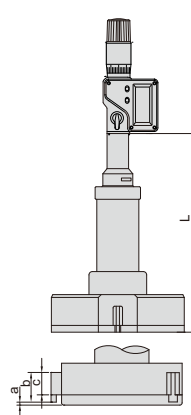
3127-E16



Type C  
.5-2" carbide  
measuring points  
three points



3127-E5



Type D  
2-6", carbide  
measuring points  
three points

- Resolution .00005"/0.001mm
- IP65 dust/waterproof
- Buttons: on/off, set, inch/mm, ABS/INC
- Data output
- Automatic power off
- Ratchet stop
- Optional accessory: data output cable (part no. **7315-30**, **7302-30**), setting ring (part no. **6313**), micrometer stand and clamp (part no. **6301** and **6301-2**)

### Manufacturer Inspection Certificate

INSIZE Inspection Certificate	
Product name	Electronic Three Points Internal Micrometer
Code No.	3127-E112
Measuring range	1-1.2"/25-30mm
Resolution	.00005"/0.001mm
Serial No.	001020004
Standard temperature	68 °F
Actual Ring Size(s)	Permissible Error
1.0000	.0010
1.0025	.0010
1.0050	.0010

### Individual

Part No.	Range	Type	Accuracy	Setting ring	Extension rod	L	a	b	c
<b>3127-E035</b> *	.275-.35"/7-9mm	B (three points)	.00015"	.275" DIA (included)	4" (included)	2.18"	.059"	.098"	—
<b>3127-E0425</b> *	.35-.425"/9-11mm	B (three points)	.00015"	.35" DIA (included)	4" (included)	2.18"	.059"	.098"	—
<b>3127-E05</b> *	.425-.5"/11-13mm	B (three points)	.00015"	.5" DIA (included)	4" (included)	2.18"	.059"	.098"	—
<b>3127-E065</b> *	.5-.65"/13-17mm	C (three points)	.00015"	.65" DIA (included)	6" (included)	3.2"	.020"	.236"	.177"
<b>3127-E08</b> *	.65-.8"/17-20mm	C (three points)	.00015"	.65" DIA (included)	6" (included)	3.2"	.020"	.236"	.177"
<b>3127-E1</b> *	.8-1"/20-25mm	C (three points)	.00015"	1" DIA (included)	6" (included)	3.6"	.020"	.315"	.236"
<b>3127-E112</b> *	1-1.2"/25-30mm	C (three points)	.00015"	1" DIA (included)	6" (included)	3.6"	.020"	.315"	.236"
<b>3127-E16</b> *	1.2-1.6"/30-40mm	C (three points)	.00015"	1.6" DIA (included)	6" (included)	3.88"	.020"	.551"	.472"
<b>3127-E2</b> *	1.6-2"/40-51mm	C (three points)	.00020"	1.6" DIA (included)	6" (included)	3.88"	.020"	.551"	.472"
<b>3127-E25</b> *	2-2.5"/51-63mm	D (three points)	.00020"	2.5" DIA (included)	6" (included)	4.56"	.020"	.689"	.571"
<b>3127-E3</b> *	2.5-3"/63-76mm	D (three points)	.00020"	2.5" DIA (included)	6" (included)	4.56"	.020"	.689"	.571"
<b>3127-E35</b> *	3-3.5"/76-89mm	D (three points)	.00020"	3.5" DIA (included)	6" (included)	4.56"	.020"	.689"	.571"
<b>3127-E4</b> *	3.5-4"/89-101mm	D (three points)	.00020"	3.5" DIA (included)	6" (included)	4.56"	.020"	.689"	.571"
<b>3127-E5</b> *	4-5"/101-127mm	D (three points)	.00025"	optional	6" (included)	6"	.035"	1.142"	.984"
<b>3127-E6</b> *	5-6"/127-152mm	D (three points)	.00025"	optional	6" (included)	6"	.035"	1.142"	.984"

micrometer stand with clamp (optional)



3127-E24

### Set

Part No.	Range	Micrometers included	Setting ring (included)	Extension rod (included)
<b>3127-E053</b> *	.275-.5"/7-13mm	.275-.35"/7-9mm, .35-.425"/9-11mm, .425-.5"/11-13mm	.275" DIA, .35" DIA, .5" DIA	4"
<b>3127-E082</b> *	.5-.8"/13-20mm	.5-.65"/13-17mm, .65-.8"/17-20mm	.65" DIA	6"
<b>3127-E24</b> *	.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"
<b>3127-E44</b> *	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"

\* Supplied with manufacturer inspection certificate

## DIGITAL WIDE RANGE THREE POINTS INTERNAL MICROMETERS

- Resolution .00005"/0.001mm (resolution of **3128-12** is .0001"/0.001mm)
- IP54 dust/waterproof
- Buttons: on/off, set, inch/mm, ABS/INC
- Data output
- 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. **7315-30**, **7302-30**)



setting ring



extension rod (included)

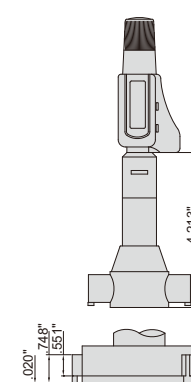
INSIZE  
CERTIFICATE

DATA  
OUTPUT

IP54  
WATERPROOF



3128-28



Part No.	Range	Accuracy	Setting ring	Extension rod (included)
<b>3128-28</b> *	2-2.8"/51-71mm	.00020"	2" DIA (included)	6"
<b>3128-4</b> *	2.8-4"/71-101mm	.00020"	2.8" DIA (included)	6"
<b>3128-6</b> *	4-6"/101-152mm	.00025"	4" DIA (included)	6"
<b>3128-10</b> *	6-10"/152-254mm	.00035"	6" DIA (included)	6"
<b>3128-12</b> *	8-12"/203-305mm	.00035"	8" DIA (optional)	6"

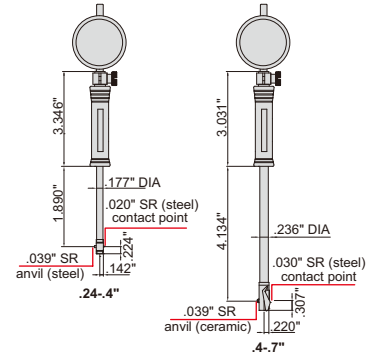
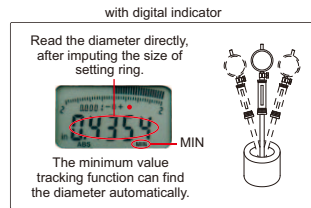
\* Supplied with manufacturer inspection certificate





## PRECISION BORE GAGES FOR SMALL HOLES

- Optional accessory: setting ring (part no. 6313), bore gage setter

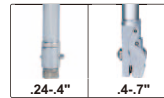


### With dial indicator

Part No.	Range	Indicator	Accuracy	Repeatability
<a href="#">2721-04</a>	.24-.4"	dial indicator, range .05", graduation .0001"	±.0003"	.00006"
<a href="#">2721-07</a>	.4-.7"		±.0003"	.00006"

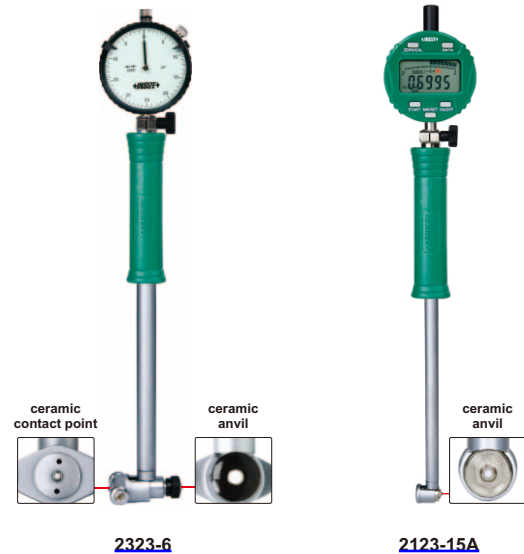
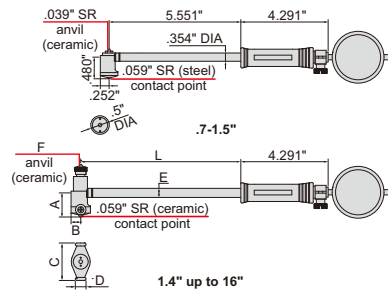
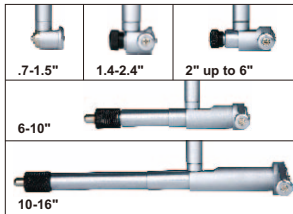
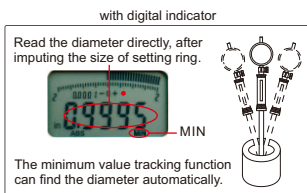
### With digital indicator

Part No.	Range	Indicator	Accuracy	Repeatability
<a href="#">2722-04</a>	.24-.4"	digital indicator, range .5"/12.7mm, resolution .00005"/0.001mm	±.0003"	.0001"
<a href="#">2722-07</a>	.4-.7"		±.0003"	.0001"



## BORE GAGES

**ATTENTION: NOT SUITABLE 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" SR	5.551"
2-6"	1.024"	.354"	1.378"	.512" DIA	.504" DIA	.079" SR	5.551"
6-10"	2.224"	.512"	2.933"	.591" DIA	.504" DIA	.079" SR	9.488"
10-16"	3.406"	.591"	3.996"	.591" DIA	.571" DIA	.098" SR	9.488"

- Optional accessory: setting ring (part no. 6313), long handle (part no. 7351), bore gage setter

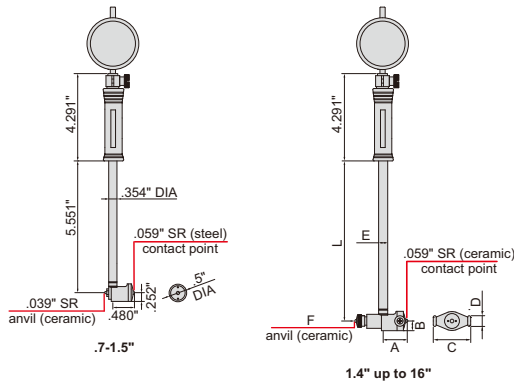
### With dial indicator

Part No.	Range	Indicator	Accuracy	Repeatability
<a href="#">2323-15</a>	.7-1.5"	dial indicator, range .25", graduation .0005"	±.00075"	.00015"
<a href="#">2323-24</a>	1.4-2.4"		±.0009"	.00015"
<a href="#">2323-6</a>	2-6"		±.0009"	.00015"
<a href="#">2323-10</a>	6-10"		±.0009"	.00015"
<a href="#">2323-16</a>	10-16"		±.0009"	.00015"

### With digital indicator

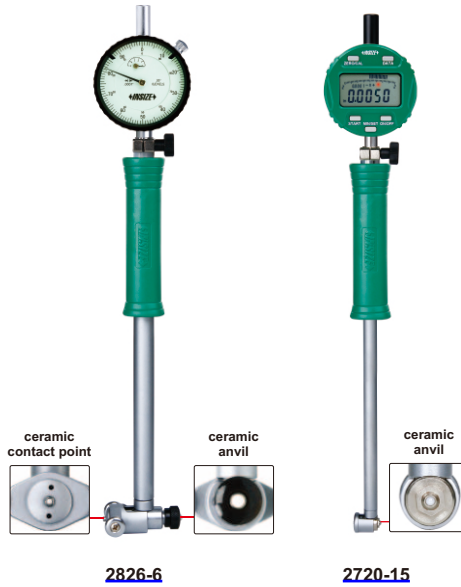
Part No.	Range	Indicator	Accuracy	Repeatability
<a href="#">2123-15A</a>	.7-1.5"	digital indicator, range .5"/12.7mm, resolution .0001"/0.002mm (can switch to .0005"/0.01mm)	±.00075"	.0001"
<a href="#">2123-24A</a>	1.4-2.4"		±.0009"	.0001"
<a href="#">2123-6A</a>	2-6"		±.0009"	.0001"
<a href="#">2123-10A</a>	6-10"		±.0009"	.0001"
<a href="#">2123-16A</a>	10-16"		±.0009"	.0001"

**PRECISION BORE GAGES**



- Optional accessory: setting ring (part no. 6313), long handle (part no. 7351), bore gage setter

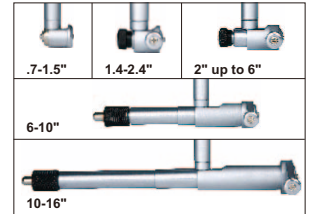
Range	A	B	C	D	E	F	L
1.4-2.4"	.866"	.354"	1.063"	.512" DIA	.504" DIA	.079" SR	5.551"
2-6"	1.024"	.354"	1.378"	.512" DIA	.504" DIA	.079" SR	5.551"
6-10"	2.224"	.512"	2.933"	.591" DIA	.571" DIA	.079" SR	9.488"
10-16"	3.406"	.591"	3.996"	.591" DIA	.571" DIA	.098" SR	9.488"



with digital indicator

Read the diameter directly, after inputting the size of setting ring.

The minimum value tracking function can find the diameter automatically.



**With dial indicator**

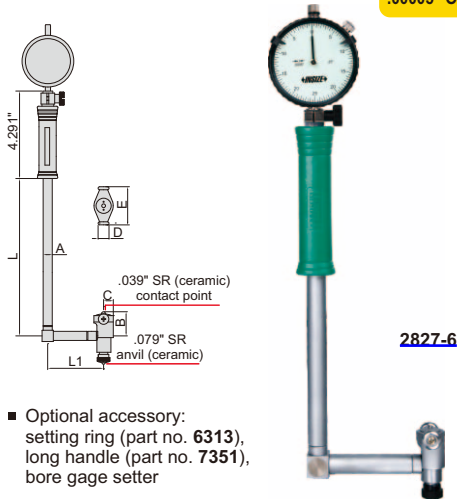
Part No.	Range	Indicator	Accuracy	Repeatability
<a href="#">2826-15</a>	.7-1.5"	dial indicator, range .05", graduation .0001"	±.0003"	.00006"
<a href="#">2826-24</a>	1.4-2.4"		±.0003"	.00006"
<a href="#">2826-6</a>	2-6"		±.0003"	.00006"
<a href="#">2826-10</a>	6-10"		±.0003"	.00006"
<a href="#">2826-16</a>	10-16"		±.0003"	.00006"

**With digital indicator**

Part No.	Range	Indicator	Accuracy	Repeatability
<a href="#">2720-15</a>	.7-1.5"	digital indicator, range .5"/12.7mm, resolution .00005"/0.001mm	±.0003"	.0001"
<a href="#">2720-24</a>	1.4-2.4"		±.0003"	.0001"
<a href="#">2720-6</a>	2-6"		±.0003"	.0001"
<a href="#">2720-10</a>	6-10"		±.0003"	.0001"
<a href="#">2720-16</a>	10-16"		±.0003"	.0001"

**BORE GAGES**

**ATTENTION: NOT SUITABLE FOR .00005" OR .0001" DIAL INDICATORS**



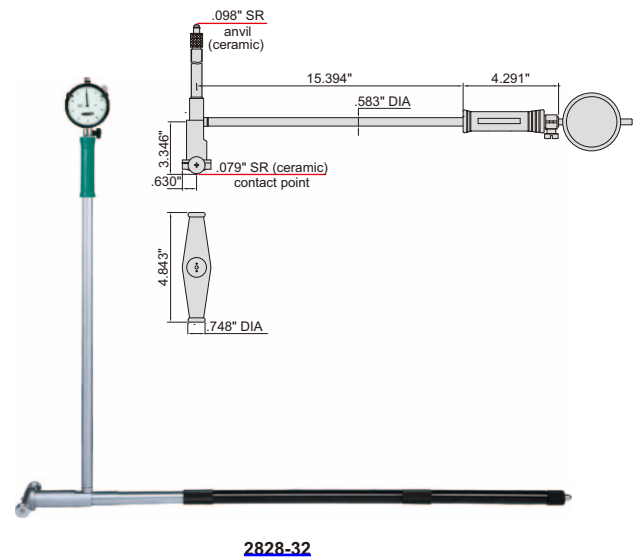
- Optional accessory: setting ring (part no. 6313), long handle (part no. 7351), bore gage setter

Range	A (DIA)	B	C	D (DIA)	E	L	L1
2-6"	.504"	1.122"	.362"	.512"	1.378"	5.551"	3.000"
6-10"	.571"	2.441"	.500"	.591"	2.933"	15.394"	3.937"
10-16"	.571"	3.602"	.591"	.591"	3.996"	15.394"	3.937"

Part No.	Range	Indicator	Accuracy	Repeatability
<a href="#">2827-6</a>	2-6"	dial indicator range .25", graduation .0005"	±.0009"	.00015"
<a href="#">2827-10</a>	6-10"		±.0009"	.00015"
<a href="#">2827-16</a>	10-16"		±.0009"	.00015"

**BORE GAGE**

**ATTENTION: NOT SUITABLE FOR .00005" OR .0001" DIAL INDICATORS**



Part No.	Range	Indicator	Accuracy	Repeatability
<a href="#">2828-32</a>	16-32"	dial indicator, range .25", graduation .0005"	±.001"	.00015"

## BORE GAGE SETS

**ATTENTION: NOT SUITABLE FOR .00005" OR .0001" DIAL INDICATORS**

- Optional accessory: setting ring (part no. 6313), long handle (part no. 7351), bore gage setter



2824-S2E

2724-S3E

packaging (part no. 2824-S3E)



### With dial indicator

Part No.	Range	Indicator	Bore gages included	Accuracy	Repeatability
2824-S2E	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	.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"

with digital indicator

Read the diameter directly, after inputting the size of setting ring.



The minimum value tracking function can find the diameter automatically.



### With digital indicator

Part No.	Range	Indicator	Bore gages included	Accuracy	Repeatability
2724-S2E	1.4-6"	digital indicator, range .5"/12.7mm, resolution .0001"/0.002mm (can switch to .0005"/0.01mm)	① 1.4-2" (dial indicator and handle are not included) ② 2-6"	1.4-2" ±.0009" 2-6" ±.0009"	.0001"
2724-S3E	.7-6"	digital indicator, range .5"/12.7mm, resolution .0001"/0.002mm (can switch to .0005"/0.01mm)	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"	.0001"

## BORE GAGE SETTERS

- Repeatability .00005"
- Vertical and horizontal use
- To be used with gage blocks



VIDEO

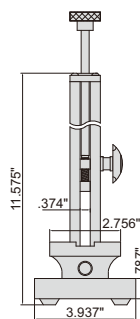
Part No.	Range	Remark
7353-6	0-6"	with gage block set
7353-160W	0-6"	without gage block set

### Gage block set for 7353-6

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



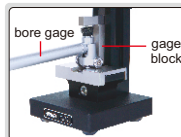
7353-6



horizontal use



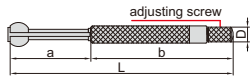
application



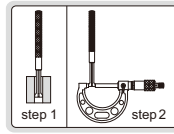
gage blocks for 7353-6



**SMALL HOLE GAGE SET**



**4208-1**



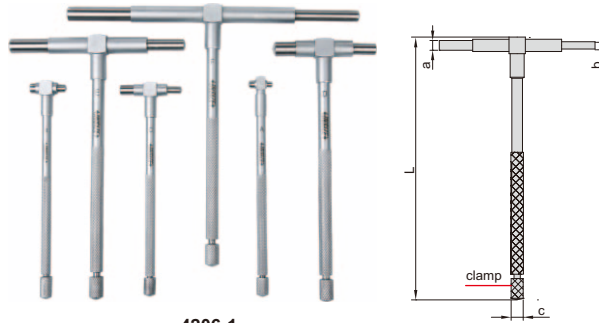
Range	L	a	b	D
.125~.2"	2.992"	.945"	2.047"	.197" DIA
.2~.3"	3.110"	1.063"	2.047"	.197" DIA
.3~.4"	3.465"	1.181"	2.283"	.236" DIA
.4~.5"	3.583"	1.339"	2.283"	.236" DIA

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

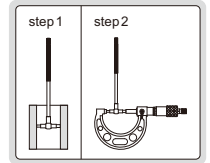
Part No.	Total range	Gages included
<b>4208-1</b>	.125~.5"	.125~.2", .2~.3", .3~.4", .4~.5"

**TELESCOPING GAGE SET**

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



**4206-1**

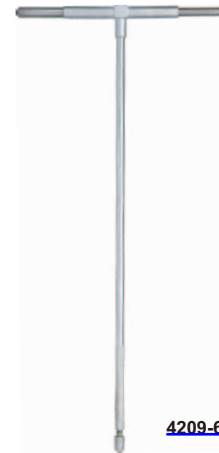
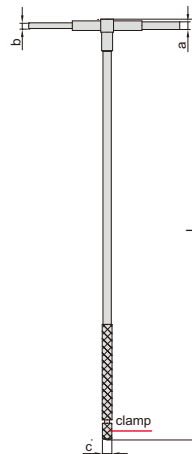
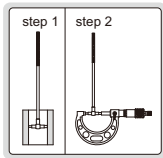


Part No.	Total range	Gages included
<b>4206-1</b>	5/16~6"	5/16~1/2", 1/2~3/4", 3/4~1-1/4", 1-1/4~2-1/8", 2-1/8~3-1/2", 3-1/2~6"

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"

**LONG HANDLE TELESCOPING GAGES**

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

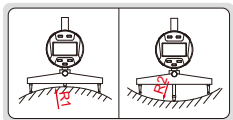


**4209-6**

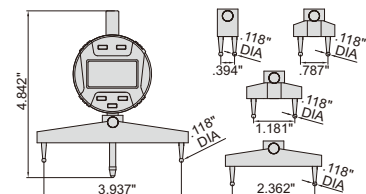
Part No.	Range	L	a	b	c
<b>4209-1</b>	5/16~1/2"	11.811"	.154" DIA	.114" DIA	.244" DIA
<b>4209-2</b>	1/2~3/4"	11.811"	.209" DIA	.150" DIA	.244" DIA
<b>4209-3</b>	3/4~1-1/4"	11.811"	.209" DIA	.150" DIA	.244" DIA
<b>4209-4</b>	1-1/4~2-1/8"	11.811"	.299" DIA	.240" DIA	.283" DIA
<b>4209-5</b>	2-1/8~3-1/2"	11.811"	.299" DIA	.240" DIA	.283" DIA
<b>4209-6</b>	3-1/2~6"	11.811"	.299" DIA	.240" DIA	.283" DIA

**DIGITAL RADIUS GAGE (LOW ACCURACY)**

**ATTENTION:  
NO DATA OUTPUT**



**2183**



- Resolution .0002"/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 (time is adjustable)

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

\*R is the radius to be measured. For example, radius is 4", the accuracy is ±.01x4=±.04"

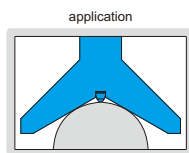


## DIGITAL RADIUS GAGE

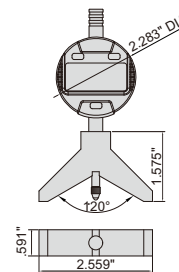


DATA OUTPUT

- Measure radius of external arc, arc angle of measured surface should be larger than 60°
- Display radius value, no need to calculate
- Button function: on/off, zero, data preset, inch/mm
- Keep preset data in memory after restart
- CR2032 battery, automatic power off (time is adjustable)
- Data output
- Stainless steel base
- Supplied with pin gage for zero setting
- Optional accessory: data output cable (part no. [7315-50M](#), [7302-40M](#))



2188-55



Part No.	Range (radius)	Resolution	Accuracy
2188-55	.16-2.09"/4-53mm	.0005"/0.01mm	±.001"

## DIGITAL RADIUS CALIPERS

ATTENTION: THE ACTUAL RADIUS IS 2.414 TIMES OF THE READING

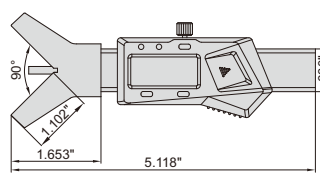
DATA OUTPUT



- Measure radius of external arc, arc angle of measured surface should be larger than 90°
- 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
- Supplied with pin gage for zero setting



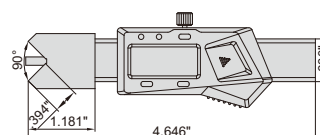
1501-25



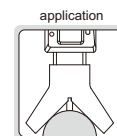
1501-25



1501-10



1501-10



1501-10 can measure small workpieces or workpieces with steps



Part No.	Range (radius)	Accuracy
1501-25	.079-1"/2-25mm	±.0020"
1501-10	.079-.394"/2-10mm	±.0020"

## HIGH PRECISION DIGITAL INDICATOR



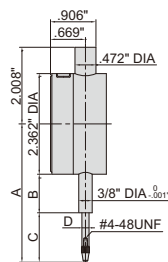
DATA OUTPUT

ATTENTION: RECHARGEABLE BATTERY, FOR 24 HOURS CONTINUOUS WORKING

ABSOLUTE ENCODER, THE ORIGINAL DATA REMAINS AFTER POWER OFF

LINEAR BALL BEARINGS FOR TEN MILLION TIMES USE

- Linear ball bearings for ten million times use
- Absolutely encoder, the original data remains after power off
- Reading in digital and analog
- Data output
- Button function: data output, tolerance, data preset, data hold, measuring direction change, max./min./TIR, power off time, on/off, inch/mm, adjust resolution
- Power: rechargeable battery, for 24 hours continuous working
- Optional accessory: contact points wireless transmitter, part no. [7315-60](#) data output cable (keyboard format), part no. [7302-60](#) data output cable (serial port format), part no. [7305-G60](#) (cable length 10ft, optional cable length maximum 50ft; RS232 protocol, optional RS485 protocol)

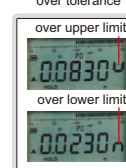


2133-101E

analog pointer



warning when over tolerance



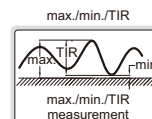
### High precision

Ruby probe

Adjustable resolution .00001"/0.0002mm  
.00005"/0.001mm  
.0005"/0.01mm

Part No.	Range	Accuracy	Hysteresis	A	B	C	D (DIA)	Remark
2133-101E*	.5"/12.7mm	±.00006"	.00004"	3.047"	1.024"	.976"	.157"	flat back

\*Supplied with manufacturer inspection certificate traceable to NIST



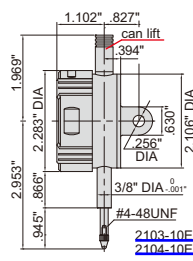
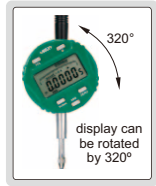
spindle lift knob is included



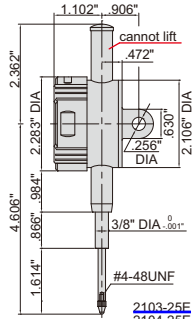
## DIGITAL INDICATORS (ADVANCED TYPE)

**INSPECTION CERTIFICATE**  
TRACEABLE TO NIST

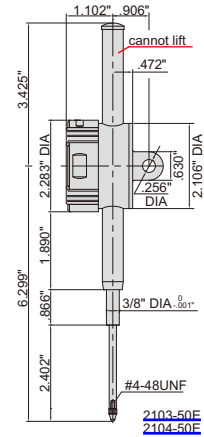
**DATA OUTPUT**



**2103-10E**

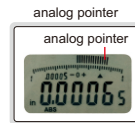
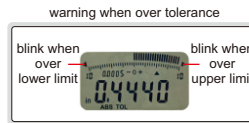
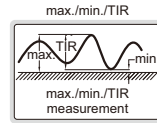


**2104-25E**



**2103-50E**

- Meet ASME B89.1.10M-2001
- Reading in digital 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 (time is adjustable)
- Data output
- Optional accessory: data output cable (part no. [7315-50M](#), [7302-40M](#), [7305-40M](#)), backs, contact points



Resolution .00005"/0.001mm

Part No.	Range	Accuracy	Hysteresis	Maximum measuring force	Remark
<a href="#">2103-10E*</a>	.5"/12.7mm	±.00015"	.00005"	.337lbf	lug back
<a href="#">2103-25E*</a>	1"/25.4mm	±.00015"	.00005"	.495lbf	lug back
<a href="#">2103-50E*</a>	2"/50.8mm	±.00015"	.00005"	.562lbf	lug back

Resolution .0005"/0.01mm

Part No.	Range	Accuracy	Hysteresis	Maximum measuring force	Remark
<a href="#">2104-10E*</a>	.5"/12.7mm	±.00015"	.0005"	.337lbf	lug back
<a href="#">2104-25E*</a>	1"/25.4mm	±.00015"	.0005"	.495lbf	lug back
<a href="#">2104-50E*</a>	2"/50.8mm	±.00015"	.0005"	.562lbf	lug back

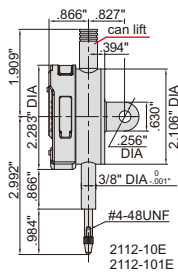
\*Supplied with manufacturer inspection certificate traceable to NIST

## DIGITAL INDICATORS (STANDARD TYPE)

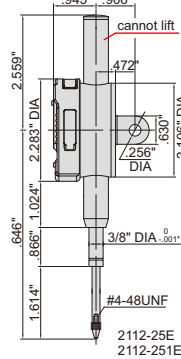
**INSPECTION CERTIFICATE**  
TRACEABLE TO NIST

**DATA OUTPUT**

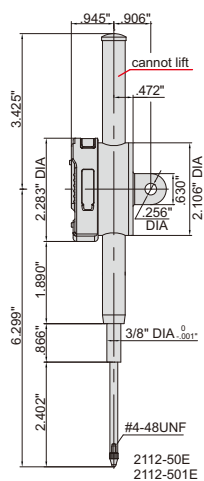
**POPULAR MODEL**



**2112-10E**



**2112-251E**



**2112-501E**

- Meet ASME B89.1.10M-2001
- Button function: on/off, inch/mm, zero, data preset, change measuring direction, absolute/incremental measurement
- Switchable high/low frequency measurement mode, high frequency mode is suitable for high speed moving of spindle and has large power consumption, low power consumption in low frequency mode
- Keep preset data in memory after restart
- CR2032 battery, automatic power off (time is adjustable)
- Data output
- Optional accessory: data output cable (part no. [7315-50M](#), [7302-40M](#), [7305-40M](#)), backs, contact points



Resolution .00005"/0.001mm

Part No.	Range	Accuracy	Hysteresis	Maximum measuring force	Remark
<a href="#">2112-101E*</a>	.5"/12.7mm	±.00015"	.00005"	.337lbf	lug back
<a href="#">2112-251E*</a>	1"/25.4mm	±.00015"	.00005"	.495lbf	lug back
<a href="#">2112-501E*</a>	2"/50.8mm	±.00015"	.00005"	.562lbf	lug back

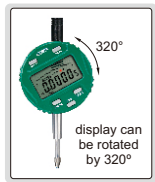
Resolution .0005"/0.01mm

Part No.	Range	Accuracy	Hysteresis	Maximum measuring force	Remark
<a href="#">2112-10E*</a>	.5"/12.7mm	±.0015"	.0005"	.337lbf	lug back
<a href="#">2112-25E*</a>	1"/25.4mm	±.0015"	.0005"	.495lbf	lug back
<a href="#">2112-50E*</a>	2"/50.8mm	±.0015"	.0005"	.562lbf	lug back

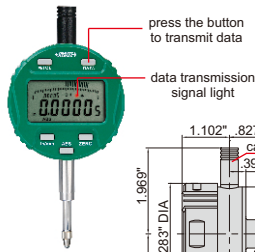
\*Supplied with manufacturer inspection certificate traceable to NIST

## DIGITAL INDICATORS (WITH TRANSMISSION BUTTON AND SIGNAL LIGHT)

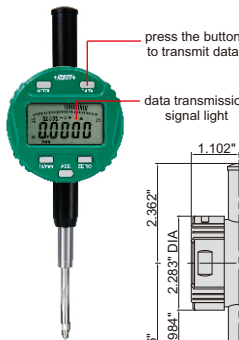
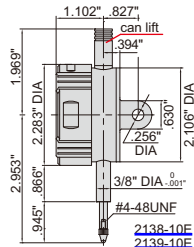
**INSPECTION CERTIFICATE**  
TRACEABLE TO NIST



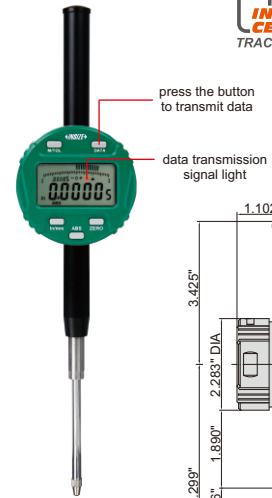
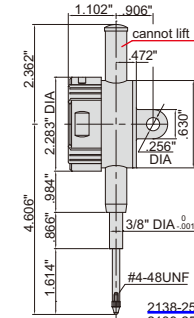
spindle lift knob is included



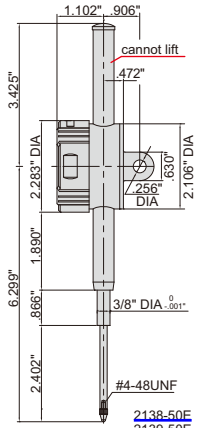
**2138-10E**



**2139-25E**

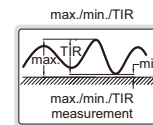
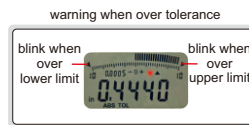


**2138-50E**



**DATA OUTPUT**

- Meet ASME B89.1.10M-2001
- Reading in digital and analog
- Display can be rotated by 320°
- Button function: on/off, zero, tolerance Go and No-Go display, data preset, measuring direction change, max./min./TIR measurement, inch/metric conversion, absolute/incremental measurement, data output
- Keep preset data and tolerance data in memory after restart
- CR2032 battery, automatic power off (time is adjustable)
- Data output
- Optional accessory: data output cable (part no. **7315-50M**, **7302-40M**, **7305-40M**), backs, contact points



### Resolution .00005"/0.001mm

Part No.	Range	Accuracy	Hysteresis	Maximum measuring force	Remark
<b>2138-10EE*</b>	.5"/12.7mm	±.00015"	.00005"	.337lbf	flat back
<b>2138-10E*</b>	.5"/12.7mm	±.00015"	.00005"	.337lbf	lug back
<b>2138-25E*</b>	1"/25.4mm	±.00015"	.00005"	.495lbf	lug back
<b>2138-50E*</b>	2"/50.8mm	±.00015"	.00005"	.562lbf	lug back

### Resolution .0005"/0.01mm

Part No.	Range	Accuracy	Hysteresis	Maximum measuring force	Remark
<b>2139-10E*</b>	.5"/12.7mm	±.00015"	.0005"	.337lbf	lug back
<b>2139-25E*</b>	1"/25.4mm	±.00015"	.0005"	.495lbf	lug back
<b>2139-50E*</b>	2"/50.8mm	±.00015"	.0005"	.562lbf	lug back

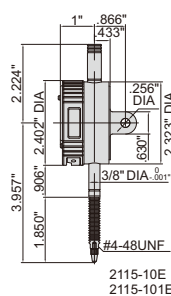
\*Supplied with manufacturer inspection certificate traceable to NIST

## WATERPROOF DIGITAL INDICATORS

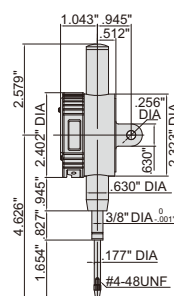
**INSPECTION CERTIFICATE**  
TRACEABLE TO NIST

**WATERPROOF**

**DATA OUTPUT**



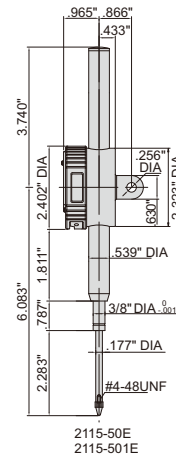
**2115-10E**



**2115-25E**  
2115-251E



**2115-25E**

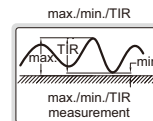


**2115-50E**  
2115-501E



**2115-50E**

- Meet ASME B89.1.10M-2001
- Dust/waterproof
- Button function: on/off, zero, inch/mm, data preset, tolerance, change measuring direction, max./min./TIR measurement, absolute/incremental measurement
- Keep preset data and tolerance data in memory after restart
- CR2032 battery, automatic power off
- Data output
- With lug back
- Optional accessory: data output cable (part no. **7315-50M**, **7302-40M**, **7305-40M**), backs, contact points



### Resolution .00005"/0.001mm

Part No.	Range	Dust/waterproof	Accuracy	Hysteresis
<b>2115-101E*</b>	.5"/12.7mm	IP65	±.00015"	.00005"
<b>2115-251E*</b>	1"/25.4mm	IP54	±.00015"	.00005"
<b>2115-501E*</b>	2"/50.8mm	IP54	±.00015"	.00005"

### Resolution .0005"/0.01mm

Part No.	Range	Dust/waterproof	Accuracy	Hysteresis
<b>2115-10E*</b>	.5"/12.7mm	IP65	±.0015"	.0005"
<b>2115-25E*</b>	1"/25.4mm	IP54	±.0015"	.0005"
<b>2115-50E*</b>	2"/50.8mm	IP54	±.0015"	.0005"

spindle lift knob is included (except 2115-10E/101E)



\*Supplied with manufacturer inspection certificate traceable to NIST

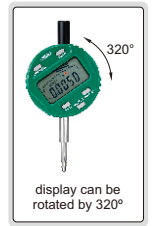
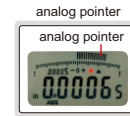
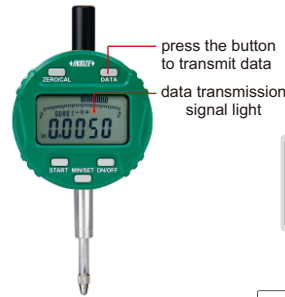
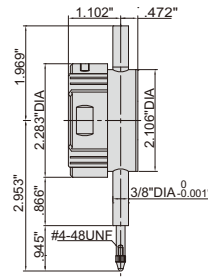
## DIGITAL INDICATORS FOR BORE GAGES (WITH TRANSMISSION BUTTON AND SIGNAL LIGHT)

THE ORIGINAL DATA  
REMAINS AFTER POWER OFF

DATA  
OUTPUT

**INSPECTION  
CERTIFICATE**  
TRACEABLE TO NIST

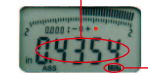
- Specially designed for bore gages
- The minimum value tracking function can find the diameter automatically
- Read the diameter directly, after inputting the size of setting ring
- Reading in digital and analog
- Display can be rotated by 320°
- Button function: on/off, minimum value tracking, calibration, data preset, inch/metric conversion
- Data remains after power off, no need to recalibrate after power on
- CR2032 battery, automatic power off (time is adjustable)
- Data output
- Optional accessory: data output cable (part no. **7315-50M**, **7302-40M**, **7305-40M**), backs, contact points, spindle lift knob (part no. **7332**)



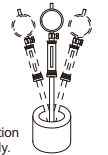
Part No.	Range	Resolution	Accuracy	Hysteresis	Remark
<b>2108-10EF*</b>	.5"/12.7mm	.0001"/0.002mm (can switch to .0005"/0.01mm)	±.0015"	.0005"	flat back
<b>2108-101EF*</b>	.5"/12.7mm	.00005"/0.001mm	±.00015"	.00005"	flat back

\*Supplied with manufacturer inspection certificate traceable to NIST

Read the diameter directly, after inputting the size of setting ring.



The minimum value tracking function can find the diameter automatically.



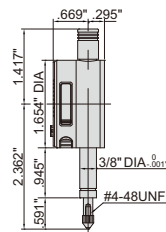
## COMPACT DIGITAL INDICATORS

**INSPECTION  
CERTIFICATE**  
TRACEABLE TO NIST

DATA  
OUTPUT



**2114-51FE**



- 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
- Optional accessory: data output cable (part no. **7315-50M**, **7302-40M**, **7305-40M**), contact points

Part No.	Range	Resolution	Accuracy	Hysteresis	Remark
<b>2114-5FE*</b>	.2"/5mm	.0005"/0.01mm	±.0015"	.0005"	flat back
<b>2114-51FE*</b>	.2"/5mm	.00005"/0.001mm	±.00015"	.00005"	flat back

\*Supplied with manufacturer inspection certificate traceable to NIST

## BACK PLUNGER TYPE DIGITAL INDICATOR

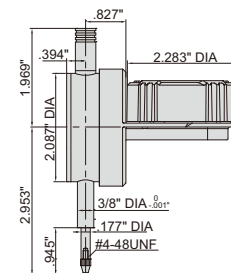
**INSPECTION  
CERTIFICATE**  
TRACEABLE TO NIST

DATA  
OUTPUT

- Display can rotate 320°, and display direction is changeable
- Reading in digital 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 (time is adjustable)
- Data output
- With flat back
- Optional accessory: data output cable (part no. **7315-50M**, **7302-40M**, **7305-40M**), backs, contact points



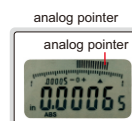
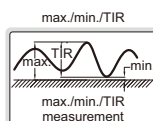
**2118-10E**



contact point  
(optional)

**6282-0402**

spindle lift knob is included



warning when over tolerance



display can rotate 320°



display direction is changeable



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

Part No.	Range	Resolution	Accuracy	Hysteresis
<b>2118-10E*</b>	.5"/12.7mm	.0005"/0.01mm	±.0015"	.0005"

\*Supplied with manufacturer inspection certificate traceable to NIST



## LARGE STROKE DIGITAL INDICATORS

DATA OUTPUT

- Button function: on/off, zero, inch/mm, data preset, tolerance, change measuring direction, max./min./TIR measurement, absolute/incremental measurement
- Keep preset data and tolerance data in memory after restart
- CR2032 battery, automatic power off
- Data output
- With lug back
- Optional accessory: data output cable (part no. 7315-50M, 7302-40M, 7305-40M), backs, contact points

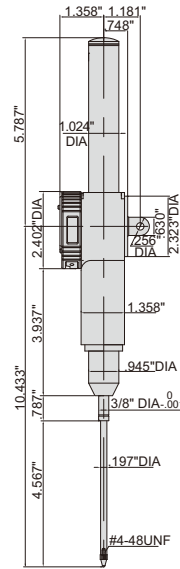
Resolution .0005"/0.01mm

Part No.	Range	Accuracy	Hysteresis
2117-100E	4"/100mm	±.0015"	.0005"

Resolution .00005"/0.001mm

Part No.	Range	Accuracy	Hysteresis
2117-1001E	4"/100mm	±.00030"	.0001"

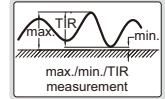
2117-100E



warning when over tolerance



max./min./TIR



spindle lift knob is included



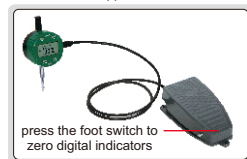
## ZEROING FOOT SWITCH

- For zeroing of digital indicators



7360-1M

application



Part No.	Description	Interface of digital indicators	Applicable products
7360-1M	zeroing foot switch with cable (length 100")		for digital indicators

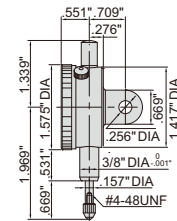
## COMPACT DIAL INDICATORS

INSPECTION CERTIFICATE TRACEABLE TO NIST



2304-01

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



Part No.	Range	Graduation	Accuracy		Range/rev	Dial reading
			First 2.5 rev	Overall		
2304-01*	.1"	.001"	—	±.001"	.1"	0-100
2304-02*	.2"	.001"	—	±.001"	.1"	0-100
2304-025*	.25"	.001"	±.001"	±.001"	.1"	0-100
2304-015*	.1"	.0005"	—	±.0005"	.05"	0-50
2304-0255*	.25"	.0005"	±.0005"	±.0015"	.05"	0-50

\*Supplied with manufacturer inspection certificate traceable to NIST

## DIAL INDICATORS

POPULAR MODEL

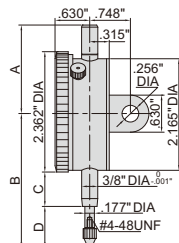


2307-1

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

INSPECTION CERTIFICATE TRACEABLE TO NIST

INSIZE ISO17025 CERTIFICATE AVAILABLE AT EXTRA CHARGE (REFER TO BACK COVER)



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"

Part No.	Range	Graduation	Accuracy		Range/rev	Dial reading
			First 2.5 rev	Overall		
2307-025*	.25"	.001"	±.001"	±.002"	.1"	0-100
2307-05*	.5"	.001"	±.001"	±.001"	.1"	0-100
2307-1*	1"	.001"	±.001"	±.002"	.1"	0-100
2307-2*	2"	.001"	±.001"	±.004"	.1"	0-100
2307-0255*	.25"	.0005"	±.0005"	±.0015"	.05"	0-50
2307-055*	.5"	.0005"	±.0005"	±.0015"	.05"	0-50
2307-105*	1"	.0005"	±.0005"	±.002"	.05"	0-50

\*Supplied with manufacturer inspection certificate traceable to NIST

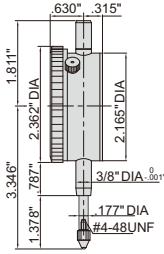
**REVERSE READING DIAL INDICATOR**

**INSPECTION CERTIFICATE**  
TRACEABLE TO NIST



**2307-1RE**

- Graduation .001"
- Meet ASME B89.1.10M-2001
- With flat back
- Supplied with limit pointers and bezel clamp
- Optional accessory: backs, contact points



Part No.	Range	Accuracy		Range/rev	Dial reading
		First 2.5 rev	Overall		
<b>2307-1RE*</b>	1"	±.001"	±.002"	.1"	100-0

\*Supplied with manufacturer inspection certificate traceable to NIST

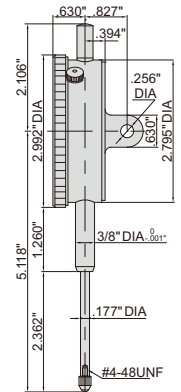
**LARGE DIAL FACE DIAL INDICATORS**

**INSPECTION CERTIFICATE**  
TRACEABLE TO NIST



**2312-15**

- Graduation .001"
- Meet ASME B89.1.10M-2001
- With lug back
- Supplied with limit pointers and bezel clamp
- Optional accessory: contact points



Part No.	Range	Accuracy		Range/rev	Dial reading
		First 2.5 rev	Overall		
<b>2312-15*</b>	1.5"	±.001"	±.004"	.1"	0-100
<b>2312-2*</b>	2"	±.001"	±.004"	.1"	0-100

\*Supplied with manufacturer inspection certificate traceable to NIST

**BACK PLUNGER TYPE DIAL INDICATOR**

**INSPECTION CERTIFICATE**  
TRACEABLE TO NIST

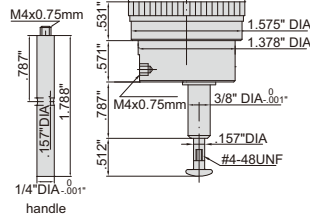
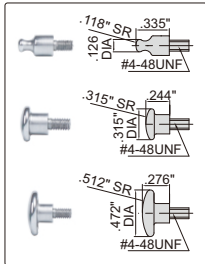


**2320-02**

handle can be removed



points (included)



- Graduation .001"
- Supplied with handle
- Optional accessory: contact points

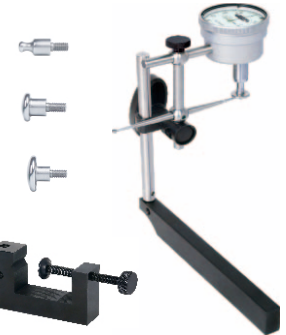
Part No.	Range	Accuracy	Hysteresis	Range/rev	Dial reading
<b>2320-02*</b>	.2"	±.001"	.00033"	.1"	0-100

\*Supplied with manufacturer inspection certificate traceable to NIST

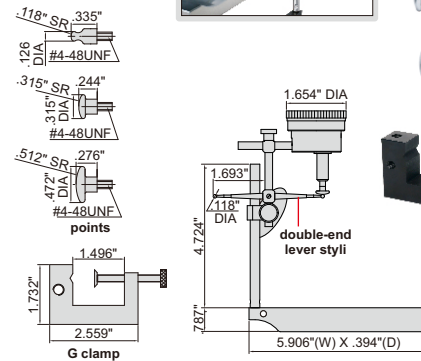
**BACK PLUNGER TYPE DIAL INDICATOR SET**

**INSPECTION CERTIFICATE**  
TRACEABLE TO NIST

application



**2224-02**



Part No.	Range**	Graduation	Accuracy	Range/rev	Dial reading
<b>2224-02*</b>	.2"	.001"	±.001"	.1"	0-100

\*Supplied with manufacturer inspection certificate traceable to NIST

\*\*When using double-end lever styli, the range is .1"

**LONG STROKE DIAL INDICATORS**

**INSPECTION CERTIFICATE**  
TRACEABLE TO NIST



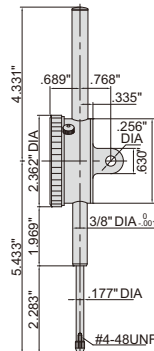
**2326-2**

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

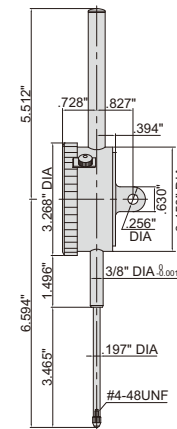
Part No.	Range	Accuracy		Range/rev	Dial reading
		First 2.5 rev	Overall		
<b>2326-2*</b>	2"	±.001"	±.004"	.1"	0-100
<b>2326-3**</b>	3"	±.001"	±.005"	.1"	0-100
<b>2326-4**</b>	4"	±.001"	±.005"	.1"	0-100

\*Supplied with manufacturer inspection certificate traceable to NIST

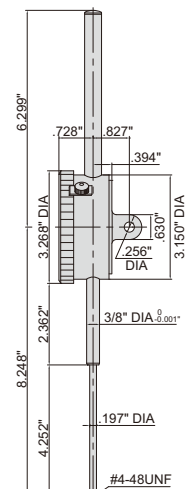
\*\*2326-3 and 2326-4 can only be used vertically



**2326-2**



**2326-3**

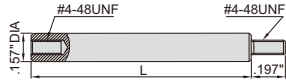


**2326-4**

### EXTENSION RODS



6282-2018



Part No.	Material	L
<a href="#">6282-2018</a>	steel	1"
<a href="#">6282-2019</a>	steel	2"
<a href="#">6282-2020</a>	steel	4"

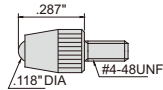
### CONTACT POINTS



6282-0102

#### BALL POINT

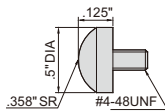
Part No.	Material of measuring face
<a href="#">6282-0102</a>	carbide



6282-0402

#### SPHERICAL POINT

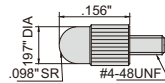
Part No.	Material of measuring face
<a href="#">6282-0402</a>	steel



6282-0201

#### SHELL TYPE POINT

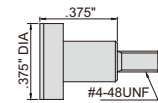
Part No.	Material of measuring face
<a href="#">6282-0201</a>	steel



6282-1207

#### FLAT POINT

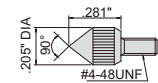
Part No.	Material of measuring face
<a href="#">6282-1207</a>	steel



6282-0702

#### CONICAL POINT

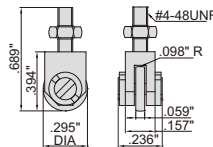
Part No.	Material of measuring face
<a href="#">6282-0702</a>	steel



6282-1902

#### ROLLER POINT

Part No.	Material of measuring face
<a href="#">6282-1902</a>	steel



### MAGNETIC BACKS

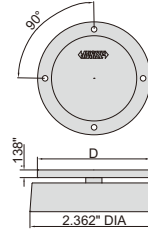


front



back

7331-M2



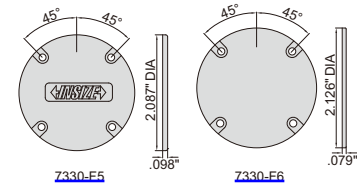
Part No.	D	For digital/ dial indicators
<a href="#">7331-M1</a>	2.028" DIA	2103, 2104, 2112, 2115, 2117, 2118
<a href="#">7331-M2</a>	2.126" DIA	2307

### FLAT BACKS

Part No.	For digital/ dial indicators
<a href="#">7330-F5</a>	2103
	2104
	2112
	2115
	2117
<a href="#">7330-F6</a>	2307
	2326-2



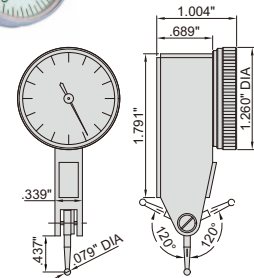
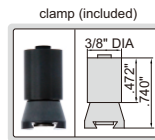
7330-F5



### DIAL TEST INDICATOR



2835-03

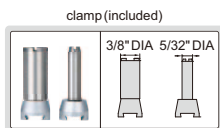


- Graduation .0005"
- Ceramic bearing
- Anti magnetic carbide contact point
- Two measuring directions
- Supplied with one clamp: 3/8" DIA
- Optional accessory: styli

Part No.	Range	Accuracy	Range/rev	Dial reading
<a href="#">2835-03*</a>	.03"	±.0005"	.015"	0-15-0

\*Supplied with manufacturer inspection certificate traceable to PTB

### LONG STYLI DIAL TEST INDICATOR

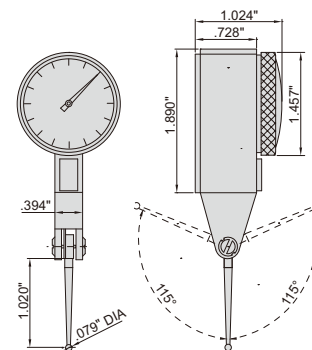


2383-35A

- 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

Part No.	Range	Graduation	Accuracy	Dial reading
<a href="#">2383-35A*</a>	.03"	.0005"	±.0005"	0-15-0

\*Supplied with manufacturer inspection certificate traceable to NIST



JEWELLED BEARING

**DIAL TEST INDICATORS**

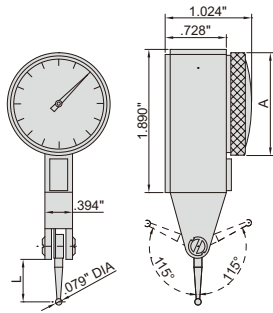
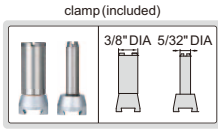
**POPULAR MODEL**



**INSPECTION CERTIFICATE**  
TRACEABLE TO NIST

**JEWELLED BEARING**

**2380-31**



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

Part No.	Range	Graduation	Accuracy	Dial reading	A (DIA)	L
<b>2380-31*</b>	.03"	.001"	±.001"	0-15-0	1.181"	.50"
<b>2380-35*</b>	.03"	.0005"	±.0005"	0-15-0	1.181"	.50"
<b>2380-301*</b>	.008"	.0001"	±.0001"	0-40-0	1.181"	.563"
<b>2381-31*</b>	.03"	.001"	±.001"	0-15-0	1.457"	.50"
<b>2381-35*</b>	.03"	.0005"	±.0005"	0-15-0	1.457"	.50"
<b>2381-301*</b>	.008"	.0001"	±.0001"	0-40-0	1.457"	.563"

\*Supplied with manufacturer inspection certificate traceable to NIST

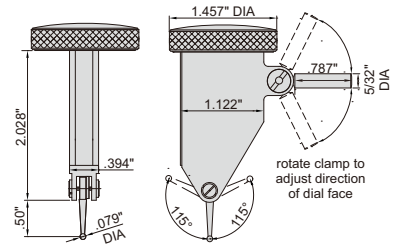
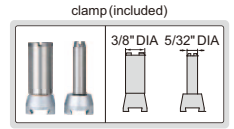
**LARGE RANGE BACK PLUNGER TYPE DIAL TEST INDICATOR**

**INSPECTION CERTIFICATE**  
TRACEABLE TO NIST

**JEWELLED BEARING**



**2480-06**



- 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

Part No.	Range	Graduation	Accuracy	Dial reading
<b>2480-06*</b>	.06"	.0005"	±.0008"	0-15-0

\*Supplied with manufacturer inspection certificate traceable to NIST

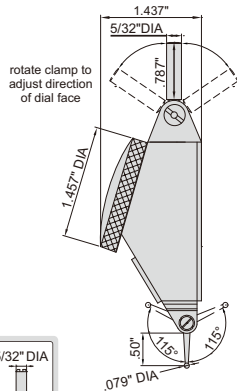
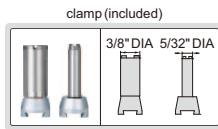
**LARGE RANGE DIAL TEST INDICATOR**

**INSPECTION CERTIFICATE**  
TRACEABLE TO NIST

**JEWELLED BEARING**



**2386-006A**



- 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

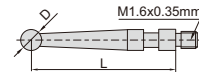
Part No.	Range	Graduation	Accuracy	Dial reading
<b>2386-006A*</b>	.06"	.0005"	±.0008"	0-15-0

\*Supplied with manufacturer inspection certificate traceable to NIST

**STYLI FOR DIAL TEST INDICATORS**



**6284-10**

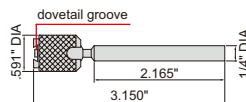


Part No.	For dial test indicator	Material of contact point	L	D (DIA)
<b>6284-9</b>		steel	.50"	.039"
<b>6284-10</b>	2380-31, 2380-35	carbide	.50"	.079"
<b>6284-11</b>	2381-31, 2381-35	ruby	.50"	.079"
<b>6284-12</b>	2398-03, 2399-03	carbide	.50"	.118"
<b>6284-13</b>		steel	.563"	.039"
<b>6284-14</b>	<a href="#">2380-301</a>	carbide	.563"	.079"
<b>6284-15</b>	<a href="#">2381-301</a>	ruby	.563"	.079"
<b>6284-16</b>		carbide	.563"	.118"

**DIAL TEST INDICATOR UNIVERSAL HOLDER**



**6293-5**



**Part No.**  
**6293-5**

- Set the indicators at the desired attitude to the workpiece



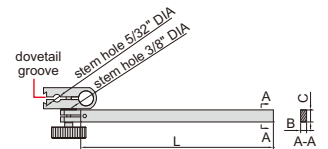
**DIAL TEST INDICATOR HOLDERS**



**6293-7**



**6293-3**



Part No.	Stem section (BxC)	Stem length (L)
<b>6293-7</b>	.354x.354"	2"
<b>6293-3</b>	.25x.5"	4"





### DIAL TEST INDICATOR HOLDER

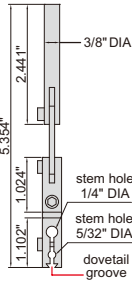


**6296-2**

Part No.

**6296-2**

- Supplied with hex key



### DIAL TEST INDICATOR HOLDER

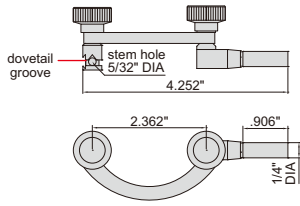


**6291-2**

Part No.

**6291-2**

- Can be used with dial test indicators



### DIAL TEST INDICATOR HOLDER

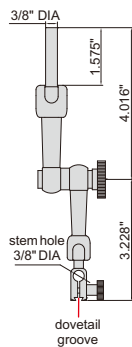


**6295-1AE**

- Can be used with dial test indicators

Part No.

**6295-1AE**



### DIAL INDICATOR HOLDER

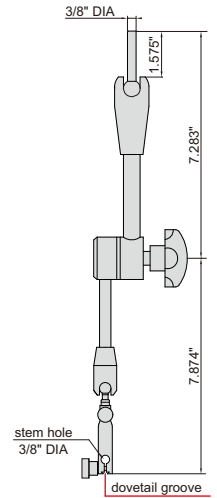


**6294-1AE**

- Can be used with dial test indicators or dial indicators

Part No.

**6294-1AE**



### UNIVERSAL MAGNETIC STAND (ECONOMIC TYPE)

**ATTENTION: LOW LOCKING FORCE**



**6208-80E**

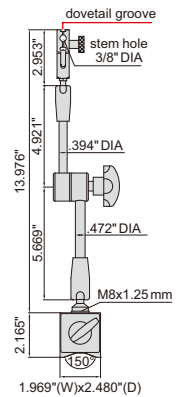
- For digital/dial indicators and dial test indicators
- Applicable holding stem: 3/8" DIA
- With fine adjustment and dovetail groove

Part No.

**6208-80E**

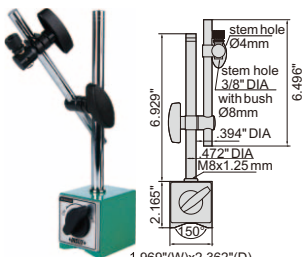
Magnetic force

176lbf



### MAGNETIC STANDS

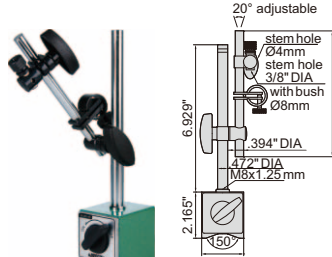
**POPULAR MODEL**



**6200-60**

1.969"(W)x2.362"(D)

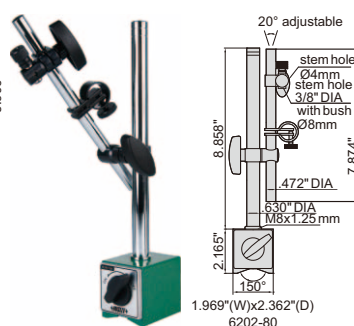
**6200-60**



**6201-60**

1.969"(W)x2.362"(D)

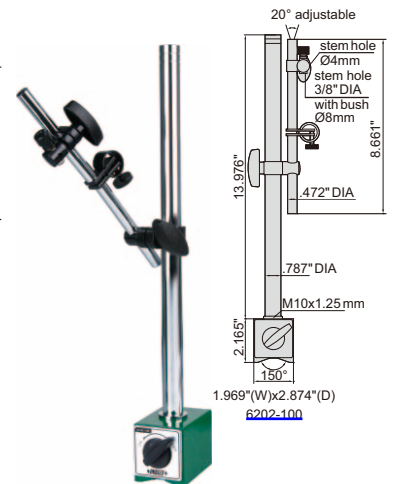
**6201-60**



**6202-80**

1.969"(W)x2.362"(D)

**6202-80**



**6202-100**

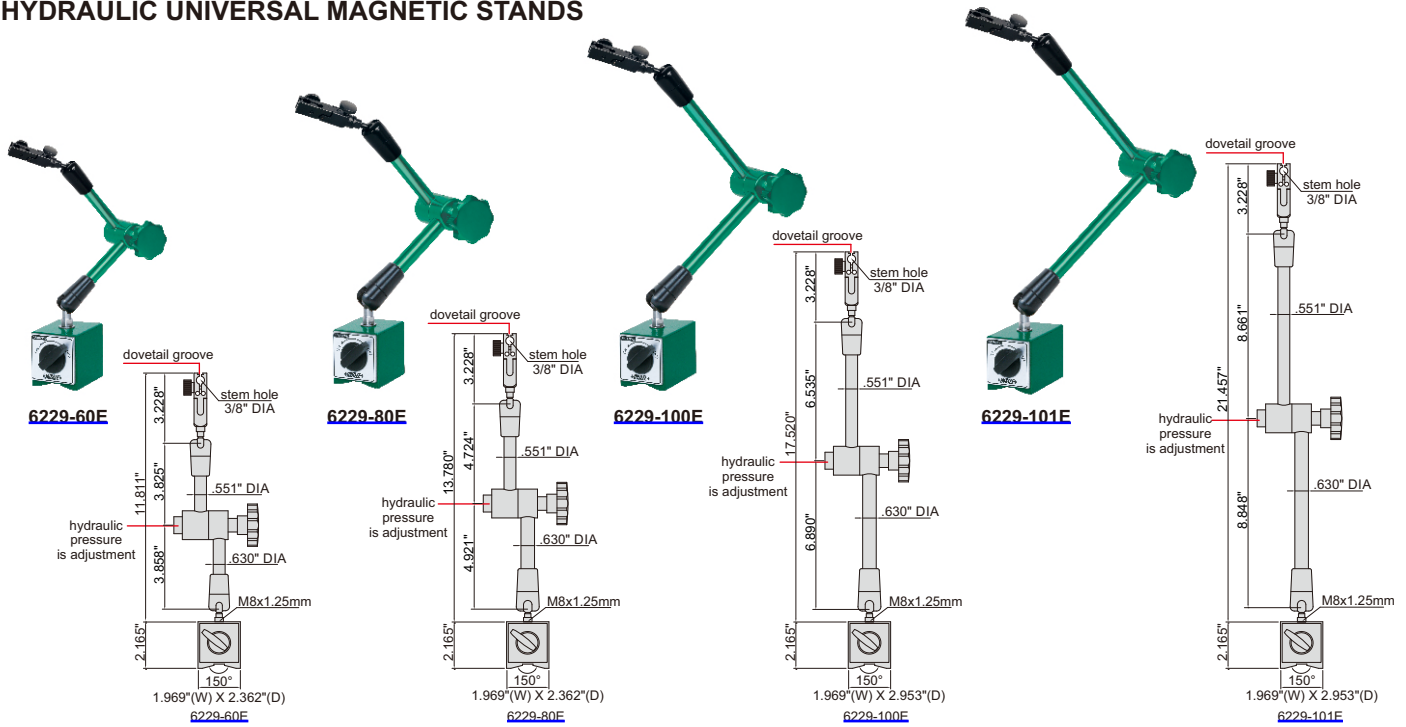
1.969"(W)x2.874"(D)

**6202-100**

- For digital/dial indicators and dial test indicators

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

## HYDRAULIC UNIVERSAL MAGNETIC STANDS

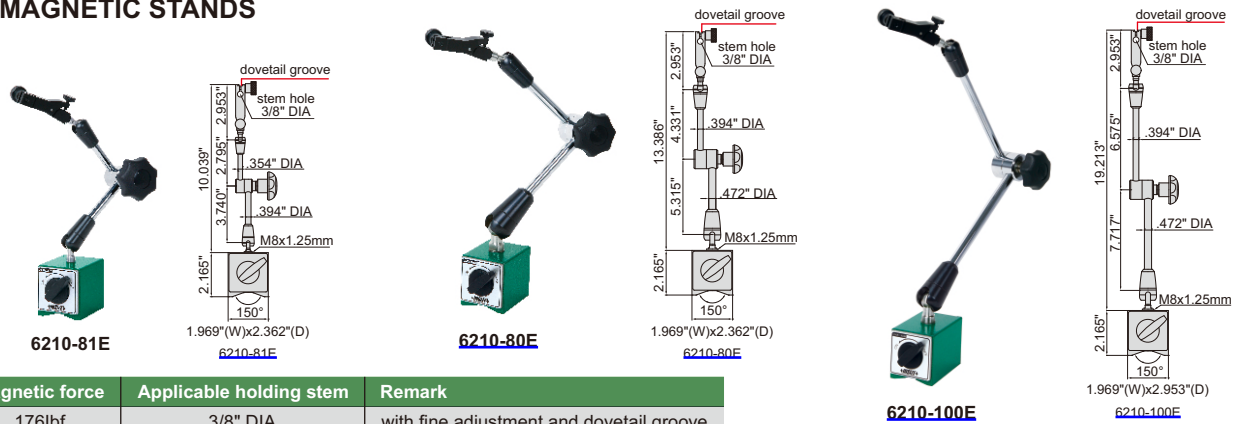


Part No.	Magnetic force	Applicable holding stem	Remark
<a href="#">6229-60E</a>	132lbf	3/8" DIA	with fine adjustment and dovetail groove
<a href="#">6229-80E</a>	176lbf	3/8" DIA	with fine adjustment and dovetail groove
<a href="#">6229-100E</a>	220lbf	3/8" DIA	with fine adjustment and dovetail groove
<a href="#">6229-101E</a>	220lbf	3/8" DIA	with fine adjustment and dovetail groove

- Hydraulic pressure is adjustment
- For digital/dial indicators and dial test indicators

## UNIVERSAL MAGNETIC STANDS

POPULAR MODEL

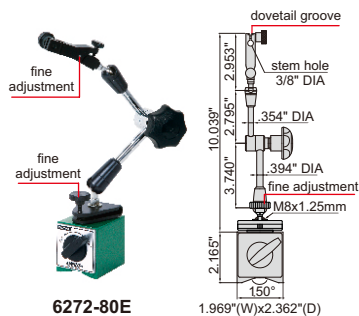


Part No.	Magnetic force	Applicable holding stem	Remark
<a href="#">6210-81E</a>	176lbf	3/8" DIA	with fine adjustment and dovetail groove
<a href="#">6210-80E</a>	176lbf	3/8" DIA	with fine adjustment and dovetail groove
<a href="#">6210-100E</a>	220lbf	3/8" DIA	with fine adjustment and dovetail groove

- For digital/dial indicators and dial test indicators

## MAGNETIC STAND WITH DOUBLE FINE ADJUSTMENTS

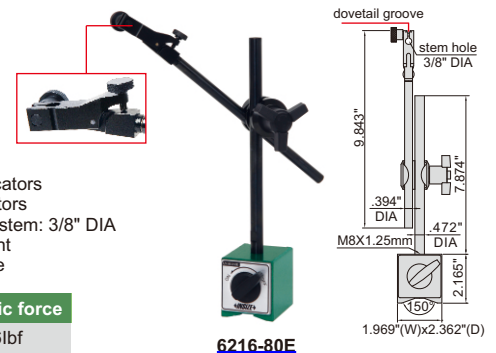
- For digital/dial indicators and dial test indicators
- Applicable holding stem: 3/8" DIA
- With two fine adjustments and dovetail groove
- With two fine adjustments on the head and on the base



Part No.	Magnetic force
<a href="#">6272-80E</a>	176lbf

## MAGNETIC STAND

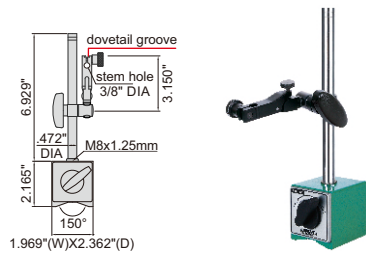
- For digital/dial indicators and dial test indicators
- Applicable holding stem: 3/8" DIA
- With fine adjustment and dovetail groove



Part No.	Magnetic force
<a href="#">6216-80E</a>	176lbf

### MAGNETIC STAND (FOR .00005" DIAL AND DIAL TEST INDICATORS)

- For .00005", .0001" and .0005" dial and dial test indicators
- With fine adjustment and dovetail groove



**6221-80E**

Part No.	Magnetic force	Applicable holding stem
<b>6221-80E</b>	176lbf	3/8" DIA

### FLEX ARM MAGNETIC STAND

**ATTENTION: FOR DIAL TEST INDICATORS ONLY**

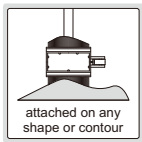
- For dial test indicators
- Applicable holding stem: 3/8" DIA, Ø8mm, Ø4mm



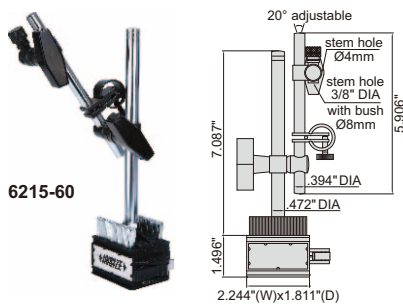
**6207-80A**

Part No.	Magnetic force
<b>6207-80A</b>	176lbf

### MAGNETIC STAND FOR UNEVEN SURFACE



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



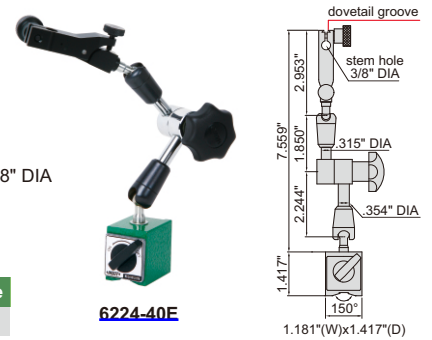
**6215-60**

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

### MINI MAGNETIC STAND

**ATTENTION: FOR DIAL TEST INDICATORS ONLY**

- For dial test indicators
- Applicable holding stem: 3/8" DIA
- With fine adjustment and dovetail groove



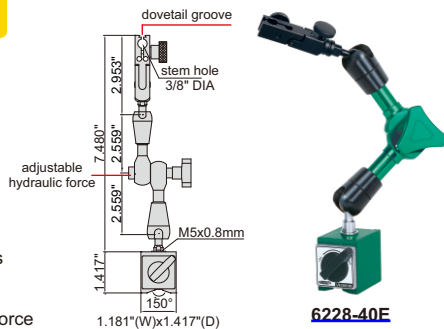
**6224-40E**

Part No.	Magnetic force
<b>6224-40E</b>	88lbf

### HYDRAULIC MINI MAGNETIC STAND

**ATTENTION: FOR DIAL TEST INDICATORS ONLY**

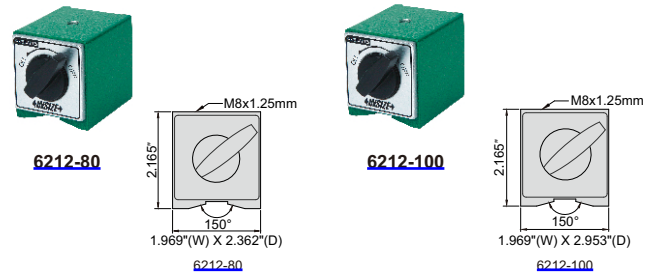
- For dial test indicators
- With fine adjustment and dovetail groove
- Adjustable hydraulic force



**6228-40E**

Part No.	Magnetic force	Applicable holding stem
<b>6228-40E</b>	88lbf	3/8" DIA

### MAGNETIC BASES



**6212-80**

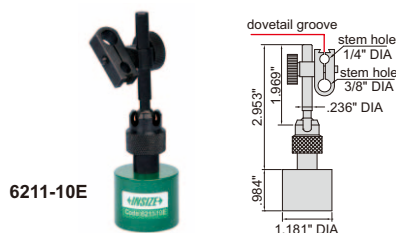
**6212-100**

Part No.	Magnetic force
<b>6212-80</b>	176lbf
<b>6212-100</b>	220lbf

### MINI MAGNETIC STAND

**ATTENTION: FOR DIAL TEST INDICATORS ONLY**

- For dial test indicators
- With dovetail groove

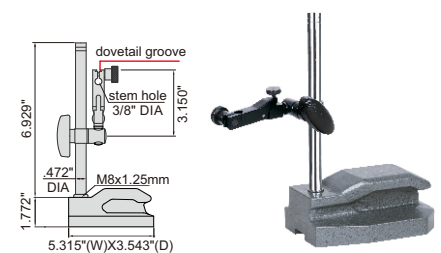


**6211-10E**

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

### DIAL INDICATOR STAND (FOR .00005" DIAL AND DIAL TEST INDICATORS)

- Hardend base
- Suitable for granite surface plates or cast iron surface plates
- For .00005", .0001" and .0005" dial and dial test indicators
- With fine adjustment and dovetail groove



**6230-60E**

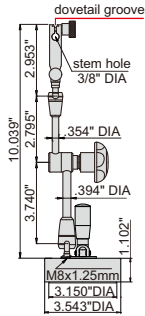
Part No.	Applicable holding stem
<b>6230-60E</b>	3/8" DIA

### VACUUM STAND

- Suitable for granite surface plates or cast iron surface plates
- For digital/dial indicators and dial test indicators
- With fine adjustment and dovetail groove



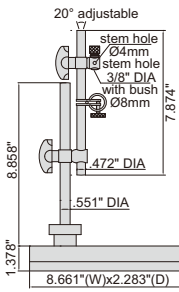
6217-BE



Part No.	Diameter of vacuum disc	Vacuum force	Applicable holding stem
6217-BE	3.150" DIA	176lbf	3/8" DIA

### UNIVERSAL STAND

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



6214-A

Part No.	Applicable holding stem
6214-A	3/8" DIA, Ø8mm, Ø4mm

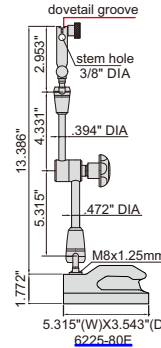
### UNIVERSAL DIAL INDICATOR STANDS (NON-MAGNETIC)

- Hardend base
- Suitable for granite surface plates or cast iron surface plates
- For digital/dial indicators and dial test indicators

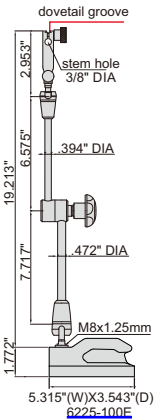
Part No.	Applicable holding stem	Remark
6225-80E	3/8" DIA	with fine adjustment and dovetail groove
6225-100E	3/8" DIA	with fine adjustment and dovetail groove



6225-80E



6225-100E



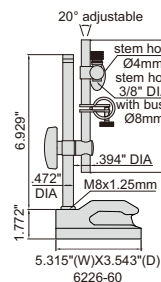
### DIAL INDICATOR STANDS (NON-MAGNETIC)

- Hardend base
- Suitable for granite surface plates or cast iron surface plates
- For digital/dial indicators and dial test indicators

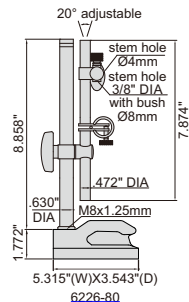
Part No.	Applicable holding stem	Remark
6226-60	3/8" DIA, Ø8mm, Ø4mm	with fine adjustment
6226-80	3/8" DIA, Ø8mm, Ø4mm	with fine adjustment



6226-60



6226-80

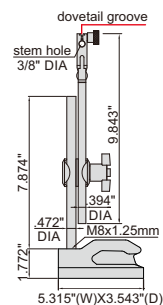


### DIAL INDICATOR STAND (NON-MAGNETIC)

- Hardend base
- Suitable for granite surface plates or cast iron surface plates
- For digital/dial indicators and dial test indicators



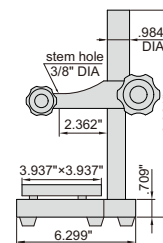
6227-80E



Part No.	Applicable holding stem	Remark
6227-80E	3/8" DIA	with fine adjustment and dovetail groove

### DIAL INDICATOR STAND

ATTENTION: WITHOUT FINE ADJUSTMENT



6876-150E

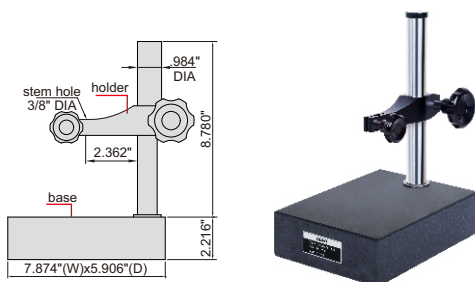
- Vertical travel of holder: 6"
- Ceramic anvil
- Supplied with dust cover

Part No.	Applicable holding stem	Anvil
6876-150E	3/8" DIA	ceramic, plain, flatness 59µin



## GRANITE DIAL INDICATOR STAND (BASIC TYPE)

**ATTENTION: WITHOUT FINE ADJUSTMENT**

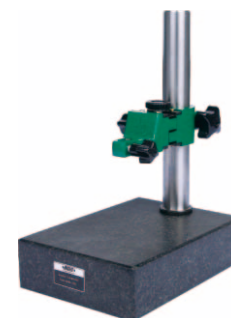
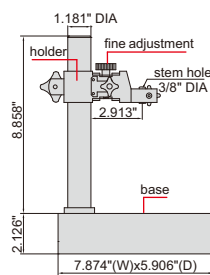


**6841-170E**

- Vertical travel of holder: 6.7"
- Supplied with dust cover

Part No.	Applicable holding stem	Base
<b>6841-170E</b>	3/8" DIA	flatness 98µin

## GRANITE DIAL INDICATOR STAND

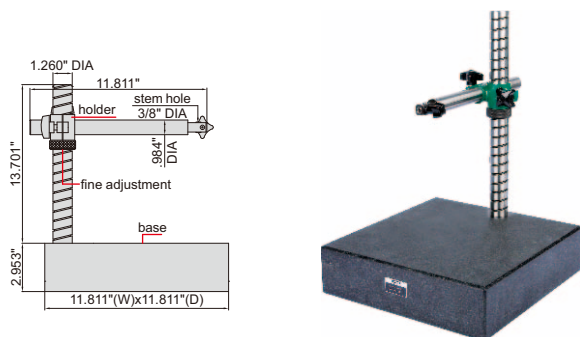


**6866-150E**

- Vertical travel of holder: 5.906"
- Fine adjustment range .079"
- Supplied with dust cover

Part No.	Applicable holding stem	Base
<b>6866-150E</b>	3/8" DIA	flatness 98µin

## GRANITE DIAL INDICATOR STAND

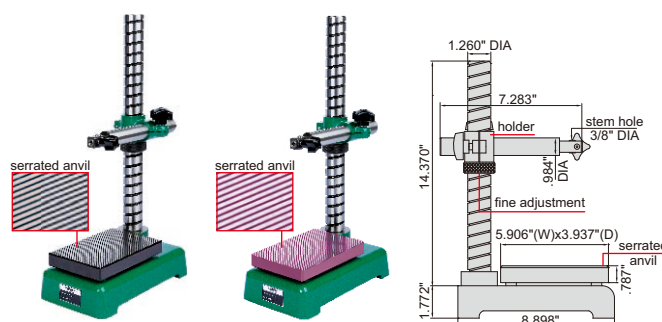


**6867-250E**

- Vertical travel of holder: 9.843"
- Fine adjustment range: entire stroke
- Supplied with dust cover

Part No.	Applicable holding stem	Base
<b>6867-250E</b>	3/8" DIA	flatness 110µin

## DIAL INDICATOR STANDS



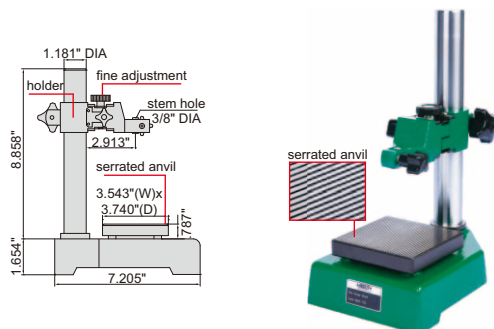
**6864-250E**

**6864-250TE**

- Vertical travel of holder: 9.843"
- Fine adjustment range: entire stroke
- Supplied with dust cover

Part No.	Applicable holding stem	Anvil
<b>6864-250E</b>	3/8" DIA	steel (hardness HRC60±2) serrated, flatness 59µin
<b>6864-250TE</b>	3/8" DIA	ceramic, serrated, flatness 59µin

## DIAL INDICATOR STAND

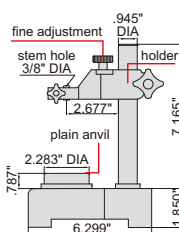


**6863-150E**

- Vertical travel of holder: 5.906"
- Fine adjustment range .079"
- Supplied with dust cover

Part No.	Applicable holding stem	Anvil
<b>6863-150E</b>	3/8" DIA	steel (hardness HRC60±2), serrated, flatness 59µin

## DIAL INDICATOR STAND



**6862-1002E**

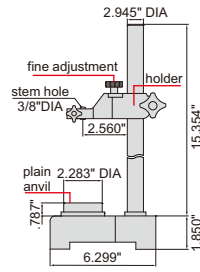
- Vertical travel of holder: 3.937"
- Fine adjustment range .079"
- Supplied with dust cover

Part No.	Applicable holding stem	Anvil
<b>6862-1002E</b>	3/8" DIA	steel (hardness HRC60±2), plain, flatness 59µin

**TRANSFER STANDS**

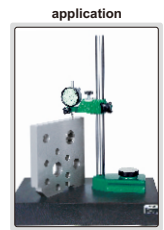
- Vertical travel of holder: 13.189"
- Fine adjustment range .079"
- Supplied with dust cover

Part No.	Applicable holding stem	Anvil
<b>6865-300E</b>	3/8" DIA	steel (hardness HRC60±2), plain, flatness 59µin
<b>6865-300TE</b>	3/8" DIA	ceramic, plain, flatness 59µin



**6865-300E**

**6865-300TE**



**application**  
rigid construction, designed to make comparison height measurement (set zero with gage block then measure height of workpiece) with dial indicators or digital indicators (variation of measuring force is high)

**CONCENTRICITY GAGES**

to ensure the accuracy .00008", distance between measuring point and roller should be <1.181"

Part No.	Applicable diameter
<b>4789-1E</b>	.138" DIA-.984" DIA
<b>4789-3E</b>	.039" DIA-.984" DIA

- Accuracy .00008"
- Optional accessory: dial test indicator

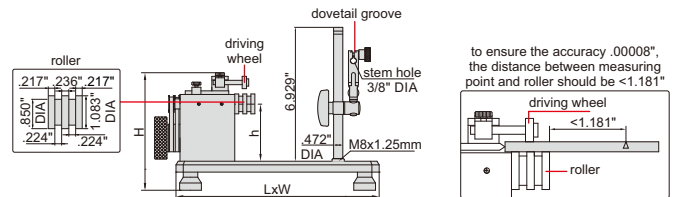
**CONCENTRICITY GAGE**

dial test indicator is optional

**HIGH STABILITY, LONG WORKING LIFE**



**4725-45E**



- With ball bearing, high stability, long working life
- Diameter range .118 -1.772"
- Accuracy .00008"
- Optional accessory: dial test indicator

Part No.	Center height (h)	LxWxH	Weight
<b>4725-45E</b>	3.150"	11.024x5.906x6.693"	13.23lb

**CONCENTRICITY GAGE**

**QUICK-POSITIONING, SUITABLE FOR MASS MEASUREMENT**

dial test indicator is optional

quick moving

**4726-2E**

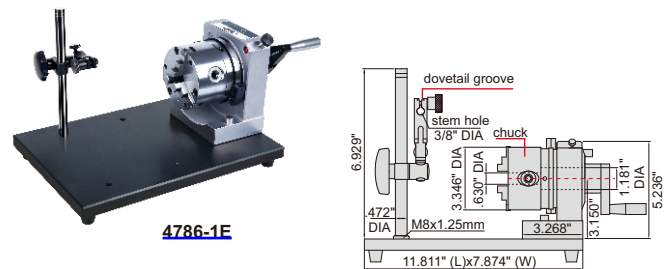
quick moving

to ensure the accuracy .00008", the distance between measuring point and roller should be <1.181"

- With ball bearing, high stability, long working life
- Accuracy .00008"
- Optional accessory: dial test indicator

Part No.	Applicable diameter
<b>4726-2E</b>	.079" DIA-1.575" DIA

**CONCENTRICITY GAGE**



**4786-1E**



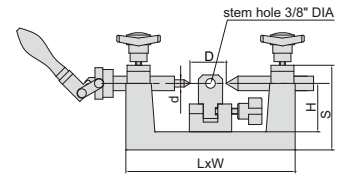
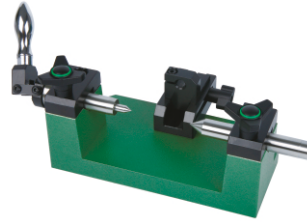
to ensure the accuracy .00012", the distance between measuring point and roller should be <1.969"

- Accuracy .00012"
- 1.969" DIA setting ring and 2.165" DIA calibration cylinder are included
- Optional accessory: dial test indicator

Part No.	Applicable inside diameter	Applicable outside diameter
<b>4786-1E</b>	.945" DIA-2.520" DIA	.079" DIA-2.756" DIA

## MINI BENCH CENTER

- Distance between two centers (D): 1.378"~3.937"
- Diameter of center (d) .236" DIA
- Taper of center: MT1

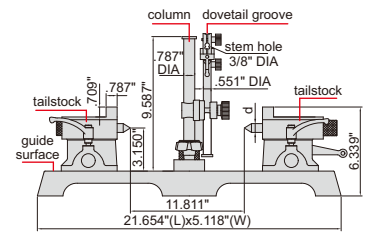
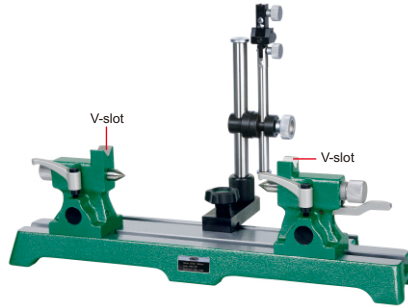


4721-75AE

Part No.	Runout accuracy	Center height (H)	Size (LxWxS)	Weight	Load
4721-75AE	.00008"	1.575"	6.890x4.685x2.756"	9.93lb	8.8lb

## BENCH CENTER

- Runout accuracy .00008"
- Center height: 3.150"
- Distance between two centers: 11.811"
- Taper of center: MT1
- Hardened cast-iron guide surface
- Movable column
- V-slot for cylinder .157" DIA- .866" DIA

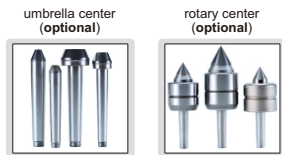


4782-300E

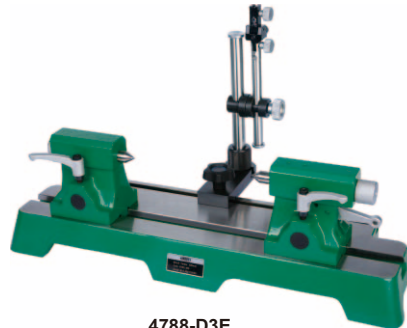
Part No.	Parallelism*	Diameter of center (d)	Load
4782-300E	.0004"	.630" DIA	55lb

\*Parallelism of two centers to the guide surface

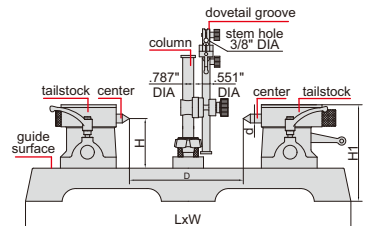
## BENCH CENTERS



- Movable column
- Optional accessory: umbrella center, rotary center



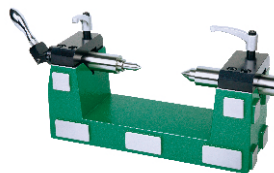
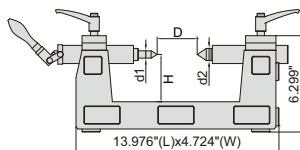
4788-D3E



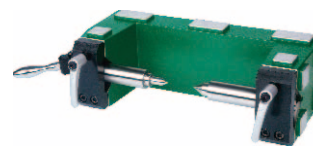
Part No.	Parallelism*	Runout accuracy	Center height (H)	Distance between two centers (D)	L	W	H1	Diameter of center (d)	Taper of center	Weight	Load
4788-D3E	.0004"	.00012"	3.543"	11.811"	23.228"	7.677"	6.890"	.787" DIA	MT2	79.4lb	55lb
4788-D4E	.0005"	.00012"	5.118"	15.748"	28.740"	8.071"	9.488"	1.102" DIA	MT3	150lb	132lb
4788-D6E	.0006"	.00012"	5.118"	23.622"	36.614"	8.661"	9.843"	1.102" DIA	MT3	200.8lb	132lb

\*Parallelism of two centers to the guide surface

## VERTICAL AND HORIZONTAL BENCH CENTER



horizontal use



side use



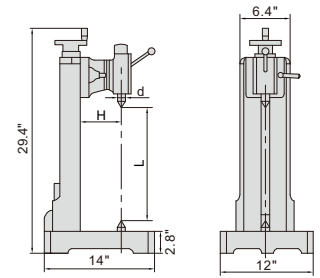
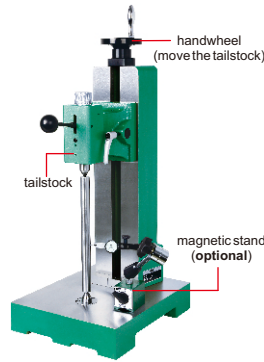
vertical use

- For vertical, side and horizontal use
- Distance between two centers (D): 7.874"
- Diameter of center (d1/d2) .472" DIA/.795" DIA

Part No.	Runout accuracy	Center height (H)	Weight	Load	Taper of center
4722-200	.00008"	3.150"	48.4lb	55lb	MT1/MT3

## VERTICAL BENCH CENTER

- Runout accuracy .0008"
- Center height (H): 5.2"
- Distance between two centers (L): 14.4"
- Diameter of center (d) .948" DIA
- Hardened cast-iron guide surface
- Use handwheel to move the tailstock
- Optional accessory: magnetic stands, dial test indicator



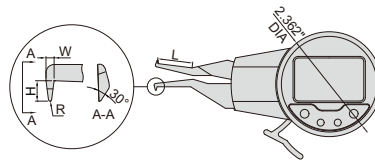
Part No.	Parallelism *	Parallelism	Taper of center	Weight	Load
<a href="#">4728-360</a>	.0004"	.0004"	MT3	187lb	176lb

**4728-360**

\*Parallelism of two centers to the guide surface

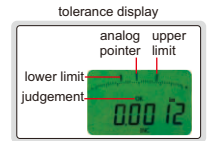
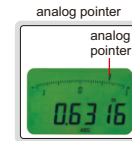
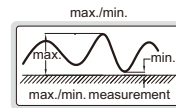
## DIGITAL INTERNAL CALIPER GAGES

- Resolution .0002"/0.005mm
- Reading in digital and analog
- Display can be rotated by 170°
- Button function: tolerance Go and No-Go display, data preset, max./min. measurement, data holding, inch/metric conversion, absolute/incremental measurement
- CR2032 battery, data output
- Automatic power off



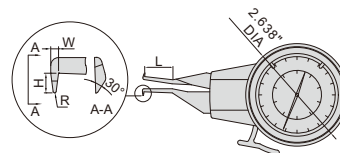
**2121-15**

Part No.	Range	Accuracy	L	H	W	R	Repeatability
<a href="#">2121-15</a>	.2-.6"/5-15mm	±.0012"	.787"	.079"	.059"	.012"R	.0004"
<a href="#">2121-25</a>	.2-1.0"/5-25mm	±.0012"	1.378"	.059"	.039"	.012"R	.0004"
<a href="#">2121-31</a>	.4-1.2"/10-30mm	±.0012"	2.165"	.217"	.098"	.020"R	.0004"
<a href="#">2121-41</a>	.8-1.6"/20-40mm	±.0012"	3.150"	.236"	.118"	.020"R	.0004"
<a href="#">2121-51</a>	1.2-2.0"/30-50mm	±.0012"	3.150"	.315"	.118"	.020"R	.0004"



## INTERNAL DIAL CALIPER GAGES

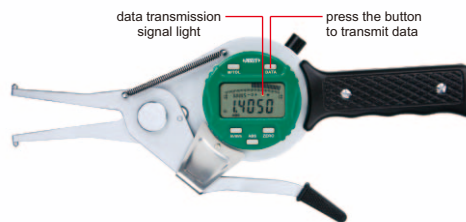
Part No.	Range	Accuracy	Graduation	L	H	W	R
<a href="#">2222-E06</a>	.2-.6"	±.0012"	.0005"	.787"	.079"	.059"	.012"R
<a href="#">2222-E10</a>	.2-1.0"	±.0012"	.0005"	1.378"	.059"	.039"	.012"R
<a href="#">2222-E121</a>	.4-1.2"	±.0012"	.0005"	2.165"	.217"	.098"	.020"R
<a href="#">2222-E161</a>	.8-1.6"	±.0012"	.0005"	3.150"	.236"	.118"	.020"R
<a href="#">2222-E201</a>	1.2-2.0"	±.0012"	.0005"	3.150"	.315"	.118"	.020"R



**2222-E06**

## DIGITAL INTERNAL CALIPER GAGES

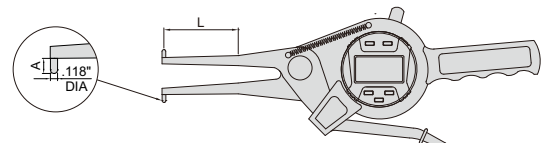
- Carbide measuring tips
- Reading in digit and analog
- With transmission button and signal light
- Display can be rotated by 320°
- Button function: on/off, zero, tolerance Go and No-Go display, data preset, measuring direction change, max./min./TIR measurement, inch/metric conversion, absolute/incremental measurement
- CR2032 battery, automatic power off (time is adjustable)
- Data output
- Optional accessory: data output cable (part no. 7315-50M, 7302-50M, 7305-50M)



**2151-35**

DATA OUTPUT

Part No.	Range	Resolution	Accuracy	L	A
<a href="#">2151-35</a>	.6-1.4"/15-35mm	.0005"/0.01mm	±.0016"	1.969"	.118"
<a href="#">2151-55</a>	1.4-2.2"/35-55mm	.0005"/0.01mm	±.0016"	3.150"	.236"

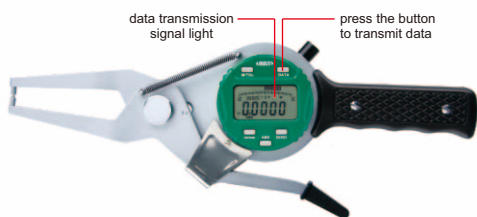




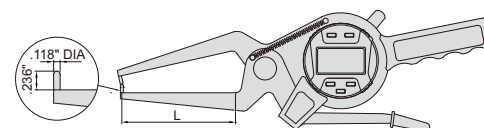
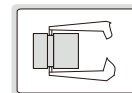
## DIGITAL EXTERNAL CALIPER GAGES

DATA OUTPUT

- Carbide measuring tips
- Reading in digit and analog
- With transmission button and signal light
- Display can be rotated by 320°
- Button function: on/off, zero, tolerance Go and No-Go display, data preset, measuring direction change, max./min./TIR measurement, inch/metric conversion, absolute/incremental measurement
- CR2032 battery, automatic power off (time is adjustable)
- Data output
- Optional accessory: data output cable (part no. [7315-50M](#), [7302-50M](#), [7305-50M](#))



[2132-20](#)

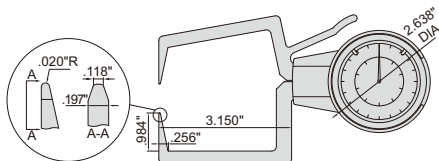


Part No.	Range	Resolution	Accuracy	L
<a href="#">2132-20</a>	0-.8"/0-20mm	.0005"/0.01mm	±.0016"	2.362"
<a href="#">2132-40</a>	.8-1.6"/20-40mm	.0005"/0.01mm	±.0016"	2.362"

## EXTERNAL DIAL CALIPER GAGE



[2333-F081](#)

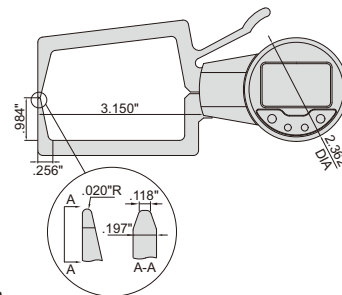
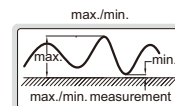


Part No.	Range	Graduation	Accuracy
<a href="#">2333-F081</a>	0-.8"	.0005"	±.0012"

## DIGITAL EXTERNAL CALIPER GAGE



[2131-21](#)



- Accuracy: ±.0012"
- Resolution .0002"/0.005mm
- Repeatability .0004"
- Reading in digital and analog
- Display can be rotated by 170°
- Button function: tolerance Go and No-Go display, data preset, max./min. measurement, data holding, inch/metric conversion, absolute/incremental measurement
- CR2032 battery
- Data output
- Automatic power off

Part No.	Range
<a href="#">2131-21</a>	0-.8"/0-20mm

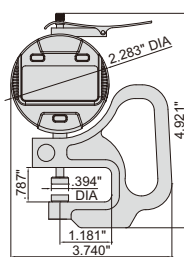


## DIGITAL THICKNESS GAGES

DATA OUTPUT



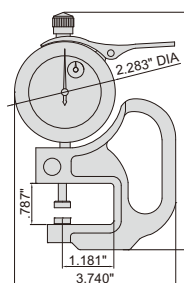
[2871-101](#)



- Ceramic spindle tip and anvil
- Button function: on/off, inch/mm, zero, data preset, change measuring direction, absolute/incremental measurement
- Keep preset data in memory after restart
- Battery CR2032, data output
- Automatic power off (time is adjustable)
- Optional accessory: data output cable (part no. [7315-50M](#), [7302-50M](#))

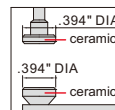
Part No.	Range	Resolution	Accuracy
<a href="#">2871-10</a>	0-.4"/0-10mm	.0005"/0.01mm	±.001"
<a href="#">2871-101</a>	0-.4"/0-10mm	.00005"/0.001mm	±.0002"

## THICKNESS GAGE



[2364-055](#)

Part No.	Range	Graduation	Accuracy
<a href="#">2364-055</a>	0-.5"	.0005"	±.0008"



### HIGH PRECISION DIGITAL THICKNESS GAGES

ATTENTION: RECHARGEABLE BATTERY, FOR 12 HOURS CONTINUOUS WORKING

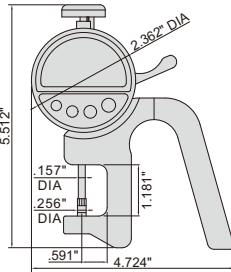
MEASURING TIPS AND ANVILS CAN BE CUSTOM-MADE

ABSOLUTE ENCODER, THE ORIGINAL DATA REMAINS AFTER POWER OFF

DATA OUTPUT



2879-10



- Absolute encoder, the original data remains after power off
- Button function: on/off, zero, tolerance, absolute/incremental measurement, max./min./TIR, data preset, mm/inch, data output, data hold
- Measuring force .11-.22lbf
- Reading in digital and analog
- Power: rechargeable battery, for 12 hours continuous working
- Data output
- Supplied with data output cable (keyboard format)

Part No.	Range	Resolution	Accuracy	Repeatability
2879-10	0-.4"/0-10mm	.00005"/0.001mm	±.0001"	.00005"
2879-101	0-.4"/0-10mm	.00002"/0.0005mm	±.00006"	.00002"

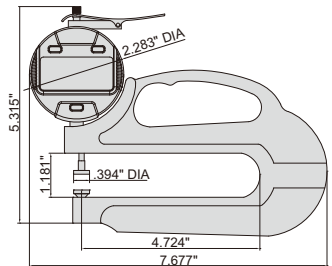
### DIGITAL THICKNESS GAGES

DATA OUTPUT



2872-10

measuring tips and anvils can be custom-made



- Ceramic spindle tip and anvil
- Buttons: on/off, inch/mm, zero, data preset, change measuring direction, absolute/incremental measurement
- Keep preset data in memory after restart
- Battery CR2032, automatic power off (time is adjustable)
- Data output
- Optional accessory: data output cable (part no. 7315-50M, 7302-50M)

Part No.	Range	Resolution	Accuracy
2872-10	0-.4"/0-10mm	.0005"/0.01mm	±.001"
2872-101	0-.4"/0-10mm	.00005"/0.001mm	±.0004"

### DIGITAL ROLLER THICKNESS GAGES

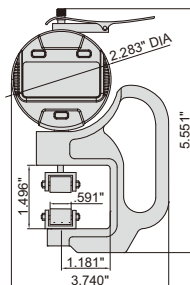
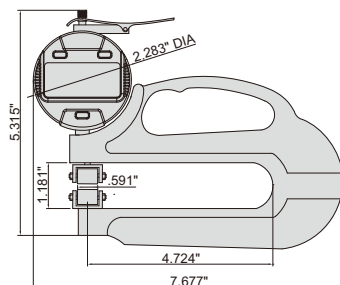
DATA OUTPUT



2877-4



2877-10



- Buttons: on/off, inch/mm, zero, data preset, change measuring direction, absolute/incremental measurement
- Keep preset data in memory after restart
- Battery CR2032, automatic power off (time is adjustable)
- Data output
- Optional accessory: data output cable (part no. 7315-50M, 7302-50M)

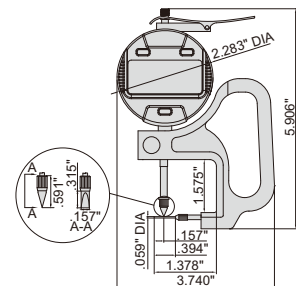
Part No.	Range	Resolution	Accuracy
2877-4	0-.18"/0-4.5mm	.0005"/0.01mm	±.001"
2877-10	0-.4"/0-10mm	.0005"/0.01mm	±.001"

### DIGITAL TUBE THICKNESS GAGE

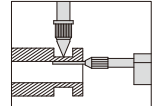
DATA OUTPUT



2873-10



measure wall thickness of grooves



- Buttons: on/off, inch/mm, zero, data preset, change measuring direction, absolute/incremental measurement
- Keep preset data in memory after restart
- Battery CR2032, automatic power off (time is adjustable)
- Data output
- Optional accessory: data output cable (part no. 7315-50M, 7302-50M)

Part No.	Range	Resolution	Accuracy
2873-10	0-.4"/0-10mm	.0005"/0.01mm	±.001"

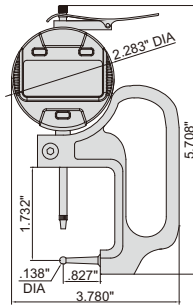


## DIGITAL TUBE THICKNESS GAGE

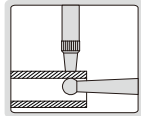
DATA OUTPUT



2876-10



- Buttons: on/off, inch/mm, zero, data preset, change measuring direction, absolute/incremental measurement
- Keep preset data in memory after restart
- Battery CR2032, automatic power off (time is adjustable)
- Data output
- Optional accessory: data output cable (part no. 7315-50M, 7302-50M)

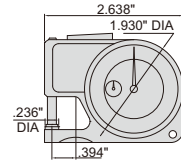


Part No.	Range	Resolution	Accuracy
2876-10	0-.4"/0-10mm	.0005"/0.01mm	±.001"

## THICKNESS GAGE



2363-055



Part No.	Range	Graduation	Accuracy
2363-055	0-.5"	.0005"	±.0015"

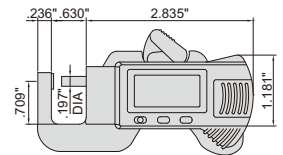
- Stainless steel spindle tip and anvil

## DIGITAL SNAP GAGE

ATTENTION: NO DATA OUTPUT



2166-12



Part No.	Range	Resolution	Accuracy
2166-12	0-.5"/0-12mm	.0005"/0.01mm	±.0012"

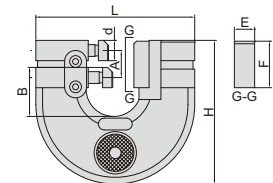
## ADJUSTABLE SNAP GAGES

FAST AND ACCURATE MEASUREMENT FOR CYLINDER

- Used as Go/No-Go gage by setting upper and lower limits
- Flatness of anvil: 59µin
- Parallelism of measuring faces: 118µin



2187-19



Part No.	Range	L	A	B	E	F	H	d
2187-13	.24-.51"	3.346"	.591"	1.024"	.480"	1.071"	3.130"	.484" DIA
2187-19	.51-.75"	3.661"	.591"	1.063"	.480"	1.071"	3.268"	.484" DIA
2187-25	.75-.98"	3.937"	.591"	1.319"	.480"	1.071"	3.524"	.484" DIA
2187-32	.98-1.26"	4.370"	.709"	1.516"	.598"	1.386"	4.094"	.602" DIA

## DIAL SNAP GAGES



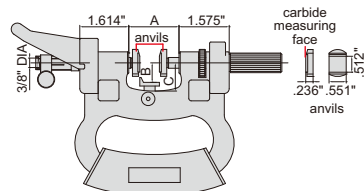
INSPECTION CERTIFICATE TRACEABLE TO NIST

QUICK AND ACCURATE MEASUREMENT OF CYLINDRICAL WORKPIECES



digital indicator is optional

2186-25E



- Left anvil retracting stroke .079"
- Measuring force: 1.35-1.8lbf
- Flatness of anvil: 59µin
- Repeatability: 39µin
- Carbide measuring faces for anvils
- Front edges of anvils are chamfered for easy workpiece insertion
- Optional accessory: dial indicators and digital indicators (reading .00005" or .0005")

Part No.	Range	Parallelism of measuring faces	A	B	C
2186-25E*	0-1"	.00016"	1.654"	.433-.709"	.787"
2186-50E*	1-2"	.00016"	2.717"	.433-1.260"	1.614"
2186-75E*	2-3"	.00020"	3.701"	.669-1.614"	2.008"
2186-100E*	3-4"	.00024"	4.685"	1.220-2.165"	2.559"
2186-125E*	4-5"	.00024"	5.669"	1.654-2.756"	2.953"
2186-150E*	5-6"	.00032"	6.654"	2.165-3.228"	3.543"
2186-175E*	6-7"	.00032"	7.638"	2.677-3.740"	3.937"
2186-200E*	7-8"	.00040"	8.622"	3.346-4.331"	4.528"
2186-225E*	8-9"	.00040"	9.606"	3.740-4.724"	5.118"
2186-250E*	9-10"	.00040"	10.591"	4.331-5.315"	5.709"
2186-275E*	10-11"	.00047"	11.575"	4.724-5.906"	6.299"
2186-300E*	11-12"	.00047"	12.559"	5.039-6.299"	6.693"

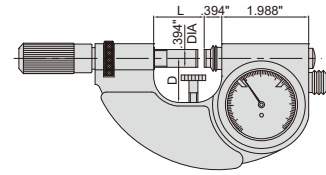
\*Supplied with manufacturer inspection certificate traceable to NIST

## DIAL SNAP GAGE (ECONOMIC TYPE)

**IP54**  
WATERPROOF

**ATTENTION: SETTING  
STANDARDS ARE NOT INCLUDED**

- Quick measurement for mass production
- Dial indicator: range  $\pm 0.015"$ , graduation  $.00005"$ , accuracy  $.00004"$
- IP54 dust/waterproof
- Measuring force: 1.125-2.25lbf
- Carbide measuring faces
- Optional accessory: gage blocks grade 0, for zero setting



**3334-1**

Part No.	Range	L	D
<b>3334-1</b>	0-1"	1.122"	.984"

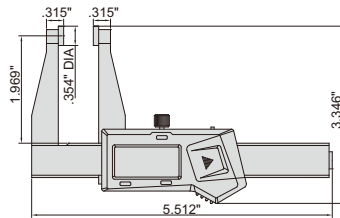
## DIGITAL SNAP GAGE

**DATA  
OUTPUT**



**1163-50A**

- 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. [7315-21](#), [7302-21](#))



Part No.	Range	Accuracy	Resolution
<b>1163-50A</b>	0-2"/0-50mm	$\pm 0.015"$	.0005"/0.01mm

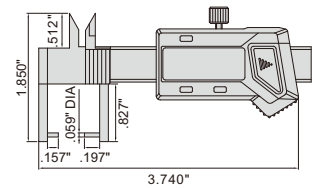
## DIGITAL 3-PURPOSE SNAP GAGE

**ATTENTION:  
NO DATA OUTPUT**

**SUITABLE FOR  
JEWELLERY**

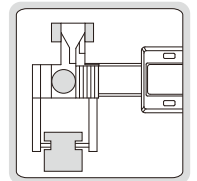


**2164-25A**



- Accuracy:  $\pm 0.015"$
- Buttons: zero, inch/mm, on/off
- Battery LR44
- Made of stainless steel

Part No.	Range	Resolution
<b>2164-25A</b>	0-1"/0-25mm	.0005"/0.01mm



## STEP AND GAP GAGE

**DATA  
OUTPUT**

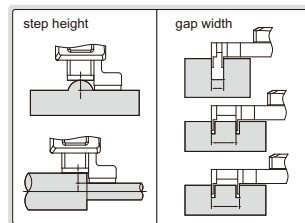
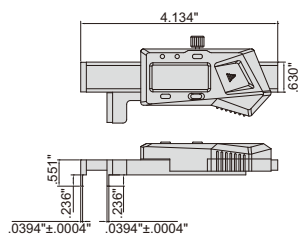


front

**2168-12**



back



- Measure step height and gap width
- 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
- Supplied with zero setting block
- Optional accessory: data output cable (part no. [7315-21](#), [7302-21](#))

zero setting block  
(included)



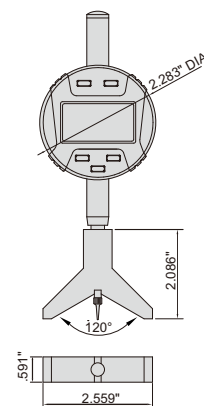
Part No.	Range	Accuracy	Resolution
<b>2168-12</b>	0-.5"/0-12.7mm	$\pm 0.015"$	.0005"/0.01mm

## DIGITAL KEYWAY DEPTH GAGE

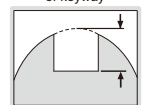
**DATA  
OUTPUT**



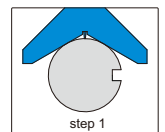
**2182-25**



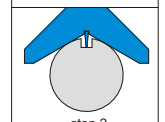
measure depth  
of keyway



- Measure keyway depth of cylindrical workpieces with  $.4"-4"$  DIA
- Button function: on/off, zero, inch/metric conversion, absolute/incremental measurement, data preset, measuring direction change
- CR2032 battery
- Automatic power off (time is adjustable)
- Data output
- Stainless steel base
- Pointed tip
- Optional accessory: data output cable (part no. [7315-50M](#), [7302-40M](#), [7305-40M](#))



step 1



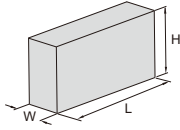
step 2

Part No.	Range	Accuracy	Resolution
<b>2182-25</b>	0-1"/0-25.4mm	$\pm 0.01"$	.0005"/0.01mm



## STEEL GAGE BLOCK SETS

**INSPECTION CERTIFICATE**



**4102-81**

Dimension:

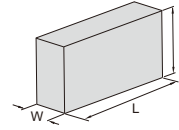
Size (L)	W	H
.02 ≤ L ≤ .394"	.354"	1.181"
L > .394"	.354"	1.378"

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

Blocks per set	Gage blocks included in set			Grade 0	Grade AS-1	Grade AS-2
	Size (inch)	Step (inch)	Quantity	Part No.	Part No.	Part No.
36	.05		1			
	.1001-.1009	.0001	9			
	.101-.109	.001	9			
	.11-.19	.01	9			
	.1-.5	.1	5	<a href="#">4102-36</a>	<a href="#">4102-136</a>	<a href="#">4102-236</a>
	1		1			
	2		1			
81	4		1			
	.1001-.1009	.0001	9			
	.101-.149	.001	49			
	.05-.95	.05	19	<a href="#">4102-81</a>	<a href="#">4102-181</a>	<a href="#">4102-281</a>
	1-4	1	4			

## CERAMIC GAGE BLOCK SETS

**INSPECTION CERTIFICATE**



**4005-181**

Dimension:

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

- Made of ceramic, extremely wear resistance and corrosion resistance, excellent dimension stability
- Meet ASME B89.1.9
- Supplied with manufacturer inspection certificate

Blocks per set	Gage blocks included in set			Grade 0	Grade AS-1
	Size (inch)	Step (inch)	Quantity	Part No.	Part No.
36	.05		1		
	.1001-.1009	.0001	9		
	.101-.109	.001	9		
	.11-.19	.01	9		
	.1-.5	.1	5		
	1		1		
	2		1		
81	4		1		
	.1001-.1009	.0001	9		
	.101-.149	.001	49		
	.05-.95	.05	19	<a href="#">4005-81</a>	<a href="#">4005-181</a>
	1-4	1	4		

## INDIVIDUAL STEEL GAGE BLOCKS

**CUSTOM-MADE**  
CAN SUPPLY ANY SIZES FROM .02" TO 40",  
SUCH AS 3.876"

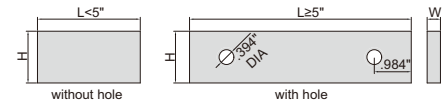


**4112-C3**

Dimension:

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

- Grade AS-2
- Made of alloy steel
- Meet ASME B89.1.9
- Gage blocks with clamping holes: 5", 6", 7", 8", 10", 12", 16", 20"
- Supplied with manufacturer inspection certificate



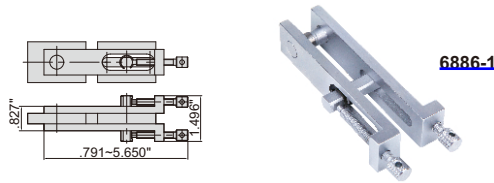
Part No.	Size (L)	Part No.	Size (L)	Part No.	Size (L)	Part No.	Size (L)	Part No.	Size (L)
4112-CD1	.1"	4112-CD109	.109"	4112-CD127	.127"	4112-CD145	.145"	4112-CD8	.8"
4112-CD1001	.1001"	4112-CD11	.11"	4112-CD128	.128"	4112-CD146	.146"	4112-CD85	.85"
4112-CD1002	.1002"	4112-CD111	.111"	4112-CD129	.129"	4112-CD147	.147"	4112-CD9	.9"
4112-CD1003	.1003"	4112-CD112	.112"	4112-CD13	.13"	4112-CD148	.148"	4112-CD95	.95"
4112-CD1004	.1004"	4112-CD113	.113"	4112-CD131	.131"	4112-CD149	.149"	4112-C1	1"
4112-CD1005	.1005"	4112-CD114	.114"	4112-CD132	.132"	4112-CD15	.15"	4112-C2	2"
4112-CD1006	.1006"	4112-CD115	.115"	4112-CD133	.133"	4112-CD2	.2"	4112-C3	3"
4112-CD1007	.1007"	4112-CD116	.116"	4112-CD134	.134"	4112-CD25	.25"	4112-C4	4"
4112-CD1008	.1008"	4112-CD117	.117"	4112-CD135	.135"	4112-CD3	.3"	4112-C5	5"
4112-CD1009	.1009"	4112-CD118	.118"	4112-CD136	.136"	4112-CD35	.35"	4112-C6	6"
4112-CD101	.101"	4112-CD119	.119"	4112-CD137	.137"	4112-CD4	.4"	4112-C7	7"
4112-CD102	.102"	4112-CD12	.12"	4112-CD138	.138"	4112-CD45	.45"	4112-C8	8"
4112-CD103	.103"	4112-CD121	.121"	4112-CD139	.139"	4112-CD5	.5"	4112-C10	10"
4112-CD104	.104"	4112-CD122	.122"	4112-CD14	.14"	4112-CD55	.55"	4112-C12	12"
4112-CD105	.105"	4112-CD123	.123"	4112-CD141	.141"	4112-CD6	.6"	4112-C16	16"
4112-CD106	.106"	4112-CD124	.124"	4112-CD142	.142"	4112-CD65	.65"	4112-C20	20"
4112-CD107	.107"	4112-CD125	.125"	4112-CD143	.143"	4112-CD7	.7"		
4112-CD108	.108"	4112-CD126	.126"	4112-CD144	.144"	4112-CD75	.75"		



**GAGE BLOCK HOLDER**

Part No.

**6886-1**

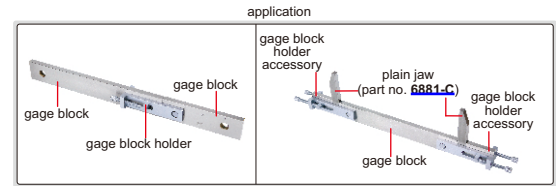


- For gage blocks over 5" with clamping holes
- Optional accessory: gage block holder accessory, gage block accessory (part no. **6881**)

**GAGE BLOCK HOLDER ACCESSORY**

Part No.

**6886-A**

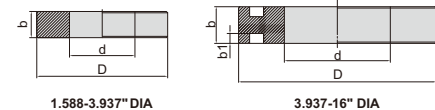


**SETTING RINGS**

- Class X of ASME B89.1.6
- For zero setting of inside micrometers, three points internal micrometers and bore gages
- The size marked on the setting ring is checked at the direction of the marking line
- Deviation is the difference between the ordered size and the size marked on the setting ring when supplied. For example, the ordered size is .2", the size marked on the setting ring when supplied may be .20008"
- Supplied with manufacturer inspection certificate



CAN SUPPLY CUSTOM SETTING RINGS FROM 1/16" TO 16", FOR EXAMPLE, .6726"



Diameter d*	b	D (DIA)	Deviation	Roundness and cylindricity
.059-.098"	.157"	.866"	±.00039"	.000012"
.098-.118"	.197"	.866"	±.00039"	.000012"
.118-.197"	.197"	.866"	±.00039"	.000016"
.197-.394"	.315"	1.260"	±.00039"	.000016"
.394-.591"	.394"	1.496"	±.00039"	.000020"
.591-.709"	.472"	1.772"	±.00039"	.000020"
.709-.787"	.472"	1.772"	±.00039"	.000024"
.787-.984"	.551"	2.087"	±.00039"	.000024"
.984-1.181"	.630"	2.480"	±.00039"	.000024"
1.181-1.260"	.630"	2.480"	±.00039"	.000028"
1.260-1.575"	.709"	2.795"	±.00039"	.000028"
1.575-1.969"	.787"	3.346"	±.00039"	.000028"
1.969-2.362"	.787"	3.937"	±.00039"	.000031"
2.362-2.756"	.945"	4.409"	±.00039"	.000031"
2.756-3.150"	.945"	4.921"	±.00039"	.000031"
3.150-3.543"	.945"	5.512"	±.00039"	.000039"
3.543-3.937"	.945"	6.300"	±.00039"	.000039"

Diameter d*	b	b1	D (DIA)	Deviation	Roundness and cylindricity
3.937-4.331"	1.181"	.315"	6.457"	±.00039"	.000039"
4.331-5.118"	1.339"	.394"	7.559"	±.00039"	.000039"
5.118-5.906"	1.339"	.394"	8.661"	±.00039"	.000047"
5.906-6.693"	1.417"	.394"	9.764"	±.00039"	.000059"
6.693-7.480"	1.417"	.394"	10.866"	±.00039"	.000059"
7.480-8.268"	1.496"	.394"	11.811"	±.00039"	.000059"
8.268-9.055"	1.496"	.394"	12.756"	±.00039"	.000098"
9.055-9.843"	1.575"	.472"	13.780"	±.00039"	.000098"
9.843-10.630"	1.575"	.472"	14.764"	±.00039"	.000118"
10.630-11.417"	1.654"	.472"	15.748"	±.00039"	.000118"
11.417-11.811"	1.654"	.472"	16.732"	±.00039"	.000118"
11.811-12.598"	1.654"	.472"	16.929"	±.00039"	.000157"
12.598-12.992"	1.654"	.472"	17.323"	±.00039"	.000157"
12.992-13.386"	1.654"	.472"	17.717"	±.00039"	.000157"
13.386-13.780"	1.654"	.472"	18.110"	±.00039"	.000157"
13.780-14.173"	1.654"	.472"	18.504"	±.00039"	.000157"
14.173-14.567"	1.654"	.472"	18.898"	±.00039"	.000157"
14.567-14.961"	1.654"	.472"	19.291"	±.00039"	.000157"
14.961-15.354"	1.654"	.472"	19.685"	±.00039"	.000157"
15.354-16"	1.654"	.472"	20.079"	±.00039"	.000157"

\*For example .709-.787" means .709" DIA < diameters ≤ .787" DIA

Part No.	Diameter	Part No.	Diameter	Part No.	Diameter	Part No.	Diameter	Part No.	Diameter
<b>6313-1H16</b>	1/16" DIA	<b>6313-17H32</b>	17/32" DIA	<b>6313-0D1</b>	.1" DIA	<b>6313-2</b>	2.0" DIA	<b>6313-7D5</b>	7.5" DIA
<b>6313-3H32</b>	3/32" DIA	<b>6313-9H16</b>	9/16" DIA	<b>6313-0D16</b>	.16" DIA	<b>6313-2D4</b>	2.4" DIA	<b>6313-8</b>	8.0" DIA
<b>6313-1H8</b>	1/8" DIA	<b>6313-19H32</b>	19/32" DIA	<b>6313-0D24</b>	.24" DIA	<b>6313-2D5</b>	2.5" DIA	<b>6313-8D5</b>	8.5" DIA
<b>6313-5H32</b>	5/32" DIA	<b>6313-5H8</b>	5/8" DIA	<b>6313-0D275</b>	.275" DIA	<b>6313-2D8</b>	2.8" DIA	<b>6313-9</b>	9.0" DIA
<b>6313-3H16</b>	3/16" DIA	<b>6313-21H32</b>	21/32" DIA	<b>6313-0D35</b>	.35" DIA	<b>6313-3</b>	3.0" DIA	<b>6313-9D5</b>	9.5" DIA
<b>6313-7H32</b>	7/32" DIA	<b>6313-11H16</b>	11/16" DIA	<b>6313-0D425</b>	.425" DIA	<b>6313-3D2</b>	3.2" DIA	<b>6313-10</b>	10.0" DIA
<b>6313-1H4</b>	1/4" DIA	<b>6313-23H32</b>	23/32" DIA	<b>6313-0D6</b>	.6" DIA	<b>6313-3D5</b>	3.5" DIA	<b>6313-10D5</b>	10.5" DIA
<b>6313-9H32</b>	9/32" DIA	<b>6313-3H4</b>	3/4" DIA	<b>6313-0D65</b>	.65" DIA	<b>6313-3D6</b>	3.6" DIA	<b>6313-11</b>	11.0" DIA
<b>6313-5H16</b>	5/16" DIA	<b>6313-25H32</b>	25/32" DIA	<b>6313-0D7</b>	.7" DIA	<b>6313-4</b>	4.0" DIA	<b>6313-11D5</b>	11.5" DIA
<b>6313-11H32</b>	11/32" DIA	<b>6313-13H16</b>	13/16" DIA	<b>6313-0D8</b>	.8" DIA	<b>6313-4D5</b>	4.5" DIA	<b>6313-12</b>	12.0" DIA
<b>6313-3H8</b>	3/8" DIA	<b>6313-27H32</b>	27/32" DIA	<b>6313-1</b>	1.0" DIA	<b>6313-5</b>	5.0" DIA	<b>6313-14</b>	14.0" DIA
<b>6313-13H32</b>	13/32" DIA	<b>6313-7H8</b>	7/8" DIA	<b>6313-1D2</b>	1.2" DIA	<b>6313-5D5</b>	5.5" DIA	<b>6313-16</b>	16.0" DIA
<b>6313-7H16</b>	7/16" DIA	<b>6313-29H32</b>	29/32" DIA	<b>6313-1D4</b>	1.4" DIA	<b>6313-6</b>	6.0" DIA		
<b>6313-15H32</b>	15/32" DIA	<b>6313-15H16</b>	15/16" DIA	<b>6313-1D6</b>	1.6" DIA	<b>6313-6D5</b>	6.5" DIA		
<b>6313-1H2</b>	1/2" DIA	<b>6313-31H32</b>	31/32" DIA	<b>6313-1D8</b>	1.8" DIA	<b>6313-7</b>	7.0" DIA		

## AMERICAN STANDARD THREAD PLUG GAGES



**4131-102**

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

Part No.	Size	Part No.	Size	Part No.	Size
<a href="#">4131-41</a>	4-40UNC	<a href="#">4131-5D1</a>	5/16-18UNC	<a href="#">4131-1A2</a>	1/2-20UNF
<a href="#">4131-61</a>	6-32UNC	<a href="#">4131-5D2</a>	5/16-24UNF	<a href="#">4131-9D2</a>	9/16-18UNF
<a href="#">4131-81</a>	8-32UNC	<a href="#">4131-3C1</a>	3/8-16UNC	<a href="#">4131-5C1</a>	5/8-11UNC
<a href="#">4131-102</a>	10-32UNF	<a href="#">4131-3C2</a>	3/8-24UNF	<a href="#">4131-5C2</a>	5/8-18UNF
<a href="#">4131-1B1</a>	1/4-20UNC	<a href="#">4131-7D2</a>	7/16-20UNF	<a href="#">4131-3B1</a>	3/4-10UNC
<a href="#">4131-1B2</a>	1/4-28UNF	<a href="#">4131-1A1</a>	1/2-13UNC	<a href="#">4131-3B2</a>	3/4-16UNF

## AMERICAN STANDARD THREAD RING GAGES



- Class 2A
- Standard ANSI/ASME B1.2
- Supplied with manufacturer inspection certificate



**4121-1B1**

**4121-1B1N**

Size	Part No. (GO)	Part No. (NOGO)	Size	Part No. (GO)	Part No. (NOGO)	Size	Part No. (GO)	Part No. (NOGO)
4-40UNC	<a href="#">4121-41</a>	<a href="#">4121-41N</a>	5/16-18UNC	<a href="#">4121-5D1</a>	<a href="#">4121-5D1N</a>	1/2-20UNF	<a href="#">4121-1A2</a>	<a href="#">4121-1A2N</a>
6-32UNC	<a href="#">4121-61</a>	<a href="#">4121-61N</a>	5/16-24UNF	<a href="#">4121-5D2</a>	<a href="#">4121-5D2N</a>	9/16-18UNF	<a href="#">4121-9D2</a>	<a href="#">4121-9D2N</a>
8-32UNC	<a href="#">4121-81</a>	<a href="#">4121-81N</a>	3/8-16UNC	<a href="#">4121-3C1</a>	<a href="#">4121-3C1N</a>	5/8-11UNC	<a href="#">4121-5C1</a>	<a href="#">4121-5C1N</a>
10-32UNF	<a href="#">4121-102</a>	<a href="#">4121-102N</a>	3/8-24UNF	<a href="#">4121-3C2</a>	<a href="#">4121-3C2N</a>	5/8-18UNF	<a href="#">4121-5C2</a>	<a href="#">4121-5C2N</a>
1/4-20UNC	<a href="#">4121-1B1</a>	<a href="#">4121-1B1N</a>	7/16-20UNF	<a href="#">4121-7D2</a>	<a href="#">4121-7D2N</a>	3/4-10UNC	<a href="#">4121-3B1</a>	<a href="#">4121-3B1N</a>
1/4-28UNF	<a href="#">4121-1B2</a>	<a href="#">4121-1B2N</a>	1/2-13UNC	<a href="#">4121-1A1</a>	<a href="#">4121-1A1N</a>	3/4-16UNF	<a href="#">4121-3B2</a>	<a href="#">4121-3B2N</a>

## CERAMIC BALLS



**4190-15H16**

- Zirconia material, high strength and hardness, extremely wear resistance and corrosion resistance, good insulation, antistatic and magnetic resistance
- Mirror surface without holes
- Supplied with manufacturer inspection certificate

Set (31 pairs)

Part No.	Ceramic balls included (one pair per size)
<a href="#">4190-S25E</a>	1/16", 3/32", 7/64", 1/8", 5/32", 3/16", 7/32", 15/64", 1/4", 17/64", 9/32", 5/16", 11/32", 3/8", 13/32", 7/16", 29/64", 15/32", 31/64", 1/2", 17/32", 9/16", 19/32", 5/8", 21/32", 11/16", 23/32", 3/4", 25/32", 7/8", 15/16"

Individual

Part No.	Diameter	Accuracy	Roundness
<a href="#">4190-1H16</a>	1/16"	±.00008"	.00002"
<a href="#">4190-3H32</a>	3/32"	±.00008"	.00002"
<a href="#">4190-7H64</a>	7/64"	±.00008"	.00002"
<a href="#">4190-1H8</a>	1/8"	±.00008"	.00002"
<a href="#">4190-5H32</a>	5/32"	±.00008"	.00002"
<a href="#">4190-3H16</a>	3/16"	±.00008"	.00002"
<a href="#">4190-7H32</a>	7/32"	±.00008"	.00002"
<a href="#">4190-15H64</a>	15/64"	±.00008"	.00002"
<a href="#">4190-1H4</a>	1/4"	±.00008"	.00002"
<a href="#">4190-17H64</a>	17/64"	±.00008"	.00002"
<a href="#">4190-9H32</a>	9/32"	±.00008"	.00002"
<a href="#">4190-5H16</a>	5/16"	±.00008"	.00002"
<a href="#">4190-11H32</a>	11/32"	±.00008"	.00002"
<a href="#">4190-3H8</a>	3/8"	±.00008"	.00002"
<a href="#">4190-13H32</a>	13/32"	±.00008"	.00002"
<a href="#">4190-7H16</a>	7/16"	±.00008"	.00002"

Individual

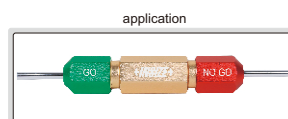
Part No.	Diameter	Accuracy	Roundness
<a href="#">4190-29H64</a>	29/64"	±.00008"	.00002"
<a href="#">4190-15H32</a>	15/32"	±.00008"	.00002"
<a href="#">4190-31H64</a>	31/64"	±.00008"	.00002"
<a href="#">4190-1H2</a>	1/2"	±.00008"	.00002"
<a href="#">4190-17H32</a>	17/32"	±.00008"	.00003"
<a href="#">4190-9H16</a>	9/16"	±.00008"	.00003"
<a href="#">4190-19H32</a>	19/32"	±.00010"	.00003"
<a href="#">4190-5H8</a>	5/8"	±.00010"	.00003"
<a href="#">4190-21H32</a>	21/32"	±.00010"	.00003"
<a href="#">4190-11H16</a>	11/16"	±.00010"	.00003"
<a href="#">4190-23H32</a>	23/32"	±.00010"	.00003"
<a href="#">4190-3H4</a>	3/4"	±.00010"	.00003"
<a href="#">4190-25H32</a>	25/32"	±.00010"	.00003"
<a href="#">4190-7H8</a>	7/8"	±.00010"	.00004"
<a href="#">4190-15H16</a>	15/16"	±.00010"	.00004"

## PIN GAGE HANDLES (OPERATED WITHOUT WRENCH)

- Operated without wrench
- Made of aluminum
- Pin gages can be installed



**7342-M1**



Part No.	Applicable pin gage diameter
<a href="#">7342-M0</a>	.011-.049"/0.3-1.25mm
<a href="#">7342-M1</a>	.050-.250"/1.26-6.35mm
<a href="#">7342-M2</a>	.251-.500"/6.36-12.70mm
<a href="#">7342-M3</a>	.501-.625"/12.71-15.88mm
<a href="#">7342-M4</a>	.626-.750"/15.89-19.00mm
<a href="#">7342-M5</a>	.751-.832"/19.01-21.13mm
<a href="#">7342-M6</a>	.833-.916"/21.14-23.27mm
<a href="#">7342-M7</a>	.917-1.000"/23.28-25.4mm

## PIN GAGE SETS



**4162-2161**

- Class ZZ
- Made of stainless steel
- Hardness HRC60-62
- Handle is optional (handle part no. 7341 series, 7342 series)

Diameter (d)	Step	Pin gages per set	Part No.	
			Accuracy + .0002"	Accuracy - .0002"
.011~.060"	.001"	50	<b>4162-111</b>	<b>4162-211</b>
.061~.250"	.001"	190	<b>4162-1161</b>	<b>4162-2161</b>
.251~.500"	.001"	250	<b>4162-1251</b>	<b>4162-2251</b>
.501~.625"	.001"	125	<b>4162-1501</b>	<b>4162-2501</b>
.626~.750"	.001"	125	<b>4162-1626</b>	<b>4162-2626</b>
.751~.832"	.001"	82	<b>4162-1751</b>	<b>4162-2751</b>
.833~.916"	.001"	84	<b>4162-1833</b>	<b>4162-2833</b>
.917~1.000"	.001"	84	<b>4162-1917</b>	<b>4162-2917</b>

## WATERPROOF DIGITAL PROTRACTOR (HEAVY DUTY)

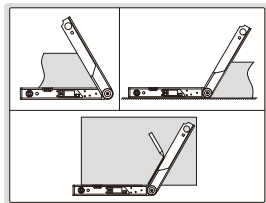
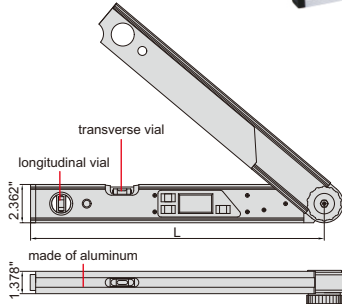
**AUTOMATIC BACKLIGHT**

**ABSOLUTE LEVEL**

**IP54 WATERPROOF**



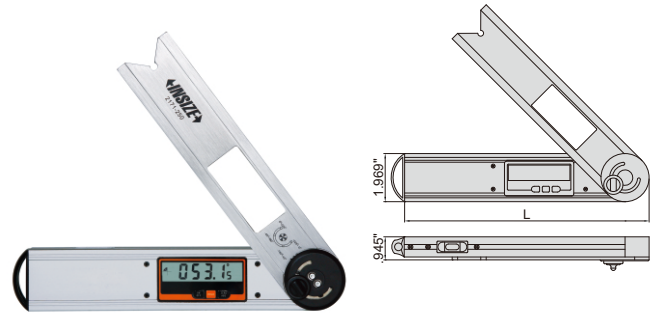
**2174-225**



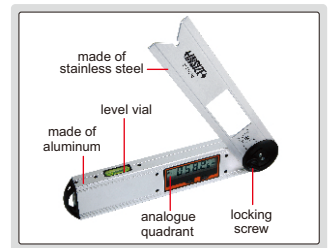
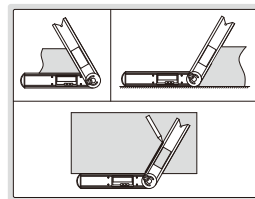
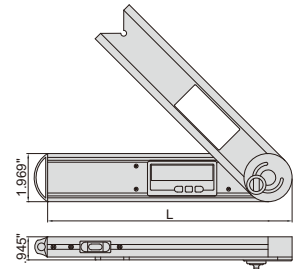
- Suitable for setting horizontal and vertical mitre angles of cutting machine
- Buttons: ON/OFF, HOLD/SUP, SPR/CNR/MTR/BVL
- IP54 dust/waterproof
- With transverse and longitudinal vials
- 2xAAA batteries
- Absolute level, zero setting is not needed when batteries are replaced
- Backlight turns off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

Part No.	Size (L)	Range	Resolution	Accuracy
<b>2174-225</b>	18.11"	0-225°	0.05°	±0.10°

## DIGITAL PROTRACTOR



**2171-250**



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

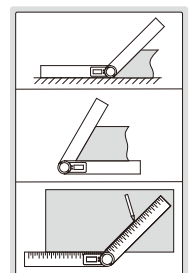
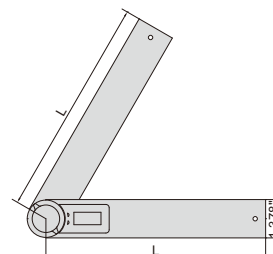
Part No.	Size (L)	Range	Resolution	Accuracy
<b>2171-250</b>	10"	0-360°	0.05°	±0.15°

## DIGITAL PROTRACTORS

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



**2176-300**



Part No.	Size (L)	Range	Accuracy
<b>2176-200</b>	8"	0-360°	±0.3°
<b>2176-300</b>	12"	0-360°	±0.3°



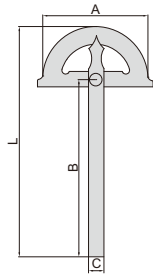
## PROTRACTORS



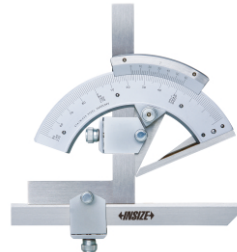
**4799-180**

- Graduation 1°
- Made of stainless steel
- Satin chrome plated scale
- With clamping screw

Part No.	Size (AxB)	Range	Accuracy	L	C
<b>4799-180</b>	3.1x4.7"	0-180°	±0.3°	6.614"	.433"
<b>4799-1120</b>	4.7x5.9"	0-180°	±0.3°	8.661"	.551"
<b>4799-1150</b>	5.9x7.9"	0-180°	±0.3°	11.220"	.630"
<b>4799-1200</b>	7.9x11.8"	0-180°	±0.3°	16.260"	.787"



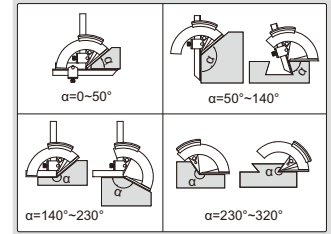
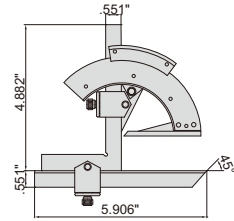
## PROTRACTOR



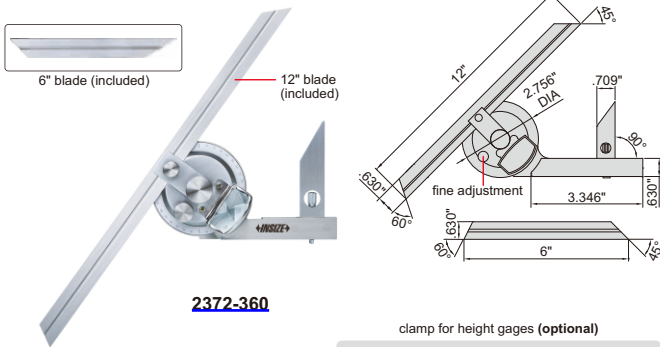
**2374-320**

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

Part No.	Range	Accuracy
<b>2374-320</b>	0-320°	±2'

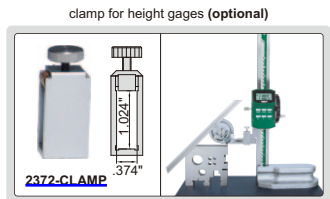


## UNIVERSAL PROTRACTOR



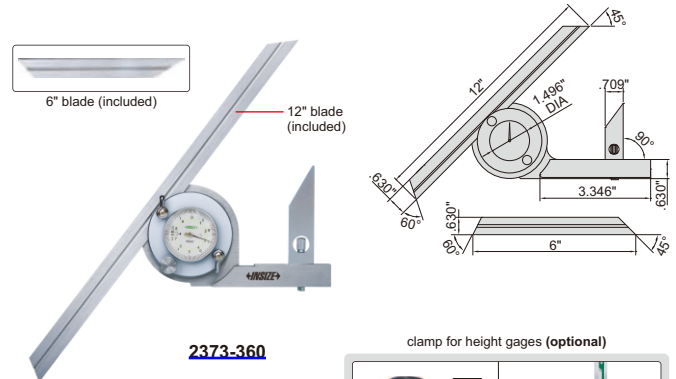
**2372-360**

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



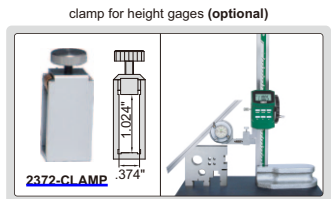
Part No.	Range	Graduation	Accuracy
<b>2372-360</b>	0-360°	5'	±5'

## DIAL PROTRACTOR



**2373-360**

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



Part No.	Range	Graduation	Accuracy
<b>2373-360</b>	0-360°	5'	±5'

## DIGITAL PROTRACTOR (BASIC TYPE)

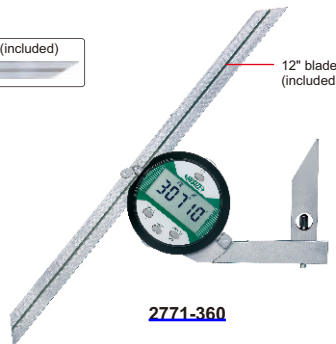
**ABSOLUTE ZERO**

- Absolute zero, zero setting is not needed when batteries are replaced
- Button function: choose 0-90°, 0-180° or 0-360° display, change resolution, display flips over, data hold, zero, on/off, supplementary angle measurement
- Battery CR2032, automatic power off
- Made of stainless steel
- Optional square for zero setting
- Optional accessory: clamp (part no. **2372-CLAMP**), suitable for height gages 1156, 1351 and 1250

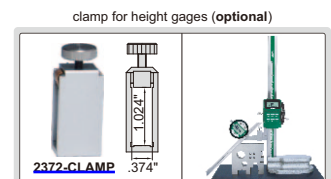
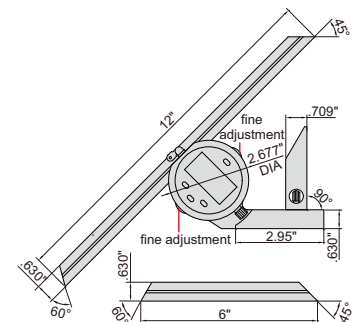
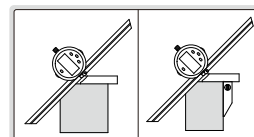
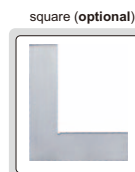
Part No.	Range	Resolution	Accuracy
<b>2771-360</b>	0-360°	1'/0.01°	±5'

**Square (for zero setting, optional)**

**Part No.**  
**2771-S90**



**2771-360**

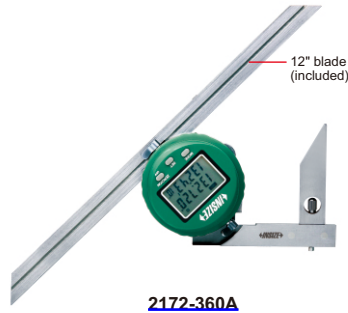
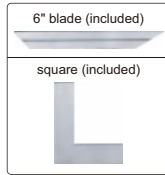


## DIGITAL PROTRACTOR

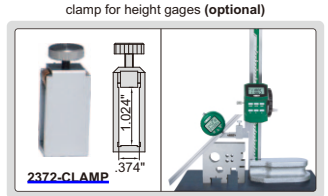
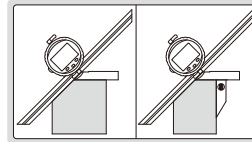
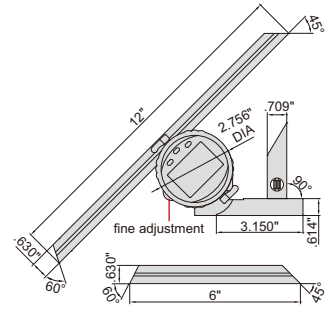
DATA OUTPUT



- 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. **7315-50**, **7302-SPC3B**), clamp (part no. **2372-CLAMP**), suitable for height gages **1156**, **1351** and **1250**



2172-360A



clamp for height gages (optional)

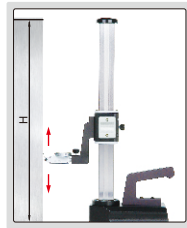
2372-CLAMP

Part No.	Range	Resolution	Accuracy
2172-360A	0-360°	10"/.005°	±5'

## PERPENDICULARITY TESTERS

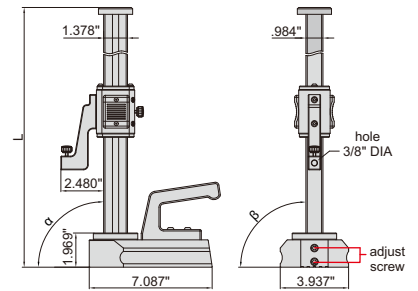


- Optional accessory: dial test indicators (graduation .0001")



dial test indicator is optional

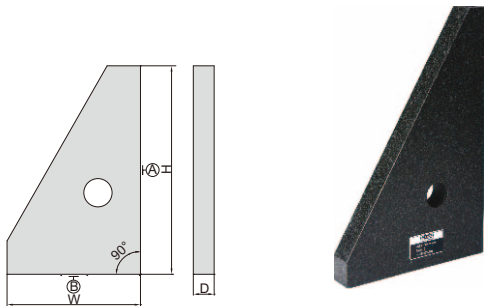
4770-300E



Part No.	Range (H)	Perpendicularity (α)	Side perpendicularity (β)	L
4770-300E	0-12"	.00012"	.00040"	18.110"
4770-600E	0-24"	.00020"	.00080"	29.921"

## GRANITE SQUARES

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

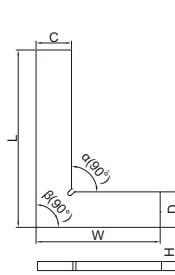


4141-250

Part No.	Size (HxW)	Flatness of A	Flatness of B	Squareness of A to B	D
4141-250	9.8x6.3"	39μm	39μm	79μm	.984"
4141-400	15.7x9.8"	59μm	39μm	118μm	1.575"
4141-630	24.8x15.7"	79μm	59μm	157μm	2.480"

## 90° FLAT EDGE SQUARES

- DIN875 grade 0
- Made of hardened stainless steel



4791-100

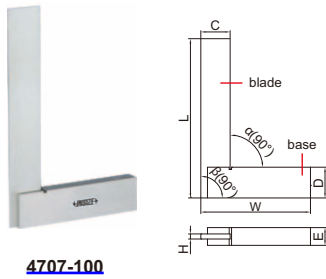
Part No.	Size (LxW)	Squareness		C	D	H
		Inside (α)	Outside (β)			
4791-50	2.0x1.6"	.00024"	.00024"	.591"	.591"	.157"
4791-75	3.0x2.0"	.00024"	.00028"	.591"	.591"	.157"
4791-100	3.9x2.8"	.00028"	.00028"	.787"	.787"	.197"
4791-150	5.9x3.9"	.00028"	.00032"	1.181"	1.181"	.236"
4791-200	7.9x5.1"	.00032"	.00035"	1.181"	1.181"	.276"
4791-250	9.8x6.5"	.00035"	.00040"	1.378"	1.378"	.276"
4791-300	11.8x7.9"	.00040"	.00043"	1.575"	1.575"	.315"

## MACHINIST SQUARES WITH WIDE BASE (ECONOMIC TYPE)

ATTENTION: NO ANTI-RUST TREATMENT, NOT HARDENED

ATTENTION: LOW ACCURACY

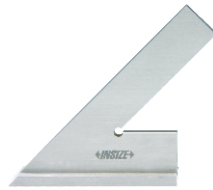
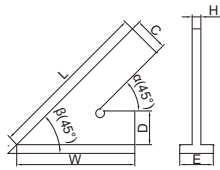
- DIN875 grade 2
- Made of carbon steel, no anti-rust treatment, not hardened



4707-100

Part No.	Size (LxW)	Squareness		C	D	H	E
		Inside (α)	Outside (β)				
4707-75	3.0x2.0"	.00102"	.00110"	.630"	.630"	.118"	.354"
4707-100	3.9x2.8"	.00110"	.00118"	.748"	.748"	.118"	.472"
4707-150	6x4"	.00130"	.00138"	.984"	.984"	.118"	.630"
4707-200	8x5"	.00146"	.00158"	1.181"	1.260"	.157"	.630"
4707-250	10x6"	.00165"	.00177"	1.181"	1.260"	.157"	.748"
4707-300	12x8"	.00185"	.00197"	1.260"	1.260"	.157"	.748"
4707-400	16x10"	.00221"	.00236"	1.496"	1.496"	.197"	.866"
4707-500	20x12"	.00256"	.00276"	1.772"	1.969"	.236"	.984"
4707-600	24x14"	.00295"	.00315"	1.969"	1.969"	.236"	1.181"

## 45° SQUARES WITH WIDE BASE



4747-150

- Made of hardened stainless steel

Part No.	Size (LxW)	Squareness		C	D	H	E
		Inside (α)	Outside (β)				
4747-150	5.9x3.9"	.00126"	.00142"	.787"	.787"	.197"	.787"
4747-200	7.9x5.1"	.00148"	.00161"	.984"	.984"	.197"	.984"

## STRAIGHT EDGES



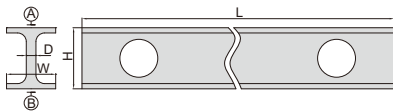
4700-100

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

Part No.	Size (L)	Straightness	W	H
4700-100	3.9"	.00010"	.197"	.984"
4700-150	5.9"	.00010"	.236"	1.181"
4700-200	7.9"	.00011"	.236"	1.181"
4700-300	11.8"	.00013"	.315"	1.575"

## MAGNALIUM STRAIGHT EDGES

LIGHT WEIGHT

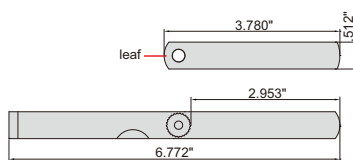


4180-1500

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

Part No.	Length (L)	Flatness of A and B	Parallelism between A and B	H	W	D	Weight (lb)
4180-500	20"	.00012"	.00016"	2.362"	1.181"	.197"	2.20
4180-1000	40"	.00020"	.00032"	2.362"	1.181"	.197"	3.31
4180-1500	60"	.00060"	.00087"	3.937"	1.575"	.276"	9.92
4180-2000	80"	.00071"	.00106"	3.937"	1.575"	.276"	13.23

## FEELER GAGE



4608-31

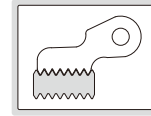
- .010" is made of brass, others are made of hardened alloy steel
- Each blade is marked with inch/metric size

Part No.	Range	Quantity of leaves
4608-31	.0015"-.035"	32

Thickness of leaves included	Accuracy	Thickness of leaves included	Accuracy
.010" (brass)	±.00039"	.016", .017"	±.00055"
.0015", .002"	±.0002"	.018", .019"	±.00059"
.0025", .003", .004", .005", .006", .007"	±.00028"	.020", .021"	±.00067"
.008", .009"	±.00035"	.022", .023"	±.00071"
.010", .011"	±.00039"	.024", .025", .026"	±.00075"
.012", .013"	±.00047"	.028"	±.00091"
.014", .015"	±.00051"	.030"	±.00094"
		.032", .035"	±.00102"

## PITCH GAGES

- Check the pitch of screw thread
- Made of medium carbon steel



**4820-124**

### Unified 60° screw

Part No.	Range	Pitch of leaves included	Quantity of leaves
<b>4820-230</b>	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.	Range	Pitch of leaves included	Quantity of leaves
<b>4820-122</b>	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
<b>4820-124</b>	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

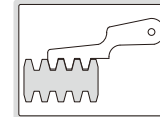
Part No.	Range	Pitch of leaves included	Quantity of leaves
<b>4820-330</b>	4-42TPI	4, 4-1/2, 5, 5-1/2, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 22, 24, 26, 27, 28, 30, 32, 34, 36, 38, 40, 42TPI	30

## PITCH GAGES



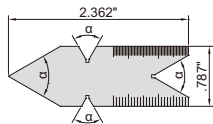
**4824-12**

- Check the pitch of screw thread
- Accuracy:  $\pm 0.028''$
- Made of medium carbon steel

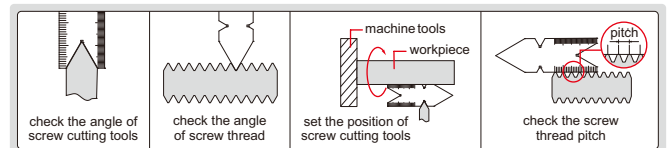


Part No.	Range	Thread type	Pitch of leaves included	Quantity of leaves
<b>4824-16</b>	1-12TPI	ACME 29°	1, 1-1/3, 1-1/2, 1-3/4, 2, 2-1/2, 3, 3-1/2, 4, 5, 6, 7, 8, 9, 10, 12TPI	16
<b>4824-12</b>	2-20mm	Tr 30°	2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 16, 20mm	12

## CENTER GAGES



**4810-602**



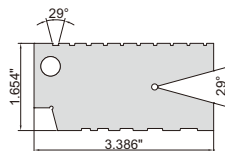
- To check and set screw cutting tools, and check the angle and pitch of screw thread
- Angle accuracy:  $\pm 30\text{min}$ .
- Made of stainless steel

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

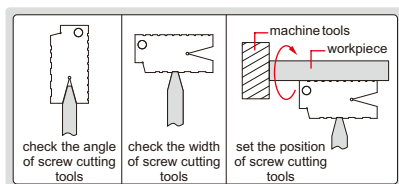
## THREAD GAGE



**4812-E**

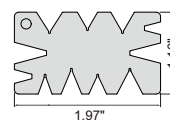


- Thread type: ACME 29°
- To check and set screw cutting tools
- Made of medium carbon steel



Part No.	Range	Pitch
<b>4812-E</b>	1-10TPI	1, 1-1/3, 1-1/2, 1-3/4, 2, 2-1/2, 3, 4, 5, 6, 7, 8, 9, 10TPI

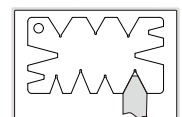
## ANGLE GAGE



**4854-1**

- Made of stainless steel

Part No.	Range	Accuracy
<b>4854-1</b>	29°, 30°, 40°, 45°, 50°, 55°, 60°	$\pm 10'$



check the angle of screw cutting tools

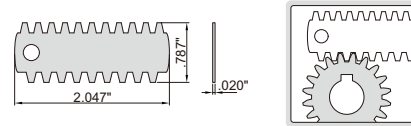


## GEAR TOOTH PITCH GAGES

- Check the diametrical pitch of gear tooth
- Accuracy:  $\pm 0.028''$
- Made of hardened stainless steel



**4860-180**



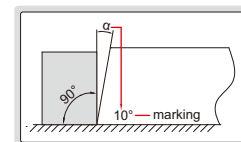
Part No.	Range (DP)	Pressure angle	Quantity of leaves
<a href="#">4860-15</a>	2-5	14.5°	7
<a href="#">4860-25</a>	2-5	20°	7
<a href="#">4860-180</a>	6-80	14.5°	14
<a href="#">4860-280</a>	6-80	20°	14

## ANGLE GAGE

- To check complementary angles
- Made of stainless steel



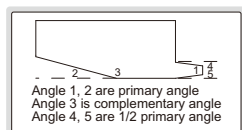
**4806-20**



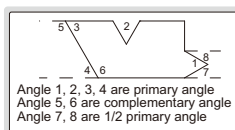
Part No.	Range	Angle of leaves included	Quantity of leaves	Accuracy
<a href="#">4806-20</a>	1°-45°	1°, 2°, 3°, 4°, 5°, 6°, 7°, 8°, 9°, 10°, 12°, 14°, 16°, 18°, 20°, 25°, 30°, 35°, 40°, 45°	20	$\pm 30'$

## ANGLE GAGE SET

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



type A



type B



**4807**

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

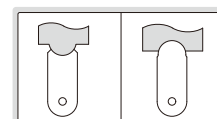
Part No.	Quantity of leaves	Accuracy
<a href="#">4807</a>	18	$\pm 10'$

## RADIUS GAGES

- Made of medium carbon steel



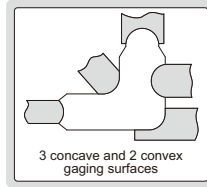
**4801-15E**



Part No.	Range	Radius of leaves included	Quantity of leaves (internal+external)
<a href="#">4801-15E</a>	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
<a href="#">4801-16E</a>	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
<a href="#">4801-16E1</a>	17/32"~1"	17/32", 9/16", 19/32", 5/8", 21/32", 11/16", 23/32", 3/4", 25/32", 13/16", 27/32", 7/8", 29/32", 15/16", 31/32", 1"	16+16

## RADIUS GAGE SETS

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



4804-26

Part No.	Range	Radius of leaves included	Quantity of leaves	Handle
4804-25E	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	with
4804-26E	.010"~.5"	.010", .015", .020", .025", .030", .040", .050", .060", .070", .080", .090", .100", .12", .14", .16", .18", .20", .22", .24", .26", .28", .30", .35", .40", .45", .50"	26	with
4804-8E	9/16"~1"	9/16", 5/8", 11/16", 3/4", 13/16", 7/8", 15/16", 1"	8	without
4804-26	0.5~13mm	0.5, 1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7, 7.5, 8, 8.5, 9, 9.5, 10, 10.5, 11, 11.5, 12, 12.5, 13mm	26	with

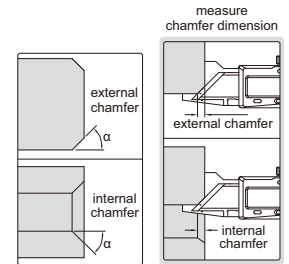
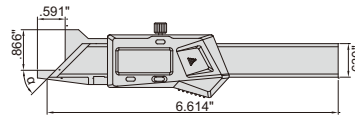
## DIGITAL TAPER SLOT GAGES

DATA OUTPUT

- Measure 30°/45°/60° 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. 7315-21, 7302-21)



1180-6

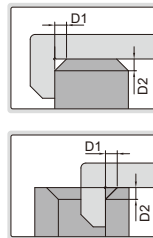


Part No.	Range	Accuracy	Chamfer (α)
1180-6	0-.39"/0-10mm	±.0025"	45°
1180-63	0-.39"/0-10mm	±.0025"	30°
1180-66	0-.39"/0-10mm	±.0025"	60°

## CHAMFER GAGE

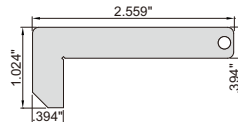


4844-1E



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

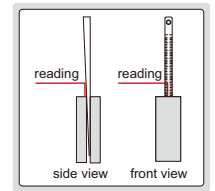
Part No.	Graduation	Accuracy
4844-1E	1/32"	±.01"



## TAPER SLOT GAGE

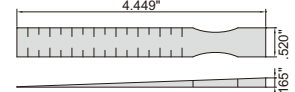


4630-1E

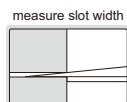


- For quick measurement of slot width
- Satin chrome plated reading surface
- Made of stainless steel

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



## DIGITAL TAPER SLOT GAGES



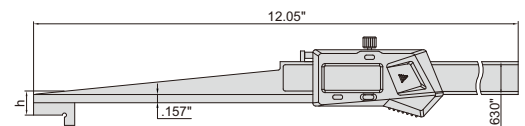
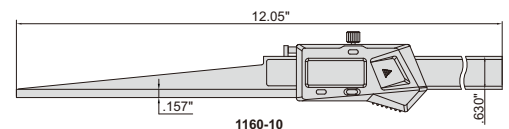
1160-10

- Measuring opening, slot 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
- Optional accessory: data output cable (part no. 7315-21, 7302-21)

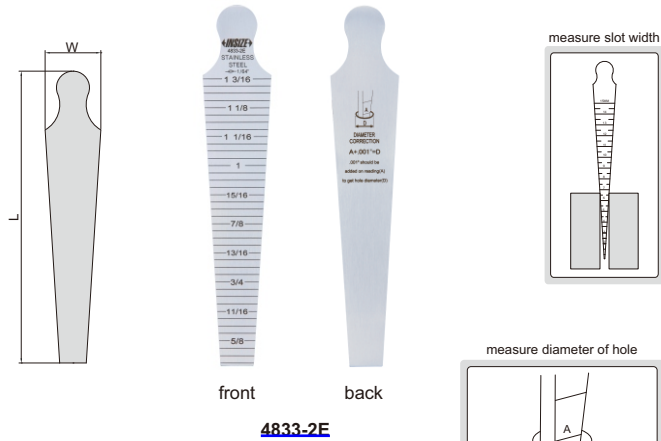
Part No.	Range	Accuracy	h
1160-10	.008-.394"/0.2-10mm	±.001"	—
1160-20	.394-.787"/10-20mm	±.002"	.394"
1160-30	.787-1.181"/20-30mm	±.002"	.787"
1160-40	1.181-1.575"/30-40mm	±.002"	1.181"

DATA OUTPUT

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



### TAPER GAGES

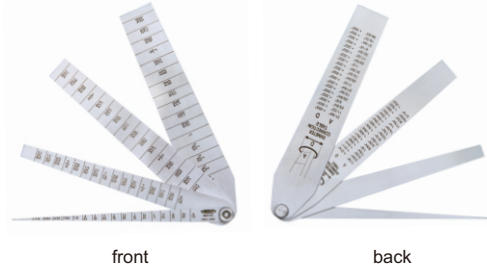


**4833-2E**

- Measure opening, slot width, hole diameter, etc.
- Diameter correction table on the back (except **4833-4E**)
- Made of stainless steel

Part No.	Range	Graduation	Accuracy	L	W
<b>4833-1E</b>	1/32~5/8"	1/64"	±.004"	5.748"	.669"
<b>4833-2E</b>	5/8~1-3/16"	1/64"	±.004"	6.260"	1.197"
<b>4833-3E</b>	1-3/16~1-3/4"	1/64"	±.004"	6.535"	1.787"
<b>4833-4E</b>	1-3/4~2-3/8"	1/64"	±.004"	6.693"	2.382"

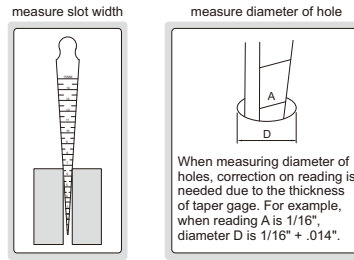
### TAPER GAGE SET



front

back

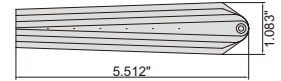
**4837-1E**



measure slot width

measure diameter of hole

When measuring diameter of holes, correction on reading is needed due to the thickness of taper gage. For example, when reading A is 1/16", diameter D is 1/16" + .014".



- 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

Part No.	Range	Graduation	Accuracy
<b>4837-1E</b>	1/16~1-1/16"	1/64"	±.004"

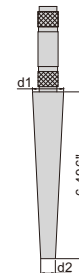
### TAPER BORE GAGES

- Graduation .005"
- Quick measurement of bore diameter
- Hardened steel, HRC50-58
- Satin chrome plated surface
- Aluminium oxidized handle

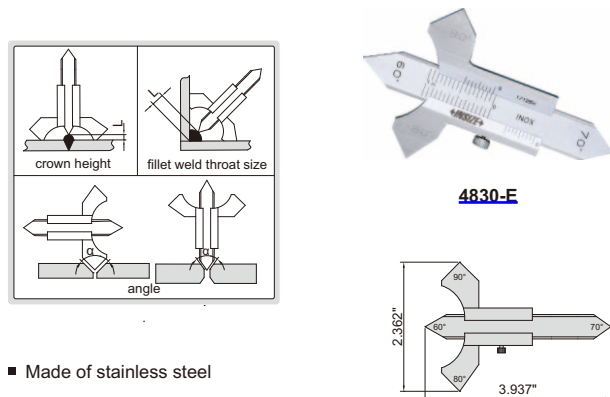
Part No.	Range	Accuracy	d1 (DIA)	d2 (DIA)
<b>4852-E15</b>	.6-1.2"	±.0025"	1.220"	.579"
<b>4852-E30</b>	1.2-1.8"	±.0025"	1.811"	1.165"



**4852-E15**



### WELDING GAGE



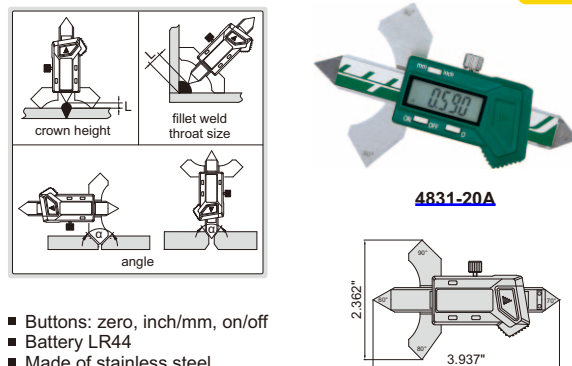
**4830-E**

- Made of stainless steel

Part No.	Measurement	Range	Graduation	Accuracy
<b>4830-E</b>	crown height	0-5/16"	1/128"	±.0039"
	fillet weld throat size	0-9/16"	1/128"	±.0118"
	angle	60°, 70°, 80°, 90°	—	±1°

### DIGITAL WELDING GAGE

ATTENTION:  
NO DATA OUTPUT



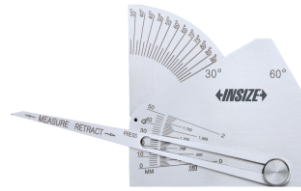
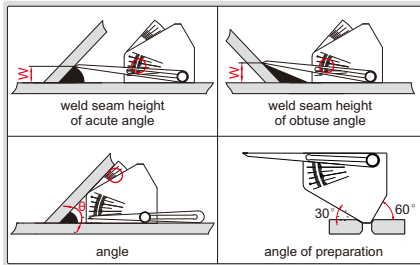
**4831-20A**

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

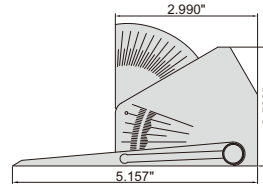
Part No.	Measurement	Range	Resolution	Accuracy
<b>4831-20A</b>	crown height	0-.4"/0-7mm	.0005"/0.01mm	±.0012"
	fillet weld throat size	0-.8"/0-20mm	.0005"/0.01mm	±.0039"
	angle	60°, 70°, 80°, 90°	—	±1°

## FILLET WELDING GAGE

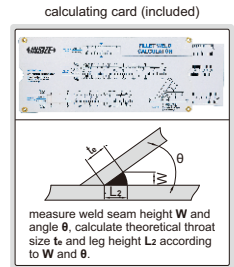
- Calculating card is included
- Made of stainless steel



4846-1



Part No.	Measurement	Range	Graduation	Accuracy
4846-1	weld seam height $W$	0-2"/0-50mm	.050"/2mm	$\pm 0.025"$
	angle $\theta$	30°-90°	2.5°	$\pm 1^\circ$
	60° angle	—	—	$\pm 0.5^\circ$

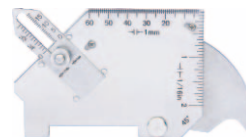


## WELDING GAGE

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

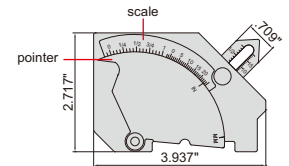


front

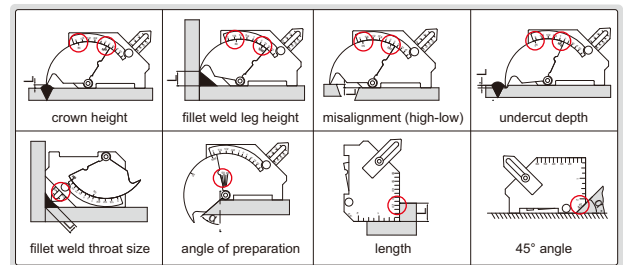


back

4835-1

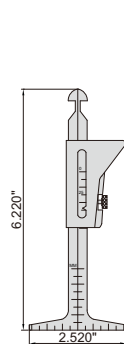


Part No.	Measurement	Range	Graduation	Accuracy
4835-1	crown height	0-1" (0-25mm)	1/16" (1mm)	$\pm 0.02"$
	fillet weld leg height	0-1" (0-25mm)	1/16" (1mm)	$\pm 0.02"$
	misalignment (high-low)	0-1" (0-25mm)	1/16" (1mm)	$\pm 0.02"$
	undercut depth	0-1/8" (0-2mm)	1/16" (1mm)	$\pm 0.02"$
	fillet weld throat size	0-3/4" (0-20mm)	1/16" (1mm)	$\pm 0.02"$
	angle of preparation	0-60°	5°	$\pm 1^\circ$
	length	0-2" (0-60mm)	1/16" (1mm)	$\pm 0.02"$
	45° angle	—	—	$\pm 1^\circ$



## PIPE WELDING GAGE

- Made of stainless steel

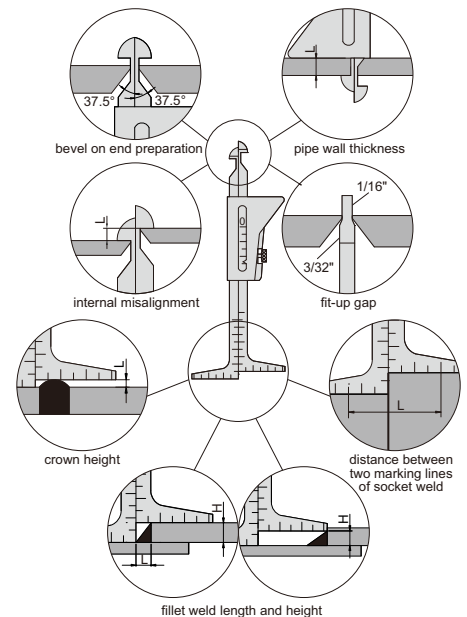


front



back

4839-1



Part No.	Measurement	Range	Graduation	Accuracy
4839-1	bevel on end preparation	37.5°	—	$\pm 1^\circ$
	pipe wall thickness	0~1-3/4" (0-45mm)	1/16" (1mm)	$\pm 0.02"$
	internal misalignment	0~1-3/8" (0-35mm)	1/32" (1mm)	$\pm 0.02"$
	fit-up gap	1/16", 3/32"	—	$\pm 0.004"$
	crown height	0~1-3/8" (0-35mm)	1/32" (1mm)	$\pm 0.02"$
	distance between two marking lines of socket weld	0~2-3/8" (0-60mm)	1/16" (1mm)	$\pm 0.02"$
	fillet weld length	0~1-1/4" (0-30mm)	1/16" (1mm)	$\pm 0.02"$
	fillet weld height	0~1-3/8" (0-35mm)	1/32" (1mm)	$\pm 0.02"$

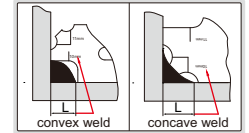
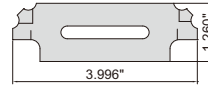


## FILLET WELDING GAGE



**4836-2**

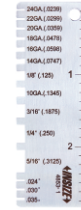
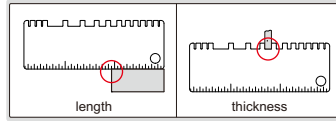
- Measure concave and convex weld sizes
- 7 blades are included
- Made of stainless steel



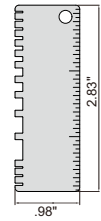
Part No.	Size	Accuracy
<b>4836-2</b>	1/8" (3.2mm), 3/16" (4.8mm), 1/4" (6.4mm), 5/16" (7.9mm), 3/8" (9.5mm), 7/16" (11.1mm), 1/2" (12.7mm), 5/8" (15.9mm), 3/4" (19.1mm), 7/8" (22.2mm), 1" (25.4mm)	±.02" (0.5mm)

## THICKNESS GAGE

- Made of stainless steel

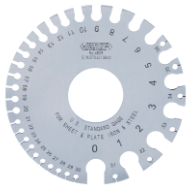


**4853-1**

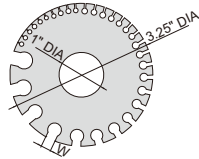


Part No.	Measurement	Range	Graduation	Accuracy
<b>4853-1</b>	length	0-2 3/4"	1/16"	1/32"
	thickness	24GA.(.0239"), 22GA.(.0299"), 20GA.(.0359")	—	±.002"
		18GA.(.0478"), 16GA.(.0598"), 14GA.(.0747"), 1/8"(.125"), 10GA.(.1345"), 3/16"(.1875"), 1/4"(.250"), 5/16"(.3125")		±.004"
	.024", .030", .035"		±.002"	

## U.S. STANDARD SHEET METAL GAGE



**4809**



- For gaging sheet metal, plate iron and steel
- Hardened to HRC50-57

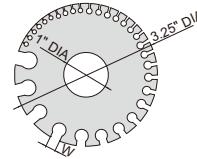
No.	W	No.	W
0	.3125"	18	.0500"
1	.2813"	19	.0438"
2	.2656"	20	.0375"
3	.2500"	21	.0344"
4	.2344"	22	.0313"
5	.2188"	23	.0281"
6	.2031"	24	.0250"
7	.1875"	25	.0219"
8	.1719"	26	.0188"
9	.1563"	27	.0172"
10	.1406"	28	.0156"
11	.1250"	29	.0141"
12	.1094"	30	.0125"
13	.0938"	31	.0109"
14	.0781"	32	.0102"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

Part No.	Range
<b>4809</b>	0-36 (.3125-.0070")

## AMERICAN STANDARD WIRE GAGE



**4808**



- For gaging non-ferrous wire and metals such as copper, brass and aluminum
- Hardened to HRC50-57

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

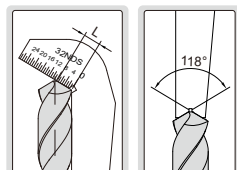
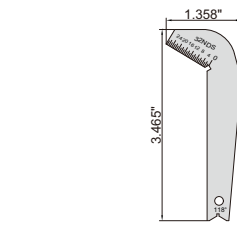
Part No.	Range
<b>4808</b>	0-36 (.3249-.0050")

## DRILL POINT GAGE



**4843-1E**

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



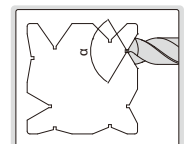
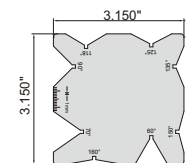
Part No.	Accuracy	
	Angle	Length
<b>4843-1E</b>	±0.5°	±.02"

## DRILL ANGLE GAGE



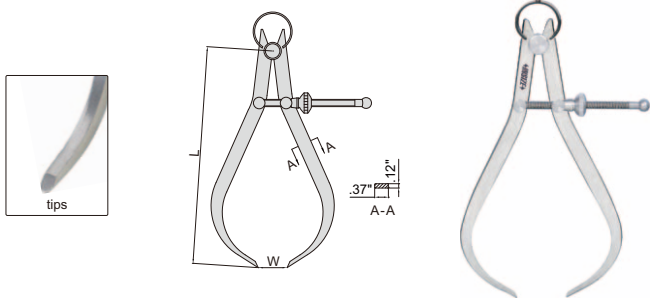
**4842-1**

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



Part No.	Accuracy
<b>4842-1</b>	±0.5°

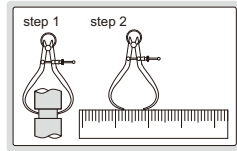
**OUTSIDE SPRING CALIPERS**



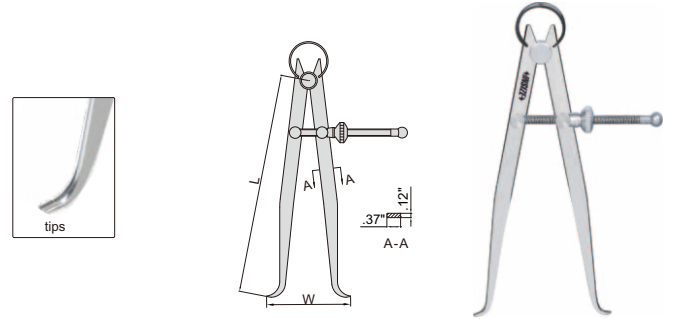
■ Made of carbon steel

**7262-150**

Part No.	Size (L)	Range (W)
<a href="#">7262-150</a>	6"	0-5.51"
<a href="#">7262-200</a>	8"	0-8.27"
<a href="#">7262-250</a>	10"	0-10.63"
<a href="#">7262-300</a>	12"	0-12.60"



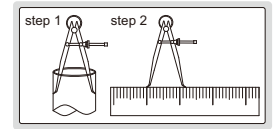
**INSIDE SPRING CALIPERS**



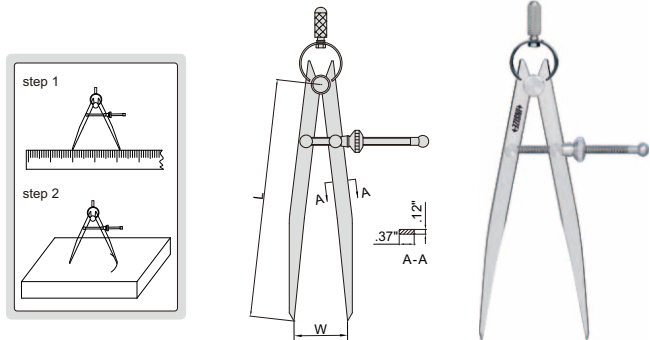
■ Made of carbon steel

**7261-150**

Part No.	Size (L)	Range (W)
<a href="#">7261-150</a>	6"	.79-6.69"
<a href="#">7261-200</a>	8"	.87-8.66"
<a href="#">7261-250</a>	10"	1.18-10.63"
<a href="#">7261-300</a>	12"	1.18-12.60"



**SPRING DIVIDERS**

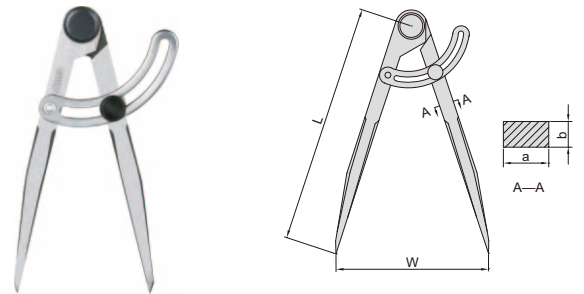


Part No.	Size (L)	Range (W)
<a href="#">7260-150</a>	6"	0-5.91"
<a href="#">7260-200</a>	8"	0-8.27"
<a href="#">7260-250</a>	10"	0-10.24"
<a href="#">7260-300</a>	12"	0-12.60"

**7260-150**

■ Made of carbon steel  
■ Hardened points

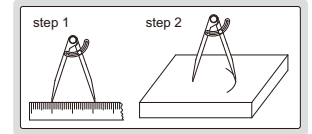
**DIVIDERS**



**7247-150**

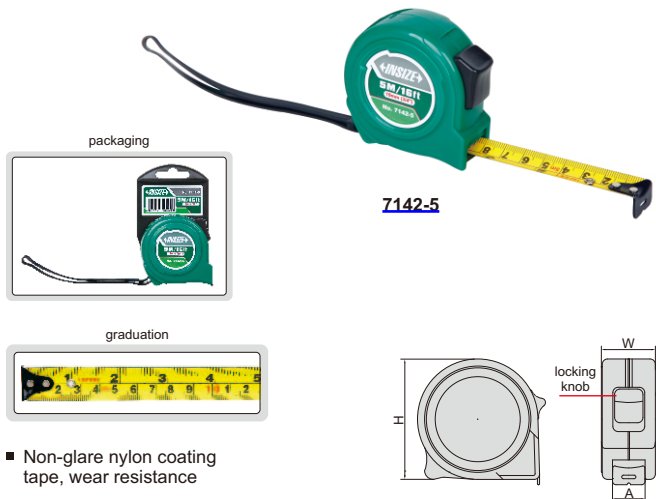
■ Made of carbon steel  
■ Hardened points

Part No.	Size (L)	Range (W)	a	b
<a href="#">7247-150</a>	6"	0-5.51"	.33"	.28"
<a href="#">7247-200</a>	8"	0-7.48"	.39"	.28"
<a href="#">7247-300</a>	12"	0-11.42"	.47"	.28"



**MEASURING TAPE (BASIC TYPE)**

**EG II**



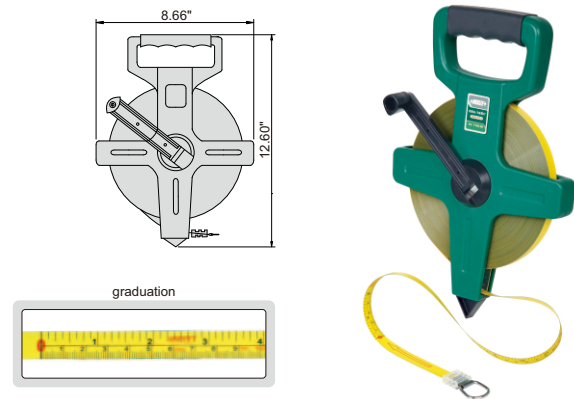
**7142-5**

■ Non-glare nylon coating tape, wear resistance

Part No.	Range	Graduation	Width of tape A	W	H
<a href="#">7142-5</a>	0-16ft/0-5m	1/16", 1mm	.75"	1.22"	2.52"

**LONG MEASURING TAPE**

**EG II**



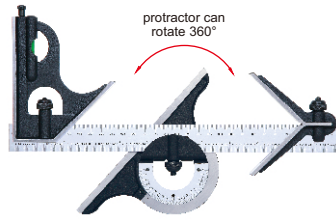
**7143-50**

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

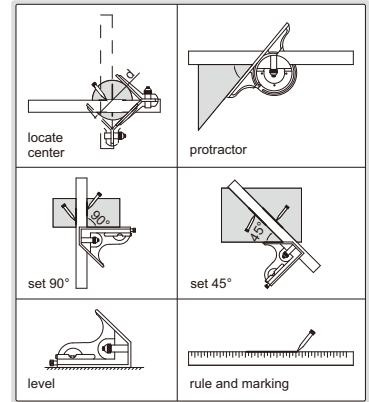
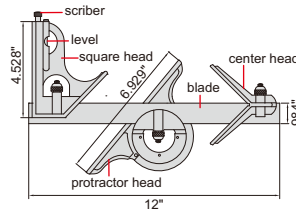
Part No.	Range	Graduation	Width of tape
<a href="#">7143-50</a>	0-165ft/0-50m	1/8", 1mm	.51"

## COMBINATION SQUARE SET

- Center head (made of cast iron): to locate center of cylinders with diameter (d): 1.181" DIA-3.937" DIA accuracy:  $\pm 0.006"$
- Protractor head (made of cast iron): set the blade at desired angle to an edge of a workpiece, and can be used to measure angles range: 0-180° accuracy:  $\pm 20\text{min.}$
- Square head (made of cast iron): set the blade at 90° or 45° to an edge of a workpiece accuracy:  $\pm 8\text{min.}$  for 90° square,  $\pm 10\text{min.}$  for 45° square
- Blade (made of stainless steel): range: 12"/300mm, graduation: 1/32" and 0.5mm on front face, 1/64" and 1mm on back face
- Optional accessory: rigid rule (part no. 7113)



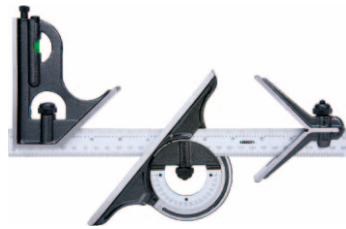
2274-4



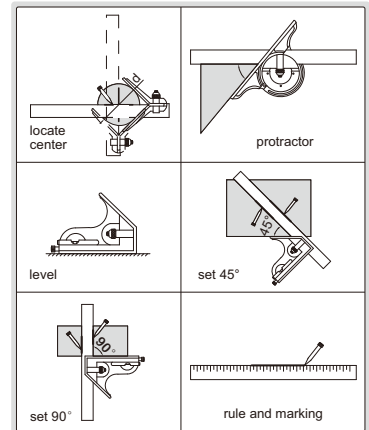
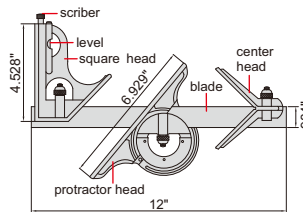
Part No.	Remark
2274-4	4-piece set

## COMBINATION SQUARE SETS

- Center head (made of cast iron): to locate center of cylinder with diameter (d): 1.181" DIA~3.937" DIA accuracy:  $\pm 0.006"$
- Protractor head (made of cast iron): set the blade at desired angle to an edge of a workpiece, and can be used to measure angles range: 0-180°, accuracy:  $\pm 20\text{min.}$
- Square head (made of cast iron): set the blade at 90° or 45° to an edge of a workpiece accuracy:  $\pm 8\text{min.}$  for 90° square,  $\pm 10\text{min.}$  for 45° square
- Optional accessory: rigid rule (part no. 7113)



2278-180



Part No.	Remark	Blade Range	Blade Graduation
2278-180	4 piece set	12"/300mm	1/32" and 0.5mm on front face, 1/64" and 1mm on back face
2278-180E	4 piece set	12"	1/8" and 1/16" on front face, 1/32" and 1/64" on back face

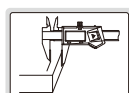
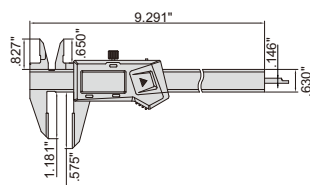
## DIGITAL SCRIBING CALIPER

DATA OUTPUT



1166-150A

- The carbide-tipped jaws facilitate scribing on workpieces
- 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. 7315-21, 7302-21)

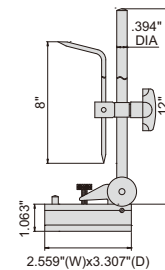


Part No.	Range	Resolution	Accuracy
1166-150A	0-6"/0-150mm	.0005"/0.01mm	$\pm 0.015"$

## HEIGHT SCRIBER

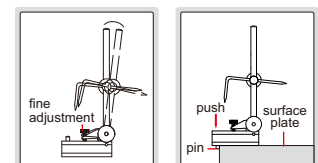


6990-300A



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

Part No.
6990-300A



**SCRIBERS**

- 7230 and 7231 are nickel plated, 7232 is zinc-plated

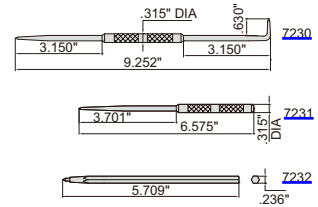
Part No.	Tip
7230	hardened tips
7231	hardened tip
7232	carbide tip



7230

7231

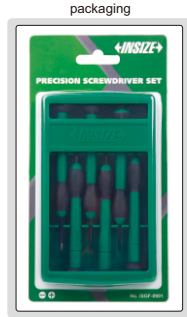
7232



**PRECISION SCREWDRIVER SET  
PART NO. ISGF-0901**



ISGF-0901



- Includes:
  - 4 pcs "-": .055"/1.4mm, .079"/2.0mm, .094"/2.4mm, .118"/3.0mm
  - 2 pcs "+": 0#, 1#
  - Rotating cap
  - Material: CRV, hardness: HRC52~56

**2-PIECE MEASURING TOOL SET**

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



5002-4E

Part No.

5002-4E

**2-PIECE MEASURING TOOL SET**

- Includes:
  - 1) Digital caliper, range 0-6"/0-150mm, resolution .0005"/0.01mm (part no. 1108-150)
  - 2) Digital outside micrometer, range 0-1"/0-25mm, resolution .00005"/0.001mm (part no. 3109-25E)



5022-E

Part No.

5022-E

**2-PIECE MEASURING TOOL SET**

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



5023-E

Part No.

5023-E

**3-PIECE MEASURING TOOL SET**

- Includes:
  - 1) Digital 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)



5003-1E

Part No.

5003-1E

**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)



5003-1

Part No.

5003-1



### 5-PIECE MEASURING TOOL SET

- Includes:
  - Digital caliper, range 0-6"/0-150mm, resolution .0005"/0.01mm (part no. **1108-150**)
  - Digital outside micrometer, range 0-1"/0-25mm, resolution .00005"/0.001mm (part no. **3109-25E**)
  - Digital indicator, range .5"/12.7mm, resolution .0005"/0.01mm (part no. **2112-10E**)
  - Magnetic stand (part no. **6201-60**)
  - Micrometer stand (part no. **6300**)



**5052-E**

Part No.

**5052-E**

### 13-PIECE MEASURING TOOL SET

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



**5013-E**

Part No.

**5013-E**

### GRANITE SURFACE PLATES

ADDITIONAL CUSTOM SIZES UP TO 6.5' AVAILABLE ON REQUEST

- Made of granite, free from deterioration or dimensional change over time, minimal changes in dimension due to temperature changes
- Meet GGG-P-463C
- Optional accessory: stand for granite surface plate (part no. **6902**), jack for granite surface plate (part no. **6903**)



**6900-A11**



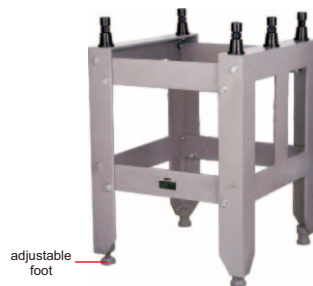
#### Grade A

Part No.	Size (WxLxH)	Flatness	Weight (lb)	Max. load (lb)
<b>6900-A11*</b>	12x18x3"	.00012"	32	110
<b>6900-A12*</b>	18x24x3"	.00013"	64	143
<b>6900-A23*</b>	24x36x4"	.00015"	170	440
<b>6900-A34*</b>	36x48x6"	.00018"	510	1102

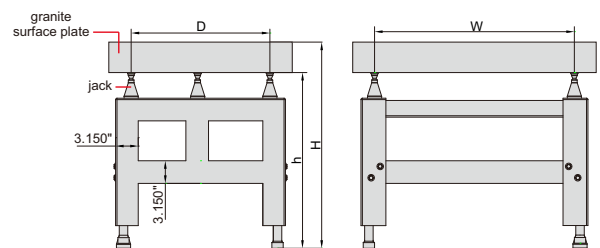
\*Supplied with manufacturer inspection certificate

### STANDS FOR GRANITE SURFACE PLATE

- For medium size granite surface plates
- 5 jacks are included
- Adjusting range of jacks: 1"
- One foot on the bottom is adjustable



**6902-64A**



#### Low stands

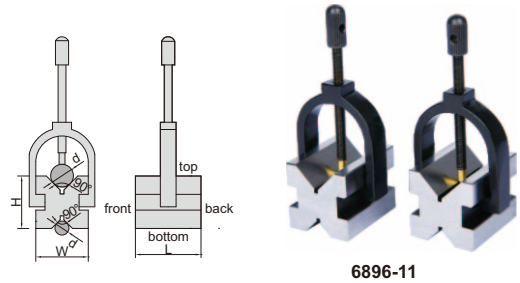
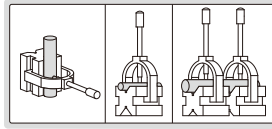
Part No.	For granite surface plate	W	D	H (with granite surface plate)	h (without granite surface plate)
<b>6902-64A</b>	12x18x3" (part no. <b>6900-A11</b> )	13.858"	8.819"	30.512"-31.496"	27.362"-28.346"
<b>6902-85A</b>	18x24x3" (part no. <b>6900-A12</b> )	17.638"	11.024"	30.512"-31.496"	26.575"-27.559"
<b>6902-106A</b>	24x36x4" (part no. <b>6900-A23</b> )	22.047"	13.858"	29.724"-30.709"	24.213"-25.197"

#### High stands

Part No.	For granite surface plate	W	D	H (with granite surface plate)	h (without granite surface plate)
<b>6902-64H</b>	12x18x3" (part no. <b>6900-A11</b> )	13.858"	8.819"	39.370"-40.354"	36.220"-37.205"
<b>6902-85H</b>	18x24x3" (part no. <b>6900-A12</b> )	17.638"	11.024"	39.370"-40.354"	35.433"-36.417"
<b>6902-106H</b>	24x36x4" (part no. <b>6900-A23</b> )	22.047"	13.858"	39.370"-40.354"	33.858"-34.843"

## V-BLOCK SETS

- Squareness of both V grooves to front and back sides .0002"
- 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

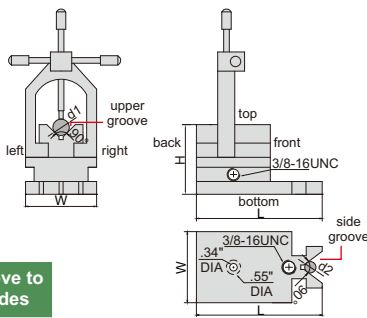


6896-11

Part No.	Size (LxWxH)	Range of shafts (d)	Parallelism of both V grooves to top and bottom sides	Height difference of a matched pair
<a href="#">6896-11</a>	2.0x1.6x1.6"	.20-1.18" DIA	.0002"	.0002"
<a href="#">6896-12</a>	3.1x2.5x2.5"	.28-2.48" DIA	.0002"	.0002"
<a href="#">6896-13</a>	3.9x3.1x3.1"	.28-3.15" DIA	.0002"	.0002"

## V-BLOCK

- Hold cylindrical workpieces for inspection and machining
- Made of alloy steel
- Hardened to HRC60±2
- Range of shafts (d1 and d2) .20"-1.30" DIA
- Squareness of upper groove to back side .0002"
- Parallelism of side groove to back side .0002"



6804-1



the adjustable screw can support the block and prevent tilting

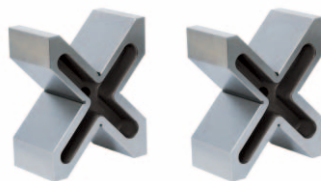


side groove is for shouldered studs and pins

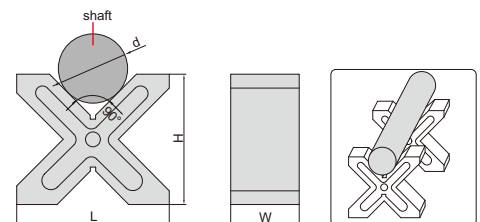
Part No.	Size (LxWxH)	Parallelism of upper groove to bottom, left and right sides
<a href="#">6804-1</a>	3.5"x1.9"x1.9"	.0002"

## V-BLOCK SETS

- For positioning cylindrical workpieces
- Two V-blocks per set
- Each V-block has four 90° V-grooves
- Hardness HB170-241

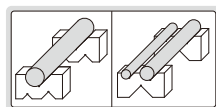


6805-2

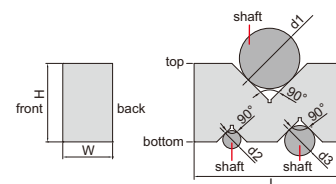


Part No.	Size (LxHxW)	Range of shafts (d)	Parallelism of four V grooves to all sides	Height difference of a matched pair
<a href="#">6805-1</a>	5.906x5.118x2.953"	.315-4.724" DIA	.0006"	.0008"
<a href="#">6805-2</a>	7.874x6.693x3.543"	.472-7.087" DIA	.0006"	.0008"

## V-BLOCK SETS



6887-3



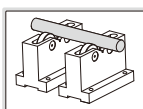
- Two V-blocks per set
- Made of hardened tool steel

Part No.	Size (LxWxH)	Range of shafts (d1)	Range of shafts (d2)	Range of shafts (d3)
<a href="#">6887-1</a>	2.0x.7x.9"	.12-1.26" DIA	.12-.63" DIA	.12-.87" DIA
<a href="#">6887-2</a>	3.0x.9x1.4"	.12-1.97" DIA	.12-.79" DIA	.12-1.26" DIA
<a href="#">6887-3</a>	3.9x1.3x2.0"	.12-2.68" DIA	.12-1.02" DIA	.12-1.57" DIA
<a href="#">6887-4</a>	4.9x1.7x2.7"	.12-3.43" DIA	.12-1.34" DIA	.12-1.97" DIA

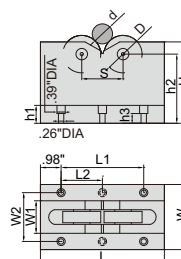
Part No.	Parallelism of three V grooves to top and bottom sides	Height difference of a matched pair
<a href="#">6887-1</a>	.0002"	.0002"
<a href="#">6887-2</a>	.0002"	.0002"
<a href="#">6887-3</a>	.0002"	.0002"
<a href="#">6887-4</a>	.0002"	.0002"

## ROLLER BEARING V-BLOCK SETS

- Runout accuracy .0002"
- Parallelism of bearings to bottom .00047"
- Two V-blocks per set
- Workpieces don't get damaged due to bearings
- Suitable for heavy workpieces



6888-1



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

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"

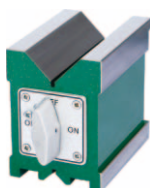
## MAGNETIC V-BLOCKS (PROFESSIONAL TYPE)

**STRONG  
MAGNETIC FORCE**

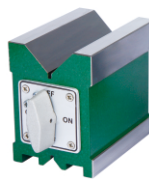
**HIGH  
PRECISION**

**HARDENED  
SURFACES**

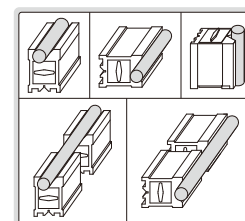
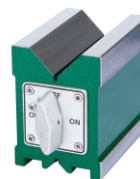
- Hardened, high accuracy, strong magnetic force, for grinding, light milling, drilling and inspection of round and square jobs
- All working surfaces are hardened to HRC60±2
- Magnetic force on top, bottom and two V grooves
- V groove on the top for large shafts
- V groove on the bottom for small shafts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



6889-11

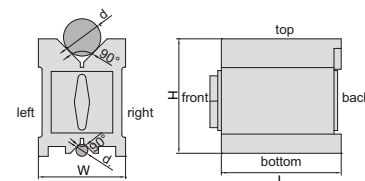


6889-1



### Individual

Part No.	Size (LxWxH)	Range of shafts (d)	Magnetic force	Parallelism of V groove to top, bottom, left, right sides	Squareness of V groove to back side
6889-11	3.0x2.2x3.0"	.20-1.57"DIA	187lbf	.00020"	.00020"
6889-33	5.9x3.0x3.9"	.20-2.76"DIA	419lbf	.00024"	.00024"

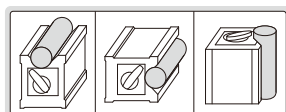


### Matched pair

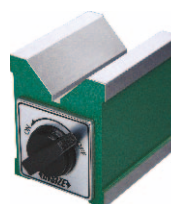
Part No.	Size (LxWxH)	Range of shafts (d)	Magnetic force	Parallelism of V grooves to top, bottom, left, right sides	Squareness of V grooves to back side	Height difference of a matched pair
6889-1	3.0x2.2x3.0"	.20-1.57"DIA	187lbf	.0002"	.0002"	.0002"
6889-2	3.9x2.8x3.7"	.20-2.56"DIA	330lbf	.0002"	.0002"	.0002"

## MAGNETIC V-BLOCK (ECONOMIC TYPE)

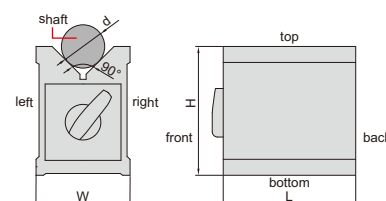
**ATTENTION: NOT SUITABLE FOR STEEL OR IRON SURFACES, OTHERWISE THE MAGNETIC FORCE WILL BE REDUCED**



- Squareness of V groove to back side .0004"
- Parallelism of V groove to top, bottom, left and right sides .0004"
- Hold cylindrical workpieces for inspection and machining
- Supplied in single piece
- Not hardened
- Not suitable for steel or iron surface, otherwise the magnetic force will be reduced



6890-702



**ATTENTION:  
NOT HARDENED**

Part No.	Size (LxWxH)	Range of shafts (d)	Magnetic force
6890-702	2.8x2.4x2.9"	.24-1.73" DIA	123lbf

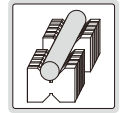
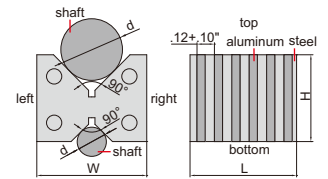
## MAGNETIC INDUCTION V-BLOCK SET (ECONOMIC TYPE)

**ATTENTION: NO HARDENED SURFACE, DO NOT ROTATE WORKPIECES ON V-BLOCKS**

- Parallelism of both V grooves to top and bottom sides .0004"
- Height difference of a matched pair .0004"
- Hold cylindrical workpieces for inspection and machining
- To be used on magnetic chucks
- Two V-blocks per set
- V groove on the top for large shafts
- V groove on the bottom for small shafts
- Hardness HRB70



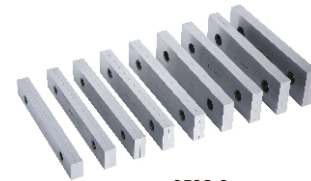
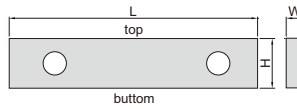
6899-1



Part No.	Size (LxWxH)	Range of shafts (d)	Pole pitch
6899-1	2.2x2.4x1.9"	.24-1.97" DIA	.12±.10"

## PARALLEL SETS

- Parallelism between top and bottom .0003"
- Height difference of a matched pair .0003"
- Hardened HRC55-62
- With two holes in each parallel



6532-9

Part No.	Quantity	Length (L)	Thickness (W)	Height (H)
6532-10	10 pairs	6"	1/8"	1/2, 5/8, 3/4, 7/8, 1, 1-1/8, 1-1/4, 1-3/8, 1-1/2, 1-5/8"
6532-9	9 pairs	6"	1/4"	3/4, 7/8, 1, 1-1/8, 1-1/4, 1-3/8, 1-1/2, 1-5/8, 1-3/4"

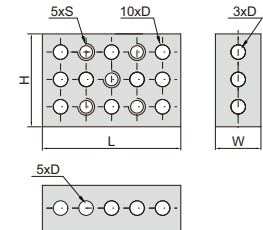
## 1-2-3/2-4-6 BLOCKS

- Parallelism .0004"
- Height difference of a matched pair .0004"
- Pairs of matched blocks for positioning and set-up
- Screws and wrench are included
- Hardness HRC 55-62

screws and wrench are included

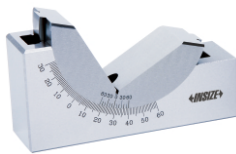


6531-5



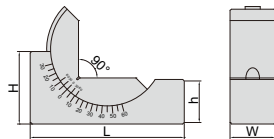
Part No.	Size (LxHxW)	Size accuracy	Squareness	S	D
6531-5	3x2x1"	±.0004"	.0001"/per inch	3/8-16UNC	.35"DIA
6531-8	6x4x2"	±.0005"	.0003"/per inch	5/8-11UNC	.63"DIA

## ADJUSTABLE ANGLE BLOCKS



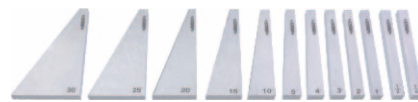
6535-30

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



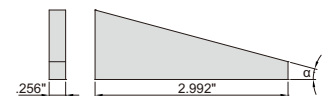
Part No.	Size (LxWxH)	h	Adjustable angle
6535-25	3.0x1.0x1.4"	.98"	30°~0°~60°
6535-30	4.0x1.2x1.9"	1.18"	30°~0°~60°

## ANGLE PLATE SETS



4006-12

- Accuracy: ±20 seconds
- For angle set-up in tooling, production and inspection
- Hardness HRC52

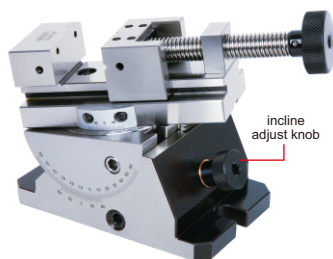


Part No.	Angle plates included	Angle α
4006-10	10 pcs	1°, 2°, 3°, 4°, 5°, 10°, 15°, 20°, 25°, 30°
4006-12	12 pcs	1/4°, 1/2°, 1°, 2°, 3°, 4°, 5°, 10°, 15°, 20°, 25°, 30°

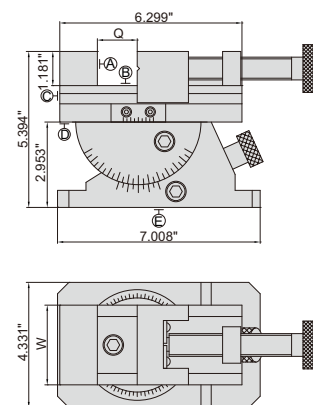


## PRECISION UNIVERSAL VISE

- Horizontal rotary: range 360°, graduation 0.05°
- Vertical incline: range 45°, graduation 0.05°
- With incline adjust knob
- Parallelism and squareness between A, B, C and D: 50µin/per inch, parallelism between D and E at 0°: 100µin/per inch
- Made of tool steel
- Hardness HRC56-58

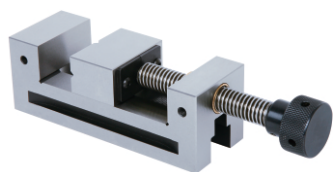
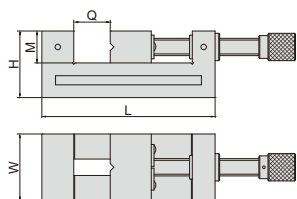


6521-80



Part No.	Jaw opening (Q)	Jaw width (W)
6521-80	0-3.1"	2.756"

## PRECISION VISES



6520-73A

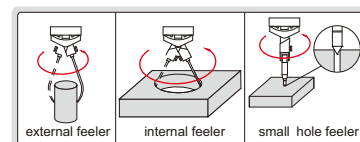
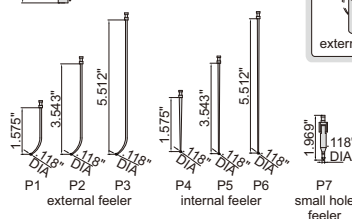
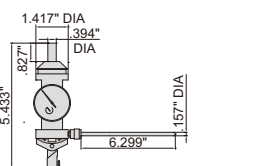
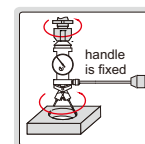
- Parallelism: 80µin/per inch
- Squareness: 100µin/per inch
- Made of alloy steel, hardness HRC56-58

Part No.	Jaw opening (Q)	Jaw width (W)	L	H	M
6520-73A	0-2.9"	2.480"	6.929"	2.480"	1.181"
6520-76A	0-3.0"	2.874"	7.480"	2.874"	1.378"
6520-120A	0-4.7"	3.858"	10.039"	3.228"	1.575"

## CENTERING INDICATOR



2385-3

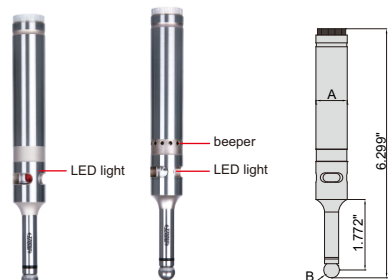
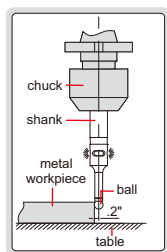


Feeler	Measuring diameter	Accuracy
P1	0-2.362" DIA	.00060"
P2	0-6.299" DIA	.00080"
P3	0-9.843" DIA	.00120"
P4	.126-3.150" DIA	.00060"
P5	.126-7.087" DIA	.00076"
P6	.126-11.024" DIA	.00120"
P7	0-.110" DIA	.00060"

- Provides quick and accurate centering in boring and milling set-up
- Maximum speed is recommended not to exceed 800RPM

Part No.  
2385-3

## ELECTRONIC EDGE FINDERS



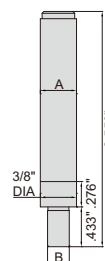
6566-2E

6566-3E

- Accuracy .0002"
- 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

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

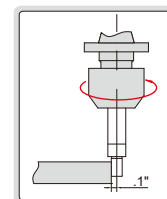
## EDGE FINDER



6567-1E

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

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



**DIGITAL HORIZONTAL SCALES**

DATA OUTPUT

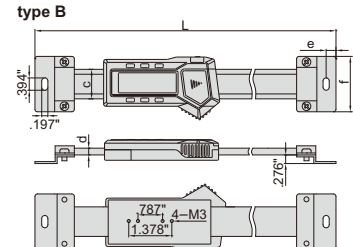
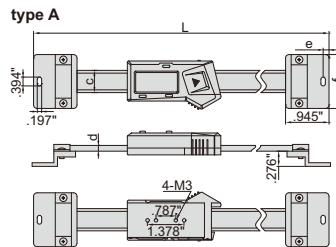


**7101-300A**

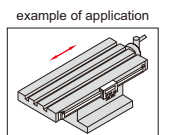
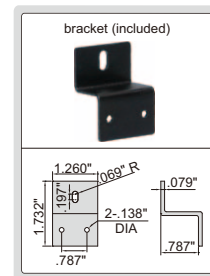


**7101-400A**

- Resolution .0005"/0.01mm
- Button type A: on/off, zero, inch/mm, type B: on/off, zero, inch/mm, ABS, data preset
- Automatic power off, move the digital unit to turn on power
- Battery CR2032, data output
- Made of stainless steel
- Supplied with bracket to be mounted on the back

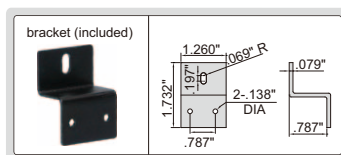


Part No.	Range	Type	Accuracy	L	c	d	e	f	Data output cable (optional)
<a href="#">7101-100A</a>	4"/100mm	A	±.0010"	8.465"	.630"	.157"	.236"	1.417"	<b>7315-21, 7302-21</b>
<a href="#">7101-150A</a>	6"/150mm	A	±.0015"	10.433"	.630"	.157"	.236"	1.417"	<b>7315-21, 7302-21</b>
<a href="#">7101-200A</a>	8"/200mm	A	±.0015"	12.402"	.630"	.157"	.236"	1.417"	<b>7315-21, 7302-21</b>
<a href="#">7101-300A</a>	12"/300mm	A	±.0015"	17.520"	.630"	.157"	.236"	1.417"	<b>7315-21, 7302-21</b>
<a href="#">7101-400A</a>	16"/400mm	B	±.0020"	23.228"	.945"	.217"	.315"	1.772"	<b>7315-22, 7302-22</b>
<a href="#">7101-500A</a>	20"/500mm	B	±.0020"	27.165"	.945"	.217"	.315"	1.772"	<b>7315-22, 7302-22</b>
<a href="#">7101-600A</a>	24"/600mm	B	±.0030"	31.102"	.945"	.217"	.315"	1.772"	<b>7315-22, 7302-22</b>
<a href="#">7101-800A</a>	32"/800mm	B	±.0040"	38.976"	.945"	.217"	.315"	1.772"	<b>7315-22, 7302-22</b>
<a href="#">7101-1000A</a>	40"/1000mm	B	±.0040"	46.819"	1.220"	.413"	.394"	2.362"	<b>7315-22, 7302-22</b>

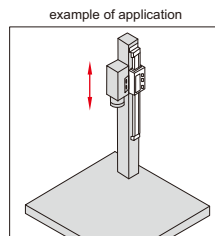


**DIGITAL VERTICAL SCALES**

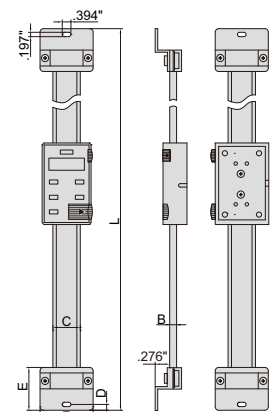
DATA OUTPUT



- Resolution .0005"/0.01mm
- Buttons: on/off, zero, inch/mm, ABS/INC, data hold, TOL, set
- Battery LR44
- Made of stainless steel
- Data output
- Supplied with bracket to be mounted on the back
- Optional accessory: wireless transmitter (part no. 7315-1150), data output cable (part no. 7302-SPC7, keyboard format)

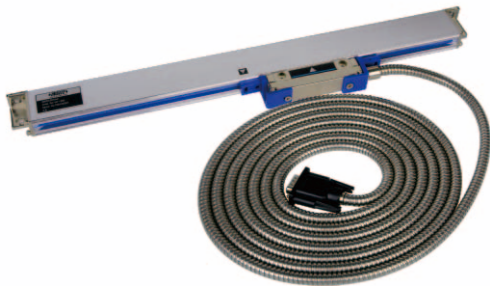


**7102-300**



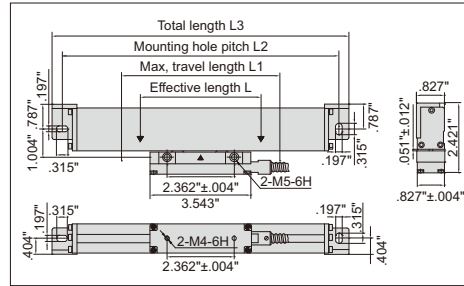
Part No.	Range	Accuracy	B	C	D	E	F	L
<a href="#">7102-150</a>	6"/150mm	±.0015"	.157"	.787"	.236"	.945"	1.575"	11.654"
<a href="#">7102-300</a>	12"/300mm	±.0015"	.157"	.787"	.236"	.945"	1.575"	17.520"
<a href="#">7102-500</a>	20"/500mm	±.0020"	.217"	.945"	.315"	1.260"	1.772"	26.969"

## LINEAR SCALES

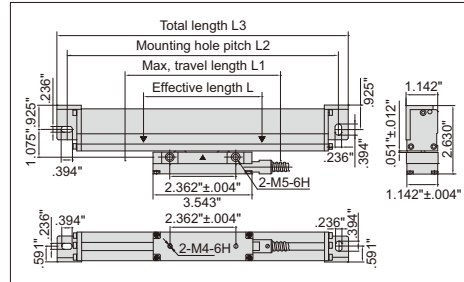


**ISL-A5-300**

Series ISL-A5

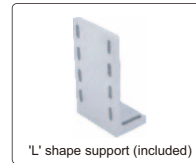
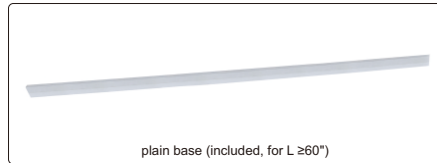
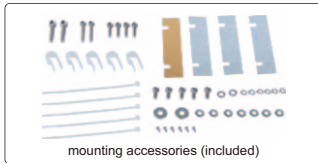


Series ISL-B5



Effective length (L)	Part No.
	Series ISL-A5
	Thin type
8"/200mm	<a href="#">ISL-A5-200</a>
10"/250mm	<a href="#">ISL-A5-250</a>
12"/300mm	<a href="#">ISL-A5-300</a>
14"/350mm	<a href="#">ISL-A5-350</a>
16"/400mm	<a href="#">ISL-A5-400</a>
18"/450mm	<a href="#">ISL-A5-450</a>
20"/500mm	<a href="#">ISL-A5-500</a>
24"/600mm	<a href="#">ISL-A5-600</a>
30"/750mm	<a href="#">ISL-A5-750</a>
32"/800mm	<a href="#">ISL-A5-800</a>
40"/1000mm	<a href="#">ISL-A5-1000</a>

Effective length (L)	Part No.
	Series ISL-B5
	Thick type
20"/500mm	<a href="#">ISL-B5-500</a>
24"/600mm	<a href="#">ISL-B5-600</a>
28"/700mm	<a href="#">ISL-B5-700</a>
32"/800mm	<a href="#">ISL-B5-800</a>
36"/900mm	<a href="#">ISL-B5-900</a>
40"/1000mm	<a href="#">ISL-B5-1000</a>
44"/1100mm	<a href="#">ISL-B5-1100</a>
48"/1200mm	<a href="#">ISL-B5-1200</a>
52"/1300mm	<a href="#">ISL-B5-1300</a>
60"/1500mm	<a href="#">ISL-B5-1500</a>
64"/1600mm	<a href="#">ISL-B5-1600</a>
68"/1700mm	<a href="#">ISL-B5-1700</a>
80"/2000mm	<a href="#">ISL-B5-2000</a>



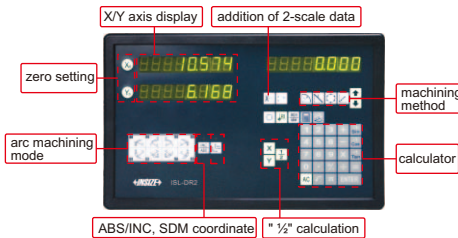
### SPECIFICATION

Part No.	Series ISL-A5		Series ISL-B5	
L1 (inch)	L+1.18" (L<38")	L+1.97" (L≥38")	L+1.18" (L<38")	L+1.97" (L≥38")
L2 (inch)	L+5.20" (L<38")	L+5.98" (L≥38")	L+5.35" (L<38")	L+6.14" (L≥38")
L3 (inch)	L+5.87" (L<38")	L+6.65" (L≥38")	L+6.06" (L<38")	L+6.85" (L≥38")
Resolution	.0002"		.0002"	
Max. response speed	295ft/min		196ft/min	
Scale grating pitch	787µin			
Scale reference point pitch	1.97"			
Accuracy	±(197+5L)µin L is the effective length in inch			
Cable length	140" (L: 2-38"), 200" (L: 40-60"), 400" (L: 64-128")			

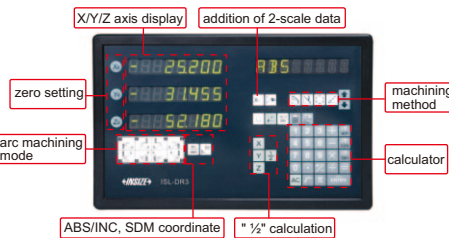
### STANDARD DELIVERY

Main unit	1 pc
'L' shape support	1 pc
Anti-dust cover	1 pc
Plain base	1 pc (for L≥60")
Mounting accessories	1 package

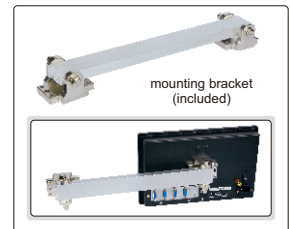
## DIGITAL READOUTS



**ISL-DR2**



**ISL-DR3**



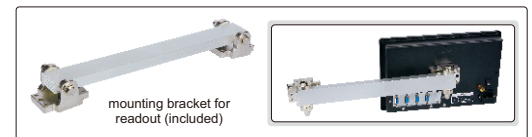
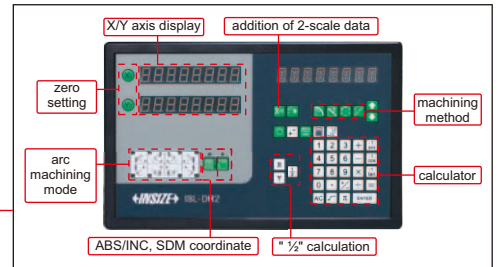
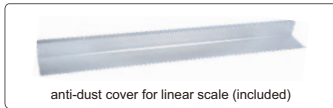
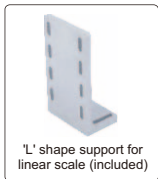
### SPECIFICATION

Part No.	ISL-DR2	ISL-DR3
Application	two-axis	three-axis
Scale input ports	2	3
Resolution	.000002", .000005", .00001", .00002", .00005", .0001", .0002", .0005", .001", .002"	
Functions	addition of 2-scale data, linearity error compensation, smoothing, RS232C interface unit, BCD code out, zero setting, preset, resolution setting, counting direction setting, inch/mm conversion, ABS/INC conversion, expansion/contraction coefficient setting, "1/2" calculation, detecting RI, bolt-hole circle machining, ramp circle machining	
Power supply	110/220V, 50/60Hz	
Dimension	11.61×7.28×1.77"	
Weight	3.20lb	

### STANDARD DELIVERY

Main unit	1 pc
Mounting bracket	1 pc
Ground cable	1 pc
RS232C cable	1 pc
Software CD for RS232C	1 pc

## LINEAR SCALE AND READOUT SET FOR LATHE PART NO. ISL-SET1



### READOUT SPECIFICATION

Application	two-axis
Scale input ports	2
Resolution	.00005"
Functions	addition of 2-scale data, linearity error compensation, smoothing, RS232C interface unit, BCD code out, zero setting, preset, resolution setting, counting direction setting, inch/mm conversion, ABS/INC conversion, expansion/contraction coefficient setting, "1/2" calculation, detecting RI, bolt-hole circle machining, ramp circle machining
Power supply	110/220V, 50/60Hz
Dimension	11.61×7.28×1.77"
Weight	3.20lb

### LINEAR SCALE SPECIFICATION

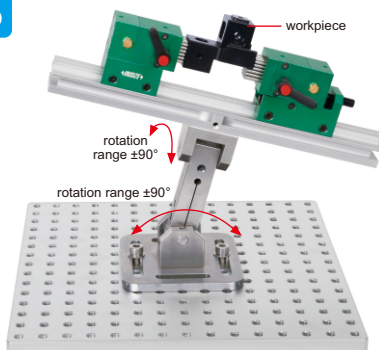
X-axis	8"
Y-axis	40"
Max. response speed	164ft/min
Scale grating pitch	787μin
Scale reference point pitch	1.97"
Accuracy	±(197+5L)μin L is the effective length in inch
Cable length	8" scale: 140", 40" scale: 200"

### STANDARD DELIVERY

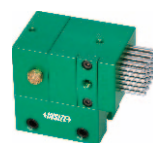
Readout box	1 pc
8" linear scale	1 pc
40" linear scale	1 pc
Mounting bracket for readout	1 pc
Ground cable for readout	1 pc
RS232C cable for readout	1 pc
Software CD for RS232C of readout	1 pc
'L' shape support for linear scale	1 pc
Anti-dust cover for linear scale	1 pc
Mounting accessories for linear scale	1 package

## JIGS FOR CMM (ANVIL .10" DIA)

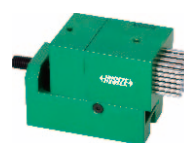
CAN BE CUSTOMIZED



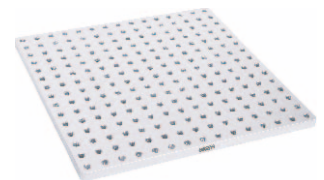
ISY-200



ISY-200-1



ISY-200-2



ISY-200-3



ISY-200-4



ISY-200-5



ISY-200-6

Part No.	Product	Remark
ISY-200	jig set	Including 1pc ISY-200-1, 1pc ISY-200-2, 1pc ISY-200-3, 1pc ISY-200-4, 1pc ISY-200-5 and 2pcs ISY-200-6

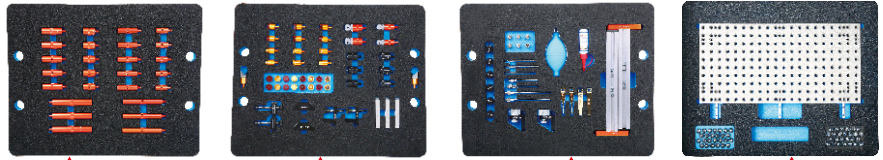
Part No.	Product	Size	Anvil area	Anvil stroke
ISY-200-1	spring anvil	2.36×1.57×2.24"	.81×.98"	.55"
ISY-200-2	adjustable spring anvil (range 0-.79")	2.76×1.57×2.24"	.81×.98"	.55"

Part No.	Product	Size
ISY-200-4	guide	11.81×1.57×1.06"
ISY-200-5	two-way adjustable stand	4.33×4.33×5.59"
ISY-200-6	clamp handle	—

Part No.	Product	Size	Hole size
ISY-200-3	base plate	11.81×11.81×.47"	M8

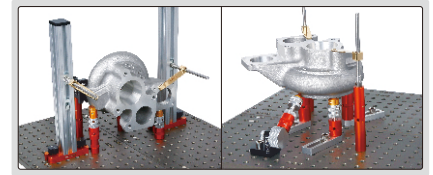


# JIG SET FOR CMM PART NO. ISY-100



ISY-100

application examples



Product	Part No.	Size	Quantity	Application
	ISY-100-1001	.63" DIA×1.18"	5	
	ISY-100-1002	.63" DIA×1.97"	5	
	ISY-100-1003	.63" DIA×3.94"	3	
	ISY-100-1004	.79" DIA×1.18"	5	
	ISY-100-1005	.79" DIA×1.97"	5	
	ISY-100-1006	.79" DIA×3.94"	3	
	ISY-100-2001	.63" DIA× 1.77~2.36"	2	height adjustment: 1.81~2.36"
	ISY-100-2003	.79" DIA× 1.77~2.36"	2	
	ISY-100-4001	—	2	
	ISY-100-5001	—	2	
	ISY-100-7001	.79" DIA×.98"	3	
	ISY-100-8001	.79" DIA×.98"	2	ISY-100-8001 and ISY-100-8002 use cooperatively
	ISY-100-8002		1	
	ISY-100-1201	—	2	
	ISY-100-1301	—	2	
	ISY-100-1401	.24" DIA×2.36"	2	
	ISY-100-1402	.24" DIA×3.94"	2	
	ISY-100-3003	1.18×1.18×9.84"	2	
	ISY-100-1801	3.07×.79×.39"	3	
	ISY-100-2301	.31" DIA×.79"	6	

Product	Part No.	Size	Quantity	Application
	ISY-100-2302	.31" DIA×.79"	6	
	ISY-600-400200	15.75×15.75× .47" Hole size: M8×1.25mm Hole center distance .79"	2 pieces /per set	—
	ISY-100-3701	.15" DIA×2.76"	1	—
	ISY-100-3801	M2.5mm	1	—
	ISY-100-3802	M5mm	1	—
	ISY-100-3803	M6mm	1	—
	ISY-100-9001	—	2	
	ISY-100-1901	—	2	
	ISY-100-1902	—	2	
	ISY-6100-1501	—	52*	
	ISY-100-3501	—	1	—
	ISY-100-3601	—	1	—

\* Letter A~Z, number 0~25

To be continued

Continued from previous page

Product	Part No.	Quantity	Material	Application
	ISY-100-27016	2	aluminum	
	ISY-100-27018	2	nylon	
	ISY-100-27026	2	aluminum	
	ISY-100-27028	2	nylon	
	ISY-100-27036	2	aluminum	
	ISY-100-27038	2	nylon	
	ISY-100-27046	2	aluminum	
	ISY-100-27048	2	nylon	

Product	Part No.	Quantity	Material	Application
	ISY-100-27056	2	aluminum	
	ISY-100-27058	2	nylon	
	ISY-100-27066	2	aluminum	
	ISY-100-27068	2	nylon	
	ISY-100-27076	2	aluminum	
	ISY-100-27078	2	nylon	

## SURFACE ROUGHNESS SPECIMEN SET PART NO. ISR-CSE130



Machining method	Roughness (Ra)	Roughness (Rz)	Quantity
Flat lapping	2, 4, 8µm	22.1, 40, 63µm	3 pcs
	0.05, 0.1, 0.2µm	0.55, 1, 1.6µm	
Reaming	16, 32, 63µm	120, 240, 400µm	3 pcs
	0.4, 0.8, 1.6µm	3, 6, 10µm	
Plain grinding	2, 4, 8, 16, 32, 63µm	22.1, 40, 63, 120, 240, 400µm	6 pcs
	0.05, 0.1, 0.2, 0.4, 0.8, 1.6µm	0.55, 1, 1.6, 3, 6, 10µm	
Horizontal milling	16, 32, 63, 125, 250, 500µm	100, 160, 320, 640, 1280, 2000µm	6 pcs
	0.4, 0.8, 1.6, 3.2, 6.3, 12.5µm	2.5, 4, 8, 16, 32, 50µm	
Vertical milling	16, 32, 63, 125, 250, 500µm	100, 160, 320, 640, 1280, 2000µm	6 pcs
	0.4, 0.8, 1.6, 3.2, 6.3, 12.5µm	2.5, 4, 8, 16, 32, 50µm	
Turning	16, 32, 63, 125, 250, 500µm	100, 160, 320, 640, 1280, 2000µm	6 pcs
	0.4, 0.8, 1.6, 3.2, 6.3, 12.5µm	2.5, 4, 8, 16, 32, 50µm	



- For checking, identifying and specifying the roughness by symbol
- Rust-proof, made of pure Nickel

## ROUGHNESS TESTER (BASIC TYPE) PART NO. ISR-C003

ATTENTION: THIS ROUGHNESS TESTER IS NOT SUITABLE FOR ROUGH TURNING, MILLING AND PLANING WORKPIECES

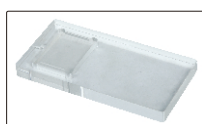
fixture for small shafts (optional)



- Unit: µm, µin
- Automatic power off

### STANDARD DELIVERY

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



calibration block (included)

### SPECIFICATION

Parameters	Ra, Rz, Rq, Rt	
Range	Ra, Rq: 2~590µm Rz, Rt: 4~1968µm	
Accuracy	±10%	
Resolution (Ra)	.01µm	
Probe	type	piezoelectric
	stylus radius/angle	393µm/90°
	stylus material	diamond
Measuring force	.012ozf	
Measuring unit	µm/µm	
Cut off	.01/.03/.1"	
Evaluation length	.05" for cut off .01"	
	.15" for cut off .03"	
	.2" for cut off .1"	
Moving speed	.03"/s	
Power	built-in rechargeable battery	
Dimension (L×W×H)	4.17×2.75×.94"	
Weight	.44lb	

### OPTIONAL ACCESSORY

Fixture for small shafts	ISR-C003-FIXTURE
--------------------------	------------------

# ROUGHNESS TESTER PART NO. **ISR-C002**

- Roughness tester can be operated by mobile phones (only Android system) or computers
- Data can be sent to Excel by connecting to computers via bluetooth or SPC cable
- Support bluetooth printer
- 21 roughness parameters
- Display roughness value, profile and curve
- Memory of maximum 100 results
- Automatic power off



CAN BE OPERATED BY  
MOBILE PHONES OR COMPUTERS

BLUETOOTH

DATA  
OUTPUT

bluetooth printer (optional)



software CD (included)

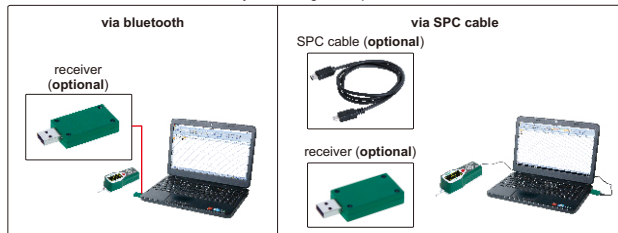


operate roughness tester by mobile phones



connect to mobile phones via bluetooth (only Android system), display roughness values, profile and curve

data can be sent to Excel by connecting to computer via bluetooth or SPC cable



via bluetooth

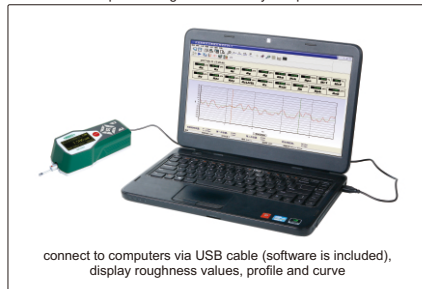
SPC cable (optional)

via SPC cable

receiver (optional)

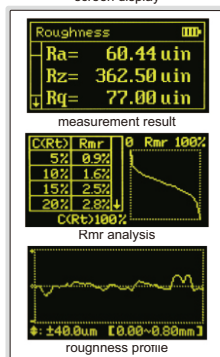
receiver (optional)

operate roughness tester by computers



connect to computers via USB cable (software is included), display roughness values, profile and curve

screen display



light duty test stand (optional)



the maximum workpiece height is 8.66"

heavy duty test stand (optional)



the maximum workpiece height is 12.20"

adjustable stand (included)



probe cover (included)



put the small workpieces directly under the probe for measurement

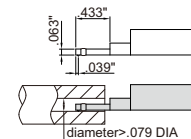
extension rod (optional), part no. **ISR-C002-ER**



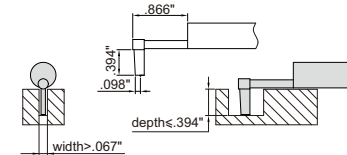
transverse rod (optional), part no. **ISR-C002-TR**



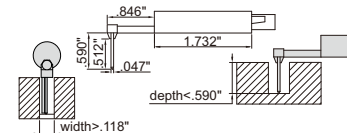
tiny hole probe (optional), part no. **ISR-C002-SBP**



deep groove probe (optional), part no. **ISR-C002-DGP**



deep groove probe (optional), part no. **ISR-C002-DGP1**



## SPECIFICATION

Parameters	Ra, Rz, Rq, Rv, Rp, RS, R3z, R3y, Rt, Rz (JIS), Rk, Rku, Rsm, Rpc, Rpk, Rvk, Rsk, Mr1, Mr2, Ry (JIS), Rmax	
Range	6299µin	
Accuracy	±10%	
Resolution (Ra)	.01µin	
Probe	type	inductive
	stylus radius/angle	196µin/90°
	stylus material	diamond
Measuring force	.01ozf	
Measuring unit	µin/µm	
Cut off	.01/.03/.1"	
Number of cut-off	1 to 5	
Moving speed	.02"/s, .04"/s	
Memory	100 measurement results	
Output	bluetooth and 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 and USB cable	1 pc
AC/DC adapter	1 pc

## OPTIONAL ACCESSORY

Extension rod	<b>ISR-C002-ER</b>
Transverse rod	<b>ISR-C002-TR</b>
Tiny hole probe	<b>ISR-C002-SBP</b>
Deep groove probe	<b>ISR-C002-DGP</b>
Deep groove probe	<b>ISR-C002-DGP1*</b>
Light duty test stand	<b>ISR-C002-STAND1</b>
Heavy duty test stand	<b>ISR-C002-STAND</b>
Bluetooth printer	<b>ISR-C002-PRINTER</b>
Receiver	<b>ISR-C300-RECEIVER</b>
SPC cable	<b>ISR-C300-SPC</b>

\*Need to be delivered with roughness tester **ISR-C002**



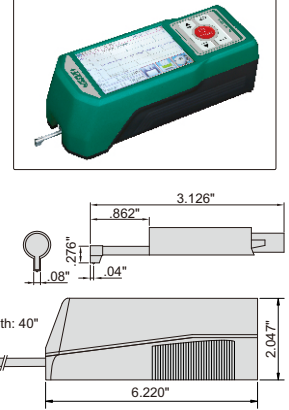
# ROUGHNESS TESTER (SEPARABLE TYPE) PART NO. ISR-C300

CAN BE OPERATED BY COMPUTERS OR MOBILE PHONES DATA OUTPUT BLUETOOTH TOUCH SCREEN

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



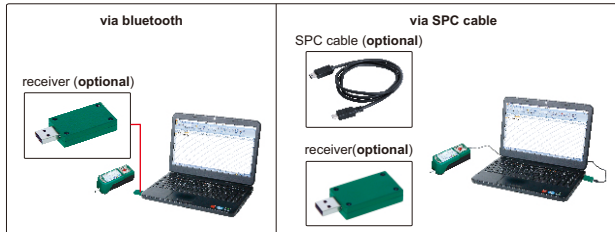
probe and main unit can be combined together



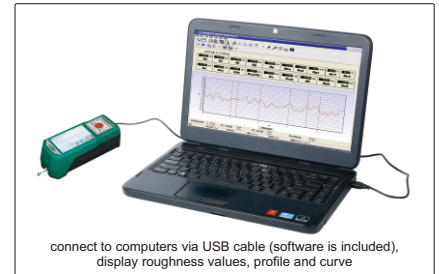
operate roughness tester by mobile phones



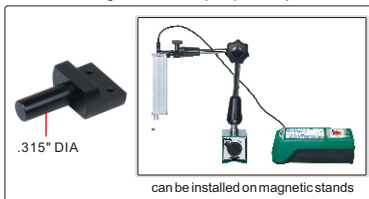
data can be sent to Excel by connecting to computer via bluetooth or SPC cable



operate roughness tester by computers



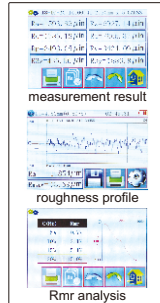
magnetic stand adapter (included)



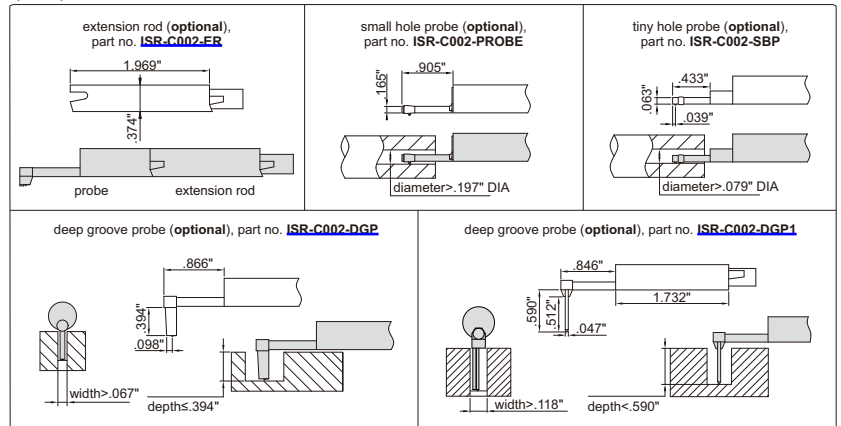
bluetooth printer (optional)



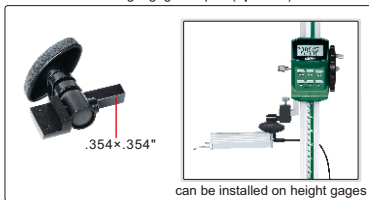
roughness tester screen display



optional probes



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

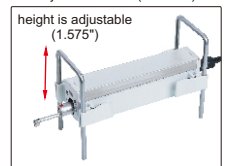
## SPECIFICATION

Parameters		Ra, Rz, Rq, Rv, Rp, Rs, R3z, R3y, Rt, Rc, Rz (JIS), Rk, Rku, Rsm, Rpc, Rpk, Rvk, Rsk, Mr1, Mr2, Ry, Rmax
Range	X axis	.689"
	Z axis	12598µin (-6299µin~6299µin)
Accuracy		±10%
Resolution (Ra)		.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		1~5
Moving speed		.005"/s, .02"/s, .04"/s
Memory		100 measurement results
Output		bluetooth and USB
Power		built-in rechargeable battery
Dimension (L×W×H)		6.22×2.52×2.05"
Weight		.89lb

## STANDARD DELIVERY

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

adjustable stand (included)

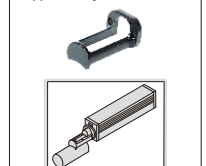


## OPTIONAL ACCESSORY

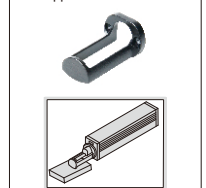
Extension rod	<b>ISR-C002-ER</b>
Small hole probe	<b>ISR-C002-PROBE</b>
Tiny hole probe	<b>ISR-C002-SBP</b>
Deep groove probe	<b>ISR-C002-DGP</b>
Deep groove probe	<b>ISR-C002-DGP1*</b>
Bluetooth printer	<b>ISR-C002-PRINTER</b>
Height gage adapter	<b>ISR-C300-LB1</b>
Receiver	<b>ISR-C300-RECEIVER</b>
SPC cable	<b>ISR-C300-SPC</b>
Support for flat surface	<b>ISR-C300-COVER1</b>
Support for cylindrical surface	<b>ISR-C300-COVER2</b>

probe support (optional)

support for cylindrical surface



support for flat surface

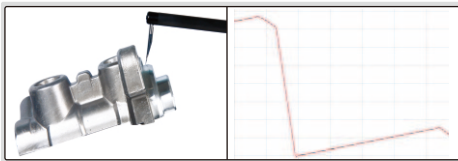
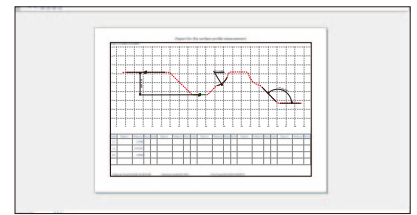
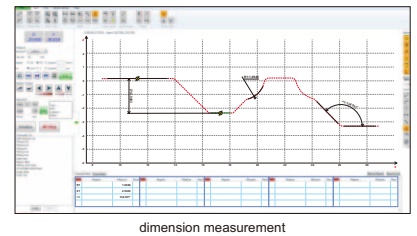
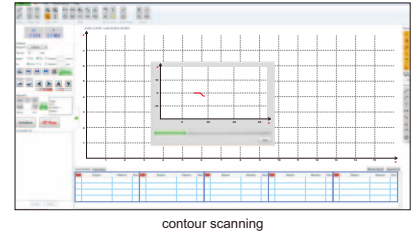
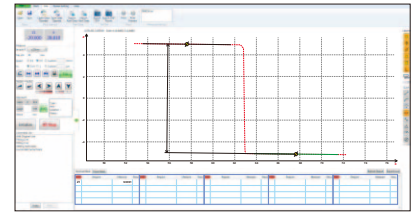
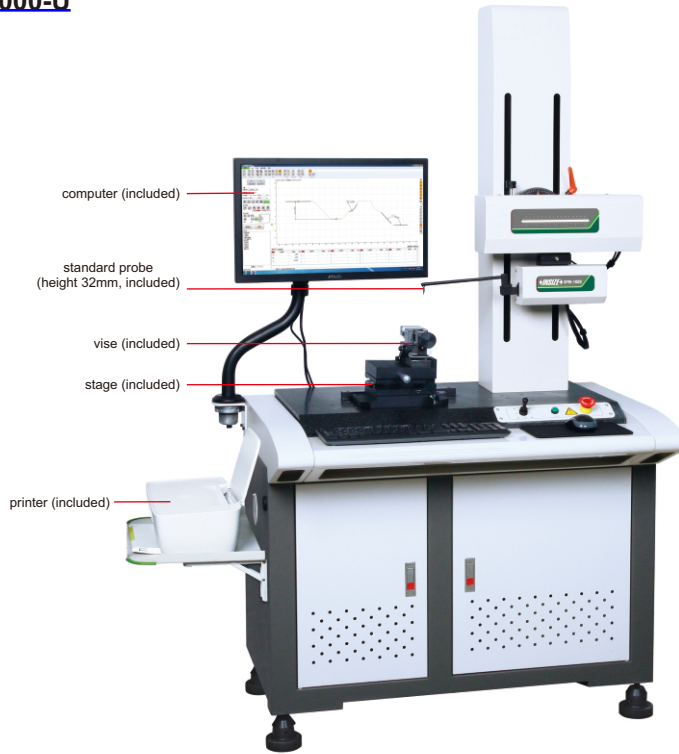


\*Need to be delivered with roughness tester ISR-C300



# SURFACE PROFILE MEASURING MACHINE

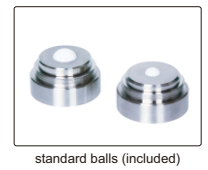
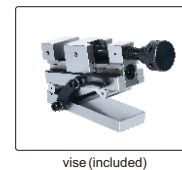
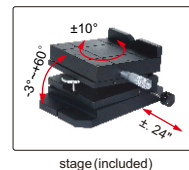
PART NO. SPM-1000-U



- Software is included, for surface profile measurement and data output
- Probe compensation
- Output as format xy, txt, csv, etc.
- Large range design, the leverage ratio is 1:2.2, maintain the original accuracy of the sensor
- The overall structure of the Z-axis sensor does not have any elastic components, ensuring the measuring force is constant regardless the position of probe

## SPECIFICATION

X axis measuring range	5.51"
X axis resolution	7.87µin
X axis straightness	31.5µin/3.94"
X axis moving speed	.004~.39"/s
Z axis measuring range	±.79"
Z axis resolution	1.97µin
Z axis moving speed	.02~.39"/s
Linear accuracy	±(59+ 200H )µin, H is measuring height in inch
Angular measuring accuracy	±2'
Arc measuring accuracy	±(79+125R)µin, R is .079~.39" standard ball
Radius of probe tip	.001"
Moving direction	backward
Measuring force	.025~.035ozf
Measuring unit	mm/inch
Traceable angle	72°(upward), 87°(downward)
Drive mode	motor
Travel of Z axis	16.93"
Dimension (L×W×H)	47.24×27.56×70.08"
Power supply	110±5%V, 50Hz
Weight	705.48lb



## STANDARD DELIVERY

Main unit	1 pc
Standard probe and arm	1 pc of each
Standard block	2 pcs
Standard ball	2 pcs
Standard shaft	1 pc
Stage	1 pc
Vise	1 pc
Measuring arm	1 pc
Computer	1 pc
Measurement software	1 pc
Printer	1 pc
Installation tools	1 set

## OPTIONAL ACCESSORY

Probe and arm	refer to details
---------------	------------------

## TOOL PRESETTER (BASIC TYPE) PART NO. TLP-300H



- Absolute linear scales, zero setting is not needed after power on and off

### SPECIFICATION

Maximum tool diameter (X axis)	11.81" DIA
Height measuring range	2.36"~11.81"
Repeatability	.0002"
Measuring accuracy	.0008"
Linear scale resolution	.0002"
Dial indicator graduation	0.01mm
Spindle holder	BT50
Power supply	110/220V, 50/60HZ
Dimension (L×W×H)	23.62x14.37x27.17"
Weight	150lb

### STANDARD DELIVERY

Main unit	1 pc
BT50 spindle holder	1 pc
Standard rod	1 pc
Dial indicator	2 pcs
Wrench	1 set
Anti-dust cover	1 pc

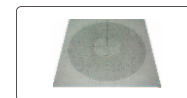
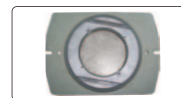
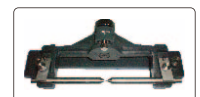
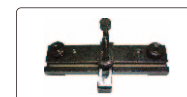
### OPTIONAL ACCESSORY

BT50/BT30 converter	<a href="#">TLP-300H-C1</a>
BT50/BT40 converter	<a href="#">TLP-300H-C2</a>

## PROFILE PROJECTOR PART NO. [ISP-Z3015](#)











### OPTIONAL ACCESSORY



To be continued

Continued from previous page

## SPECIFICATION

Part No.		<b>ISP-Z3015</b>			
Lens	magnification	10X (included)	20X (optional)	50X (optional)	100X (optional)
	view field	1.18" DIA	.59" DIA	.24" DIA	.12" DIA
	working distance	3.06"	1.74"	1.51"	1.00"
Max. workpiece height		3.54"	3.54"	3.54"	3.54"
Magnification accuracy		±0.08%			
Image		erect image			
Projector screen		diameter: 12" DIA			
		rotation range: 0°~360°, resolution: 1" or 0.01°			
		reference lines: cross-hairs			
Stage	metal stage size	13.39×5.98"			
	glass stage size	7.72×3.78"			
	X-Y stage travel	range: 6×2"			
		resolution .00002"			
	Z (focus) travel range	accuracy: (157.5+40L)μin L is the measuring length in inch			
max. load capacity		8.82lb			
Illumination		contour illumination: 24V/150W halogen lamp, brightness is adjustable			
		surface illumination: 24V/150W halogen lam			
Data processing unit	display	X-Y stage travel, screen rotation			
	output	RS232C			
	function	 measure coordinate of point  measure coordinate of line  measure center coordinate, radius of circle with three points  measure distance between two objects  measure angle with four points or two lines  set origin of coordinate  coordinate transform  set midpoint of coordinate			
Power supply		110/220V, 50/60Hz			
Dimension (L×W×H)		21.65×30.31×43.31"			
Weight		297lb			

## STANDARD DELIVERY

Main unit	1 pc
10X lens with half-reflection mirror and oblique illuminator mirror	1 pc
Overlay chart clip	4 pcs
Foot-switch	1 pc
Anti-dust cover	1 pc
USB cable	1 pc

## OPTIONAL ACCESSORY

20X lens with half-reflection mirror and oblique illuminator mirror	<a href="#">ISP-Z3015-LENS20X</a>
50X lens with half-reflection mirror	<a href="#">ISP-Z3015-LENS50X</a>
100X lens with half-reflection mirror	<a href="#">ISP-Z3015-LENS100X</a>
Rotary table	<a href="#">ISP-Z3015-TABLE</a>
Overlay chart	<a href="#">ISP-Z3015-CHART</a>
Holder with clamp	<a href="#">ISP-Z3015-HOLDER</a>
Swivel center support	<a href="#">ISP-Z3015-SUPPORT</a>
V-block with clamp	<a href="#">ISP-Z3015-VBLOCK</a>
50mm/1.97" reading scale	<a href="#">ISP-Z3015-SCALE50</a>
300mm/11.81" calibration scale	<a href="#">ISP-Z3015-RULE</a>
Blue filter	<a href="#">ISP-Z3015-FILTER</a>
Demo sample	<a href="#">ISP-Z3015-DEMO</a>

## QUICK MEASUREMENT SYSTEM (WITHOUT STITCHING)



- One or more workpieces can be measured by one step operation
- Place workpieces at any position
- Focus and measure automatically



QMS-A110-U

### SPECIFICATION

Part No.	QMS-A110-U	
Optical lens	Low-distortion lens, single-field telecentric 3.94" DIA	
View field range	3.94×3.15"	
Measurement range (X×Y)	3.86×3.07"	
Measurement accuracy*	±.00012"	
Repeatability	±.00004"	
Magnification	3.5X	
Z axis travel range	2.95"	
Glass stage size	5.91×5.91"	
Max. weight of workpiece	11lb	
Measurement time	<2s	
Measurement data	2D measurement	
Power supply	110V, 50Hz, 600W	
Illumination system	back light	telecentric illuminator, green light
	ring light	4-zone circular white high light circular (directional) low-angle green light (electric)
	coaxial light (optional)	vertical illuminator, white light
Environmental requirement	Temperature: 68°F±3.6°F, relative humidity: 30%~80%, vibration: <.00007oz, less than 15Hz	
Dimension (L×W×H)	22.05×9.21×26.97"	
Weight	99lb	

\* The optimum temperature is 68°F±1.8°F  
Within 3.15×2.52", on focal position and environment temperature at 68°F±1.8°F

### STANDARD DELIVERY

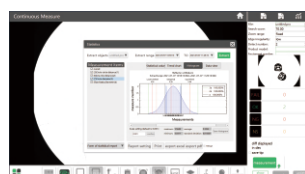
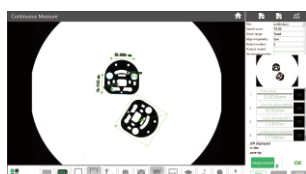
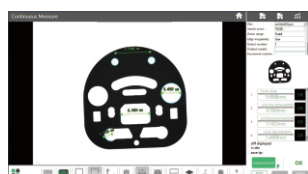
Main unit	1 pc
Computer	1 pc
Software	1 pc

### OPTIONAL ACCESSORY

Coaxial light illumination	QMS-23-A1
Data transmission function of software	QMS-23-D
CAD import function of software	QMS-23-C
Foot-switch	QMS-43-FS

### Software (included)

- Automatically measure widths, holes, rings, angles at the same time, simple and efficient.
- Measuring result can be stored automatically. OK items and NG items can be counted automatically.

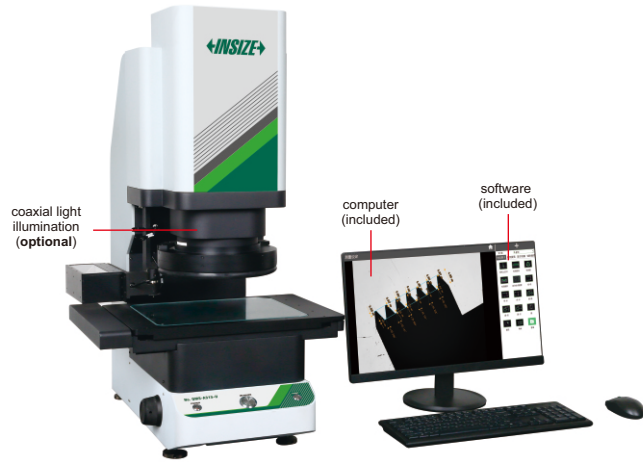






# QUICK MEASUREMENT SYSTEM (WITH STITCHING)

- One or more workpieces can be measured by one step operation
- Place workpieces at any position
- Focus and measure automatically



**QMS-A315-U**

**SPECIFICATION**

Part No.	<b>QMS-A315-U</b>	
Optical lens	Dual-field dual-telecentric low-distortion lens	
	wide view field: 3.94" DIA small view field: .98" DIA	
View field range	<b>wide view field</b>	<b>small view field</b>
	3.94×3.15"	.98×.79"
Measurement range	11.81×7.87"	9.06×5.12"
Measurement accuracy	without stitching	±.00012" ①
	with stitching	±(200+20L)µin ③
Repeatability	without stitching	±.00004" ②
	with stitching	±.00002"
Magnification	1.9X	5.75X
Travel range (X×Y×Z)	8.07×4.92×2.95"	
Glass stage size	12.52×10.55"	
Max. weight of workpiece	11lb	
Measurement time	<2s	
Measurement data	2D measurement	
Power supply	110V, 50Hz, 600W	
Illumination system	back light	telecentric illuminator, green light
	ring light	4-zone circular white high light circular (directional) low-angle green light (electric)
	coaxial light (optional)	vertical illuminator, white light
Environmental requirement	Temperature: 68°F±3.6°F, relative humidity: 30%~80%, vibration: <.00007oz, less than 15Hz	
Dimension (L×W×H)	20.94×19.57×30.16"	
Weight	132lb	

**STANDARD DELIVERY**

Main unit	1 pc
Computer	1 pc
Software	1 pc

**OPTIONAL ACCESSORY**

Coaxial light illumination	QMS-23-A1
Data transmission function of software	QMS-23-D
CAD import function of software	QMS-23-C
Laser sensor	QMS-43-SJ
Foot-switch	QMS-43-FS

\* The optimum temperature is 68°F±1.8°F

① Within 3.15×2.52", on focal position and environment temperature at 68°F±1.8°F

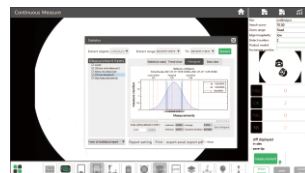
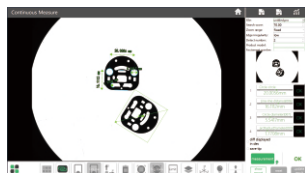
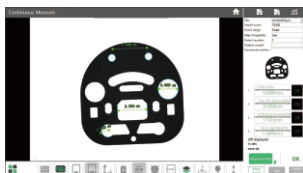
② Within .79×.63", on focal position and environment temperature at 68°F±1.8°F

③ Within 10.63×7.09", on focal position, environment temperature at 68°F±1.8°F, and workpiece is less than 4lb, L is the travel of stage in inch

④ Within 8.15×4.61", on focal position, environment temperature at 68°F±1.8°F, and workpiece is less than 4lb, L is the travel of stage in inch

**Software (included)**

- Automatically measure widths, holes, rings, angles at the same time, simple and efficient.
- Measuring result can be stored automatically. OK items and NG items can be counted automatically.



## VISION MEASURING SYSTEMS

**INSPECTION  
CERTIFICATE**



software CD  
(included)



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

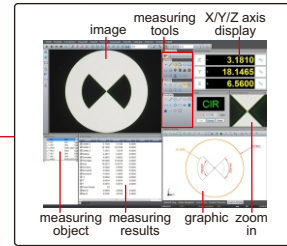


VIDEO



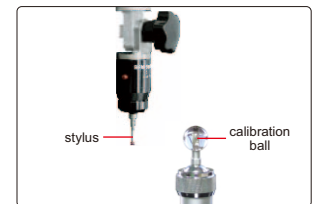
**ISD-V250A**

computer is included



### SPECIFICATION

Part No.	<b>ISD-V150A</b>	<b>ISD-V250A</b>	<b>ISD-V300A</b>
Measuring range (X×Y×Z)	6×4×6"	10×6×6"	12×8×6"
Stage size	13.94×8.98"	17.72×11.02"	19.69×12.99"
Stage glass 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	≤(137.8+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"		
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



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
Computer	1 pc
Calibration glass chart	1 pc
Clay	1 pc
Foot switch	1 pc
Anti-dust cover	1 pc

### OPTIONAL ACCESSORY

0.5X auxiliary objective	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
Vision measuring system with coaxial light lens (with computer)	Part No. <b>ISD-V150ACL, ISD-V250ACL, ISD-V300ACL</b>
Office software	Part No. <b>7313-OFFICE</b>

### SOFTWARE

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

- measure coordinate of point
- measure center coordinate and axis length of ellipse
- measure length of open curve
- measure distance of two elements

- measure center coordinate, diameter and area of circle
- measure length, width and area of rectangle
- measure length and area of closed curve

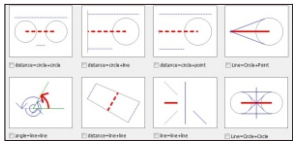
- measure distance between two points
- measure length, width and diameter of key slot
- measure angle of two lines

- measure length and diameter of arc
- measure width and diameter of ring
- measure focus distance of urface

To be continued

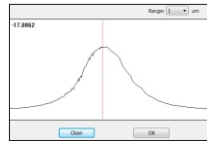
Continued from previous page

■ **Combined measuring tools:**

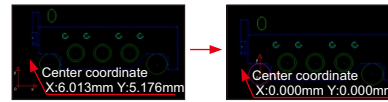


measure distance and angle of two elements

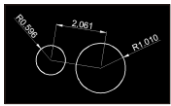
■ **Focus indicator:**



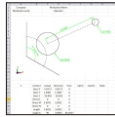
■ **Coordinate transfer:**



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



CAD



EXCEL



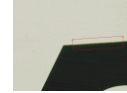
WORD

■ **Edge-detection:**

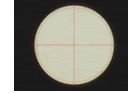
Point tool



Box tool



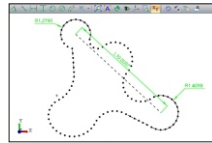
Circle tool



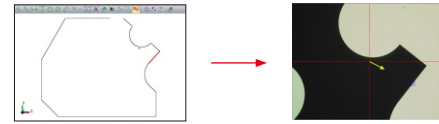
■ **Profile detection:**



■ **Contour scanning:**



■ **CAD measuring:**



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

## CNC VISION MEASURING SYSTEM

MOTORIZED ZOOM  
LENS IS OPTIONAL

INSIZE  
INSPECTION  
CERTIFICATE



programmable segmented ring light (included)

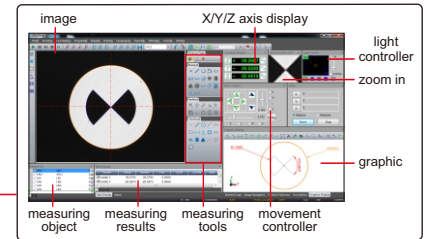


ISD-V220CNCA-U



controller

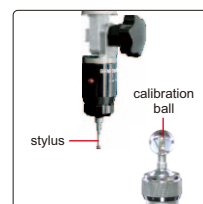
computer is included



- Automatic edge-detection, focus, measuring, contour scanning, calibration, etc.
- Servo motors for X, Y, Z axis
- SPC function for large quantity measurement

**STANDARD DELIVERY**

Main unit	1 pc
Software	1 pc
Computer	1 pc
24" Display	1 pc
Len with coaxial light	1 pc
Controller	1 pc
Calibration glass chart	1 pc
Laser positioner	1 pc
Clay	1 pc
Anti-dust cover	1 pc



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

To be continued

Continued from previous page

**SPECIFICATION**

Part No.	<a href="#">ISD-V220CNCA-U</a>	<a href="#">ISD-V270CNCA-U</a>	<a href="#">ISD-V370CNCA-U</a>
Measuring range (X*Y*Z)	8.66×4.72×5.90"	10.63×6.69×5.90"	14.57×10.63×5.90"
Stage size	17.72×11.02"	19.69×12.99"	23.86×18.35"
Glass stage size	12.05×7.72"	13.78×9.84"	17.72×13.78"
Resolution of X/Y/Z axis	.00002"		
Accuracy of X/Y axis	≤(98.4+10L)μin (L is the measuring length in inch)		≤(137.8+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	33.0X~208.6X (on 24" monitor)		
Camera	Giga-bit network camera		
Illumination	surface	coaxial light, programmable segmented ring light	
	contour	adjustable LED light	
View field (diagonal length)	.06~.43"		
Max. height of workpiece	5.90"		
Max. weight of workpiece	66lb		
Operation system	Windows 7/8/10		
Drive method	Automatic		
Power supply	110V, 50/60Hz		
Dimension (L×W×H)	29.92×23.62×35.43"	29.92×23.62×35.43"	38.19×26.38×37.01"
Weight	322lb	370lb	586lb

**OPTIONAL ACCESSORY**

0.5X auxiliary objective	Part No. <b>ISD-V-OB05X</b> Working distance: 6.89" Magnification: 16.5~104.3X (on 24" monitor)
2X auxiliary objective	Part No. <b>ISD-V-OB2X</b> Working distance: 1.42" Magnification: 66~417.2X (on 24" monitor)
Probe	Part No. <b>ISD-V-PROBE</b> includes Ø2mm/.079" DIA and Ø3mm/.118" DIA styli, Ø25mm/.984" calibration ball
Office software	Part No. <b>7313-OFFICE</b>
Desk	Part No. <b>ISD-V-DESK</b>

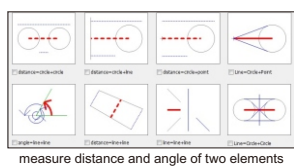


**SOFTWARE**

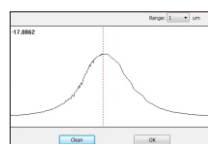
- **Operation system:** Windows 7/8/10
- **Language:** English
- **Single measuring tools:**

- |   |   |   |   |
|---|---|---|---|
| <input type="checkbox"/> measure coordinate of point                          | <input type="checkbox"/> measure center coordinate, diameter and area of circle | <input type="checkbox"/> measure distance between two points            | <input type="checkbox"/> measure length and diameter of arc |
| <input type="checkbox"/> measure center coordinate and axis length of ellipse | <input type="checkbox"/> measure length, width and area of rectangle            | <input type="checkbox"/> measure length, width and diameter of key slot | <input type="checkbox"/> measure width and diameter of ring |
| <input type="checkbox"/> measure length of open curve                         | <input type="checkbox"/> measure length and area of closed curve                | <input type="checkbox"/> measure angle of two lines                     | <input type="checkbox"/> measure focus distance of surface  |
| <input type="checkbox"/> measure distance of two elements                     |   |   |   |

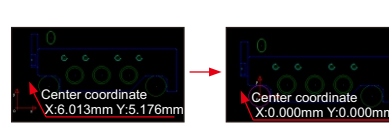
■ **Combined measuring tools:**



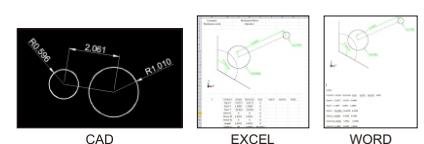
■ **Focus indicator:**



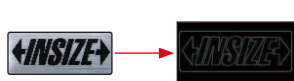
■ **Coordinate transfer:**



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



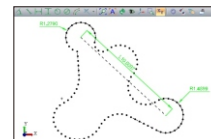
■ **Profile detection:**



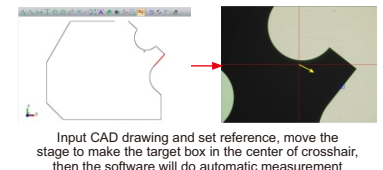
■ **Edge-detection:**



■ **Contour scanning:**



■ **CAD measuring:**





## AUTO FOCUS DIGITAL MICROSCOPE (LARGE VIEW FIELD) PART NO. 5302-AF105

- AUTO FOCUS
- TAKE PICTURES AND VIDEOS
- MEASUREMENT

- 1080P high-definition image
- Auto focus camera
- Take pictures and videos, saved to memory card
- Connected to TV by HDMI port
- Automatic exposure and white balance
- Brightness, contrast ratio, gain are adjustable
- Display cross hair (blue/green/red/yellow/black/brown colors)
- Built-in software without computer, operation by mouse

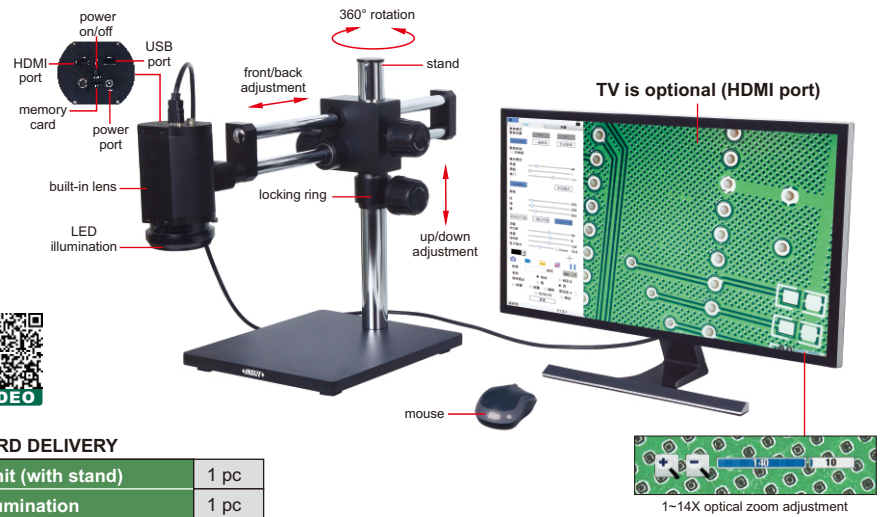
### SPECIFICATION

Magnification	1.8X~27.5X (on 28" TV)
Sensor	1/2.8" CMOS
Pixel	2M
Resolution	1920×1080
Frame rate	60fps
Auto focus distance	4"~∞
Output	HDMI
Power supply	power adapter
Dimension (L×W×H)	19.69×11.02×16.14"
Weight	37.48lb



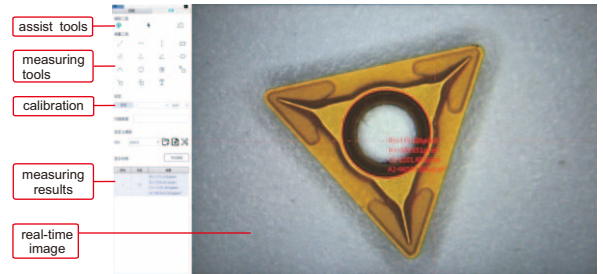
### STANDARD DELIVERY

Main unit (with stand)	1 pc
LED illumination	1 pc
16G memory card and holder	1 pc
Mouse	1 pc
HDMI cable (for TV)	1 pc
Power adapter	2 pcs



Focus distance	Magnification (on 28" TV)	View field	Measuring accuracy
4"	4.5~27.5X	.94×.55~6.34×3.54"	±.0007"
6"	3~21X	1.18×.67~9.45×5.04"	±.0007"
8"	2.3~17.5X	1.50×.79~12.01×6.93"	±.0007"
10"	2~15X	1.65×.94~12.60×8.27"	±.0007"
10.6"	1.8~14.4X	1.69×.98~14.88×9.45"	±.0007"

### MEASURING SOFTWARE (INCLUDED)

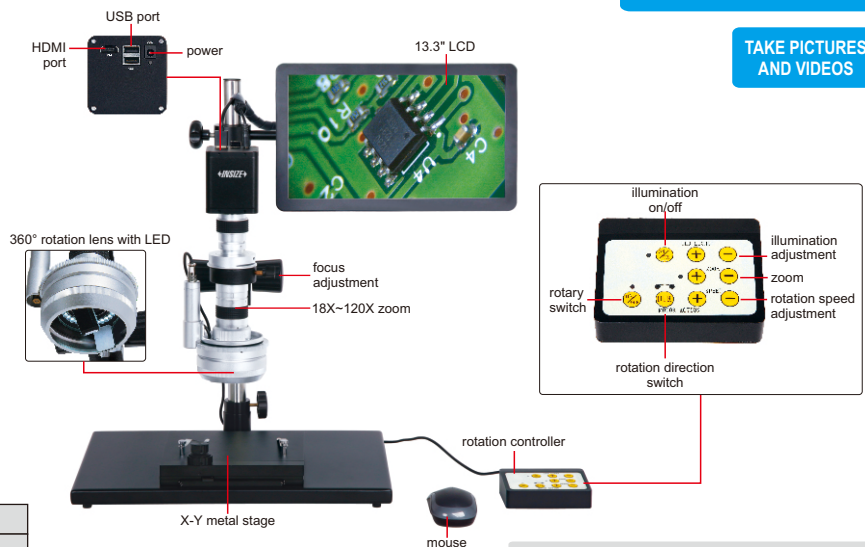
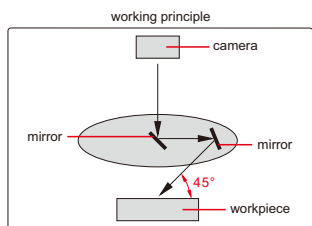


## 3D MOTORIZED ROTATION MICROSCOPE (WITH DISPLAY) PART NO. 5301-D400

SUITABLE TO CHECK CONVEX OBJECTS AND WALL OF HOLE

TAKE PICTURES AND VIDEOS

- 1080P high-definition 3D image
- Take pictures and videos, saved to USB flash disk
- Automatic white balance and exposure
- Brightness, contrast ratio, gain are adjustable

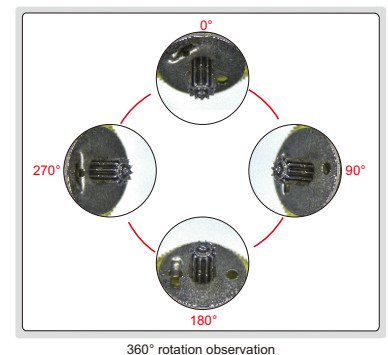


### SPECIFICATION

Magnification	18X~120X
View field	.09×.06~.63×.35"
Focus distance	.79"
View angle	45°
Sensor	1/2.8" CMOS
Pixel	2M
Resolution	1920×1080
Frame rate	60fps
Output	HDMI
Rotation speed	2~5RPM
Power supply	power adapter and 110/220V, 50/60Hz
Dimension (L×W×H)	22.44×11.81×16.93"
Weight	14.44lb

### STANDARD DELIVERY

Main unit	1 pc
Rotation controller	1 pc
X-Y metal stage	1 pc
16G USB flash disk	1 pc
White/black plate	1 pc
Mouse	1 pc
Power adapter	2 pcs

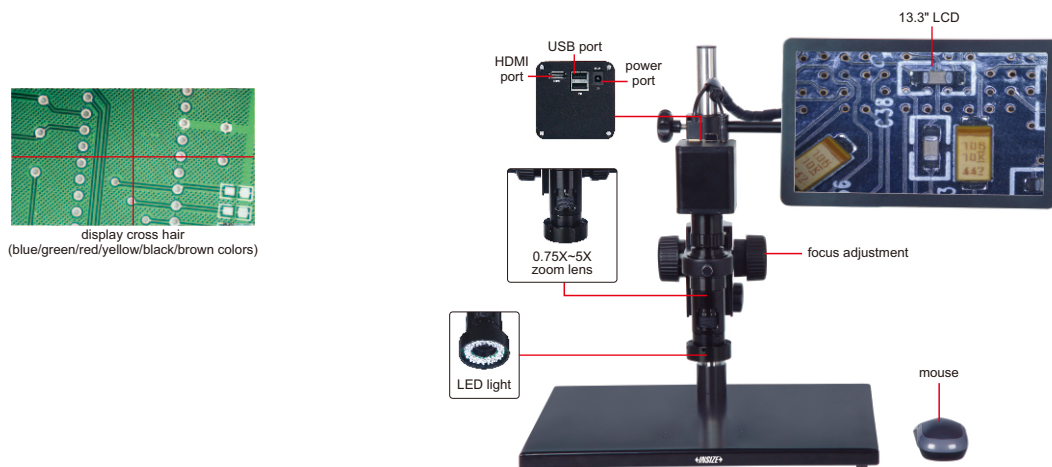


# AUTO FOCUS DIGITAL MICROSCOPE (WITH DISPLAY)

## PART NO. 5303-AF103

TAKE PICTURES  
AND VIDEOS

AUTO FOCUS



- 1080P high-definition image
- Auto focus camera
- Take pictures and videos, saved to USB flash disk
- Picture review, picture compare
- Automatic exposure and white balance
- Brightness, contrast ratio, gain are adjustable
- Display cross hair (blue/green/red/yellow/black/brown colors)



16G USB flash disk (included)

### SPECIFICATION

Magnification	20X~123X
Sensor	1/2.8" CMOS
Pixel	2M
Resolution	1920×1080
Frame rate	60fps
Output	HDMI
Power supply	power adapter
Dimension (L×W×H)	22.44×11.81×16.93"
Weight	14.33lb



0.5X camera adapter (included)



1X auxiliary objective (included)



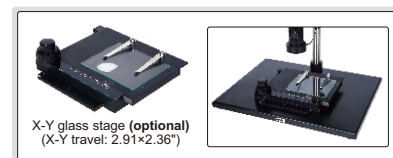
2X auxiliary objective (optional)



1X camera adapter (optional)

### MAGNIFICATION, FOCUS DISTANCE AND VIEW FIELD

Auxiliary objective	Specification	Camera adapter	
		0.5X (included)	1X (optional)
1X (included)	Magnification	20~123X	40~246X
	Focus distance	1.89~3.31"	1.89~3.31"
	View field	.51×.28~.09×.04"	.25×.14~.04×.02"
2X (optional)	Magnification	40~246X	80~492X
	Focus distance	.94~1.65"	.94~1.65"
	View field	.26×.14~.04×.02"	.13×.07~.02×.01"



X-Y glass stage (optional) (X-Y travel: 2.91×2.36")

### STANDARD DELIVERY

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

### OPTIONAL ACCESSORY

1X camera adapter	<a href="#">ISM-DL-CA1X</a>
2X auxiliary objective	<a href="#">ISM-DL-OB2X</a>
X-Y glass stage (travel: 2.91×2.36")	<a href="#">ISM-DL-STAGE</a>
X-Y metal stage	<a href="#">ISM-DL-STAGE1</a>
LED light	refer to details
Auxiliary objective	refer to details

### AUTO FOCUS DISTANCE

Zoom objective scale	0.75X	1X	1.5X	2X	2.5X	3X	3.5X	4X	4.5X	5X
Auto focus distance	1.89~3.31"	1.97~3.07"	2.17~2.87"	2.44~2.80"	2.56~2.76"	2.60~2.76"	2.64~2.76"	2.68~2.76"	2.68~2.76"	2.68~2.76"

# DIGITAL MEASURING MICROSCOPE (WITH DISPLAY)

## PART NO. ISM-DL301

TAKE PICTURES

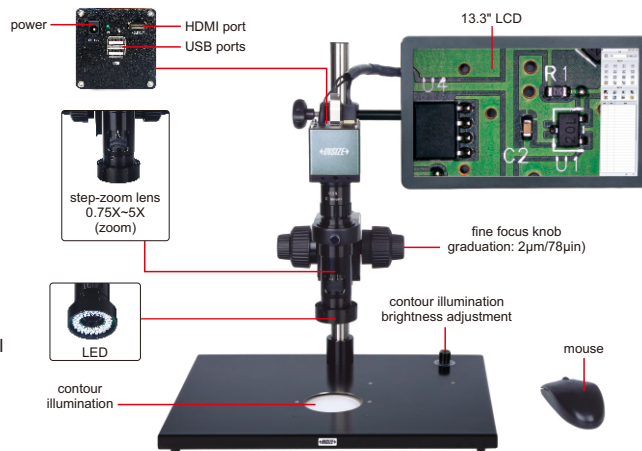
MEASUREMENT

BUILT-IN SOFTWARE WITHOUT COMPUTER



VIDEO

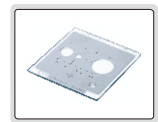
- 1080P high-definition image
- Built-in software without computer, operated by mouse
- Take pictures, saved to USB flash disk
- Measurement results can be sent to Excel
- Automatic white balance and exposure
- Brightness, contrast ratio, gain are adjustable



ISM-DL301 (with contour illumination)



16G USB flash disk (included)



calibration plate (included)



1X auxiliary objective (included)



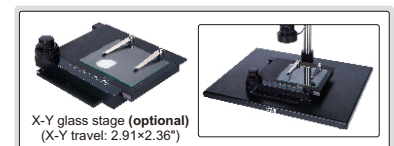
1X camera adapter (optional)



0.5X camera adapter (included)



2X auxiliary objective (optional)



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

### SPECIFICATION

Part No.	<b>ISM-DL301 (with contour illumination)</b>
Magnification	15X~100X
Sensor	1/2" CMOS
Pixel	2M
Resolution	1920x1080
Frame rate	60fps
Output	HDMI
Power supply	power adapter
Dimension (LxWxH)	22.44x11.81x16.93"
Weight	14.44lb

### STANDARD DELIVERY

Main unit	1 pc
0.5X camera adapter	1 pc
1X auxiliary objective	1 pc
Calibration plate	1 pc
16G USB flash disk	1 pc
White/black plate	1 pc
Mouse	1 pc
HDMI cable	1 pc
Power adapter	3 pcs

### MAGNIFICATION AND MEASURING ACCURACY

Objective magnification	Image magnification	Measuring accuracy
0.75X	15X	±.00031"
1X	20X	±.00028"
1.5X	30X	±.00024"
2X	40X	±.00024"
2.5X	50X	±.00024"
3X	60X	±.00020"
3.5X	70X	±.00020"
4X	80X	±.00016"
4.5X	90X	±.00016"
5X	100X	±.00016"

### 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	.63x.43~.1x.06"	.31x.21"~.05x.03"
2X (optional)	Magnification	30~200X	60~400X
	Focus distance	1.14±.08"	1.14±.08"
	View field	.31x.21"~.05x.03"	.15x.11"~.024x.016"

### OPTIONAL ACCESSORY

1X camera adapter	<a href="#">ISM-DL-CA1X</a>
2X auxiliary objective	<a href="#">ISM-DL-OB2X</a>
X-Y glass stage (travel: 2.91x2.36")	<a href="#">ISM-DL-STAGE</a>
X-Y metal stage	<a href="#">ISM-DL-STAGE1</a>
LED light	refer to details
Auxiliary objective	refer to details

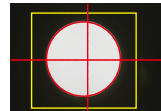
### SOFTWARE

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

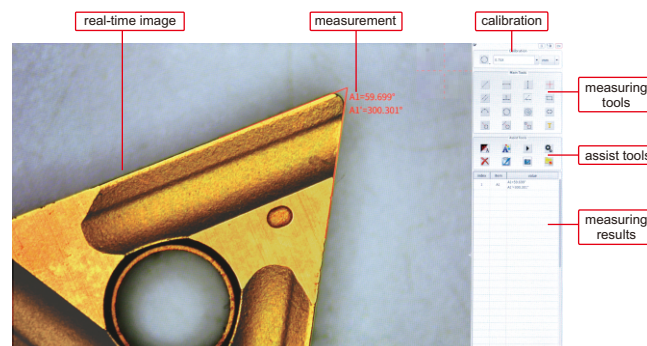
Point tool



Box tool



Click tool



To be continued



Continued from previous page

■ **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  |

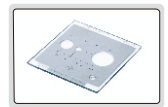
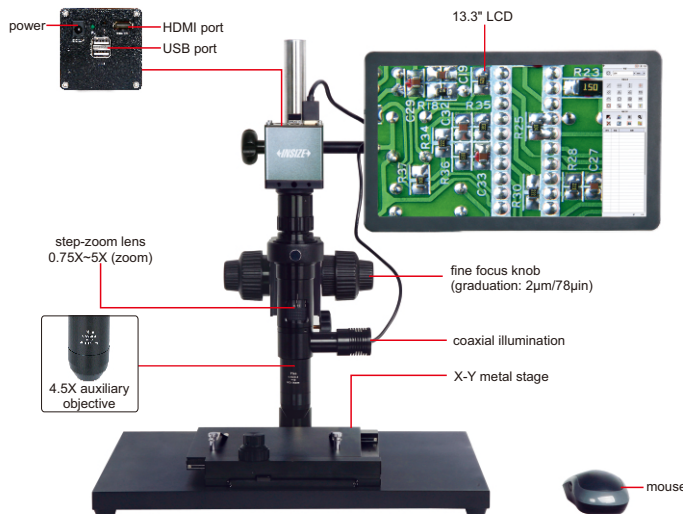
**HIGH MAGNIFICATION MEASURING MICROSCOPE (WITH DISPLAY)**  
**PART NO. ISM-DL302**

OBSERVATION AND MEASUREMENT AT HIGH MAGNIFICATION

SOFTWARE IS INCLUDED, REFER TO ISM-DL301 FOR DETAILS



- 1080P high-definition image
- Maximum 1000X optical magnification (using camera adapter 1X, optional)
- Built-in software without computer, operation by mouse
- Solid base and column to avoid lens shaking during focusing
- Software is included, refer to **ISM-DL301** for details



**SPECIFICATION**

Magnification	75X~504X
Sensor	1/2" CMOS
Pixel	2M
Resolution	1920×1080
Frame rate	60fps
Output	HDMI
Power supply	power adapter
Dimension (L×W×H)	22.44×11.81×16.93"
Weight	30.07lb

**STANDARD DELIVERY**

Main unit	1 pc
0.5X camera adapter	1 pc
4.5X auxiliary objective	1 pc
Calibration plate	1 pc
16G USB flash disk	1 pc
Mouse	1 pc
HDMI cable	1 pc
X-Y metal stage	1 pc

**OPTIONAL ACCESSORY**

1X camera adapter	<b>ISM-DL-CA1X</b>
LED light	refer to details

**MAGNIFICATION AND MEASURING ACCURACY**

Objective magnification	Image magnification	Measuring accuracy
0.75X	78X	±.00020"
1X	102X	±.00016"
1.5X	153X	±.00016"
2X	204X	±.00016"
2.5X	255X	±.00016"
3X	305X	±.00016"
3.5X	356X	±.00016"
4X	408X	±.00016"
4.5X	458X	±.00016"
5X	504X	±.00016"

**MAGNIFICATION, FOCUS DISTANCE AND VIEW FIELD**

Camera adapter	0.5X (included)	1X (optional)
Magnification	78~504X	156~1008X
Focus distance	.55±.08"	.55±.08"
View field	.11×.07~.02×.01"	.06×.04~.01×.01"



## DIGITAL MEASURING MICROSCOPE PART NO. 5307-ID100A

- Electronic magnification feedback lens: when the objective lens magnification is changed manually, the software automatically selects the corresponding pre-calibration data and calibration is not needed
- Two methods of LED brightness adjustment, knob adjustment and software adjustment
- Built-in software without computer, operated by mouse
- Take pictures, save to USB flash disk
- Measuring results can be sent to Excel



**ELECTRONIC MAGNIFICATION  
FEEDBACK LENS**

**BUILT-IN SOFTWARE  
WITHOUT COMPUTER**



### SPECIFICATION

Sensor	1/2" CMOS
Pixel	2M
Resolution	1920×1080
Magnification	12~77X
Focus distance	3.94"
View field	.106×.075~.689×.469"
Max workpiece height	2.36"
Frame rate	60fps
Output	USB/HDMI
Power supply	power adapter
Dimension (L×W×H)	24.02×24.02×25.98"
Weight	9.92lb

adjustable display angle



### MAGNIFICATION AND MEASURING ACCURACY

Objective magnification	Magnification	Measuring accuracy
0.7X	12X	±.00035"
1X	17X	±.00035"
1.5X	26X	±.00031"
2X	35X	±.00027"
2.5X	43X	±.00027"
3X	51X	±.00027"
3.5X	60X	±.00024"
4X	68X	±.00024"
4.5X	77X	±.00020"

### STANDARD DELIVERY

Main unit	1 pc
Calibration plate	1 pc
Power adapter	1 pc
Mouse	1 pc
16G USB flash disk	1 pc

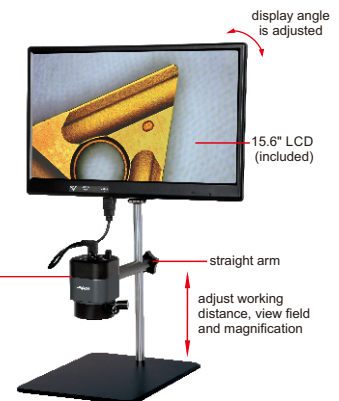
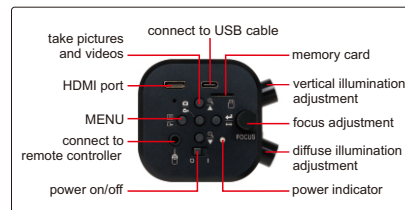
## DIGITAL MICROSCOPE PART NO. 5309-DM50



**TAKE PICTURES  
AND VIDEOS**

**MEASUREMENT**

- Independent control of vertical illumination and diffuse illumination
- Back focus adjustment extends working distance
- Take pictures and videos, save to memory card

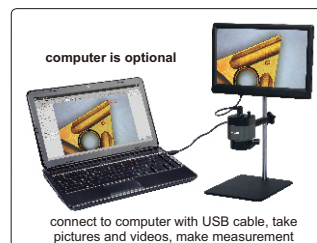


### SPECIFICATION

Arm type	straight
Sensor	1/2.8" CMOS
Pixel	2M
Resolution	1920×1080
Exposure	real-time auto, single auto, manual adjustment
White balance	real-time auto, single auto, manual RGB adjustment
Record format	pictures: JPG videos: MOV
Record media	memory card
Working distance	1.77~6.65"
Magnification	9~41X
View field	.30×.16~1.52×.85"
Power supply	DC12V 3A

### STANDARD DELIVERY

Main unit	1 pc
Memory card and holder	1 pc
Plastic calibration rule	1 pc
White/black plate	1 pc
Remote controller	1 pc
USB cable	1 pc
Measuring software	1 pc
Power adapter	1 pc



### MAGNIFICATION, VIEW FIELD AND MEASURING ACCURACY (use computers, optional)

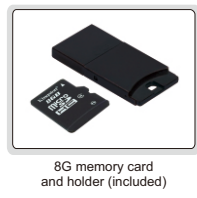
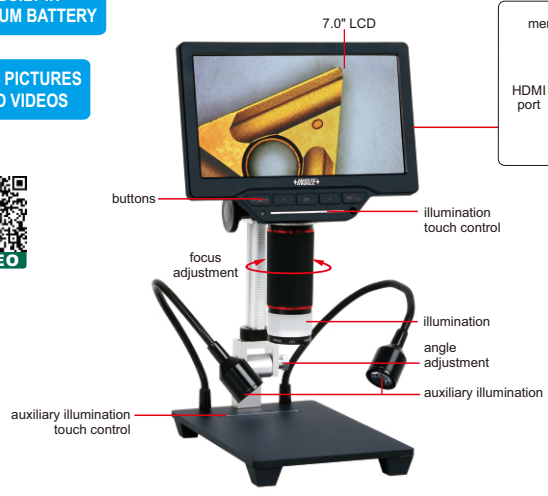
Image magnification	View field	Measuring accuracy
9.0X	1.52×.85"	±.001"
13.0X	1.05×.59"	±.001"
17.0X	.81×.46"	±.001"
22.0X	.63×.35"	±.001"
28.5X	.47×.25"	±.001"
34.0X	.39×.22"	±.001"
41.0X	.30×.16"	±.001"



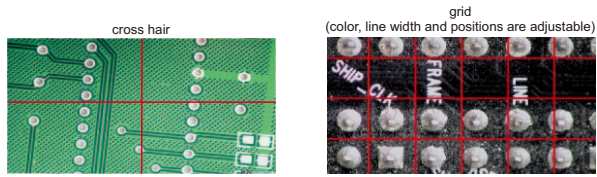
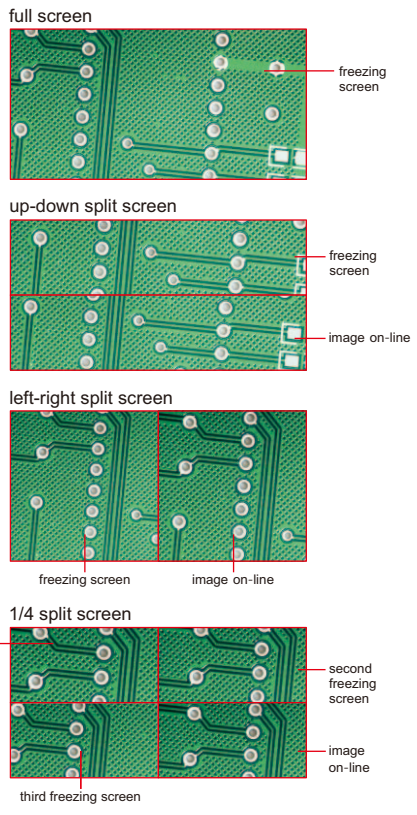
# MINI DIGITAL MICROSCOPE (ECONOMIC TYPE) PART NO. 5311-M710

**BUILT-IN LITHIUM BATTERY**

**TAKE PICTURES AND VIDEOS**



■ **Screen freezing:**



**SPECIFICATION**

Display resolution	1024×600
Sensor	1/3" CMOS
Sensor resolution	1280×960
Frame rate	60fps/30fps
Magnification	1X~16X
White balance	auto/manual (10 levels RGB)/calibration
Exposure control	AE lock/exposure compensation (10 levels)
Image control	contrast/saturation/sharpness
Record media	memory card
Output	HDMI
Power supply	built-in lithium battery/power adapter
Dimension (L×W×H)	6.85×7.87×13.78"
Weight	3.30lb

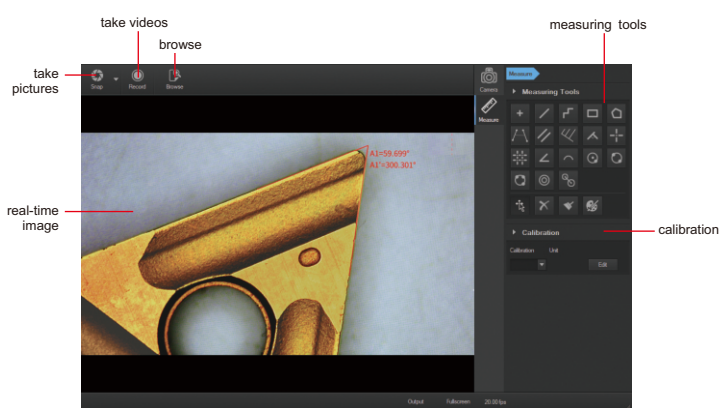
**STANDARD DELIVERY**

Main unit	1 pc
USB cable	1 pc
HDMI cable	1 pc
IR remote controller	1 pc
8G memory card and holder	1 pc
Plastic calibration rule	1 pc
Power adapter	1 pc

**SOFTWARE FOR COMPUTER (INCLUDED)**

- **Language:** Chinese (Simplified), English
- **Operation system:** Windows 7/8/8.1/10 (64bit)
- **Port:** USB2.0 or above
- **Measuring accuracy:** .0008"

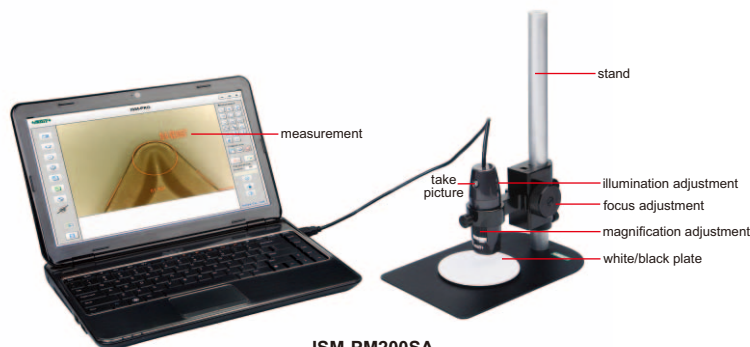
- + point counting
- A distance between 2 lines
- # double cross line
- ⊙ radius of a 3-point circle
- ∕ straight line length
- ∕ distance between parallel lines
- ∠ angle
- ⊙ center distance of 2 circles
- ∕ continuous line length
- ⊗ distance between line and first parallel line
- ∩ arc
- ⊙ center distance of concentric circle
- area of a rectangle
- ∠ point-line distance
- ⊙ radius of a circle
- ⬠ area of a polygon
- + cross line
- ⊙ radius of a 2-point circle



## DIGITAL MEASURING MICROSCOPES



universal stand (included in **ISM-PM200SB**)



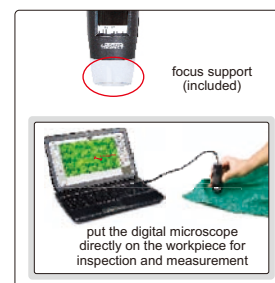
software CD (included)

- Can take pictures and videos
- Supplied with software
- Calibration rules (graduation 0.1mm/.004" and 1mm/.039") are included
- With focus support

**ISM-PM200SA**  
computer is optional

### SPECIFICATION

Part No.	<b>ISM-PM200SA</b>	<b>ISM-PM200SB</b>
Magnification	10X~200X	10X~200X
Stand	standard	universal
Pixel	2M (resolution: 1600×1200)	
Illumination	built-in adjustable LED	
Power supply	USB 2.0 cable (voltage required: 5±0.1V)	

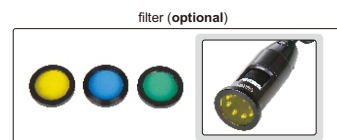


### MAGNIFICATION, FOCUS DISTANCE, VIEW FIELD AND ACCURACY

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

### OPTIONAL ACCESSORY

Green filter	<b>ISM-PM-GREEN</b>
Yellow filter	<b>ISM-PM-YELLOW</b>
Blue filter	<b>ISM-PM-BLUE</b>



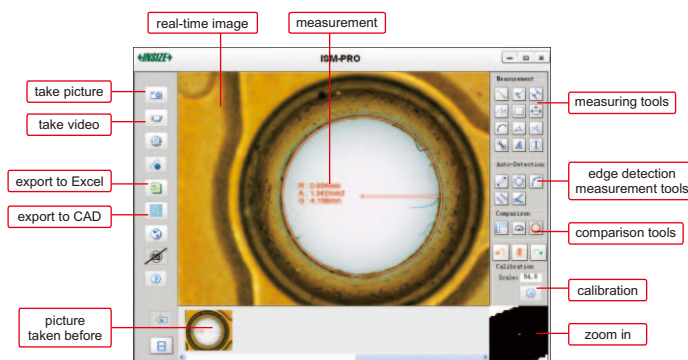
### SOFTWARE

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

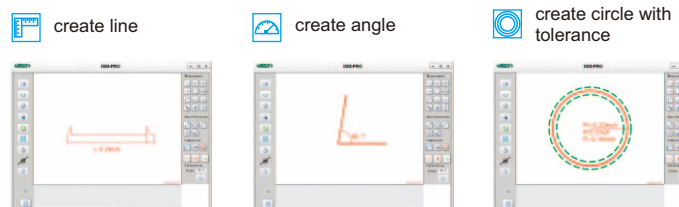
#### ■ Edge detection measurement tools:

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

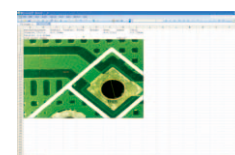
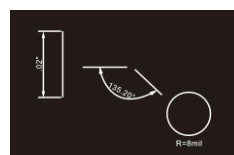


#### Comparison tools:

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



#### ■ Data export to CAD or Excel:

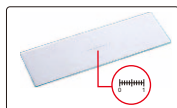




# WiFi DIGITAL MEASURING MICROSCOPE PART NO. ISM-WF200



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



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



software CD  
(included)

- 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

Magnification	10X~200X
Pixel	1.3M (resolution: 1280x1024)
Illumination	built-in adjustable LED
Power supply	built-in rechargeable battery

### STANDARD DELIVERY

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



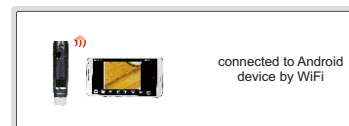
stand (part no.  
ISM-PM-STAND, optional)



filter (optional)



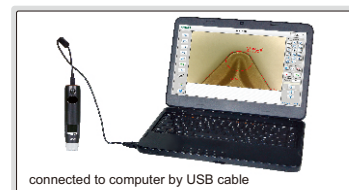
connected to iPad  
by WiFi



connected to Android  
device by WiFi



connected to computer by WiFi

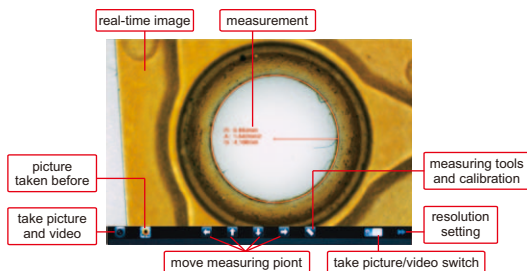


connected to computer by USB cable

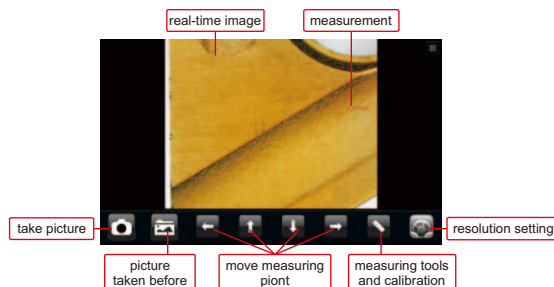
### MAGNIFICATION, FOCUS DISTANCE, VIEW FIELD AND ACCURACY

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

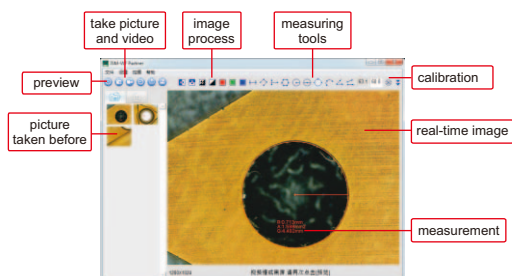
#### 1 Software ISM-PAD (for iPad by WiFi)



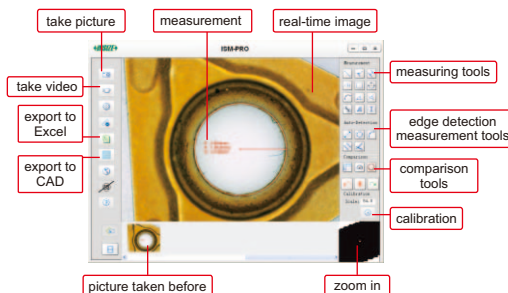
#### 2 Software ISM-APK (for Android devices by WiFi)



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



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





# DIGITAL CAMERA FOR MICROSCOPES PART NO. ISM-CM63



**ATTENTION: ADAPTERS ARE NEEDED  
ACCORDING TO MICROSCOPES**

- To be used with computers
- Sony Exmor back-illuminated CMOS sensor
- USB3.0 transmission
- Automatic exposure, gain adjustment, white balance, chrominance adjustment, saturation adjustment, gamma correction, luminance adjustment, contrast adjustment



C-mount port

software (included)

selectable resolution

histogram (quantify the distribution of color and brightness)

measurement items

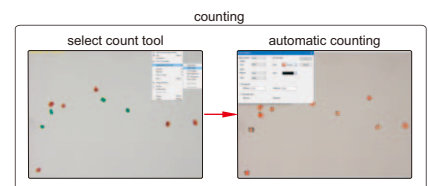
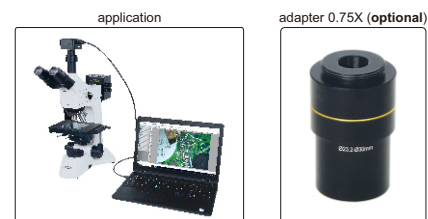
real time gray calibration

black balance (reduce color difference)

flat field correction (reduce brightness difference)

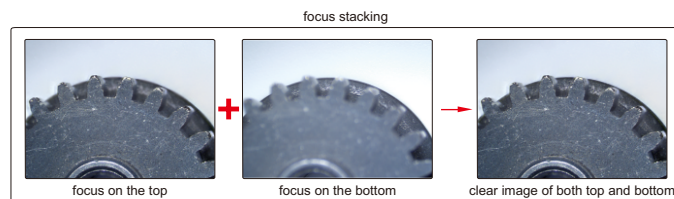
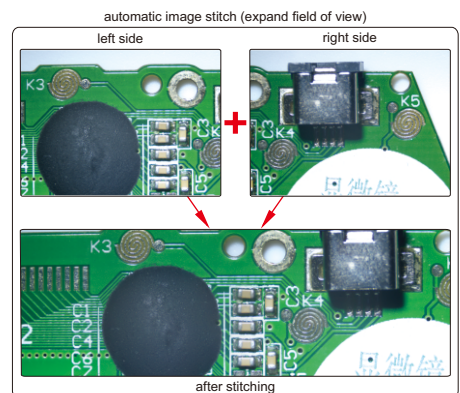
dark field correction (reduce thermal noise)

The software can control image completely, including measurement, image stitch, extend focus depth, image gray processing, RGB histogram observation, image color sampling, 3D plot(3D representation of image intensity), image exposure, white balance, black balance, image bit depth, flat field correction and dark field correction, etc.



### Measurement tools:

- measure length of line or distance between two points
- measure rectangle
- measure angle
- measure radius, girth and area of circle
- measure axis lengths, girth and area of ellipse
- calibration
- measure distance between two parallel lines
- measure width and diameter of ring
- measure diameter, length, perimeter angle of arc
- measure area of polygon
- measure center distance between two circles
- measure length of open curve



### SPECIFICATION

Sensor (back-up)	1/1.8" CMOS
Resolution	3072×2048
Pixel	6.3M
Single pixel size	.00009×.00009"
Spectral range	380-650nm (with infrared cut filter)
Frame rate	30fps
Sampling average	1×1
Exposure time	0.1ms~15s
Power supply	USB port
Weight	.88lb

### STANDAER DELIVERY

Camera (USB cable included)	1 pc
Software	1 pc

### OPTIONAL ACCESSORY

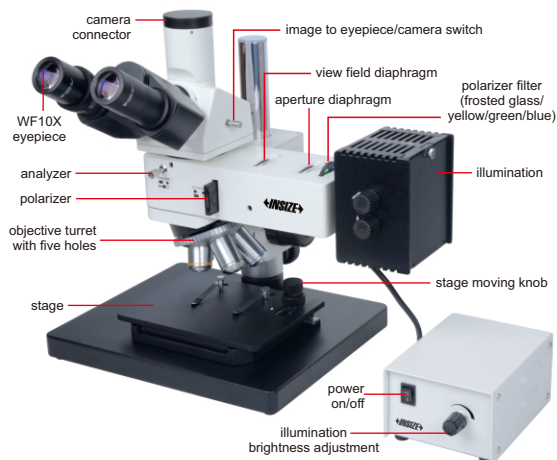
Adapter 0.75X	<a href="#">ISM-AD-0D75</a>
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### COMPUTER REQUIREMENT

Operation system	Windows/7/8/10
CPU	Intel Core 2 2.8Hz or above
Memery	2GB or above
USB port	USB3.0 (Recommand) or USB2.0
Display	17" or above

## INDUSTRIAL MICROSCOPE

- Infinite optical system, polarization observation, dark field observation
- Kohler illumination system provides uniform illumination field
- Objective 50X is spring type



### SPECIFICATION

Part No.	<b>5101-M500-U (bright field objectives)</b>			
Illumination	6V/30W halogen lamp, brightness is adjustable			
Objective (infinite plan achromatic)	bright field objectives			
	5X	10X	20X	50X
Working distance	1.03"	.80"	.35"	.14"
Numerical aperture	0.12	0.25	0.40	0.70
Magnification	50X~500X			
Eyepiece (wide field)	10X (view field .87" DIA)			
	double layer			
Stage	size: 6.30×5.51"			
	travel: 1.38×1.18"			
Pupil distance	2.09~2.95"			
Diopter adjustment	±5 diopter (one eyepiece)			
Power supply	110V, 50/60Hz			
Dimension (L×W×H)	16.34×13.58×14.96"			
Weight	30.86lb			

### STANDARD DELIVERY

Main unit	1 pc
Anti-dust cover	1 pc

### OPTIONAL ACCESSORY

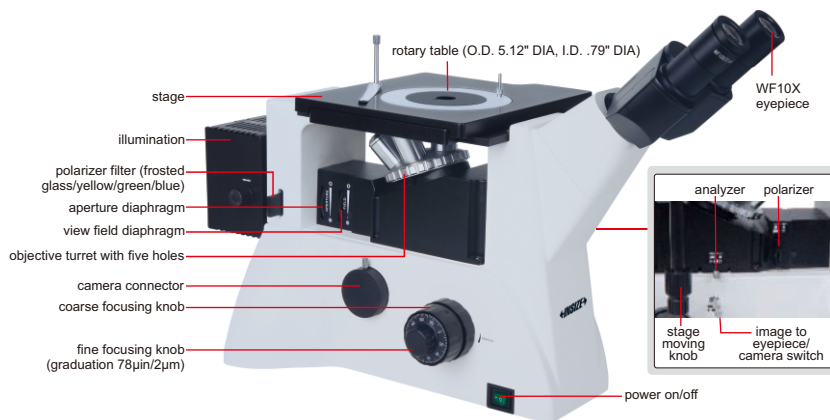
Bright field objective	PL40X	<b>5101-M-OB40X</b>
	PL60X	<b>5101-M-OB60X</b>
	PL80X	<b>5101-M-OB80X</b>
	PL100X	<b>5101-M-OB100X</b>
10X dividing eyepiece (0.1mm/.004")		<b>5101-M-EPD10X</b>
Digital camera		<b>ISM-CM20, ISM-CM63, ISM-ZS70-S</b>
Camera adapter*		<b>5101-M-ADAPTER</b>

\*Digital camera must be used with camera adapter

## METALLURGICAL MICROSCOPE



- Infinite optical system, polarization observation, dark field observation
- Kohler illumination system provides uniform illumination field
- Objectives 50X, 100X are spring type



### SPECIFICATION

Part No.	<b>5103-M1000-U (bright field objectives)</b>			
Illumination	6V/30W halogen lamp, brightness is adjustable			
Objective (infinite plan achromatic)	bright field objectives			
	10X	20X	50X	100X
Working distance	.80"	.35"	.14"	.02"
Numerical aperture	0.25	0.40	0.70	0.85
Magnification	100X~1000X			
Eyepiece (wide field)	10X (view field .87" DIA)			
	double layer			
Stage	size: 9.53×7.87"			
	travel: 1.18×1.18"			
Pupil distance	2.09~2.95"			
Diopter adjustment	±5 diopter (one eyepiece)			
Power supply	110V, 50/60Hz			
Dimension (L×W×H)	24.17×9.84×15.51"			
Weight	28.66lb			

### STANDARD DELIVERY

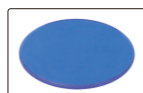
Main unit	1 pc
Polarizer and analyzer	1 pc of each
Anti-dust cover	1 pc

### OPTIONAL ACCESSORY

Bright field objective (for 5103-M1000-U)	PL5X	<b>5101-M-OB5X</b>
	PL40X	<b>5101-M-OB40X</b>
	PL60X	<b>5101-M-OB60X</b>
	PL80X	<b>5101-M-OB80X</b>
10X dividing eyepiece (0.1mm/.004")		<b>5103-M-EPD10X</b>
Digital camera		<b>ISM-CM63</b>
Camera adapter*		<b>5101-M-ADAPTER</b>

\*Digital camera must be used with camera adapter

## METALLURGICAL MICROSCOPE



blue filter (included)



frosted glass filter (included)

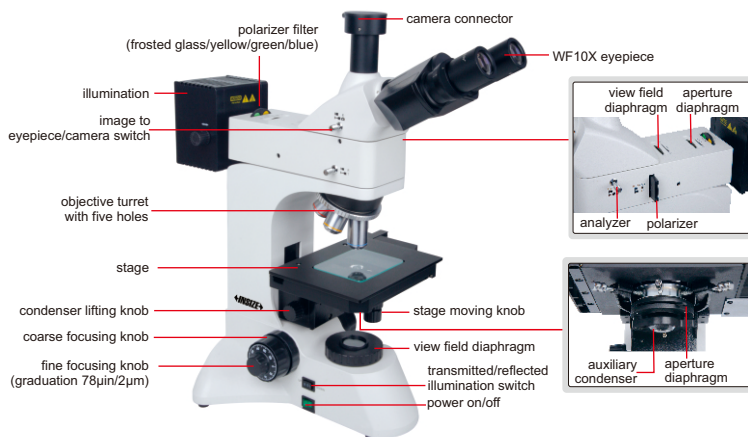


VIDEO

- Infinite optical system, observation in reflected or transmitted illumination, polarizing observation
- Kohler illumination system provides uniform illumination field
- Objectives 40X, 60X are spring type

### SPECIFICATION

Part No.	<b>5102-M600-U (bright field objectives)</b>			
Illumination	6V/30W (transmitted), 6V/30W (reflected)			
Objective (infinite plan achromatic)	bright field objectives			
	5X	10X	40X	60X
Working distance	1.03"	.80"	.16"	.13"
Numerical aperture	0.12	0.25	0.60	0.70
Magnification	50X~600X			
Eyepiece (wide field)	10X (view field .87" DIA)			
Stage	double layer			
	size: 8.27×5.51"			
	travel: 2.95×1.97"			
Pupil distance	2.09~2.95"			
Dioptr adjustment	±5 diopter (one eyepiece)			
Power supply	110V, 50/60Hz			
Dimension (L×W×H)	17.95×10.24×19.61"			
Weight	24.25lb			



### STANDARD DELIVERY

Main unit	1 pc
Anti-dust cover	1 pc
Filter (blue/frosted glass)	1 pc of each

### OPTIONAL ACCESSORY

Bright field objective (for 5102-M600-U)	PL20X	5101-M-OB20X
	PL50X	5101-M-OB50X
	PL80X	5101-M-OB80X
	PL100X	5101-M-OB100X
10X dividing eyepiece (0.1mm/.004")	5101-M-EPD10X	
Digital camera	ISM-CM20, ISM-CM63, <a href="#">ISM-ZS70-S</a>	
Camera adapter *	5101-M-ADAPTER	

\*Digital camera must be used with camera adapter

## ZOOM STEREO MICROSCOPES (STANDARD TYPE)

### SPECIFICATION

Part No.	<a href="#">ISM-ZS50</a>	<a href="#">ISM-ZS50T</a>
Optical tube	binocular	trinocular
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)	
Dioptr adjustment	±5 diopter (two eyepieces)	
Working distance of objective	4.53"	
Max. workpiece height	2.95"	
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	



ISM-ZS50



LED ring light (optional)



VIDEO

### 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

### OPTIONAL ACCESSORY

Auxiliary objective	0.5X	<a href="#">ISM-ZS50-OB05X*</a>
	2X	<a href="#">ISM-ZS50-OB2X</a>
Eyepiece	10X dividing eyepiece (graduation 0.1mm/.004")	<a href="#">ISM-ZS50-EPD10X</a>
	WF15X (view field .63" DIA)	<a href="#">ISM-ZS50-EP15X</a>
	WF20X (view field .47" DIA)	<a href="#">ISM-ZS50-EP20X</a>
LED ring light	ISM-ZS-RL	
Sleeve for auxiliary objective	ISM-ZS30-ADAPTER	
Digital camera for ISM-ZS50T	ISM-CM20, ISM-CM63, <a href="#">ISM-ZS70-S</a>	
Camera adapter 0.5X for ISM-ZS50T**	ISM-MAS-ADAPTER	

\*0.5X auxiliary objective must be used with ISM-ZS30-ADAPTER

\*\*Digital camera must be used with camera adapter 0.5X



## ZOOM STEREO MICROSCOPE (BASIC TYPE) PART NO. ISM-ZS30

### SPECIFICATION

Optical tube	binocular
Eyeiece (wide field)	10X (view field .8" DIA)
Objective	1X~4.5X (zoom)
Zoom ratio	1:4.5
Pupil distance	2.17~2.95" (adjustable)
Diopter adjustment	±5 diopter (two eyepieces)
Working distance of objective	3.82"
Max. workpiece height	2.36"
Illumination	adjustable reflected and transmitted LED light
Power supply	110/220V, 50/60HZ
Dimension (L×W×H)	10.24×7.48×15.75"
Weight	9.48lb



LED ring light (optional)



VIDEO

### STANDARD DELIVERY

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

### OPTIONAL ACCESSORY

Auxiliary objective	0.5X	<a href="#">ISM-ZS30-OB05X*</a>
	0.63X	<a href="#">ISM-ZS30-OB06X*</a>
	0.75X	<a href="#">ISM-ZS30-OB07X*</a>
	2X	<a href="#">ISM-ZS30-OB2X</a>
Eyepiece	10X dividing eyepiece (graduation 0.1mm/.004")	<a href="#">ISM-ZS30-EPD10X</a>
	WF15X (view field .63" DIA)	<a href="#">ISM-ZS50-EP15X</a>
	WF20X (view field .47" DIA)	<a href="#">ISM-ZS50-EP20X</a>
LED ring light		<a href="#">ISM-ZS-RL</a>
Sleeve for auxiliary objective		<a href="#">ISM-ZS30-ADAPTER</a>
Digital camera		<a href="#">ISM-CM63</a>
Camera adapter 0.75X**		<a href="#">ISM-AD-0D75</a>

\* 0.5X, 0.63X and 0.75X auxiliary objectives must be used with [ISM-ZS30-ADAPTER](#)

\*\* Digital camera must be used with camera adapter 0.75X

### FOLDING MAGNIFIER

closed

7511-8

POPULAR MODEL

■ Glass lens

Part No.	Magnification	Lens diameter (D)
<a href="#">7511-8</a>	10X	.827" DIA

### FOLDING MAGNIFIER WITH ILLUMINATION

7515-10

LED ON/OFF

closed

2 pcs LED

■ Resin lens  
■ Powered by 3xLR927 batteries (included)

Part No.	Magnification	Lens diameter (D)
<a href="#">7515-10</a>	10X	.867" DIA

### FOLDING MAGNIFIER WITH ILLUMINATION

closed

7514-1

LED

LED lights up when opened

■ Resin lens  
■ Powered by 2xCR1620 batteries (included)  
■ LED lights up automatically when  $\alpha$  is over 130°

Part No.	Magnification	Lens diameter (D)
<a href="#">7514-1</a>	2.5X	1.772" DIA

### MAGNIFIER WITH ILLUMINATION

base with scale

rotate lens to adjust focus

7524-10

ON/OFF

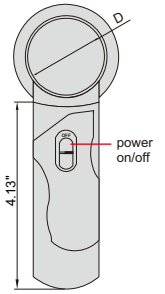
■ Glass lens  
■ Powered by 3xAG7 batteries  
■ 3 pcs LED and 3 pcs UV  
■ Base with scale, graduation: 1/16", 0.5mm

Part No.	Magnification	Lens diameter (D)
<a href="#">7524-10</a>	10X	1.181 DIA



### MAGNIER WITH TWO LENSES

- Resin lens
- Interchangeable lenses
- Powered by 3 pcs AAA batteries (included)



7522-610

Part No.	Lens number	Magnification	Lens diameter (D)
7522-610	2 pcs	6X	1.97" DIA
		10X	1.46" DIA

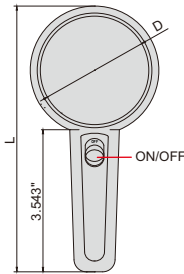
### MAGNIERS WITH ILLUMINATION



7513-2

7513-4

POPULAR MODEL



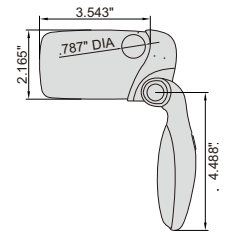
- Glass lens
- Powered by 3xAAA batteries (included)

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

### MAGNIER WITH ILLUMINATION



7518-26



- Two magnifications
- LED illumination
- Powered by 2 pcs AAA batteries (included)
- Resin lens

Part No.	Magnification	Lens size
7518-26	2X/6X	3.543x2.165"

### MAGNIFICATION GLASSES

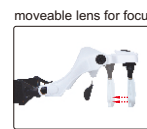
- Resin lens
- Interchangeable lenses
- Powered by 3 pcs AAA batteries (included)



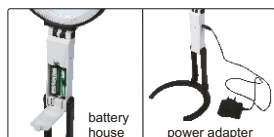
7523-3D5



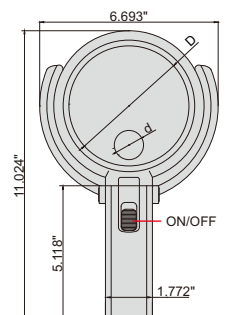
Part No.	Lens number	Magnification
7523-3D5	5 pcs	1X
		1.5X
		2X
		2.5X
		3.5X



### THREE WAYS MAGNIER WITH ILLUMINATION



7512-1



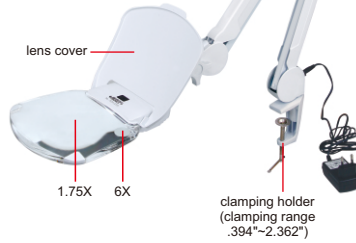
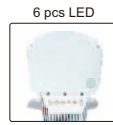
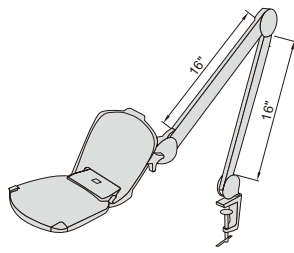
- Resin lens
- Powered by 2xAA batteries (included) or power adapter (110~240V, 50~60Hz)

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

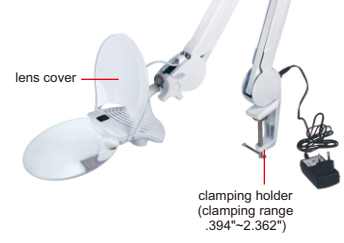


**TABLE MAGNIFIERS WITH ILLUMINATION**

- LED illumination, working life 20000h
- Resin lens



**7520-320D**



**7521-3D**

**SPECIFICATION**

<b>Part No.</b>	<b>7520-320D</b>	<b>7521-3D</b>
<b>Magnification</b>	two magnification 1.75X/6X	1.75X
<b>Diopter</b>	3D/20D	3D
<b>Lens diameter</b>	6.4x5"	5" DIA
<b>Illumination</b>	power: 6W, illumination: 550lm	
<b>Power supply</b>	power adapter 12V, 1A	

**TABLE MAGNIFIER WITH ILLUMINATION PART NO. 7517-3D**



- Four steps brightness adjustment
- LED illumination, working life 20000h
- Resin lens

**SPECIFICATION**

<b>Magnification</b>	1.75X
<b>Diopter</b>	3D
<b>Lens diameter</b>	4.921" DIA
<b>Illumination</b>	power: 3W, illuminance: 260lm
<b>Power supply</b>	power adapter 12V, 1A

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



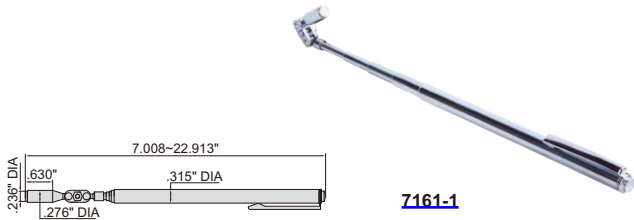
- LED illumination, working life 20000h



**SPECIFICATION**

<b>Magnification</b>	2.25X
<b>Diopter</b>	5D
<b>Lens diameter</b>	4.803" DIA
<b>Illumination</b>	power: 7W, illuminance: 420lm
<b>Power supply</b>	100~240V, 50~60Hz

**TELESCOPING MAGNETIC PICK-UP**

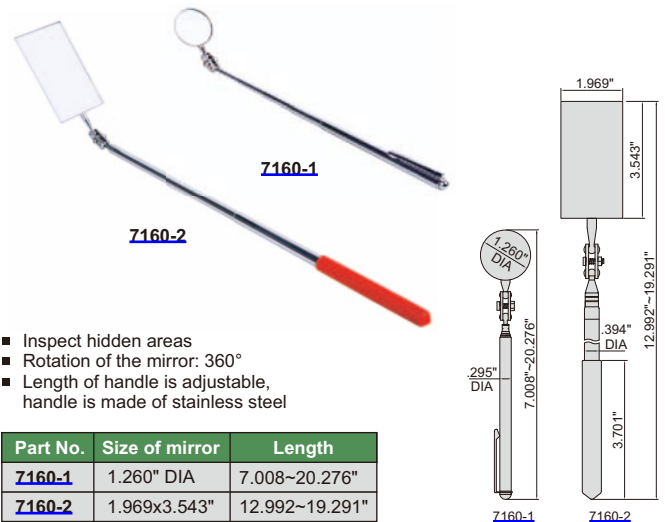


**7161-1**

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

Part No.	Size of magnetic tip	Magnetic force	Length
<b>7161-1</b>	.236" DIA	0.99lbf	7.008~22.913"

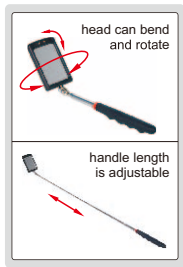
**TELESCOPING INSPECTION MIRRORS**



- Inspect hidden areas
- Rotation of the mirror: 360°
- Length of handle is adjustable, handle is made of stainless steel

Part No.	Size of mirror	Length
<b>7160-1</b>	1.260" DIA	7.008~20.276"
<b>7160-2</b>	1.969x3.543"	12.992~19.291"

### TELESCOPING INSPECTION MIRROR (WITH ILLUMINATION)

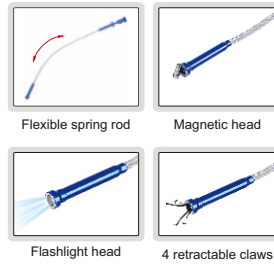


7162-1

- Inspect hidden areas
- Head can bend and rotate
- Telescoping handle, made of stainless steel
- With two CR2032 batteries

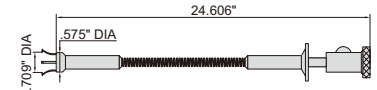
Part No.	Size of mirror	Length
7162-1	2.559x1.654"	11.220~34.449"

### FLEXIBLE PICK-UP AND FLASHLIGHT



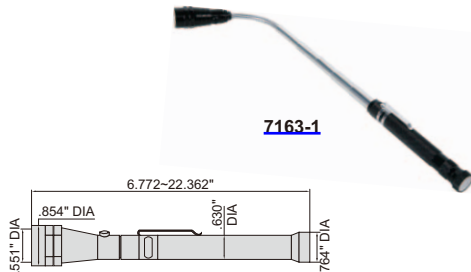
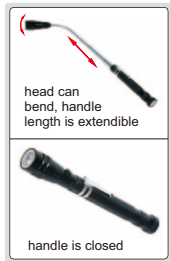
7164-1

- To illuminate, to pick up parts from hidden areas, or to pick up steel parts
- Flexible spring rod, made of stainless steel
- Three LR44 batteries



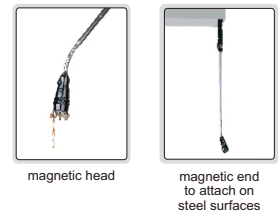
Part No.	Magnetic force	Flashlight range	Battery life
7164-1	1.98lbf	40"	24h

### TELESCOPING MAGNETIC PICK-UP AND FLASHLIGHT



7163-1

- Flashlight range: 118"
- For illumination and pick up metal parts in hidden areas
- Head can bend
- Telescoping handle, made of stainless steel
- Magnetic head and end
- With four LR44 batteries

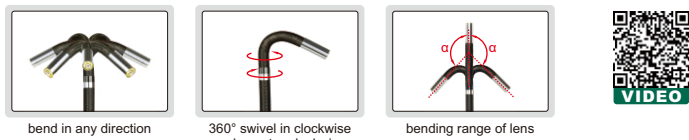


Part No.	Magnetic force of the end	Magnetic force of the head	Battery life	Length
7163-1	8lbf	4.6lbf	8h	6.772~22.362"

### VIDEOSCOPE PART NO. ISV-2000DS

TUNGSTEN WIRE WEAVED CABLE RESISTANCE TO BREAK AND WEAR

IP64 WATERPROOF



#### SPECIFICATION

	direction	front view
Lens	diameter (D)	.26"
	focus distance (F)	.6"~∞
	bending range (α)	±160°
	angle of view (θ)	90°
	illumination	6 pcs LED
	pixel	0.44M
	resolution	800×480
	dust/waterproof	IP64
	bend control	manual joystick
	Cable	length
type		tungsten wire weaved cable
Main unit	function	take picture, take video
	file format	picture: JPG, video: AVI
	image process	brightness, image quality zoom (1X, 2X, 3X)
	memory	8G SD card
	output	TV, USB
power supply	rechargeable battery (for 4 hours working) AC/DC adapter (for continuous working)	
Weight	1.43lb	



#### STANDARD DELIVERY

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

rapid change of lens cable



## MOBILE PHONE VIDEOSCOPE PART NO. ISV-P6

- For Android and IOS mobile phones

### SPECIFICATION

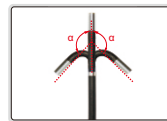
Diameter of lens (D)	.24"±.008"
Length of cable	40"
Resolution	960×720, 1280×720 (switchable)
Depth of field	.79"~∞
Angle of view (θ)	100°
Bending range (α)	0~180°
Illumination	LED with 3 levels control
Cable type	wear resistant
Interface	USB, Type-C
Mobile phone system	Android, IOS
Power supply	rechargeable battery (for 2 hours working)
Dimension (L×W×H)	7.68×2.24×4.13"
Weight	1lb

### STANDARD DELIVERY

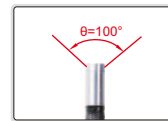
Main unit (with cable)	1 pc
Type-C cable	1 pc
Micro USB cable	1 pc
Iphone cable	1 pc
Charging cable	1 pc



The clamping range of mobile phone bracket L= 2.20-3.74"



bending of lens up to 180°



angle of view



lens with LED

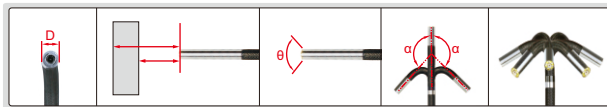


bend in any direction

## VIDEOSCOPIES



changeable lens cable

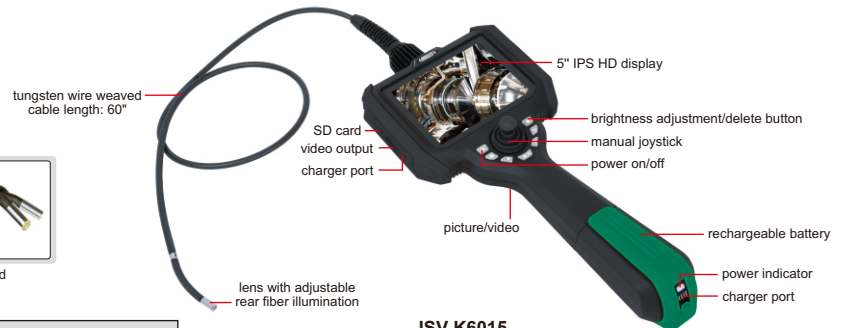


diameter (D) depth of field (DOF) angle of view (θ) bend range (α) bend

### SPECIFICATION

Part No.	ISV-K3915	ISV-K6015	
Lens	diameter (D)	.154"	.236"
	pixel	0.92M	
	resolution	1280×720	
	depth of field	.315~5.906"	.472~7.874"
	bending direction	four directions	four directions
	bending range (α)	±160°	
	angle of view (θ)	120°	
	illumination	rear fiber	
	lens	sapphire glass lens	
	dust/waterproof	IP67	
Cable	length	60"	
	type	tungsten wire weaved cable	
Main unit	display	5" high definition LCD	
	function	take pictures, take videos	
	file format	picture: JPG, video: MP4	
	image process	image zoom (1X, 2X, 3X, 4X)	
	image control	freeze, flip over, playback and analog ruler	
	memory	memory card	
	output	USB, HDMI	
	power supply	rechargeable lithium battery (working time ≥ 4hours), AC/DC adapter (for continuous working)	
Weight	2.205lb		

REAR FIBER ILLUMINATION



ISV-K6015

### STANDARD DELIVERY

Main unit	1 pc
32G SD card	1 pc
Card reader	1 pc
USB cable	1 pc
Tripod	1 pc
AC/DC adapter	1 pc

### OPERATION ENVIRONMENT

Main unit	14~122°F, no preheat
Operation temperature	-4~158°F
Storage temperature	-4~140°F
Relative humidity	maximum 90%, no condensation

### OPTIONAL ACCESSORY

WiFi output	ISV-K-WIFI (must be installed in factory, only for Android OS)
Temperature alarm	ISV-K-HTALARM (must be installed in factory)
Clamp	ISV-K-CLAMP1, ISV-K-CLAMP2, ISV-K-CLAMP3, ISV-K-CLAMP4 (must be installed in factory)



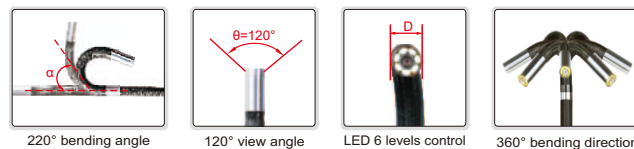
## VIDEOSCOPE (BASIC TYPE)



**TUNGSTEN WIRE WEAVED CABLE  
BREAK AND WEAR RESISTANCE**

### SPECIFICATION

<b>Part No.</b>	<b>ISV-T105</b>	
<b>Lens</b>	diameter (D)	.23"
	pixel	1M
	resolution	1280×720
	depth of field	.79"~5.90"
	bending direction	360°
	bending range (α)	0°~220°
	angle of view (θ)	120°
	illumination	7 pcs LED, with 6 levels control
	illuminance	25000 Lux
	lens	sapphire glass lens
	dust/waterproof	IP67
	bend control	manual joystick
	temperature alarm	temperature sensor (optional)
	<b>Cable</b>	length
type		tungsten wire weaved cable
<b>Main unit</b>	display	3.5" IPS full-view display
	display resolution	640×480
	function	take pictures, take videos
	file format	picture: JPG, video: MP4
	image process	image zoom (1X, 2X, 3X, 4X, 5X)
	memory	memory card (Maximum: 64G)
	output	USB, HDMI, WIFI (optional)
	dust/waterproof	IP65
	power supply	rechargeable lithium battery (working time ≥ 3 hours); optional: additional battery, working time ≥ 9 hours) AC/DC adapter (for continuous working)
	<b>Weight</b>	2.2lb



### STANDARD DELIVERY

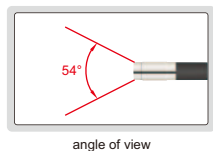
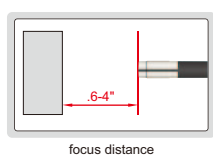
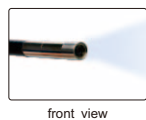
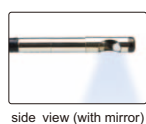
Main unit (with cable & lens)	1 pc
16G SD card	1 pc
Card reader	1 pc
USB cable	1 pc
Battery	1 pc
AC/DC adapter	1 pc

### OPTIONAL ACCESSORY

Additional battery	ISV-S106-BATTERY (must be installed in factory)
WIFI output	ISV-S106-WIFI
Temperature alarm	ISV-S106-HT-ALARM

## VIDEOSCOPE (BASIC TYPE)

**PART NO. ISV-E10**



**ATTENTION: THE CABLE CAN BE BENT  
BUT CAN'T BE SET AT A FIXED SHAPE**

**OPTIONAL CABLE  
LENGTH 9.8FT, 16.4FT AND 32.8FT**

**IP65  
WATERPROOF**



### SPECIFICATION

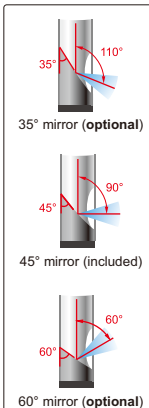
<b>Lens</b>	diameter	.22"
	pixel	0.3M
	resolution	640×480
	frame rate	30fps
<b>Cable</b>	length	40"
	type	steel wire weaved cable
<b>Main unit</b>	function	take picture, take video
	file format	picture: JPG, video: AVI
	image process	brightness, contrast, color saturation
	memory	2G SD card
	output	TV, 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



## COATING THICKNESS GAGE PART NO. 9501-1200

FOR MAGNETIC AND  
NON-MAGNETIC SUBSTRATES

DATA  
OUTPUT



software CD  
(included)



- Magnetic induction probe (FE) measures the thickness of non-magnetic coating and non-metallic coating on magnetic substrate.  
Substrate: iron, steel, magnetic stainless steel (not for non-magnetic stainless steel)  
Coating: zinc, copper, chrome, tin, plastic, powder, paint (not for nickel)
- Eddy current probe (NFE) measures the thickness of non-conductive coating on non-magnetic metal substrate.  
Substrate: copper, aluminum, zinc, non-magnetic stainless steel  
Coating: plastic, powder, paint, anodizing (not for chrome and zinc plating)
- Tolerance measurement
- Automatic power off

### SPECIFICATION

Probe type	FE (included) magnetic induction probe	NFE (optional) eddy current probe	FE90 (optional) magnetic induction probe for bores and grooves	Fe10 (optional) magnetic induction probe with large range
Measuring range	0~50mils	0~50mils	0~50mils	20~400mils
Accuracy	$\pm(3\%L+.04)$ mils (range $\leq$ 50mils) $\pm(3\%L+.4)$ mils (range $>$ 50mils) L is measuring thickness in mils			
Resolution	.01mils			.1mils
Measuring mode	continuous and single			
Minimum substrate thickness	.02"	.01"	.02"	.08"
Minimum measuring area	.3" DIA	.2" DIA	.3" DIA	1.6" DIA
Minimum curvature radius of convex workpiece	.06"	.12"	-	.40"
Memory	500			
Output	USB			
Power supply	2×1.5V AA batteries			
Dimension	5.0×2.7×1.3"			
Weight	.7lb			



ruby contact point

magnetic induction  
probe 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)



zero calibration block  
for FE (included)



calibration foils  
(included)



data transmission  
cable (optional)

### STANDARD DELIVERY

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

### OPTIONAL ACCESSORY

Data transmission cable	<a href="#">9501-1200-SPC</a>
Eddy current probe (NFE) with zero calibration block	<a href="#">9501-1200-NFE</a>
Magnetic induction probe (FE90) for bores and grooves	<a href="#">9501-1200-FE90</a>
Magnetic induction probe (FE10) with large range	<a href="#">9501-1200-FE10</a>

## DIGITAL SURFACE PROFILE GAGE

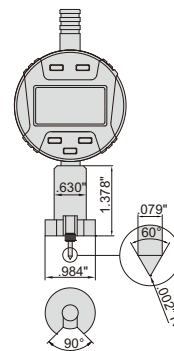
DISPLAY MAXIMUM, MINIMUM, DIFFERENCE  
VALUE BETWEEN MAXIMUM AND MINIMUM

DATA  
OUTPUT

- Measure peak-to-valley height of blast cleaned surface.  
If the profile is too low, the adhesion of the coating to the surface will be reduced.  
If the profile is too high, there is the danger that the profile peaks will remain uncoated, allowing rust spots to occur.
- Meet ASTM D 4417-B
- Zero set block is included, set zero before measurement
- Button function: tolerance Go and No-Go display, data preset, measuring direction change, max./min./TIR measurement, inch/metric conversion, absolute/incremental measurement
- CR2032 battery, automatic power off (time is adjustable)
- Data output
- Stainless steel base
- Optional accessory: data output cable (part no. 7315-50M, 7302-40M, 7305-40M)



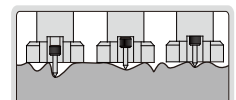
[2844-10](#)



set zero



measure peak-to-valley height  
of blast cleaned surfaces



Part No.	Range	Digital indicator stroke	Digital indicator resolution	Accuracy
<a href="#">2844-10</a>	0-.5"/0-12.7mm	.5"/12.7mm	.00005"/0.001mm	±.0002"

## ULTRASONIC THICKNESS GAGE (BASIC TYPE) PART NO. ISU-100D

INSPECTION  
CERTIFICATE

ATTENTION: NOT SUITABLE  
FOR CASTING WORKPIECES

- Measure the thickness from one side of objects, suitable for pipes, tanks, etc.
- Applicable material: metal, plastic, glass, nylon, resin, ceramic, ice



### SPECIFICATION (ON STEEL)

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"/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 PART NO. ISU-250C



- Measure the thickness from one side of objects, suitable for pipes, tanks, etc.
- Applicable material: metal, plastic, glass, nylon, resin, ceramic, ice
- Tolerance measurement
- Average calculation of 9 readings
- Data can be input to Excel and Word as keyboard signal

### SPECIFICATION (ON STEEL)

Resolution	.001" (range<10")	
	.01" (range ≥ 10")	
Repeatability	.001" (range<4")	
	.004" (range .4~10")	
Accuracy	.01" (range ≥ 10")	
	±.002"	(range<.4")
	±(.002+H/1000)"	(range .4~4")
±H/333" (range ≥ 4")		
H is the thickness to be measured in inch		
Velocity	.039-.394"/μs	
Power supply	2×1.5V AAA batteries	
Dimension	2.52×4.57×1.06"	
Weight	.49lb	

### STANDARD DELIVERY

Main unit	1 pc
Transducer ISU-T08	1 pc
Battery (AAA)	2 pcs
Couplant (for ISU-T04, ISU-T06, ISU-T08, ISU-T12)	1 bottle
USB cable	1 pc

### OPTIONAL ACCESSORY

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



INSPECTION  
CERTIFICATE

DATA  
OUTPUT



couplant (included)



transducer ISU-T12 (optional)



transducer ISU-T13 (optional)



transducer ISU-T04 (optional)



transducer ISU-T06 (optional)

### SPECIFICATION OF TRANSDUCERS (ON STEEL)

Part No.	Frequency	Diameter (d)	Measuring range	Minimum size of pipe for measurement (diameter × wall thickness)	Applicable temperature	Application
ISU-T08 (included)	5.0MHz	.43" DIA	.03-11.81"	.98×.05"	<140°F	general use
ISU-T04 (optional)	10.0MHz	.24" DIA	.03-.79"	.59×.04"	<140°F	for small tubes
ISU-T06 (optional)	7.5MHz	.35" DIA	.03-1.97"	.59×.05"	<140°F	for thin workpieces
ISU-T12 (optional)	2.0MHz	.67" DIA	.08-15.75"	1.57×.12"	<140°F	for casting iron
ISU-T13 (optional)	5.0MHz	.59" DIA	.12-3.94"	.98×.08"	<662°F	for high temperature

## INFRARED THERMAL IMAGING CAMERA (BASIC TYPE) PART NO. 9132-T400



NON-CONTACT  
TEMPERATURE MEASUREMENT

IP54  
WATERPROOF

DATA  
OUTPUT

### SPECIFICATION

IR image	IR resolution	120×90@.0007"
	Detector type	VOx/.0003"~.0006"
	Frame rate	25Hz/9Hz
	Thermal sensitivity/NETD	60mk
	Focal length	.09"/F1.13
	Field of view (FOV)	50°×38°
	Spatial resolution (IFOV)	7.6mrad
	Focus	Focus-free
Visible camera	Visible camera resolution	320×240, focus-free
	Flashlight	Yes
Image display	Display	2.4" IPS technology TFT display
	Display resolution	320×240
	Image model	IR/visible/picture-in-picture
	Color palettes	6: white hot, iron red, hot iron, arctic, rainbow 1, rainbow 2
Temperature measurement	Temperature range	-4~302°F, 212~752°F (auto switching)
	Accuracy	±35.6°F or ±3%, whichever is greater (target temp ≥32°F, ambient temp is 59~86°F)
	Measurement spot	Center spot
	Measurement area	3 (incl. max & min temp)
	Auto max & min spot tracking	Yes
Image storage	Storage media	TF card (16G)
	IR image format	Full radiometric (JPG) (120 x 90)
	Visible image	Yes, 320x240
	Alarm	Full screen max & min spot alarm
Connections & communications	Storage media	TF card (16G)
	IR image format	Full radiometric (JPG) (120 x 90)
	Visible image	Yes, 320x240
	Alarm	Full screen max & min spot alarm
Power system	Battery type	Rechargeable li ion battery
	Battery operation time	>5 hours
	Charging time	Internal charge, ≤2.5 hours
	Operation temperature	14~122°F
Environmental parameters	Storage temperature	-40~158°F
	Protection	IP54, 6.6ft drop test
	Certification	CE/ROHS/FCC
	Dimension (L×W×H)	7.64×2.42×2.99"
	Weight	.77lb



- IR/visible/laser indicator
- Trigger button for photo taking
- 6.6ft drop test, IP54 protection

### STANDARD DELIVERY

Main unit	1 pc
Power supply adapter	1 pc
TYPE-C cable	1 pc
16G TF card	1 pc

## LASER DISTANCE METERS



9561-40A

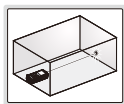
- Large display with backlight
- Unit: m, ft, in
- Distance, area, volume and height measurement
- Continuous measuring mode to track maximum and minimum value
- Memory of 20 measurement values
- Automatic power off: laser 30s, main unit 180s

### SPECIFICATION

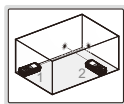
Part No.	9561-40A	9561-80A
Measuring range	.2~131ft	.2~262ft
Resolution	0.001m, .001ft, .001", .01"	
Accuracy	±(.12+D/1666)inch D: measured distance, unit: ft	
Measuring speed	.25 second	
Laser type	620~690nm, class II, <1mW	
Power supply	2×AAA batteries, for 5000 measurements	
Dimension (L×W×H)	4.61×2.09×1.06"	
Weight	.20lb	

### STANDARD DELIVERY

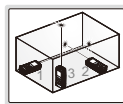
Main unit	1 pc
Battery (AAA)	2 pcs



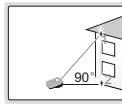
distance measurement



area measurement



volume measurement



height measurement



## DIGITAL VOLTAGE TESTER PART NO. 9721-250

- Direct AC test (contact): 12-250V  
two way display: voltage display on LCD screen or the neon lamp lights up
- Induction AC test (non-contact): 12-250V to detect power source or recognize the phase line, ground line and break point
- Direct DC test (contact): 6-36V work without battery enable testing in both dark and sunlight conditions instant sense and display
- Tester tip: CRV material



### SPECIFICATION

Range	AC: 12-250V; DC: 6-36V
Neon lamp life	30000 times
Dimension	5.2x.8x.7"
Weight	.05lb

## SMART DIGITAL MULTIMETER PART NO. 9247-190

- Automatically identify testing modes for AC voltage/DC voltage/resistance/continuity
- Non-connection AC voltage detection, and judge the strength through light and buzzer
- Self-calibration when power on to ensure accuracy
- LIVE firewire recognition
- Display backlight
- True RMS
- Data hold
- Low battery display
- Automatic power off
- Safety rating: CAT III 600V



### SPECIFICATION

Function	Range	Resolution	Accuracy
DC Voltage	60mV/600mV/6V/60V/600V	.01mV/.1mV/.001V/.01V/.1V	±(0.5%+3)
AC Voltage	60mV/600mV/6V/60V/600V	.01mV/.1mV/.001V/.01V/.1V	±(1.0%+3)
DC Current	6000μA/60mA/600mA	1μA/.01mA/.1mA	±(1.2%+5)
AC Current	6000μA/60mA/600mA	1μA/.01mA/.1mA	±(1.5%+5)
Resistance	600Ω/6kΩ/60kΩ/600kΩ	.1Ω/.001kΩ/.01kΩ/.1kΩ	±(1.0%+5)
	6MΩ/60MΩ	.001MΩ/.01MΩ	±(1.5%+3)
Capacitance	6nF/60nF/600nF/6μF/60μF/600μF	.001nF/.01nF/.1nF/.001μF/.01μF/.1μF	±(4.0%+5)
	6mF/60mF	.001mF/.01mF	±(5.0%+5)
Frequency	10Hz/100Hz/1000Hz/10kHz/100kHz/1000kHz	.001Hz/.01Hz/.1Hz/.001kHz/.01kHz/.1kHz	±(1.0%+5)
	10MHz	.001MHz	±(3.0%+5)
Duty	1~99%	.1%	±(3.0%+5)
Diode measurement	open circuit voltage 2.0V		
Continuity measurement	<50Ω		
Power	2×3V CR2032 batteries		
Dimension (LxWxH)	5.23×2.67×.7"		
Weight	.39lb		



probes (included)

### STANDARD DELIVERY

Main unit	1 pc
Probe	2 pcs
Battery (CR2032)	4 pcs

## DIGITAL MULTIMETER PART NO. 9242-ML100

### SPECIFICATION

Function	Range	Resolution	Accuracy
DC Voltage	200mV/2V/20V/200V	0.1mV/1mV/10mV/0.1V	±(0.5%+3)
	600V	1V	±(0.8%+5)
AC Voltage	200V/600V	0.1V/1V	±(1.2%+10)
DC Current	200μA/2mA	0.1μA/1μA	±(1.0%+3)
	20mA	10μA	±(1.0%+5)
	200mA	0.1mA	±(1.5%+5)
	10A	10mA	±(3.0%+10)
Resistance	200Ω	0.1Ω	±(0.8%+5)
	2kΩ/20kΩ/200kΩ	1Ω/10Ω/0.1kΩ	±(0.8%+2)
	2MΩ	1kΩ	±(1.0%+5)
Diode	open circuit voltage 3.0V		
Continuity buzzer	<70±30Ω		
Transistor hFE	measuring range 0~1000		
Power supply	1×9V 6F22/NEDA 1604 battery		



probes (included)

- Data hold
- Display backlight
- Low battery display
- Safety rating: CAT II 600V

### STANDARD DELIVERY

Main unit	1 pc
Probe	2 pcs
9V battery	1 pc

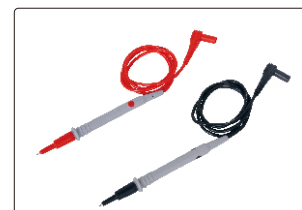
## DIGITAL MULTIMETER (WITH JACK INDICATOR LIGHT) PART NO. [9246-180](#)

- Jack indicator light: jacks flash green, to indicate the corresponding jacks for probes
- Non-connection AC voltage detection, and judge the strength through light and buzzer
- Self-calibration when power on to ensure accuracy
- LIVE firewire recognition
- Double color backlight (orange backlight prompts high voltage or current: the orange backlight automatically lights up when voltage is larger than 80V or the current is larger than 1A)
- Large range capacitance meter 100mF
- True RMS
- Battery test function
- Max/Min mode
- Data hold
- Low battery display
- Automatic power off
- Safety rating: CAT III 1000V, CAT IV 600V



### SPECIFICATION

Function	Range	Resolution	Accuracy
DC Voltage	600mV/6V/60V/600V/1000V	.1mV/.001V/.01V/.1V/1V	±(0.5%+3)
AC Voltage	6V/60V/600V/750V	.001V/.01V/.1V/1V	±(0.8%+5)
DC Current	60μA/60mA/600mA/10A	.01μA/.01mA/.1mA/.01A	±(1.2%+3)
AC Current	60mA/600mA/10A	.01mA/.1mA/.01A	±(1.5%+3)
Resistance	600Ω/6kΩ/60kΩ/600kΩ	.1Ω/.001kΩ/.01kΩ/.1kΩ	±(1.0%+3)
	6MΩ/60MΩ	.001MΩ/.01MΩ	±(1.5%+3)
Capacitance	10nF/100nF/1000nF/10μF/100μF/1000μF	.001nF/.01nF/.1nF/.001μF/.01μF/.1μF	±(4.0%+5)
	10mF/100mF	.001mF/.01mF	±(5.0%+5)
Frequency	10Hz/100Hz/1000Hz/10kHz/100kHz/1000kHz	.001Hz/.01Hz/.1Hz/.001kHz/.01kHz/.1kHz	±(1.0%+3)
	10MHz	.001MHz	±(3.0%+3)
Duty	1~99%	.1%	±(3.0%+3)
Diode measurement	forward DC current 2.5mA, reverse DC voltage 3.0V		
Continuity measurement	<30Ω		
Power	2x1.5V AA batteries		
Dimension (LxWxH)	7.4×3.46×1.97"		
Weight	.93lb		



probes (included)

### STANDARD DELIVERY

Main unit	1 pc
Probe	2 pcs
Battery (AA)	2 pcs

## 60° GLOSS METER PART NO. [ISQ-DG6](#)



- To test the gloss of coating, such as painting, varnish, printing ink, etc.
- To test the material surfaces, such as metal, granite, ceramic, plastic, paper, etc.
- According to ISO 2813, ASTM D2457, ASTM D523
- Automatic power off



base with calibration block (included)



### SPECIFICATION

Incidence angle	60°
Measuring range	0~150GU
Resolution	0.1GU
Accuracy	±1.2GU
Repeatability	0.4GU
Zero set error	0.2GU
Measuring area	.79×.39"
Output	Bluetooth
Power supply	1×1.5V AA battery
Dimension	4.84×1.50×2.56"
Weight	.66lb

### STANDARD DELIVERY

Main unit	1 pc
Base with calibration block	1 pc
Spare calibration block	1 pc

connect mobile phone via bluetooth  
(only Android system)



operate and output data by mobile phone

## DIGITAL REFRACTOMETER PART NO. ISQ-DRM31

SUITABLE FOR WATER  
BASED COOLANT

- Quickly measure the concentration of coolant
- Two measurement modes:  
single measurement and automatic average multiple measurement
- Two units: brix and refractive index
- Refer to the refraction factor of coolant, for example:  
the refraction factor of grinding emulsion is 2.1, the reading value is 6%,  
so the actual concentration is  $(2.1 \times 6\%) = 12.6\%$
- Automatic power off



### SPECIFICATION

Measuring range	0~50% (1.3330~1.4200RI)
Accuracy	±0.2% (±0.0003RI)
Resolution	0.1% (0.0001RI)
Power supply	1×AAA battery
Dimension	4.76×2.28×.98"
Weight	.2lb

### STANDARD DELIVERY

Main unit	1 pc
Dropper	1 pc
Battery (AAA)	1 pc

dropper (included)



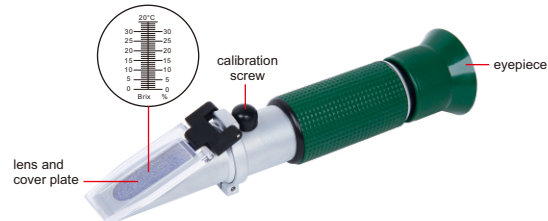
## PORTABLE REFRACTOMETER PART NO. ISQ-RM30

SUITABLE FOR WATER  
BASED COOLANT

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

### SPECIFICATION

Measuring range	0~32%
Graduation	0.2%
Dimension	1.06×1.57×6.3"
Weight	.39lb



## DIGITAL STOPWATCH PART NO. DSW-A010

- Split time, total time and continuous time can be displayed
- 10 groups of results can be read out from memory after resetting
- Scroll back and forth to read out the memory digits
- The fastest, slowest and average time can be displayed
- Able to record the split times (00-199)

### SPECIFICATION

Measuring range	0~9 hours, 59 minutes, 59.99 seconds	
Resolution	0.01s	
Accuracy	±0.5s	
Function	memory	10 groups
	timer	up to 10 hours
	time	12-hour or 24-hour time display, alarm can be set
Power supply	LR44 battery	
Screen dimension	1.32×.54"	
Dimension	2.99×2.48×.63" (metal case)	

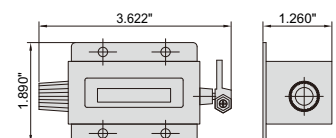


### STANDARD DELIVERY

Main unit	1 pc
String	1 pc

## STROKE COUNTER PART NO. 7600-6

- Accumulate and record the number of mechanical movements
- Rotate back to zero



### SPECIFICATION

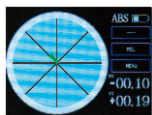
Part No.	Number of digits	Range
7600-6	6	0-999999

## DIGITAL LEVEL PART NO. ISE-2DT

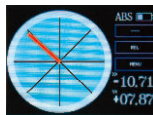
DATA  
OUTPUT



- Color LCD, touch panel
- X-Y axis measurement
- Set the tolerance and the display is shown in different colors

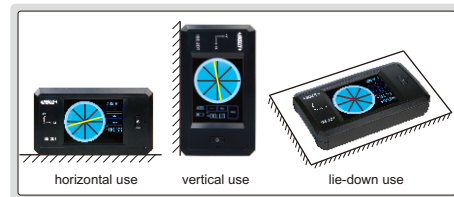
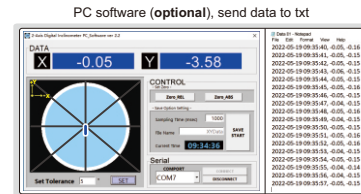
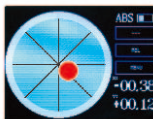


within the tolerance (green)



out of the tolerance (red)

- To show the incline with line or bubble



### SPECIFICATION

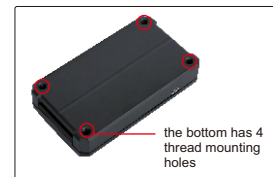
Measuring range	±30°
Resolution	0.1°, 0.01°, 0.1mm/m (=0.001in/ft)
Accuracy	±0.03° (range 0~3°) ±0.05° (range >3°)
Power supply	rechargeable battery
Dimension	4.53x2.60x.98"
Weight	.49lb

### STANDARD DELIVERY

Main unit	1 pc
USB cable	1 pc

### OPTIONAL ACCESSORY

Software	ISE-2DT-SOFTWARE
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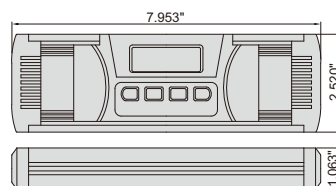


## DIGITAL LEVEL AND SLOPE METER



- IP67 dust/waterproof
- Used as level and slope meter
- Aluminum frame, shock absorbing rubber end caps
- Magnetic bottom with V-groove for shafts
- The sea level is permanently set inside the chip, zero setting is not needed when batteries are replaced
- Buttons: ON/OFF, backlight/buzzer alarm, absolute and incremental measurement, unit (°, %, mm/m), HOLD (keep the reading)
- Three AAA batteries
- Automatic power off

Part No.	Range	Resolution	Accuracy
2175-360	0-360° (90°x4)	0.05° (=.00625in/ft)	at 0°: ±0.05°; at others: ±0.1°



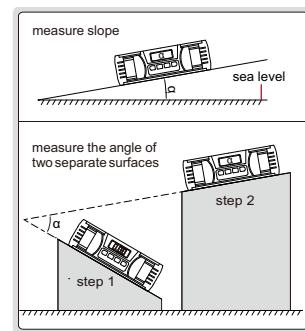
BUZZER ALARM  
AT 0° AND 90°

WORKING TEMPERATURE  
23°F~122°F

IP67  
WATERPROOF

ABSOLUTE  
LEVEL

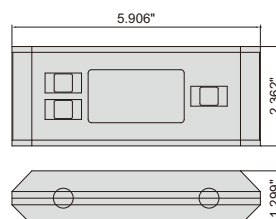
BACKLIGHT



## DIGITAL LEVEL AND SLOPE METER

- IP54 dust/waterproof
- Used as level and slope meter
- Aluminum frame
- Magnetic bottom with V-groove for shafts
- The sea level is permanently set inside the chip, zero setting is not needed when battery is replaced
- Buttons: ON/OFF, absolute and incremental measurement, keep the reading, buzzer alarm, unit (mm/m, %, in/ft), conversion, backlight
- Two AAA batteries
- Automatic power off

Part No.	Range	Resolution	Accuracy
2179-360	0-360° (90°x4)	0.05°(=.00625in/ft)	at 0° and 90° : ±0.1°; at others : ±0.2°



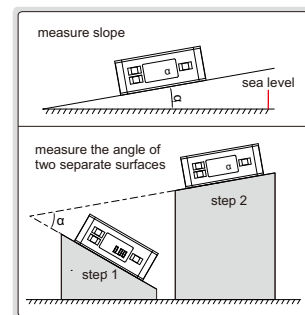
BUZZER ALARM  
AT 0° AND 90°

WORKING TEMPERATURE  
23°F~122°F

IP54  
WATERPROOF

ABSOLUTE  
LEVEL

BACKLIGHT





## DIGITAL LEVEL AND SLOPE METER

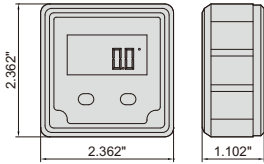
DISPLAY FLIPS OVER WHEN THE BOTTOM FACES UP

WORKING TEMPERATURE 23°F~122°F

MAGNETIC BOTTOM

BACKLIGHT

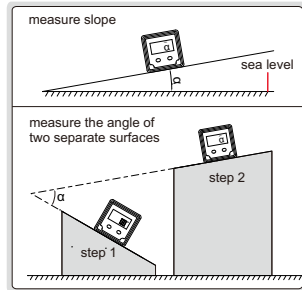
ABSOLUTE LEVEL



2170-1



- Used as level and slope meter
- Aluminum frame
- Magnetic bottom
- The display flips over when the bottom faces up
- The backlight is on automatically when in use, and automatically off in 15 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

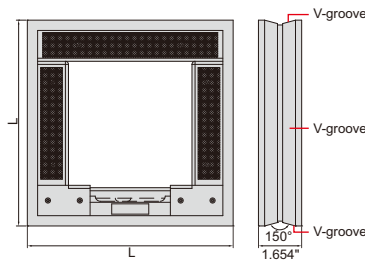


Part No.	Range	Resolution	Accuracy
2170-1	4x90°	0.1° (=.021in/ft)	at 0° and 90°: ±0.1°; at others: ±0.2°

## FRAME LEVEL

INSIZE PLUS  
MADE IN ERROPE

NO NEED TO SET ZERO BEFORE USE



4906-200

- No need to set zero before use
- Three V-grooves for shafts (shafts dia .760~4.563")
- With longitudinal vial

Part No.	Size (LxL)	Sensitivity
4906-200	8x8"	.00024in/ft (=0.001°)

## MINI LEVEL

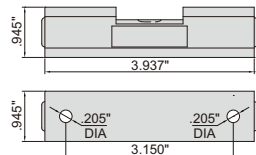
INSIZE PLUS  
MADE IN ERROPE

NO NEED TO SET ZERO BEFORE USE



4908-100

- No need to set zero before use
- With mounting holes (for M5 screws)



Part No.	Length	Sensitivity
4908-100	4"	.0012in/ft (=0.0057°)

## BLOCK LEVEL

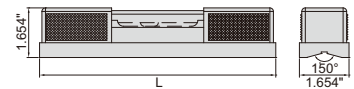
INSIZE PLUS  
MADE IN ERROPE

NO NEED TO SET ZERO BEFORE USE



4905-200

- No need to set zero before use
- V-groove on bottom for shafts (shafts diameter .76~4.56")
- With longitudinal vial



Part No.	Size (L)	Sensitivity
4905-200	8"	.00024in/ft (=0.001°)

## DIGITAL LEVEL AND SLOPE METERS



both angle and slope are displayed

WORKING TEMPERATURE 32°F ~ 122°F

ABSOLUTE LEVEL

BACKLIGHT

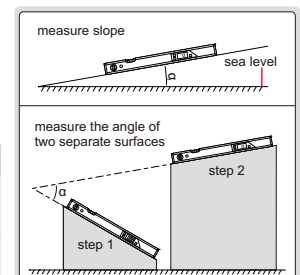
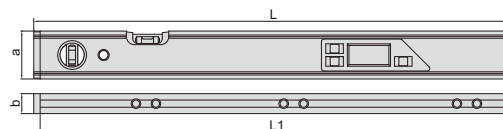
- With transverse and longitudinal vials
- Used as level and slope meter
- Aluminum frame, magnetic bottom
- The sea level is permanently set inside the chip, zero setting is not needed when batteries are replaced
- Buttons: ON/OFF, absolute and incremental measurement, keep the reading, buzzer alarm (not for 4910-400), unit (mm/m, %, in/ft), conversion (not for 4910-400), backlight
- The display flips over when the bottom faces up
- Two AAA batteries
- Automatic power off



4910-400



4910-600



Part No.	Range	Resolution	Accuracy	Remark	L	L1	a	b
4910-400	0-360° (90°x4)	angle: 0.1°; slope: 1mm/m	±0.2°	both angle and slope are displayed	16.378"	15.748"	1.969"	.827"
4910-600	0-360° (90°x4)	at 0° and 90°: 0.05°(=.00625in/ft); at others: 0.1°(=.0125in/ft)	at 0° and 90°: ±0.1°; at others: ±0.2°	at 0° and 90° buzzer alarm	23.622"	23.031"	2.362"	.984"

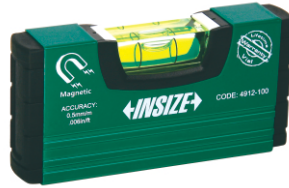
### HANDY LEVEL

LIFETIME WARRANTY VIALS

MAGNETIC BASE

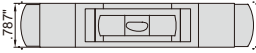
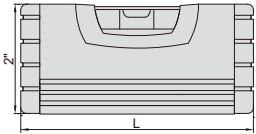
- Shockproof vials
- Magnetic base
- Shock absorbing rubber end caps
- Working temperature: 5°F~131°F

magnetic base surface



4912-100

packaging



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

### CASTING ALUMINUM LEVEL

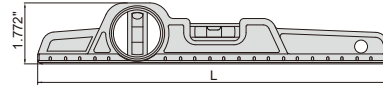
LIFETIME WARRANTY VIALS

MAGNETIC BASE

- Shockproof horizontal and vertical vials
- Magnetic base
- Working temperature: 5°F~131°F
- Cast aluminum body



4913-250



magnetic bottom surface (milled)



packaging



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

### ALUMINUM ALLOY LEVELS

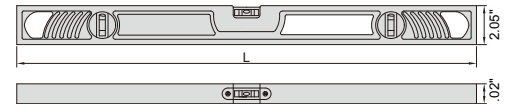
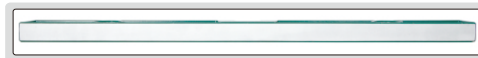
LIFETIME WARRANTY VIALS

- Accuracy .006in/ft
- Top and bottom working surfaces
- Shock-proof and UV-proof vials
- Die casting aluminum alloy frame
- Zero position of horizontal vial can be set
- One graduation of horizontal vial is 2% slope
- Working temperature: 5°F~131°F



4911-600

bottom surface (non-magnetic, milled)



Part No.	Length (L)
4911-600	24"
4911-800	32"

### ALUMINUM LEVELS

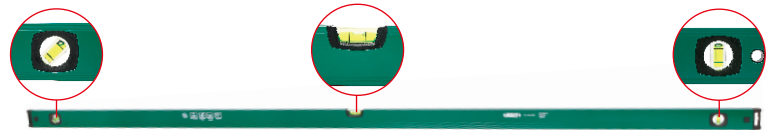
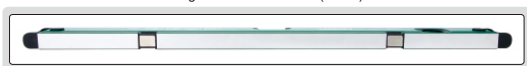
LIFETIME WARRANTY VIALS

MAGNETIC BASE



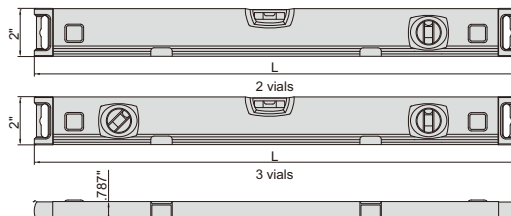
4914-600

magnetic bottom surface (milled)



4914-2000

- Shockproof horizontal and vertical vials
- Magnetic base
- Shock absorbing rubber end caps
- Working temperature: 5°F~131°F



Part No.	Size (L)	Accuracy	Number of vials
4914-300	12"	.006in/ft	2
4914-600	24"	.006in/ft	2
4914-800	32"	.006in/ft	2
4914-1000	40"	.006in/ft	2
4914-1200	48"	.006in/ft	2
4914-2000	80"	.006in/ft	3

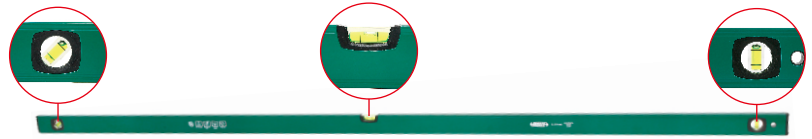
## ALUMINUM ALLOY LEVELS (BASIC TYPE)

LIFETIME WARRANTY VIALS

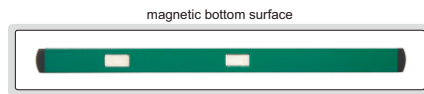
MAGNETIC BASE



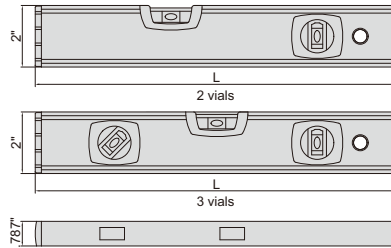
4918-300



4918-2000



magnetic bottom surface



Part No.	Size (L)	Number of vials
<a href="#">4918-300</a>	12"	2
<a href="#">4918-600</a>	24"	2
<a href="#">4918-800</a>	32"	2
<a href="#">4918-1000</a>	40"	2
<a href="#">4918-1200</a>	48"	2
<a href="#">4918-2000</a>	80"	3

- Accuracy .012in/ft
- Shock-proof and UV-proof vials
- Magnetic base
- Shock absorbing rubber end caps
- Working temperature: 5°F~131°F

## ALUMINUM ALLOY LEVELS (WITH ROTARY VIAL)

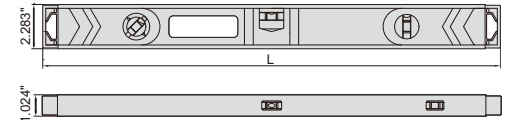
LIFETIME WARRANTY VIALS

- Shockproof and UV-proof vials
- Horizontal, vertical and rotary vials
- Rotary vial, range: 0°~360°, graduation: 5°
- Plumb window
- Shock-absorbing rubber end caps
- Working temperature: 5°F~131°F

Part No.	Length (L)	Accuracy
<a href="#">4920-400</a>	16"	.006in/ft
<a href="#">4920-600</a>	24"	.006in/ft
<a href="#">4920-800</a>	32"	.006in/ft
<a href="#">4920-900</a>	36"	.006in/ft
<a href="#">4920-1000</a>	40"	.006in/ft
<a href="#">4920-1200</a>	48"	.006in/ft



4920-600



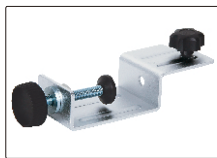
## CROSS-LINE LASER LEVEL PART NO. 4917-30

IP54 WATERPROOF

AUDIBLE AND VISUAL WARNING WHEN OUT OF ±3°



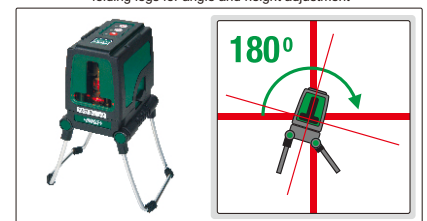
outdoor detector (optional)



stand (included with outdoor detector)



folding legs for angle and height adjustment



- Red horizontal and vertical cross laser lines
- Self-leveling within ±3°, self-leveling time within 4s, audible and visual warning when out of ±3°
- Folding legs for angle and height adjustment
- Outdoor use with the detector (part no. 4917-DETECTOR)

### SPECIFICATION

Laser line width	.079±.02"/16.4ft
Laser type	630~660nm, class II, <1mW
Beam angle	120±0.5°
Self-leveling range	±3°
Working distance	indoor: 98.4ft, outdoor: 164ft with detector (optional)
Accuracy	.0024"/ft
Operation temperature	-14~104°F
Power supply	3×AA batteries, for 3 hours working
Dimension	3.94×3.23×4.09"
Weight	1.38lb

### STANDARD DELIVERY

Main unit	1 pc
1/4" to 5/8" tripod adaptor	1 pc
Battery (AA)	3 pcs



VIDEO



application examples

### OPTIONAL ACCESSORY

Outdoor detector	4917-DETECTOR
------------------	---------------

### OUTDOOR DETECTOR (OPTIONAL)

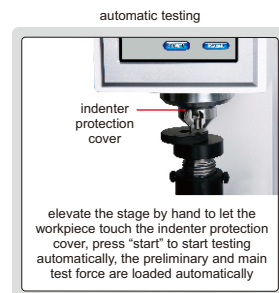
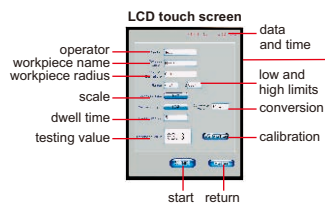
Detecting distance	horizontal 3~164ft, vertical 3~98ft
Detecting accuracy *	high accuracy ±0.06", low accuracy ±0.1"
Power supply	9V battery
Dimension	6.61×2.28×1.18"
Weight	0.31lb (battery included)

\*Use high accuracy detection mode within 49ft, use low accuracy detection mode over 49ft

# AUTOMATIC DIGITAL ROCKWELL HARDNESS TESTER

**FORCE LOADING BY ELECTRIC MOTOR (WITHOUT WEIGHTS)**

**DATA OUTPUT**



- Automatic testing, the preliminary and main test force are loaded automatically
- LCD touch screen, easy operation
- Convert to other Rockwell scales, HV or HB automatically
- Tolerance testing
- Insert USB flash disk, save the testing results as Excel
- Self-correcting the hardness value for curved workpieces
- Force loading by electric motor (without weights)
- The test force is selected automatically according to hardness scale
- According to ISO 6508



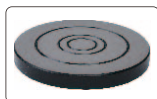
2.48" DIA flat anvil (included)



level (included)



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



5.91" DIA flat anvil (included)



touch pen (included)



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



desk (optional)

## SPECIFICATION

Part No.	ISH-RSR400-U	
Type	Rockwell	
Hardness scale	with standard indenters	HRA, HRB, HRC, HRD, HRF, HRG
	with optional indenter	HRE, HRH, HRK, HRL, HRM, HRP, HRR, HRS, HRV
Preliminary test force	98N/10kgf for Rockwell	
Test force	588N (60kg), 980N (100kg), 1471N (150kg)	
Stage elevation	manual	
Load control	automatic (load/dwell/unload)	
Load dwell time	0~60 second	
Resolution	0.1HR	
Output	USB	
Max. workpiece height	8.66"	
Max. testing width	7.87" (from the center of indenter to the wall of main body)	
Power supply	110/220V, 50/60Hz	
Dimension	20.08×10.24×30.71"	
Weight	155lb	

## 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 HRB88~100	HDT-B-HRB
Hardness test block HRC60~70	HDT-B-HRC3
Hardness test block HRC20~30	HDT-B-HRC1
Hardness test block 78~88HR15N	HDT-B-HR15N2
Hardness test block 55~73HR30N	HDT-B-HR30N2
Hardness test block 73~82HR30T	HDT-B-HR30T
Small V-type anvil	ISH-SMALLANVIL
Desk	HDT-DESK



# AUTOMATIC DIGITAL ROCKWELL HARDNESS TESTER

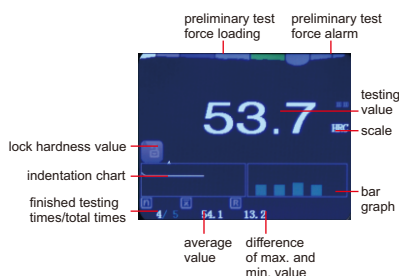
## PART NO. ISH-MRD200-U

INSPECTION  
CERTIFICATE

DATA  
OUTPUT



software CD  
(included)



- Tolerance testing
- Set testing times (2~10) to have average value and the difference of max. and min. value
- Convert to other Rockwell scales, HV or HB
- Memory of 500 testing values for browsing and output
- Testing value can be sent to wireless printer automatically
- Calibration function compensates the testing value for high accuracy
- The hardness value of soft materials like plastic is not stable, the lock function can obtain the value automatically
- Display unit is automatic power off
- According to ISO 6508

### SPECIFICATION

Hardness scale	HRA, HRB, HRC, HRD HRF, HRG (with standard indenters) HRE, HRH, HRK (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	1~99 second
Resolution	0.1HR
Output	wireless and USB
Memory	500
Max. workpiece height	6.69"
Max. testing width	6.50" (from the center of indenter to the wall of main body)
Power supply of the display unit	built-in rechargeable battery
Power supply	110V, 50/60Hz
Dimension	20.47×6.30×27.56"
Weight	132lb



2.36" DIA flat anvil  
(included)



5.91" DIA flat anvil  
(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



desk (optional)



wireless printer (optional)

### STANDARD DELIVERY

Main unit	1 pc
2.36" DIA flat anvil	1 pc
5.91" DIA flat anvil	1 pc
V-type anvil	1 pc
Diamond indenter	1 pc
1/16" DIA carbide ball indenter	1 pc
Hardness test block HRB88~95	1 pc
Hardness test block HRC60~65	1 pc
Hardness test block HRC20~30	1 pc
Anti-dust cover	1 pc
Software and USB cable	1 pc
AC/DC adapter	1 pc

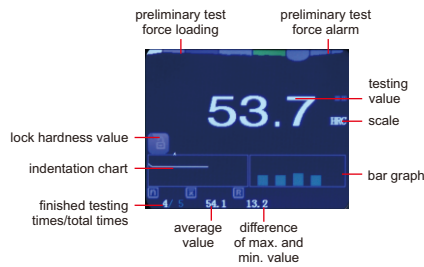
### OPTIONAL ACCESSORY

Wireless printer	<a href="#">ISH-DS-PRINTER</a>
1/8" DIA carbide ball indenter	<a href="#">ISH-EHK-INDENTER</a>
Hardness test block HRB88~100	HDT-B-HRB
Hardness test block HRC60~70	HDT-B-HRC3
Hardness test block HRC20~30	HDT-B-HRC1
Small V-type anvil	ISH-SMALLANVIL
Desk	HDT-DESK

# MANUAL DIGITAL ROCKWELL HARDNESS TESTER PART NO. ISH-RD200

INSPECTION  
CERTIFICATE

DATA  
OUTPUT



software CD  
(included)

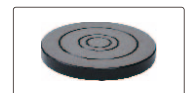
- Tolerance testing
- Set testing times (2~10) to have average value and the difference of max. and min. value
- Convert to other Rockwell scales, HV or HB
- Memory of 500 testing values for browsing and output
- Testing value can be sent to wireless printer automatically
- Calibration function compensates the testing value for high accuracy
- The hardness value of soft materials like plastic is not stable, the lock function can obtain the value automatically
- Automatic power off
- According to ISO 6508

## SPECIFICATION

Hardness scale	HRA, HRB, HRC, HRD HRF, HRG (with standard indenters) HRE, HRH, HRK (with optional indenter)
Preliminary test force	98N/10kgf
Test force	588N/60kgf, 980N/100kgf, 1471N/150kgf
Stage elevation	manual
Load control	manual
Resolution	0.1HR
Output	wireless and USB
Memory	500
Max. workpiece height	6.69"
Max. testing width	6.50" (from the center of indenter to the wall of main body)
Power supply	built-in rechargeable battery
Dimension	20.47×6.30×27.56"
Weight	132lb



2.36" DIA flat anvil  
(included)



5.91" DIA flat anvil  
(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



desk (optional)



wireless printer (optional)

## STANDARD DELIVERY

Main unit	1 pc
2.36" DIA flat anvil	1 pc
5.91" DIA flat anvil	1 pc
V-type anvil	1 pc
Diamond indenter	1 pc
1/16" DIA carbide ball indenter	1 pc
Hardness test block HRB88~95	1 pc
Hardness test block HRC60~65	1 pc
Hardness test block HRC20~30	1 pc
Anti-dust cover	1 pc
Software and USB cable	1 pc
AC/DC adapter	1 pc

## OPTIONAL ACCESSORY

Wireless printer	<a href="#">ISH-DS-PRINTER</a>
1/8" DIA carbide ball indenter	<a href="#">ISH-EHK-INDENTER</a>
Hardness test block HRB88~100	HDT-B-HRB
Hardness test block HRC60~70	HDT-B-HRC3
Hardness test block HRC20~30	HDT-B-HRC1
Small V-type anvil	ISH-SMALLANVIL
Desk	HDT-DESK

# DIGITAL BRINELL/ROCKWELL/VICKERS HARDNESS TESTER PART NO. HDT-BRV130-U

FORCE LOADING BY ELECTRIC MOTOR (WITHOUT WEIGHTS)



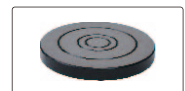
- According to ISO 6506, ISO 6507, ISO 6508
- Force loading by electric motor (without weights)

## SPECIFICATION

Brinell test load	49N (5kgf), 98N (10kgf), 153N (15.625kgf), 294N (30kgf), 306N (31.25kgf), 613N (62.5kgf), 980N (100kgf), 1226N (125kgf), 1839N (187.5kgf)
Brinell scales	HBW1/5, HBW2.5/62.5, HBW1/10, HBW2.5/15.625, HBW1/30, HBW2.5/31.25, HBW2.5/62.5, HBW10/100, HBW5/125, HBW2.5/187.5
Brinell resolution	0.1HBW
Rockwell test load	98N (10kgf) preload 588 (60kgf), 980 (100kgf), 1471N (150kgf) total load
Rockwell scales	HRA, HRB, HRC, HRD, HRE, HRF, HRG, HRH, HRK, HRL, HRM, HRP, HRR, HRS, HRV
Rockwell resolution	0.1HR
Vickers test load	49N (5kgf), 98N (10kgf), 196N (20kgf), 294N (30kgf), 392N (40kgf), 490N (50kgf), 588N (60kgf), 784N (80kgf), 980N (100kgf), 1176N (120kgf)
Vickers scales	HV5, HV10, HV20, HV30, HV40, HV50, HV60, HV80, HV100, HV120
Vickers resolution	0.1HV
Objective	2.5X/5X
Magnification of microscope	Brinell: 37.5X, Vickers: 75X
Hardness test range	Brinell: 8~650HBW, Rockwell: 20~100HR, Vickers: 8~2900HV
Max. workpiece height	Rockwell: 8.66", Brinell and Vickers: 5.91"
Max. testing width	7.87" (from the center of indenter to the wall of main body)
Data output	USB flash disk
Power supply	110V, 50/60Hz
Dimension	22.05×13.78×31.50"
Weight	154.32lb



2.36" DIA flat anvil for Rockwell (included)



5.91" DIA flat anvil for Rockwell (included)



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



small V-type anvil for Rockwell (optional), for cylinders with diameter .08~1.6" DIA



VIDEO



desk (optional)



2.36" DIA flat anvil for Vickers and Brinell (included)

## STANDARD DELIVERY

Main unit	1 pc
Vickers diamond indenter	1 pc
Rockwell diamond indenter	1 pc
1/16" DIA Rockwell indenter	1 pc
.098" DIA Brinell indenter	1 pc
.197" DIA Brinell indenter	1 pc
2.36" DIA flat anvil for Rockwell	1 pc
5.91" DIA flat anvil for Rockwell	1 pc
V-type anvil for Rockwell	1 pc
2.36" DIA flat anvil for Vickers and Brinell	1 pc
Hardness test block HRB88-95	1 pc
Hardness test block HRC60-65	1 pc
Hardness test block HRC20-30	1 pc
Hardness test block 400-500HV30	1 pc
Hardness test block 180-300HBW2.5/187.5	1 pc
Level	1 pc
USB flash disk	1 pc
Touch pen	1 pc
Anti-dust cover	1 pc

## OPTIONAL ACCESSORY

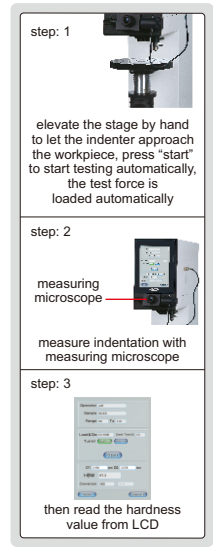
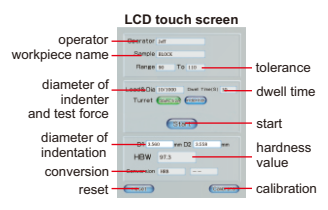
Hardness test block HRB88~100	HDT-B-HRB
Hardness test block HRC60~70	HDT-B-HRC3
Hardness test block HRC20~30	HDT-B-HRC1
Hardness test block 400-500HV30	HDT-B-HV30D
Hardness test block 200-300HBW2.5/187.5	HDT-B-HB25A2
Small V-type anvil for Rockwell	ISH-SMALLANVIL
Desk	HDT-DESK

**AUTOMATIC DIGITAL BRINELL HARDNESS TESTER  
PART NO. ISHB-D200-U**

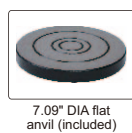
**AUTOMATIC TESTING,  
AUTOMATIC TEST FORCE LOADING**

**FORCE LOADING BY ELECTRIC  
MOTOR (WITHOUT WEIGHT)**

**INSPECTION  
CERTIFICATE**



- Automatic testing, automatic test force loading
- LCD touch screen, easy operation
- Measure indentation by measuring microscope then read the hardness value from LCD
- Tolerance testing
- Insert USB flash disk, save the test results as Excel
- Converted to HRA, HRB, HRC, HRD, HRF, HV, HB, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T
- Force loading by electric motor, without weights
- According to ISO 6506



**SPECIFICATION**

Turret rotation	manual	
Range	8~650HBW	
Reading mode	directly read from LCD	
Test force	612.5N/62.5kgf, 980N/100kgf, 1.225kN/125kgf, 1.837kN/187.5kgf, 2.45kN/250kgf, 4.9kN/500kgf, 7.35kN/750kgf, 9.8kN/1000kgf, 14.7kN/1500kgf, 29.4kN/3000kgf	
Max. workpiece height	7.87"	
Max. testing width	6.1" (from the center of indenter to the wall of main body)	
Stage elevation	manual	
Load control	automatic (load/dwell/unload)	
Load dwell time	5~60 second	
Measuring microscope	magnification	20X
	resolution	0.625mm/.0246"
Power supply	110V, 50/60Hz	
Dimension	21.65×8.27×29.53"	
Weight	244lb	

**STANDARD DELIVERY**

Main unit	1 pc
3.15" DIA flat anvil	1 pc
7.09" DIA flat anvil	1 pc
V-type anvil	1 pc
.098" DIA carbide ball indenter	1 pc
.197" DIA carbide ball indenter	1 pc
.394" DIA carbide ball indenter	1 pc
Hardness test block 150~250HBW2.5/187.5	1 pc
Hardness test block 75~125HBW10/1000	1 pc
Hardness test block 175~250HBW10/3000	1 pc
USB flash disk (8G)	1 pc
Touch pen	1 pc
Anti-dust cover	1 pc

**OPTIONAL ACCESSORY**

Hardness test block 200~300HBW2.5/187.5	HDT-B-HB25A2
Hardness test block 90~200HBW10/1000	HDT-B-HB10C1
Hardness test block 200~300HBW10/3000	HDT-B-HB10A2
Brinell indentation measuring system	ISHB-MSA
Desk	HDT-DESK



## MANUAL ROCKWELL HARDNESS TESTER (BASIC TYPE) PART NO. HDT-RW160



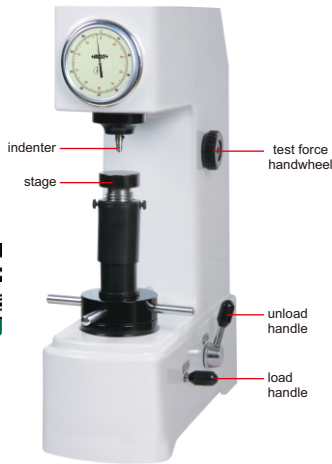
- According to ISO 6508

### STANDARD DELIVERY

Main unit	1 pc
2.28" flat anvil	1 pc
5.91" flat anvil	1 pc
V-type anvil	1 pc
Diamond indenter	1 pc
1/16" DIA steel ball indenter	1 pc
1/16" DIA steel ball	5 pcs
Level	1 pc
Hardness test block HRA80~88	1 pc
Hardness test block HRB85~95	1 pc
Hardness test block HRC20~30	1 pc
Hardness test block HRC35~55	1 pc
Hardness test block HRC60~70	1 pc
Anti-dust cover	1 pc



VIDEO



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



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



desk (optional)

### SPECIFICATION

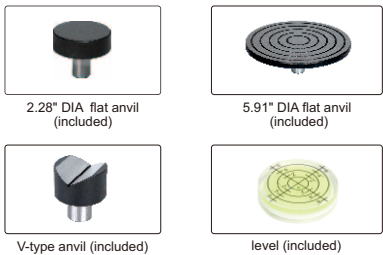
Hardness scale	HRA, HRB, HRC, HRD, HRF, HRG
Preliminary test force	98N (10kg)
Test force	588N (60kg), 980N (100kg), 1471N (150kg)
Display	analogue
Stage elevation	manual
Load control	manual
Min. reading	0.5HR
Max. workpiece height	6.69"
Max. testing width	5.31" (from the center of indenter to the wall of main body)
Dimension	18.35×9.37×24.80"
Weight	154lb

### OPTIONAL ACCESSORY

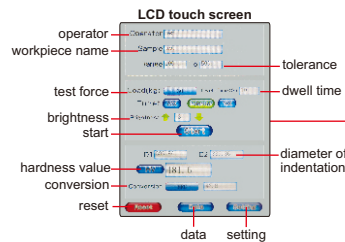
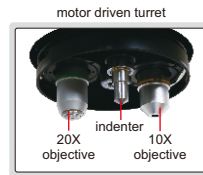
Hardness test block HRA80~84	HDT-B-HRA
Hardness test block HRB88~100	HDT-B-HRB
Hardness test block HRC20~30	HDT-B-HRC1
Hardness test block HRC35~55	HDT-B-HRC2
Hardness test block HRC60~70	HDT-B-HRC3
Small V-type anvil	ISH-SMALLANVIL
Desk	HDT-DESK

## DIGITAL VICKERS HARDNESS TESTER PART NO. HDT-VD50A-U

FORCE LOADING BY ELECTRIC MOTOR (WITHOUT WEIGHTS)



VIDEO



- LCD touch screen, easy operation
- Insert USB flash disk, save the test results as Excel
- Converted to HRA, HRB, HRC, HRD, HRF, HV, HK, HBW, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T
- Force loading by electric motor, without weights
- According to ISO 6507

### SPECIFICATION

Test force	0.5, 1, 2, 2.5, 3, 5, 10, 15, 20, 30, 40, 50kgf
Range	8~2900HV
Load control	automatic (load/dwell/unload)
Load dwell time	1~99 second
Eyepiece	10X
Objective	10X, 20X
Total magnification	100X, 200X
Length measurement resolution	0.01μm/0.4μin
Data output	USB flash disk
Max. workpiece height	7.09"
Max. testing width	6.30" (from the center of indenter to the wall of main body)
Power supply	110V, 50/60Hz
Dimension	22.83×7.48×27.56"
Weight	121lb

### STANDARD DELIVERY

Main unit	1 pc
10X, 20X objective	1 pc of each
Vickers indenter	1 pc
2.28" DIA flat anvil	1 pc
5.91" DIA flat anvil	1 pc
V-type anvil	1 pc
Hardness test block 400~500HV10	1 pc
Hardness test block 400~500HV30	1 pc
USB flash disk	1 pc
Level	1 pc
Touch pen	1 pc
Anti-dust cover	1 pc

### OPTIONAL ACCESSORY

Hardness test block 400~500HV10	HDT-B-HV10D
Hardness test block 400~500HV30	HDT-B-HV30D
Measuring system	HDT-VS530

## DIGITAL MICRO-VICKERS HARDNESS TESTER PART NO. ISH-TDV1000A-B



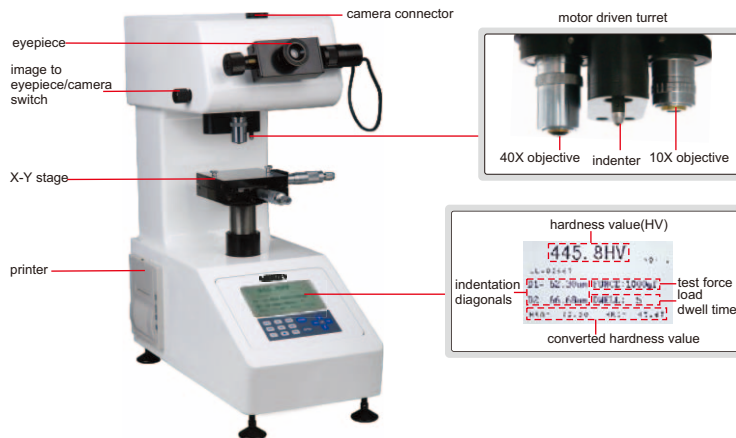
- Measure hardness of thin or small workpieces
- Based on Vickers (HV), can be converted to Rockwell (HRA, HRB and HRC)
- According to ISO 6507

### SPECIFICATION

Test force	0.01, 0.025, 0.05, 0.1, 0.2, 0.3, 0.5, 1kgf
Vickers scales	HV0.01, HV0.025, HV0.05, HV0.1, HV0.2, HV0.3, HV0.5, HV1
Stage elevation	manual
Load control	automatic (load/dwell/unload)
Load dwell time	5-60 second (5 second increment)
Objective	10X, 40X
Eyepiece	15X
Total magnification	150X (for observation) 600X (for measurement)
Max. workpiece height	3.34"
Max. testing width	3.34" (from the center of indenter to the wall of main body)
X-Y stage	dimensions: 3.94×3.94"
	travel range: 1×1"
	graduation: 0.01mm/.0004"
Data output	RS232C
Power supply	110/220V, 60Hz
Dimension	21.26×19.69×25.20"
Weight	110lb

### OPTIONAL ACCESSORY

20X objective	ISH-TDV-20X
Hardness test block 400~500HV0.2	HDT-B-HV02C
Hardness test block 700~750HV1	HDT-B-HV1F
Measuring system	9631-130
Camera adapter	ISH-TDV-ADAPTER



### STANDARD DELIVERY

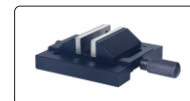
Main unit	1 pc
10X, 40X objective	1 pc of each
Micro Vickers indenter	1 pc
Hardness test block 400~500HV0.2	1 pc
Hardness test block 700~800HV1	1 pc
Slice holder	1 pc
Vice	1 pc
Cylinder holder	1 pc
Level	1 pc
Anti-dust cover	1 pc



slice holder (included)



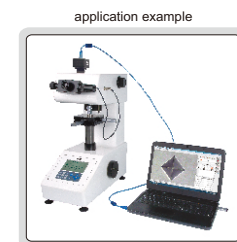
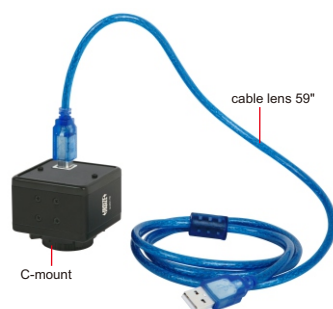
cylinder holder (included)



vice (included)

## VICKERS HARDNESS MEASURING SYSTEM PART NO. 9631-130

- Connected to computer USB port
- Measure the indentation sizes automatically or manually
- Multiple measurements to have average value, max. value and min. value
- Tolerance testing
- Convert to HRA, HRB, HRC, HRD, HRE, HRF, HRG, HRK, HR15T/30T/45T, HR15N/30N/45N, HK, HV, HB, HS, HSD
- Calibration with standard test block
- Measurement result can be sent to Word or Excel

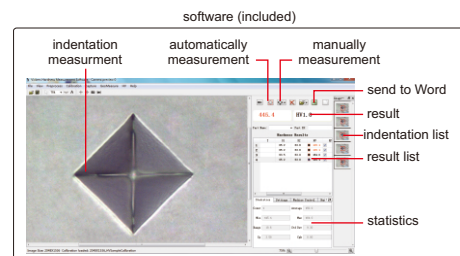


### SPECIFICATION

Sensor	1/2" CMOS
Pixel	1.3M (resolution 1280×1024)
Hardness measurement resolution	0.1HV
Length measurement resolution	0.1µm/3.94µin
Hardness measurement accuracy	±3%
Test force	0.01, 0.025, 0.05, 0.1, 0.2, 0.3, 0.5, 1, 2, 2.5, 3, 5, 10, 20, 30, 50, 100kgf
Dimension	2.24×2.01×1.93"
Weight	.44lb

### STANDARD DELIVERY

Main unit	1 pc
USB dongle	1 pc
Software and USB cable	1 pc



software CD (included)

# PORTABLE LEEB HARDNESS TESTER (BASIC TYPE) PART NO. HDT-LP200



- Can change probes
- Dual-coil probe for high accuracy
- Universal testing angle, no need to set impact direction
- Based on Leeb (HLD), converted to Vickers (HV), Brinell (HB), Rockwell (HRC, HRA and HRB), Shore (HS) and tensile strength (SGM)
- Dual value display, shows both Leeb and converted hardness
- Large LCD display with backlight
- Can choose large font display and statistics display
- Automatically calculate maximum, minimum and average value
- Save 300 data
- Operation temperature: 14°F~113°F
- According to ASTM A956, DIN 50156, GB/T 17394



## SPECIFICATION

Resolution	1HLD/1HV/1HB/0.1HRC/0.1HRB/0.1HRA/0.1HS/1SGM
Accuracy	±6HLD (when HLD=800)
Measuring range	HL 100-960/HRC 0.9-79.2/HRB 1-140/HB 1-1878/HV 1-1698 HS 0.5-1370/HRA 1-88.5/SGM (rm) 1-6599N/mm <sup>2</sup>
Power supply	2xAA battery
Dimension	5×2.63×1.18"
Weight	.53lb



hardness test block D (included)



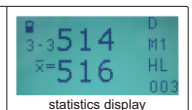
small support ring (included)

## STANDARD DELIVERY

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



large font display



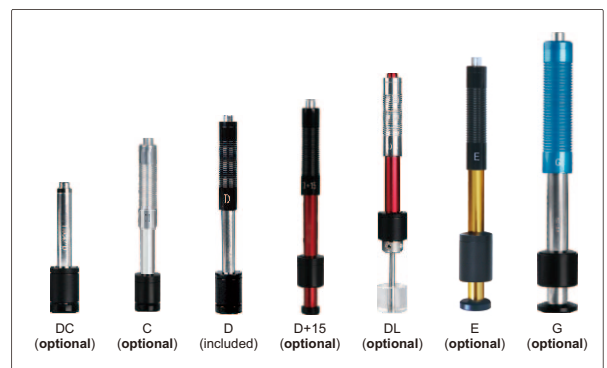
statistics display

## OPTIONAL ACCESSORY

Impact device DC	HDT-LP200-DC
Impact device C	HDT-LP200-C
Impact device D+15	HDT-LP200-D15
Impact device DL	HDT-LP200-DL
Impact device E*	HDT-LP200-E
Impact device G	HDT-LP200-G
Hardness test block D**	HDT-B-HLD3
Hardness test block G**	HDT-B-HLG2
Support rings	refer to details

\* Impact device E (HDT-LP200-E) must be purchased together with the main unit.

\*\* Hardness test block G (HDT-B-HLG2) is for impact device G (HDT-LP200-G).  
Hardness test block D (HDT-B-HLD3) is for all others impact devices.



## APPLICABLE WORKPIECE

Impact device	DC	C	D	D+15	DL	E	G
Application	inner wall of small space	small or thin workpiece, coating layer	general use	deep groove	narrow slot or small hole	very hard material	casting or forging workpiece
Maximum roughness of workpiece (Ra)	80µin	16µin	80µin	80µin	80µin	80µin	280µin
Minimum weight of workpiece	direct measurement	11.02lb	3.31lb	11.02lb	11.02lb	11.02lb	33.08lb
	on solid support	4.41lb	1.10lb	4.41lb	4.41lb	4.41lb	11.02lb
	coupled on plate	.11lb	0.04lb	.11lb	.22lb	.11lb	1.10lb
Minimum thickness of workpiece	.12"	.04"	.12"	.12"	.12"	.12"	.39"

# PORTABLE LEEB HARDNESS TESTER (HIGH ACCURACY) PART NO. HDT-L410

**DATA OUTPUT**    **HIGH ACCURACY**    **DL PROBE IS OPTIONAL**



wireless printer (optional)    hardness test block D (included)    small support ring (included)



software CD (included)

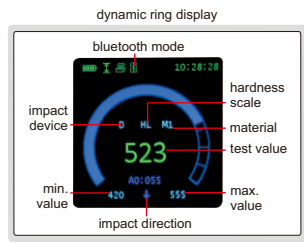


VIDEO

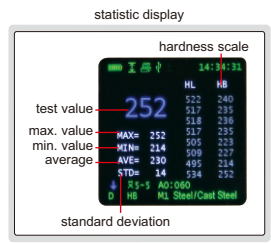


- Metal housing
- HD TFT 320×320 display
- Impact device D
- Based on Leeb (HLD), converted to Vickers (HV), Brinell (HB), Rockwell (HRC, HRA and HRB), Shore (HS) and tensile strength (SGM)
- Four display modes
- Automatic direction correction
- Tolerance testing
- Automatic power off, automatic calculation of statistics
- Dual value display, shows both Leeb and other conversion values
- 31 files can be saved, each containing 100 measurement data
- Connected to PC software via USB or Bluetooth 2.0
- Connected with printer via Bluetooth
- Operation temperature: -4°F~158°F
- According to ASTM A956, DIN 50156, GB/T 17394

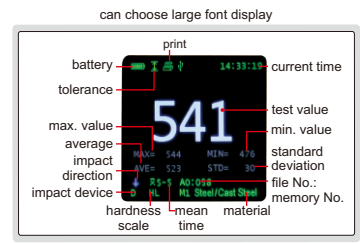
DL probe can be installed (optional)



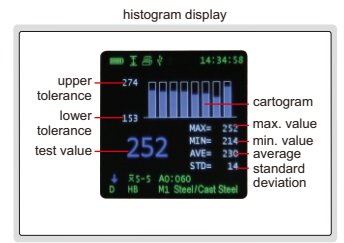
dynamic ring display



statistic display



can choose large font display



histogram display

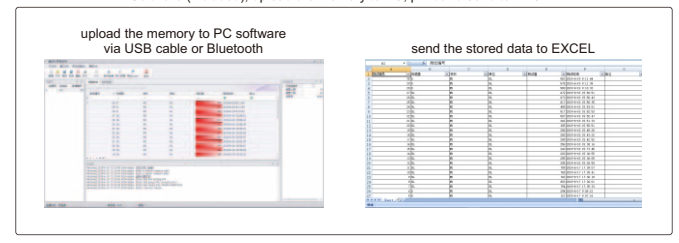
## SPECIFICATION

<b>Resolution</b>	1HLD, 1HV, 1HB, 0.1HRC, 0.1HRB, 0.1HRA, 0.1HS, 1SGM	
<b>Accuracy</b>	±4HLD (when HLD=800)	
<b>Output</b>	USB and bluetooth	
<b>Applicable workpiece</b>	minimum weight	11.02lb (direct measurement)
		4.41lb (on solid support)
		.22lb (coupled on plate)
	minimum thickness	.20"
	minimum radius of curved surface	1.18"
	maximum roughness (Ra)	79µin
<b>Power supply</b>	built-in 3.7V rechargeable battery	
<b>Dimension</b>	5.83×1.73×.87"	
<b>Weight</b>	.25lb	

## STANDARD DELIVERY

Main unit	1 pc
Hardness test block D	1 pc
Small support ring	1 pc
Cleaning brush	1 pc
AC/DC adapter	1 pc
Software disc and USB cable	1 pc

Software (included), upload the memory to PC, print and send to EXCEL



## OPTIONAL ACCESSORY

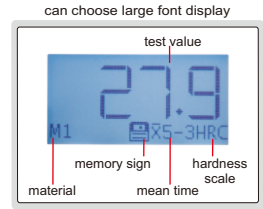
Printer	HDT-L410-PRINTER
Support rings	refer to details
Hardness test block D	HDT-B-HLD3
DL probe	HDT-L410-DL



**PORTABLE LEEB HARDNESS TESTER (BASIC TYPE)  
PART NO. HDT-L411**

**INSPECTION  
CERTIFICATE**

**DATA  
OUTPUT**



software CD (included)



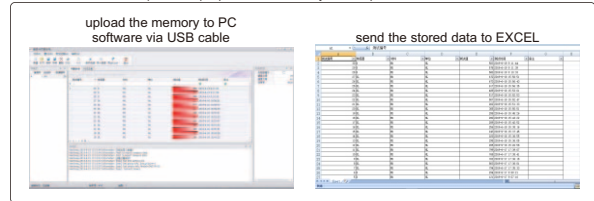
hardness test block D (included)



small support ring (included)

- Impact device D
- Universal testing angle, no need to set impact direction
- Dual-coil probe, high accuracy
- Based on Leeb (HLD), converted to Vickers (HV), Brinell (HB), Rockwell (HRC, HRA and HRB), Shore (HS) and tensile strength (SGM)
- Dual value display, shows both Leeb and converted hardness
- High contrast digital LCD display
- Can choose large font display
- Automatically calculate maximum, minimum, average value
- Connected to PC via USB
- Save 999 data
- Operation temperature: -4°F~113°F
- According to ASTM A956, DIN 50156, GB/T 17394

Software (included), upload the memory to PC, print and send to EXCEL



**SPECIFICATION**

<b>Resolution</b>	1HLD, 1HV, 1HB, 0.1HRC, 0.1HRB, 0.1HRA, 0.1HS, 1SGM	
<b>Accuracy</b>	±6HLD (when HLD=800)	
<b>Output</b>	USB	
<b>Measuring range</b>	HL 100-960/HRC 1-74.7/HRB 1.2-140/HB 28-1027/HV 45-1230 HS 4-112/HRA 7-88.5/SGM (m) 118-3315N/mm <sup>2</sup>	
<b>Applicable workpiece</b>	minimum weight	11.02lb (direct measurement)
		4.41lb (on solid support)
		.11lb (coupled on plate)
	minimum thickness .2"	
	minimum radius of curved surface: 1.18"	
	maximum roughness (Ra): 80µin	
<b>Power supply</b>	1xAAA battery	
<b>Dimension</b>	5.83×1.77×0.83"	
<b>Weight</b>	.23lb	

**STANDARD DELIVERY**

Main unit	1 pc
Hardness test block D	1 pc
Cleaning brush	1 pc
AAA battery	1 pc
Small support ring	1 pc
Software disc and USB cable	1 pc

**OPTIONAL ACCESSORY**

Support rings	refer to details
Hardness test block D	HDT-B-HLD3

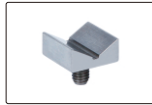
## PORTABLE ROCKWELL HARDNESS TESTER PART NO. ISHR-P151



VIDEO



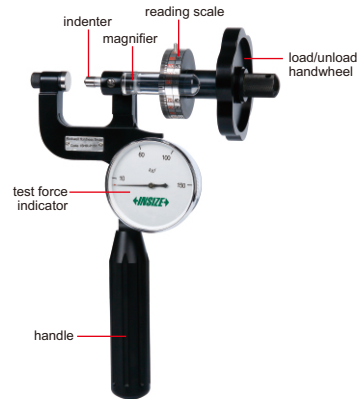
flat anvil (included)



V-type anvil (included)



anvil extension for thin workpieces (included)



- According to ISO 6508, ASTM E18

### SPECIFICATION

Hardness scale	HRA, HRB, HRC, HRD, HRF, HRG
Preliminary test force	10kg
Test force	60kg, 100kg, 150kg
Load control	manual
Min. reading	1HR
Max. workpiece thickness	.98"
Max. testing depth	.98" (from the center of indenter to the main body)
Dimension	9.45×2.76×6.30"
Weight (with base)	5.51lb

### STANDARD DELIVERY

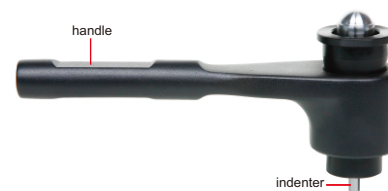
Main unit	1 pc
Diamond indenter	1 pc
1/16" DIA carbide ball indenter	2 pcs
Hardness test block HRB88-95	1 pc
Hardness test block HRC60-65	1 pc
Hardness test block HRC20-30	1 pc
Flat anvil	1 pc
V-type anvil	1 pc
Base	1 pc
Anvil extension	1 pc
Magnifier	2 pcs

## HAMMER IMPACT BRINELL HARDNESS TESTER PART NO. HDT-PB350



VIDEO

- Measure Brinell hardness of large and heavy workpieces
- 1580kg test force and .29" DIA ball indenter, equal to 3000kg test force and .39" DIA ball indenter



### SPECIFICATION

Measuring range	100~350HBW (with .29" DIA indenter, included) 350~650HBW (with .16" DIA indenter, optional)
Test force	1580kg
Accuracy	±5%HBW
Repeatability	±5%HBW
Measuring microscope	20X, graduation 0.01mm/.0004"
Dimension	7.87×1.97×3.94"
Weight	1.76lb

### STANDARD DELIVERY

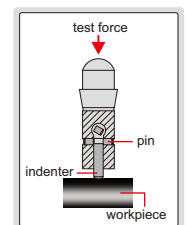
Main unit	1 pc
.29" DIA indenter	1 pc
Hardness test block	1 pc
Pin	250 pcs
Pin removal tool	1 pc
Measuring microscope	1 pc



measuring microscope (included)



hammer impact to apply test force



the pin is broken when test force 1580kg is reached



pins (included)

### OPTIONAL ACCESSORY

.16" DIA indenter	ISHB-P101-INDENTER
Pin (250 pcs)	ISHB-P101-PIN

## ALUMINUM HARDNESS TESTER PART NO. ISHW-L20



- To measure the hardness of soft metal such as aluminum alloy, copper, brass, soft steel, etc.
- According to ASTM B647-84 (2000)

### SPECIFICATION

Application	for aluminum alloy general use
Thickness requirement of flat workpiece	.024~.23"
Internal diameter requirement of tube workpiece	>.39" DIA
Wall thickness requirement of tube workpiece	.024~.23"
Hardness range	0~20HW
Min. reading	1HW
Accuracy	±0.5HW (at 5~17HW)
Dimension	8.07×1.18×3.35"
Weight	1.10lb

### STANDARD DELIVERY

Main unit	1 pc
Spare indenter	1 pc
Hardness test block	1 pc
Wrench	1 pc

## DIGITAL SHORE DUROMETERS

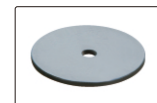


DATA  
OUTPUT



software CD (included)

- According to ISO868, ISO7619, ASTM D 2240
- Average and peak (max.) mode
- Dwell time is adjustable
- Tolerance testing
- 500 memories
- Wireless connection to printer
- Handhold use or work with test stand (part no. ISH-DS-STANDA)
- Automatic power off



calibration block (included)



printer (optional)

### SPECIFICATION

Part No.	ISH-DSA	ISH-DSD
Unit	Shore A	Shore D
Test material	soft plastic, soft rubber, etc.	hard plastic, hard rubber, etc.
Measuring range*	0~100HA	0~100HD
Resolution	0.1HA	0.1HD
Accuracy	±1HA	±1HD
Indenter protrusion	.10"	
Output	wireless and USB	
Power supply	built-in rechargeable battery	
Dimension	6.02×1.97×1.14"	
Weight	.37lb	

- \*Use ISH-DSD when measuring result is higher than 90HA  
Use ISH-DSA when measuring result is lower than 20HD

### STANDARD DELIVERY

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

### OPTIONAL ACCESSORY

Printer	ISH-DS-PRINTER
Test stand	ISH-DS-STANDA

## TEST STAND FOR DIGITAL SHORE DUROMETERS PART NO. ISH-DS-STANDA

- For digital shore durometers (part no. [ISH-DSA](#) and [ISH-DSD](#))
- Perform repeatable hardness measurement due to fewer possibilities of human error or measurement variations
- Special structure for stable loading
- Weight block A (included) is for [ISH-DSA](#)  
weight block D (optional) is for [ISH-DSD](#)

### SPECIFICATION

Stage diameter	4.5" DIA
Max. workpiece height	2.48"
Max. testing width	1.77" (from test point to the column)
Dimension	7.68"×7.68"×14.57"
Weight	12.37lb

### STANDARD DELIVERY

Test stand	1 pc
Weight block A (for ISH-DSA)	1 pc

### OPTIONAL ACCESSORY

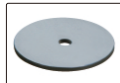
Weight block D (for ISH-DSD)	ISH-DS-W4
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weight block D (optional)  
for ISH-DSD

## SHORE DUROMETERS

- According to ISO868, ISO7619, ASTM D 2240
- With peak value indicator
- Optional accessory: test stand [ISH-STAC](#)



calibration block  
(optional)

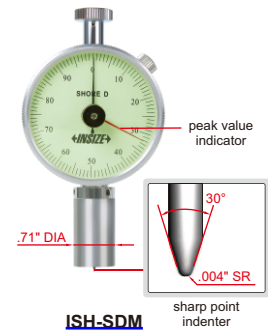
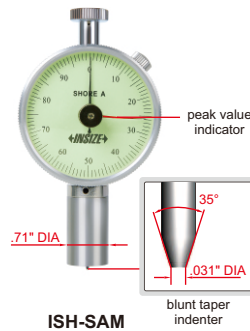
### SPECIFICATION

Part No.	<a href="#">ISH-SAM</a>	<a href="#">ISH-SDM</a>
Scale	Shore A	Shore D
Application	nature rubber, soft elastomer, etc.	hard rubber, plastic, hard elastomer, etc.
Measuring range*	10~90HA	20~90HD
Graduation	1HA	1HD
Indenter protrusion	.10"	
Dimension	4.53×2.36×.98"	
Weight	.35lb	

\*Use [ISH-SDM](#) when measuring result is higher than 90HA  
Use [ISH-SAM](#) when measuring result is lower than 20HD

### OPTIONAL ACCESSORY

Calibration block	ISH-DS-BLOCK
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## TEST STAND FOR SHORE DUROMETER PART NO. ISH-STAC

- For shore durometers (part no. [ISH-SAM](#))
- Perform repeatable hardness measurement due to fewer possibilities of human error or measurement variations

### SPECIFICATION

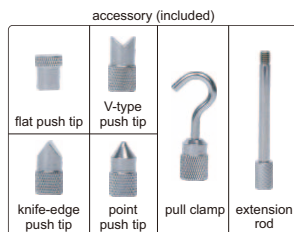
Applicable durometer	<a href="#">ISH-SAM</a>
Stage diameter	3.94" DIA
Max. workpiece height	2.95"
Max. testing width	2.56" (from test point to the column)
Weight block	2.2lb





## DIGITAL FORCE GAGES (HIGH ACCURACY)

- Push and pull test
- Peak (max.) and tracking mode
- Units: lbf, ozf, mN, N, gf, kgf
- Tolerance testing
- 1000 memories
- Automatic power off
- Metal case, touch buttons
- LCD display with backlight
- The display flips over when the bottom faces up
- Overload alarm
- Keyboard signal, can be transmitted to Excel



ISF-DF100A

### SPECIFICATION

Part No.	ISF-DF50A	ISF-DF100A	ISF-DF200A	ISF-DF500A	ISF-DF1KA
Type	internal sensor				
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				
Software and USB cable	1 pc				
Push/pull accessory	6 pcs (flat push tip, V-type push tip, knife-edge push tip, point push tip, pull clamp, extension rod)				



### OPTIONAL ACCESSORY

Printer	ISF-DF-PRINTER
Test stand	ISF-MT1K

## TEST STAND FOR DIGITAL FORCE GAGE PART NO. ISF-MT1K



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

### SPECIFICATION

Load capacity	220lbf
Travel	7.87" (.12" vertical movement per revolution of handwheel)
Dimension	7.72x9.84x17.56"
Weight	28.67lb

### OPTIONAL ACCESSORY

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



- Peak hold and automatic release function
- Set upper and lower limits, red and green indicator and buzzer alarm
- Automatic conversion of three units: N, kgf, lbf
- Built in printer
- Automatic power off



### SPECIFICATION

Part No.	ISF-S50-U
Maximum load	11lbf
Resolution	.001lbf
Range of digital scale	3.7"
Resolution of digital scale	.0005"
Disk diameter	1.9" DIA
Maximum free length of spring	3.7"
Measuring range of force	5%~100% (maximum load)
Accuracy of force	±1% (maximum load)
Data output	RS232
Power supply	110V, 50/60Hz
Dimension	11.8x9.3x24.4"
Weight	38.14lb

### STANDARD DELIVERY

Main unit	1 pc
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## BLUETOOTH DIGITAL TORQUE WRENCHES (KEYBOARD SIGNAL)

OPTIONAL ACCURACY:  
CLOCKWISE:  $\pm 1\%$   
COUNTER-CLOCKWISE:  $\pm 2\%$

BUILT-IN BLUETOOTH

INSPECTION  
CERTIFICATE



### Torque wrenches:

- Unit: in.lb, ft.lb, N.m, kg.cm
- Clockwise and counter-clockwise operation
- Peak and track working mode
- Can set tolerance with judgement in peak working mode
- 9 target torque values can be set, with audible and visible alarm: LED lights up in sequence, and the buzzer gets louder and louder when torque value is 80%~99.5% of target torque
- Memory of 2000 results
- Power off in 2 minutes automatically
- Non-slip grip handle
- With overload record (once the torque reaches 110% of the maximum range)



IST-15W135A

### Data transmission:

- Built-in Bluetooth 4.0 module, which can be connected with computers (with Bluetooth function), mobile phones, tablets and other devices
- Keyboard signal, can be transmitted to Excel, Word, TXT
- Transmission distance is 32.8 feet (no obstacles, no electromagnetic interference)
- Bluetooth connection and disconnection are respectively shown by indicator lights

### SPECIFICATION

Part No.	IST-15W30A	IST-15W135A	IST-15W200A	IST-15W340A
Range	53~265.5in.lb 4.4~22.12ft.lb	239~1195in.lb 19.9~99.5ft.lb	354~1770in.lb 29.5~147.5ft.lb	602~3009in.lb 50.1~250.7ft.lb
Accuracy	clockwise	$\pm 2\%$		
	counter-clockwise	$\pm 3\%$		
Tolerance setting range	-20%~+20% (target torque value)			
Resolution	0.1in.lb	1in.lb	1in.lb	1in.lb
	0.01ft.lb	0.1ft.lb	0.1ft.lb	0.1ft.lb
Square driver (L)	1/4"	3/8"	1/2"	1/2"
Power supply	2xAA batteries			
Length	15.35"	16.34"	20.87"	25.59"
Weight	1.68lb	2.07lb	2.95lb	3.40lb



transmission distance is 32.8 feet  
(no obstacles, no electromagnetic interference)

### OPTIONAL ACCESSORY

Calibration cable IST-SD-CABLE

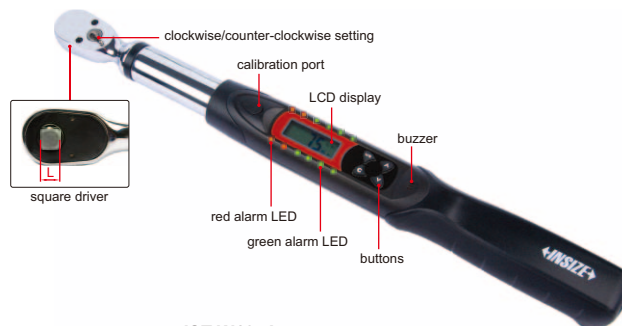
## DIGITAL TORQUE WRENCHES

OPTIONAL ACCURACY:  
CLOCKWISE:  $\pm 1\%$   
COUNTER-CLOCKWISE:  $\pm 2\%$   
ONLY FOR RANGE FOR 53.1~7521in.lb

INSPECTION  
CERTIFICATE



- Clockwise and counter-clockwise operation
- Unit: N.m, in.lb, ft.lb, 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 torque value is 90%~100% of target torque
  - Both green and red LED light on and buzzer sounds when target torque value is reached
- Power off automatically in 5 minutes without any operations
- Non-slip grip handle
- With damp record
- With overload record (once the torque reaches 110% of the maximum range)



IST-W135A

### SPECIFICATION

Part No.	Range		Accuracy	Resolution		Square driver (L)	Power supply	Length	Weight
IST-W30A	53.1~265.5in.lb	4.42~22.12ft.lb	clockwise: $\pm 2\%$ counter-clockwise: $\pm 3\%$	0.1in.lb	0.01ft.lb	1/4"	2xAA batteries	15.35"	1.83lb
IST-W135A	239~1195in.lb	19.9~99.5ft.lb		1in.lb	0.1ft.lb	3/8"		16.34"	2.09lb
IST-W200A	354~1770in.lb	29.5~147.5ft.lb		1in.lb	0.1ft.lb	1/2"		20.87"	3.09lb
IST-W340A	602~3009in.lb	50.1~250.7ft.lb		1in.lb	0.1ft.lb	1/2"		25.59"	3.53lb
IST-W500A	885~4424in.lb	73.7~368.7ft.lb	clockwise: $\pm 2.5\%$ counter-clockwise: $\pm 3.5\%$	1in.lb	0.1ft.lb	3/4"		37.40"	4.63lb

### OPTIONAL ACCESSORY

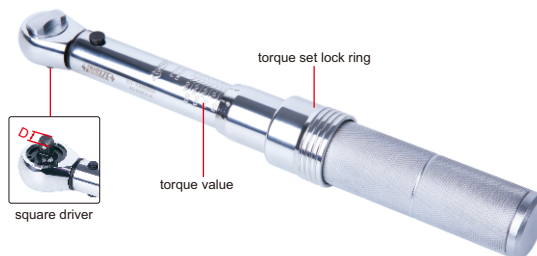
Calibration cable IST-W-CABLE

## TORQUE WRENCHES

ATTENTION: CLOCKWISE OPERATION ONLY

INSPECTION CERTIFICATE

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



IST-10WM200

### SPECIFICATION

Part No.	IST-10WM200	IST-10WM250	IST-10WM100	IST-10WM150	IST-10WM250A	IST-10WM600
Range (clockwise)	40~200lb.in	50~250lb.in	20~100lb.ft	30~150lb.ft	50~250lb.ft	100~600lb.ft
Accuracy	±6% (<89lb.in) ±4% (≥89lb.in)	±6% (<89lb.in) ±4% (≥89lb.in)	±4%	±4%	±4%	±4%
Graduation	1lb.in	1lb.in	0.5lb.ft	1lb.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

## DIAL TORQUE WRENCHES

INSPECTION CERTIFICATE

- Clockwise and counter-clockwise operation
- According to DIN ISO 6789, ASME B107.300



IST-DW70

### SPECIFICATION

Part No.	IST-DW3D5	IST-DW9	IST-DW18	IST-DW35	IST-DW70	IST-DW140	IST-DW240	IST-DW350
Range	0.7~3.5N.m 6~30in.lb	1.8~9N.m 15~75in.lb	3.6~18N.m 30~150in.lb	7~35N.m 60~300in.lb	14~70N.m 120~600in.lb	28~140N.m 20~100ft.lb	48~240N.m 35~175ft.lb	70~350N.m 50~250ft.lb
Accuracy	±3%	±3%	±3%	±3%	±3%	±3%	±3%	±3%
Graduation	0.05N.m 0.5in.lb	0.1N.m 1in.lb	0.2N.m 2in.lb	0.5N.m 5in.lb	1N.m 10in.lb	2N.m 1ft.lb	3N.m 2.5ft.lb	2.5N.m 2.5ft.lb
Square driver (D)	1/4"	1/4"	3/8"	3/8"	3/8"	1/2"	1/2"	1/2"
Length	10"	10"	10"	10"	14.88"	21.5"	21.5"	21.5"
Weight	1.06lb	1.06lb	1.06lb	1.06lb	1.82lb	2.89lb	2.89lb	2.89lb

## COUNTING SCALES

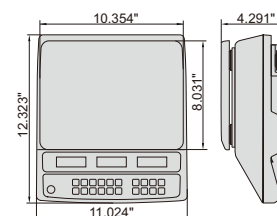
### SPECIFICATION

Part No.	8101-6	8101-15	8101-30
Maximum weighing	12lb/6kg	30lb/15kg	60lb/30kg
Minimum weighing	.0090lb/4g	.022lb/10g	.044lb/20g
Resolution (d)	.0005lb/0.2g	.001lb/0.5g	.002lb/1g
Accuracy (m is load)	m≤2.2lb: ±.0025lb 2.2lb<m≤8.8lb: ±.0005lb m>8.8lb: ±.0075lb	m≤5.5lb: ±.005lb 5.5lb<m≤22.0lb: ±.01lb m>22.0lb: ±.015lb	m≤11.0lb: ±.01lb 11.0lb<m≤44.0lb: ±.02lb m>44.0lb: ±.03lb
Output	no		
Operation temperature	14~104°F		
Power	rechargeable battery (6V/3.2Ah), power adapter (12V/500mA)		
Dimensions of pan	10.354×8.031"		



8101-30

- LCD display, with backlight
- Zero-setting, subtracting tare value, counting, accumulation, checking alarm
- Overload alarm
- Units: lb, lb-oz, kg, g, tj, hj



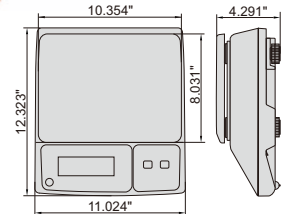
## WEIGHING SCALES (HIGH PRECISION)

### SPECIFICATION

Part No.	<a href="#">8001-6</a>	<a href="#">8001-15</a>	<a href="#">8001-30</a>
Maximum weighing	12lb/6kg	30lb/15kg	60lb/30kg
Minimum weighing	.0090lb/4g	.022lb/10g	.044lb/20g
Resolution (d)	.0005lb/0.2g	.001lb/0.5g	.002lb/1g
Accuracy (m is load)	m≤2.2lb: ±.0025lb 2.2lb<m≤8.8lb: ±.0005lb m>8.8lb: ±.0075lb	m≤5.5lb: ±.005lb 5.5lb<m≤22.0lb: ±.01lb m>22.0lb: ±.015lb	m≤11.0lb: ±.01lb 11.0lb<m≤44.0lb: ±.02lb m>44.0lb: ±.03lb
Units	lb, kg		
Output	no		
Operation temperature	14~104°F		
Power	rechargeable battery (6V/3.2Ah), power adapter (12V/500mA)		
Dimensions of pan	10.354×8.031"		



**8001-30**



- LCD display, with backlight
- Zero-setting, subtracting tare value
- Overload alarm
- Automatic power off

## ELECTRONIC CRANE SCALES

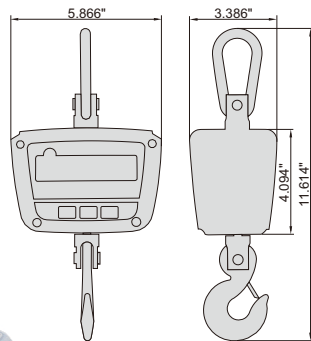
**IP65**  
WATERPROOF



**8201-150KG**



Remote controller (included)



- Dust/waterproof level: IP65
- LED display, remote control
- Low voltage indicator
- Unit: lb, kg
- Automatic power off
- Overload alarm
- 360° safe rotary hook and shackle
- Aluminum alloy die casting case with high strength

### STANDARD DELIVERY

Main unit	1 pc
Remote controller	1 pc
Battery charger	1 pc

### SPECIFICATION

Part No.	<a href="#">8201-50KG</a>	<a href="#">8201-150KG</a>	<a href="#">8201-300KG</a>
Maximum weighing	110lb	330lb	660lb
Minimum weighing	1lb	2lb	4lb
Resolution (d)	.05lb/.02lb	.10lb/.05lb	.20lb/.10lb
Verification interval (e)	.05lb	.10lb	.20lb
Accuracy	±.05lb	±.10lb	±.20lb
Operation temperature	14~104°F		
Operation humidity	30%~90% RH		
Overload alarm	100%F.S.+9e		
Maximum safe load	125%F.S.		
Limited overload	400%F.S.		
Power supply	rechargeable battery 6V/3Ah (for 40 hours working)		
Stable reading time	≤8s		

## PLATFORM SCALES

**DATA OUTPUT**

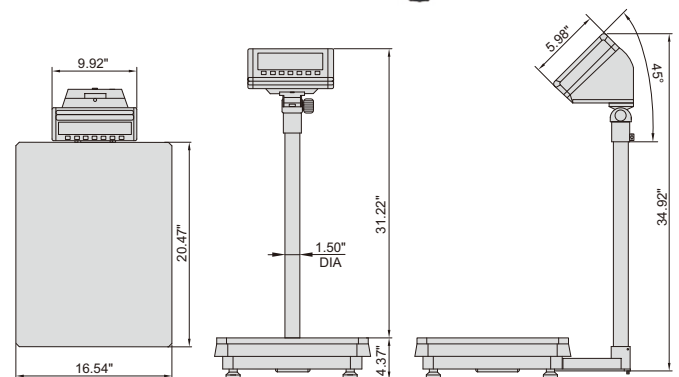


printer (optional)

- LCD large screen display with LED backlight
- Weighing, overweight alarm, counting, keyboard lock, accumulating, auto zero and animal scale
- Units: kg, g, lb, oz



**8501-AI 150**



### SPECIFICATION

Part No.	<a href="#">8501-AI 60</a>	<a href="#">8501-AI 150</a>	<a href="#">8501-AI 300</a>
Maximum weighing	130lb	330lb	660lb
Minimum weighing	.20lb	.40lb	.80lb
Resolution (d)	.01lb	.02lb	.04lb
Accuracy	±0.02lb	±0.04lb	±0.06lb
Operation temperature	14~104°F		
Material	platform: stainless steel, base: die-cast aluminum		
Dimension of platform	16.54×20.47"		
Power	rechargeable lead acid battery (6V/4Ah)		
Output	RS232		
Weight	40.34lb		

### OPTIONAL ACCESSORY

Printer	<b>8001-PRINTER</b>
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# METRIC PRODUCTS



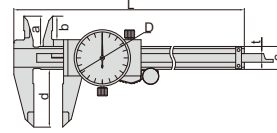
INSIZE is a world leader in metric and offering 4,000 SKU's. These popular items are stocked or available generally in 7 days. On these pages you will find some very popular metric tools, but for the full offering visit our metric site [www.insize.com](http://www.insize.com) or request a metric catalog from [sales@insizeus.com](mailto:sales@insizeus.com)

## DIAL CALIPERS

- Shockproof dial indicator
- Made of stainless steel



**1312-150A**



**SHOCK PROOF**

Dial indicator graduation 0.02mm (mm)

Part No.	Range	Accuracy	L	a	b	c	d	D	t
<b>1312-150A*</b>	0-150mm	±0.03mm	235	21	16.5	16	40	Ø39	6.5
<b>1312-200A*</b>	0-200mm	±0.03mm	288	24	19	16	48	Ø39	6.5
<b>1312-300A*</b>	0-300mm	±0.03mm	410	28	22	20	62	Ø44.5	7.5

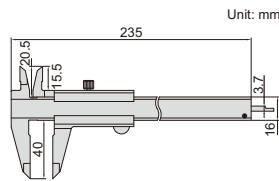
Dial indicator graduation 0.01mm (mm)

Part No.	Range	Accuracy	L	a	b	c	d	D	t
<b>1311-150A*</b>	0-150mm	±0.03mm	235	21	16.5	16	40	Ø39	6.5
<b>1311-200A*</b>	0-200mm	±0.03mm	288	24	19	16	48	Ø39	6.5
<b>1311-300A*</b>	0-300mm	±0.03mm	410	28	22	20	62	Ø44.5	7.5

\*Supplied with manufacturer inspection certificate traceable to DKD Germany

## VERNIER CALIPERS

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



**1205-150S**

Graduation 0.05mm/1/128"

Part No.	Range	Accuracy
<b>1205-150S</b>	0-150mm/0-6"	±0.05mm

Graduation 0.02mm/0.001"

Part No.	Range	Accuracy
<b>1205-1502S</b>	0-150mm/0-6"	±0.03mm

## OUTSIDE MICROMETERS

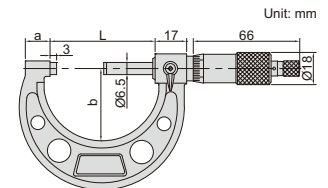
- Graduation: 0.01mm
- Carbide measuring faces
- Ratchet stop
- Meet DIN863-1
- Supplied with setting standards (except 0-25mm)



**3203-25A**



**3203-50A**



Individual (mm)

Part No.	Range	Accuracy	L	a	b
<b>3203-25A*</b>	0-25mm	±2µm	32	9	28
<b>3203-50A*</b>	25-50mm	±2µm	57	14	38
<b>3203-75A*</b>	50-75mm	±2µm	82	15	49
<b>3203-100A*</b>	75-100mm	±3µm	107	15	60
<b>3203-125A</b>	100-125mm	±3µm	133	16.5	73
<b>3203-150A</b>	125-150mm	±3µm	158	16.5	85

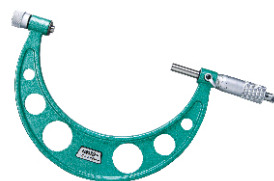
Set

Part No.	Range	Micrometers included	Packaging
<b>3203-753A*</b>	0-75mm	3203-25A, 3203-50A, 3203-75A	blow mould case
<b>3203-1506A</b>	0-150mm	3203-25A, 3203-50A, 3203-75A, 3203-100A, 3203-125A, 3203-150A	blow mould case

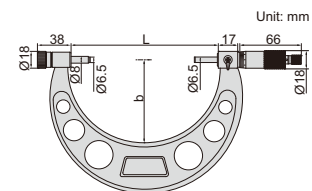
\*Supplied with manufacturer inspection certificate traceable to DKD Germany

## OUTSIDE MICROMETERS WITH INTERCHANGEABLE ANVILS

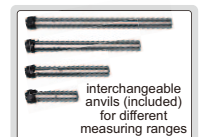
- Graduation: 0.01mm
- Ratchet stop
- Meet DIN863-3
- Carbide measuring faces
- Supplied with setting standards



**3206-150A**



setting standard (included)



interchangeable anvils (included) for different measuring ranges

(mm)

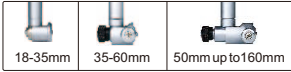
Part No.	Range	Accuracy	L	b	Setting standard (included)
<b>3206-150A</b>	0-150mm	6µm	158	82	25, 50, 75, 100, 125
<b>3206-300A</b>	150-300mm	9µm	308	165	150, 175, 200, 225, 250, 275

**BORE GAGES**



ATTENTION: NOT SUITABLE FOR 0.001MM DIAL INDICATORS

- Optional accessory: setting ring (part no. 6312), long handle (part no. 7351), bore gage setter

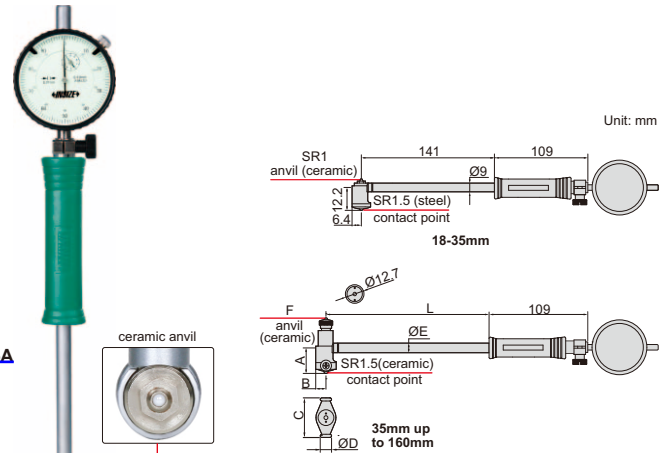


Range	A	B	C	ØD	ØE	F	L
35-60mm	22	9	27	13	12.8	SR2	141
50-160mm	26	9	35	13	12.8	SR2	141

With dial indicator

Part No.	Range	Indicator	Accuracy	Repeatability
<a href="#">2322-35A</a>	18-35mm	dial indicator, range 10mm, graduation 0.01mm	±0.015mm	0.003mm
<a href="#">2322-60A</a>	35-60mm	dial indicator, range 10mm, graduation 0.01mm (part no. 2308-10FA)	±0.018mm	0.003mm
<a href="#">2322-160A</a>	50-160mm	dial indicator, range 10mm, graduation 0.01mm (part no. 2308-10FA)	±0.018mm	0.003mm

[2322-35A](#)



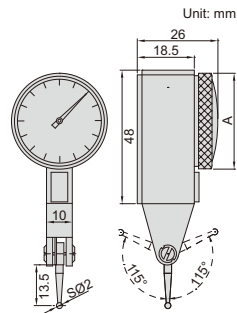
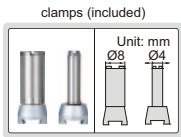
**DIAL TEST INDICATORS**



JEWELLED BEARING



[2380-08](#)



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

Graduation: 0.01mm (mm)

Part No.	Range	Accuracy	Hysteresis	Dial reading	A
<a href="#">2380-08*</a>	0.8mm	13µm	3µm	0-40-0	Ø30
<a href="#">2381-08*</a>	0.8mm	13µm	3µm	0-40-0	Ø37

\*Supplied with manufacturer inspection certificate traceable to NIST

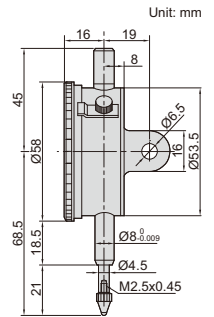
**DIAL INDICATORS (STANDARD TYPE)**



JEWELLED BEARING



[2308-10A](#)



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

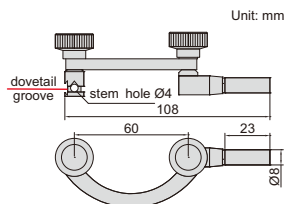
Part No.	Range	Accuracy	Hysteresis	Range/rev	Remark
<a href="#">2308-10A*</a>	10mm	17µm	3µm	1mm	lug back
<a href="#">2308-10FA*</a>	10mm	17µm	3µm	1mm	flat back

\*Supplied with manufacturer inspection certificate traceable to NIST

**DIAL TEST INDICATOR HOLDER**



[6291-1](#)

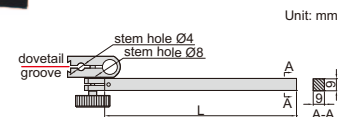


- Part No. [6291-1](#)
- Can be used with dial test indicators

**DIAL TEST INDICATOR HOLDER**



[6293-1](#)



- Part No. [6293-1](#)
- Stem section 9x9mm
- Stem length (L) 100mm



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ISO17025 CALIBRATION SERVICES

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Oshkosh, WI 54902  
(920) 426-5894 • Fax (920) 426-8120  
[www.insizeus.com](http://www.insizeus.com)

CERTIFICATE OF CALIBRATION



<b>Certification Number</b> C1009-47588-322		<b>Procedures Followed</b> FVR-012 rev. 0		This certificate shall not be altered in any form or reproduced, except in full, without prior written approval from originating lab. These results relate only to the item(s) calibrated. Form Revision 6: 02/04/2012																									
<b>For</b> INSIZE USA 2230 Commerce Drive Loganville, GA 30052		<b>Standards Used</b>		<table border="1"> <thead> <tr> <th>Instrument</th> <th>Serial Number</th> <th>Trace Number</th> <th>Next Cal</th> </tr> </thead> <tbody> <tr> <td>FVR-005</td> <td>N/A</td> <td>CE296-30320-343</td> <td>12/28/2018</td> </tr> <tr> <td>FVR-075</td> <td>N/A</td> <td>CH127-38294-343</td> <td>05/28/2019</td> </tr> <tr> <td>FVR-096</td> <td>N/A</td> <td>CH043-42691-328</td> <td>10/08/2018</td> </tr> <tr> <td>FVR-119</td> <td>12072011</td> <td>CH041-47026-397</td> <td>08/28/2018</td> </tr> <tr> <td>FVR-120</td> <td>8PCS-120013</td> <td>CF336-39069-405</td> <td>01/28/2018</td> </tr> </tbody> </table>		Instrument	Serial Number	Trace Number	Next Cal	FVR-005	N/A	CE296-30320-343	12/28/2018	FVR-075	N/A	CH127-38294-343	05/28/2019	FVR-096	N/A	CH043-42691-328	10/08/2018	FVR-119	12072011	CH041-47026-397	08/28/2018	FVR-120	8PCS-120013	CF336-39069-405	01/28/2018
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FVR-119	12072011	CH041-47026-397	08/28/2018																										
FVR-120	8PCS-120013	CF336-39069-405	01/28/2018																										
<b>Purchase Order #</b> 4000620	<b>Test Instrument</b> Calipers	<p>Total expanded measurement uncertainties expressed are based on a confidence level of 95%, coverage factor of k=2. The statement of compliance in this certificate was issued without taking the uncertainty of measurement into consideration. The customer shall assess the results and uncertainty when determining if the results meet their needs. (This is considered "shared responsibility.") Uncertainties expressed in nominal units.</p> <p>All instruments have been calibrated against standards traceable to NIST. Calibration was completed in accordance with ISO/IEC 17025:2005 and ANSI Z540-1-1994.</p>																											
<b>Make</b> INSIZE	<b>Model</b> 1108-300																												
<b>Serial Number</b> 1509171203	<b>Identification</b> 1509171203																												
<b>Customer Location</b>																													
<b>Condition Received</b> In Tolerance	<b>Condition Returned</b> In Tolerance																												
<b>Calibrated By</b> Andrew Drager	<b>Form Reviewed By</b> M.T.																												
<b>Calibration Location</b> FVM	<b>Calibration Conditions</b> 71.7°F, 28.7%RH																												
<b>Calibration Date</b> 01/09/2018	<b>Recalibration Due</b>																												

- INSIZE is proud to announce our calibration service "INSIZE Calibration Services".
- The most popular tools ready to ship same day!
- Tools ordered by noon will ship same day with an ISO17025 Certificate with date of service. No need to wait a week or more.
- All INSIZE precision tools available with ISO17025 certification. Contact us for pricing on all products.

Tools Available to Ship Today with Calibration Certificate

Part No.	Description
1108-150CAL	0-6"/0-150mm Digital Caliper
1108-200CAL	0-8"/0-200mm Digital Caliper
1108-300CAL	0-12"/0-300mm Digital Caliper
1311-6CAL	0-6" Dial Caliper
1311-8CAL	0-8" Dial Caliper
1311-12CAL	0-12" Dial Caliper
2307-1CAL	0-1" Dial Indicator

Calibration Results

\* - denotes "Out of Tolerance"

Feature	Nominal	Lower Limit	Upper Limit	As Found	As Left	Uncertainty
OD Jaws	(in)	(in)	(in)	(in)	(in)	(in)
	0.3700	0.3690	0.3710	0.3700	0.3700	0.00039
	1.0000	0.9990	1.0010	1.0000	1.0000	0.00041
	1.6000	1.5990	1.6010	1.6000	1.6000	0.00042
	3.7500	3.7490	3.7510	3.7500	3.7500	0.00044
ID Jaws	(in)	(in)	(in)	(in)	(in)	(in)
	1.4000	1.3990	1.4010	1.4000	1.4000	0.00040
Step	(in)	(in)	(in)	(in)	(in)	(in)
	1.0000	0.9990	1.0010	1.0005	1.0005	0.00041
Depth	(in)	(in)	(in)	(in)	(in)	(in)
	1.0000	0.9990	1.0010	1.0005	1.0005	0.00041

Distributed by:



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