



TOOLS CATALOG vol.115

CALIPERS | MICROMETER | MICROMETER HEAD | DIAL GAUGES | STANDARDS | GAUGES | ANGLE
MICROSCOPE | SCRIBE | SCALE | MAGNETIC TOOLS | OTHERS



CALIPERS

MICROMETER

MICROMETER HEAD

DIAL GAUGES

STANDARDS

GAUGES

ANGLE

MICROSCOPE

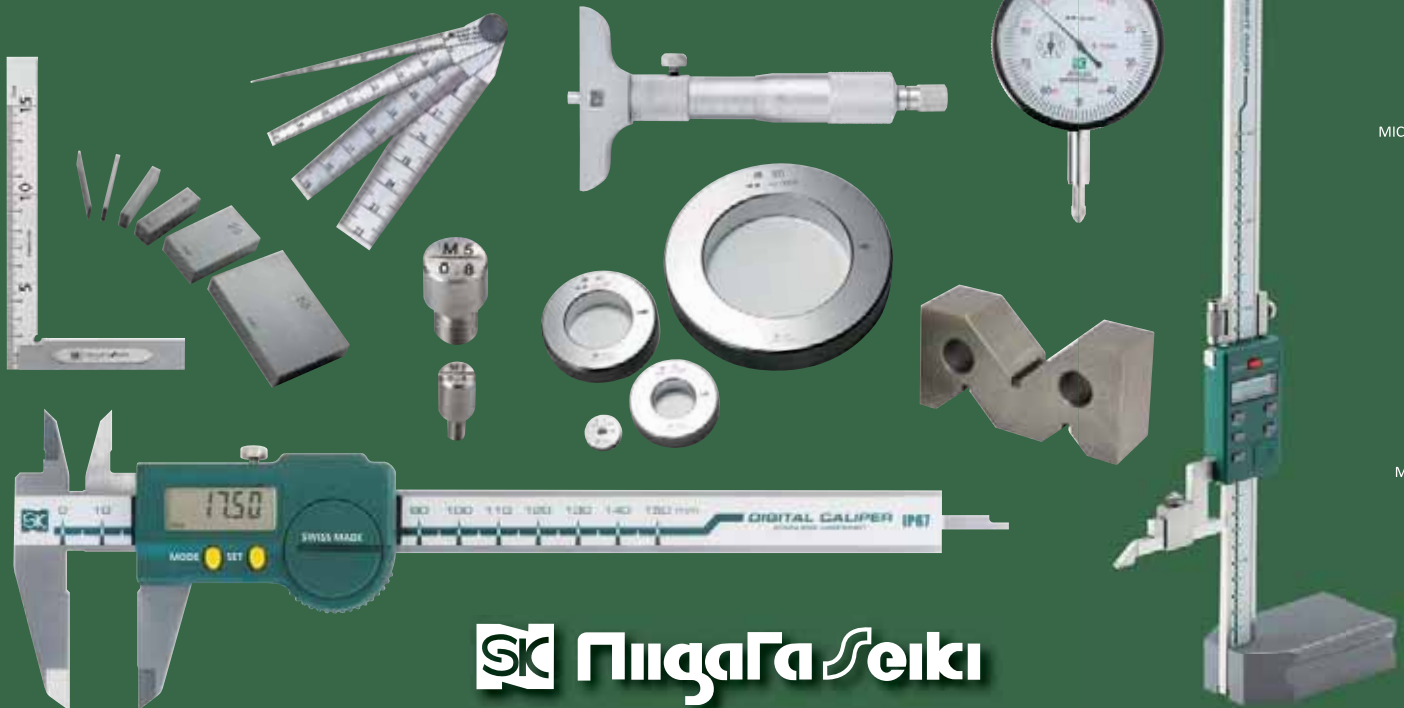
SCRIBE

SCALE

MAGNETIC TOOLS

OTHERS

TOOLS



SK Niuga Seiki

English

How To Read This Catalog

Product Name — VERNIER CALIPERS (MONO-BLOCK)

Product Features — Basic plain design (TVC series)

Category — CALIPERS

Product Photo —

Functional Description — Parallax-free vernier scales for easy and accurate measurement (HVC series)

Classification within Category — CALIPERS

Use • Material • Features — **USE** For Outside diameter, inside diameter, step and depth measurement. **FEATURES** Made of stainless steel, Satin finish.

Dimensions — **DIMENSIONS** (Units: mm)

Model No.	A	B	C	D	E	F	G
TVC-10	178	77	16	40	54	30	16
TVC-15	234	77	16	40	54	30	16
TVC-20	290	85	17	46	54	30	16
TVC-30	415	107	23	59.5	60	35	18.5
TVC-60	750	158	37	89	90	50	23
TVC-100	1250	213	45	124	124	62	30
TVC-1020	234	77	16	40	54	30	16
HVC-15	230	77	16.5	40	54	31	16
HVC-20	287	80	19.5	50	54	31	16

Specifications

Order No.	Model No.	Measuring Range (mm)	Graduation (mm)	Accuracy (mm)	Depth Bar	Weight	Note
151091	TVC-10	100	0.05	± 0.05	Yes	130g	—
151092	TVC-15	150	0.05	± 0.05	Yes	150g	—
151093	TVC-20	200	0.05	± 0.05	Yes	190g	—
151094	TVC-30	300	0.05	± 0.08	Yes	350g	—
151095	TVC-60	600	0.05	± 0.10	None	1.2kg	—
151096	TVC-100	1000	0.05	± 0.15	None	3.5kg	—
151084	TVC-15CD	150	0.05	± 0.05	Yes	150g	with 1.9 round bar

Order No.	Model No.	Measuring Range (mm)	Graduation (mm)	Accuracy (mm)	Depth Bar	Weight	Note
15 801	HVC-15	150	0.05	± 0.05	Yes	160g	Parallax-free vernier scales
15 802	HVC-20	200	0.05	± 0.05	Yes	200g	Parallax-free vernier scales

Marks — NEWITEM, TRACEABILITY, PDI

New Item

Traceability

Pre-Delivery Inspection Report.

Produced abroad Inspected in Japan

Order No. **Model No.**

Notices

Products

The products on this catalog is based on information from October, 2012.
Niigata Seiki may change design or specification, or discontinue without advance notice.

Size indication

Listed sizes in this catalog are outline dimensions


Precautions

Please read Precaution before use. Follow all instructions and Safety Warnings. Always wear required safety equipment.

Color

We pay careful attention to the products color in catalog. However, product color may not match photos.

CALIPERS



DIGITAL S-LINE CALIPERS	DIGITAL INSIDE CALIPERS KNIFE-EDGE, NARROW JAW TYPE
ULTRA LIGHT S-LINE CALIPERS	
DIGITAL CALIPERS with thin inside jaw	DIGITAL SCRIBING CALIPERS
DIGITAL CENTERLINE CALIPERS WITH CONICAL POINTS	SCRIBER for VHS series Height Gauge
	INDICATOR HOLDER for VHS series Height Gauge


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MICROMETER

ELECTRONIC DIGITAL S-LINE MICROMETERS	ELECTRONIC DIGITAL OUTSIDE MICROMETER (IP65)
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DIAL GAUGES



DIGITAL S-LINE INDICATOR	DUROMETER	DUROMETER STAND
DIGITAL S-LINE TEST INDICATOR	LEECH HARDNESS TESTER	
DIAL GAUGE LIMIT MARK STICKER	DIGITAL CALIPER GAUGE	DIAL TENSION GAUGE

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STANDARDS

CAST IRON V BLOCK - A type	CAST IRON V BLOCK - B type	CAST IRON V BLOCK -Ground Finish-	CAST IRON BLOCK WITH V GROOVE
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GAUGES



THREAD PIN GAUGE RA	LIMIT PLUG GAUGE with thin handle H7 (for manufacturing)	STEEL RING GAUGE with MAINTENANCE LINE
PLUG GAUGE with MAINTENANCE LINE	STEEL RING GAUGE OD model	
THICKNESS GAUGES Leaf	RIGHT ANGLE TAPER GAUGE	WELDING GAUGE

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ANGLE



DIGITAL ANGLE GAUGE



DIGITAL LEVEL SENSOR



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MICROSCOPE



VARIABLE POWER TURRET STYLE MICROSCOPE



RING ILLUMINATOR



BORE SCOPE WITH MONITOR (MIS series)



CAMERA FOR MIS



USB CAMERA FOR MICROSCOPE



SIDE VIEW ADAPTER FOR MIS



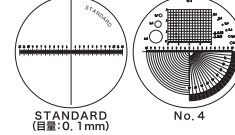
INTERCHANGEABLE LENS



ILLUMINATED MAGNIFIER WITH LED LIGHT



SCALE PLATE FOR LOUPE



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SCRIBE



PNEUMATIC ENGRAVING PERFORATOR



TOOL MARKER SURFACE GAUGE



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SCALE



SATIN SCALE -- K Aidan (Ziggurat) Scale



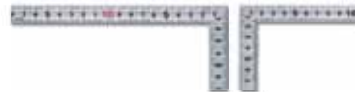
Pro K Aidan (Ziggurat) --TAPE MEASURE



SATIN SCALE -- K Aidan (Ziggurat) Scale, Narrow Type



SATIN STEEL SQUARE -- K Aidan (Ziggurat) , Single Marking



K Aidan (Ziggurat) CATCH-UP SCALE



ALUMINUM CUTTING RULER -- K Aidan (Ziggurat)



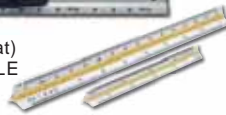
SATIN STEEL SQUARE -- K Aidan (Ziggurat) , Wide type



ALUMINUM CUTTING RULER WITH HANDLE -- K Aidan (Ziggurat)



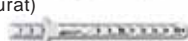
K Aidan (Ziggurat) TRIANGLE SCALE



STEEL CARPENTER SQUARE -- K Aidan (Ziggurat) Type



K Aidan (Ziggurat) CLIP SCALE



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CALIPERS



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Micrometer Head



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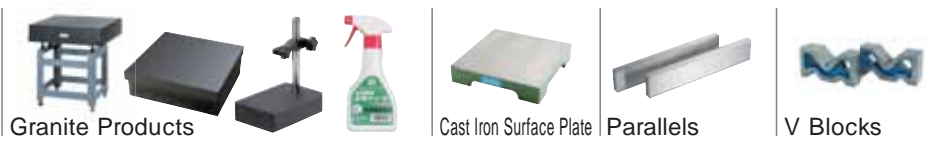
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Punch

Scribe

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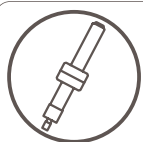


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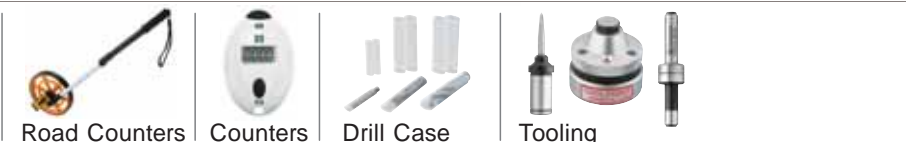


Magnetic Holder

Magnetic Tools



12 OTHERS



Road Counters

Counters

Drill Case

Tooling



Scribing Gauges



Depth Gauge



Height Gauge

CALIPERS

P015-038



Micrometer



Micrometer Stand

MICROMETER

P039-062

MICROMETER HEAD

P063-068



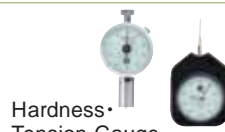
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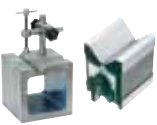
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Ferrite Magnet



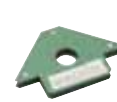
Rare Earth Magnet



Magnetic Hook



Magnetic Sheet



Welding Magnet



Magne Touch

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16p



17p



18p



19p



19p



20p



20p



21p



21p



22p



22p



23p



23p

CALIPERS



24p



24p



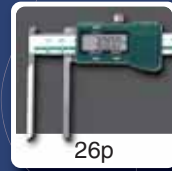
25p



25p



26p



26p



27p



27p



28p



29p



29p



30p



30p



31p



31p



32p



32p



33p



33p



34p



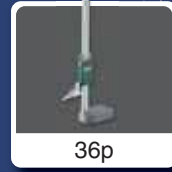
34p



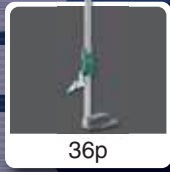
35p



35p



36p



36p



36p



36p



36p



37p



37p



37p



37p



38p



38p



38p



38p

CALIPERS

SCRIBING
CALIPERS

DEPTH
GAUGES

HEIGHT
GAUGES



DIGITAL S-LINE CALIPERS (IP67)



S-line series caliper, high-end model for high-performance!
 IP67 (comparable to NEMA 6) electronics are protected against temporary total immersion.



D-150IP67S



- IP rating for electrical equipment is defined based on IEC standard for water and solid body protection.
- IP indication

IP 67

- 2nd digit : water proof rating
- 1st digit : direct contact-protection rating for ingress of solid foreign object

Degrees of protection against solid foreign objects			
1st digit	Description	Definition	Testing for
6	Solid	No ingress of dust allowed	Complete protection against contact
Degrees of protection against water			
2nd digit	Description	Definition	Testing for
7	Liquid	Protected against the effects of temporary immersion in water	Depth of 1m (height of the equipment is less than 850mm), submerged for 30 minutes.

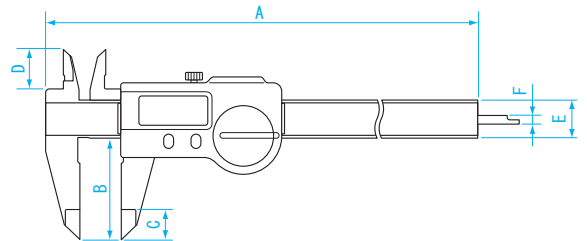
USE For outside diameter, inside diameter step and depth measurement

MATERIAL
 Stainless steel

FEATURES
 Digital calipers with IP67 (comparable to NEMA6) can be used in cutting fluid environment
 Stand-by mode after 20 min.

POWER
 One CR2032 (Lithium) battery included for testing

DIMENSIONS



Units : mm

Model No.	A	B	C	D	E	F
D-150IP67S	234.5	40	11	16	16	4
D-200IP67S	290	50	14	19	16	4
D-300IP67S	387	64	14	19	16	-

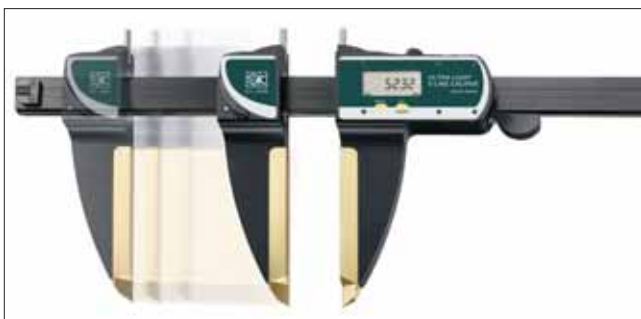
Order No.	Model No.	Measuring Range (mm)	Resolution (mm)	Accuracy (mm)	Depth Bar	Weight
NEW 152006	D-150IP67S	0-150	0.01	± 0.02	Yes	170g
NEW 152007	D-200IP67S	0-200	0.01	± 0.03	Yes	200g
NEW 152008	D-300IP67S	0-300	0.01	± 0.03	None	270g

Accuracy listed for outside measurements only. For other measurements, accuracy specification will be 0.02 larger.
 Quantization Error (± 1 digit) not included

S-line series caliper, high-functionality model for high-performance!
 Aluminum body, light weight for easy handling and measuring with large work piece.



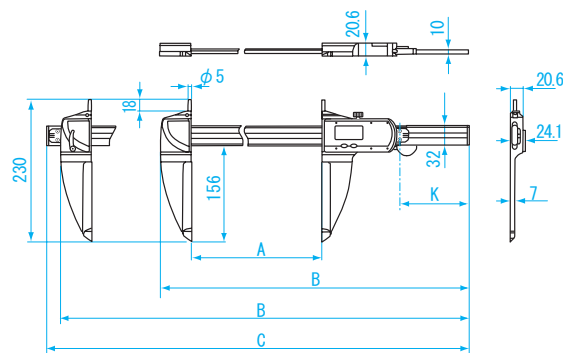
ULC-1000S



Left side jaw is movable and can be set to desired position (except for ULC-600S)



DIMENSIONS



Units : mm

Model No.	A	B	C	K
ULC-600S	630	918	-	110
ULC-1000S	1025	1284	1306	80
ULC-1500S	1525	1784	1806	80
ULC-2000S	2040	2284	2306	65

USE Outside and inside measurement

MATERIAL

- Body : Aluminum
- Inner gauge head : Carbide
- Outside gauge head : Stainless (Titanium coated)

FEATURES

- Aluminum body, light weight long digital calipers
- Left side jaw is movable and can be set to desired position (except for ULC-600S)
- Tolerance setting function for inspection
- PRESET function

POWER

One CR2032 (Lithium) battery included for testing

Order No.	Model No.	Measuring Range (mm) ¹	Resolution (mm)	Accuracy (mm) ²	Depth Bar	Weight
NEW 151821	ULC-600S	0-600	0.01	± 0.04	None	1.3kg
NEW 151822	ULC-1000S	0-1000	0.01	± 0.06	None	1.6kg
NEW 151823	ULC-1500S	0-1500	0.01	± 0.12	None	2.0kg
NEW 151824	ULC-2000S	0-2000	0.01	± 0.15	None	2.3kg

¹ Measuring Range of inner diameter is from 10mm for each model

² Quantization Error (± 1 digit) not included

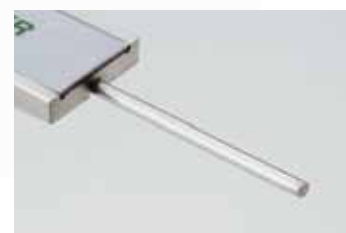
DIGITAL CALIPERS/ DIGITAL CALIPERS WITH CARBIDE TIPPED MEASURING FACE



DT-150



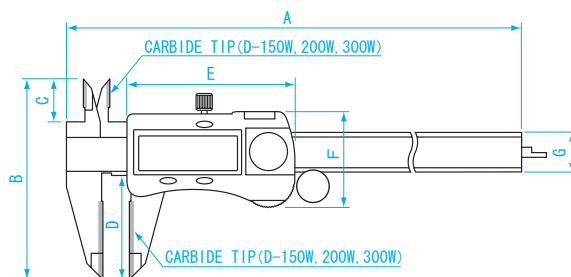
D-150W, D-200W, D-300W are carbide-tipped for outside & inside measurement



DT-150CD (1.9mm round depth bar)



DIMENSIONS



Units : mm

Model No.	A	B	C	D	E	F	G
DT-100	186	77	16.5	40	67	38	16
DT-150	236	77	16.5	40	67	38	16
DT-200	286	90	19.5	50	67	38	16
DT-300	400	102	20.5	60	67	38	16
DT-150CD	236	77	16.5	40	67	38	16
D-150W	236	77	16.5	40	67	38	16
D-200W	286	90	19.5	50	67	38	16
D-300W	400	102	20.5	60	67	38	16

USE For outside diameter, inside diameter, step and depth measurement

FEATURES

- Quick display of the measured value
- Available with **carbide tipped** measuring faces (D-150W-300W)
- Hold display function
- Auto power off function (after 20 min.)
- Made of stainless steel
- One SR44 (Silver oxide) battery included for testing

Order No.	Model No.	Measuring Range (mm)	Resolution (mm)	Accuracy (mm)	Depth Bar	Weight	Note
151291	DT-100	0-100	0.01	± 0.03	Yes	145g	—
151292	DT-150	0-150	0.01	± 0.03	Yes	160g	—
151293	DT-200	0-200	0.01	± 0.03	Yes	200g	—
151294	DT-300	0-300	0.01	± 0.04	Yes	270g	—
151305	DT-150CD	0-150	0.01	± 0.03	Yes	175g	with 1.9mm round depth bar
151085	D-150W	0-150	0.01	± 0.03	Yes	160g	Carbide-tipped measuring faces
151086	D-200W	0-200	0.01	± 0.03	Yes	200g	Carbide-tipped measuring faces
151087	D-300W	0-300	0.01	± 0.04	Yes	270g	Carbide-tipped measuring faces

Quantization Error (± 1 digit) not included

High performance at a reasonable price



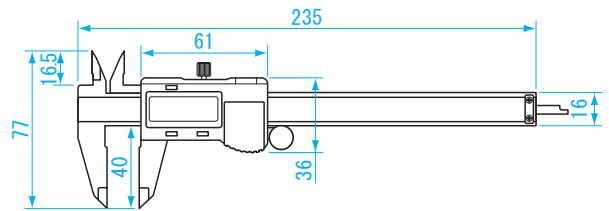
USE For outside diameter, inside diameter, step and depth measurement

FEATURES

- Quick display of the measured value
- Hold function
- Made of stainless steel
- One CR2032 (Lithium) battery included for testing

DIMENSIONS

Units : mm



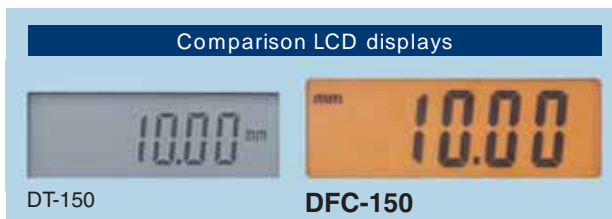
Order No.	Model No.	Measuring Range (mm)	Resolution (mm)	Accuracy (mm)	Depth Bar	Weight
151306	DS-150	0-150	0.01	± 0.03	Yes	155g

Quantization Error (± 1 digit) not included

DIGITAL FINE CALIPERS



DFC-150



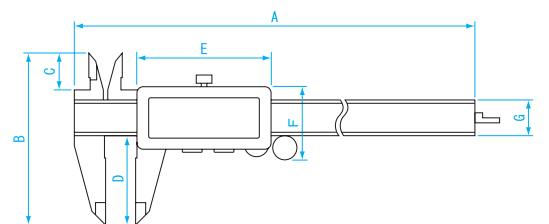
USE For outside diameter, inside diameter, step and depth measurement

FEATURES

- Viewable in dim lighting, fine orange LCD background
- With big LCD display
- Made of stainless steel
- One CR2025 (Lithium) battery included for testing

DIMENSIONS

Units : mm



Model No.	A	B	C	D	E	F	G
DFC-150	235	76	15.5	40	62	33.5	16
DFC-200	285	90.5	19.5	50	62	33.5	16
DFC-300	390	102.5	22	60	62	33.5	16

Order No.	Model No.	Measuring Range (mm)	Resolution (mm)	Accuracy (mm)	Depth Bar	Weight
152041	DFC-150	0-150	0.01	± 0.03	Yes	170g
152042	DFC-200	0-200	0.01	± 0.03	Yes	200g
152043	DFC-300	0-300	0.01	± 0.04	Yes	250g

Quantization Error (± 1 digit) not included

DIGITAL CALIPERS



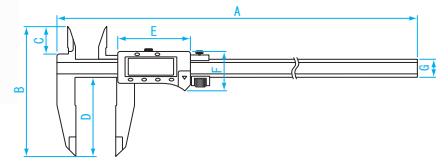
DIGITAL CALIPERS



D-500



DIMENSIONS



Units : mm

Model No.	A	B	C	D	E	F	G
D-500	675	168	37.5	100	100	55	24
D-600	775	168	37.5	100	100	55	24
D-1000	1222	216	50	125	129	75	31
D-1500	1780	262	61	150	165	93	42
D-2000	2290	262	61	150	165	93	42

USE Outside diameter, inside diameter and step measurement

FEATURE

- Digital caliper with nib style and standard jaws
- Zero-setting at any position
- Provided with fine-adjustment carriage
- Made of stainless steel
- One CR2032 (Lithium) battery included for testing

Order No.	Model No.	Measuring Range (mm)	Resolution (mm)	Accuracy (mm)	Depth Bar	Weight
151053	D-500	0-500	0.01	± 0.05	None	1.0kg
151054	D-600	0-600	0.01	± 0.08	None	1.1kg
151055	D-1000	0-1000	0.01	± 0.10	None	2.4kg
151156	D-1500	0-1500	0.01	± 0.14	None	5.0kg
151157	D-2000	0-2000	0.01	± 0.20	None	6.5kg

Quantization Error (± 1 digit) not included

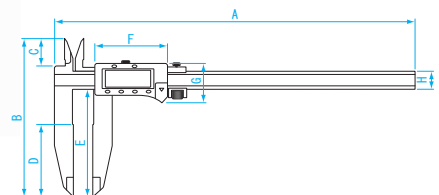
DIGITAL LONG JAW CALIPERS



D-300LV



DIMENSIONS



Units : mm

Model No.	A	B	C	D	E	F	G	H
D-300LV	475	220	38	100	150	100	55	25
D-600LV	860	410	60	200	300	165	93	40

USE Outside diameter, inside diameter and step measurement

FEATURES

- Long jaws for measuring hard-to-reach features
- Made of stainless steel
- One CR2032 (Lithium) battery included for testing

Order No.	Model No.	Measuring Range (mm)	Graduation (mm)	Accuracy (mm)	Depth Bar	Weight
151296	D-300LV	0-300	0.01	± 0.05	None	920g
151297	D-600LV	0-600	0.01	± 0.08	None	4.3kg

Quantization Error (± 1 digit) not included

* Accuracy specified for inner most portion of measuring jaw.
Instrument error may be slightly higher when using the tip of jaw for performing measurement.

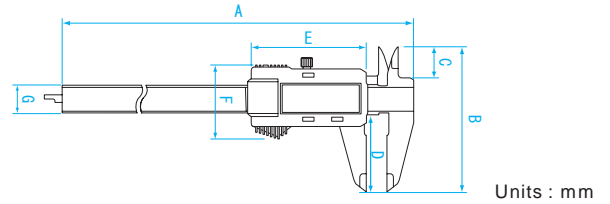
LEFT HAND DIGITAL CALIPERS

Digital calipers for left-hand use



D-150HL

DIMENSIONS



Model No.	A	B	C	D	E	F	G
D-150HL	236	76	16	40	61.5	37	16
D-200HL	286	90	19.5	50	61.5	37	16

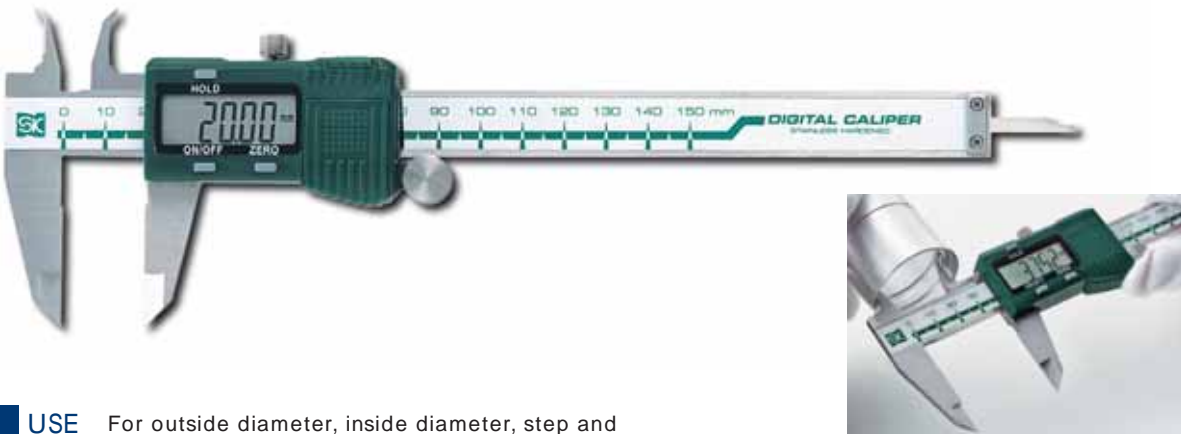
- USE** For outside diameter, inside diameter, step and depth measurement
- MATERIAL** Stainless steel
- FEATURES** Designed specially for left-handed use.
- POWER** One SR44 (Silver oxide) battery included for testing

Order No.	Model No.	Measuring Range (mm)	Resolution (mm)	Accuracy (mm)	Depth Bar	Weight
152021	D-150HL	0-150	0.01	± 0.03	Yes	150g
NEW 152022	D-200HL	0-200	0.01	± 0.03	Yes	190g

Quantization Error (± 1 digit) not included

DIGITAL CALIPERS with thin inside jaw

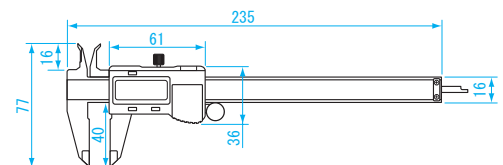
Can measure inner narrow groove



- USE** For outside diameter, inside diameter, step and depth measurement
- MATERIAL** Stainless steel
- FEATURES** Ideal for narrow inner groove measurement
Hold function
- POWER** One CR2032 (Lithium) battery included for testing

DIMENSIONS

Units : mm



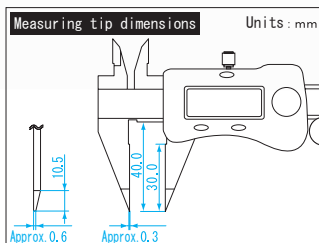
Order No.	Model No.	Measuring Range (mm)	Resolution (mm)	Accuracy (mm)	Depth Bar	Weight
NEW 151307	DS-150IR	0-150	0.01	± 0.03	Yes	150g

Quantization Error (± 1 digit) not included

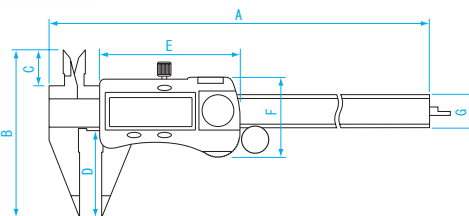
DIGITAL POINT CALIPERS



D-150P



DIMENSIONS



USE Outside diameter, inside diameter, step and depth measurement

FEATURES

Narrow tip jaws fit into very small grooves and tracks, making it easier to obtain many difficult outside measurements

Hold display function

Auto power off function (after 20 min.)

Made of stainless steel

One SR44 (Silver oxide) battery included for testing

Units : mm

Model No.	A	B	C	D	E	F	G
D-150P	236	78	17.5	40	67	38	16
D-200P	286	89	20	50	67	38	16

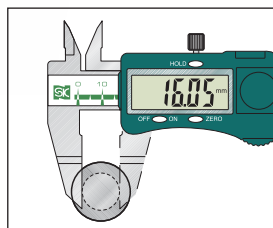
Order No.	Model No.	Measuring Range (mm)	Resolution (mm)	Accuracy (mm)	Depth Bar	Weight
151090	D-150P	0-150	0.01	± 0.03	Yes	170g
151089	D-200P	0-200	0.01	± 0.03	Yes	195g

Quantization Error (± 1 digit) not included

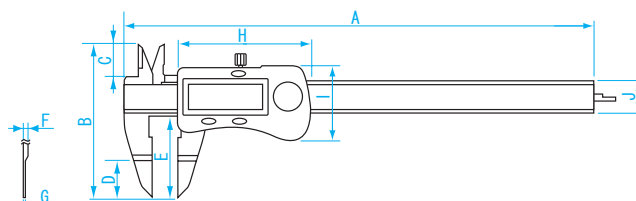
DIGITAL CALIPERS BLADE TYPE



D-150B



DIMENSIONS



[SIDE VIEW OF OUTSIDE MEASURING FACES]

USE

For measuring narrow groove

FEATURES

Can obtain diameter of a narrow groove

Hold display function

Auto power off function (after 20 min.)

Made of stainless steel

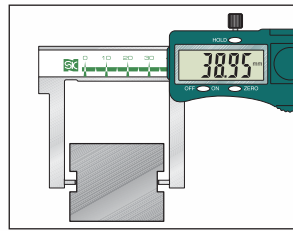
One SR44 (Silver oxide) battery included for testing

Units : mm

Model No.	A	B	C	D	E	F	G	H	I	J
D-150B	236	77	16.5	18	40	3.2	0.75	67	38	16
D-200B	286	90	19.5	18	50	3.6	0.75	67	38	16

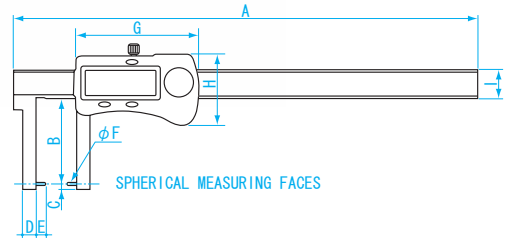
Order No.	Model No.	Measuring Range (mm)	Resolution (mm)	Accuracy (mm)	Depth Bar	Weight
151315	D-150B	0-150	0.01	± 0.03	Yes	150g
151316	D-200B	0-200	0.01	± 0.03	Yes	170g

Quantization Error (± 1 digit) not included



D-150NP

DIMENSIONS



Units : mm

Model No.	A	B	C	D	E	F	G	H	I
D-150NP	250	40	3	10	5	2	67	38	16
D-200NP	300	50	3	12	8	2.5	67	38	16

USE Outside groove measurement

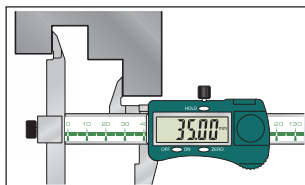
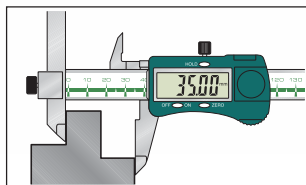
FEATURES

- Can measure the width of an outside groove
- Spherical measuring faces
- Hold display function
- Auto power off function (after 20 min.)
- Made of stainless steel
- One SR44 (Silver oxide) battery included for testing

Order No.	Model No.	Measuring Range (mm)	Resolution (mm)	Accuracy (mm)	Depth Bar	Weight	Note
151310	D-150NP	0-150	0.01	± 0.03	None	190g	Spherical measuring faces
151311	D-200NP	0-200	0.01	± 0.04	None	230g	Spherical measuring faces

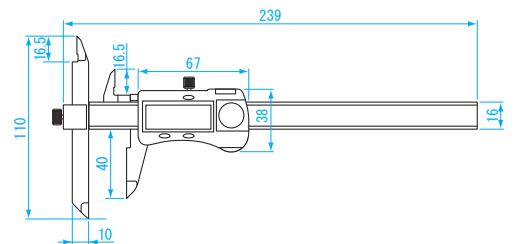
Quantization Error (± 1 digit) not included

DIGITAL OFFSET CALIPERS



DIMENSIONS

Units : mm



USE Measurement of stepped sections

FEATURES

- Main scale jaw can be slide up and down
- Auto power off Function (After 20 min.)
- Made of stainless steel
- One SR44 (Silver oxide) battery included for testing

Order No.	Model No.	Measuring Range (mm)	Resolution (mm)	Accuracy (mm)	Depth Bar	Weight
151325	D-150F	0-150	0.01	± 0.04	None	215g

Quantization Error (± 1 digit) not included

DIGITAL CENTERLINE CALIPERS WITH CONICAL POINTS



For measuring center distance between two holes



Master plate for origin setting

USE For measuring center distance between two holes

MATERIAL
Stainless steel

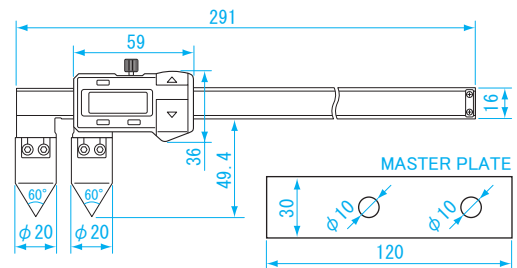
FEATURES
Measurement between holes of 1.5 ~ 19.5mm are possible
Cylindrical gauge heads provide stable measurement
With master plate for origin setting
Hold function
Auto-display-off function (after 5 min.)

POWER
One SR44 (Silver oxide) battery included for testing

ACCESSORIES
Master plate for origin setting

DIMENSIONS

Units : mm



Order No.	Model No.	Measuring Range (mm)	Applicable hole diameter (mm)	Resolution (mm)	Accuracy (mm)	Depth Bar	Weight
NEW 151108	D-200AA	20-200	1.5 ~ 19.5	0.01	± 0.05	None	270g

Quantization Error (± 1 digit) not included

DIGITAL CENTERLINE CALIPERS WITH CONICAL POINTS



For measuring distance from the edge of workpiece to center hole



Master plate for origin setting

USE For measuring distance from the edge of workpiece to center hole

MATERIAL
Stainless steel

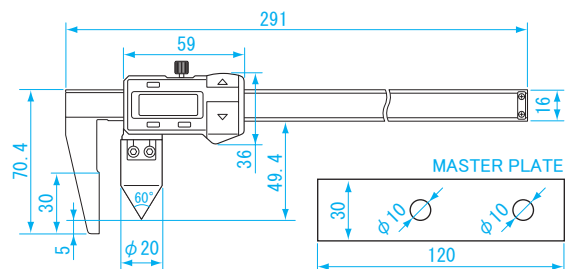
FEATURES
Measurement between holes of 1.5 ~ 19.5mm are possible
Cylindrical gauge head (tapered) provides a stable measurement
With master plate for origin setting
Hold function
Auto-display-off function(after 5 min.)

POWER
One SR44 (Silver oxide) battery included for testing

ACCESSORIES
Master plate for origin setting

DIMENSIONS

Units : mm



Order No.	Model No.	Measuring Range (mm)	Applicable hole diameter (mm)	Resolution (mm)	Accuracy (mm)	Depth Bar	Weight
NEW 151109	D-200TA	10-200	1.5 ~ 19.5	0.01	± 0.05	None	230g

Quantization Error (± 1 digit) not included



D-150A2

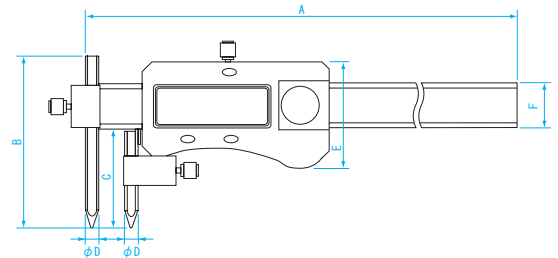
USE

For measuring center distance between two holes

FEATURES

- Adjustable main scale jaw facilitates measurement of holes on stepped surface
- Distance between a plane and a hole can be obtained
- Hold display function
- Auto power off function (after 20 min.)
- Made of stainless steel
- One SR44 (Silver oxide) battery included for testing

DIMENSIONS



Units : mm

Model No.	A	B	C	D	E	F
D-150A	241	60	35	5	38	16
D-150A2	241	100	62	10	38	16

Order No.	Model No.	Measuring Range (mm)	Applied hole diameter	Resolution (mm)	Accuracy (mm)	Depth Bar	Weight
151080	D-150A	5-150	1 ~ 5	0.01	± 0.05	None	190g
151081	D-150A2	10-150	1 ~ 10	0.01	± 0.05	None	200g

Quantization Error (± 1 digit) not included

DIGITAL TUBE THICKNESS TYPE CALIPERS



USE

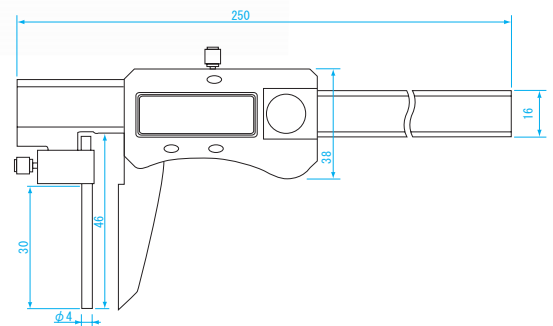
For measurement of tube wall thickness

FEATURES

- Facilitate measurements of tube wall thickness
- The main scale jaw is a round bar
- Hold display function
- Auto power off function(after 20 min.)
- Made of stainless steel
- One SR44 (Silver oxide) battery included for testing

DIMENSIONS

Units : mm



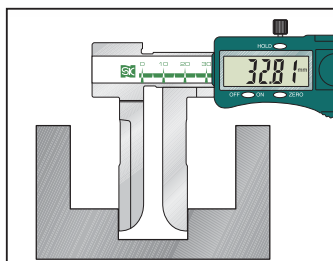
Order No.	Model No.	Measuring Range (mm)	Resolution (mm)	Accuracy (mm)	Depth Bar	Weight
151082	D-150T	0-150	0.01	± 0.05	None	210g

Quantization Error (± 1 digit) not included

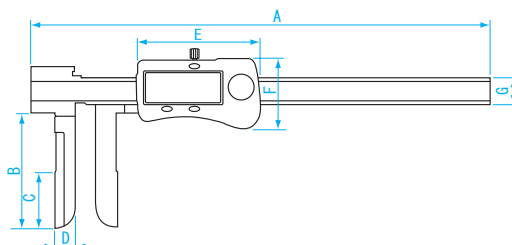
DIGITAL INSIDE CALIPERS KNIFE-EDGE TYPE



D-150IK



DIMENSIONS



Units : mm

Model No.	A	B	C	D	E	F	G
D-150IK	250	60	30	12	67	38	16
D-200IK	305	75	35	14	67	38	16

USE For inside measurement

FEATURES

Long jaws facilitate measurement of the diameter of deep holes

Hold display function

Auto power off function(after 20 min.)

Made of stainless steel

One SR44 (Silver oxide) battery included for testing

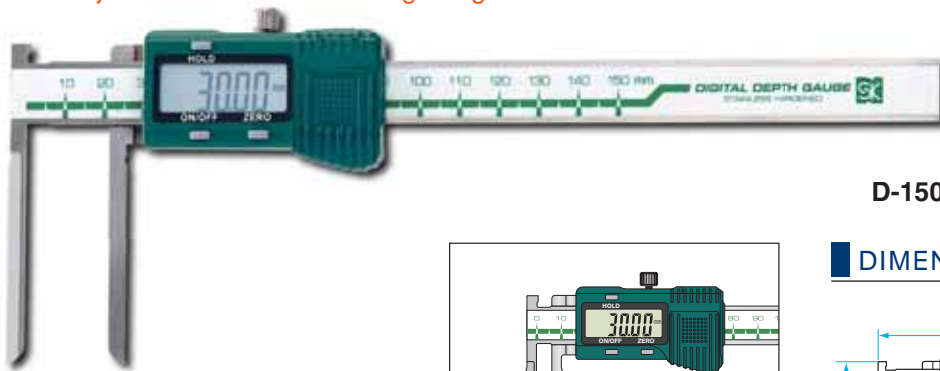
Order No.	Model No.	Measuring Range (mm)	Resolution (mm)	Accuracy (mm)	Length of jaws	Depth Bar	Weight
151345	D-150IK	15-150	0.01	± 0.04	60mm	None	230g
151346	D-200IK	18-200	0.01	± 0.04	75mm	None	270g

Quantization Error (± 1 digit) not included

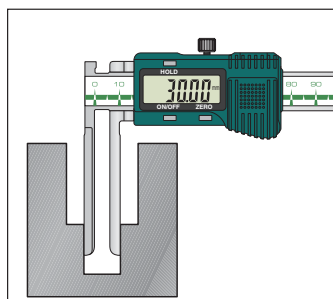
DIGITAL INSIDE CALIPERS KNIFE-EDGE, NARROW JAW TYPE



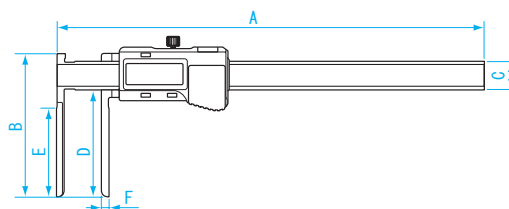
Narrow jaw for wide measuring range.



D-150IK2



DIMENSIONS



Units : mm

Model No.	A	B	C	D	E	F
D-150IK2	235	80.5	16	60	50	4.5
D-200IK2	289	100	16	80	70	9.5

USE For inside measurement

MATERIAL

Stainless steel

FEATURES

Thin jaws enable measurements in narrow spaces

Hold function

POWER

One CR2032 (Lithium) battery included for testing

Order No.	Model No.	Measuring Range (mm)	Resolution (mm)	Accuracy (mm)	Jaw Length	Depth Bar	Weight
151347	D-150IK2	5-150	0.01	± 0.05	60mm	None	175g
151348	D-200IK2	10-200	0.01	± 0.05	80mm	None	220g

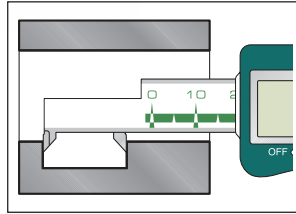
Quantization Error (± 1 digit) not included

DIGITAL CALIPERS HOOK TYPE

Can measure the inside width and position of groove

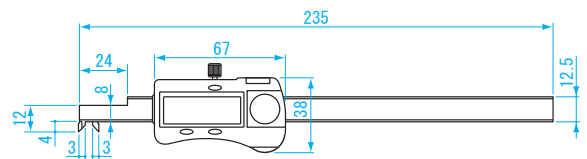


Enlarged picture of probes



DIMENSIONS

Units : mm



USE Inside width and position of groove measurement

FEATURES

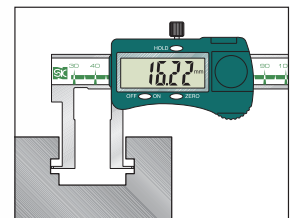
- Auto power off function (after 20 min.)
- Made of stainless steel
- One SR44 (Silver oxide) battery included for testing

Order No.	Model No.	Measuring Range (mm)	Resolution (mm)	Accuracy (mm)	Depth Bar	Weight
151312	D-125H	4-125	0.01	± 0.03	None	130g

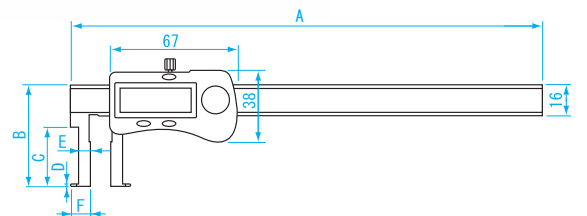
Quantization Error (± 1 digit) not included

DIGITAL INSIDE CALIPERS POINT JAW TYPE

Ideal for inside measurement of a special shapes



DIMENSIONS



Units : mm

Model No.	A	B	C	D	E	F
D-1501	250	52	30	1	6	11
D-15012	250	82	60	1.5	11.5	17.5

USE For inside measurement
(Actual dimension is displayed value plus 22mm for D-1501, plus 35mm for D15012)

MATERIAL

Stainless steel

FEATURES

- Designed specially for inside measurement
- Hold function
- Auto-power-off function (after 20 min.)

POWER

One SR44 (Silver oxide) battery included for testing

Order No.	Model No.	Measuring Range (mm)	Resolution (mm)	Accuracy (mm)	Length of Jaws	Depth Bar	Weight
151340	D-1501	22-150	0.01	± 0.04	30mm	None	180g
NEW 151341	D-15012	35-150	0.01	± 0.05	60mm	None	220g

Quantization Error (± 1 digit) not included

VERNIER CALIPERS (MONO-BLOCK)

Basic plain design



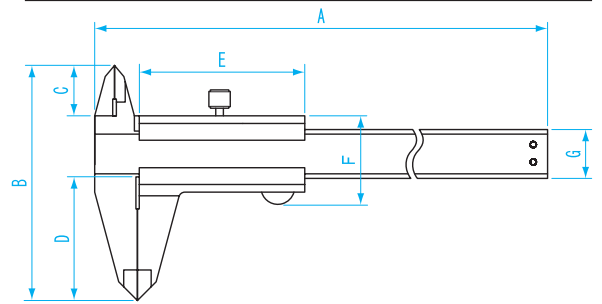
TVC-15



TVC-15CD (1.9mm round depth bar)



DIMENSIONS



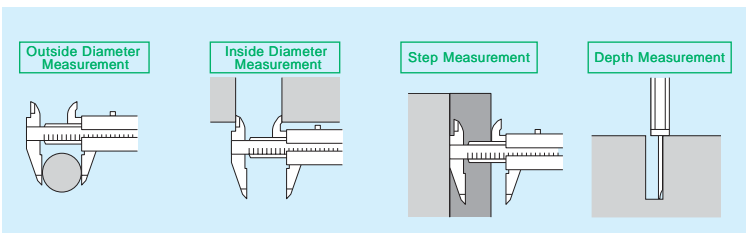
Units : mm

Model No.	A	B	C	D	E	F	G
TVC-10	178	76.5	16	40	54	30	16
TVC-15	235	76.5	16	40	54	30	16
TVC-20	290	85	17	46	54	30	16
TVC-30	415	107	23	59.5	60	35	18.5
TVC-60	770	168	37	100	92	45	24
TVC-100	1230	238	50	150	125	53	31
TVC-15CD	234	77	16	40	54	30	16

USE For outside diameter, inside diameter, step and depth measurement

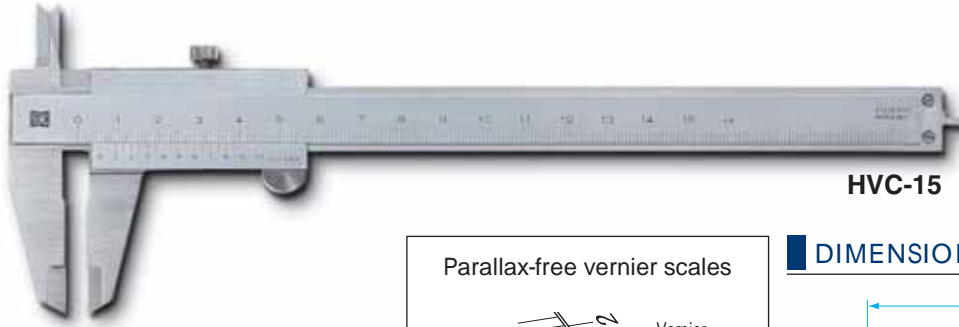
FEATURES

- Made of stainless steel
- Satin finish

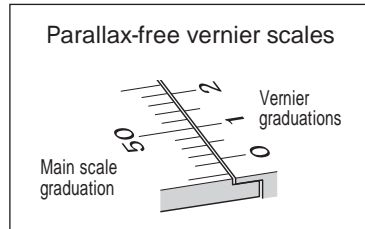


Order No.	Model No.	Measuring Range (mm)	Graduation (mm)	Accuracy (mm)	Depth Bar	Weight	Note
151091	TVC-10	100	0.05	± 0.05	Yes	130g	—
151092	TVC-15	150	0.05	± 0.05	Yes	150g	—
151093	TVC-20	200	0.05	± 0.05	Yes	190g	—
151094	TVC-30	300	0.05	± 0.08	Yes	350g	—
151095	TVC-60	600	0.05	± 0.10	None	1.2kg	—
151096	TVC-100	1000	0.05	± 0.15	None	3.5kg	—
151084	TVC-15CD	150	0.05	± 0.05	Yes	150g	with 1.9 round depth bar

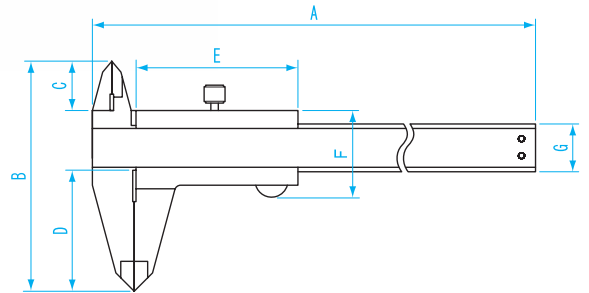
Parallax-free vernier scales for easy and accurate measurement



HVC-15



DIMENSIONS



Units : mm

Model No.	A	B	C	D	E	F	G
HVC-15	230	77	16.5	40	54	31	16
HVC-20	287	90	19.5	50	54	31	16

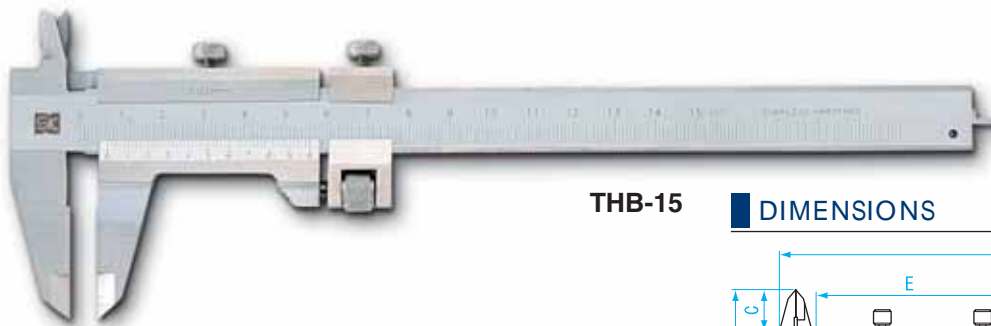
USE For outside diameter, inside diameter, step and depth measurement

FEATURES

- Made of stainless steel
- Satin finish

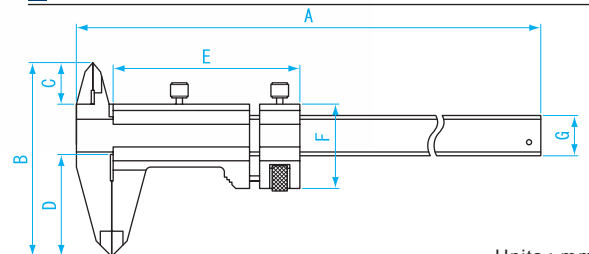
Order No.	Model No.	Measuring Range (mm)	Graduation (mm)	Accuracy (mm)	Depth Bar	Weight	Note
151801	HVC-15	150	0.05	± 0.05	Yes	160g	Parallax-free vernier scales
151802	HVC-20	200	0.05	± 0.05	Yes	200g	Parallax-free vernier scales

VERNIER CALIPERS WITH FINE ADJUSTMENT



THB-15

DIMENSIONS



Units : mm

Model No.	A	B	C	D	E	F	G
THB-15	234	76	15.5	40	72	32	16
THB-20	300	90	20	50	72	32	16
THB-30	412	100	20	55.5	81	37	18

USE For outside diameter, inside diameter, step and depth measurement

FEATURES

- Provided with a fine-adjustment carriage to feed the slider finely
- With depth bar
- Made of stainless steel
- Satin finish

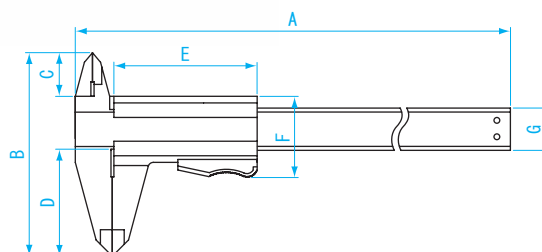
Order No.	Model No.	Measuring Range (mm)	Graduation (mm)	Accuracy (mm)	Depth Bar	Weight
151301	THB-15	130	0.02	± 0.05	Yes	170g
151302	THB-20	180	0.02	± 0.05	Yes	210g
151303	THB-30	280	0.02	± 0.08	Yes	420g

VERNIER CALIPERS WITH THUMB CLAMP



THS-15

DIMENSIONS



Units : mm

Model No.	A	B	C	D	E	F	G
THS-15	234	76	15.5	39	54	31	16
THS-20	300	90	20	50	54	31	16

USE For outside diameter, inside diameter, step and depth measurement

FEATURES

The slider moves only when the thumb clamp is depressed

Made of stainless steel

Satin finish

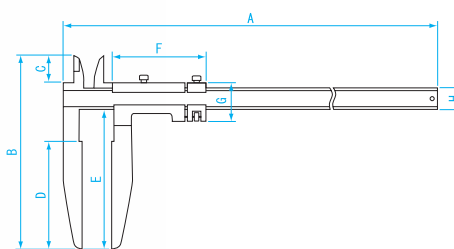
Order No.	Model No.	Measuring Range (mm)	Graduation (mm)	Accuracy (mm)	Depth Bar	Weight
151371	THS-15	150	0.05	± 0.05	Yes	150g
151372	THS-20	200	0.05	± 0.05	Yes	180g

LONG JAW VERNIER CALIPERS



LVC-30

DIMENSIONS



Units : mm

USE Outside diameter and inside diameter measurement

FEATURES

Long jaws for measuring hard-to-reach features

Made of stainless steel

Model No.	A	B	C	D	E	F	G	H
LVC-30	464	238	35	130	170	115	50	25
LVC-60	808	406	45	180	320	140	60	32

Order No.	Model No.	Measuring Range (mm)	Graduation (mm)	Accuracy (mm)	Depth Bar	Weight
151813	LVC-30	300	0.05	± 0.08	None	1.1kg
151814	LVC-60	600	0.05	± 0.10	None	3.1kg

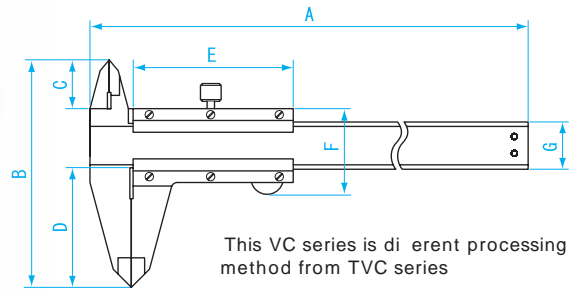
Accuracy specified for inner most portion of measuring jaw. Instrument error may be slightly higher when using the tip of jaw for performing measurement.

High performance at reasonable price



VC-15

DIMENSIONS



This VC series is different processing method from TVC series

USE For outside diameter, inside diameter, step and depth measurement

FEATURES

- Standard, reasonable type
- Integrated vernier type (VC-15, VC-20)
- Vernier screw stop type (VC-10, VC-30)
- Made of stainless steel
- Satin finish

Units : mm

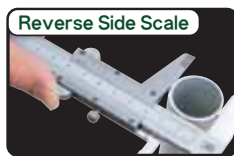
Model No.	A	B	C	D	E	F	G
VC-10	160	60	14.5	30	42	23.5	12
VC-15	235	77	16.5	40	54	30	16
VC-20	300	90	19.5	50	54	30	16
VC-30	410	100	21.2	55	59	35	18.5

Order No.	Model No.	Measuring Range (mm)	Graduation (mm)	Accuracy (mm)	Depth Bar	Weight
151031	VC-10	100	0.05	± 0.05	Yes	100g
151032	VC-15	150	0.05	± 0.05	Yes	150g
151033	VC-20	200	0.05	± 0.05	Yes	180g
151034	VC-30	300	0.05	± 0.08	Yes	350g

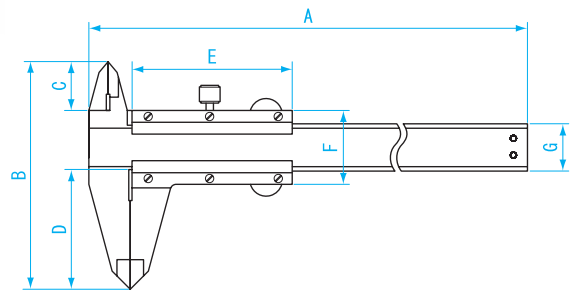
LR TYPE VERNIER CALIPERS



LR-150



DIMENSIONS



USE For outside diameter, inside diameter, step and depth measurement

FEATURES

- Dual thumb grip for use with either hand
- Made of stainless steel
- Satin finish

Units : mm

Model No.	A	B	C	D	E	F	G
LR-100	160	60	14	30	42	20	12
LR-150	235	77	16	40	54	25	16
LR-200	300	90	20	50	54	25	16

Order No.	Model No.	Measuring Range (mm)	Graduation (mm)	Accuracy (mm)	Depth Bar	Weight
151331	LR-100	100	0.05	± 0.05	Yes	70g
151332	LR-150	150	0.05	± 0.05	Yes	150g
151333	LR-200	200	0.05	± 0.05	Yes	180g

LEFT-HAND VERNIER CALIPERS



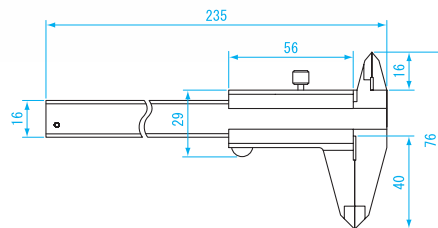
DIMENSIONS

Units : mm

USE For outside diameter, inside diameter, step and depth measurement

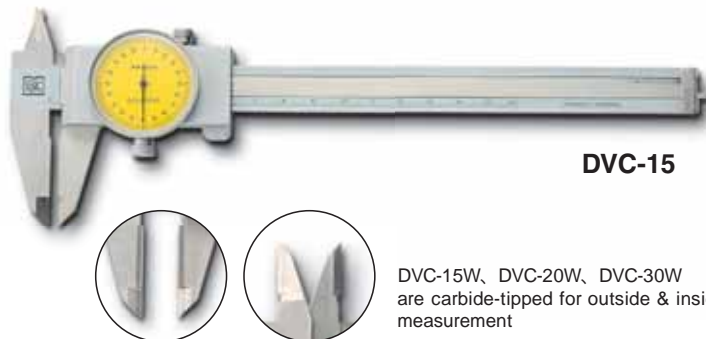
FEATURES

- Designed specially for left-handed use
- Made of stainless steel
- Satin finish



Order No.	Model No.	Measuring Range (mm)	Graduation (mm)	Accuracy (mm)	Depth Bar	Weight
151321	THL-150	150	0.05	± 0.05	Yes	150g

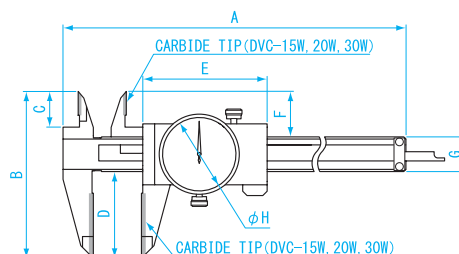
DIAL CALIPERS/ DIAL CALIPERS WITH CARBIDE TIPPED MEASURING FACE



DVC-15

DVC-15W, DVC-20W, DVC-30W are carbide-tipped for outside & inside measurement

DIMENSIONS



Units : mm

USE For outside diameter, inside diameter, step and depth measurement

FEATURES

- Slider displacement is amplified by rack-and-pinion mechanism and indicated on the dial
- Available with carbide-tipped measuring faces(DVC-15W ~ 30W)
- Made of stainless steel
- Satin finish

Model No.	A	B	C	D	E	F	G	H
DVC-15	236	77	16	40	58	21	16	38
DVC-20	285	90	19	50	59	24	16	38
DVC-30	400	103	18	60	59	25	17	45
DVC-15W	236	77	16	40	58	21	16	38
DVC-20W	285	90	19	50	59	24	16	38
DVC-30W	400	103	18	60	59	25	17	45

Order No.	Model No.	Measuring Range (mm)	Graduation (mm)	Accuracy (mm)	Depth Bar	Indicator 1 revolution (mm)	Weight	Note
151351	DVC-15	150	0.02	± 0.03	Yes	2	200g	—
151352	DVC-20	200	0.02	± 0.03	Yes	2	240g	—
151353	DVC-30	300	0.02	± 0.04	Yes	2	360g	—
151361	DVC-15W	150	0.02	± 0.03	Yes	2	200g	Carbide-tipped measuring faces
151362	DVC-20W	200	0.02	± 0.03	Yes	2	240g	Carbide-tipped measuring faces
151363	DVC-30W	300	0.02	± 0.04	Yes	2	370g	Carbide-tipped measuring faces

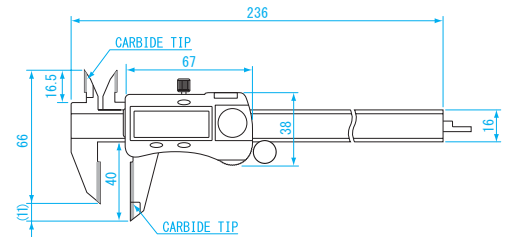


USE Outside diameter, inside diameter, step and depth measurement, and also scribing

FEATURES
 Measuring and accurate marking work can be performed with this caliper
 Made of stainless steel
 Auto power off function(after 20 min.)
 Carbide-tipped measuring faces
 One SR44 (Silver oxide) battery included for testing

DIMENSIONS

Units : mm



Order No.	Model No.	Measuring Range (mm)	Resolution (mm)	Accuracy (mm)	Depth Bar	Weight	Note
152005	D-150S	0-150	0.01	± 0.03	Yes	160g	Carbide tipped measuring faces

Quantization Error (± 1 digit) not included

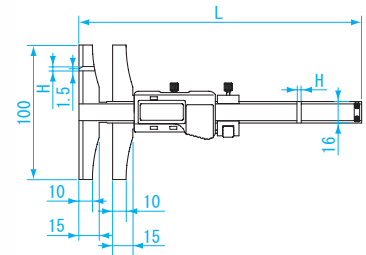
DIGITAL SCRIBING CALIPERS

Enables stable and high-accuracy scribing work



D-150ST

DIMENSIONS



Units : mm

Model No.	H	L
D-150ST	3.2	260
D-300ST	4	415

USE Measures distance from caliper base to scribe edge

MATERIAL
 Stainless steel

FEATURES
 Digital Display for easy reading and precise scribing work
 Hold Function

POWER
 One CR2032 (Lithium) battery included for testing

ACCESSORIES
 Carbide tip scriber SC-P



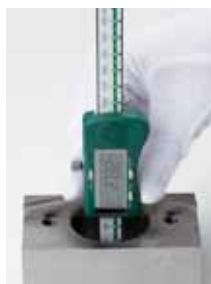
Order No.	Model No.	Measuring Range (mm)	Resolution (mm)	Accuracy (mm)	Weight
NEW 151277	D-150ST	0-150	0.01	± 0.07	240g
NEW 151278	D-300ST	0-300	0.01	± 0.08	330g

Quantization Error (± 1 digit) not included

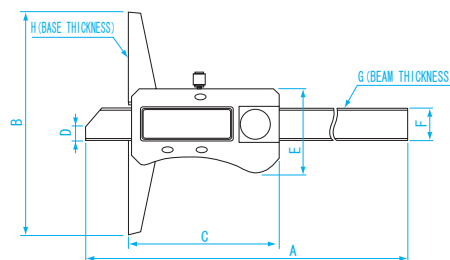
DIGITAL DEPTH GAUGES



D-150D



DIMENSIONS



Units : mm

Model No.	A	B	C	D	E	F	G	H
D-150D	230	100	69	6	38	14.5	4	7
D-200D	280	100	69	6	38	14.5	4	7
D-300D	380	100	69	6	38	14.5	4	7

USE For measuring depth

FEATURES

- Hold function
- Auto power off function (after 20 min.)
- Made of stainless steel
- One SR44 (Silver oxide) battery included for testing

Order No.	Model No.	Measuring Range (mm)	Resolution (mm)	Accuracy (mm)	Weight
151067	D-150D	0-150	0.01	± 0.03	200g
151068	D-200D	0-200	0.01	± 0.03	220g
151079	D-300D	0-300	0.01	± 0.04	260g

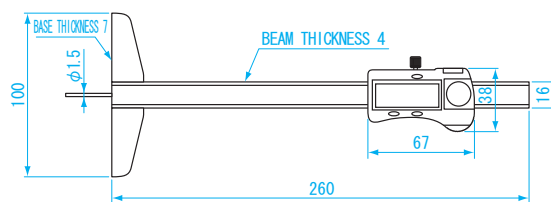
Quantization Error (± 1 digit) not included

DIGITAL DEPTH GAUGES



DIMENSIONS

Units : mm



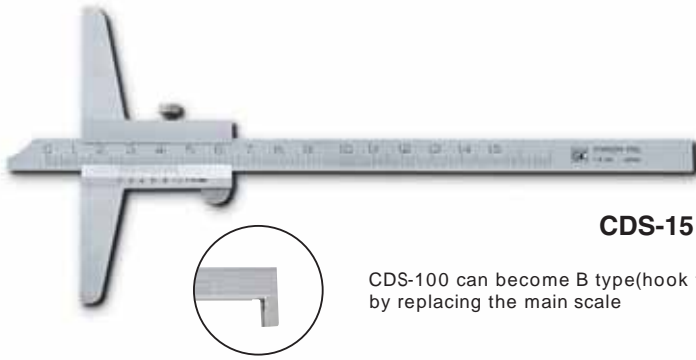
USE For measuring the depth of narrow grooves and small holes etc.

FEATURES

- Auto power off function (after 20 min.)
- Probe diameter : 1.5mm
- Made of stainless steel
- One SR44 (Silver oxide) battery included for testing

Order No.	Model No.	Measuring Range (mm)	Resolution (mm)	Accuracy (mm)	Weight
151083	D-150DCD	0-150	0.01	± 0.04	240g

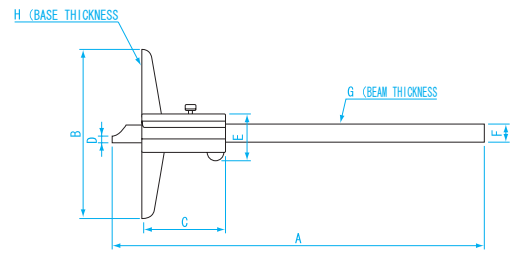
Quantization Error (± 1 digit) not included



CDS-15

CDS-100 can become B type(hook type) by replacing the main scale

DIMENSIONS



Units : mm

Model No.	A	B	C	D	E	F	G	H
CDS-15	231	100	51	4	27.5	10.5	2.8	6.1
CDS-20	280	100	51	4	27.5	10.5	2.8	6.1
CDS-30	380	150	47.5	5	30	13	2.8	6.1
CDS-50	590	250	80	10	36	20	5	13.5
CDS-60	690	250	80	10	36	20	5	13.5
CDS-100	1100	250	80	10	36	20	5	13.5

USE For measuring depth

FEATURES

Fully hardened measuring faces
Made of stainless steel(Satin finish)

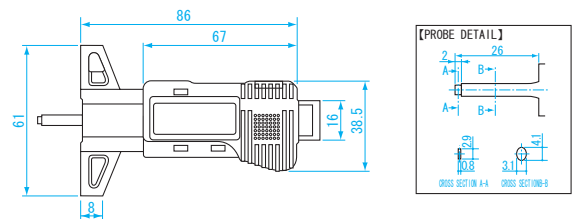
Order No.	Model No.	Measuring Range (mm)	Graduation (mm)	Accuracy (mm)	Weight
007711	CDS-15	150	0.05	± 0.08	125g
007712	CDS-20	200	0.05	± 0.08	140g
007713	CDS-30	300	0.05	± 0.10	220g
007714	CDS-50	500	0.05	± 0.10	3kg
007715	CDS-60	600	0.05	± 0.12	3kg
007716	CDS-100	1000	0.05	± 0.15	4kg

DIGITAL MINI DEPTH GAUGES



DIMENSIONS

Units : mm



USE For measuring depth

FEATURES

With hold display function
Auto display o function (after 5 min.)
One CR2032 (Lithium) battery included for testing

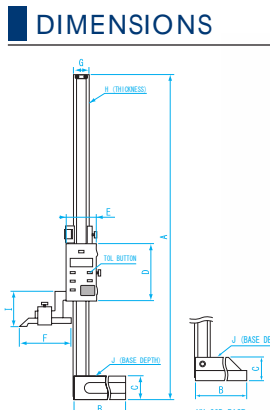
Order No.	Model No.	Measuring Range (mm)	Resolution (mm)	Accuracy (mm)	Weight
151195	DMD-25G	0-25	0.1	± 0.2	40g

Quantization Error (± 1 digit) not included

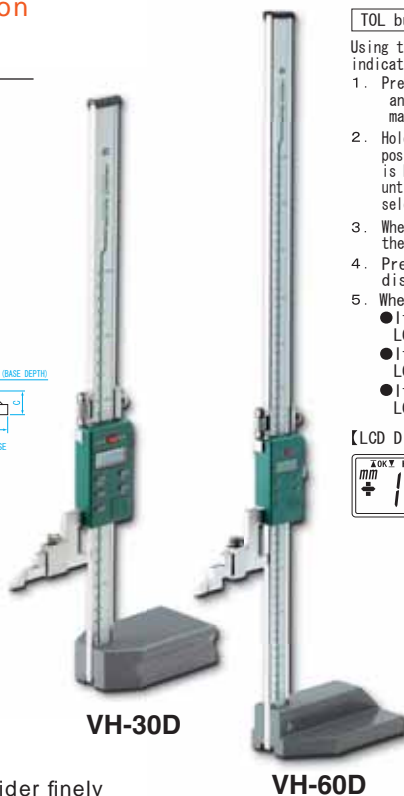
DIGITAL HEIGHT GAUGES



Tolerance setting function for inspection



DIMENSIONS

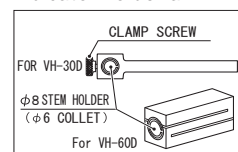


TOL button (setting tolerance)

- Using the [TOL] button we can easily set tolerances to indicate if a measurement is within a specified range
1. Press the [TOL] button until "SET" blinks on display, and the [▲] symbol is displayed. In this state the maximum tolerance can be specified.
 2. Holding down the [TOL] button will change the blinking position. Release [TOL] button when number to change is blinking, press again to change number +/- . Repeat until desired value is displayed. When the value is set, select [SET] and press the [TOL] button to save setting.
 3. When [▼] is displayed, use the same procedure to set the minimum tolerance level.
 4. Press "TOL" button to return to blinking "SET" on display. Tolerance is now set.
 5. When taking a measurement:
 - If the value is within the measurement tolerance, LCD will display [OK]
 - If the value is above the measurement tolerance, LCD will display [▲]
 - If the value is below the measurement tolerance, LCD will display [▼]



Indicator holder arm



USE Measuring height of small workpiece

FEATURES

- Carbide tipped scriber for fine scribing on workpiece
- Vernier: Stainless steel
- Base: Cast iron
- Zero-setting at any position
- Hold display function
- Fine adjustment carriage to feed the slider finely
- One SR44 (Silver oxide) battery included for testing

ACCESSORIES

- Indicator holder arm
- Scriber clamp
- Scriber
- 6 collet

Units : mm

Model No.	A	B	C	D	E	F	G	H	I	J
VH-30D	455	110	32	80	45	75	23	6	54	65
VH-60D	810	161	52	95	50	102	31	10.5	76	120

Order No.	Model No.	Measuring Range (mm)	Resolution (mm)	Accuracy (mm)	Scale Adjustment (mm)	Weight
151210	VH-30D	300	0.01	± 0.04	8	2.6kg
151211	VH-60D	600	0.01	± 0.06	8	5kg

Quantization Error (± 1 digit) not included

CARBIDE TIPPED SCRIBERS



DIMENSIONS



SDH-30



USE

For use as a dedicated scriber on digital height gauge

MATERIAL

Carbide tipped

Units : mm

Model No.	A	B	C	D	E	F
SDH-30	75	63	11.7	8	6	5.3
SDH-60	102	70	25	12	10	9

Order No.	Model No.	Applicable Height Gauge	Weight
151215	SDH-30	VH-30D	30g
151216	SDH-60	VH-60D	100g

INDICATOR HOLDER ARMS



ADH-30



ADH-60

USE

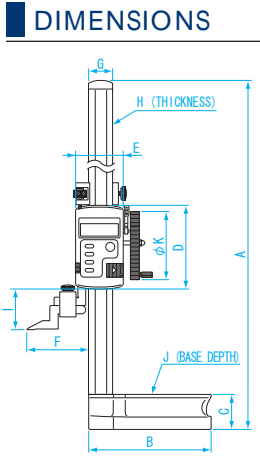
For mounting dial indicator on digital height gauge

MATERIAL

Stainless steel

Order No.	Model No.	Applicable Height Gauge	Weight
151217	ADH-30	VH-30D	35g
151218	ADH-60	VH-60D	20g

Handle for smooth sliding operation. Provided dial indicator



USE Measuring height of small workpiece

FEATURES

- Carbide tipped scriber for fine scribing on workpiece
- Vernier: Stainless steel
- Base: Cast iron
- Zero-setting at any position
- Fine adjustment carriage to feed the slider finely
- One SR44 (Silver oxide) battery included for testing

ACCESSORIES

- Dial indicator(TI-8038)
- Indicator holder arm
- Scriber
- For use with dial indicator, dial indicator holder arm and dial indicator required. Maximum error may larger



TI-8038



VHS-30D

VHS-60D

Accessories(dial indicator)

Units : mm

Model No.	A	B	C	D	E	F	G	H	I	J	K
VHS-30D	535	172	51.5	114	66.5	82	35	15	11.9	33.5	116
VHS-60D	837	178	53.5	114	66.5	82	35	15	11.9	33.5	140

Order No.	Model No.	Measuring Range (mm)	Resolution (mm)	Accuracy (mm)	Scale Adjustment (mm)	Weight
151212	VHS-30D	300	0.01	± 0.04	10	6.4kg
151213	VHS-60D	600	0.01	± 0.05	10	7.5kg

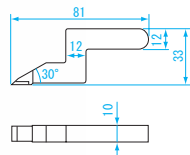
Quantization Error (± 1 digit) not included

SCRIBER for VHS series Height Gauge

INDICATOR HOLDER for VHS series Height Gauge

DIMENSIONS

Units : mm



USE

For use as a dedicated scriber on digital height gauge

MATERIAL

Carbide tipped

Order No.	Model No.	Applicable Model No.	Weight
151208	VHS-S	VHS-30D VHS-60D	85g

USE

For mounting dial indicator on digital height gauge

MATERIAL

Stainless steel

Order No.	Model No.	Applicable Model No.	Weight
151209	VHS-T	VHS-30D VHS-60D	80g

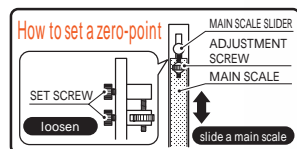
VERNIER HEIGHT GAUGE



Easy zero point adjustment function makes for easy long-term use



Magnifier lens for main scale (VHK-15)



USE Measuring or scribing the height of small workpiece

MATERIAL

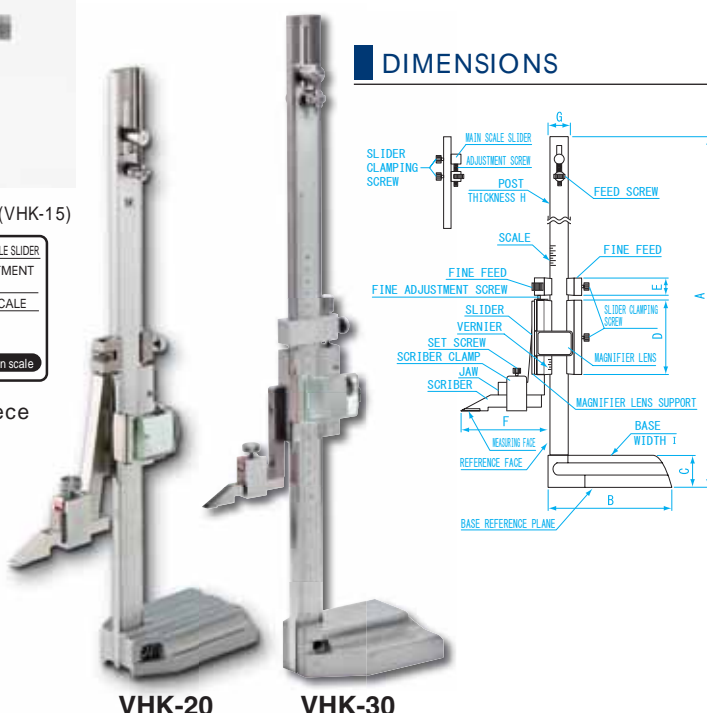
- Main Scale & Vernier : Stainless steel
- Base : Cast iron
- Scriber : Carbide tipped

FEATURES

- Main scale slider enables easier adjustment
- Easy reading with magnifier lens(x3)
- Fine adjustment carriage to feed the slider finely
- With carbide tipped scriber
- Attached holder to hole dial indicator
- Made of stainless steel and easy to care anti-rust treatment

ACCESSORIES

- Dial indicator holder
- Scriber
- Magnifier lens for main scale



VHK-20 VHK-30

Units : mm

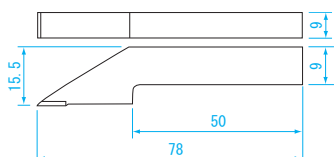
Model No.	A	B	C	D	E	F	G	H	I
VHK-15	341	103	28	67	20	77	22	6	60
VHK-20	391	103	28	67	20	77	22	6	60
VHK-30	540	125	40	75	20	77	28	9	86

Order No.	Model No.	Measuring Range (mm)	Graduation (mm)	Accuracy (mm)	Slider Fine Feed (mm)	Scale Adjustment (mm)	Weight
151271	VHK-15	150	0.05	± 0.05	8	10	1.6kg
151272	VHK-20	200	0.05	± 0.05	8	10	1.7kg
151273	VHK-30	300	0.02	± 0.04	8	10	3.08kg

CARBIDE TIPPED SCRIBERS



DIMENSIONS Units : mm



USE For Use as a dedicated scriber on standard height gauge

FEATURES Carbide tipped

Order No.	Model No.	Applicable Height Gauge	Weight
151043	SVH-1520	VHK-15 VHK-20 VHK-30	45g

INDICATOR HOLDER ARM



USE For mounting dial indicator on standard height gauge

FEATURES Steel

Order No.	Model No.	Applicable Height Gauge	Weight
151275	TVH-1520	VHK-15 VHK-20 VHK-30	70g



40p



41p



41p



42p



42p



43p



43p



44p



44p



45p



45p



46p

MICROMETER



46p



47p



47p



48p



48p



48p



49p



49p



50p



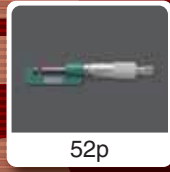
50p



51p



51p



52p



52p



53p



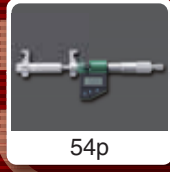
54p



54p



54p



54p



55p



55p



55p



55p



56p



56p



57p



58p



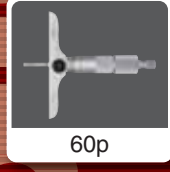
58p



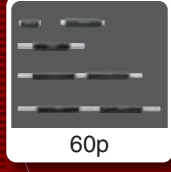
59p



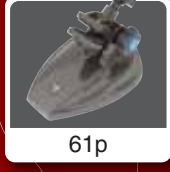
59p



60p



60p



61p



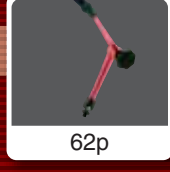
61p



61p



62p



62p



62p

MICRO METER
MICRO METER STAND



ELECTRONIC DIGITAL S-LINE MICROMETERS (IP67)



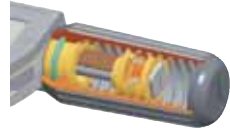
S-line series caliper, high-end model for high-performance!
 IP67 (comparable to NEMA 6,) electronics are protected against temporary total immersion.



MCD-30IP67S



MCD-30IP67S has switchable measuring force (5N/10N)



• IP rating for electrical equipment is defined based on IEC standard for water and solid body protection.
 • IP indication

IP 67

- 2nd digit : water proof rating
- 1st digit : direct contact-protection rating for ingress of solid foreign object

Degrees of protection against solid foreign objects			
1st digit	Description	Definition	Testing for
6	Solid	No ingress of dust allowed	Complete protection against contact
Degrees of protection against water			
2nd digit	Description	Definition	Testing for
7	Liquid	Protected against the effects of temporary immersion in water	Depth of 1m (height of the equipment is less than 850mm), submerged for 30 minutes.

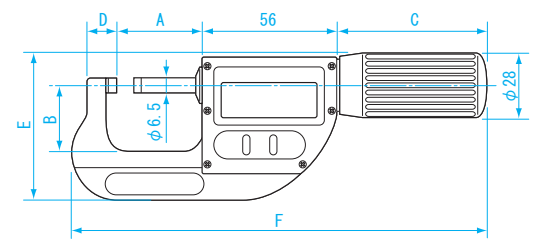
USE For measuring outside diameter

MATERIAL
 Frame : Steel
 Spindle: Stainless Steel

FEATURES
 With IP67 rating, this product performs reliably even under harsh conditions where it is exposed to a large amount of water, dust, or cutting fluid
 Work efficiency improves with 12mm/rev. fast displacement of the measuring spindle
 Wide measuring range, set of 3 micrometers will cover 0-102mm range
 MCD-30IP67S has switchable measuring force (5N / 10N)
 Carbide tipped measuring face
 Stand-by mode function after 20 min.
 Hold function

POWER
 One CR2032(Lithium) battery included for testing

DIMENSIONS



Units: mm

Model No.	A	B	C	D	E	F
MCD-30IP67S	38.5	27.5	63	11.5	63	176
MCD-66IP67S	74.5	43	75	12.5	85	231
MCD-102IP67S	110.5	60	75	13.5	106	270

Order No.	Model No.	Measuring Range (mm)	Resolution (mm)	Maximum Error (µm)	Weight
NEW 151201	MCD-30IP67S	0- 30	0.001	3	280g
NEW 151202	MCD-66IP67S	30- 66	0.001	4	440g
NEW 151203	MCD-102IP67S	66-102	0.001	5	560g

Quantization Error (± 1 digit) not included



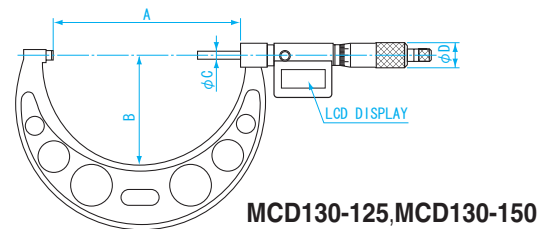
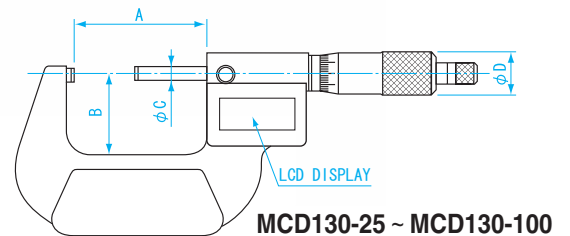
MCD130-25



MCD130-125



DIMENSIONS



MICRO METER

MICRO METER

MICRO METER STAND

USE Measuring an outside diameter or distance

FEATURES

- Frame: Carbon steel
- Spindle: High carbon chrome steel
- Quick display of the measured value
- Carbide measuring faces
- With ratchet stop
- Auto display power off (after 6 min.)
- With thermal protection (except for MCD130-125, MCD130-150)
- Painted frame
- One SR44 battery included for testing

Units : mm

Model No.	A	B	C	D
MCD130-25	28	24	6.5	18
MCD130-50	53	31	6.5	18
MCD130-75	78	43	6.5	18
MCD130-100	103	51	6.5	18
MCD130-125	129	75	6.5	18
MCD130-150	154	85	6.5	18

Order No.	Model No.	Measuring Range (mm)	Resolution (mm)	Maximum Error (μm)	Weight
151261	MCD130-25	0- 25	0.001	4	260g
151262	MCD130-50	25- 50	0.001	4	380g
151263	MCD130-75	50- 75	0.001	6	470g
151264	MCD130-100	75-100	0.001	6	640g
151266	MCD130-125	100-125	0.001	6	490g
151267	MCD130-150	125-150	0.001	6	570g

Quantization Error (± 1 digit) not included

ELECTRONIC DIGITAL OUTSIDE MICROMETER (IP65)



IP67 (comparable to NEMA 4,) electronics are suitable for use in wet environments



MCD133-25IP

· IP rating for electrical equipment is defined based on IEC standard for water and solid body protection.
· IP indication

IP 6 5

2nd digit : water proof rating
1st digit : direct contact-protection rating for ingress of solid foreign object

Degree of protection against solid foreign objects			
1st digit	Description	Definition	Testing for
6	Solid	No ingress of dust allowed	Complete protection against contact
Degree of protection against water			
2nd digit	Description	Definition	Testing for
5	Protected against low pressure water jet	No harmful effects from direct jet of water from any direction.	spray rotating equipment from 6.3mm nozzle, 12.5L/min flow from at distance of 2.5 to 3 m for more than three minutes.

USE

For outside diameter measurement

MATERIAL

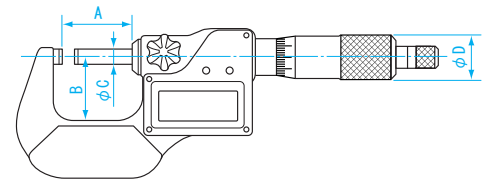
Frame : Ductile cast iron
High carbon chrome steel

FEATURES

IP65 rating electronic digital micrometer, electronic is protected against dust or water. Ideal to use for conditions where it is exposed to water, dust, or cutting fluid.
Carbide tipped measuring face
With a ratchet stop
Auto-display-off function (after 6 min.)



DIMENSIONS



Units: mm

Model No.	A	B	C	D
MCD133-25IP	28	25	6.5	18
MCD133-50IP	52	32	6.5	18
MCD133-75IP	77	44	6.5	18
MCD133-100IP	103	56	6.5	18

POWER

One SR44 (Silver oxide) battery included for testing

Order No.	Model No.	Measuring Range (mm)	Resolution (mm)	Maximum Error (μm)	Weight
NEW 151196	MCD133-25IP	0- 25	0.001	4	275g
NEW 151197	MCD133-50IP	25- 50	0.001	4	380g
NEW 151198	MCD133-75IP	50- 75	0.001	6	460g
NEW 151199	MCD133-100IP	75-100	0.001	6	590g

Quantization Error (± 1 digit) not included

DOUBLE DISPLAY ELECTRONIC MICROMETER



USE

Measuring an outside diameter or distance

FEATURES

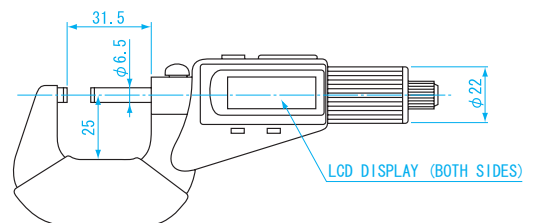
LCD on both sides display orientation can be changed by key press for easy reading in different conditions for either right or left hand use
Frame: Carbon steel
Spindle: High carbon chrome steel
Quick display of the measured value
Carbide measuring faces
With ratchet thimble
Auto display power off function (after 5min.)
Sphere (SR2.5) spindle attachment
One CR2032 (Lithium) battery is included for testing



4 kinds of measuring conditions

DIMENSIONS

Units: mm



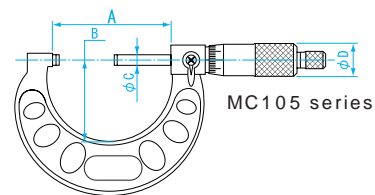
Order No.	Model No.	Measuring Range (mm)	Resolution (mm)	Maximum Error (μm)	Weight
152191	MCD191-30WD	0-30	0.001	4	270g

Quantization Error (± 1 digit) not included



MC105-25

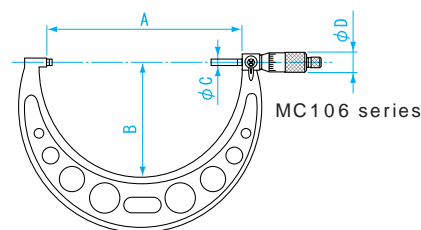
DIMENSIONS



MC105 series



MC106-175



MC106 series

Units : mm

Model No.	A	B	C	D
MC105-25	31	29	6.5	18
MC105-50	56	37	6.5	18
MC105-75	81	50	6.5	18
MC105-100	106	63	6.5	18
MC105-125	131	75	6.5	18
MC105-150	156	88	6.5	18
MC106-175	183	104	6.5	18
MC106-200	209	117	6.5	18
MC106-225	234	130	6.5	18
MC106-250	260	142	6.5	18
MC106-275	285	155	6.5	18
MC106-300	310	168	6.5	18

USE Measuring an outside diameter or distance.

FEATURES

- Frame: Carbon steel for machine use
- Spindle: High carbon chrome steel
- Carbide measuring face
- With ratchet stop for constant pressure
- Painted frame
- Includes a standard (except for MC105-25)

Order No.	Model No.	Measuring Range (mm)	Graduation (mm)	Maximum Error (μ m)	Weight
151070	MC105-25	0 ~ 25	0.01	4	150g
151071	MC105-50	25 ~ 50	0.01	4	200g
151072	MC105-75	50 ~ 75	0.01	5	230g
151073	MC105-100	75 ~ 100	0.01	5	260g
151074	MC105-125	100 ~ 125	0.01	6	330g
151075	MC105-150	125 ~ 150	0.01	6	400g
151401	MC106-175	150 ~ 175	0.01	7	670g
151402	MC106-200	175 ~ 200	0.01	7	740g
151403	MC106-225	200 ~ 225	0.01	8	870g
151404	MC106-250	225 ~ 250	0.01	8	900g
151405	MC106-275	250 ~ 275	0.01	9	970g
151406	MC106-300	275 ~ 300	0.01	9	1070g

OUTSIDE MICROMETERS SET



6 outside micrometers/ set in a box

Refer to MC105 series for specifications



Included in set

Outside Micrometers	0 ~ 25 (MC105-25)
	25 ~ 50 (MC105-50)
	50 ~ 75 (MC105-75)
	75 ~ 100 (MC105-100)
	100 ~ 125 (MC102-125)
	125 ~ 150 (MC105-150) (6pcs)
standards	25, 50, 75, 100, 125(5pcs)

Order No.	Model No.	Measuring Range (mm)	Graduation (mm)	Weight
151240	MC105-150ST	0 ~ 150	0.01	3.8kg

02

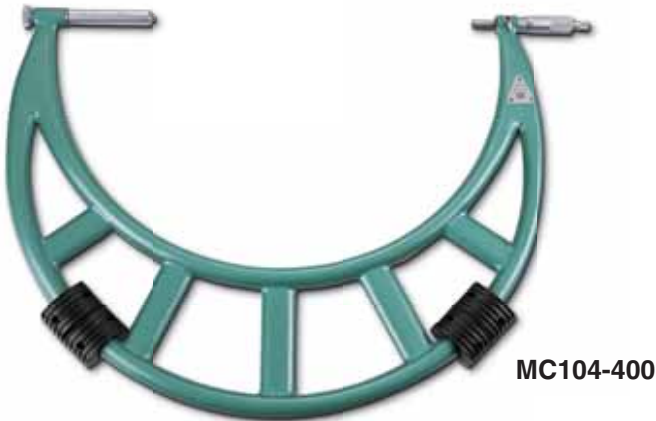
OUTSIDE MICROMETERS WITH ADJUSTABLE ANVILS



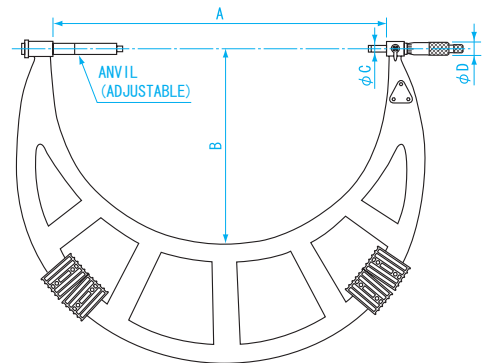
MICRO METER

MICRO METER

MICRO METER STAND



DIMENSIONS



USE Measuring an outside diameter or distance

FEATURES

- Frame: Tubular frame
- Spindle: High carbon chrome steel
- Adjustable anvils enable that reading does not have to be reset when changing anvils
- With ratchet stop
- Painted frame
- Carbide measuring faces
- With interchangeable anvil : 25mm , 50mm
- Head stroke : 25mm

Units : mm

Model No.	A	B	C	D
MC104-400	409	224	8	18
MC104-500	509	275	8	18
MC104-600	609	321	8	18
MC104-700	709	371	8	18
MC104-800	809	426	8	18
MC104-900	909	476	8	18
MC104-1000	1009	576	8	18

Order No.	Model No.	Measuring Range (mm)	Graduation (mm)	Maximum Error (μm)	Setting Standard	Weight
151280	MC104-400	300 ~ 400	0.01	11	325mm, 375mm	5.5kg
151281	MC104-500	400 ~ 500	0.01	13	425mm, 475mm	6.0kg
151282	MC104-600	500 ~ 600	0.01	15	525mm, 575mm	6.5kg
151283	MC104-700	600 ~ 700	0.01	16	625mm, 675mm	10.0kg
151284	MC104-800	700 ~ 800	0.01	18	725mm, 775mm	15.0kg
151285	MC104-900	800 ~ 900	0.01	20	825mm, 875mm	18.0kg
151286	MC104-1000	900 ~ 1000	0.01	20	925mm, 975mm	20.5kg

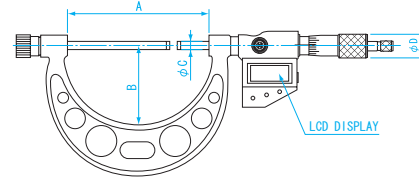


USE Measuring an outside diameter or distance

FEATURES

- Frame: Carbon steel
- Spindle: High carbon chrome steel
- Quick display of the measured value
- High accuracy interchangeable anvils enable that reading does not have to reset when changing anvils
- Carbide measuring faces
- With ratchet stop
- Auto-display- o function (after 5 min.)
- Painted frame
- Interchangeable anvils: 4 pcs
- Setting standard
 - MCD136-100 : 25mm, 50mm, 75mm
 - MCD136-200 : 100mm, 125mm, 150mm, 175mm
- Head stroke: 25mm
- One SR44 (Silver oxide) battery included for testing

DIMENSIONS



Units : mm

Model No.	A	B	C	D
MCD136-100	108	57	8	18
MCD136-200	208	114	8	18

Order No.	Model No.	Measuring Range (mm)	Resolution (mm)	Maximum Error (μ m)	Weight
152151	MCD136-100	0-100	0.001	6	500g
152152	MCD136-200	100-200	0.001	8	940g

Quantization Error (± 1 digit) not included

MICROMETERS WITH INTERCHANGEABLE ANVILS



Wide measuring range with interchangeable anvils

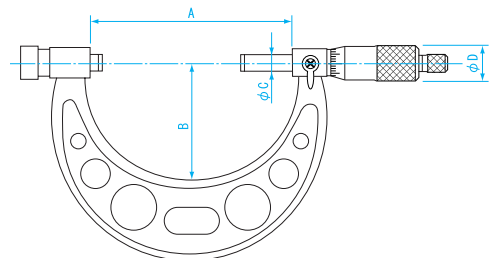


USE Measuring outside diameter or distance

FEATURES

- Frame: Carbon steel
- Spindle: High carbon chrome steel
- High accuracy interchangeable anvils enable that reading does not have to be reset when changing anvils
- Carbide measuring faces
- With ratchet stop
- Painted frame
- Setting standard
 - MC1064-100: 25mm, 50mm, 75mm
 - MC1064-200: 100mm, 125mm, 150mm, 175mm
- Head stroke: 25mm
- Interchangeable anvil: 4 pcs

DIMENSIONS



Units: mm

Model No.	A	B	C	D
MC1064-100	107	59	8	18
MC1064-200	208	116	8	18

Order No.	Model No.	Measuring Range (mm)	Graduation (mm)	Maximum Error (μ m)	Weight	NOTE
151441	MC1064-100	0 ~ 100	0.01	5	380g	Setting Standard (25, 50, 75mm)
151442	MC1064-200	100 ~ 200	0.01	7	810g	Setting Standard (125, 150, 175mm)

ELECTRONIC DIGITAL DEEP THROAT MICROMETERS



MCD233-100U

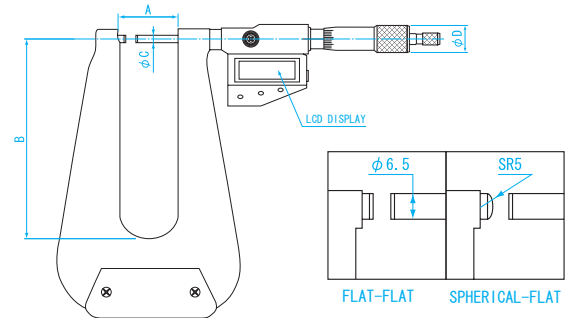
USE

Deep throat frame for measuring thickness of sheet metal, paper and sheet plastic

FEATURES

- Frame: Carbon steel
- Spindle: High carbon chrome steel
- Quick display of the measured value
- Carbide measuring faces
- With ratchet stop
- With thermal protection cover
- Auto-display-off function (after 5 min.)
- Painted frame
- One SR44 (Silver oxide) battery included for testing

DIMENSIONS



Units: mm

Model No.	A	B	C	D
MCD233-100U	32	105	6.5	18
MCD233-150U	32	155	6.5	18
MCD233-300U	32	310	6.5	18

Order No.	Model No.	Measuring Range (mm)	Resolution (mm)	Maximum Error (μm)	Shape of Measuring Face	Weight
152111	MCD233-100U	0-25	0.001	6	Flat-Flat	720g
152112	MCD233-150U	0-25	0.001	6	Flat-Flat	960g
152113	MCD233-300U	0-25	0.001	8	Spherical-Flat	2000g

Quantization Error (± 1 digit) not included

DEEP THROAT MICROMETERS



MC203-100U

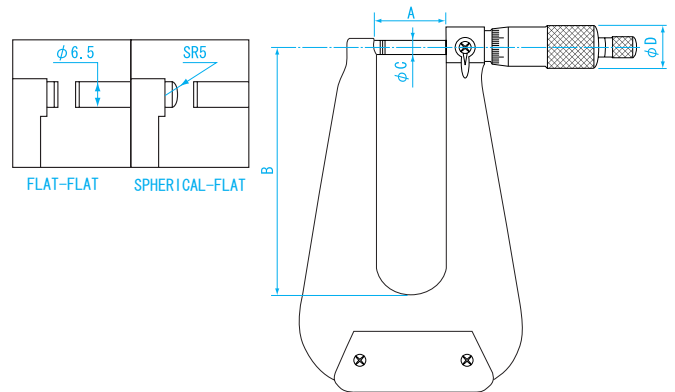
USE

Deep throat frame for measuring thickness of sheet metal, paper and sheet plastic

FEATURES

- Frame: Carbon steel
- Spindle: High carbon chrome steel
- Carbide measuring faces
- With ratchet stop
- With thermal protection cover
- Painted frame

DIMENSIONS



Units: mm

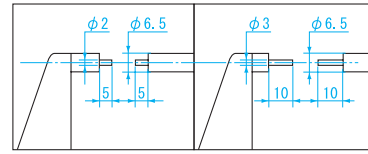
Model No.	A	B	C	D
MC203-100U	31	100	6.5	18
MC203-150U	31	150	6.5	18
MC203-300U	31	300	6.5	18

Order No.	Model No.	Measuring Range (mm)	Graduation (mm)	Maximum Error (μm)	Shape of Measuring Face	Weight
151451	MC203-100U	0 ~ 25	0.01	3	Flat-Flat	580g
151452	MC203-150U	0 ~ 25	0.01	4	Flat-Flat	820g
151453	MC203-300U	0 ~ 25	0.01	5	Spherical-Flat	1980g

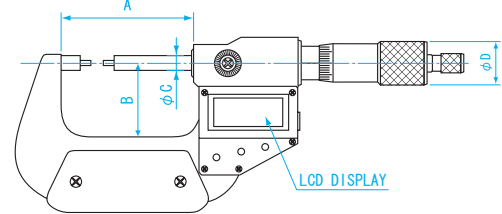


MCD230-25SA

DIMENSIONS



MCD230-25SA MCD230-25SB



Units: mm

Model No.	A	B	C	D
MCD230-25SA	57	32	6.5	18
MCD230-25SB	57	32	6.5	18

USE Small measuring faces for measuring splined shafts, slots and keyways

FEATURES

- Frame: Carbon steel
- Spindle: High carbon chrome steel
- Quick display of the measured value
- Carbide measuring faces
- With ratchet stop
- With thermal protection cover
- Auto-display-o function
- Painted frame
- One SR44 (Silver oxide) battery included for testing

Order No.	Model No.	Measuring Range (mm)	Graduation (mm)	Maximum Error (μm)	Measuring Face	Weight
152121	MCD230-25SA	0-25	0.001	4	2 × 5	370g
152122	MCD230-25SB	0-25	0.001	4	3 × 10	380g

Quantization Error (± 1) not counted

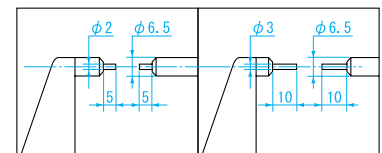
SMALL MEASURING FACES MICROMETERS



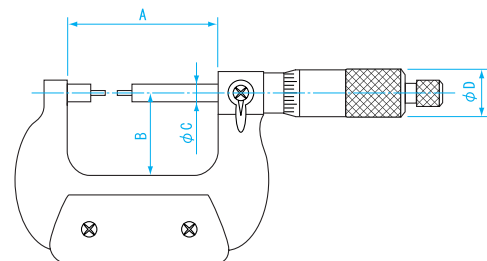
MC200-25SA



DIMENSIONS



MC200-25SA MC200-25SB



Units: mm

Model No.	A	B	C	D
MC200-25SA	56	31	6.5	18
MC200-25SB	56	31	6.5	18

USE Small measuring faces for measuring splined shafts, slots and keyways

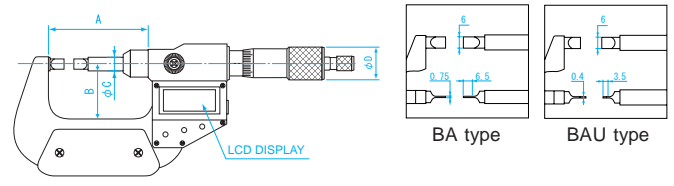
FEATURES

- Frame: Carbon steel
- Spindle: High carbon chrome steel
- Carbide measuring faces
- With ratchet stop
- Painted frame

Order No.	Model No.	Measuring Range (mm)	Graduation (mm)	Maximum Error (μm)	Measuring Face (mm)	Weight
151461	MC200-25SA	0 ~ 25	0.01	4	2 × 5	320g
151462	MC200-25SB	0 ~ 25	0.01	4	3 × 10	320g



DIMENSIONS



Above dimension is for BA type

- FEATURES**
- Non-rotating spindle, with blade type measuring faces
 - Frame: Carbon steel
 - Spindle: High carbon chrome steel
 - Quick display of the measured value
 - With ratchet stop
 - With thermal protection cover
 - Auto-display-off function (after 5 min.)
 - Painted frame
 - One SR44 (Silver oxide) battery included for testing

Units: mm

Model No.	A	B	C	D
MCD235-25BA	57	32	8	18
MCD235-50BA	82	44.5	8	18
MCD235-25BAU	57	32	8	18
MCD235-50BAU	82	44.5	8	18

Order No.	Model No.	Measuring Range (mm)	Resolution (mm)	Maximum Error (μm)	Weight
152131	MCD235-25BA	0-25	0.001	4	400g
152132	MCD235-50BA	25-50	0.001	4	530g
152133	MCD235-25BAU	0-25	0.001	4	400g
152134	MCD235-50BAU	25-50	0.001	4	530g

Quantization Error(± 1 digit) not included

02

MICRO METER

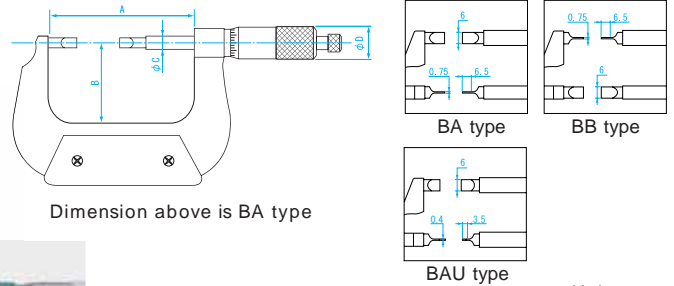
MICRO METER

MICRO METER STAND

BLADE MICROMETERS



DIMENSIONS



Dimension above is BA type

Units: mm

- FEATURES**
- Non-rotating spindle, with blade type measuring faces
 - Frame: Carbon steel
 - Spindle: High carbon chrome steel
 - With ratchet stop
 - With thermal protection cover
 - Painted frame

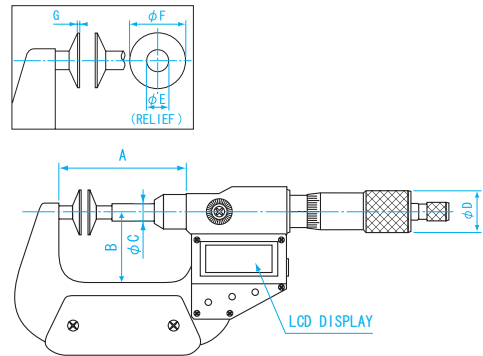
Model No.	A	B	C	D
MC201-25BA	56	31	8	18
MC201-50BA	81	44	8	18
MC201-25BB	56	31	8	18
MC201-50BB	81	44	8	18
MC201-25BAU	56	31	8	18
MC201-50BAU	81	44	8	18

Order No.	Model No.	Measuring Range (mm)	Graduation (mm)	Maximum Error (μm)	Weight
151471	MC201-25BA	0 ~ 25	0.01	4	320g
151472	MC201-50BA	25 ~ 50	0.01	4	410g
151251	MC201-25BB	0 ~ 25	0.01	4	320g
151252	MC201-50BB	25 ~ 50	0.01	4	410g
151473	MC201-25BAU	0 ~ 25	0.01	4	280g
151474	MC201-50BAU	25 ~ 50	0.01	4	380g



MCD230-25D

DIMENSIONS



USE Disk measuring faces for measuring gears and paper thickness

FEATURES

- Non-rotating spindle
- Frame: Carbon steel
- Spindle: High carbon chrome steel
- Quick display of the measured value
- With ratchet stop
- Auto-display-off function (after 5 min.)
- Painted frame
- One SR44 (Silver oxide) battery included for testing

Units: mm

Model No.	A	B	C	D	E	F	G
MCD230-25D	43	32	8	18	8	20	0.7
MCD230-50D	68	44.5	8	18	8	20	0.7

Order No.	Model No.	Measuring Range (mm)	Graduation (mm)	Maximum Error (μm)	Gear Module	Weight
152141	MCD230-25D	0-25	0.001	4	0.5 ~ 6	400g
152142	MCD230-50D	25-50	0.001	4	0.5 ~ 6	540g

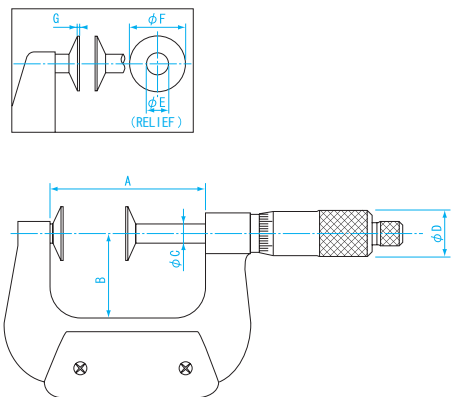
Quantization Error (± 1 digit) not included

GEAR TOOTH MICROMETERS



MC200-25D

DIMENSIONS



USE Disk measuring faces for measuring gears and paper thickness

FEATURES

- Non-rotating spindle
- Frame: Carbon steel
- Spindle: High carbon chrome steel
- With ratchet stop
- With thermal protection cover
- Painted frame

Units: mm

Model No.	A	B	C	D	E	F	G
MC200-25D	34	22	8	18	8	20	0.7
MC200-50D	59	31	8	18	8	20	0.7

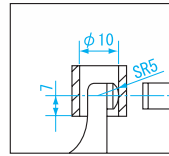
Order No.	Model No.	Measuring Range (mm)	Graduation (mm)	Maximum Error (μm)	Gear Module	Weight
151481	MC200-25D	0 ~ 25	0.01	4	0.5 ~ 6	240g
151482	MC200-50D	25 ~ 50	0.01	4	0.5 ~ 6	330g

ELECTRONIC DIGITAL TUBE MICROMETERS

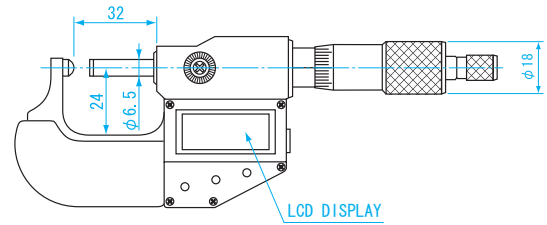


DIMENSIONS

Units: mm



Can be used for tubes of ID 10mm or large



USE For measuring wall thickness of various tubes

- FEATURES**
- Frame: Carbon steel
 - Spindle: High carbon chrome steel
 - Quick display of the measured value
 - Carbide measuring faces
 - With ratchet stop
 - Auto-display-off function (after 5 min.)
 - With thermal protection cover
 - Painted frame
 - One SR44 (Silver oxide) battery included for testing

Order No.	Model No.	Measuring Range (mm)	Graduation (mm)	Maximum Error (μm)	Weight
152161	MCD236-25T	0-25	0.001	4	270g

Quantization Error (± 1 digit) not included

MICRO METER

MICRO METER

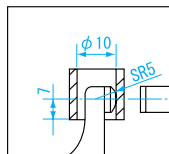
MICRO METER STAND

TUBE MICROMETERS

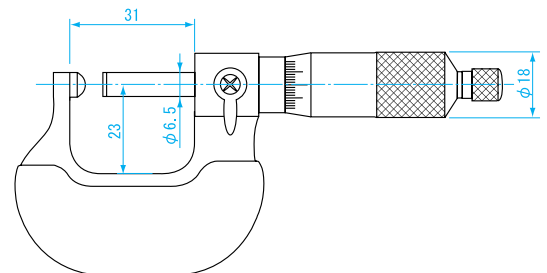


DIMENSIONS

Units: mm



Can be used for tubes of ID 10mm or large



USE For measuring wall thickness of various tubes

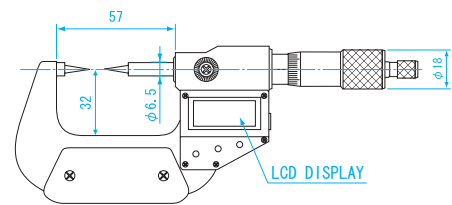
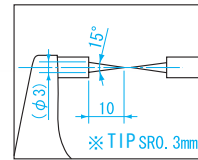
- FEATURES**
- Frame: Carbon steel
 - Spindle: High carbon chrome steel
 - Carbide measuring faces
 - With ratchet stop
 - With thermal protection cover
 - Painted frame

Order No.	Model No.	Measuring Range (mm)	Graduation (mm)	Maximum Error (μm)	Weight
151436	MC200-25T	0 ~ 25	0.01	4	200g



DIMENSIONS

Units: mm



- USE** Pointed spindle and anvil for measuring drills, grooves and hard-to-reach dimensions
- FEATURES**
 - Frame: Carbon steel
 - Spindle: High carbon chrome steel
 - Quick display of the measured value
 - With ratchet stop
 - Carbide measuring faces
 - With thermal protection cover
 - Auto-display-off function (after 5 min.)
 - Painted frame
 - Point: 15 °
 - One SR44 (Silver oxide) battery included for testing

Order No.	Model No.	Measuring Range (mm)	Graduation (mm)	Maximum Error (μm)	Weight
152171	MCD232-25P	0-25	0.001	4	350g

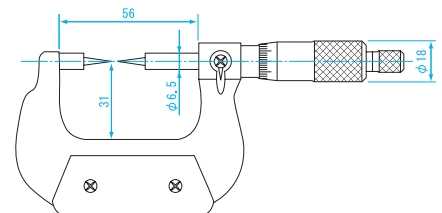
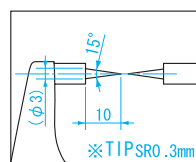
Quantization Error (± 1 digit) not included

POINT MICROMETERS



DIMENSIONS

Units: mm



- USE** Pointed spindle and anvil for measuring drills, grooves and hard-to-reach dimensions
- FEATURES**
 - Frame: Carbon steel
 - Spindle: High carbon chrome steel
 - With ratchet stop
 - Carbide measuring faces
 - Painted frame
 - Point : 15 °

Order No.	Model No.	Measuring range (mm)	Graduation (mm)	Maximum Error (μm)	Weight
151431	MC200-25P	0 ~ 25	0.01	4	320g

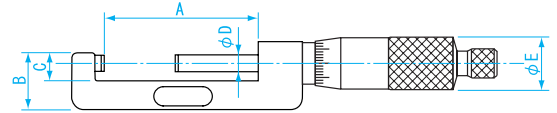
HUB MICROMETERS



MC203-25H



DIMENSIONS



Units: mm

Model No.	A	B	C	D	E
MC203-25H	28	20	7	7	18
MC203-50H	53	22	7	7	18

USE Measuring hub thickness and shoulders inside bore

FEATURES Frame: Carbon steel
 Spindle: High carbon chrome steel
 With ratchet stop
 Painted frame
 Carbide tipped measuring faces

Order No.	Model No.	Measuring Range (mm)	Graduation (mm)	Maximum Error (μm)	Weight
151381	MC203-25H	0 ~ 25	0.01	4	150g
151382	MC203-50H	25 ~ 50	0.01	4	170g

02

MICRO METER

MICRO METER

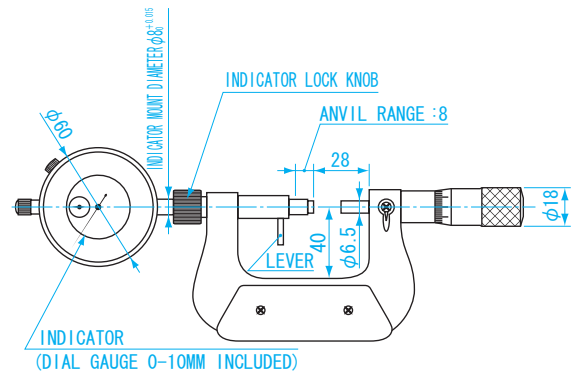
MICRO METER STAND

MICROMETERS WITH DIAL GAUGE



DIMENSIONS

Units: mm



USE For direct GO/NG judgment of mass-produced parts

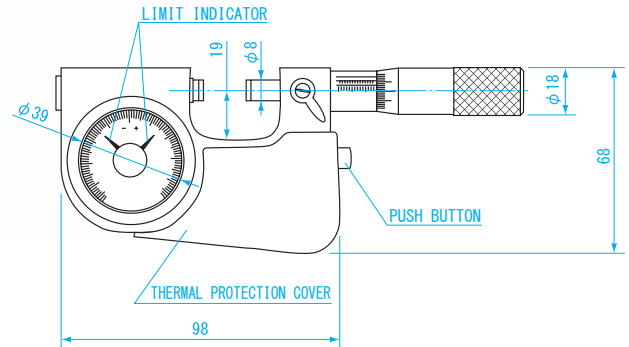
MATERIAL Frame: Carbon steel
 Spindle: High carbon chrome steel
 Dial gauge : Steel

Order No.	Model No.	Measuring Range (mm)	Graduation (mm)	Micrometer Head Maximum Error (μm)	Dial Gauge Error over entire range (μm)	Weight
151490	MC204-25DG	Micrometer Head : 0 ~ 25 Dial Gauge : 0 ~ 10	0.01	4	± 14	545g



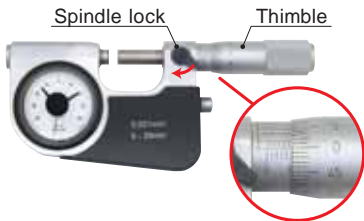
DIMENSIONS

Units: mm

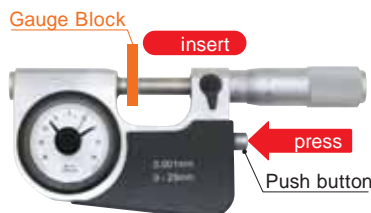


02

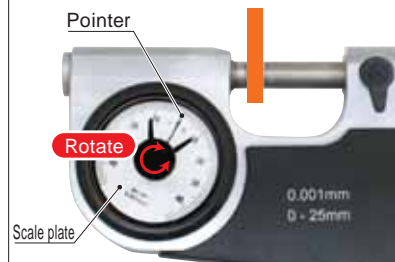
Select a gauge standard (master)
Example- 5.000mm Ceramic gauge block
Turn the thimble to set the scale to read 5.00 and then lock the spindle with spindle lock



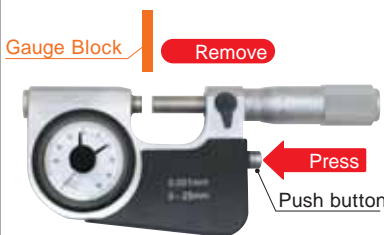
While pressing "release button" insert gauge block and then release button to catch block in spindle



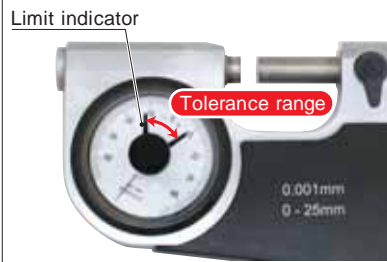
Rotate the dial scale to align zero with pointer



Press the button again and remove the gauge block. Micrometer is ready for measurement.



Using the limit indicators, you can instantly determine if a part is within tolerance



MICRO METER

MICRO METER

MICRO METER STAND

USE Retractable anvils with an indicator for precision measurement of mass produced parts

FEATURES Frame: Carbon steel
Spindle: High carbon chrome steel
Carbide tipped measuring faces
Dial indicator has limit indicator clips

Order No.	Model No.	Measuring Range (mm)	Graduation (mm)	Maximum Error (µm)	Weight
152101	MC263-25IS	Micrometer Head : 0 ~ 25	Micrometer Head : 0.002	Micrometer Head : 3	530g
		Dial Indicator: ±0.04	Dial Indicator: 0.001	Dial Indicator : 1	

ELECTRONIC DIGITAL INSIDE MICROMETER



Provided with an SK ring gauge (Made in Japan) for zero-point setting! Ready to use immediately.



MCD334-30I



MCD334-50I



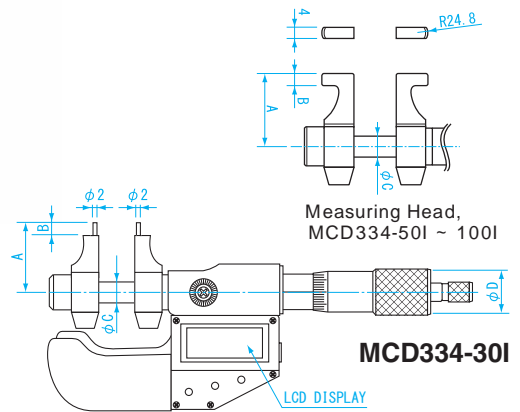
MCD334-75I



MCD334-100I



DIMENSIONS



USE For inside diameter measurement

MATERIAL
 Frame : Ductile cast iron
 High carbon chrome steel

FEATURES
 Digital display for easy reading
 Provided with a reference ring gauge
 MCD334-30I : 5
 MCD334-50I : 25
 MCD334-75I : 50
 MCD334-100I : 75
 With ratchet stop
 Auto-display-off function (after 5 min.)
 Carbide tipped measuring faces

POWER
 One SR44 (Silver oxide) battery included for testing

Model No.	A	B	C	D
MCD334-30I	28	5	8	18
MCD334-50I	28	5	8	18
MCD334-75I	28	5	8	18
MCD334-100I	28	5	8	18

Order No.	Model No.	Measuring Range (mm)	Resolution (mm)	Maximum Error (μm)	Weight
151235	MCD334-30I	5 - 30	0.001	6	330g
151236	MCD334-50I	25 - 50	0.001	6	330g
151237	MCD334-75I	50 - 75	0.001	8	300g
151238	MCD334-100I	75 - 100	0.001	8	320g

Quantization Error (± 1 digit) not included

CALIPER TYPE INSIDE MICROMETERS

Provided with an SK ring gauge (Made in Japan) for zero-point setting! Ready to use immediately.



MC304-30I



MC304-50I

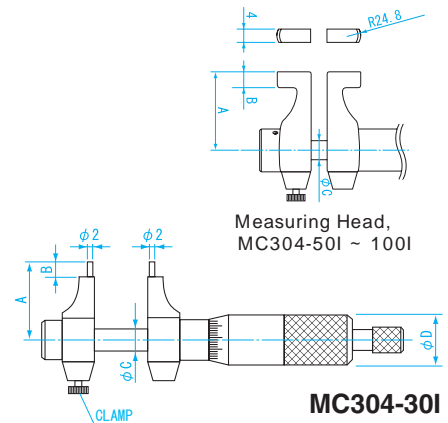


MC304-75I



MC304-100I

DIMENSIONS



Units: mm

Model No.	A	B	C	D
MC304-30I	28	5	8	18
MC304-50I	28	5	8	18
MC304-75I	28	5	8	18
MC304-100I	28	5	8	18

USE For inside diameter measurement

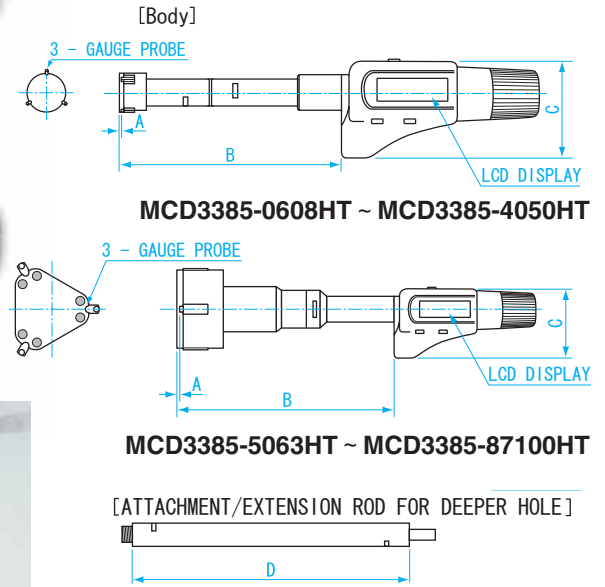
MATERIAL
High carbon chrome steel

FEATURES
 Provided with a reference ring gauge
 MC304-30I : 5
 MC304-50I : 25
 MC304-75I : 50
 MC304-100I : 75
 With ratchet stop
 Carbide tipped measuring faces

Order No.	Model No.	Measuring Range (mm)	Resolution (mm)	Maximum Error (μm)	Weight
151230	MC304-30I	5 ~ 30	0.01	5	140g
151231	MC304-50I	25 ~ 50	0.01	6	150g
NEW 151232	MC304-75I	50 ~ 75	0.01	7	160g
NEW 151233	MC304-100I	75 ~ 100	0.01	8	190g



DIMENSIONS



Units: mm

Model No.	A	B	C	D
MCD3385-0608HT	1.5	85	43	100
MCD3385-0810HT	1.5	85	43	100
MCD3385-1012HT	1.5	85	43	100
MCD3385-1216HT	0.5	100	43	150
MCD3385-1620HT	0.5	100	43	150
MCD3385-2025HT	0.5	105	43	150
MCD3385-2530HT	0.5	105	43	150
MCD3385-3040HT	0.5	110	43	150
MCD3385-4050HT	0.5	110	43	150
MCD3385-5063HT	0.5	127	43	150
MCD3385-6275HT	0.5	127	43	150
MCD3385-7588HT	0.5	127	43	150
MCD3385-87100HT	0.5	127	43	150

USE

Measurement of internal diameter

FEATURES

- Self-centering, three-points for accurate measurement of internal diameters. Measurement can be taken closer to the bottom of the blind bore, and can be taken into a deep hole with an extension rod
- Carbide tipped contact points
- Quick display of the measured value
- With ratchet stop
- Includes a setting ring
- Auto display off function(after 5 min.)
- One SR44 (Silver oxide) battery included for testing
- High carbon chrome steel

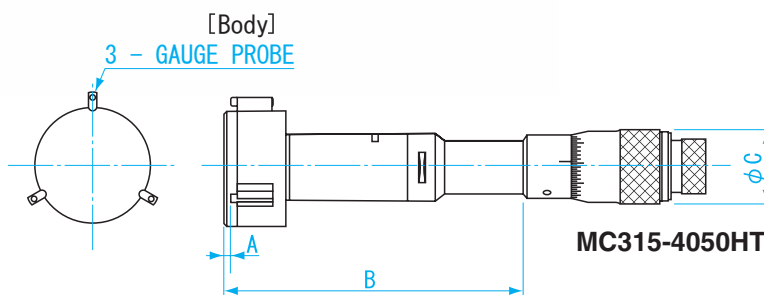
Order No.	Model No.	Measuring Range (mm)	Resolution (mm)	Maximum Error (μm)	Weight
152221	MCD3385-0608HT	6 - 8	0.001	4	180g
152222	MCD3385-0810HT	8 - 10	0.001	4	180g
152223	MCD3385-1012HT	10 - 12	0.001	4	180g
152224	MCD3385-1216HT	12 - 16	0.001	4	230g
152225	MCD3385-1620HT	16 - 20	0.001	4	230g
152226	MCD3385-2025HT	20 - 25	0.001	4	300g
152227	MCD3385-2530HT	25 - 30	0.001	4	320g
152228	MCD3385-3040HT	30 - 40	0.001	4	420g
152229	MCD3385-4050HT	40 - 50	0.001	5	510g
152230	MCD3385-5063HT	50 - 63	0.001	5	710g
152231	MCD3385-6275HT	62 - 75	0.001	5	720g
152232	MCD3385-7588HT	75 - 88	0.001	5	990g
152233	MCD3385-87100HT	87 - 100	0.001	5	1010g

* Three-point micrometer is precision instrument. For best performance, temperature should be around 20 °C with sufficient time to acclimate. Extreme temperatures may affect accuracy and performance of measurement instruments
Quantization Error (± 1 digit) not included



MC315-1216HT

DIMENSIONS



[ATTACHMENT/EXTENSION ROD FOR DEEPER HOLE]



Units: mm

Model No.	A	B	C	D
MC315-0608HT	1.5	55	18	100
MC315-0810HT	1.5	55	18	100
MC315-1012HT	1.5	55	18	100
MC315-1216HT	0.5	80	25	150
MC315-1620HT	0.5	80	25	150
MC315-2025HT	0.5	90	25	150
MC315-2530HT	0.5	90	25	150
MC315-3040HT	0.5	97	25	150
MC315-4050HT	0.5	97	25	150

USE Measurement of internal diameter

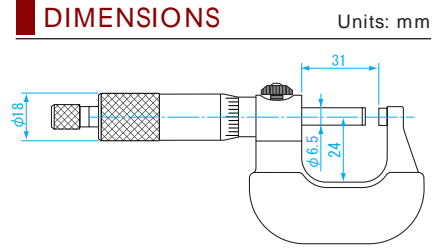
FEATURES Self-centering, three-points for accurate measurement of internal diameters. Measurement can be taken closer to the bottom of the blind bore, and can be taken into a deep hole with an extension rod

- Carbide tipped contact points
- High carbon chrome steel
- With ratchet stop
- Includes a setting ring

Order No.	Model No.	Measuring Range (mm)	Graduation (mm)	Maximum Error (μm)	Weight
152201	MC315-0608HT	6 ~ 8	0.001	4	70g
152202	MC315-0810HT	8 ~ 10	0.001	4	70g
152203	MC315-1012HT	10 ~ 12	0.001	4	80g
152204	MC315-1216HT	12 ~ 16	0.005	4	200g
152205	MC315-1620HT	16 ~ 20	0.005	4	210g
152206	MC315-2025HT	20 ~ 25	0.005	4	290g
152207	MC315-2530HT	25 ~ 30	0.005	4	310g
152208	MC315-3040HT	30 ~ 40	0.005	4	430g
152209	MC315-4050HT	40 ~ 50	0.005	5	520g

Three-point micrometer is precision instrument. For best performance, temperature should be around 20 with sufficient time to acclimate. Extreme temperatures may affect accuracy and performance of measurement instruments

LR TYPE MICROMETERS



USE Measuring an outside diameter or distance

FEATURES

- Can be read on either side
- Frame: Carbon steel
- Spindle: High carbon chrome steel
- Carbide measuring faces
- With thermal protection cover
- Painted frame



Order No.	Model No.	Measuring Range (mm)	Graduation (mm)	Maximum Error (μm)	Weight
151026	MC101-25LR	0 ~ 25	0.01	4	200g

MICRO METER

MICRO METER

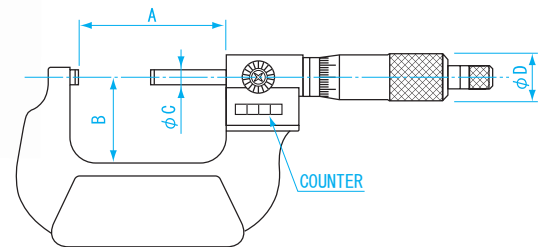
MICRO METER STAND

OUTSIDE COUNT MICROMETERS



MC122-25C

DIMENSIONS



USE Measuring an outside diameter or distance

FEATURES

- Frame: Carbon steel
- Spindle: High carbon chrome steel
- Carbide measuring faces
- With ratchet stop
- Painted frame
- MC122-50C Includes a setting standard
- Mechanical digit counter for quick and error-free reading

Units: mm

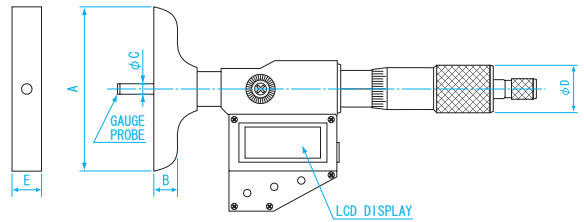
Model No.	A	B	C	D
MC122-25C	28	25	6.5	18
MC122-50C	53	32	6.5	18

Order No.	Model No.	Measuring Range (mm)	Graduation (mm)	Maximum Error (μm)	Weight	Note
151391	MC122-25C	0 ~ 25	0.01	4	220g	-
151392	MC122-50C	25 ~ 50	0.01	4	300g	includes setting standard



MCD233-25FA

DIMENSIONS



- USE** For depth measurement
- FEATURES**
 - 4.5mm measuring rod
 - High carbon chrome steel
 - Quick display of the measured value
 - With ratchet stop
 - Auto display off function (after 5 min.)
 - One SR44 (Silver oxide) battery included for testing

Units: mm

Model No.	A	B	C	D	E
MCD233-25FA	63	9	4.5	18	17
MCD233-25FB	101.5	9	4.5	18	17

Order No.	Model No.	Measuring Range (mm)	Resolution (mm)	Maximum Error (μm)	Weight
152181	MCD233-25FA	0-25	0.001	6	310g
152182	MCD233-25FB	0-25	0.001	6	380g

Quantization Error (± 1 digit) not included

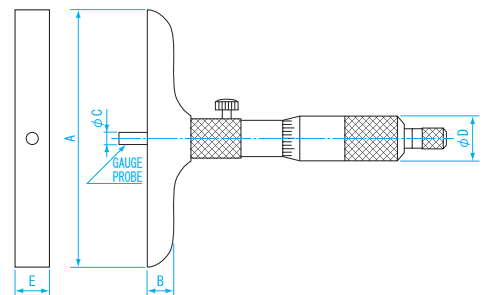
DEPTH MICROMETERS



MC202-25F



DIMENSIONS



Units: mm

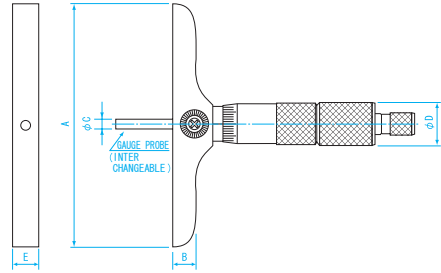
Model No.	A	B	C	D	E
MC202-25F	63	9	4.5	18	17
MC202-25FS	101.5	9	4.5	18	17

Order No.	Model No.	Measuring Range (mm)	Graduation (mm)	Maximum Error (μm)	Weight
151220	MC202-25F	0 ~ 25	0.01	4	210g
151221	MC202-25FS	0 ~ 25	0.01	4	265g



MC202-100FS

DIMENSIONS



Units: mm

Model No.	A	B	C	D	E
MC202-50F	63	9	4.5	18	17
MC202-50FS	101.5	9	4.5	18	17
MC202-100F	63	9	4.5	18	17
MC202-100FS	101.5	9	4.5	18	17

USE

For depth measurement

FEATURES

High carbon chrome steel
 Able to provide a wide measuring range
 With ratchet stop
 Interchangeable rod:
 MC202-50F/ 50FS : 25mm, 50mm
 MC202-100F/ 100FS : 25mm, 50mm, 75mm, 100mm

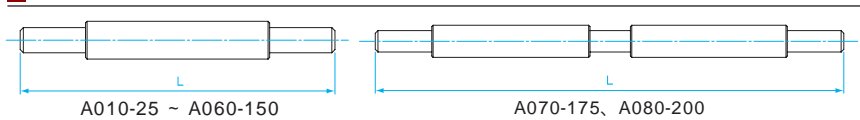
Order No.	Model No.	Measuring Range (mm)	Graduation (mm)	Maximum Error (μm)	Note
152211	MC202-50F	0 ~ 50	0.01	4	25· 50mm Interchangeable rod
152212	MC202-50FS	0 ~ 50	0.01	4	25· 50mm Interchangeable rod
152213	MC202-100F	0 ~ 100	0.01	5	25· 50· 75· 100mm Interchangeable rod
152214	MC202-100FS	0 ~ 100	0.01	5	25· 50· 75· 100mm Interchangeable rod

SETTING STANDARDS



Units: mm

DIMENSIONS



Model No.	L
A010-25	25
A020-50	50
A030-75	75
A040-100	100
A050-125	125
A060-150	150
A070-175	175
A080-200	200

USE

For calibrating zero position of outside micrometers

FEATURES

With heat insulating handle to prevent heat expansion
 Body: High Carbon chrome steel
 Grip: Plastic

Order No.	Model No.	Micrometer size (mm)	Accuracy (μm)	Dimension (mm)	Weight
151491	A010-25	25 ~ 50	2	7	10g
151492	A020-50	50 ~ 75	2	7	15g
151493	A030-75	75 ~ 100	2.5	7	25g
151494	A040-100	100 ~ 125	3	8	45g
151495	A050-125	125 ~ 150	3.5	8	50g
151496	A060-150	150 ~ 175	4	8	65g
151497	A070-175	175 ~ 200	4.5	8	75g
151498	A080-200	200 ~ 225	5	8	85g

MICROMETER STANDS



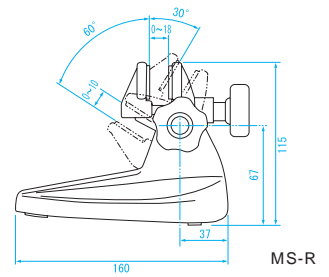
MS-R



MS-S

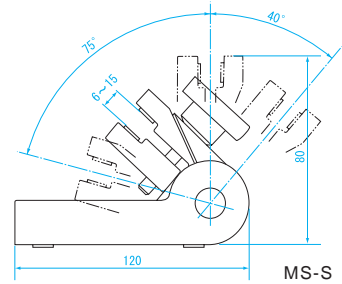
DIMENSIONS

Units: mm



MS-R

Can measure using both hands



MS-S

- USE** Stand for outside micrometers
- FEATURES**
 - Body: Cast iron
 - Folding structure for portability
 - Clamp range: Outside micrometers up to 100mm

Order No	Model No.	Weight
011761	MS-R	990g
011764	MS-S	1.7kg

LARGE MICROMETER STAND

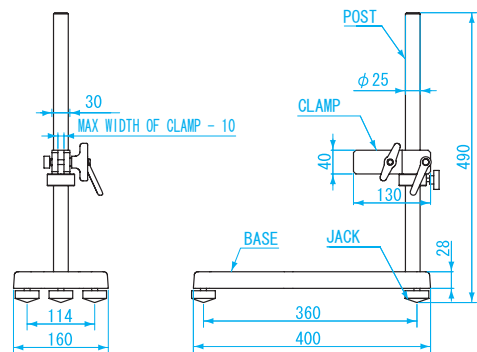


Example of use



DIMENSIONS

Units: mm



- USE** Stand for outside micrometers
- FEATURES**
 - Clamp range: 125-300mm
 - Column, clamp : Carbon steel
 - Base: Cast iron

Order No.	Model No.	Weight
011765	LMS-300	8.8kg

MICROMETER STAND & ARM



Micrometer stand
MD-101

MD-101

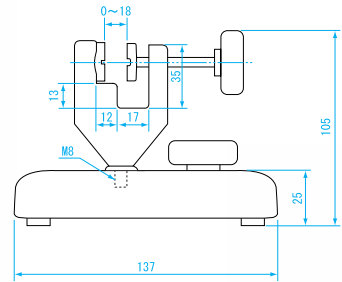
USE Outside micrometer up to 100mm, Caliper up to 200mm
Dial gauge stand (when used with MA-110 arm, sold separately)

FEATURES

- Essential item for inspection
- Clamp is perfect for micrometer, calipers
- Designed for universal application
- Stabilized foundation for ease of use

DIMENSIONS

Units: mm



MA-110

USE For mounting dial gauge

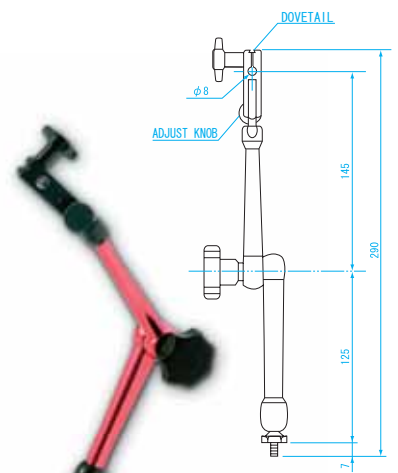
FEATURES

Axis to stand by tightening one point



MA-110 Example of use

DIMENSIONS Units: mm



MA-110

Order No.	Model No.	Body Material	Weight
011762	MD-101	Cast Iron	1.8kg
011763	MA-110	Aluminum	300g

02

MICRO METER

MICRO METER

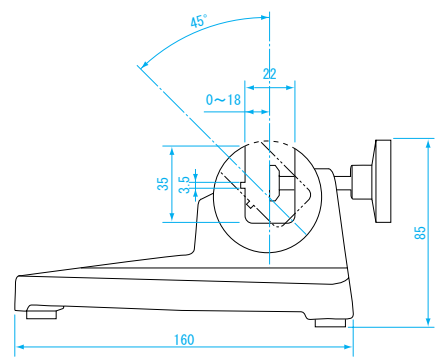
MICRO METER STAND

MICROMETER STAND



DIMENSIONS

Units: mm



USE Outside micrometer up to 100mm, caliper up to 200mm

FEATURES

- Body : Cast iron
- Stable stand with moderate weight and low center of gravity
- Rubber no-slip feet



Clamp with grooves to hold calipers securely



Adjustable angle



Rubber no-slip feet

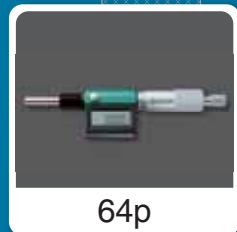
Order No.	Model No.	Weight
011760	NMS-1	1.5kg

500 Series MicroMeter

MICROMETER HEAD



64p



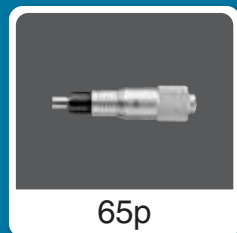
64p



65p



65p



65p



66p



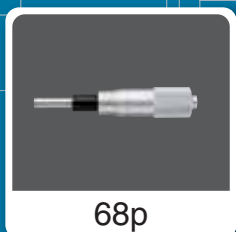
66p



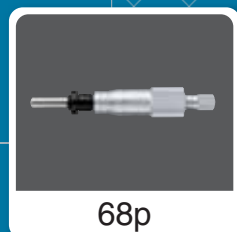
67p



67p



68p



68p



68p

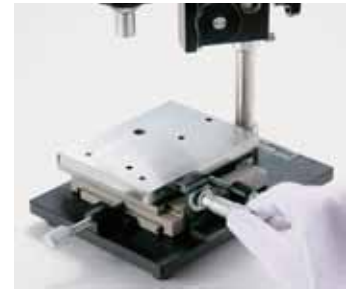
MICRO
METER
HEAD

Micrometer Head Basic Points

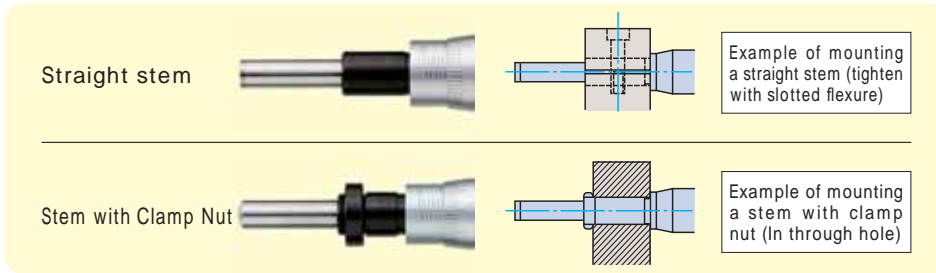
Stem

The Stem is the cylindrical part where the micrometer head is fixed to the equipment where it is used. There are 3 options, selected according to application and method for holding the micrometer head.

- (1) Straight stem: can be mounted using a through hole with slot for clamping. Cost of attachment hardware can be higher. Allows or some adjustment of Head position in axial direction.
- (2) Stem with clamp nut: Mounts in through hole in plate. Installs easily using hole diameter slightly larger than stem and clamping by tightening the supplied nut.



Example of use



Stem Length in catalog is the length when graduation is set to 0mm

- (3) Stem with Spindle Clamp. The basic structure is similar to (1) and (2) above. Spindle clamp is recommended when micrometer head is used as a position stop as it prevents spindle motion or changing position during use. (Refer to pictures for items 1709-050, and 1719-350 on following pages for examples of Stem with Clamp Micrometer Heads)

Spindle Face

Flat spindle : Primarily selected when micrometer head is used as a measuring device.

Spherical spindle : Primarily selected when micrometer head is used as a "feeding device". Also has advantage of reducing error caused by head not being mounted exactly perpendicular to axis of travel.



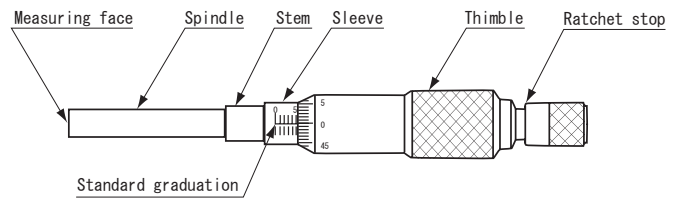
Flat Face



Spherical Face

Thimble diameter : Outer diameter of portion behind spindle used for advancing and retracting spindle.

Part Name



DIGITAL MICROMETER HEAD



Measuring Range : 0-25mm



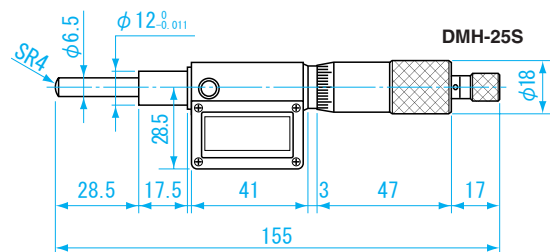
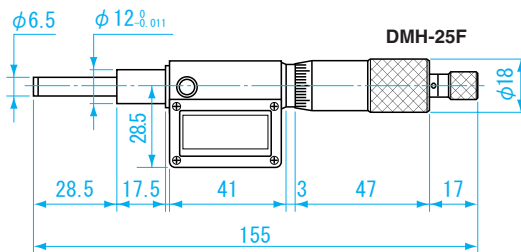
DMH-25F



DMH-25S

DIMENSIONS

Units : mm



USE

Mount on precision equipment or machinery to measure position and feed

MATERIAL

Thimble : Alloy tool steel
Spindle : High carbon chromium steel

FEATURES

Quick display of measured value
Measuring range : 0 ~ 25mm
Auto display o function (after 4 min)
One SR44 battery included for testing

Order No.	Model No.	Stem	Spindle Dimension (mm)	Stem Dimension (mm)	Spindle Face
151151	DMH-25F	Straight	6.5 × 28.5	12 × 17.5	Flat
151152	DMH-25S	Straight	6.5 × 28.5	12 × 17.5	Spherical (SR4)
Resolution (mm)	Maximum Permissible Error (μm)	Length (mm)	Thimble Diameter (mm)	Weight	
0.001	3	155	18	195g	
0.001	3	155	18	195g	

MICROMETER HEAD



Measuring Range : 0 ~ 5.0mm



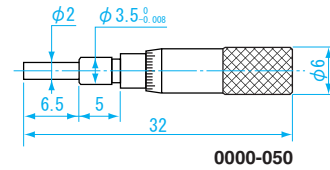
0000-050



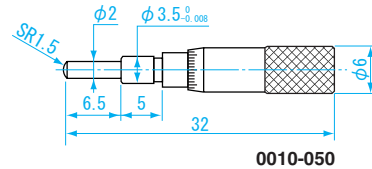
0010-050

DIMENSIONS

Units : mm



0000-050



0010-050

USE

Mount on precision equipment or machinery to measure position and feed

MATERIAL

Thimble : Alloy tool steel

Spindle : High carbon chromium steel

FEATURES

Measuring range : 0 ~ 5mm, small and lightweight

Order No.	Model No.	Stem	Spindle Dimension (mm)	Stem Dimension (mm)	Spindle Face	Graduation (mm)	Maximum Permissible Error (μm)	Length (mm)	Thimble Diameter (mm)	Weight
151145	0000-050	Straight	2 × 6.5	3.5 × 5	Flat	0.02	5	32	6	4g
151146	0010-050	Straight	2 × 6.5	3.5 × 5	Spherical (SR1.5)	0.02	5	32	6	4g

MICROMETER HEAD



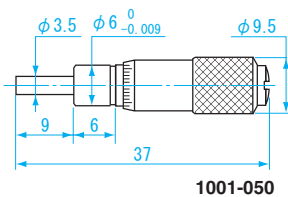
Measuring Range : 0 ~ 6.5mm



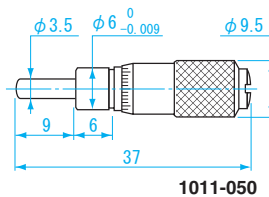
1001-050

DIMENSIONS

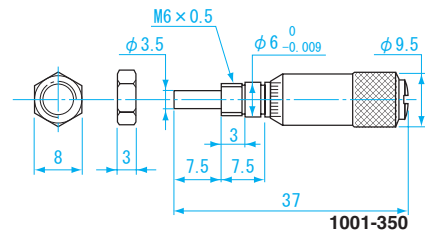
Units : mm



1001-050



1011-050



1001-350

USE

Mount on precision equipment or machinery to measure position and feed

MATERIAL

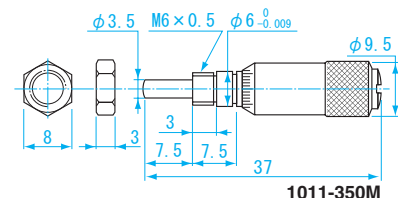
Thimble : Alloy tool steel

Spindle : High carbon chromium steel

FEATURES

Measuring range : 0 ~ 6.5mm, small and lightweight

Threaded versions supplied with matching nut



1011-350M

Order No.	Model No.	Stem	Spindle Dimension (mm)	Stem Dimension (mm)	Nut (mm)	Spindle Face	Graduation (mm)	Maximum Permissible Error (μm)	Length (mm)	Thimble Diameter (mm)	Weight
151134	1001-050	Straight	3.5 × 9	6 × 6	-	Flat	0.01	5	37	9.5	10g
151135	1011-050	Straight	3.5 × 9	6 × 6	-	Spherical (SR3)	0.01	5	37	9.5	10g
151136	1001-350	Threaded	3.5 × 7.5	6 × 7.5	8 × 3	Flat	0.01	5	37	9.5	10g
151150	1011-350M	Threaded	3.5 × 7.5	6 × 7.5	8 × 3	Spherical (SR3)	0.01	5	37	9.5	10g

MICROMETER HEAD



Measuring Range : 0 ~ 13mm



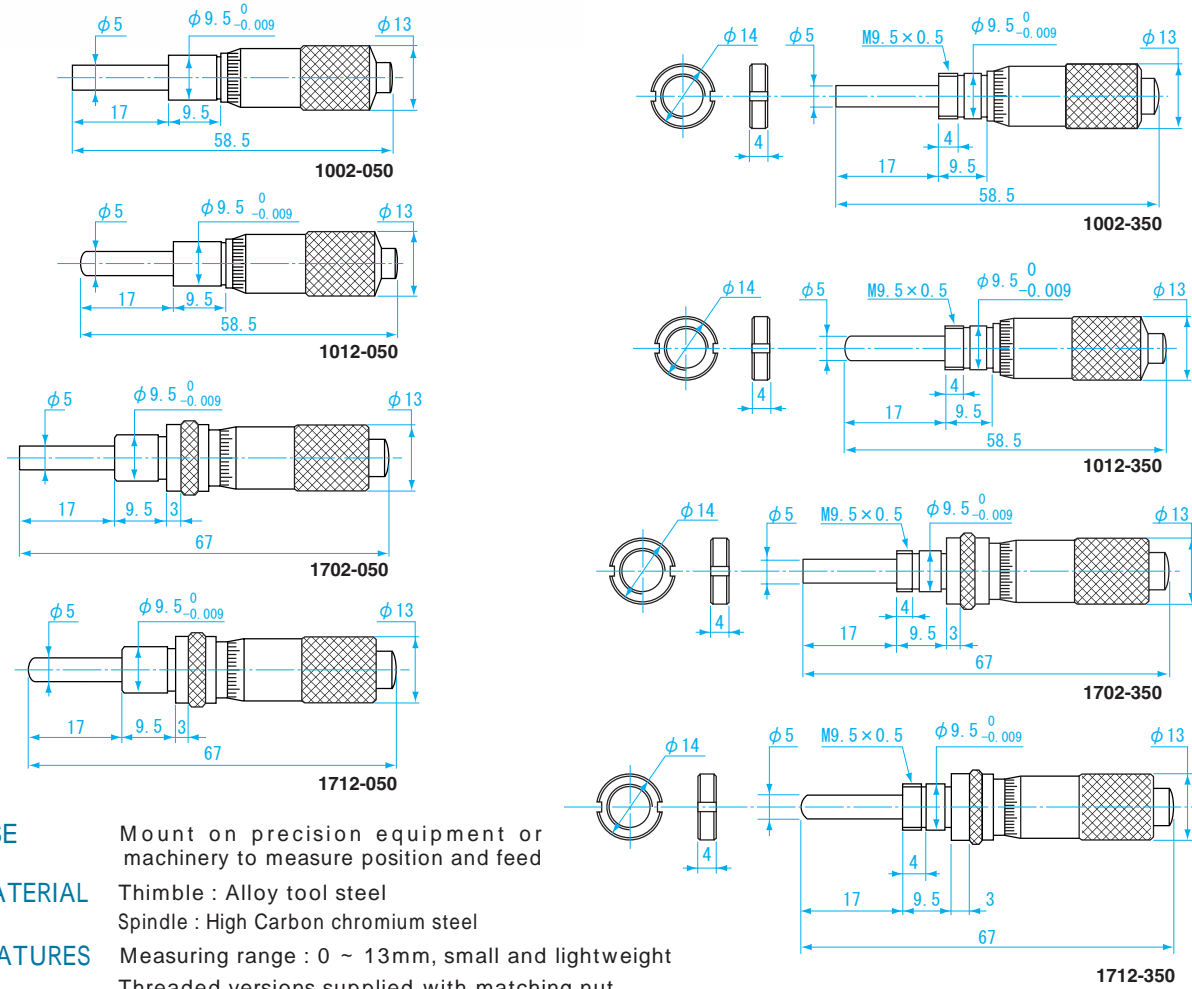
1002-050



1702-350

DIMENSIONS

Units : mm



USE

Mount on precision equipment or machinery to measure position and feed

MATERIAL

Thimble : Alloy tool steel
Spindle : High Carbon chromium steel

FEATURES

Measuring range : 0 ~ 13mm, small and lightweight
Threaded versions supplied with matching nut

Order No.	Model No.	Stem/Spindle Clamp	Spindle Dimension (mm)	Stem Dimension (mm)	Nut (mm)	Spindle Face	Graduation (mm)	Maximum Permissible Error (μm)	Length (mm)	Thimble Diameter (mm)	Weight
151110	1002-050	Straight	5×17	9.5×9.5	-	Flat	0.01	4	58.5	13	40g
151111	1012-050	Straight	5×17	9.5×9.5	-	Spherical (SR4)	0.01	4	58.5	13	40g
151112	1002-350	Threaded	5×17	9.5×9.5	14×4	Flat	0.01	4	58.5	13	40g
151113	1012-350	Threaded	5×17	9.5×9.5	14×4	Spherical (SR4)	0.01	4	58.5	13	40g
151114	1702-050	Straight with Clamp	5×17	9.5×9.5	-	Flat	0.01	4	67	13	40g
151115	1712-050	Straight with Clamp	5×17	9.5×9.5	-	Spherical (SR4)	0.01	4	67	13	40g
151116	1702-350	Threaded with Clamp	5×17	9.5×9.5	14×4	Flat	0.01	4	67	13	40g
151117	1712-350	Threaded with Clamp	5×17	9.5×9.5	14×4	Spherical (SR4)	0.01	4	67	13	40g



Measuring range : 0 ~ 15mm



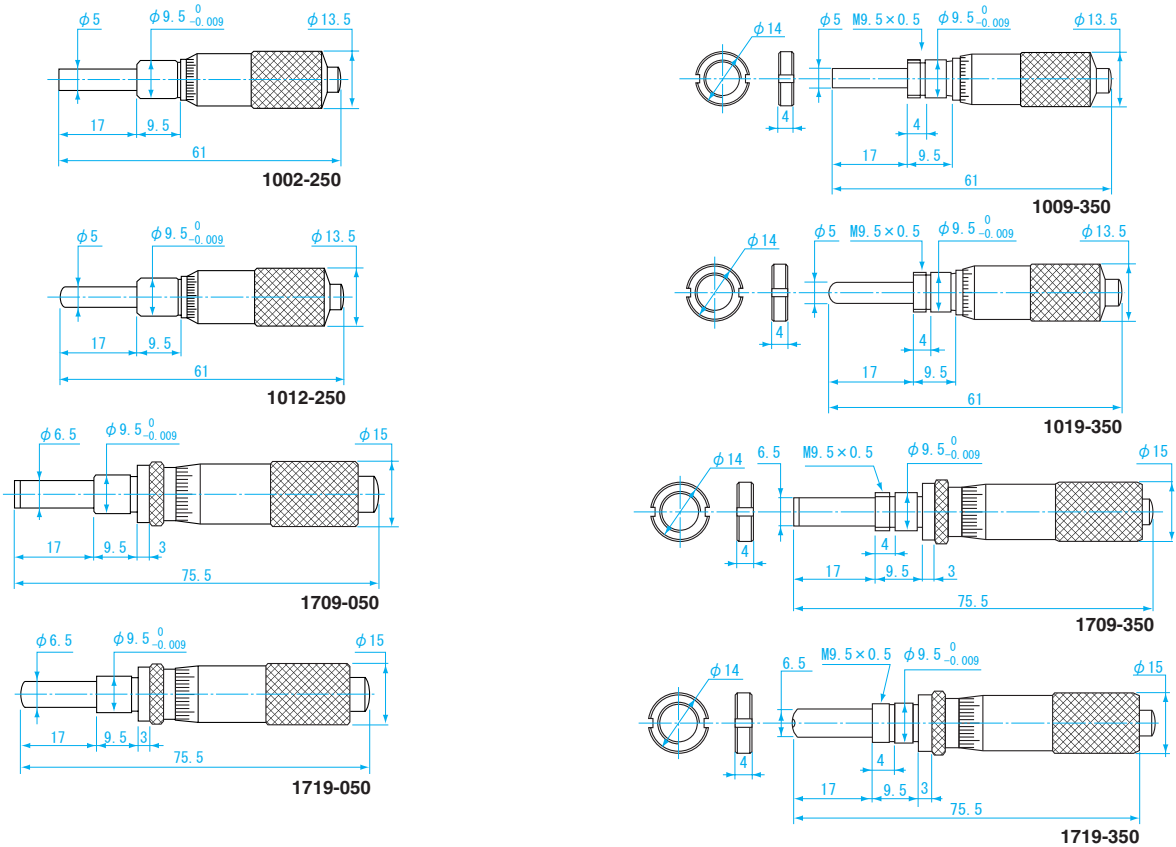
1709-050



1719-350

DIMENSIONS

Units : mm



03

MICRO METER HEAD

MICRO METER HEAD

USE Mount on precision equipment or machinery to measure position and feed

MATERIAL Thimble : Alloy tool steel
Spindle : High carbon chromium steel

FEATURES Measuring range : 0 ~ 15mm
Carbide tipped measuring faces (1709-050, 1709-350, 1719-050, 1719-350)
Threaded versions supplied with matching nut

Order No.	Model No.	Stem/ Spindle Clamp	Spindle Dimension (mm)	Stem Dimension (mm)	Nut (mm)	Spindle Face	Graduation (mm)	Maximum Permissible Error (μm)	Length (mm)	Thimble Diameter (mm)	Weight
151118	1002-250	Straight	5 × 17	9.5 × 9.5	-	Flat	0.01	4	61	13.5	60g
151119	1012-250	Straight	5 × 17	9.5 × 9.5	-	Spherical (SR4)	0.01	4	61	13.5	60g
151120	1009-350	Threaded	5 × 17	9.5 × 9.5	14 × 4	Flat	0.01	4	61	13.5	60g
151121	1019-350	Threaded	5 × 17	9.5 × 9.5	14 × 4	Spherical (SR4)	0.01	4	61	13.5	60g
151122	1709-050	Straight / with Clamp	6.5 × 17	9.5 × 9.5	-	Flat	0.01	4	75.5	15	60g
151123	1719-050	Straight / with Clamp	6.5 × 17	9.5 × 9.5	-	Spherical (SR4)	0.01	4	75.5	15	60g
151124	1709-350	Threaded / with Clamp	6.5 × 17	9.5 × 9.5	14 × 4	Flat	0.01	4	75.5	15	60g
151125	1719-350	Threaded / with Clamp	6.5 × 17	9.5 × 9.5	14 × 4	Spherical (SR4)	0.01	4	75.5	15	60g

MICROMETER HEAD



Measuring Range : 0 ~ 25mm



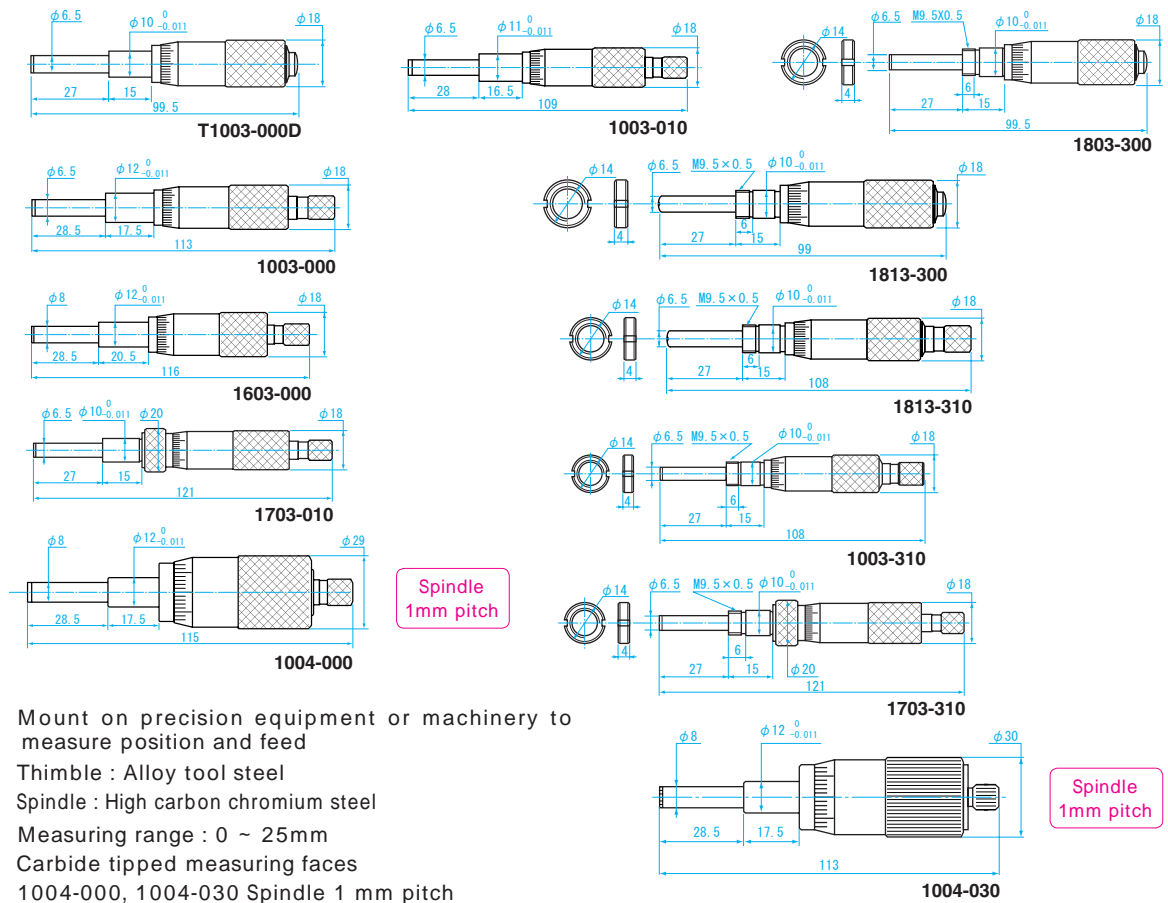
T1003-000D

1813-310

1004-000

DIMENSIONS

Units : mm



Spindle
1mm pitch

Spindle
1mm pitch

- USE** Mount on precision equipment or machinery to measure position and feed
- MATERIAL** Thimble : Alloy tool steel
Spindle : High carbon chromium steel
- FEATURES** Measuring range : 0 ~ 25mm
Carbide tipped measuring faces
1004-000, 1004-030 Spindle 1 mm pitch
Threaded versions supplied with matching nut

Order No.	Model No.	Ratchet	Stem / Spindle Clamp	Spindle Dimension (mm)	Stem Dimension (mm)	Nut (mm)	Spindle Face	Graduation (mm)	Maximum Permissible Error (μm)	Length (mm)	Thimble Diameter (mm)	Weight
151138	T1003-000D	None	Straight	6.5 × 27	10 × 15	-	Flat	0.01	3	99.5	18	100g
151126	1003-010	Yes	Straight	6.5 × 28	11 × 16.5	-	Flat	0.01	3	109	18	90g
151139	1803-300	None	Threaded	6.5 × 27	10 × 15	14 × 4	Flat	0.01	3	99.5	18	100g
151141	1813-300	None	Threaded	6.5 × 27	10 × 15	14 × 4	Spherical (SR4)	0.01	3	99	18	100g
151140	1813-310	Yes	Threaded	6.5 × 27	10 × 15	14 × 4	Spherical (SR4)	0.01	3	108	18	100g
151127	1003-000	Yes	Straight	6.5 × 28.5	12 × 17.5	-	Flat	0.01	3	113	18	100g
151128	1603-000	Yes	Straight	8 × 28.5	12 × 20.5	-	Flat	0.01	3	117	18	100g
151129	1003-310	Yes	Threaded	6.5 × 27	10 × 15	14 × 4	Flat	0.01	3	108	18	100g
151130	1703-010	Yes	Straight / with Clamp	6.5 × 27	10 × 15	-	Flat	0.01	3	121	18	100g
151131	1703-310	Yes	Threaded / with Clamp	6.5 × 27	10 × 15	14 × 4	Flat	0.01	3	121	18	120g
151133	1004-000	Yes	Straight	8 × 28.5	12 × 17.5	-	Flat	0.01	4	115	29	230g
151132	1004-030	Yes	Straight	8 × 28.5	12 × 17.5	-	Flat	0.01	4	113	30	200g

MICROMETER HEAD

03

MICRO METER HEAD

MICRO METER HEAD



70p



70p



71p



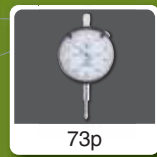
71p



72p



72p



73p



73p



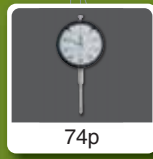
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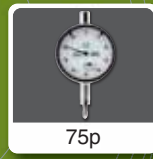
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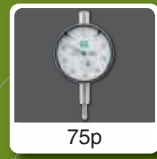
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74p



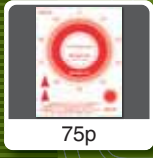
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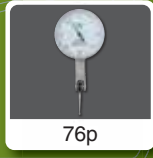
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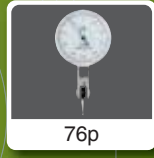
75p



75p



76p



76p



77p



77p



78p



78p



79p

DIAL GAUGES



79p



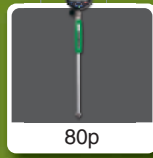
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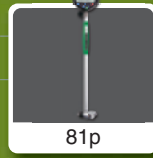
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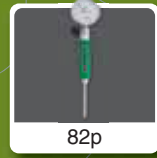
80p



80p



81p



82p



82p



82p



83p



84p



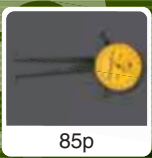
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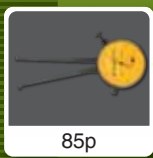
84p



85p



85p



85p



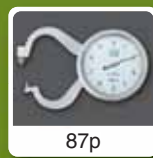
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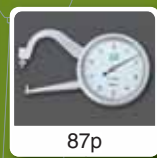
86p



86p



87p



87p



87p



87p



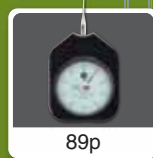
88p



88p



89p



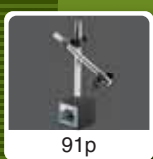
89p



90p



90p



91p



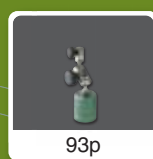
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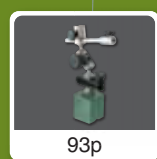
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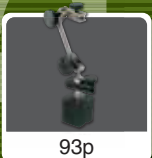
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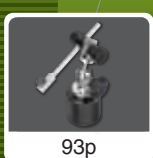
93p



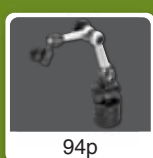
93p



93p



93p



94p



94p



94p

DIAL GAUGES

DIAL INDICATORS

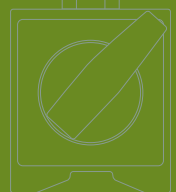
THICKNESS GAUGES

BORE GAUGES

CALIPER GAUGES

HARDNESS-TENSION GAUGE

MAGNETIC BASE





DIGITAL S-LINE INDICATOR (IP65)

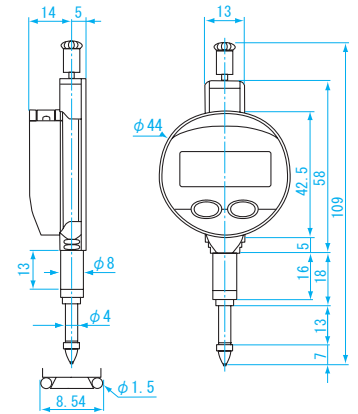


IP65 rated, can be used in cutting fluid environment!
Small type - 109mm long, 19mm thick



DIMENSIONS

Units : mm



USE Measuring surface flatness, checking tool set up, axial runout, checking squareness

MATERIAL Stem & spindle : stainless steel

FEATURES

- IP65 rating (comparable to NEMA 4,) digital indicator electronics are protected against dust and water.
- Small type dial gauge is suitable for use in a narrow space
- Measuring direction (+or -) function switch
- Preset function
- Auto-power-off function (after 4 hrs)
- Can select minimum reading display 0.01mm or 0.001mm (DEI-233S2 only)

POWER

One CR2032 (Lithium) battery included for testing

<ul style="list-style-type: none"> IP rating for electrical equipment is defined based on IEC standard for water and solid body protection. IP indication 			
1st digit	Description	Definition	Testing for
6	Solid	No ingress of dust allowed	Complete protection against contact
2nd digit	Description	Definition	Testing for
5	Protected against low pressure water jet	No harmful effects from direct jet of water from any direction.	spray rotating equipment from 6.3mm nozzle, 2.5L/min flow from at distance of 2.5 to 3 m for more than three minutes.

Order No.	Model No.	Measuring Range (mm)	Resolution (mm)	Minimum reading display	Maximum Error (μm)	Measuring Force (N)	Repeatability (μm)	Weight
NEW 151724	DEI-233S1	0-12.5	0.01	0.01	10	0.5-0.9	2	70g
NEW 151725	DEI-233S2	0-12.5	0.001	0.01/0.001 (Switchable)	5	0.5-0.9	2	70g

Quantization Error (± 1 digit) not included



DIGITAL S-LINE INDICATOR



GO/ NOGO lights up with tolerance setting function!

USE

Measuring surface flatness, checking tool set up, axial runout, checking squareness

MATERIAL

Stem & spindle : stainless

FEATURES

- GO/ NOGO lights up with tolerance setting function, suitable for precision measurement of mass produced parts
- Display can rotate 270 ° to desired position
- Math function
- Button for 'favorite function' to call up frequently used functions
- MIN, MAX, DELTA measurement function
- Measuring direction (+or -) switching function
- Preset function
- Stand-by mode function (after 20 min)
- Can select minimum display resolution 0.01mm or 0.001mm (DEI-WKS2 only)

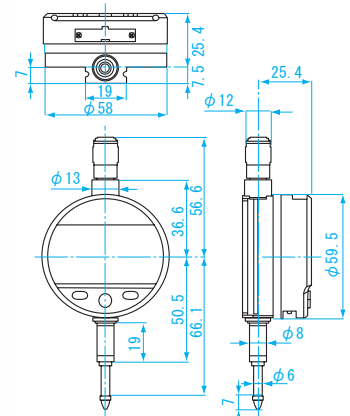
POWER

One CR2032 (Lithium) battery included for testing



DIMENSIONS

Units : mm



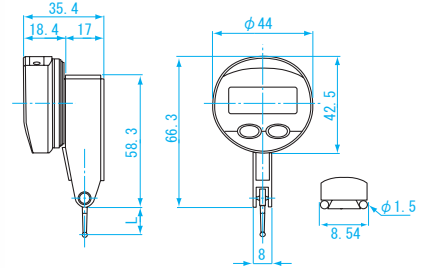
Order No.	Model No.	Measuring Range (mm)	Resolution (mm)	Minimum reading display	Maximum Error (μm)	Measuring Force (N)	Repeatability (μm)	Weight
NEW 151726	DEI-WKS1	0-12.5	0.01	0.01	10	0.65-0.9	2	115g
NEW 151727	DEI-WKS2	0-12.5	0.001	0.01/0.001 (Switchable)	3	0.65-0.9	2	115g

Quantization Error (± 1 digit) not included

IP65 rating electronic digital test indicator, can be used in cutting fluid environment
Has both digital and analog display for easy reading



DIMENSIONS



Model No.	L
DET-234S1	12.5
DET-234S2	36

USE Lever type digital test indicator
Measuring surface flatness, checking tool set up, axial runout, checking squareness

MATERIAL Gauge head : stainless

FEATURES

- IP65 rating (comparable to NEMA 4) electronic digital test indicator. Electronics are protected against dust and water.
- The display has both digital and analog display for easy reading
- Display rotates 360° for setting zero.
- MIN, MAX, DELTA measurement function
- Measuring direction (+ or -) function switch
- Preset function
- Auto-power off function (after 2 hrs)
- Can select minimum reading display 0.01mm or 0.001mm

POWER

One CR2032 (Lithium) battery included for testing

ACCESSORIES

8mm dove tail stem

1st digit	Description	Definition	Testing for
6	Solid	No ingress of dust allowed	Complete protection against contact
5	Protected against low pressure water jet	No harmful effects from direct jet of water from any direction.	spray rotating equipment from 6.3mm nozzle, 2.5l/min flow from at distance of 2.5 to 3 m for more than three minutes.

IP 6.5
 2nd digit : water proof rating
 1st digit : direct contact-protection for ingress of solid foreign object

Order No.	Model No.	Measuring Range (mm)	Resolution (mm)	Minimum reading display	Maximum Error (mm)	Backlash Error (μm)	Measuring Force (N)	Repeatability (μm)	Weight
151728	DET-234S1	0-0.8	0.001	0.01/0.001 (Switchable)	0.01	4	0.13	3	70g
151729	DET-234S2	0-0.5	0.001	0.01/0.001 (Switchable)	0.01	5	0.07	3	70g

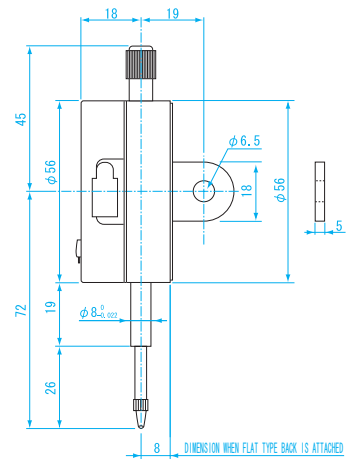
Quantization Error (± 1 digit) not included

DIGITAL INDICATORS



DIMENSIONS

Units : mm



USE Measuring surface flatness, checking tool set up, axial runout, checking squareness

MATERIAL Body : Steel

FEATURES

- Easy to read digital display
- Display hold function
- Auto power off function (after 5 min.)
- Resolution 0.01mm, Measurement range 12.7mm
- Flat type back and center-lug back included
- One CR2032 (Lithium) battery included for testing

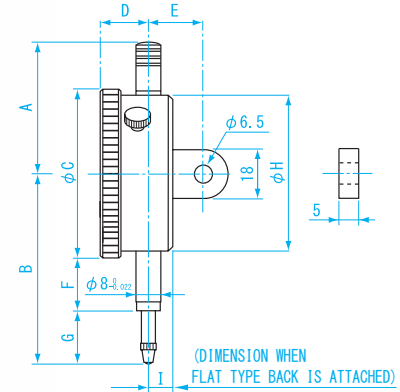
Order No.	Model No.	Measuring Range (mm)	Resolution (mm)	Maximum permissible Error (μm)	Measuring Force less than (N)	Weight
151715	DEI-127	0-12.7	0.01	± 20	1.5	95g

Quantization Error (± 1 digit) not included

DIAL GAUGES



DIMENSIONS



T 237

Units : mm

Model No.	A	B	C	D	E	F	G	H	I
DI-10	45	67	60	16	20	21	20	55	9

USE Measuring surface flatness, checking tool set up, axial runout, checking squareness

MATERIALS
Body : Steel

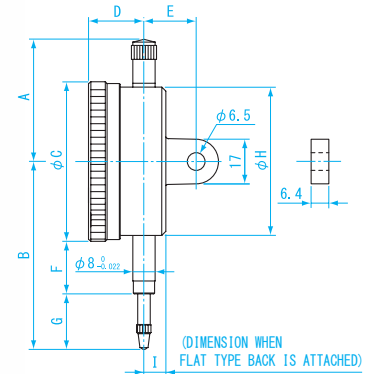
FEATURES
Measuring Range: 0-10mm/ 0.01mm Graduation
Limit indicator clips included
O-Ring sealed between inner and outer lid to protect from water or oil
White scale plate
Flat type back and center-lug back included

Order No.	Model No.	Graduation (mm)	Measuring Range (mm)	Dial Reading (mm)	Backlash Error (μm)	Measuring Force less than (N)	1 Revolution (mm)	Indication Error 1/10 rev (μm)	Error over entire range (μm)	Repeatability (μm)	Weight
151044	DI-10	0.01	0 ~ 10	±0-100	5	1.5	1	8	±20	5	150g

DIAL GAUGES



DIMENSIONS



Units : mm

Model No.	A	B	C	D	E	F	G	H	I
DI-1058	43.5	68.5	58	16.5	19	18.5	21	53.5	8

USE Measuring surface flatness, checking tool set up, axial runout, checking squareness

MATERIAL
Body : Steel

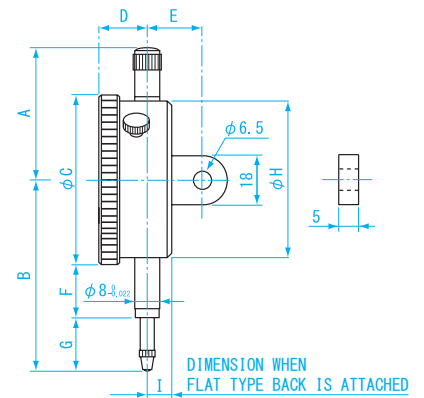
FEATURES
Limit indicator clips included
O-Ring sealed between inner and outer lid to protect from water or oil
Jeweled bearings
Yellow scale plate
Flat type back and center-lug back included

Order No.	Model No.	Graduation (mm)	Measuring Range (mm)	Dial Reading (mm)	Backlash Error (μm)	Measuring Force less than (N)	1 Revolution (mm)	Indication Error 1/10 rev (μm)	Error over entire range (μm)	Repeatability (μm)	Weight
151504	DI-1058	0.01	0 ~ 10	±0-100	5	1.5	1	8	±20	5	180g



DI-1060SC

DIMENSIONS



- USE** Measuring surface flatness, checking tool set up, axial runout, checking squareness
- MATERIAL** Body : Steel
- FEATURES**
 - Limit indicator clips included
 - O-Ring sealed between inner and outer lid to protect from water or oil
 - Jeweled bearings
 - White scale plate
 - Flat type back and center-lug back included.
 - Shock proof spindle mechanism protects the gear from abrupt motion.

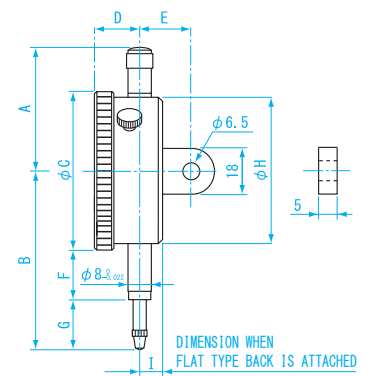
Units : mm

Model No.	A	B	C	D	E	F	G	H	I
DI-0560SC	45	67	60	16	20	21	20	55	9
DI-1060SC	45	67	60	16	20	21	20	55	9

Order No.	Model No.	Graduation (mm)	Measuring Range (mm)	Dial Reading (mm)	Backlash Error (μm)	Measuring Force less than (N)	1 Revolution (mm)	Indication Error 1/10 rev (μm)	Error over entire range (μm)	Repeatability (μm)	Weight
151671	DI-0560SC	0.01	0 ~ 5	$\pm 0-100$	3	1.5	1	8	± 12	3	130g
151672	DI-1060SC	0.01	0 ~ 10	$\pm 0-100$	3	1.5	1	8	± 14	3	150g



DIMENSIONS



- USE** Measuring surface flatness, checking tool set up, axial runout, checking squareness
- FEATURES**
 - Body : Steel
 - Measuring Range: 0-10mm/ 0.001mm graduation
 - Limit indicator clips included
 - O-Ring sealed between inner and outer lid to protect from water or oil
 - Jeweled bearings
 - White scale plate
 - Flat type back and center-lug back included
 - Shock proof spindle mechanism protects the gear from abrupt motion.

Units : mm

Model No.	A	B	C	D	E	F	G	H	I
DI-0160SC	40	60	60	16	20	21	13	55	9

Order No.	Model No.	Graduation (mm)	Measuring Range (mm)	Dial Reading (mm)	Backlash Error (μm)	Measuring Force less than (N)	1 Revolution (mm)	Indication Error 1/10 rev (μm)	Error over entire range (μm)	Repeatability (μm)	Weight
151670	DI-0160SC	0.001	0 ~ 1	$\pm 0-100$	2.5	3	0.1	3.5	± 5	0.4	150g



LONG STROKE DIAL GAUGES



DI-10078



DI-8058

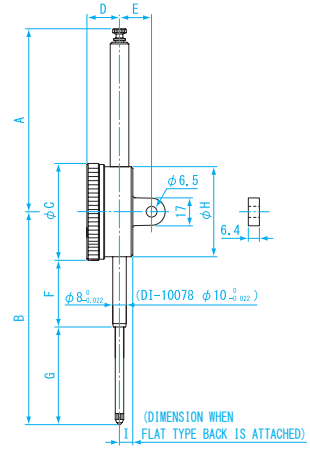


DI-5058



DI-3058

DIMENSIONS



Units : mm

USE Long stroke measurement

MATERIALS
Body : steel

FEATURES
O-Ring sealed between inner and outer lid to protect from water or oil
Jeweled bearings
White scale plate
Flat type back and center-lug back included

Model No.	A	B	C	D	E	F	G	H	I
DI-3058	37.5	86.5	58	19	19.5	19.5	38	53.5	8.5
DI-5058	108.5	126	58	19	19.5	39.5	57.5	53.5	8.5
DI-8058	138.5	168.5	58	19	19.5	51.5	88	53.5	8.5
DI-10078	167.5	208	78	20	20.5	61	108	69	10

Order No.	Model No.	Graduation (mm)	Measuring Range (mm)	Dial Reading (mm)	Backlash Error (μm)	Measuring force less than (N)	1 Revolution (mm)	Indication Error 1/10 rev (μm)	Error over entire range (μm)	Repeatability (μm)	Weight
151505	DI-3058	0.01	0 ~ 30	0-100	7	3.0	1	14	±35	5	210g
151506	DI-5058	0.01	0 ~ 50	0-100	9	3.5	1	15	±40	5	270g
151507	DI-8058	0.01	0 ~ 80	0-100	11	4.0	1	-	±50	6	290g
151508	DI-10078	0.01	0 ~ 100	0-100	15	4.5	1	-	±50	6	530g

For vertical measurements please keep measurement head above shaft

DIAL GAUGES

DIAL GAUGES

DIAL INDICATORS

THICKNESS GAUGES

BORE GAUGES

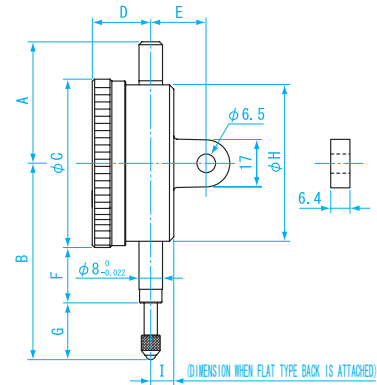
CALIPER GAUGES

HARDNESS-TENSION GAUGE

MAGNETIC BASE



DIMENSIONS



USE Measuring surface flatness, checking tool set up, axial runout, checking squareness.

MATERIALS

Body : Steel

FEATURES

- Limit indicator clips included
- O-Ring sealed between inner and outer lid to protect from water or oil
- Jeweled bearings
- White scale plate
- Flat type back and center-lug back included.

Units : mm

Model No.	A	B	C	D	E	F	G	H	I
DI-0342	31	46	42	14	18	14.5	10	40	7
DI-0542	31	48	42	14	18	14.5	12	40	7

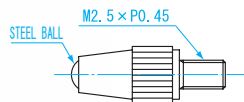
Order No.	Model No.	Graduation (mm)	Measuring Range (mm)	Dial Reading (mm)	Backlash Error (μm)	Measuring Force less than (N)	1 Revolution (mm)	Indication Error 1/10 rev (μm)	Error over entire range (μm)	Repeatability (μm)	Weight
151509	DI-0342	0.01	0 ~ 3	±0-50	6	1.5	0.5	8	±14	5	100g
151510	DI-0542	0.01	0 ~ 5	±0-50	6	1.5	0.5	9	±16	5	100g

DIAL GAUGE REPLACEABLE TIP



DI-CP

DIMENSIONS Units : mm



USE Dial gauge probe tip

MATERIALS

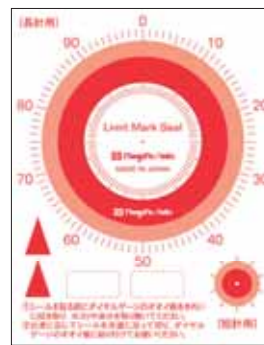
Measurement tip : steel ball

Compatibility Table

Model No.	Applicable Dial Indicator		
DI-CP	DI-1058	DI-3058	DI-5058
	DI-8058	DI-10078	DI-0342
	DI-0542		
DI-CPK	· Ex-model No.		
	DI-1220A	DI-1220AS	DI-1102A
	DI-1810A		
	DI-10 (Rev. since 2007)	DI-1060SC	DI-0160SC

Order No.	Model No.
151500	DI-CP
151675	DI-CPK

DIAL GAUGE LIMIT MARK STICKER



USE GO/ NO GO judgment for diameter inspection

MATERIAL

Pobick #100Rt-H (High strength, transparent, removable)

FEATURES

- Acceptable range is clearly visible. Ideal for inspection of mass produced parts.
- Includes arrow pointers for use with notes, indicating alert points, etc.

SPECIFICATIONS

- Applicable dial gauge : DIAL face more than 52mm
- Sticker outside diameter : long indicator... 51.5mm
- Short indicator ... 10mm

Contains 10pcs

Order No.	Model No.	Quantity	Weight
NEW 151674	DI-LMS	10	20g

DIAL GAUGES

DIAL GAUGES

DIAL INDICATORS

THICKNESS GAUGES

BORE GAUGES

CALIPER GAUGES

HARDNESS-TENSION GAUGE

MAGNETIC BASE

DIAL INDICATORS

USE Measuring surface flatness, straightness, axial runout.

MATERIAL
Body: Steel

FEATURES
Compact with long reach for measuring in deep and confined spaces
Jeweled bearings

Replacement probes also available.
Dial indicator steel ball probes

Order No.	Model No.
151696	TI-S80

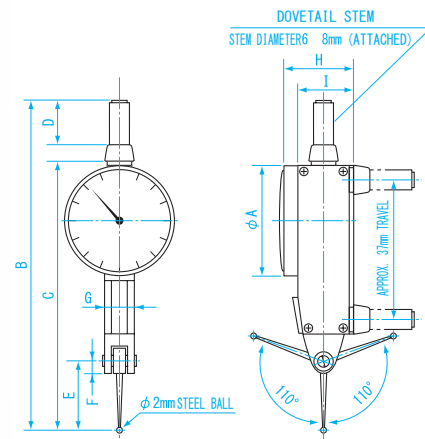
Applicable to TI-8032, TI-8038
Requires calibration with standard when replacing gauge head

Order No.	Model No.	Graduation (mm)	Measuring Range (mm)	Dial Reading	Error over entire range (μm)	Backlash Error (μm)	Measuring Force less than (N)	Repeatability (μm)	Indication Error 1/10 rev (μm)	Weight
151692	TI-8032	0.01	0 ~ 0.8	0-40-0	13	3	0.5	3	5	47g
151693	TI-8038	0.01	0 ~ 0.8	0-40-0	13	3	0.5	3	5	50g



TI-8038

DIMENSIONS



Units : mm

Model No.	A	B	C	D	E	F	G	H	I
TI-8032	32	96.5	75	13	22	4	8	24	17
TI-8038	38	96.5	75	13	22	4	8	24	17

DIAL INDICATORS

USE Measuring surface flatness, straightness, axial runout

MATERIAL
Body : Steel

FEATURES
Compact with long reach for measuring in deep and confined spaces
Jeweled bearings

Replacement probes also available.
Dial indicator steel ball probes

Order No.	Model No.
151695	TI-S20

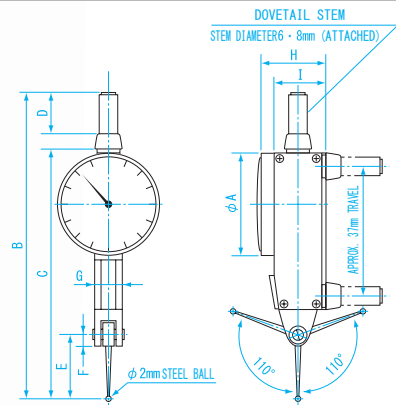
Applicable to TI-2032, TI-2040
Requires calibration with standard when replacing gauge head

Order No.	Model No.	Graduation (mm)	Measuring Range (mm)	Dial Reading	Indication Error over Entire Range (μm)	Backlash Error (μm)	Measuring Force less than (N)	Repeatability (μm)	Indication Error 1/10 rev (μm)	Weight
151690	TI-2032	0.002	0 ~ 0.2	0-100-0	4	2	0.5	1	2	53g
151691	TI-2040	0.002	0 ~ 0.2	0-100-0	4	2	0.5	1	2	65g



TI-2040

DIMENSIONS



Units : mm

Model No.	A	B	C	D	E	F	G	H	I
TI-2032	32	92	72.5	13	17	4	8.5	25	17
TI-2040	40	92	72.5	13	17	4	8.5	25	17

Ruby ball attributes

- High abrasion resistance
- Not electrically conductive
- Non magnetic

USE Measuring surface flatness, straightness, axial runout

MATERIAL

Body : Steel
Probe : Ruby

FEATURES

Compact with long reach for measuring in deep and confined spaces
Jeweled bearings

Replacement probes also available
Dial indicator ruby ball probes

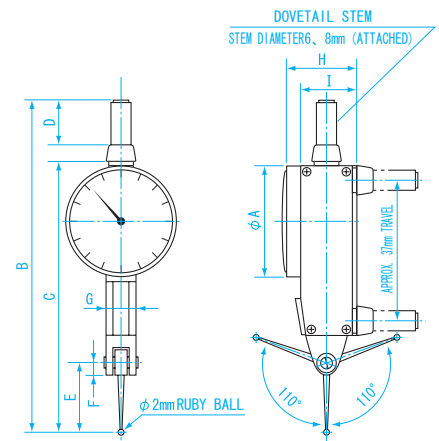
Order No.	Model No.
151706	TI-S80R

Applicable to TI-8032R, TI-8038R
Requires calibration with standard when replacing gauge head



TI-8038R
Measurement head enlarged view

DIMENSIONS



Units : mm

Model No.	A	B	C	D	E	F	G	H	I
TI-8032R	32	96.5	75	13	22	4	8	24	17
TI-8038R	38	96.5	75	13	22	4	8	24	17

Order No.	Model No.	Graduation (mm)	Measuring Range (mm)	Dial Reading	Indication Error over Entire Range (µm)	Backlash Error (µm)	Measuring Force less than (N)	Repeatability (µm)	Indication Error 1/10 rev (µm)	Weight
151702	TI-8032R	0.01	0 ~ 0.8	0-40-0	13	3	0.5	3	5	47g
151703	TI-8038R	0.01	0 ~ 0.8	0-40-0	13	3	0.5	3	5	50g

Ruby ball attributes

- High abrasion resistance
- Not electrically conductive
- Non magnetic

USE Measuring surface flatness, straightness, axial runout

MATERIAL

Body : Steel
Probe : Ruby

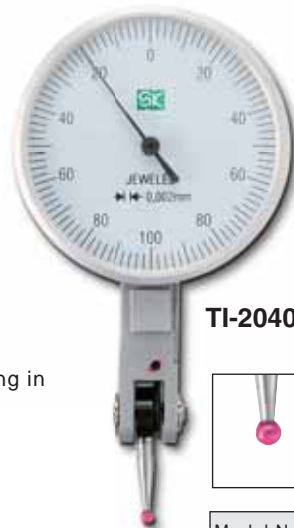
FEATURES

Compact with long reach for measuring in deep and confined spaces
Jeweled bearings

Replacement probes also available
Dial indicator ruby ball probes

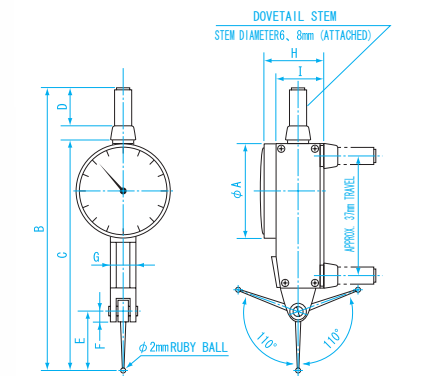
Order No.	Model No.
151705	TI-S20R

Applicable to TI-2032R, TI-2040R
Requires calibration with standard when replacing gauge head



TI-2040R
Measurement head enlarged view

DIMENSIONS



Units : mm

Model No.	A	B	C	D	E	F	G	H	I
TI-2032R	32	92	72.5	13	17	4	8.5	25	17
TI-2040R	40	92	72.5	13	17	4	8.5	25	17

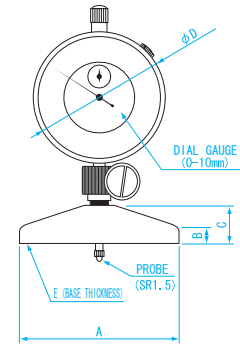
Order No.	Model No.	Graduation (mm)	Measuring Range (mm)	Dial Reading	Indication Error over Entire Range (µm)	Backlash Error (µm)	Measuring Force less than (N)	Repeatability (µm)	Indication Error 1/10 rev (µm)	Weight
151700	TI-2032R	0.002	0 ~ 0.2	0-100-0	4	2	0.5	1	2	53g
151701	TI-2040R	0.002	0 ~ 0.2	0-100-0	4	2	0.5	1	2	65g

DIAL DEPTH GAUGES



DD-1050

DIMENSIONS



Units : mm

Model No.	A	B	C	D	E
DD-1050	50	7	18	60	16
DD-10100	100	7	18	60	16

USE Depth measuring

MATERIALS

Body, probe: steel

FEATURES

Includes multiple extension rods (10mm·20mm·40mm·60mm·80mm), combined up to 210mm depths can be measured

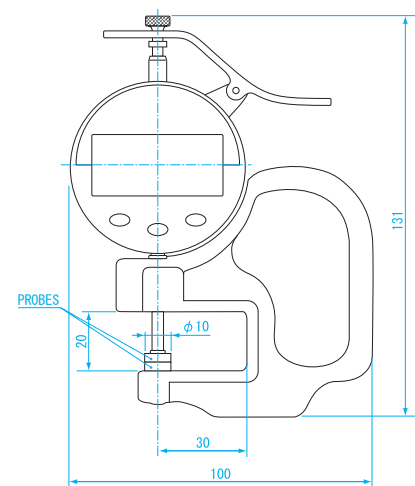
Order No.	Model No.	Measuring Range (mm)	Graduation (mm)	Weight
151711	DD-1050	Depth: up to 210 Dial gauge :10	0.01	280g
151712	DD-10100	Depth: up to 210 Dial gauge :10	0.01	350g

DIGITAL THICKNESS GAUGES



DIMENSIONS

Units : mm



USE One touch thickness measurement of sheet material

MATERIAL Body : Steel
Probes : Ceramic

FEATURES Digital display for easy reading
Easy to operate for quick measurements
Auto power off function (after 5 min.)
Display hold function
One CR2032 (Lithium) battery included for testing

Order No.	Model No.	Resolution (mm)	Measuring Range (mm)	Insert Depth (mm)	Accuracy (μm)	Measuring Faces	Weight
151720	DES-3010	0.01	0-10	30	±20	10mm Flat	180g

Quantization Error (± 1 digit) not included



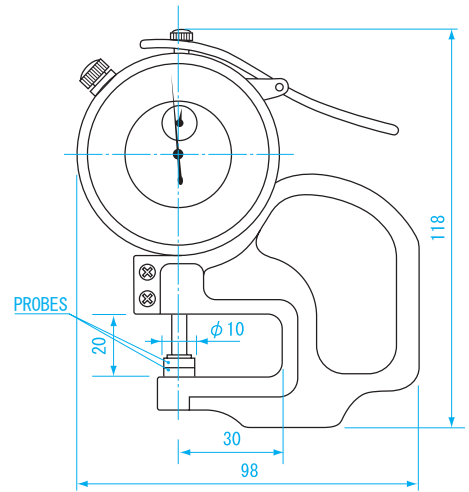
Example of mounting DSB-3010S



Photo shows with optional base

DIMENSIONS

Units : mm



- USE** One touch thickness measurement of sheet material
- MATERIAL** Body : Steel
Probes : Ceramic
- FEATURES** Easy to operate for quick measurements
Shock proof spindle mechanism protects the gear from abrupt motion
Dedicated base DSB-3010S sold separately (for DS-3010S only)

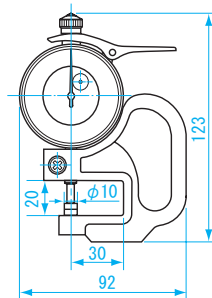
Order No.	Model No.	Graduation (mm)	Measurement Range (mm)	Insertion Depth (mm)	Accuracy (μm)	Measuring Faces	Weight
151680	DS-3010S	0.01	0 ~ 10	30	±20	10mm Flat	200g

Dial thickness gauge dedicated base

Order No.	Model No.	Weight
151685	DSB-3010S	370g



DIMENSIONS Units : mm



- USE** One touch thickness measurement of sheet metal
- MATERIAL** Body : Steel
Probes : Steel
- FEATURES** Easy to operate for a quick measurement

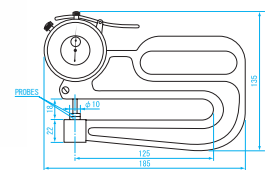


Order No.	Model No.	Graduation (mm)	Measurement Range (mm)
151532	DS-1211	0.01	0 ~ 10
Insertion Depth (mm)	Accuracy (μm)	Measuring Faces (mm)	Weight
30	±20	10mm Flat	260g



DIMENSIONS

Units : mm



- USE** One touch thickness measurement of sheet material
- MATERIAL** Body : Steel
Probes : Ceramic
- FEATURES** Easy to operate for quick measurement
Long throat for greater measurement depth
Shock proof spindle mechanism protects the gear from abrupt motion

Order No.	Model No.	Graduation (mm)	Measurement Range (mm)
151681	DS-12510S	0.01	0 ~ 10
Insertion Depth (mm)	Accuracy (μm)	Measuring Faces (mm)	Weight
125	±20	10mm Flat	480g

DIGITAL BORE GAUGES

Includes digital gauge and protective cover

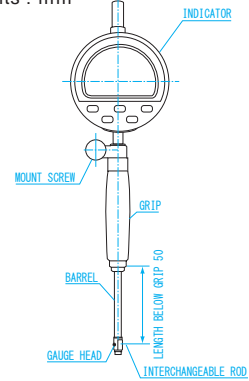


Measuring Head



DIMENSIONS • PARTS NAME

Units : mm



- USE** Bore measurement
- MATERIAL** Body : Steel
- FEATURES** Includes digital gauge and protective cover
Digital display for easy reading
One CR2032(Lithium)battery included for testing

Order No.	Model No.	Weight
151730	CDI-10D	250g

Resolution (mm)	Measurement Range (mm)	Error over Entire Range (μm)*	Indication Error 1/10 rev (μm)*	Repeatability (μm)*	Effective Stroke of Gauge Head (mm)	Interchangeable Rod	Interchangeable Washer
0.002	6-10	12	5	3	0.6	9 pcs (0.5mm step)	None

Quantization Error (± 1 digit) not included
* Including attached digital gauge

DIGITAL BORE GAUGES

Includes digital gauge and protective cover



CDI-18D Measuring Head



CDI-35D Measuring Head



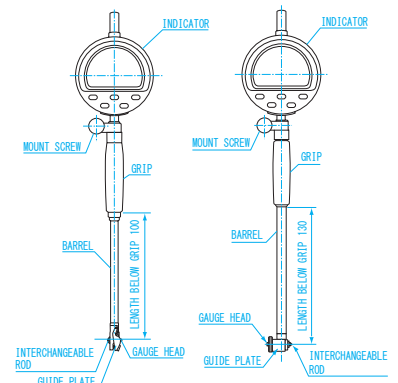
CDI-18D



CDI-35D

DIMENSIONS • PARTS NAME

Units : mm



CDI-18D

CDI-35D

- USE** Bore measurement
- MATERIAL** Body : Steel
- FEATURES** Includes digital gauge and protective cover
Digital display for easy reading
One CR2032 (Lithium) battery included for testing

Order No.	Model No.	Weight
151731	CDI-18D	270g
151732	CDI-35D	350g

Resolution (mm)	Measurement Range (mm)	Error over Entire Range (μm)*	Indication Error 1/10 rev (μm)*	Repeatability (μm)*	Effective Stroke of Gauge Head (mm)	Interchangeable Rod	Interchangeable Washer
0.002	10-18	12	5	3	0.8	9 pcs (1.0mm step)	0.5mm - 1pc
0.002	18-35	15	5	3	1.2	9 pcs (2.0mm step)	0.5·1mm - 1 pc each

Quantization Error (± 1 digit) not included
* Including attached digital gauge

Includes digital gauge and protective cover



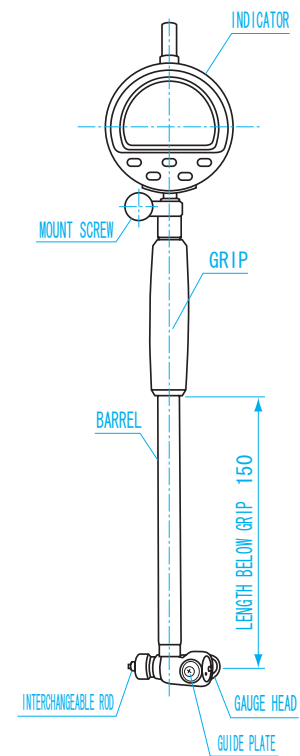
CDI-160D



Measuring Head

DIMENSIONS · PARTS NAME

Units : mm



- USE** Bore measurement instrument
- MATERIAL** Body : Steel
- FEATURES** Includes digital gauge and protective cover
Digital display for easy reading
One CR2032(Lithium) battery included for testing

Order No.	Model No.	Weight
151733	CDI-50D	400g
151734	CDI-100D	450g
151735	CDI-160D	450g

Resolution (mm)	Measurement Range (mm)	Error over Entire Range (μm)*	Indication Error 1/10 rev (μm)*	Repeatability (μm)*	Effective Stroke of Gauge Head (mm)	Interchangeable Rod	Interchangeable Washer
0.002	35- 50	15	5	3	1.2	4 pcs (5.0mm step)	0.5·1·2·3mm 1 pc each
0.002	50-100	18	6	3	1.6	11pcs (5.0mm step)	
0.002	50-160	18	6	3	1.6	12 pcs (5.0mm step) 1pc sub rod	

Quantization Error (± 1 digit) not included
* Including attached digital gauge

DIAL GAUGES
DIAL INDICATORS
THICKNESS GAUGES
BORE GAUGES
CALIPER GAUGES
HARDNESS-TENSION GAUGE
MAGNETIC BASE

DIAL BORE GAUGES

Includes dial gauge and protective cover

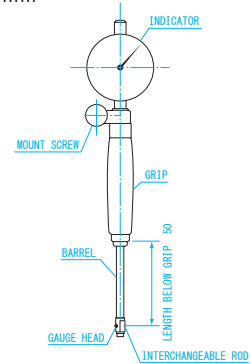


Measuring Head



DIMENSIONS · PARTS NAME

Units : mm



- USE** Bore measurement
- MATERIAL** Body : Steel
- FEATURES** Includes dial gauge and protective cover

Order No.	Model No.	Weight
151591	CDI-10	520g

Graduation (mm)	Measurement Range (mm)	Error over entire range (μm)*	Indication Error 1/10 rev (μm)*	Repeatability (μm)*	Effective stroke of Gauge head (mm)	Interchangeable Rod	Interchangeable Washer
0.01	6 ~ 10	12	5	3	0.7	9 pc (0.5mm step)	None

* Including attached dial gauge

DIAL BORE GAUGES

Includes dial gauge and protective cover



CDI-18 Measuring Head



CDI-35 Measuring Head

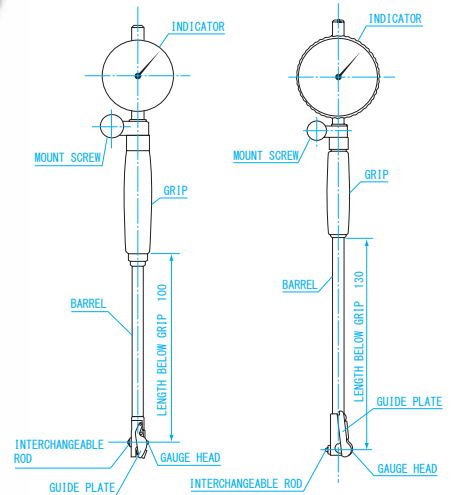


CDI-18

CDI-35

DIMENSIONS · PARTS NAME

Units : mm



CDI-18

CDI-35

- USE** Bore measurement
- MATERIAL** Body : Steel
- FEATURES** Includes dial gauge and protective cover

Order No.	Model No.	Weight
151592	CDI-18	520g
151593	CDI-35	680g

Graduation (mm)	Measurement Range (mm)	Error over Entire Range (μm)*	Indication Error 1/10 rev (μm)*	Repeatability (μm)*	Effective Stroke of gauge head (mm)	Interchangeable Rod	Interchangeable Washer
0.01	10 ~ 18	12	5	3	0.9	9 pc (1.0mm step)	1 pc 0.5mm
0.01	18 ~ 35	15	5	3	1.0	7 pc (2.5mm)	None

* Including attached dial gauge

Includes dial gauge and protective cover



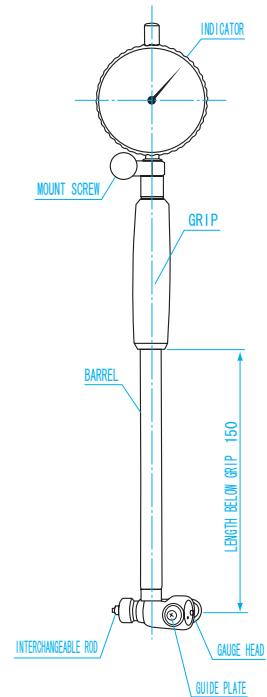
CDI-100



Measuring head

DIMENSIONS • PARTS NAME

Units : mm



- USE** Bore measurement
- MATERIAL** Body : Steel
- FEATURES** Includes dial gauge and protective cover

DIAL GAUGES

DIAL GAUGES

DIAL INDICATORS

THICKNESS GAUGES

BORE GAUGES

CALIPER GAUGES

HARDNESS-TENSION GAUGE

MAGNETIC BASE

Order No.	Model No.	Weight
151594	CDI-50	1 kg
151595	CDI-100	1.1 kg
151596	CDI-160	1.15kg

Graduation (mm)	Measurement Range (mm)	Error over Entire Range (µm)*	Indication Error 1/10 rev (µm)*	Repeatability (µm)*	Effective Stroke of Gauge Head (mm)	Interchangeable Rod	Interchangeable Washer
0.01	35 ~ 50	15	5	3	1.2	4 pcs(5.0mm step)	0.5•1•2•3mm 1 pc each
0.01	50 ~ 100	18	6	3	1.6	11 pcs (5.0mm step)	
0.01	50 ~ 160	18	6	3	1.6	12 pcs (5.0mm step) 1 pc Sub rod	

* Including attached dial gauge

DIGITAL CALIPER GAUGE



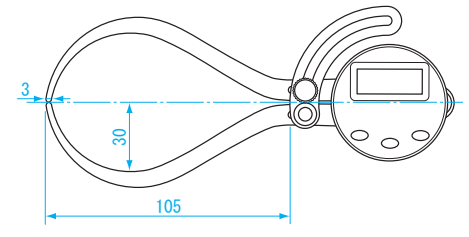
Wide measuring range of 0-150mm!



- USE**
For outside diameter measurement
- MATERIAL**
Body : Steel, Plastic
- FEATURES**
Digital display for easy reading
Wide measuring range of 0-150mm
- POWER**
One CR2032 (Lithium) battery included for testing

DIMENSIONS

Units : mm



Order No.	Model No.	Resolution (mm)	Measuring Range (mm)	Accuracy (mm)	Weight
NEW 152053	EDC-A1150	0.1	0-150	±0.2	140g

Quantization Error (± 1 digit) not included

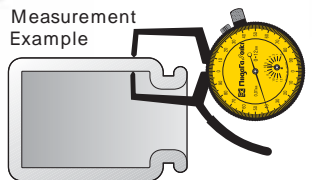
DIAL CALIPER GAUGES (OUTSIDE)



AO TYPE



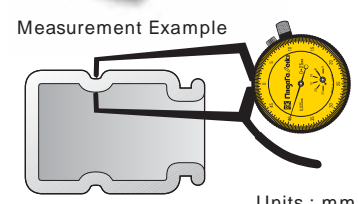
AO-1



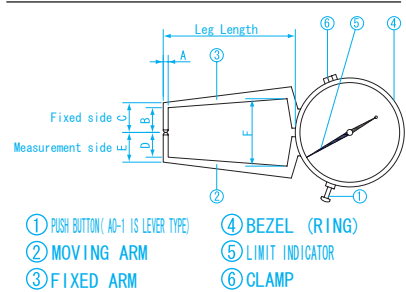
BO TYPE



BO-1



DIMENSIONS



- USE**
Measuring wall thickness and irregular parts
- MATERIAL**
Body : Steel

Units : mm

Model No.	Leg Length	A	B	C	D	E	F
AO-1	40	2.3	11.5	14.5	11.5	14.5	27
AO-2	40	2.3	18.5	20.5	11.5	14.5	45
AO-3	40	2.3	8.5	10.5	11.5	14.5	49
BO-1	80	2.3	8.5	10.5	8.5	10.5	27.5
BO-2	80	2.3	8.5	10.5	8.5	10.5	46.5
BO-3	80	2.3	8.5	10.5	8.5	10.5	55.5

Custom shape product available by special order

Gauge head : 1.6mm ball

Order No.	Model No.	Graduation (mm)	Measuring Range (mm)	Accuracy (mm)
151561	AO-1	0.01	0 ~ 12	±0.05
151562	AO-2	0.01	10 ~ 22	±0.05
151563	AO-3	0.01	20 ~ 32	±0.05
151571	BO-1	0.025	0 ~ 25	±0.05
151572	BO-2	0.025	10 ~ 35	±0.05
151573	BO-3	0.025	20 ~ 45	±0.05

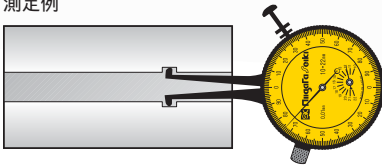
- DIAL GAUGES
- DIAL INDICATORS
- THICKNESS GAUGES
- BORE GAUGES
- CALIPER GAUGES
- HARDNESS-TENSION GAUGE
- MAGNETIC BASE

AI TYPE

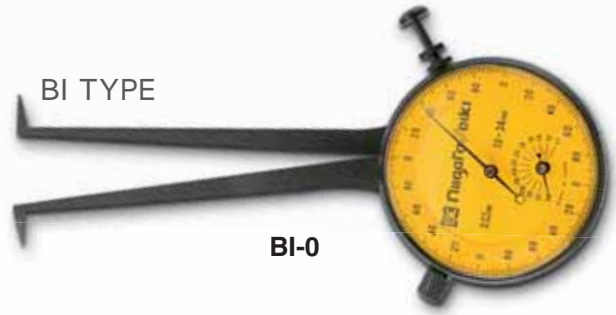


AI-2

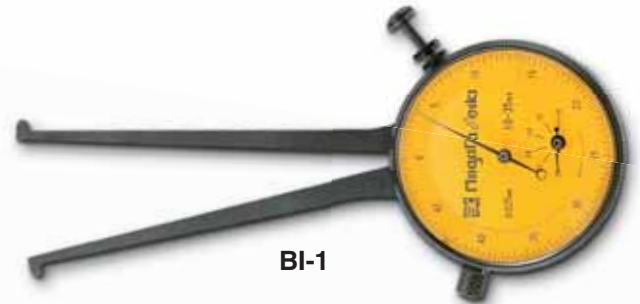
測定例



BI TYPE

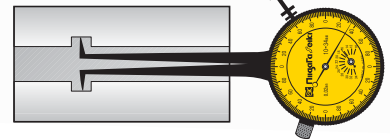


BI-0

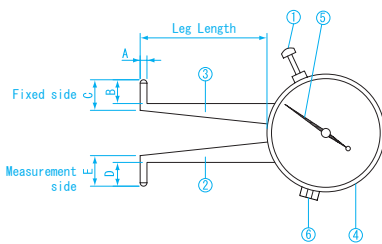


BI-1

Measurement Example



DIMENSIONS



- ① PUSH BUTTON
- ② MOVING ARM
- ③ FIXED ARM
- ④ BEZEL (RING)
- ⑤ LIMIT INDICATOR
- ⑥ CLAMP

Units : mm

Model No.	Leg Length	A	B	C	D	E
AI-0	40	2.3	1.1	2.8	1.1	2.8
AI-1	40	2.3	1.1	2.8	1.1	2.8
AI-2	40	2.3	2.7	4.5	2.3	4.8
AI-3	40	2.3	8	11	4.4	6.7
AI-4	40	2.3	18	21	4.4	6.7
AI-5	40	2.3	28	31	4.4	6.7
BI-0	80	Tip 0.5	7	9	7	9
BI-1	80	2.3	2.6	4.6	2.6	4.6
BI-2	80	2.3	5.1	7.1	4.8	6.8
BI-3	80	2.3	7.5	10	8.6	10.6
BI-4	80	2.3	17.5	20	8.6	10.6
BI-5	80	2.3	27.5	30	8.6	10.6

USE

For measuring bore size

MATERIAL

Body : Steel

Custom shape product available by special order

Order No.	Model No.	Graduation (mm)	Measuring Range (mm)	Accuracy (mm)
151540	AI-0	0.01	3 ~ 9	±0.05
151541	AI-1	0.01	6 ~ 18	±0.05
151542	AI-2	0.01	10 ~ 22	±0.05
151543	AI-3	0.01	20 ~ 32	±0.05
151544	AI-4	0.01	30 ~ 42	±0.05
151545	AI-5	0.01	40 ~ 52	±0.05
151550	BI-0	0.02	10 ~ 34	±0.05
151551	BI-1	0.025	10 ~ 35	±0.05
151552	BI-2	0.025	20 ~ 45	±0.05
151553	BI-3	0.025	30 ~ 55	±0.05
151554	BI-4	0.025	40 ~ 65	±0.05
151555	BI-5	0.025	50 ~ 75	±0.05

DIAL GAUGES

DIAL GAUGES

DIAL INDICATORS

THICKNESS GAUGES

BORE GAUGES

CALIPER GAUGES

HARDNESS-TENSION GAUGE

MAGNETIC BASE

DIGITAL CALIPER GAUGES

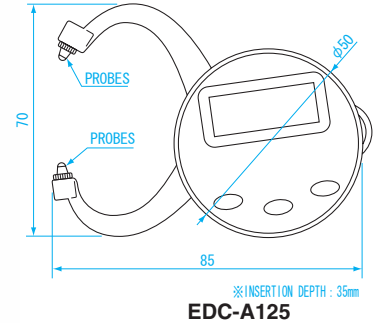


EDC-A125

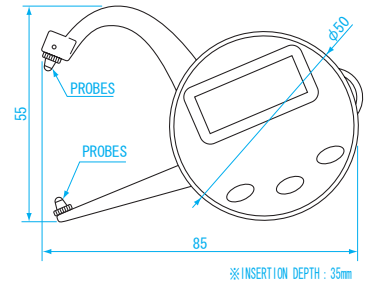
EDC-A225

DIMENSIONS

Units : mm



EDC-A125



EDC-A225

- USE** One touch thickness measurement of tube, casting, etc.
- MATERIAL** Body : Steel, Plastic
- FEATURES** Easy to read digital display
Display hold function,
Auto power off function (after 2 min.)
One CR2032 (Lithium) battery included for testing

Order No.	Model No.	Resolution (mm)	Measuring Range (mm)	Accuracy (mm)	Weight
152051	EDC-A125	0.02	0-25	0.00- 5.00mm: ±0.04 5.02-25.00mm: ±0.08	90g
152052	EDC-A225	0.02	0-25	0.00- 5.00mm: ±0.04 5.02-25.00mm: ±0.08	90g

DIAL GAUGES

DIAL CALIPER GAUGES



DIAL GAUGES

DIAL INDICATORS

THICKNESS GAUGES

BORE GAUGES

CALIPER GAUGES

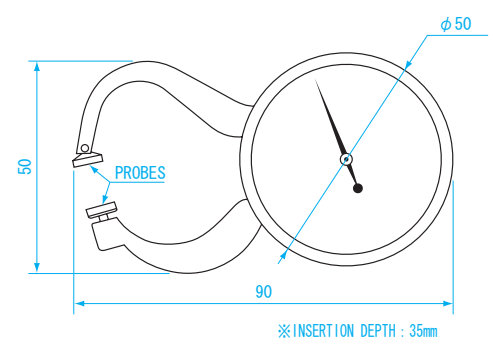
HARDNESS-TENSION GAUGE

MAGNETIC BASE



DIMENSIONS

Units : mm



- USE** Measure thickness of thin material
- MATERIAL** Body : Steel, Silver finish
- FEATURES** Convenient portable size
Flat probe surface for sheet metal thickness measurement

Order No.	Model No.	Graduation (mm)	Measuring Range (mm)	Accuracy (mm)	Weight
151585	DCG-MG1	0.05	0 ~ 10	±0.1	75g



DCG-MA1



DCG-MA2

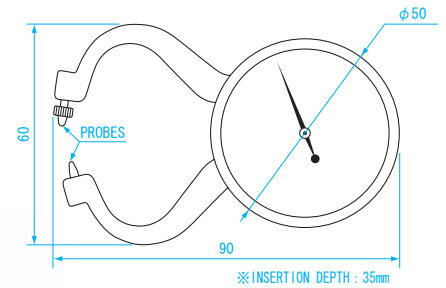
USE Ideal for measuring tube and fitting thickness

MATERIAL
Body : Steel, Silver finish

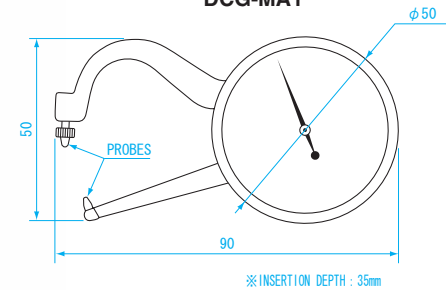
FEATURES
Convenient portable size
Round probe tip for measuring irregular shapes

DIMENSIONS

Units : mm



DCG-MA1



DCG-MA2

Order No.	Model No.	Graduation (mm)	Measuring Range (mm)	Accuracy (mm)	Weight
151581	DCG-MA1	0.05	0 ~ 10	± 0.1	75g
151582	DCG-MA2	0.05	0 ~ 10	± 0.1	75g



DCG-MA115



DCG-MA215

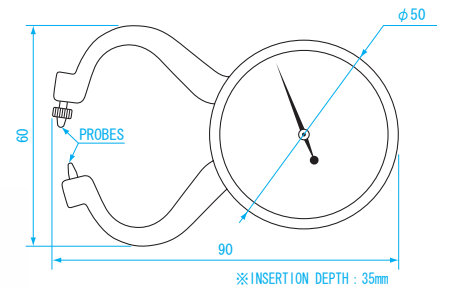
USE Ideal for measuring tube and fitting thickness

MATERIAL
Body : Steel, Silver finish

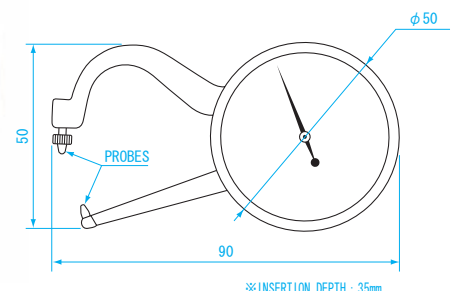
FEATURES
Convenient portable size
Round probe tip for measuring irregular shapes

DIMENSIONS

Units : mm



DCG-MA115



DCG-MA215

Order No.	Model No.	Graduation (mm)	Measuring Range (mm)	Accuracy (mm)	Weight
151575	DCG-MA115	0.05	0 ~ 15	± 0.1	75g
151576	DCG-MA215	0.05	0 ~ 15	± 0.1	75g

DUROMETER



New product! Measure hardness of rubber or plastic. Conforms to JIS, ISO standards



ADM-A



USE Checking the hardness of a material such as rubber or plastic

MATERIAL
Body: aluminum
Presser foot: HM35 (SKH55) tool steel

FEATURES
Presser foot geometry and spring force in compliance with the following standards: ISO 7619(E) 『Rubber-Determination of indentation hardness by means of pocket hardness meters』

ACCESSORIES
Block to check wear (ADM-A, ADM-D)

Model No.	ADM-A	ADM-D	ADM-E
Hardness Range	A20 ~ A90	Greater than A90	Less than A20
Material for test	Rubber, Soft plastic, Tires, Medium elastomers	Hard Rubber, Plastic, Ebonite rubber, High hardness elastomers	Soft rubber, Eraser, Roll film, Low hardness elastomers
Specimen thickness	6.0mm or greater	6.0mm or greater	10.0mm or greater
Display accuracy	± 1 Gradation		

Order No.	Model No.	Weight
151721	ADM-A	160g
151722	ADM-D	160g
151723	ADM-E	170g

DUROMETER STAND



Stand to provide stable measurements for durometer testing



DMS-D



USE Stand for holding durometer

MATERIAL
Stem, Weight : Iron
Base: Cast iron

FEATURES
When durometer is attached, provides constant pressure for consistent measurements.

Order No.	Model No.	Applicable durometer	Weight
151713	DMS-AE	ADM-A ADM-E	5.5kg
151714	DMS-D	ADM-D	9.5kg

New product! Portable hardness tester for measuring hardness of metals



LHT-300D



USE Measuring hardness of metal

MATERIAL Body: ABS

FEATURES

Suitable for general metal hardness testing. Excellent for high high volume use.
 Can be converted to display in any of 6 hardness scales - HRC, HV, HL, HRB, HS, HB
 Average can be automatically calculated for between 2 to 8 measurements.
 Includes software for recording measured values to PC
 DL stylus for measuring hardness in narrow spaces such as the bottom of groove in a large gear. (LHT-300DL)

SPECIFICATIONS

Material for test : Steel · Cast steel · Alloy tool steel · Stainless steel · High temperature steel
 · Cast iron · Ductile iron · Aluminum alloy · Brass · Bronze · Copper

ACCESSORIES

Master block AC adapter USB cable Dedicated software
 DL Stylus (LHT-300DL only)

Order No.	Model No.	Measuring Range	Resolution	Accuracy	Weight
New 151751	LHT-300D	Minimum 174 to maximum 900HL	0.1	± 1.2%	120g
New 151752	LHT-300DL	Minimum 174 to maximum 900HL	0.1	± 1.2%	120g

For D gauge head, HL units within range. Unit of measure varies depending on material to be measured.

DIAL TENSION GAUGE

New product! Measures the spring force to press button



DITG-50P



Measuring head



USE Button pressing force, spring tension

MATERIAL

Main body : ABS
 Measuring element : steel

FEATURES

Max indication needle for easily recording the maximum value required for button press.

Order No.	Model No.	Range (N)	Resolution (N)	Accuracy	Weight
New 151534	DITG-30P	0.03 ~ 0.30	0.01	less than ± 1.5	60g
New 151535	DITG-50P	0.06 ~ 0.50	0.02	less than ± 1.5	60g
New 151536	DITG-100P	0.10 ~ 1.00	0.05	less than ± 1.5	60g
New 151537	DITG-150P	0.15 ~ 1.50	0.05	less than ± 1.5	60g
New 151538	DITG-300P	0.30 ~ 3.00	0.10	less than ± 1.5	60g
New 151539	DITG-500P	0.60 ~ 5.00	0.20	less than ± 1.5	60g

MAGNETIC BASE

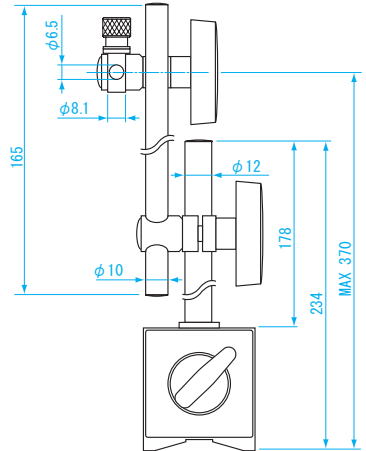


Standard type



DIMENSIONS

Units : mm



- USE** Measurements that require a dial gauge or dial indicator to be held in fixed position
- MATERIAL**
Ferrite magnet
- FEATURES**
Standard type
Removable, with ON/ OFF lever operation
Magnetic adsorption : approx. 800N (180 lb)
Stem holder : 6mm · 8mm
Main post screw : M8 x P1.25

P262 Magnet Types and Characteristics

Order No.	Model No.	Base Dimension (mm)	Surface magnetic flux density (mT)	Weight
012870	SB-6C	50 x 60 x 55	Max100	1.5kg

MAGNETIC BASE

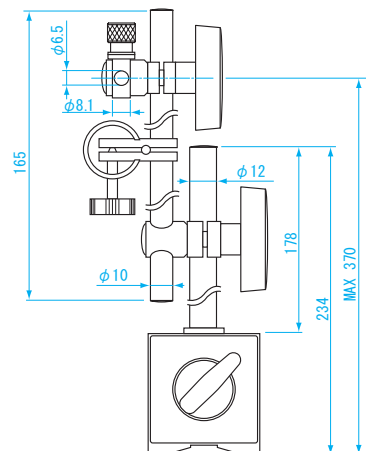


Fine Adjustment type



DIMENSIONS

Units : mm



- USE** Measurements that require a dial gauge or dial indicator to be held in fixed position
- MATERIAL**
Ferrite magnet
- FEATURES**
With fine adjustment (2mm adj. range)
Removable, with ON/ OFF magnet operation
Magnetic force : approx. 800N (180 lb)
Stem holder : 6mm · 8mm
Main post screw : M8 x P1.25

P262 Magnet Types and Characteristics

Order No.	Model No.	Base Dimension (mm)	Surface magnetic flux density (mT)	Weight
012871	SB-6B	50 x 60 x 55	Max100	1.5kg

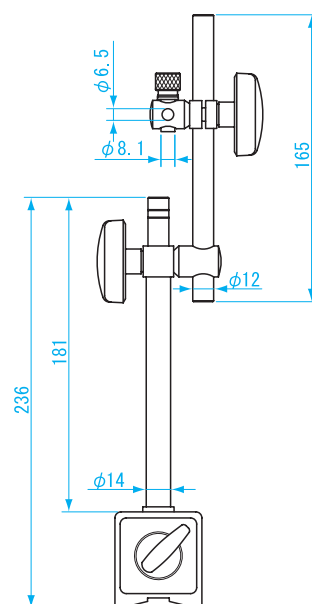


MAGNETIC BASE

Thick Main Post type



DIMENSIONS Units : mm



P262 Magnet Types and Characteristics

- USE** Measurements that require a dial gauge or dial indicator to be held in fixed position
- MATERIAL** Ferrite magnet
- FEATURES**
 - Thick main post type
 - Removable, with ON/ OFF magnet operation
 - Magnetic force : approx. 800N (180 lb)
 - Stem holder : 6mm · 8mm
 - Main post screw : M8 × P1.25

Order No.	Model No.	Base Dimension (mm)	Surface magnetic flux density (mT)	Weight
012873	SB-80P	50×60×55	Max100	1.5kg

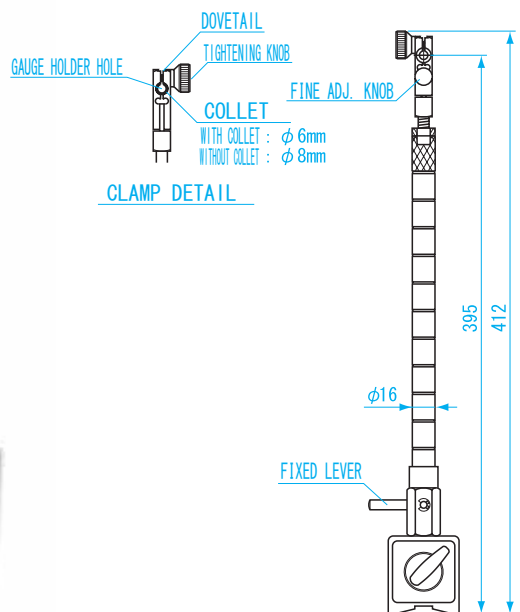


MAGNETIC BASE

Flexible type



DIMENSIONS Units : mm



P262 Magnet Types and Characteristics

- USE** Measurements that require a dial gauge or dial indicator to be held in fixed position
- MATERIAL** Ferrite magnet
- FEATURES**
 - Flexible shaft for quick and easy positioning.
 - One touch lever to fix position securely
 - Removable, with ON/OFF magnet operation
 - Magnetic Force : approx. 800N (180 lb)
 - Stem holder : 6mm · 8mm
 - With dovetail mount
 - Main post screw : M8 × P1.25

Order No.	Model No.	Base Dimension (mm)	Surface magnetic flux density (mT)	Weight
012874	SB-80F	50×60×55	Max100	1.3kg

MAGNETIC BASE

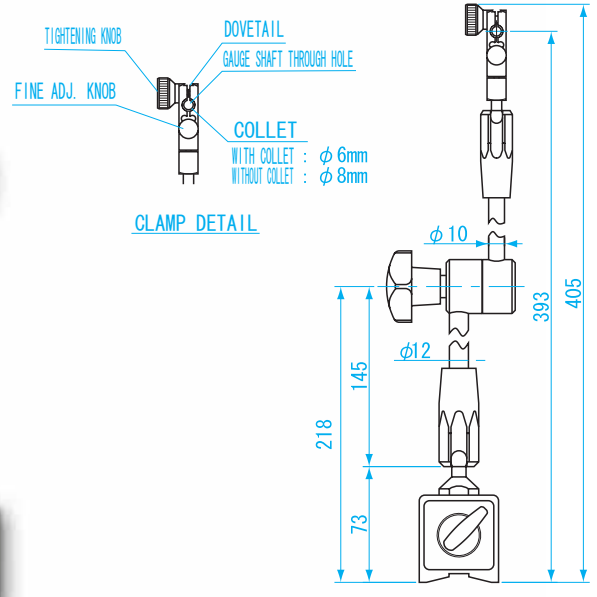


Locking type



DIMENSIONS

Units : mm



- USE** Measurements that require a dial gauge or dial indicator to be held in fixed position
- MATERIAL** Ferrite magnet
- FEATURES**
 - Mechanical lock knob tightens all joints with a single operation
 - Removable, with ON/OFF magnet operation
 - Magnetic force : approx. 1000N (225 lb)
 - Stem holder : 6mm · 8mm
 - With dovetail mount
 - Main post screw : M8 × P1.25

P262 Magnet Types and Characteristics

Order No.	Model No.	Base Dimension (mm)	Surface magnetic flux density (mT)	Weight
012875	SB-100G	50 × 75 × 55	Max100	1.7kg

MAGNETIC BASE MINI TYPE

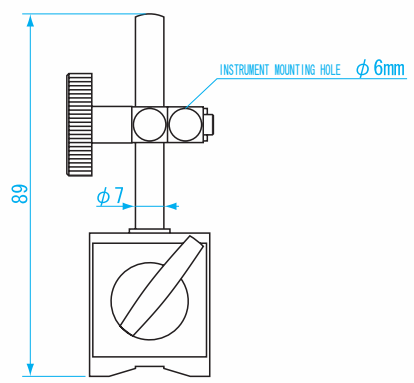


Mini type



DIMENSIONS

Units : mm



- USE** Measurements that require a dial indicator to be held in fixed position
- MATERIAL** Ferrite magnet
- FEATURES**
 - Compact size
 - Removable, with ON/ OFF magnet operation
 - Magnetic force : approx. 250N (55 lb)
 - Stem holder : 6mm
 - Main post screw : M5 × P0.8

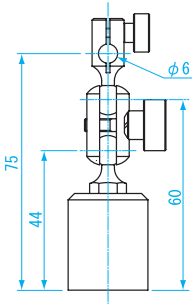
P262 Magnet Types and Characteristics

Order No.	Model No.	Base Dimension (mm)	Surface magnetic flux density (mT)	Weight
012872	SB-25M	30 × 35 × 35	Max100	270g

MINI MAGNETIC BASE

Mini type

DIMENSIONS Units : mm



USE Measurements that require a dial indicator to be held in fixed position

MATERIAL Alnico magnet

FEATURES

- Excellent holding force using high power alnico magnet
- Fixed type
- Magnetic force : approx. 80N (18 lb)
- Stem holder : 6mm
- Main post screw : M5 x P0.8

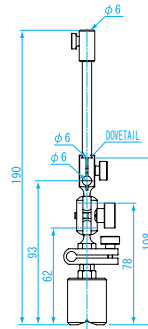
P262 Magnet Types and Characteristics

Order No.	Model No.	Base Dimension (mm)	Surface magnetic flux density (mT)	Weight
012700	B-2	25 x 30	Max50	160g

MINI MAGNETIC BASE

Mini/ Fine Adjustment type

DIMENSIONS Units : mm



USE Measurements that require a dial indicator to be held in fixed position

MATERIAL Alnico magnet

FEATURES

- Excellent holding force using high power alnico magnet
- 90mm arm
- With fine adjustment (0.5mm adj. range)
- Magnetic Force : approx. 65N (15 lb)
- Stem holder : 6mm
- With dovetail mount
- Main post screw : M5 x P0.8

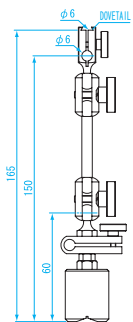
P262 Magnet Types and Characteristics

Order No.	Model No.	Base Dimension (mm)	Surface magnetic flux density (mT)	Weight
012701	B-3	25 x 25 x 25	Max50	230g

MINI MAGNETIC BASE

Mini / Fine Adjustment/ Long type

DIMENSIONS Units : mm



USE Measurements that require a dial indicator to be held in fixed position

MATERIAL Alnico magnet

FEATURES

- Excellent holding force using high power alnico magnet
- Two joints, with long arm
- With fine adjustment (0.5mm adj. range)
- Magnetic force : approx. 85N (20 lb)
- Stem holder : 6mm
- With dovetail mount
- Main post screw : M5 x P0.8

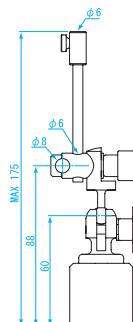
P262 Magnet Types and Characteristics

Order No.	Model No.	Base Dimension (mm)	Surface magnetic flux density (mT)	Weight
012702	B-4	25 x 25 x 30	Max50	280g

MINI MAGNETIC BASE

Universal/ Mini type

DIMENSIONS Units : mm



P262 Magnet Types and Characteristics

USE Measurements that require a dial indicator to be held in fixed position

MATERIAL Samarium Cobalt (Sm-Co) magnet

FEATURES

- Strong holding force using samarium cobalt magnet
- Universal joint can be set to any angle
- Locking knob for easy tightening
- Magnetic force : approx. 200N (45 lb)
- Stem holder : 6mm · 8mm
- With clamp for mounting dial gauge
- Main post screw : M5 x P0.8

Order No.	Model No.	Base Dimension (mm)	Surface magnetic flux density (mT)	Weight
012703	B-5	35 x 32	Max90	270g

DIAL GAUGES

DIAL GAUGES

DIAL INDICATORS

THICKNESS GAUGES

BORE GAUGES

CALIPER GAUGES

HARDNESS-TENSION GAUGE

MAGNETIC BASE

MINI MAGNETIC BASE

Universal/ Mini/ Fine Adjustment type

USE Measurements that require a dial indicator to be held in fixed position

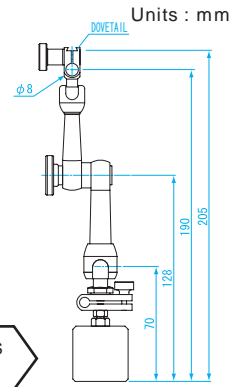
MATERIAL
Samarium Cobalt (Sm-Co) magnet

FEATURES
 Strong holding force using samarium cobalt magnet
 Universal joint can be set to any angle
 Locking knob for easy tightening
 With fine adjustment (0.5mm adj. range)
 Magnetic force : approx. 200N (45 lb)
 Stem holder : 8mm
 With dovetail mount
 Main post screw : M5 x P0.8



P262 Magnet Types and Characteristics

DIMENSIONS



Order No.	Model No.	Base Dimension (mm)	Surface magnetic flux density (mT)	Weight
012704	MB-6	35 x 32	Max90	510g

MINI MAGNETIC BASE

Small/ Lock type

USE Measurements that require a dial indicator to be held in fixed position

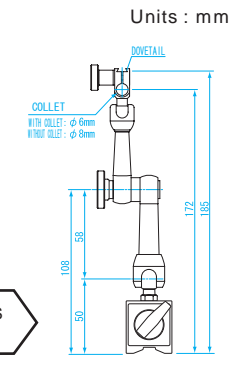
MATERIAL
Ferrite magnet

FEATURES
 Mechanical lock knob tightens all three joints with a single operation
 Removable, with ON/ OFF magnet operation
 Magnetic force : approx. 250N (55 lb)
 Stem holder : 6mm · 8mm
 With dovetail mount
 Main post screw : M5 x P0.8



P262 Magnet Types and Characteristics

DIMENSIONS



Order No.	Model No.	Base Dimension (mm)	Surface magnetic flux density (mT)	Weight
012705	MB-7	30 x 35 x 35	Max100	550g

VACUUM CLAMPING BASE

USE For mounting dial indicator

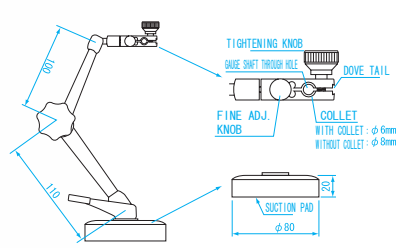
MATERIAL
 Main body : Aluminum
 Suction cup : Rubber

FEATURES
 Suction cup for fixing to non-magnetic surface such as granite surface plate

SPECIFICATIONS
 Holding force : approx. 200N (45 lb)
 Stem holder : 6, 8 (with dovetail groove)
 Shaft diameter : M8



DIMENSIONS



Order No.	Model No.	Base Dimension (mm)	Weight
011755	VB-20	80 x 20	550g



96p



97p



97p



97p



98p



98p



99p



99p



99p



99p



100p

STANDARDS



100p



100p



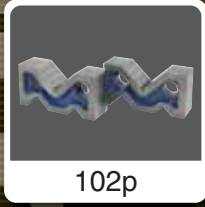
101p



101p



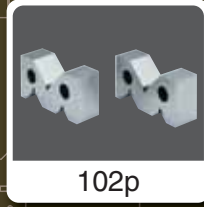
102p



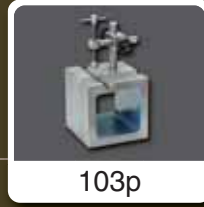
102p



102p



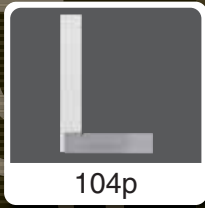
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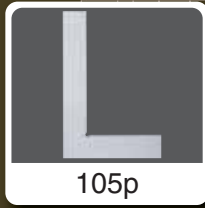
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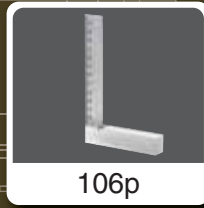
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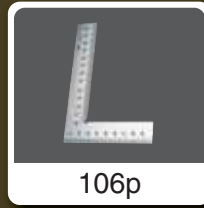
104p



105p



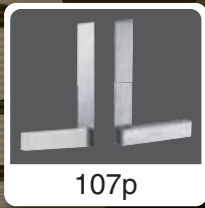
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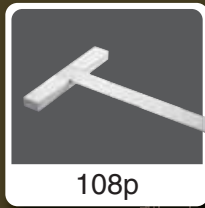
106p



107p



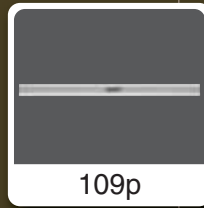
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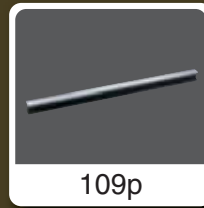
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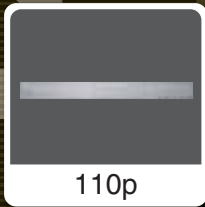
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109p



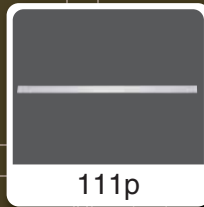
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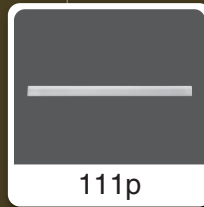
110p



110p



111p



111p



112p

GRANITE

CAST IRON
SURFACE
PLATE

PARALLEL
BLOCK

V BLOCK

SQUARE

STRAIGHT
EDGE

PARALLEL
CLAMPS



GRANITE SURFACE PLATE · STEEL STAND

GRANITE SURFACE PLATE



USE Measurement of flatness, parallelism and squareness
For tooling set up, precision inspection etc.

MATERIAL
Granite

FEATURES
Granite is abrasion resistant and unlike cast iron, granite does not rust or deteriorate with time

Order No.	Model No.	W x D x H (mm)	Flatness (μm)	Weight
151102	G1520	150 x 200 x 50	3	4.5kg
151103	G2020	200 x 200 x 50	3	5.5kg
151104	G2525	250 x 250 x 70	3	12 kg
151001	G3030	300 x 300 x 100	3	30 kg
151002	G3045	300 x 450 x 100	3	38 kg
151007	G5050	500 x 500 x 100	4	65 kg
151003	G4560	450 x 600 x 100	4	70 kg
151008	G5075	500 x 750 x 130	5	136 kg
151004	G6060	600 x 600 x 130	5	130 kg
151005	G75100	750 x 1000 x 150	7	318 kg
151006	G10100	1000 x 1000 x 150	8	425 kg
151000	G10150	1000 x 1500 x 200	9	870 kg
151105	G10200	1000 x 2000 x 200	12	1150 kg

GRANITE SURFACE PLATE STEEL STAND

USE Steel stand for granite surface plate

MATERIAL Angle steel

FEATURES Heavy duty bolted steel construction
Leveling bolts for horizontal adjustment
Silver painted frame

Order No.	Model No.	Applicable Surface Plate Size (mm)	W x D x H (mm)	Weight
151009	GT-5050	500 x 500	380 x 380 x 775 ~ 800	31k9
151010	GT-4560	450 x 600	350 x 400 x 775 ~ 800	31k9
151019	GT-5075	500 x 750	380 x 515 x 775 ~ 800	45k9
151018	GT-6060	600 x 600	420 x 440 x 775 ~ 800	35k9
151017	GT-75100	750 x 1000	530 x 660 x 775 ~ 800	60k9
151020	GT-10100	1000 x 1000	640 x 700 x 675 ~ 700	76k9
151101	GT-10150	1000 x 1500	700 x 940 x 675 ~ 700	116k9

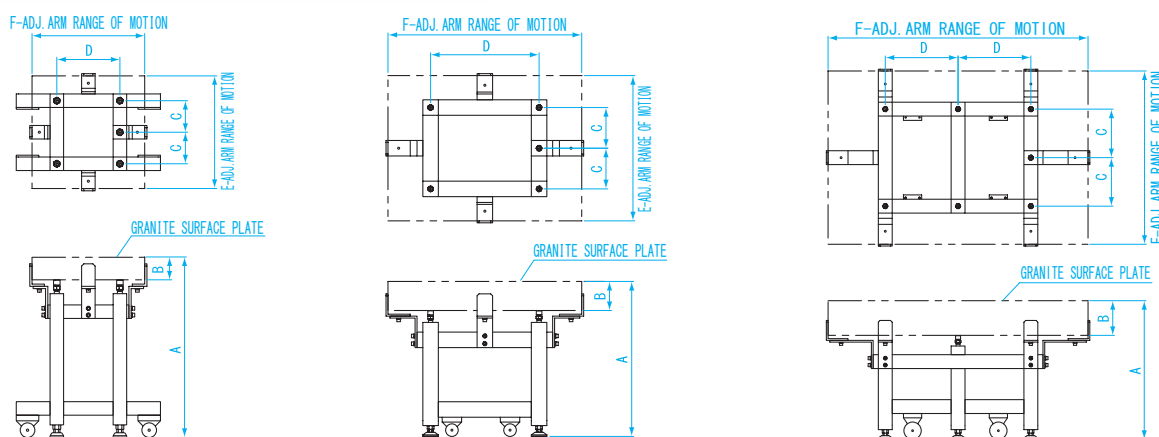
GRANITE SURFACE PLATE STAND with side stop arms


GT-5050W

GT-75100W

GT-10150W

DIMENSIONS



Units : mm

DIMENSIONS	Model No.	A	B	C	D	E	F
	GT-5050W	Approx. 800 ~ 850	100	140	280	485 ~ 515	485 ~ 515
	GT-4560W	Approx. 800 ~ 850	100	126	336	440 ~ 465	590 ~ 615
	GT-6060W	Approx. 800 ~ 850	130	168	336	590 ~ 615	590 ~ 615
	GT-5075W	Approx. 800 ~ 850	130	140	420	485 ~ 515	735 ~ 765
	GT-75100W	Approx. 800 ~ 850	150	210	560	730 ~ 770	980 ~ 1020
	GT-10100W	Approx. 800 ~ 850	150	280	560	980 ~ 1040	980 ~ 1040
	GT-10150W	Approx. 800 ~ 850	200	280	420	980 ~ 1040	1480 ~ 1540
	GT-10200W	Approx. 800 ~ 850	200	280	560	980 ~ 1040	1980 ~ 2040

USE

Designed to fit SK granite surface plate

MATERIAL

Square tubular machine grade steel

FEATURES

Leveling bolts for horizontal adjustment

Side stop arms

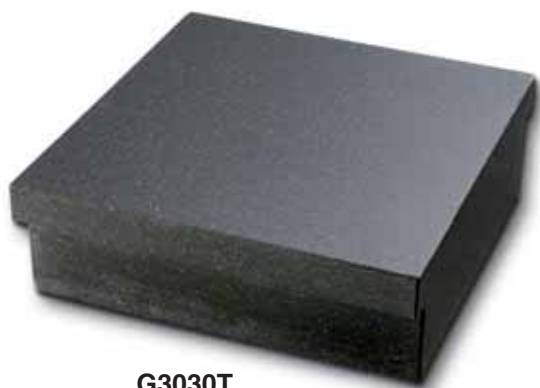
Casters for easy movement

Gray painted finish

Order No.	Model No.	Surface Plate Size (mm)	Weight
151160	GT-5050W	500 x 500 x 100	61kg
151161	GT-4560W	450 x 600 x 100	63kg
151162	GT-6060W	600 x 600 x 130	69kg
151163	GT-5075W	500 x 750 x 130	67kg
151164	GT-75100W	750 x 1000 x 150	84kg
151165	GT-10100W	1000 x 1000 x 150	100kg
151166	GT-10150W	1000 x 1500 x 200	153kg
151167	GT-10200W	1000 x 2000 x 200	160kg



GRANITE SURFACE PLATE T TYPE

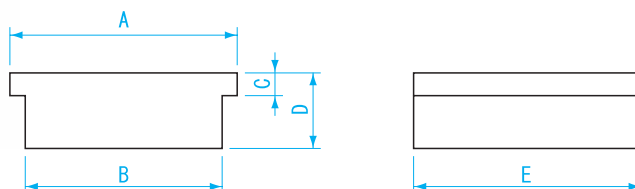


G3030T



T-shape for easy lifting

DIMENSIONS



Units : mm

Model No.	A	B	C	D	E
G3030T	300	260	30	100	300
G3045T	450	410	30	100	300

USE Measurement of flatness, parallelism and squareness
For tooling set up, precision inspection, etc.

MATERIAL

Granite

FEATURES

Convenient to lift and move

Granite is abrasion resistant and unlike cast iron, granite does not rust or deteriorate with time

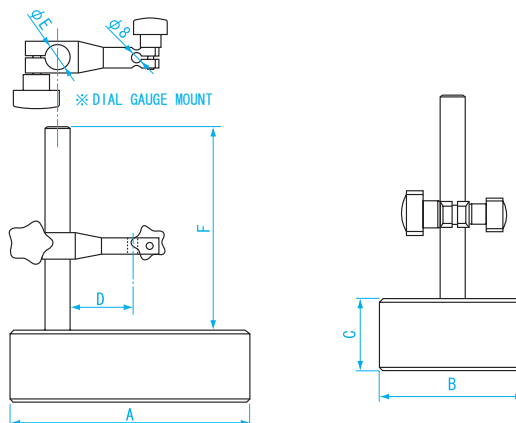
Order No.	Model No.	W x D x H (mm)	Flatness (μm)	Weight
150710	G3030T	300 x 300 x 100	3.5	22kg
150711	G3045T	300 x 450 x 100	4.5	40kg

GRANITE COMPARATOR STAND



GC-150

DIMENSIONS



Units : mm

Model No.	A	B	C	D	E	F
GC-150	150	100	40	45	18	150
GC-200	200	150	50	65	30	300

USE Provides flat surface for dial indicator measurements

MATERIAL

Granite

FEATURES

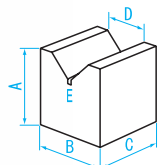
Granite is abrasion resistant. Unlike cast iron, granite does not rust or deteriorate with time

Order No.	Model No.	Measuring Range (mm)	Flatness(base) (μm)	Dial Indicator Mounting hole (mm)	Weight
150971	GC-150	0 ~ 100	2	8	2.5kg
150972	GC-200	0 ~ 250	2	8	7.5kg

GRANITE V BLOCK



DIMENSIONS



GV-75

Units : mm

Model No.	A	B	C	D	E
GV-50	50	50	50	40	Approx. 4
GV-75	75	75	75	50	Approx. 4
GV-100	100	100	100	63	Approx. 6
GV-150	150	150	150	110	Approx. 8

reference value

USE Tools for precise holding of round parts

MATERIAL
Granite

FEATURES
Granite is abrasion resistant. Unlike cast iron, granite does not rust or deteriorate with time
2 PCS(matched pair)

Order No.	Model No.	Nominal size (mm)	Squareness Parallelism	Weight
150961	GV-50	50	5 μm / 100mm	430g
150962	GV-75	75	5 μm / 100mm	1.2kg
150963	GV-100	100	5 μm / 100mm	2.5kg
150964	GV-150	150	5 μm / 100mm	8.6kg

GRANITE STRAIGHT EDGE



GS-750

USE For inspecting flatness of standards

MATERIAL
Granite

FEATURES
Granite is abrasion resistant. Unlike cast iron, granite does not rust or deteriorate with time

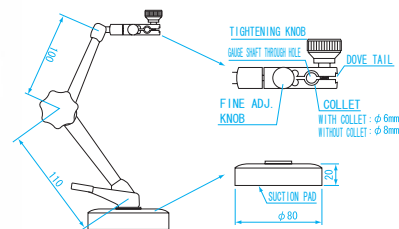
Order No.	Model No.	Nominal Size (mm)	Straightness (μm)	Parallelism (μm)	Weight
150951	GS-750	750	3	5	12kg
150952	GS-1000	1000	4	6	25kg

VACUUM CLAMPING BASE



DIMENSIONS

Units : mm



USE For mounting dial indicator

MATERIAL
Main body : Aluminum
Suction cup : Rubber

FEATURES
Suction cup for fixing to non-magnetic surface such as granite surface plate

SPECIFICATIONS
Holding force : approx. 200N (45 lb)
Stem holder : 6, 8 (with dovetail groove)
Shaft diameter : M8

Order No.	Model No.	Base dimension (mm)	Weight
011755	VB-20	80 × 20	550g

GRANITE PARALLEL BLOCK



GP-150

USE For parallel unit

MATERIAL
Granite

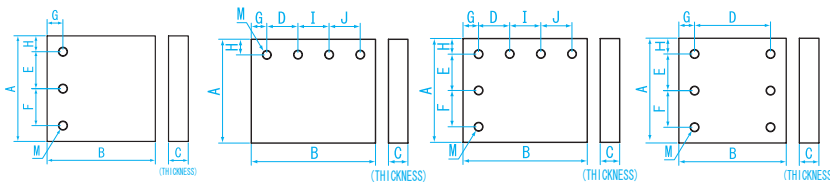
FEATURES
Granite is abrasion resistant. Unlike cast iron, granite does not rust or deteriorate with time
Precision surface on four sides
2 PCS(matched pair)

Order No.	Model No.	Nominal Size (mm)	Squareness/Parallelism (μm)	Weight
150965	GP-150	150	1.5	520g
150966	GP-200	200	2	1kg
150967	GP-300	300	3	3.5kg



3030I-6

DIMENSIONS



Units : mm

DIMENSIONS	Model No.	A	B	C	D	E	F	G	H	I	J	M
	2020I-3	200	200	30	-	70	70	30	30	-	-	M6 x P1.0 (D)12mm
	2020I-6	200	200	30	140	70	70	30	30	-	-	M6 x P1.0 (D)12mm
	2025I-4	200	250	40	60	-	-	30	30	60	60	M6 x P1.0 (D)12mm
	2025L-6	200	250	40	60	70	70	30	30	60	60	M6 x P1.0 (D)12mm
	2530I-4	250	300	40	80	-	-	30	30	80	80	M6 x P1.0 (D)12mm
	2530L-6	250	300	40	80	95	95	30	30	80	80	M6 x P1.0 (D)12mm
	3030I-3	300	300	40	-	120	120	30	30	-	-	M6 x P1.0 (D)12mm
	3030I-6	300	300	40	240	120	120	30	30	-	-	M6 x P1.0 (D)12mm

USE Sample can be clamped to surface for inspection

MATERIAL
Granite

FEATURES
Threaded holes in the surface of the plate. High hardness and superior abrasion resistance. Resist water deterioration and corrosion with time

Order No.	Model No.	W x D x H (mm)	Flatness (μm)	Weight
151170	2020I-3	200 x 200 x 30	5	4kg
151171	2020I-6	200 x 200 x 30	5	4kg
151172	2025I-4	200 x 250 x 40	5	6kg
151173	2025L-6	200 x 250 x 40	5	6kg
151174	2530I-4	250 x 300 x 40	5	9kg
151175	2530L-6	250 x 300 x 40	5	9kg
151176	3030I-3	300 x 300 x 40	5	11kg
151177	3030I-6	300 x 300 x 40	5	11kg

SPRAY CLEANER

GRANITE

CAST IRON SURFACE PLATE

PARALLEL BLOCK

V BLOCK

SQUARE

STRAIGHT EDGE

PARALLEL CLAMPS

USE
For cleaning the surface of granite plate

INGREDIENTS
Straight-chain sodium alkyl benzene sulfonate, Polyoxyethylene alkylether, Fatty acid alkanolamide, Chelator

FEATURES
Removes dirt and grease without damaging stone surface
Oderless, and hand friendly
Nonflammable

SPECIFICATIONS
pH : Neutral (ph7.0 ± 1.0)
Estimated usage : 8 squirts per 1m²
Dimensions : (H)197 x (W)90 x (T)50mm



Order No.	Model No.	Content
151107	GSC-320	320g

GRANITE PLATE CLEANING PASTE

USE
Cleans and lubricates surface of granite plate

INGREDIENTS
Flux calcined diatomaceous earth, Surfactants: 4% (Fatty acid salt), Silicone oil

FEATURES
Makes the granite plate shine for improved sliding on surface
Reduces wear on the granite surface from gauges during measurement

SPECIFICATIONS
Liquid component : High viscosity silicone oil (ph9.0 ± 1.0)
Estimated usage : 5g per 1m²
Dimensions : (H)145 x (W)65 x (T)45mm



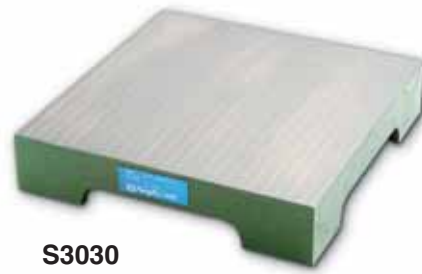
Order No.	Model No.	Content
151106	GW-200	200g



USE For tooling set up, precision inspection etc.

MATERIAL
Cast iron

FEATURES
Planer standard for hand scraping operation



S3030

Order No.	Model No.	W × D × H (mm)	Flatness (μm)	Weight
150996	S2030	300×200× 50	35	10kg
151011	S3030	300×300× 60	38	18kg
150997	S3040	300×400× 60	43	23kg
151012	S3045	300×450× 60	46	30kg
151013	S5050	500×500× 75	57	55kg
151014	S4560	600×450×100	60	75kg
151015	S6060	600×600×100	66	82kg
151016	S6090	900×600×100	82	120kg

STEEL PARALLEL BLOCKS

USE Parallels are used to maintain parallelism and straightness as well as machine set-up.

Indispensable for inspection and layout work or for miscellaneous setup work in grinding, marking, drilling and milling, in addition to protecting machinery from blade damage

MATERIAL
Machine grade carbon steel

FEATURES
Completely heat treated and accurately ground on all faces
2 PCS(matched pair)
Parallelism/ Straightness accuracy : 5 μm
Hardness:HV5 10 ~ 590



Model No.	Dimension (mm)	Weight
P-1	6 × 10 × 150	140g
P-2	6 × 15 × 150	200g
P-3	6 × 20 × 150	300g
P-4	10 × 15 × 150	400g
P-5	10 × 20 × 150	500g
P-6	15 × 20 × 150	720g
P-7	15 × 25 × 150	900g
P-8	15 × 20 × 230	550g
P-9	15 × 25 × 230	700g
P-10	20 × 25 × 230	900g
P-11	20 × 35 × 230	1.3kg
P-12	20 × 25 × 300	1.2kg
P-13	20 × 30 × 300	1.4kg
P-14	25 × 30 × 300	1.8kg
P-15	25 × 40 × 300	2.4kg
P-16	25 × 50 × 300	3kg
P-17	30 × 40 × 300	2.9kg
P-18	30 × 50 × 300	3.6kg
P-19	40 × 50 × 300	4.8kg
P-20	40 × 75 × 300	7.1kg



CAST IRON V BLOCK - A type · B type



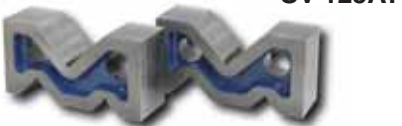
STANDARDS

05

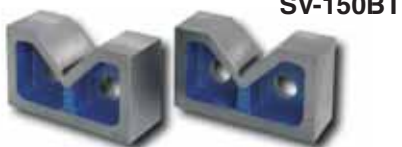
2 piece set. Tool for precise holding of round parts during measurement and production.



SV-100AT

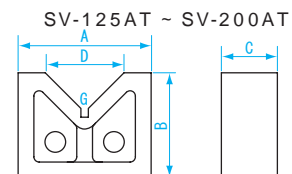
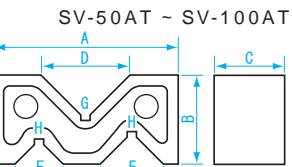
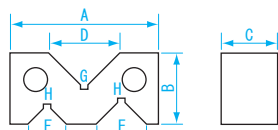


SV-125AT



SV-150BT

DIMENSIONS



Units : mm

Model No.	A	B	C	D	E	F	G*	H*
SV-50AT	50	24	20	23	17	13	4	2
SV-75AT	75	35	24	37	24	16	4	2
SV-100AT	100	52	33	52	32	22	4	4
SV-125AT	125	69	44	63	37	26	5	3
SV-150AT	150	80	50	74	45	30	5	4
SV-200AT	200	110	70	100	60	40	5	4
SV-75BT	75	53	30	34	-	-	2	-
SV-100BT	100	60	38	48	-	-	5	-
SV-125BT	125	79	46	58	-	-	5	-
SV-150BT	150	88	57	80	-	-	5	-
SV-200BT	200	140	85	114	-	-	5	-

Reference value

- USE** Tool for precise holding of round parts
- MATERIAL** Cast iron
- FEATURES** Machine finish
2 pcs (matched pair)

Order No.	Model No.	Type	Nominal Size (mm)	Pair groove height tolerance (mm)	Weight
NEW 150975	SV-50AT	A type	50	0.05	300g
NEW 150976	SV-75AT	A type	75	0.05	600g
NEW 150977	SV-100AT	A type	100	0.05	1.8kg
NEW 150978	SV-125AT	A type	125	0.06	3.4kg
NEW 150979	SV-150AT	A type	150	0.06	5.4kg
NEW 150980	SV-200AT	A type	200	0.07	12.5kg
NEW 150956	SV-75BT	B type	75	0.05	1.1kg
NEW 150957	SV-100BT	B type	100	0.05	1.8kg
NEW 150958	SV-125BT	B type	125	0.06	3.6kg
NEW 150959	SV-150BT	B type	150	0.06	5.8kg
NEW 150960	SV-200BT	B type	200	0.07	16.2kg

STANDARDS

CAST IRON V BLOCK -Ground Finish-



GRANITE

CAST IRON SURFACE PLATE

PARALLEL BLOCK

V BLOCK

SQUARE

STRAIGHT EDGE

PARALLEL CLAMPS



- USE** Tool for precise holding of round parts
- MATERIAL** Cast iron
- FEATURES** Ground finish
2 pcs (matched pair)
Compliant with JIS grade 2

SPECIFICATIONS

V groove squareness : 20 μ m (SVG-50, 75)
30 μ m (SVG-100 ~ 200)
Squareness of parallel sides: 20 μ m (SVG-50, 75)
30 μ m (SVG-100 ~ 200)

Refer to Cast Iron V Block A type (SV-**AT) for dimensions

Order No.	Model No.	Type	Nominal Size (mm)	Weight
NEW 150681	SVG-50	A type	50	300g
NEW 150682	SVG-75	A type	75	600g
NEW 150683	SVG-100	A type	100	1.8kg
NEW 150684	SVG-125	A type	125	3.4kg
NEW 150685	SVG-150	A type	150	5.4kg
NEW 150686	SVG-200	A type	200	12.5kg

Allows clamping of workpiece for processing or measurement



SBV-150T

- USE** Allows clamping of workpiece for marking, processing or measurement
- MATERIAL** Cast iron
- FEATURES** Machine finish with clamp
- SPECIFICATIONS** V groove(dovetail) angle : 90 °

Order No.	Model No.	Nominal Size (mm)	Groove height squareness / parallelism / perpendicularity (mm)	Length (mm)	Width (mm)	Height (mm)	Thickness (mm)	Weight
NEW 150987	SBV-100T	100	0.05	100	100	100	13	3.7kg
NEW 150988	SBV-125T	125	0.06	125	125	125	16	6.7kg
NEW 150989	SBV-150T	150	0.06	150	150	150	18	12.2kg
NEW 150990	SBV-200T	200	0.07	200	200	200	25	28.1kg

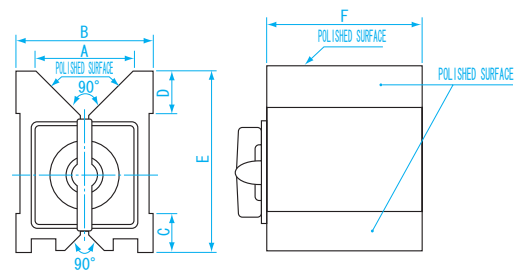
accuracy specified above is not guaranteed for open side

V BLOCK WITH MAGNET



MV-80

DIMENSIONS



Units : mm

Model No.	A	B	C	D	E	F
MV-80	50	70	20	22	95	80
MV-100	50	70	20	22	95	100
MV-120	50	70	20	22	95	120

- USE** Use as a jig to hold cylindrical workpieces for measuring or marking
- MATERIALS** Cast iron/ Ground finish
- FEATURES** Right angle/ Parallelism: 0.025mm/100mm
The magnet can be turned ON/OFF by lever operation

Order No.	Model No.	H x W x D (mm)	Magnetic Power N / (lb)	Weight
151191	MV-80	95x70x 80	140 (30)	3.3kg
151192	MV-100	95x70x100	180 (40)	4.1kg
151193	MV-120	95x70x120	200 (45)	4.9kg

Magnetic power when used with 20mm cylindrical workpiece



STEEL SQUARE (AA TYPE)

FIRST GRADE(Hardened)

USE Measurement of squareness

MATERIAL

Machine grade carbon steel
Hardness: Over HV450

FEATURES

Dimension/ accuracy accordance to JIS B 7526
(exceeds JIS)

Hardened measuring surface for abrasion resistance

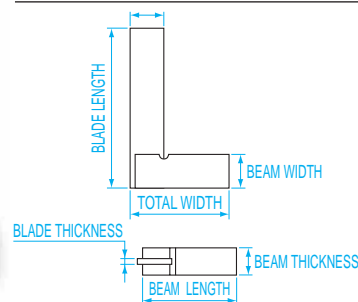
All Hardened, first grade squares are supplied with inspection certificate



Corner



AA-F150

DIMENSIONS

$$\text{Squareness} \pm (10 + \frac{L}{20}) \mu\text{m} \text{ (L: Nominal Size)}$$

Order No.	Model No.	Nominal Size (mm)	Blade Length (mm)	Blade Width (mm)	Blade Thickness (mm)	Beam Length (mm)	Beam Width (mm)	Beam Thickness (mm)	Squareness Accuracy (± mm)	Weight
002101	AA-F50	50	50	16	2	37	16	10	0.013	100g
002102	AA-F75	75	75	16	2	50	16	10	0.014	100g
002103	AA-F100	100	100	20	2.5	70	18	12	0.015	230g
002104	AA-F125	125	125	20	2.5	80	18	12	0.016	250g
002105	AA-F150	150	150	24	3	100	22	18	0.018	550g
002107	AA-F200	200	200	29	3.5	130	26	22	0.02	880g
002108	AA-F250	250	250	29	3.5	165	26	22	0.022	1.25kg
002109	AA-F300	300	300	35	4	200	32	27	0.025	1.95kg
002111	AA-F400	400	400	40	5	200	40	27	0.03	3kg
002113	AA-F500	500	500	46	5	300	45	35	0.035	6kg
002114	AA-F600	600	600	50	5	320	55	35	0.04	7kg
002115	AA-F750	750	750	58	6	400	63	50	0.048	16kg
002117	AA-F1000	1000	1000	65	10	550	80	65	0.06	35kg
	AA-F1500	1500	1500	90	10	600	90	80	0.085	38kg
	AA-F2000	2000	2000	100	10	800	105	90	0.11	67kg

SECOND GRADE (Non-hardened)

FEATURES

Dimension and accuracy accordance to JIS B 7526
(exceeds JIS)

Non-hardened · Ground finish

$$\text{Squareness} \pm (20 + \frac{L}{10}) \mu\text{m} \text{ (L: Nominal Size)}$$

Order No.	Model No.	Nominal Size (mm)	Blade Length (mm)	Blade Width (mm)	Blade Thickness (mm)	Beam Length (mm)	Beam Width (mm)	Beam Thickness (mm)	Squareness Accuracy (± mm)	Weight
002201	AA-S50	50	50	16	2	37	16	10	0.025	60g
002202	AA-S75	75	75	16	2	50	16	10	0.027	90g
002203	AA-S100	100	100	20	2.5	70	18	12	0.03	180g
002204	AA-S125	125	125	20	2.5	80	18	12	0.032	200g
002205	AA-S150	150	150	24	3	100	22	18	0.035	420g
002207	AA-S200	200	200	29	3.5	130	26	22	0.04	780g
002208	AA-S250	250	250	29	3.5	165	26	22	0.045	1.02kg
002209	AA-S300	300	300	35	4	200	32	27	0.05	1.8kg
002211	AA-S400	400	400	40	5	200	40	27	0.06	2.4kg
002213	AA-S500	500	500	46	5	300	45	35	0.07	5kg
002214	AA-S600	600	600	50	5	320	55	35	0.08	6.5kg
002215	AA-S750	750	750	58	6	400	63	50	0.095	16kg
002217	AA-S1000	1000	1000	65	10	550	80	65	0.12	35kg
002219	AA-S1500	1500	1500	90	10	600	90	80	0.17	38kg
	AA-S2000	2000	2000	100	10	800	105	90	0.22	67kg

GRANITE

CAST IRON SURFACE PLATE

PARALLEL BLOCK

V BLOCK

SQUARE

STRAIGHT EDGE

PARALLEL CLAMPS

FIRST GRADE(Hardened)

USE Measurement of squareness

MATERIAL

Machine grade carbon steel
(hardened measuring face)

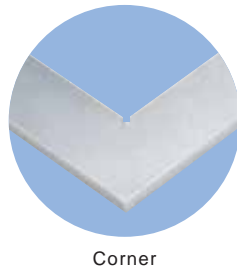
Hardness : Over HV450

FEATURES

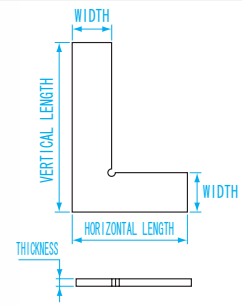
Dimension/ accuracy accordance to JIS B 7526
(exceeds JIS)

Hardened measuring surface for abrasion resistance

All hardened, first grade squares are supplied with inspection certificate



DIMENSIONS



$$\text{Squareness} \pm (10 + \frac{L}{20}) \mu\text{m} \text{ (L: Nominal Size)}$$

Order No.	Model No.	Nominal Size (mm)	Vertical Length (mm)	Horizontal Length (mm)	Width (mm)	Thickness (mm)	Squareness Accuracy (\pm mm)	Weight
002301	DD-F50	50	50	38	16	3	0.013	70g
002302	DD-F75	75	75	50	18	3	0.014	90g
002303	DD-F100	100	100	70	20	4	0.015	180g
002304	DD-F125	125	125	80	20	4	0.016	200g
002305	DD-F150	150	150	100	25	5	0.018	400g
002307	DD-F200	200	200	130	25	6	0.02	550g
002308	DD-F250	250	250	165	30	6	0.022	880g
002309	DD-F300	300	300	200	30	6	0.025	1kg
002311	DD-F400	400	400	200	40	8	0.03	1.9kg
002313	DD-F500	500	500	300	40	8	0.035	2.5kg
002314	DD-F600	600	600	325	50	10	0.04	4.3kg
002315	DD-F750	750	750	400	50	10	0.048	7kg
002317	DD-F1000	1000	1000	550	60	12	0.06	12kg
002319	DD-F1500	1500	1500	750	80	12	0.085	19kg

SECOND GRADE (Non-Hardened)

FEATURES

Dimensions/accuracy accordance to JIS B 7526
(exceeds JIS)

Non-hardened · Ground finish

$$\text{Squareness} \pm (20 + \frac{L}{10}) \mu\text{m} \text{ (L: Nominal Size)}$$

Order No.	Model No.	Nominal Size (mm)	Vertical Length (mm)	Horizontal Length (mm)	Width (mm)	Thickness (mm)	Squareness Accuracy (\pm mm)	Weight
002401	DD-S50	50	50	38	16	3	0.025	40g
002402	DD-S75	75	75	50	18	3	0.027	60g
002403	DD-S100	100	100	70	20	4	0.03	120g
002404	DD-S125	125	125	80	20	4	0.032	150g
002405	DD-S150	150	150	100	25	5	0.035	220g
002407	DD-S200	200	200	130	25	6	0.04	380g
002408	DD-S250	250	250	165	30	6	0.045	600g
002409	DD-S300	300	300	200	30	6	0.05	900g
002411	DD-S400	400	400	200	40	8	0.06	1.8kg
002413	DD-S500	500	500	300	40	8	0.07	3kg
002414	DD-S600	600	600	325	50	10	0.08	4kg
002415	DD-S750	750	750	400	50	10	0.095	7kg
002417	DD-S1000	1000	1000	550	60	12	0.12	12kg
002419	DD-S1500	1500	1500	750	80	12	0.17	19kg

GRANITE

CAST IRON SURFACE PLATE

PARALLEL BLOCK

V BLOCK

SQUARE

STRAIGHT EDGE

PARALLEL CLAMPS

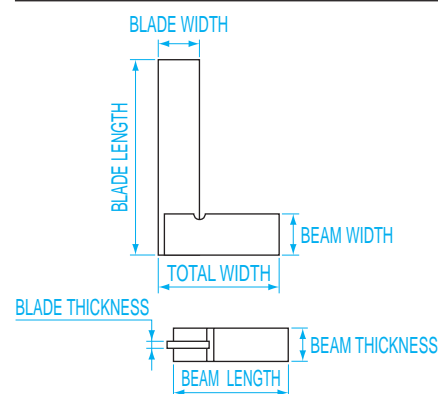


PRECISION SQUARE WITH METRIC GRADUATED BLADE (C TYPE)



C-150

DIMENSIONS



$$\text{Squareness} \pm (20 + \frac{L}{10}) \mu\text{m} \quad (L: \text{Nominal Size})$$

USE Measurement of squareness

MATERIAL

Machine grade carbon steel

FEATURES

Graduated with 1mm division
JIS Grade 2 equivalent

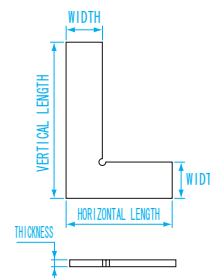
Order No.	Model No.	Nominal Size (mm)	Blade Length (mm)	Blade Width (mm)	Blade Thickness (mm)	Base Length (mm)	Base Width (mm)	Base Thickness (mm)	Graduation Accuracy (± mm)	Squareness (± mm)	Weight
002503	C-100	100	100	20	2.5	70	19	12	0.4	0.03	180g
002505	C-150	150	150	24	3	100	22	18	0.4	0.035	410g
002507	C-200	200	200	29	3.5	130	26	22	0.4	0.04	780g
002508	C-250	250	250	29	3.5	165	26	22	0.4	0.045	1.2kg
002509	C-300	300	300	35	4	200	32	27	0.4	0.05	1.9kg
	C-400	400	400	40	5	200	40	27	0.4	0.06	2.4kg
002513	C-500	500	500	46	5	300	45	35	0.4	0.07	6kg
	C-600	600	600	50	5	320	55	35	0.4	0.08	6.5kg
	C-1000	1000	1000	65	10	550	80	65	0.4	0.12	35kg

PRECISION SQUARE WITH METRIC GRADUATED BLADE (E TYPE)



E-150

DIMENSIONS



$$\text{Squareness} \pm (20 + \frac{L}{10}) \mu\text{m} \quad (L: \text{Nominal Size})$$

USE Measurement of squareness

MATERIAL

Machine grade carbon steel

FEATURES

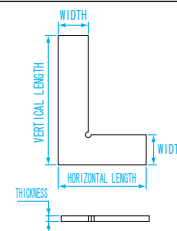
Graduated with 1mm division
JIS Grade 2 equivalent

Order No.	Model No.	Nominal Size (mm)	Vertical Length (mm)	Horizontal Length (mm)	Width (mm)	Thickness (mm)	Graduation Accuracy (± mm)	Squareness (± mm)	Weight
002603	E-100	100	100	70	20	4	0.4	0.03	120g
002605	E-150	150	150	100	25	5	0.4	0.035	280g
002607	E-200	200	200	130	25	6	0.4	0.04	430g
002608	E-250	250	250	165	30	6	0.4	0.045	600g
002609	E-300	300	300	200	40	8	0.4	0.05	750g
	E-400	400	400	200	40	8	0.4	0.06	1.8kg
	E-500	500	500	300	40	8	0.4	0.07	3kg
	E-600	600	600	325	50	10	0.4	0.08	4kg
	E-1000	1000	1000	550	60	12	0.4	0.12	12kg

HEAVY DUTY STEEL SQUARE (DD TYPE)



DIMENSIONS



$$\text{Squareness} \pm (10 + \frac{L}{20}) \mu\text{m} \quad (L: \text{Nominal Size})$$

USE Measurement of squareness

MATERIAL
Machine grade carbon steel

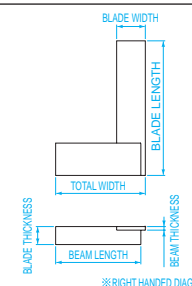
FEATURES
The heavy duty 'DD' type is engineered for ultimate stability

Order No.	Model No.	Nominal Size (mm)	Vertical Length (mm)	Base Length (mm)	Width (mm)	Thickness (mm)	Squareness (± mm)	Weight
003501	HDD-50	50	50	35	15	10	0.013	170g
003502	HDD-75	75	75	50	18	12	0.014	320g
003503	HDD-100	100	100	70	20	15	0.015	530g
003505	HDD-150	150	150	100	25	20	0.018	1.34kg
003507	HDD-200	200	200	130	30	20	0.02	2kg
003508	HDD-250	250	250	165	30	25	0.022	3kg
003509	HDD-300	300	300	200	35	25	0.025	4kg

STEEL SQUARE WITH FLUSH MOUNTED BEAM



DIMENSIONS



$$\text{Squareness} \pm (20 + \frac{L}{10}) \mu\text{m} \quad (L: \text{Nominal Size})$$

USE
Measurement of squareness

MATERIAL
Machine grade carbon steel

FEATURES
Available in "right handed" and "left handed" versions
Dimension/ accuracy accordance to JIS Grade 2
JIS Grade 1 equivalent (Squareness $\pm (10 + \frac{L}{20}) \mu\text{m}$) is made to order

RIGHT HANDED

Order No.	Model No.	Nominal Size (mm)	Blade Length (mm)	Blade Width (mm)	Blade Thickness (mm)	Beam Length (mm)	Beam Thickness (mm)	Squareness (± mm)	Weight
	TRS-R75	75	75	16	2	50	10	0.027	90g
003003	TRS-R100	100	100	20	2.5	70	12	0.03	230g
003005	TRS-R150	150	150	24	3	100	18	0.035	420g
003007	TRS-R200	200	200	29	3.5	130	22	0.04	780g
003009	TRS-R300	300	300	35	4	200	27	0.05	1.8kg
003011	TRS-R400	400	400	40	5	200	27	0.06	2.4kg
003013	TRS-R500	500	500	46	5	300	35	0.07	5kg
	TRS-R600	600	600	50	5	320	35	0.08	6.5kg
	TRS-R750	750	750	58	6	400	50	0.095	16kg
	TRS-R1000	1000	1000	65	10	550	65	0.12	35kg
	TRS-R1500	1500	1500	90	10	600	80	0.17	38kg
	TRS-R2000	2000	2000	100	10	800	90	0.22	67kg

LEFT HANDED

Order No.	Model No.	Nominal Size (mm)	Blade Length (mm)	Blade Width (mm)	Blade Thickness (mm)	Beam Length (mm)	Beam Thickness (mm)	Straightness (± mm)	Weight
	TRS-L75	75	75	16	2	50	10	0.027	90g
003103	TRS-L100	100	100	20	2.5	70	12	0.03	230g
003105	TRS-L150	150	150	24	3	100	18	0.035	420g
003107	TRS-L200	200	200	29	3.5	130	22	0.04	780g
003109	TRS-L300	300	300	35	4	200	27	0.05	1.8kg
003111	TRS-L400	400	400	40	5	200	27	0.06	2.4kg
003113	TRS-L500	500	500	46	5	300	35	0.07	5kg
	TRS-L600	600	600	50	5	320	35	0.08	6.5kg
	TRS-L750	750	750	58	6	400	50	0.095	16kg
	TRS-L1000	1000	1000	65	10	550	65	0.12	35kg
	TRS-L1500	1500	1500	90	10	600	80	0.17	38kg
	TRS-L2000	2000	2000	100	10	800	90	0.22	67kg

STANDARDS

GRANITE

CAST IRON SURFACE PLATE

PARALLEL BLOCK

V BLOCK

SQUARE

STRAIGHT EDGE

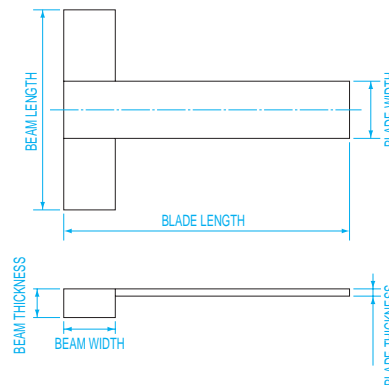
PARALLEL CLAMPS



T-SQUARE



DIMENSIONS



FEATURES

The blade and beam are permanently secured by rivets. The T-square is useful for general engineering work.

MATERIAL

Machine grade carbon steel

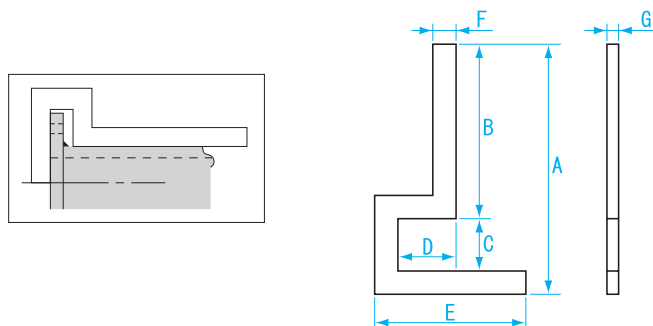
Straightness $\pm(20 + \frac{L}{10}) \mu m$ (L: Nominal Size)

Model No.	Nominal Size (mm)	Blade Length (mm)	Blade Width (mm)	Blade Thickness (mm)	Beam Length (mm)	Beam Width (mm)	Beam Thickness (mm)	Straightness (± mm)	Weight
TS-100	100	100	20	2.5	70	18	10	0.03	150g
TS-150	150	150	24	3	100	20	12	0.035	300g
TS-200	200	200	29	3.5	140	24	14	0.04	500g
TS-250	250	250	29	3.5	175	26	16	0.045	800g
TS-300	300	300	35	4	200	30	18	0.05	1.2kg
TS-400	400	400	40	5	260	34	20	0.06	2kg
TS-500	500	500	46	5	330	36	22	0.07	2.9kg
TS-600	600	600	50	5	360	38	24	0.08	3.7kg
TS-1000	1000	1000	65	8	640	45	30	0.12	11kg

FLANGE SQUARE



DIMENSIONS



Units : mm

Model No.	A	B	C	D	E	F	G
FS-1	300	200	70	80	200	30	4
FS-2	400	280	90	120	300	30	4
FS-3	750	500	200	250	680	50	6

USE Inspection of surfaces with flange, and piping connections

MATERIALS Rolled steel for general structure

Order No.	Model No.	Nominal Size (mm)	Straightness (± mm)	Weight
003320	FS-1	200 × 300	0.037	800g
003330	FS-2	300 × 400	0.045	1kg
003368	FS-3	680 × 750	0.071	4kg

I-BEAM TYPE PRECISION STRAIGHT EDGE

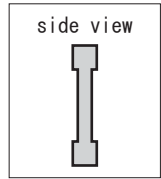


STANDARDS

USE Measurement of flatness, parallelism and straightness

MATERIAL
Machine grade carbon steel

FEATURES
Inspection certificate attached



Grade A / Hardened Hardness:HV490 ~ 620

Order No.	Model No.	Nominal Size (mm)	Straightness (μm)	Length (mm)	Height (mm)	Width (mm)	Weight
004113	IBM-A500H	500	7	500	50	10	1.5kg
004115	IBM-A750H	750	9.5	750	50	10	3.2kg
004117	IBM-A1000H	1000	12	1000	60	12	5kg
004119	IBM-A1500H	1500	17	1500	70	15	8.5kg
004121	IBM-A2000H	2000	22	2000	90	20	19kg
	IBM-A2500H	2500	27	2500	100	20	27kg
004123	IBM-A3000H	3000	32	3000	120	20	44kg

Grade A / Non-hardened

Straightness $(2 + \frac{L}{100}) \mu m$ (L: Nominal Size)

Order No.	Model No.	Nominal Size (mm)	Straightness (μm)	Length (mm)	Height (mm)	Width (mm)	Weight
004013	IBM-A500	500	7	500	50	10	1.5kg
004015	IBM-A750	750	9.5	750	50	10	3.2kg
004017	IBM-A1000	1000	12	1000	60	12	5kg
004019	IBM-A1500	1500	17	1500	70	15	8.5kg
004021	IBM-A2000	2000	22	2000	90	20	19kg
	IBM-A2500	2500	27	2500	90	20	27kg
004023	IBM-A3000	3000	32	3000	120	20	44kg

05

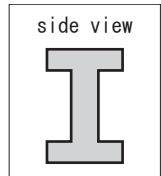
RAIL TYPE PRECISION STRAIGHT EDGE



USE Measurement of flatness, parallelism and straightness

MATERIAL
Machine grade carbon steel

FEATURES
Usable for precision machine installation, flatness inspection of surface plate etc
Ground finish
Inspection certificate attached



Grade A / Hardened Hardness: HV490 ~ 620

Straightness $(2 + \frac{L}{250}) \mu m$ (L: Nominal Size)

Order No.	Model No.	Nominal Size (mm)	Straightness (μm)	Length (mm)	Height (mm)	Width (mm)	Weight
004417	R-A1000H	1000	6	1000	75	50	18.5kg
004419	R-A1500H	1500	8	1500	90	50	33kg
004421	R-A2000H	2000	10	2000	120	50	56kg
004422	R-A2500H	2500	12	2500	140	50	76.5kg
004423	R-A3000H	3000	14	3000	150	50	103kg

Grade A / Non-hardened

Straightness $(2 + \frac{L}{250}) \mu m$ (L: Nominal Size)

Order No.	Model No.	Nominal Size (mm)	Straightness (μm)	Length (mm)	Height (mm)	Width (mm)	Weight
004317	R-A1000	1000	6	1000	75	50	18.5kg
004319	R-A1500	1500	8	1500	90	50	33kg
004321	R-A2000	2000	10	2000	120	50	56kg
004322	R-A2500	2500	12	2500	140	50	76.5kg
004323	R-A3000	3000	14	3000	150	50	103kg

Grade B / Hardened Hardness: HV490 ~ 620

Straightness $(4 + \frac{L}{50}) \mu m$ (L: Nominal Size)

Order No.	Model No.	Nominal Size (mm)	Straightness (μm)	Length (mm)	Height (mm)	Width (mm)	Weight
004617	R-B1000H	1000	22	1000	75	50	18.5kg
004619	R-B1500H	1500	34	1500	90	50	33kg
004621	R-B2000H	2000	44	2000	120	50	56kg
004622	R-B2500H	2500	54	2500	140	50	76.5kg
004623	R-B3000H	3000	64	3000	150	50	103kg

Grade B / Non-hardened

Straightness $(4 + \frac{L}{50}) \mu m$ (L: Nominal Size)

Order No.	Model No.	Nominal Size (mm)	Straightness (μm)	Length (mm)	Height (mm)	Width (mm)	Weight
004517	R-B1000	1000	24	1000	75	50	18.5kg
004519	R-B1500	1500	34	1500	90	50	33kg
004521	R-B2000	2000	44	2000	120	50	56kg
004522	R-B2500	2500	54	2500	140	50	76.5kg
004523	R-B3000	3000	64	3000	150	50	103kg

STANDARDS

GRANITE

CAST IRON SURFACE PLATE

PARALLEL BLOCK

V BLOCK

SQUARE

STRAIGHT EDGE

PARALLEL CLAMPS



STEEL STANDARD STRAIGHT EDGE



USE Measurement of flatness, parallelism, straightness

FEATURES

Measuring surface : Ground finish
Inspection certificate attached

MATERIAL

Machine grade carbon steel



side view



Grade A/ Hardened (Hardness: HV490-620)

Straightness: $(2 + \frac{L}{100}) \mu\text{m}$ (L : Nominal Size)

Order No.	Model No.	Nominal Size (mm)	Length (mm)	Width (mm)	Thickness (mm)	Weight
	ST-A500H	500	500	50	10	2kg
	ST-A750H	750	750	50	10	3kg
004917	ST-A1000H	1000	1000	60	12	5.7kg
	ST-A1500H	1500	1500	70	15	12.5kg
004921	ST-A2000H	2000	2000	80	18	23kg
	ST-A2500H	2500	2500	100	18	35kg
	ST-A3000H	3000	3000	140	25	82kg

Grade A/ Non-hardened

Order No.	Model No.	Nominal Size (mm)	Length (mm)	Width (mm)	Thickness (mm)	Weight
	ST-A500	500	500	50	10	2kg
	ST-A750	750	750	50	10	3kg
004817	ST-A1000	1000	1000	60	12	5.7kg
	ST-A1500	1500	1500	70	15	12.5kg
004821	ST-A2000	2000	2000	80	18	23kg
	ST-A2500	2500	2500	100	18	35kg
	ST-A3000	3000	3000	140	25	82kg

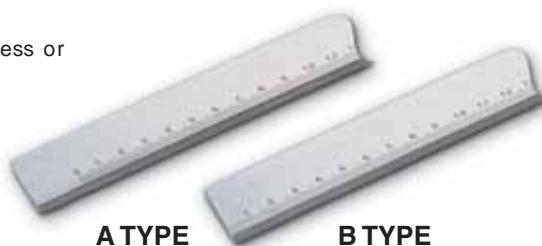
STEEL STANDARD STRAIGHT EDGE WITH GRADUATIONS



USE Measurement of flatness, parallelism, straightness or use for precision marking

FEATURES

Measuring face: Ground finish
A type: Scale interval of 1 mm, graduated on single side (20mm blank space on both edges)
B type: 0 point graduated start from left edge



A TYPE

B TYPE

side view

**MATERIAL**

Machine grade carbon steel

A type

A type: Straightness $(10 + \frac{L}{50}) \mu\text{m}$ (L : Nominal Size)

Order No.	Model No.	Nominal Size (mm)	Length (mm)	Width (mm)	Thickness (mm)	Weight
005013	STG-A500	500	500	25	6	2kg
005015	STG-A750	750	750	30	6	3kg
005017	STG-A1000	1000	1000	30	6	5.7kg
005019	STG-A1500	1500	1500	32	6	12.6kg
005021	STG-A2000	2000	2000	40	8	23kg
005023	STG-A3000	3000	3000	50	10	36kg

B type

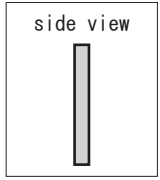
B type : Straightness $(10 + \frac{L}{25}) \mu\text{m}$ (L : Nominal Size)

Order No.	Model No.	Nominal Size (mm)	Length (mm)	Width (mm)	Thickness (mm)	Weight
005113	STG-B500	500	500	25	6	2kg
005115	STG-B750	750	750	25	6	3kg
005117	STG-B1000	1000	1000	30	6	5.7kg
005119	STG-B1500	1500	1500	32	6	12.6kg
005121	STG-B2000	2000	2000	40	8	23kg
005123	STG-B3000	3000	3000	50	10	36kg

STRAIGHT EDGE STANDARD TYPE



STANDARDS



FEATURES Standard type straight edges are popular for executing more accurate lines
Measuring face: Ground finish

MATERIAL Carbon tool steel for machine use

Grade A /Hardened

Hardness: HV490 ~ 620

Grade A: Straightness $(10 + \frac{L}{50}) \mu m$

Grade B: Straightness $(20 + \frac{L}{25}) \mu m$

Grade B is made to order
L : Nominal Size

Order No.	Model No.	Nominal Size (mm)	Length (mm)	Width (mm)	Thickness (mm)	Weight
005305	S-A150H	150	150	24	3	80g
005307	S-A200H	200	200	24	3	110g
005308	S-A250H	250	250	30	4	340g
005309	S-A300H	300	300	35	5	410g
005312	S-A450H	450	450	40	5	710g
005313	S-A500H	500	500	40	5	800g
005314	S-A600H	600	600	40	5	900g
005315	S-A750H	750	750	50	6	2kg
005317	S-A1000H	1000	1000	50	6	2.6kg
005319	S-A1500H	1500	1500	75	6	5.7kg
005321	S-A2000H	2000	2000	85	8	10.7kg
005322	S-A2500H	2500	2500	95	10	19kg
005323	S-A3000H	3000	3000	100	10	24kg

Grade A / Non-hardened

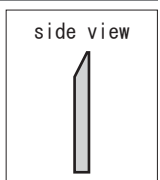
Grade A: Straightness $(10 + \frac{L}{50}) \mu m$

Grade B: Straightness $(20 + \frac{L}{25}) \mu m$

Grade B is made to order
L : Nominal Size

Order No.	Model No.	Nominal Size (mm)	Length (mm)	Width (mm)	Thickness (mm)	Weight
005205	S-A150	150	150	24	3	80g
005207	S-A200	200	200	24	3	110g
005208	S-A250	250	250	30	4	340g
005209	S-A300	300	300	35	5	410g
005212	S-A450	450	450	40	5	710g
005213	S-A500	500	500	40	5	800g
005214	S-A600	600	600	40	5	900g
005215	S-A750	750	750	50	6	2kg
005217	S-A1000	1000	1000	50	6	2.6kg
005219	S-A1500	1500	1500	75	6	5.7kg
005221	S-A2000	2000	2000	85	8	10.7kg
005222	S-A2500	2500	2500	95	10	19kg
005223	S-A3000	3000	3000	100	10	24kg

STRAIGHT EDGE BEVELED TYPE



FEATURES Beveled type straight edges are popular for executing more accurate lines
Measuring face: Ground finish

MATERIAL Machine grade carbon steel

Grade A / Non-hardened

Hardness: HV490 ~ 620

Grade A: Straightness: $(10 + \frac{L}{50}) \mu m$

Grade B: Straightness $(20 + \frac{L}{25}) \mu m$

Grade B is made to order
L : Nominal Size

Order No.	Model No.	Nominal Size (mm)	Length (mm)	Width (mm)	Thickness (mm)	Taper (mm)	Blade Thickness (mm)	Weight
005505	B-A150H	150	150	24	3	5.5	0.5	80g
005507	B-A200H	200	200	24	3	5.5	0.5	100g
005508	B-A250H	250	250	30	4	8.0	0.5	300g
005509	B-A300H	300	300	35	5	10.0	0.5	400g
005512	B-A450H	450	450	40	5	10.0	0.5	650g
005513	B-A500H	500	500	40	5	10.0	0.5	700g
005514	B-A600H	600	600	40	5	12.0	0.5	850g
005515	B-A750H	750	750	50	6	12.6	0.8	1.75kg
005517	B-A1000H	1000	1000	50	6	12.6	0.8	2.3kg
005519	B-A1500H	1500	1500	75	6	12.6	0.8	5.2kg
005521	B-A2000H	2000	2000	85	8	14.6	1.5	10kg
	B-A2500H	2500	2500	95	10	19.0	1.5	17kg
	B-A3000H	3000	3000	100	10	19.0	2.0	21kg

Grade A / Non-hardened

Grade A: Straightness $(10 + \frac{L}{50}) \mu m$

Grade B: Straightness $(20 + \frac{L}{25}) \mu m$

Grade B is made to order
L : Nominal Size

Order No.	Model No.	Nominal Size (mm)	Length (mm)	Width (mm)	Thickness (mm)	Taper (mm)	Blade Thickness (mm)	Weight
005405	B-A150	150	150	24	3	5.5	0.5	80g
005407	B-A200	200	200	24	3	5.5	0.5	100g
005408	B-A250	250	250	30	4	8.0	0.5	300g
005409	B-A300	300	300	35	5	10.0	0.5	400g
005412	B-A450	450	450	40	5	10.0	0.5	650g
005413	B-A500	500	500	40	5	10.0	0.5	700g
005414	B-A600	600	600	40	5	12.0	0.5	850g
005415	B-A750	750	750	50	6	12.6	0.8	1.75kg
005417	B-A1000	1000	1000	50	6	12.6	0.8	2.3kg
005419	B-A1500	1500	1500	75	6	12.6	0.8	5.2kg
005421	B-A2000	2000	2000	85	8	14.6	1.5	10kg
005422	B-A2500	2500	2500	95	10	19.0	1.5	17kg
005423	B-A3000	3000	3000	100	10	19.0	2.0	21kg

STANDARDS

GRANITE

CAST IRON SURFACE PLATE

PARALLEL BLOCK

V BLOCK

SQUARE

STRAIGHT EDGE

PARALLEL CLAMPS



HARDENED PARALLEL CLAMP

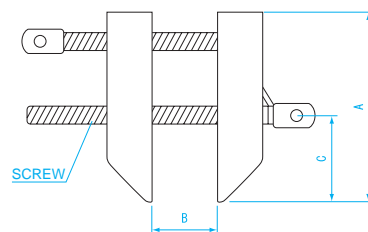
STANDARDS

05



PC-100

DIMENSIONS



FEATURES

These parallel clamps are designed to maximize clamping leverage. All major parts are made of hardened steel with a smart black finish

2 piece body and screws are hardened

2 pcs / set

MATERIAL

Carbon steel for machine use

Hardness : HV390 ~ 450

STANDARDS

GRANITE

CAST IRON
SURFACE
PLATE

PARALLEL
BLOCK

V BLOCK

SQUARE

STRAIGHT
EDGE

PARALLEL
CLAMPS

Order No.	Model No.	Nominal Size (mm)	A (mm)	B(Max) (mm)	C (mm)	Thread size	Weight
006501	PC-38	38	40	20	18	M5×P0.9	150g
006502	PC-50	50	50	30	20	M5×P0.9	200g
006503	PC-65	65	65	40	25	M6×P1.0	350g
006504	PC-75	75	75	60	30	M6×P1.0	400g
006505	PC-100	100	100	60	38	M7×P1.0	700g
006506	PC-125	125	125	80	50	M8×P1.25	1.2kg
006507	PC-150	150	150	100	58	M10×P1.5	2kg
006508	PC-200	200	200	120	65	W1/2 - 12	4.6kg
006509	PC-250	250	250	180	100	M16×P2.0	9kg
006510	PC-300	300	300	230	120	M20×P2.5	15kg



114p



115p



116p



117p



118p



119p



120p



121p



122p



122p



123p



124p



125p



126p



127p



127p



127p

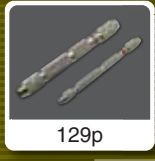


127p



128p

GAUGES



129p



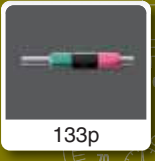
130p



131p



132p



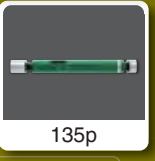
133p



134p



135p



135p



136p



137p



138p



138p



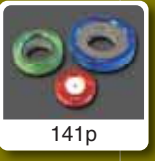
139p



140p



140p



141p



141p



142p



142p



142p



142p



143p



144p



144p



145p



146p



147p



147p



148p



149p



149p



150p



150p



151p



151p



152p



152p



153p



154p



155p



156p



157p



158p



159p



160p



160p



161p



161p



163p



164p



164p



165p



165p



165p



166p



166p



167p



167p



167p



167p



168p



168p



168p

BLOCK GAUGES

PIN GAUGES

PIN VISE

PIN GAUGE ACCESSORIES

THREAD GAUGES

PLUG GAUGES

RING GAUGES

THICKNESS GAUGES

TAPER GAUGES

WELDING GAUGES

OTHER GAUGES



GBS1-32

BLOCK GAUGES

PIN GAUGES

PIN VISE

PIN GAUGE ACCESSORIES

USE For general measurement and reference standard in workshop

MATERIAL High carbon high chromium steel

FEATURES Conforms to JIS (Grade 1) Standard

SPECIFICATIONS

Size (mm)		Grade 1	
Over	Below	Tolerance (μ m)	Dimensional deviation (μ m)
	10	± 0.20	0.16
10	25	± 0.30	0.16
25	50	± 0.40	0.18
50	75	± 0.50	0.18
75	100	± 0.60	0.20

GAUGES

THREAD GAUGES

PLUG GAUGES

RING GAUGES

THICKNESS GAUGES

TAPER GAUGES

WELDING GAUGES

OTHER GAUGES

Order No.	Model No.	Pieces per set	Step (mm)	Nominal Size (mm)	Number of pieces	Weight
150801	GBS1-103	103		1.005	1	3.48kg
			0.01	1.01·1.02...1.49	49	
			0.5	0.5·1.0...24.5	49	
			25	25·50·75·100	4	
150802	GBS1-76	76		1.005	1	2.1kg
			0.01	1.01·1.02...1.49	49	
			0.5	0.5·1.0...9.5	19	
			10	10·20·30·40	4	
150804	GBS1-47	47		1.005	1	2.1kg
			0.01	1.01·1.02...1.09	9	
			0.1	1.1·1.2...1.9	9	
			1.0	1·2·3...24	24	
150806	GBS1-32	32		1.005	1	1kg
			0.01	1.01·1.02...1.09	9	
			0.1	1.1·1.2...1.9	9	
			1	1·2·3...9	9	
			10	10·20·30	3	
			60		1	



USE For general measurement and reference standard in workshop

MATERIAL High carbon high chromium steel

FEATURES Conforms to JIS (Grade 1) standard

SPECIFICATIONS

Size (mm)		Grade 1	
Over	Below	Tolerance(μm)	Dimensional Deviation(μm)
-	10	± 0.20	0.16
10	25	± 0.30	0.16
25	50	± 0.40	0.18
50	75	± 0.50	0.18
75	100	± 0.60	0.20
100	150	± 0.80	0.20
150	200	± 1.00	0.25
200	250	± 1.20	0.25
250	300	± 1.40	0.25
300	400	± 1.80	0.30
400	500	± 2.20	0.35
500	600	± 2.60	0.40

Order No.	Model No.	Size
150810	GB1-05	0.5mm
150820	GB1-10	1.0mm
150822	GB1-1-001	1.001mm
150823	GB1-1-002	1.002mm
150824	GB1-1-003	1.003mm
150825	GB1-1-004	1.004mm
150826	GB1-1-005	1.005mm
150827	GB1-1-006	1.006mm
150828	GB1-1-007	1.007mm
150829	GB1-1-008	1.008mm
150830	GB1-1-009	1.009mm
150831	GB1-101	1.01mm
150832	GB1-102	1.02mm
150833	GB1-103	1.03mm
150834	GB1-104	1.04mm
150835	GB1-105	1.05mm
150836	GB1-106	1.06mm
150837	GB1-107	1.07mm
150838	GB1-108	1.08mm
150839	GB1-109	1.09mm
150840	GB1-110	1.10mm
150841	GB1-111	1.11mm
150842	GB1-112	1.12mm
150843	GB1-113	1.13mm
150844	GB1-114	1.14mm
150845	GB1-115	1.15mm
150846	GB1-116	1.16mm
150847	GB1-117	1.17mm
150848	GB1-118	1.18mm
150849	GB1-119	1.19mm
150850	GB1-120	1.20mm
150851	GB1-121	1.21mm
150852	GB1-122	1.22mm
150853	GB1-123	1.23mm
150854	GB1-124	1.24mm
150855	GB1-125	1.25mm
150856	GB1-126	1.26mm
150857	GB1-127	1.27mm
150858	GB1-128	1.28mm
150859	GB1-129	1.29mm
150860	GB1-130	1.30mm
150861	GB1-131	1.31mm

Order No.	Model No.	Size
150862	GB1-132	1.32mm
150863	GB1-133	1.33mm
150864	GB1-134	1.34mm
150865	GB1-135	1.35mm
150866	GB1-136	1.36mm
150867	GB1-137	1.37mm
150868	GB1-138	1.38mm
150869	GB1-139	1.39mm
150870	GB1-140	1.40mm
150871	GB1-141	1.41mm
150872	GB1-142	1.42mm
150873	GB1-143	1.43mm
150874	GB1-144	1.44mm
150875	GB1-145	1.45mm
150876	GB1-146	1.46mm
150877	GB1-147	1.47mm
150878	GB1-148	1.48mm
150879	GB1-149	1.49mm
150880	GB1-150	1.50mm
150885	GB1-200	2.00mm
150886	GB1-250	2.50mm
150887	GB1-300	3.00mm
150888	GB1-350	3.50mm
150889	GB1-400	4.00mm
150890	GB1-450	4.50mm
150891	GB1-500	5.00mm
150893	GB1-550	5.50mm
150894	GB1-600	6.00mm
150895	GB1-650	6.50mm
150896	GB1-700	7.00mm
150897	GB1-750	7.50mm
150899	GB1-800	8.00mm
150900	GB1-850	8.50mm
150901	GB1-900	9.00mm
150902	GB1-950	9.50mm
150903	GB1-1000	10.00mm
150905	GB1-1050	10.50mm
150906	GB1-1100	11.00mm
150907	GB1-1150	11.50mm
150908	GB1-1200	12.00mm
150909	GB1-1250	12.50mm
150911	GB1-1300	13.00mm

Order No.	Model No.	Size
150912	GB1-1350	13.50mm
150913	GB1-1400	14.00mm
150914	GB1-1450	14.50mm
150915	GB1-1500	15.00mm
150916	GB1-1550	15.50mm
150917	GB1-1660	16.00mm
150918	GB1-1650	16.50mm
150919	GB1-1700	17.00mm
150920	GB1-1750	17.50mm
150921	GB1-1800	18.00mm
150922	GB1-1850	18.50mm
150923	GB1-1900	19.00mm
150924	GB1-1950	19.50mm
150925	GB1-2000	20.00mm
150927	GB1-2050	20.50mm
150928	GB1-2100	21.00mm
150929	GB1-2150	21.50mm
150930	GB1-2200	22.00mm
150931	GB1-2250	22.50mm
150933	GB1-2300	23.00mm
150934	GB1-2350	23.50mm
150935	GB1-2400	24.00mm
150936	GB1-2450	24.50mm
150937	GB1-2500	25.00mm
150939	GB1-3000	30.00mm
150940	GB1-4000	40.00mm
150941	GB1-5000	50.00mm
150942	GB1-6000	60.00mm
150944	GB1-7000	70.00mm
150945	GB1-7500	75.00mm
150946	GB1-8000	80.00mm
150947	GB1-9000	90.00mm
150948	GB1-10000	100.00mm
150949	GB1-12500	125mm
150950	GB1-15000	150mm
150794	GB1-17500	175mm
150795	GB1-20000	200mm
150796	GB1-25000	250mm
150797	GB1-30000	300mm
150798	GB1-40000	400mm
150799	GB1-50000	500mm
150800	GB1-60000	600mm

BLOCK GAUGES

PIN GAUGES

PIN VISE

PIN GAUGE ACCESSORIES

GAUGES

THREAD GAUGES

PLUG GAUGES

RING GAUGES

THICKNESS GAUGES

TAPER GAUGES

WELDING GAUGES

OTHER GAUGES



BC-032

SPECIFICATIONS

Size (mm)		Grade0	
Over	Below	Tolerance (μm)	Dimensional Deviation (μm)
-	10	± 0.12	0.10
10	25	± 0.14	0.10
25	50	± 0.20	0.10
50	75	± 0.25	0.12
75	100	± 0.30	0.12

USE For general measurement and reference standard in workshop

MATERIAL
Ceramic (Zircon)

FEATURES
Abrasion resistant
Free from rust and corrosion, and easy maintenance
Ceramic material is less susceptible to abrasion and age deterioration than steel
Non-magnetic
Conforms to JIS (Grade 0) Standard

Comparison between steel and ceramic materials

Item	Materials		Ceramic	Steel
	Hardness	HV		
Hardness			1300	800
Coefficient of thermal expansion		$10^{-6}/\text{K}$	9.5	11.5
Specific Gravity			6	7.8
Heat conductivity		W/m·K	2.5	76

SET Item

Order No.	Model No.	Pieces per set	Step (mm)	Nominal Size (mm)	Number of piece	Weight
150770	BC-032	32	-	1.005	1	950g
			0.01	1.01·1.02...1.09	9	
			0.1	1.1·1.2...1.9	9	
			1	1·2·3...9	9	
			10	10·20·30	3	
150771	BC-047	47	-	50	1	2.25kg
			0.01	1.01·1.02...1.09	9	
			0.1	1.1·1.2...1.9	9	
			1	1·2·3...24	24	
			25	25·50·75·100	4	

SINGLE Item

Order No.	Model No.	Size (mm)
150720	BC0-10	1
150721	BC0-1-005	1.005
150722	BC0-101	1.01
150723	BC0-102	1.02
150724	BC0-103	1.03
150725	BC0-104	1.04
150726	BC0-105	1.05
150727	BC0-106	1.06
150728	BC0-107	1.07
150729	BC0-108	1.08
150730	BC0-109	1.09
150731	BC0-110	1.1
150732	BC0-120	1.2
150733	BC0-130	1.3
150734	BC0-140	1.4
150735	BC0-150	1.5
150736	BC0-160	1.6
150737	BC0-170	1.7
150738	BC0-180	1.8
150739	BC0-190	1.9
150740	BC0-200	2
150741	BC0-300	3
150742	BC0-400	4
150743	BC0-500	5
150744	BC0-600	6

Order No.	Model No.	Size (mm)
150745	BC0-700	7
150746	BC0-800	8
150747	BC0-900	9
150748	BC0-1000	10
150749	BC0-1100	11
150750	BC0-1200	12
150751	BC0-1300	13
150752	BC0-1400	14
150753	BC0-1500	15
150754	BC0-1600	16
150755	BC0-1700	17
150756	BC0-1800	18
150757	BC0-1900	19
150758	BC0-2000	20
150759	BC0-2100	21
150760	BC0-2200	22
150761	BC0-2300	23
150762	BC0-2400	24
150763	BC0-2500	25
150764	BC0-3000	30
150765	BC0-5000	50
150766	BC0-6000	60
150767	BC0-7500	75
150768	BC0-10000	100

SUB-ZERO Treatment (Cryogenic hardened)

FEATURES

- The most popular type.
- Long life use / Sub zero treatment
- Individual Pin Gauges are also available
- Custom made Pin Gauges are available on request
- Aluminum Pin Vise is included with AA-0A to AA-9B
- Pin Vise is included with AA-0E to AA-6F
- For above 1.000mm, the nominal size is marked on gauge



SPECIFICATIONS

Nominal Size (mm)	Step (mm)	Length (mm)	Tolerance (μm)	Out of Roundness/Cylindricity(μm)	Hardness (HV)
0.05 ... 0.09	0.01 Step	5 ~ 10	± 0.5	0.5	More than 650
0.10 ... 0.19		40	± 0.8		
0.200 ... 0.999	0.001 Step	50	± 1.5	0.8	
1.000 ... 10.000					
10.01 ... 20.00	0.01 Step	50	± 2	1.6	
20.01 ... 30.00			± 3	3.0	
30.01 ... 41.00	-	-	-	-	

30.01 ~ 41.00 are custom made

AA series (0.010mm step)

Model No.	Nominal Size (mm)	Pins per set	Aluminum Pin Vise
AA-00	0.06 · 0.07 · 0.08 0.290	24	
AA-0A	0.200 · 0.210 · 0.220 0.500	31	APV-0A
AA-0B	0.500 · 0.510 · 0.520 1.000	51	APV-0B
AA-1A	1.000 · 1.010 · 1.020 1.500	51	APV-1A
AA-1B	1.500 · 1.510 · 1.520 2.000	51	APV-1B
AA-2A	2.000 · 2.010 · 2.020 2.500	51	APV-2A
AA-2B	2.500 · 2.510 · 2.520 3.000	51	APV-2B
AA-3A	3.000 · 3.010 · 3.020 3.500	51	APV-3A
AA-3B	3.500 · 3.510 · 3.520 4.000	51	APV-3B
AA-4A	4.000 · 4.010 · 4.020 4.500	51	APV-4A
AA-4B	4.500 · 4.510 · 4.520 5.000	51	APV-4B
AA-5A	5.000 · 5.010 · 5.020 5.500	51	APV-5A
AA-5B	5.500 · 5.510 · 5.520 6.000	51	APV-5B
AA-6A	6.000 · 6.010 · 6.020 6.500	51	APV-6A
AA-6B	6.500 · 6.510 · 6.520 7.000	51	APV-6B
AA-7A	7.000 · 7.010 · 7.020 7.500	51	APV-7A
AA-7B	7.500 · 7.510 · 7.520 8.000	51	APV-7B
AA-8A	8.000 · 8.010 · 8.020 8.500	51	APV-8A
AA-8B	8.500 · 8.510 · 8.520 9.000	51	APV-8B
AA-9A	9.000 · 9.010 · 9.020 9.500	51	APV-9A
AA-9B	9.500 · 9.510 · 9.520 10.000	51	APV-9B
AA-10A	10.000 · 10.01 · 10.02 10.50	51	
AA-10B	10.50 · 10.51 · 10.52 11.00	51	
AA-11A	11.00 · 11.01 · 11.02 11.50	51	
AA-11B	11.50 · 11.51 · 11.52 12.00	51	
AA-12A	12.00 · 12.01 · 12.02 12.50	51	
AA-12B	12.50 · 12.51 · 12.52 13.00	51	
AA-13A	13.00 · 13.01 · 13.02 13.50	51	
AA-13B	13.50 · 13.51 · 13.52 14.00	51	
AA-14A	14.00 · 14.01 · 14.02 14.50	51	
AA-14B	14.50 · 14.51 · 14.52 15.00	51	
AA-15A	15.00 · 15.01 · 15.02 15.50	51	
AA-15B	15.50 · 15.51 · 15.52 16.00	51	
AA-16A	16.00 · 16.01 · 16.02 16.50	51	
AA-16B	16.50 · 16.51 · 16.52 17.00	51	
AA-17A	17.00 · 17.01 · 17.02 17.50	51	
AA-17B	17.50 · 17.51 · 17.52 18.00	51	
AA-18A	18.00 · 18.01 · 18.02 18.50	51	
AA-18B	18.50 · 18.51 · 18.52 19.00	51	
AA-19A	19.00 · 19.01 · 19.02 19.50	51	
AA-19B	19.50 · 19.51 · 19.52 20.00	51	

AA series (0.005mm step)

Model No.	Nominal Size (mm)	Pins per set	Pin Vise
AA-0E	0.500 · 0.505 · 0.510 0.750	51	PV-0B
AA-0F	0.750 · 0.755 · 0.760 1.000	51	PV-0B
AA-1C	1.000 · 1.005 · 1.010 1.250	51	PV-1A
AA-1D	1.250 · 1.255 · 1.260 1.500	51	PV-1A
AA-1E	1.500 · 1.505 · 1.510 1.750	51	PV-1B
AA-1F	1.750 · 1.755 · 1.760 2.000	51	PV-1B
AA-2C	2.000 · 2.005 · 2.010 2.250	51	PV-2A
AA-2D	2.250 · 2.255 · 2.260 2.500	51	PV-2A
AA-2E	2.500 · 2.505 · 2.510 2.750	51	PV-2B
AA-2F	2.750 · 2.755 · 2.760 3.000	51	PV-2B
AA-3C	3.000 · 3.005 · 3.010 3.250	51	PV-3A
AA-3D	3.250 · 3.255 · 3.260 3.500	51	PV-3A
AA-3E	3.500 · 3.505 · 3.510 3.750	51	PV-3B
AA-3F	3.750 · 3.755 · 3.760 4.000	51	PV-3B
AA-4C	4.000 · 4.005 · 4.010 4.250	51	PV-4A
AA-4D	4.250 · 4.255 · 4.260 4.500	51	PV-4A
AA-4E	4.500 · 4.505 · 4.510 4.750	51	PV-4B
AA-4F	4.750 · 4.755 · 4.760 5.000	51	PV-4B
AA-5C	5.000 · 5.005 · 5.010 5.250	51	PV-5A
AA-5D	5.250 · 5.255 · 5.260 5.500	51	PV-5A
AA-5E	5.500 · 5.505 · 5.510 5.750	51	PV-5B
AA-5F	5.750 · 5.755 · 5.760 6.000	51	PV-5B
AA-6C	6.000 · 6.005 · 6.010 6.250	51	PV-6A
AA-6D	6.250 · 6.255 · 6.260 6.500	51	PV-6A
AA-6E	6.500 · 6.505 · 6.510 6.750	51	PV-6B
AA-6F	6.750 · 6.755 · 6.760 7.000	51	PV-6B
AA-7C	7.000 · 7.005 · 7.010 7.250	51	
AA-7D	7.250 · 7.255 · 7.260 7.500	51	
AA-7E	7.500 · 7.505 · 7.510 7.750	51	
AA-7F	7.750 · 7.755 · 7.760 8.000	51	
AA-8C	8.000 · 8.005 · 8.010 8.250	51	
AA-8D	8.250 · 8.255 · 8.260 8.500	51	
AA-8E	8.500 · 8.505 · 8.510 8.750	51	
AA-8F	8.750 · 8.755 · 8.760 9.000	51	
AA-9C	9.000 · 9.005 · 9.010 9.250	51	
AA-9D	9.250 · 9.255 · 9.260 9.500	51	
AA-9E	9.500 · 9.505 · 9.510 9.750	51	
AA-9F	9.750 · 9.755 · 9.760 10.000	51	

BLOCK GAUGES

PIN GAUGES

PIN VISE

PIN GAUGE ACCESSORIES

GAUGES

THREAD GAUGES

PLUG GAUGES

RING GAUGES

THICKNESS GAUGES

TAPER GAUGES

WELDING GAUGES

OTHER GAUGES



STEEL PIN GAUGE SET SA series

JCSS Calibration available

T RACEABILITY

STEEL PIN GAUGES SET

High precision quality pin gauge
SUB-ZERO TREATMENT (Cryogenic hardened)



06

BLOCK GAUGES

PIN GAUGES

PIN VISE

PIN GAUGE ACCESSORIES

GAUGES

THREAD GAUGES

PLUG GAUGES

RING GAUGES

THICKNESS GAUGES

TAPER GAUGES

WELDING GAUGES

OTHER GAUGES

FEATURES

High precision quality pin gauge

SPECIFICATIONS

Nominal Size (mm)	Step (mm)	Length (mm)	Tolerance (µm)	Out of Roundness (µm)	Out of Cylindricity (µm)	Hardness (HV)
0.100... 0.199	0.001 step	40	± 0.3	0.3	0.3	More than 650
0.200... 0.999						
1.000... 7.000		50	± 0.5	0.5	0.5	
7.001... 7.010						
7.011...10.000						

(0.001mm step)

Model No.	Nominal size (mm)	Pins per set
SA-03	0.297 0.310	14
SA-04	0.397 0.410	14
SA-05	0.497 0.510	14
SA-06	0.597 0.610	14
SA-07	0.697 0.710	14
SA-08	0.797 0.810	14
SA-09	0.897 0.910	14
SA-10	0.997 1.010	14
SA-11	1.097 1.110	14
SA-12	1.197 1.210	14
SA-13	1.297 1.310	14
SA-14	1.397 1.410	14
SA-15	1.497 1.510	14
SA-16	1.597 1.610	14
SA-17	1.697 1.710	14
SA-18	1.797 1.810	14
SA-19	1.897 1.910	14
SA-20	1.997 2.010	14
SA-21	2.097 2.110	14
SA-22	2.197 2.210	14
SA-23	2.297 2.310	14
SA-24	2.397 2.410	14
SA-25	2.497 2.510	14
SA-26	2.597 2.610	14
SA-27	2.697 2.710	14
SA-28	2.797 2.810	14
SA-29	2.897 2.910	14
SA-30	2.997 3.010	14
SA-31	3.097 3.110	14
SA-32	3.197 3.210	14
SA-33	3.297 3.310	14
SA-34	3.397 3.410	14
SA-35	3.497 3.510	14
SA-36	3.597 3.610	14

Model No.	Nominal size (mm)	Pins per set
SA-37	3.697 3.710	14
SA-38	3.797 3.810	14
SA-39	3.897 3.910	14
SA-40	3.997 4.010	14
SA-41	4.097 4.110	14
SA-42	4.197 4.210	14
SA-43	4.297 4.310	14
SA-44	4.397 4.410	14
SA-45	4.497 4.510	14
SA-46	4.597 4.610	14
SA-47	4.697 4.710	14
SA-48	4.797 4.810	14
SA-49	4.897 4.910	14
SA-50	4.997 5.010	14
SA-51	5.097 5.110	14
SA-52	5.197 5.210	14
SA-53	5.297 5.310	14
SA-54	5.397 5.410	14
SA-55	5.497 5.510	14
SA-56	5.597 5.610	14
SA-57	5.697 5.710	14
SA-58	5.797 5.810	14
SA-59	5.897 5.910	14
SA-60	5.997 6.010	14
SA-61	6.097 6.110	14
SA-62	6.197 6.210	14
SA-63	6.297 6.310	14
SA-64	6.397 6.410	14
SA-65	6.497 6.510	14
SA-66	6.597 6.610	14
SA-67	6.697 6.710	14
SA-68	6.797 6.810	14
SA-69	6.897 6.910	14
SA-70	6.997 7.010	14

New Product! For checking of shallow holes, for those concerned about gauge wear
SUB-ZERO TREATMENT (Cryogenic hardened)



FEATURES

- Wear-line on both ends of pin gauge, able to see gauge wear.
- When line disappears, wear is more than about 1µm
- Individual pin gauges are also available

Set No.

Set No.	Nominal Size (mm)	Step (mm)	Pins per Set	Aluminum Pin vise
AML-3A	3.000 · 3.010 · 3.020 3.500	0.010 step	51	APV-3A
AML-3B	3.500 · 3.510 · 3.520 4.000		51	APV-3B
AML-4A	4.000 · 4.010 · 4.020 4.500		51	APV-4A
AML-4B	4.500 · 4.510 · 4.520 5.000		51	APV-4B
AML-5A	5.000 · 5.010 · 5.020 5.500		51	APV-5A
AML-5B	5.500 · 5.510 · 5.520 6.000		51	APV-5B
AML-6A	6.000 · 6.010 · 6.020 6.500		51	APV-6A
AML-6B	6.500 · 6.510 · 6.520 7.000		51	APV-6B
AML-7A	7.000 · 7.010 · 7.020 7.500		51	APV-7A
AML-7B	7.500 · 7.510 · 7.520 8.000		51	APV-7B
AML-8A	8.000 · 8.010 · 8.020 8.500		51	APV-8A
AML-8B	8.500 · 8.510 · 8.520 9.000		51	APV-8B
AML-9A	9.000 · 9.010 · 9.020 9.500		51	APV-9A
AML-9B	9.500 · 9.510 · 9.520 10.000		51	APV-9B

SPECIFICATIONS

Size (mm)	Step (mm)	Length (mm)	Tolerance (µm)	Roundness (µm)	Cylindricity (µm)	Hardness (HV)
3.00 ... 3.99	0.010 step	50	± 0.8	0.5	0.5	More than 650
4.00 ... 4.99						
5.00 ... 6.00						
6.01 ... 6.99						
7.00 ... 7.99						
8.00 ... 8.99						
9.00 ... 10.00						

0.001 step pin gauges are also available on request. (Please contact us with request)



SUB-ZERO TREATMENT (Cryogenic hardened)



FEATURES

For high use applications
 Same specifications as AA series
 Custom made Pin Gauge sets are available on request
 Pin Vise is not included

AP series

(0.100mm step)

Model No.	Nominal size (mm)	Pin per set
AP-1	1.000 · 1.100 · 1.200 5.000	41
AP-2	5.000 · 5.100 · 5.200 10.000	51
AP-3	10.000 · 10.10 · 10.20 15.00	51
AP-4	15.00 · 15.10 · 15.20 20.00	51

AS series

(0.010mm step)

Consist of Pin Gauge in the range of $\pm 0.05\text{mm}$ based on integer number size.

Model No.	Nominal size (mm)	Pin per set
AS-1	0.950 · 0.960 1.000 1.040 · 1.050	55
	1.950 · 1.960 2.000 2.040 · 2.050	
	2.950 · 2.960 3.000 3.040 · 3.050	
	3.950 · 3.960 4.000 4.040 · 4.050	
AS-2	4.950 · 4.960 5.000 5.040 · 5.050	55
	5.950 · 5.960 6.000 6.040 · 6.050	
	6.950 · 6.960 7.000 7.040 · 7.050	
	7.950 · 7.960 8.000 8.040 · 8.050	
AS-3	8.950 · 8.960 9.000 9.040 · 9.050	55
	9.950 · 9.960 10.000 10.04 · 10.05	
	10.95 · 10.96 11.00 11.04 · 11.05	
	11.95 · 11.96 12.00 12.04 · 12.05	
AS-4	12.95 · 12.96 13.00 13.04 · 13.05	55
	13.95 · 13.96 14.00 14.04 · 14.05	
	14.95 · 14.96 15.00 15.04 · 15.05	
	15.95 · 15.96 16.00 16.04 · 16.05	
ASP-1	16.95 · 16.96 17.00 17.04 · 17.05	55
	17.95 · 17.96 18.00 18.04 · 18.05	
	18.95 · 18.96 19.00 19.04 · 19.05	
	19.95 · 19.96 20.00 20.04 · 20.05	
ASP-2	0.450 · 0.460 0.500 0.540 · 0.550	55
	1.450 · 1.460 1.500 1.540 · 1.550	
	2.450 · 2.460 2.500 2.540 · 2.550	
	3.450 · 3.460 3.500 3.540 · 3.550	
ASP-3	4.450 · 4.460 4.500 4.540 · 4.550	55
	5.450 · 5.460 5.500 5.540 · 5.550	
	6.450 · 6.460 6.500 6.540 · 6.550	
	7.450 · 7.460 7.500 7.540 · 7.550	
ASP-4	8.450 · 8.460 8.500 8.540 · 8.550	55
	9.450 · 9.460 9.500 9.540 · 9.550	
	10.45 · 10.46 10.50 10.54 · 10.55	
	11.45 · 11.46 11.50 11.54 · 11.55	
ASP-5	12.45 · 12.46 12.50 12.54 · 12.55	55
	13.45 · 13.46 13.50 13.54 · 13.55	
	14.45 · 14.46 14.50 14.54 · 14.55	
	15.45 · 15.46 15.50 15.54 · 15.55	
ASP-6	16.45 · 16.46 16.50 16.54 · 16.55	55
	17.45 · 17.46 17.50 17.54 · 17.55	
	18.45 · 18.46 18.50 18.54 · 18.55	
	19.45 · 19.46 19.50 19.54 · 19.55	

AH series

(0.050mm step)

Model No.	Nominal size (mm)	Pin per set
AH-0	0.200 · 0.250 · 0.300 ... 1.000	17
AH-1	1.000 · 1.050 · 1.100 ... 3.500	51
AH-2	3.500 · 3.550 · 3.600 ... 6.000	51
AH-3	6.000 · 6.050 · 6.100 ... 8.500	51
AH-4	8.500 · 8.550 · 8.600 ... 11.00	51
AH-5	11.00 · 11.05 · 11.10 ... 13.50	51
AH-6	13.50 · 13.55 · 13.60 ... 16.00	51
AH-7	16.00 · 16.05 · 16.10 ... 18.50	51
AH-8	18.50 · 18.55 · 18.60 ... 20.00	31

AAP Series

(0.010mm step)

Consist of intermediate nominal size Pin Gauges of AA Series.

Model No.	Nominal size (mm)	Pin per set
AAP-0B	0.505 · 0.515 · 0.525... 1.005	51
AAP-1A	1.005 · 1.015 · 1.025... 1.505	51
AAP-1B	1.505 · 1.515 · 1.525... 2.005	51
AAP-2A	2.005 · 2.015 · 2.025... 2.505	51
AAP-2B	2.505 · 2.515 · 2.525... 3.005	51
AAP-3A	3.005 · 3.015 · 3.025... 3.505	51
AAP-3B	3.505 · 3.515 · 3.525... 4.005	51
AAP-4A	4.005 · 4.015 · 4.025... 4.505	51
AAP-4B	4.505 · 4.515 · 4.525... 5.005	51
AAP-5A	5.005 · 5.015 · 5.025... 5.505	51
AAP-5B	5.505 · 5.515 · 5.525... 6.005	51
AAP-6A	6.005 · 6.015 · 6.025... 6.505	51
AAP-6B	6.505 · 6.515 · 6.525... 7.005	51
AAP-7A	7.005 · 7.015 · 7.025... 7.505	51
AAP-7B	7.505 · 7.515 · 7.525... 8.005	51
AAP-8A	8.005 · 8.015 · 8.025... 8.505	51
AAP-8B	8.505 · 8.515 · 8.525... 9.005	51
AAP-9A	9.005 · 9.015 · 9.025... 9.505	51
AAP-9B	9.505 · 9.515 · 9.525... 10.005	51

BLOCK GAUGES

PIN GAUGES

PIN VISE

PIN GAUGE ACCESSORIES

GAUGES

THREAD GAUGES

PLUG GAUGES

RING GAUGES

THICKNESS GAUGES

TAPER GAUGES

WELDING GAUGES

OTHER GAUGES

SUB-ZERO TREATMENT (Cryogenic hardened)

PM series

FEATURES

Pin Gauges with tolerance of 0 to plus 2µm or 0 to minus 2µm based on nominal size
 For over 1.000mm, nominal size and P(for Plus) or M(for Minus) is marked on gauges
 Please indicate "plus" or "minus" when ordering
 Individual Pin Gauges are also available



PG series

FEATURES

Pin Gauges with tolerance of +2 to +5µm (or -2 to -5µm) based on nominal size
 Please indicate "plus" or "minus" when ordering
 Individual Pin Gauges are also available



Pin Vise is not included
 PG-00 and PG-3 differ in size step

SPECIFICATIONS

Size (mm)	Step (mm)	Length (mm)	Tolerance (µm)	Out of Roundness/ Cylindricity (µm)	Hardness (HV)
0.20... 0.99	0.01 step	40	Plus or Minus 0 ~ 2	1.0	Over 650
1.00...10.00		50			

(0.01mm step)

Model No.	Nominal size (mm)	Pins per set	Pin Vise
PM-0A	0.20 • 0.21 • 0.22.....0.50	31	-
PM-0B	0.50 • 0.51 • 0.52.....1.00	51	PV-0B
PM-1A	1.00 • 1.01 • 1.02..... 1.50	51	PV-1A
PM-1B	1.50 • 1.51 • 1.52..... 2.00	51	PV-1B
PM-2A	2.00 • 2.01 • 2.02.....2.50	51	PV-2A
PM-2B	2.50 • 2.51 • 2.52.....3.00	51	PV-2B
PM-3A	3.00 • 3.01 • 3.02.....3.50	51	PV-3A
PM-3B	3.50 • 3.51 • 3.52.....4.00	51	PV-3B
PM-4A	4.00 • 4.01 • 4.02.....4.50	51	PV-4A
PM-4B	4.50 • 4.51 • 4.52.....5.00	51	PV-4B
PM-5A	5.00 • 5.01 • 5.02.....5.50	51	PV-5A
PM-5B	5.50 • 5.51 • 5.52.....6.00	51	PV-5B
PM-6A	6.00 • 6.01 • 6.02.....6.50	51	PV-6A
PM-6B	6.50 • 6.51 • 6.52.....7.00	51	PV-6B
PM-7A	7.00 • 7.01 • 7.02.....7.50	51	-
PM-7B	7.50 • 7.51 • 7.52.....8.00	51	-
PM-8A	8.00 • 8.01 • 8.02.....8.50	51	-
PM-8B	8.50 • 8.51 • 8.52.....9.00	51	-
PM-9A	9.00 • 9.01 • 9.02.....9.50	51	-
PM-9B	9.50 • 9.51 • 9.52.....10.00	51	-

SPECIFICATIONS

Nominal size (mm)	Step (mm)	Length (mm)	Tolerance (µm)	Out of Roundness/ Cylindricity (µm)	Hardness (HV)
0.100 ... 0.190	0.01 step	20	2 ~ 5 based on nominal size	1.5	Over 650
0.200 ... 0.290		40			
0.300 ... 0.975	0.025 step	50	2 ~ 5 based on nominal size		
1.000 ...12.975					
13.000 ...19.000	0.1 step				

The tolerance of 13.000 ~ 19.000 Pin Gauges is with Plus (or Minus) 1 ~ 5µm

Model No.	Nominal size	Step	Pins per set
PG-00	0.100• 0.110• 0.120 ... 0.290	0.01 step	20
PG-0	0.300• 0.325• 0.350 ... 1.525	0.025 step	50
PG-1	1.550• 1.575• 1.600 ... 6.275		190
PG-2A	6.300• 6.325• 6.350 ... 9.775		140
PG-2B	9.800• 9.825• 9.850 ...12.525		110
PG-2C	12.550•12.575•12.600 ...12.975		18
PG-3	13.000•13.100•13.200 ...19.000	0.1 step	61

BLOCK GAUGES

PIN GAUGES

PIN VISE

PIN GAUGE ACCESSORIES

GAUGES

THREAD GAUGES

PLUG GAUGES

RING GAUGES

THICKNESS GAUGES

TAPER GAUGES

WELDING GAUGES

OTHER GAUGES



STEEL PIN GAUGE with CENTER HOLE AC series



SUB-ZERO TREATMENT (Cryogenic hardened)



FEATURES

Use for measuring gear runout and eccentricity of gear wheels or pulleys
can also measure squareness between the hole and side face
For above 2.00 mm, the Nominal size is marked on gauge

SPECIFICATIONS

Nominal size (mm)	Step (mm)	Length (mm)	Tolerance (μm)	Out of Roundness (μm)	Out of Cylindricity (μm)	Runout Tolerance (μm)	Center hole Angle	Center hole Diameter (mm)	Hardness (HV)
2.00... 2.99	0.01 step	50	± 2.0	1.0	1.0	Within 2.0	60°	1.3	More than 650
3.00... 3.99								1.8	
4.00... 6.99								2.4	
7.00...10.00								4.0	

BLOCK GAUGES

PIN GAUGES

PIN VISE

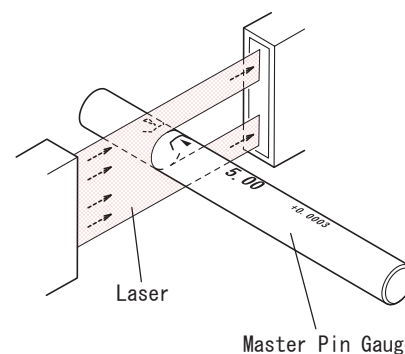
PIN GAUGE ACCESSORIES

MASTER PIN GAUGE



SUB-ZERO TREATMENT (Cryogenic hardened)

Example use



Calibrating a laser thickness gauge using the marked area of the master pin gauge

FEATURES

Actual value of the specific area is marked on pin gauge

SPECIFICATIONS

Nominal size (mm)	Step (mm)	Length (mm)	Uncertainty (μm)	Out of Roundness (μm)	Hardness (HV)
1.00...4.00	0.01	50	0.4	0.5	More than 650
4.01...6.00					

THREAD GAUGES

PLUG GAUGES

RING GAUGES

THICKNESS GAUGES

TAPER GAUGES

WELDING GAUGES

OTHER GAUGES

SUB-ZERO TREATMENT (Cryogenic hardened)



FEATURES

- AA series Pin Gauge with Plastic handle
- Easy to handle for measuring
- Less affected by temperature
- The handle protects Pin Gauges from skin oil and salts
- Size is marked on each plastic handle
- Individual pin gauges are also available

BLOCK GAUGES

PIN GAUGES

PIN VISE

PIN GAUGE ACCESSORIES

SPECIFICATIONS

Nominal size (mm)	Step (mm)	Length (mm)		Tolerance (µm)	Out of Roundness (µm)	Out of Cylindricity (µm)	Hardness (HV)
		Gauge Length	Overall Length				
0.07... 0.09	0.01 step	3	41	± 0.5	0.5	0.5	More than 650
0.10... 0.19							
0.20... 0.29							
0.30... 0.49		10	48				
0.50... 0.99		20	58				
1.00... 5.00		30	71				
5.01...10.00	76						

Exceptionally, for 1.00mm Pin Gauge in Set No. AG-0B -- Gauge Length: 20mm/ Overall Length: 58mm

(0.01mm step)

Model No.	Nominal size(mm)	Pins per set
AG-0A	0.20•0.21•0.22... 0.50	31
AG-0B	0.50•0.51•0.52... 1.00	51
AG-1A	1.00•1.01•1.02... 1.50	51
AG-1B	1.50•1.51•1.52... 2.00	51
AG-2A	2.00•2.01•2.02... 2.50	51
AG-2B	2.50•2.51•2.52... 3.00	51
AG-3A	3.00•3.01•3.02... 3.50	51
AG-3B	3.50•3.51•3.52... 4.00	51
AG-4A	4.00•4.01•4.02... 4.50	51
AG-4B	4.50•4.51•4.52... 5.00	51
AG-5A	5.00•5.01•5.02... 5.50	51
AG-5B	5.50•5.51•5.52... 6.00	51
AG-6A	6.00•6.01•6.02... 6.50	51
AG-6B	6.50•6.51•6.52... 7.00	51
AG-7A	7.00•7.01•7.02... 7.50	51
AG-7B	7.50•7.51•7.52... 8.00	51
AG-8A	8.00•8.01•8.02... 8.50	51
AG-8B	8.50•8.51•8.52... 9.00	51
AG-9A	9.00•9.01•9.02... 9.50	51
AG-9B	9.50•9.51•9.52...10.00	51

GAUGES

THREAD GAUGES

PLUG GAUGES

RING GAUGES

THICKNESS GAUGES

TAPER GAUGES

WELDING GAUGES

OTHER GAUGES



SUB-ZERO TREATMENT (Cryogenic hardened)

FEATURES

For quick and accurate over-pin diameter measurement of internal and external gears.

(magnetize the pin for easy handling)

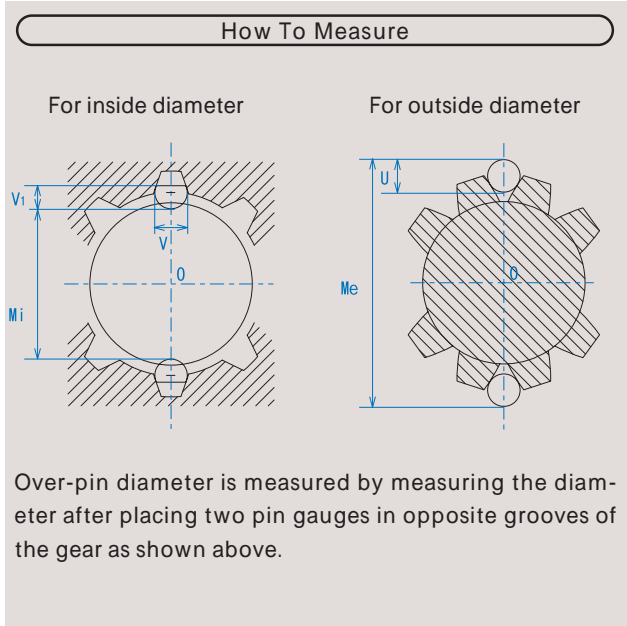
OP series gauge is for measuring over pin diameter of gears and involute splines. Each module is a set of 2 pins each for measuring external gear over-pin-diameter, and internal gear over-pin-diameter.

Individual pin gauges are also available

Custom made pin gauges are available upon request.

To determine proper pin gauge, please note the following.

- 1) For inside diameter or outside diameter
- 2) Module or diametrical pitch
- 3) Number of teeth
- 4) Pressure angle
- 5) Profile shift coefficient
- 6) Torsion angle



OP-1

Module (mm)	Inner dia. (hole) pin diameter (V) × groove height (V ₁ , X) mm	Outer (axis) pin diameter (U) (mm)
0.5	1.00 × 0.84	0.90
1.0	2.00 × 1.68	1.80
1.25	2.50 × 2.10 2.40 × 2.00 1	2.25 —
1.667	3.333 × 2.80	3.00
2.5	5.00 × 4.26	4.50
5.0	10.00 × 8.40	9.00
10.0	20.00 × 16.80	18.00

1 Module 1.25 is used for tooth 8 · 12

OP-2

Module (mm)	Inner dia.(hole) pin diameter (V) × groove height (V ₁ , X) mm	Outer(axis) pin diameter (U) (mm)
0.75	1.50 × 1.20	1.35 1.40 2
1.5	3.00 × 2.52	2.70
2.0	4.00 × 3.36	3.60
3.0	6.00 × 5.04 1	5.40
3.75	7.50 × 6.30	6.75 7.00 3
4.5	9.00 × 7.56	8.10
6.0	12.00 × 10.08	10.80
7.5	15.00 × 12.60	13.50

2)Module 0.75 is used for tooth 6 · 7 · 8 · 9 · 10 · 11

3)Module 3.75 is used for tooth 6 · 7 · 8 · 9 · 10 · 11

OP-3

This is combination set of OP-1 and OP-2

SPECIFICATIONS

Dimensional deviation (V and U)	0.90mm ~ 10.00mm : ± 1 μm 10.01mm ~ 20.00mm : ± 1.5 μm
Out of Roundness/ Cylindricity	0.90mm ~ 10.00mm : ± 1 μm 10.01mm ~ 20.00mm : ± 1.5 μm
Length	50mm
Hardness	Over HV650

BLOCK GAUGES

PIN GAUGES

PIN VISE

PIN GAUGE ACCESSORIES

GAUGES

THREAD GAUGES

PLUG GAUGES

RING GAUGES

THICKNESS GAUGES

TAPER GAUGES

WELDING GAUGES

OTHER GAUGES

LAPPED FINISH (except for custom made item)

FEATURES

- About 20-30 times more durable than Steel Pin Gauge
- The coefficient of thermal expansion is small (1/2 of steel, $5 \times 10^{-6} K^{-1}$) so the changes due to temperature are small
- Less likely to be damaged due to high hardness

- Even if broken, dimension does not change (no burrs on broken edges)
- Economical--Periodic calibration is not required

TAAseries



TAG series (with Handle)



TAA series Pin Gauge with plastic handle

SPECIFICATIONS

Nominal size (mm)	Step (mm)	Length (mm)	Tolerance (μm)	Out of Roundness/ Cylindricity (μm)
0.50... 0.99	0.01 step	30	± 1	0.8
1.00... 2.99		38		
3.00...10.00		50	± 1.5	1.3
10.01...14.00				

(0.01mm step)

Model No.	Nominal size (mm)	Pins per set
TAA-0B	0.50·0.51·0.52... 1.00	51
TAA-1A	1.00·1.01·1.02... 1.50	51
TAA-1B	1.50·1.51·1.52... 2.00	51
TAA-2A	2.00·2.01·2.02... 2.50	51
TAA-2B	2.50·2.51·2.52... 3.00	51
TAA-3A	3.00·3.01·3.02... 3.50	51
TAA-3B	3.50·3.51·3.52... 4.00	51
TAA-4A	4.00·4.01·4.02... 4.50	51
TAA-4B	4.50·4.51·4.52... 5.00	51
TAA-5A	5.00·5.01·5.02... 5.50	51
TAA-5B	5.50·5.51·5.52... 6.00	51
TAA-6A	6.00·6.01·6.02... 6.50	51
TAA-6B	6.50·6.51·6.52... 7.00	51
TAA-7A	7.00·7.01·7.02... 7.50	51
TAA-7B	7.50·7.51·7.52... 8.00	51
TAA-8A	8.00·8.01·8.02... 8.50	51
TAA-8B	8.50·8.51·8.52... 9.00	51
TAA-9A	9.00·9.01·9.02... 9.50	51
TAA-9B	9.50·9.51·9.52... 10.00	51

SPECIFICATIONS

Nominal size (mm)	Step (mm)	Length (mm)		Tolerance (μm)	Out of Roundness/ Cylindricity (μm)
		Gauge Length	Overall Length		
0.50... 0.99	0.01 step	25	63	± 1	0.8
1.00... 2.99		28	69		
3.00... 4.99		30	71		
5.00...10.00			76		

(0.01mm step)

Model No.	Nominal size (mm)	Pins per set
TAG-0B	0.50·0.51·0.52... 1.00	51
TAG-1A	1.00·1.01·1.02... 1.50	51
TAG-1B	1.50·1.51·1.52... 2.00	51
TAG-2A	2.00·2.01·2.02... 2.50	51
TAG-2B	2.50·2.51·2.52... 3.00	51
TAG-3A	3.00·3.01·3.02... 3.50	51
TAG-3B	3.50·3.51·3.52... 4.00	51
TAG-4A	4.00·4.01·4.02... 4.50	51
TAG-4B	4.50·4.51·4.52... 5.00	51
TAG-5A	5.00·5.01·5.02... 5.50	51
TAG-5B	5.50·5.51·5.52... 6.00	51
TAG-6A	6.00·6.01·6.02... 6.50	51
TAG-6B	6.50·6.51·6.52... 7.00	51
TAG-7A	7.00·7.01·7.02... 7.50	51
TAG-7B	7.50·7.51·7.52... 8.00	51
TAG-8A	8.00·8.01·8.02... 8.50	51
TAG-8B	8.50·8.51·8.52... 9.00	51
TAG-9A	9.00·9.01·9.02... 9.50	51
TAG-9B	9.50·9.51·9.52... 10.00	51

BLOCK GAUGES

PIN GAUGES

PIN VISE

PIN GAUGE ACCESSORIES

GAUGES

THREAD GAUGES

PLUG GAUGES

RING GAUGES

THICKNESS GAUGES

TAPER GAUGES

WELDING GAUGES

OTHER GAUGES



LAPPED FINISH (except for custom made item)

FEATURES

- Strong against abrasion
- Free from rust and corrosion, and easy maintenance
- Ceramic material is less susceptible to abrasion and age deterioration than steel
- Non-magnetic
- For above 1.50mm, Nominal size is laser marked on gauge

Comparison between carbide and steel materials

Item	Material	Ceramics		Cemented Carbide (G2)	Steel (SKH)
		0.50 ~ 2.49	2.50 ~ 10.00		
Specific Gravity		5.5 ~ 6.0	3.6 ~ 3.9	14.8	7.8
Hardness	HV	1,200	1,800	1,200	730 (Harden)
Bending strength	GPa	2.4 ~ 7.9	3.1 ~ 3.5	22	110 ~ 180
Young's Modulus	GPa	180 ~ 240	310 ~ 370	610	205
Coefficient of thermal expansion	10 ⁻⁶ /K	10.5	8	5	11
Heat conductivity	W/m·K	2	20 ~ 30	80	76

CAA series



CAG Series (with Handle)



CAA series Pin Gauge with plastic handle.

06

BLOCK GAUGES

PIN GAUGES

PIN VISE

PIN GAUGE ACCESSORIES

GAUGES

SPECIFICATIONS

Nominal size (mm)	Step (mm)	Length (mm)	Tolerance (μm)	Out of Roundness/ Cylindricity (μm)
2.50...2.99				
3.00...3.49				
3.50...9.99				
10.00		50		

Length can be changed without any prior notice due to improvement of product.

(0.01mm step)

Model No.	Nominal size (mm)	Pins per set
CAA-0B	0.50·0.51·0.52... 1.00	51
CAA-1A	1.00·1.01·1.02... 1.50	51
CAA-1B	1.50·1.51·1.52... 2.00	51
CAA-2A	2.00·2.01·2.02... 2.50	51
CAA-2B	2.50·2.51·2.52... 3.00	51
CAA-3A	3.00·3.01·3.02... 3.50	51
CAA-3B	3.50·3.51·3.52... 4.00	51
CAA-4A	4.00·4.01·4.02... 4.50	51
CAA-4B	4.50·4.51·4.52... 5.00	51
CAA-5A	5.00·5.01·5.02... 5.50	51
CAA-5B	5.50·5.51·5.52... 6.00	51
CAA-6A	6.00·6.01·6.02... 6.50	51
CAA-6B	6.50·6.51·6.52... 7.00	51
CAA-7A	7.00·7.01·7.02... 7.50	51
CAA-7B	7.50·7.51·7.52... 8.00	51
CAA-8A	8.00·8.01·8.02... 8.50	51
CAA-8B	8.50·8.51·8.52... 9.00	51
CAA-9A	9.00·9.01·9.02... 9.50	51
CAA-9B	9.50·9.51·9.52...10.00	51

SPECIFICATIONS

Nominal size (mm)	Step (mm)	Length (mm)		Tolerance (μm)	Out of Roundness/ Cylindricity (μm)
		Gauge Length	Overall Length		
0.50... 0.99	0.01 step	28	66	± 1	0.8
1.00... 3.49		28	69		
3.50... 4.99		30	71		
5.00...10.00		30	76		

Length can be changed without any prior notice due to improvement of product.

(0.01mm step)

Model No.	Nominal size (mm)	Pins per set
CAG-0B	0.50·0.51·0.52... 1.00	51
CAG-1A	1.00·1.01·1.02... 1.50	51
CAG-1B	1.50·1.51·1.52... 2.00	51
CAG-2A	2.00·2.01·2.02... 2.50	51
CAG-2B	2.50·2.51·2.52... 3.00	51
CAG-3A	3.00·3.01·3.02... 3.50	51
CAG-3B	3.50·3.51·3.52... 4.00	51
CAG-4A	4.00·4.01·4.02... 4.50	51
CAG-4B	4.50·4.51·4.52... 5.00	51
CAG-5A	5.00·5.01·5.02... 5.50	51
CAG-5B	5.50·5.51·5.52... 6.00	51
CAG-6A	6.00·6.01·6.02... 6.50	51
CAG-6B	6.50·6.51·6.52... 7.00	51
CAG-7A	7.00·7.01·7.02... 7.50	51
CAG-7B	7.50·7.51·7.52... 8.00	51
CAG-8A	8.00·8.01·8.02... 8.50	51
CAG-8B	8.50·8.51·8.52... 9.00	51
CAG-9A	9.00·9.01·9.02... 9.50	51
CAG-9B	9.50·9.51·9.52...10.00	51

THREAD GAUGES

PLUG GAUGES

RING GAUGES

THICKNESS GAUGES

TAPER GAUGES

WELDING GAUGES

OTHER GAUGES

PIN GAUGE ACCESSORIES

PLASTIC CASE



Removable lid for use as tray



Stands



Stacks



PCS-1
AA series AA-00 ~ AA-6B
TAA series TAA-0B ~ TAA-6B
CAA series CAA-0B ~ CAA-6B

PCS-2
AA series AA-7A ~ AA-15B
TAA series AA-7A ~ TAA-9B
CAA series CAA-7A ~ CAA-9B

WOODEN CASE



W-1
STEEL PIN GAUGE SET PG-00 PG-0

W-2
STEEL PIN GAUGE SET PG-2C

W-3	
W-3A	STEEL PIN GAUGE SET PG-1 PG-2A PG-2B
W-3B	STEEL PIN GAUGE SET PG-3

W-4
STEEL PIN GAUGE SET with handle AG-0A ~ AG-4B
CARBIDE PIN GAUGE SET with handle TAG-0A ~ TAG-4B
CERAMIC PIN GAUGE SET with handle CAG-0A ~ CAG-4B

W-5
STEEL PIN GAUGE SET AG-5A ~ AG-9B
CARBIDE PIN GAUGE SET TAG-5A ~ TAG-9B
CERAMIC PIN GAUGE CAG-5A ~ CAG-9B

PIN GAUGE CABINET P-5C

Pin gauge storage cabinet can store up to 10 pin gauge sets

All drawers can be locked at once

Lock

Applicable case : PCS-1, PCS-2

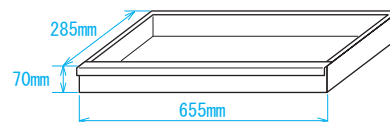


Handle can be mounted either right side or left side

Handle

Caster

【Drawer dimensions (removed)】



Pin gauges are not included

Order No.	Model No.	Product Dimensions(mm)	Weight
217930	P-5C	W655 x D350 x H630	36kg

MAINTENANCE KIT



USE For pin gauge maintenance

FEATURES Plastic case for easy to carry

PLASTIC CASE for individual pin gauge



For Steel Pin Gauge			
22.00 ~ 30.00	16.00 ~ 22.00	7.000 ~ 16.00	0.060 ~ 7.000



For Carbide Pin Gauge		For Ceramic Pin Gauge		For Maintenance Line Pin Gauge	
7.00 ~ 10.00	0.50 ~ 7.00	7.00 ~ 10.00	0.50 ~ 7.00	7.00 ~ 10.00	3.00 ~ 7.00

BLOCK GAUGES

PIN GAUGES

PIN VISE

PIN GAUGE ACCESSORIES

GAUGES

THREAD GAUGES

PLUG GAUGES

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THICKNESS GAUGES

TAPER GAUGES

WELDING GAUGES

OTHER GAUGES



ALUMINUM PIN VISE

USE For holding pin gauge

FEATURES

Body : Aluminum

With special made resin collet, Aluminum Pin Vise is strong for deformation, but soft for Pin Gauge

Aluminum Pin Vise can be used as Limit Plug Gauge, holding Pin Gauges in both GO (green) and NO GO (red) side.

Size is marked on the handle.

With Plastic Case

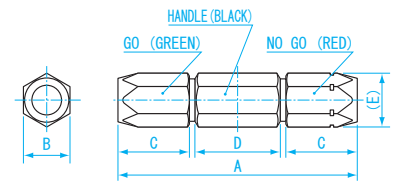


APV-17A



APV-6A

DIMENSIONS



Units : mm

Size	A	B	C	D	E
APV-0A ~ 6B	91	14	23	40	16
APV-7A ~ 9B	90	17	26	34	19.5
APV-10A ~ 12B	105	21	31	39	24
APV-13A ~ 15B	111	24	31	45	27.5
APV-16A ~ 19B	117	28	32	48	32

SPECIFICATIONS

Holding range : 0.5mm

Example use



Order No.	Model No.	Pin Gauge size	Weight
216001	APV-0A	0.200 ~ 0.500	30g
216002	APV-0B	0.500 ~ 1.000	30g
216011	APV-1A	1.000 ~ 1.500	30g
216012	APV-1B	1.500 ~ 2.000	30g
216021	APV-2A	2.000 ~ 2.500	30g
216022	APV-2B	2.500 ~ 3.000	30g
216031	APV-3A	3.000 ~ 3.500	30g
216032	APV-3B	3.500 ~ 4.000	30g
216041	APV-4A	4.000 ~ 4.500	30g
216042	APV-4B	4.500 ~ 5.000	30g
216051	APV-5A	5.000 ~ 5.500	30g
216052	APV-5B	5.500 ~ 6.000	30g
216061	APV-6A	6.000 ~ 6.500	30g
216062	APV-6B	6.500 ~ 7.000	30g
216071	APV-7A	7.000 ~ 7.500	40g
216072	APV-7B	7.500 ~ 8.000	40g
216081	APV-8A	8.000 ~ 8.500	40g
216082	APV-8B	8.500 ~ 9.000	40g
216091	APV-9A	9.000 ~ 9.500	40g
216092	APV-9B	9.500 ~ 10.000	40g
216101	APV-10A	10.000 ~ 10.50	65g
216102	APV-10B	10.50 ~ 11.00	65g
216111	APV-11A	11.00 ~ 11.50	65g
216112	APV-11B	11.50 ~ 12.00	65g
216121	APV-12A	12.00 ~ 12.50	65g
216122	APV-12B	12.50 ~ 13.00	65g
216131	APV-13A	13.00 ~ 13.50	80g
216132	APV-13B	13.50 ~ 14.00	80g
216141	APV-14A	14.00 ~ 14.50	80g
216142	APV-14B	14.50 ~ 15.00	80g
216151	APV-15A	15.00 ~ 15.50	80g
216152	APV-15B	15.50 ~ 16.00	80g
216161	APV-16A	16.00 ~ 16.50	110g
216162	APV-16B	16.50 ~ 17.00	110g
216171	APV-17A	17.00 ~ 17.50	110g
216172	APV-17B	17.50 ~ 18.00	110g
216181	APV-18A	18.00 ~ 18.50	110g
216182	APV-18B	18.50 ~ 19.00	110g
216191	APV-19A	19.00 ~ 19.50	110g
216192	APV-19B	19.50 ~ 20.00	110g

BLOCK GAUGES

PIN GAUGES

PIN VISE

PIN GAUGE ACCESSORIES

GAUGES

THREAD GAUGES

PLUG GAUGES

RING GAUGES

THICKNESS GAUGES

TAPER GAUGES

WELDING GAUGES

OTHER GAUGES

PIN VISE



USE

For holding Pin Gauges

FEATURES

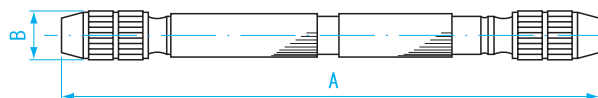
Chrome plated brass

Pin Vise can be used as Limit Plug Gauge by holding Pin Gauges in both GO (no line) and NO GO (red line) side

SPECIFICATIONS

Holding range: 0.5mm

DIMENSIONS



Units : mm

Pin Vise No.	A	B
PV-0A ~ 2B	98	9
PV-3A ~ 4B	104	11
PV-5A ~ 6B	114	14
PV-7A ~ 9B	135	17

BLOCK GAUGES

PIN GAUGES

PIN VISE

PIN GAUGE ACCESSORIES

Order No.	Model No.	Pin Gauge Size	Part No.			Weight
			Ring	Grip	Collet	
219001	PV-0A	0.200 ~ 0.500	B1	B2	B00	30g
219002	PV-0B	0.500 ~ 1.000	B1	B2	B01	30g
219011	PV-1A	1.000 ~ 1.500	B1	B2	B3	30g
219012	PV-1B	1.500 ~ 2.000	B1	B2	B4	30g
219021	PV-2A	2.000 ~ 2.500	B1	B2	B5	30g
219022	PV-2B	2.500 ~ 3.000	B1	B2	B6	30g
219031	PV-3A	3.000 ~ 3.500	B7	B8	B9	40g
219032	PV-3B	3.500 ~ 4.000	B7	B8	B10	40g
219041	PV-4A	4.000 ~ 4.500	B7	B8	B11	40g
219042	PV-4B	4.500 ~ 5.000	B7	B8	B12	40g
219051	PV-5A	5.000 ~ 5.500	B13	B14	B15	70g
219052	PV-5B	5.500 ~ 6.000	B13	B14	B16	80g
219061	PV-6A	6.000 ~ 6.500	B13	B14	B17	80g
219062	PV-6B	6.500 ~ 7.000	B13	B14	B18	80g
219071	PV-7A	7.000 ~ 7.500	B19	B20	B21	110g
219072	PV-7B	7.500 ~ 8.000	B19	B20	B22	110g
219081	PV-8A	8.000 ~ 8.500	B19	B20	B23	110g
219082	PV-8B	8.500 ~ 9.000	B19	B20	B24	110g
219091	PV-9A	9.000 ~ 9.500	B19	B20	B25	110g
219092	PV-9B	9.500 ~ 10.000	B19	B20	B26	110g

GAUGES

THREAD GAUGES

PLUG GAUGES

RING GAUGES

THICKNESS GAUGES

TAPER GAUGES

WELDING GAUGES

OTHER GAUGES



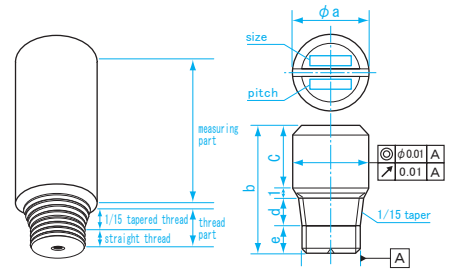
THREAD PIN GAUGE RA

Suitable when screw holes on workpiece is not chamfered



DIMENSIONS

Units : mm



FEATURES

Threaded portion has 1/15 taper starting at half way point to secure gauge to workpiece.

Gauge will hold secure to workpiece for holes that are not chamfered to allow measurement of hole angle, etc. which can not be measured with traditional pin gauges.

Also suitable for deburring Process

Accuracy	Runout between measurement part and thread part : Model No. RA -1...within 0.01mm Runout between measurement part and thread part : Model No. RA -2...within 0.015mm Runout between measurement part and thread part : Model No. RA -3...within 0.02mm Accuracy of a : within ±0.005mm
MATERIAL	Stainless Steel (SUS303)

Size List

Order No.	Model No.	Size	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)
NEW 250011	RA125-1	M1 × P0.25	2	8.0	4.5	1.50	1.00
	RA125-2	M1 × P0.25		13.5	10.0		
	RA125-3	M1 × P0.25		23.5	20.0		
NEW 250014	RA204-1	M2 × P0.4	3	10.0	4.5	2.50	2.00
	RA204-2	M2 × P0.4		25.5	20.0		
	RA204-3	M2 × P0.4		35.5	30.0		
NEW 250017	RA305-1	M3 × P0.5	4	12.0	5.0	3.50	2.50
	RA305-2	M3 × P0.5		27.0	20.0		
	RA305-3	M3 × P0.5		37.0	30.0		
NEW 250020	RA407-1	M4 × P0.7	5	14.0	6.0	3.50	3.50
	RA407-2	M4 × P0.7		28.0	20.0		
	RA407-3	M4 × P0.7		38.0	30.0		
NEW 250023	RA508-1	M5 × P0.8	6	16.0	7.0	4.00	4.00
	RA508-2	M5 × P0.8		29.0	20.0		
	RA508-3	M5 × P0.8		39.0	30.0		
NEW 250026	RA610-1	M6 × P1.0	7	18.0	8.0	4.00	5.00
	RA610-2	M6 × P1.0		30.0	20.0		
	RA610-3	M6 × P1.0		40.0	30.0		
NEW 250029	RA8125-1	M8 × P1.25	9	19.0	8.5	4.50	4.50
	RA8125-2	M8 × P1.25		30.5	20.0		
	RA8125-3	M8 × P1.25		40.5	30.0		
NEW 250032	RA1015-1	M10 × P1.5	11	21.0	8.5	5.50	6.00
	RA1015-2	M10 × P1.5		32.5	20.0		
	RA1015-3	M10 × P1.5		42.5	30.0		
NEW 250035	RA1215-1	M12 × P1.5	13	23.0	8.5	6.50	7.00
	RA1215-2	M12 × P1.5		34.5	20.0		
	RA1215-3	M12 × P1.5		44.5	30.0		
NEW 250038	RA12175-1	M12 × P1.75	13	23.0	8.5	6.50	7.00
	RA12175-2	M12 × P1.75		34.5	20.0		
	RA12175-3	M12 × P1.75		44.5	30.0		
NEW 250041	RA1415-1	M14 × P1.5	15	23.5	8.5	6.50	7.50
	RA1415-2	M14 × P1.5		35.0	20.0		
	RA1415-3	M14 × P1.5		45.0	30.0		
NEW 250044	RA1615-1	M16 × P1.5	17	23.5	8.5	6.50	7.50
	RA1615-2	M16 × P1.5		35.0	20.0		
	RA1615-3	M16 × P1.5		45.0	30.0		
NEW 250047	RA1815-1	M18 × P1.5	19	24.5	8.5	7.00	8.00
	RA1815-2	M18 × P1.5		36.0	20.0		
	RA1815-3	M18 × P1.5		46.0	30.0		

THREAD PIN GAUGE



FEATURES

- Easy handling with simple tool
- Possible to measure easily, economically, accurately compared to other Gauges
- With support of threaded portion, accurate measurement is possible

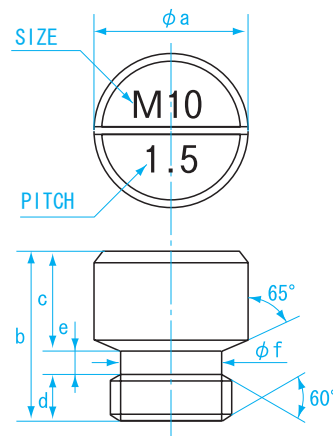
Accuracy	Runout between Measuring Head and Screw: Below 0.01mm Accuracy of Measuring Head (size: a) Below $\pm 0.005\text{mm}$ Screw: equivalent for JIS for the second grade
Material	Stainless steel (SUS303)

Size List

Order No.	Model No.	Size	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f (mm)
360204	THP-0204	M 2 x P0.4	4	9.5	6	3	0.5	1.4
360305	THP-0305	M 3 x P0.5	5					2.2
360407	THP-0407	M 4 x P0.7	6	11	6	4.3	0.7	3
360508	THP-0508	M 5 x P0.8	7					3.9
360607	THP-06075	M 6 x P0.75	8	14	8	5	1	4.5
360610	THP-0610	M 6 x P1.0	8					6
360810	THP-0810	M 8 x P1.0	10	17	8	5.5	1	6
360812	THP-08125	M 8 x P1.25	10					7.5
361010	THP-1010	M10 x P1.0	12	18	10	6.5	1.5	7.5
361012	THP-10125	M10 x P1.25						
361015	THP-1015	M10 x P1.5	14	19	10	7.5	1.5	9.5
361210	THP-1210	M12 x P1.0						
361212	THP-12125	M12 x P1.25	16	20	10	8.5	1.5	11.3
361215	THP-1215	M12 x P1.5						
361217	THP-12175	M12 x P1.75	18	20	10	8.5	1.5	13
361415	THP-1415	M14 x P1.5						
361420	THP-1420	M14 x P2.0	20	20	10	8.5	1.5	14.5
361615	THP-1615	M16 x P1.5						
361620	THP-1620	M16 x P2.0	22	20	10	8.5	1.5	16
361825	THP-1825	M18 x P2.5						
362025	THP-2025	M20 x P2.5	22	20	10	8.5	1.5	16

Custom made Pin Gauge is also available

DIMENSIONS



BLOCK GAUGES

PIN GAUGES

PIN VISE

PIN GAUGE ACCESSORIES

GAUGES

THREAD GAUGES

PLUG GAUGES

RING GAUGES

THICKNESS GAUGES

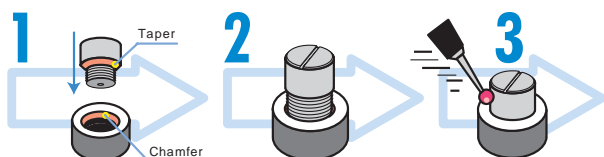
TAPER GAUGES

WELDING GAUGES

OTHER GAUGES

How to use Thread Pin Gauge

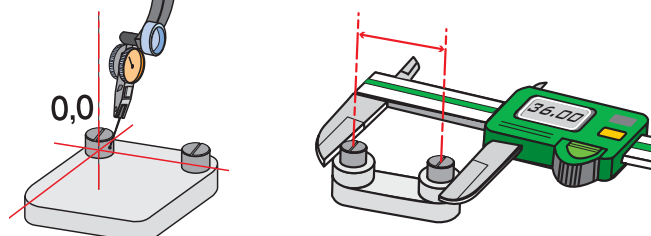
Easily locate threaded hole position with thread pin gauge
CMM can Easily attain the hole center using thread pin gauge



1. Prepare a thread pin gauge the same size as the threaded hole
2. Hand screw the thread pin gauge into the threaded hole
3. Measure!

Example of use

Reference position established with two threaded holes. Pitch measurement between threaded holes



THREAD LIMIT GAUGE

Check accuracy of threads easily using GO/NOGO thread gauges

Category	for Inspection
Thread Plug Gauge, Class 2	GPIP
Thread Ring Gauge, Class 2	GRIR

Thread Gauge for Machine Work (WPWP, GRWR) are also available. ISO type are available on request.

USE For screw thread inspection

FEATURES

Checks upper and lower limit dimensional precision

For each screw size to be measured the corresponding gauge has standard dimensions. The gauge is used to perform GO/NOGO test based on the prescribed minimum and maximum dimensions for each screw grade.

To use test thread using gauge, GO gauge should thread without any difficulties and NOGO gauge should not thread more than two complete revolutions.

THREAD PLUG GAUGE



MATERIAL

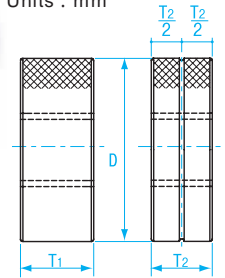
Gauge part : Alloy tool steel
Handle part : Aluminum

THREAD RING GAUGE



DIMENSIONS

Units : mm



MATERIAL

Alloy tool steel

BLOCK GAUGES

PIN GAUGES

PIN VISE

PIN GAUGE ACCESSORIES

GAUGES

THREAD GAUGES

PLUG GAUGES

RING GAUGES

THICKNESS GAUGES

TAPER GAUGES

WELDING GAUGES

OTHER GAUGES

Size	Size
M1.4 x P0.3	M8 x P1.25
M1.6 x P0.35	M10 x P1.0
M1.7 x P0.35	M10 x P1.25
M2 x P0.4	M10 x P1.5
M2.3 x P0.4	M12 x P1.0
M2.5 x P0.45	M12 x P1.25
M2.6 x P0.45	M12 x P1.5
M3 x P0.5	M12 x P1.75
M3.5 x P0.6	M14 x P1.5
M4 x P0.5	M14 x P2.0
M4 x P0.7	M16 x P1.5
M5 x P0.8	M16 x P2.0
M6 x P0.75	M18 x P1.5
M6 x P1.0	M18 x P2.5
M7 x P1.0	M20 x P1.5
M8 x P1.0	M20 x P2.5

Order No.	Model No.	Size	Outside Dimension / D (mm)	T ₁ (mm)	T ₂ (mm)		
380204	GRIR2-0204	M2 x P0.4	25	3	3		
380205	GRIR2-02304	M2.3 x P0.4					
380206	GRIR2-025045	M2.5 x P0.45					
380207	GRIR2-026045	M2.6 x P0.45					
380305	GRIR2-0305	M3 x P0.5		4	4		
380407	GRIR2-0407	M4 x P0.7					
380508	GRIR2-0508	M5 x P0.8	30	8	6		
380610	GRIR2-0610	M6 x P1.0					
380710	GRIR2-0710	M7 x P1.0					
380810	GRIR2-0810	M8 x P1.0					
380812	GRIR2-08125	M8 x P1.25	40	10	8		
381010	GRIR2-1010	M10 x P1.0					
381012	GRIR2-10125	M10 x P1.25					
381015	GRIR2-1015	M10 x P1.5					
381210	GRIR2-1210	M12 x P1.0					
381212	GRIR2-12125	M12 x P1.25					
381215	GRIR2-1215	M12 x P1.5	50	15	10		
381217	GRIR2-12175	M12 x P1.75					
381415	GRIR2-1415	M14 x P1.5					
381420	GRIR2-1420	M14 x P2.0					
381615	GRIR2-1615	M16 x P1.5					
381620	GRIR2-1620	M16 x P2.0					
381815	GRIR2-1815	M18 x P1.5					
381825	GRIR2-1825	M18 x P2.5					
382015	GRIR2-2015	M20 x P1.5				22	15
382025	GRIR2-2025	M20 x P2.5					

Other size above the list also available on request

STEEL LIMIT PLUG GAUGE H7 (for manufacturing)

Pair of gauges with maximum and minimum limit size to test the compatibility of holes and widths

USE For inspecting hole diameter

MATERIAL Body : Aluminum Gauge : Steel



Order No.	Model No.	Standard	Tolerance class	Tolerance (μ m)																	
393030	SPG3-H7	3	H7	+10 0																	
393040	SPG4-H7	4		H7	+12 0																
393050	SPG5-H7	5				H7	+15 0														
393060	SPG6-H7	6			H7			+18 0													
393070	SPG7-H7	7					H7		+21 0												
393080	SPG8-H7	8						H7		+10 0											
393090	SPG9-H7	9							H7		+12 0										
393100	SPG10-H7	10								H7		+15 0									
393110	SPG11-H7	11									H7		+18 0								
393120	SPG12-H7	12										H7		+21 0							
393130	SPG13-H7	13											H7		+10 0						
393140	SPG14-H7	14												H7		+12 0					
393150	SPG15-H7	15													H7		+15 0				
393160	SPG16-H7	16														H7		+18 0			
393170	SPG17-H7	17															H7		+21 0		
393180	SPG18-H7	18																H7		+10 0	
393190	SPG19-H7	19																	H7		+12 0
393200	SPG20-H7	20																		H7	

CARBIDE LIMIT PLUG GAUGE H7 (for manufacturing)

Excellent in abrasion resistance, made of durable carbide

USE For inspecting hole diameter

MATERIAL Body : Aluminum Gauge : Carbide



Order No.	Model No.	Standard	Tolerance class	Tolerance (μ m)																	
393230	TPG3-H7	3	H7	+10 0																	
393240	TPG4-H7	4		H7	+12 0																
393250	TPG5-H7	5				H7	+15 0														
393260	TPG6-H7	6			H7			+18 0													
393270	TPG7-H7	7					H7		+10 0												
393280	TPG8-H7	8						H7		+12 0											
393290	TPG9-H7	9							H7		+15 0										
393300	TPG10-H7	10								H7		+18 0									
393310	TPG11-H7	11									H7		+21 0								
393320	TPG12-H7	12										H7		+10 0							
393330	TPG13-H7	13											H7		+12 0						
393340	TPG14-H7	14												H7		+15 0					
393350	TPG15-H7	15													H7		+18 0				
393360	TPG16-H7	16														H7		+21 0			
393370	TPG17-H7	17															H7		+10 0		
393380	TPG18-H7	18																H7		+12 0	
393390	TPG19-H7	19																	H7		+15 0
393400	TPG20-H7	20																		H7	

CERAMIC LIMIT PLUG GAUGE H7 (for manufacturing)

Excellent stability over time, Ceramic requires low maintenance

USE For inspecting hole diameter

MATERIAL Body : Aluminum Gauge : Ceramic



Order No.	Model No.	Standard	Tolerance Class	Tolerance (μ m)							
393430	CPG3-H7	3	H7	+10 0							
393440	CPG4-H7	4		H7	+12 0						
393450	CPG5-H7	5				H7	+15 0				
393460	CPG6-H7	6			H7			+18 0			
393470	CPG7-H7	7					H7		+10 0		
393480	CPG8-H7	8						H7		+12 0	
393490	CPG9-H7	9							H7		+15 0
393500	CPG10-H7	10								H7	

BLOCK GAUGES

PIN GAUGES

PIN VISE

PIN GAUGE ACCESSORIES

GAUGES

THREAD GAUGES

PLUG GAUGES

RING GAUGES

THICKNESS GAUGES

TAPER GAUGES

WELDING GAUGES

OTHER GAUGES



LIMIT PLUG GAUGE H7 (for manufacturing)



LP10-H7



06

- USE** Limit Plug Gauges are used for measurement tests of holes and shafts
- MATERIAL** Gauge part : Alloy tool steel
Handle part : Aluminum
- FEATURES** To determine the fit of a shaft in a hole the gauge has Go/
No. Go sides for testing minimum allowable dimensions
Class H7 Hardness HV660 ~ 780

BLOCK
GAUGESPIN
GAUGESPIN
VISEPIN
GAUGE
ACCESSORIES

GAUGES

THREAD
GAUGESPLUG
GAUGESRING
GAUGESTHICKNESS
GAUGESTAPER
GAUGESWELDING
GAUGESOTHER
GAUGES

Order No.	Model No.	Size	Weight
390300	LP3-H7	3	10g
390400	LP4-H7	4	10g
390500	LP5-H7	5	10g
390600	LP6-H7	6	10g
390700	LP7-H7	7	20g
390800	LP8-H7	8	20g
390900	LP9-H7	9	20g
391000	LP10-H7	10	30g
391100	LP11-H7	11	50g
391200	LP12-H7	12	50g
391300	LP13-H7	13	60g
391400	LP14-H7	14	60g
391500	LP15-H7	15	100g
391600	LP16-H7	16	100g
391700	LP17-H7	17	120g
391800	LP18-H7	18	130g
391900	LP19-H7	19	180g
392000	LP20-H7	20	190g
392100	LP21-H7	21	200g
392200	LP22-H7	22	200g
392300	LP23-H7	23	210g
392400	LP24-H7	24	210g
392500	LP25-H7	25	250g
392600	LP26-H7	26	260g
392700	LP27-H7	27	280g
392800	LP28-H7	28	290g
392900	LP29-H7	29	290g
393000	LP30-H7	30	300g

Other size above the list also available on request

LIMIT PLUG GAUGE with thin handle H7 (for manufacturing)



Narrow shaft allows examining diameter deep into a hole



SHLP10-H7



- USE** For inspecting hole diameter
- MATERIAL** Gauge part : Alloy tool steel
Handle part : Stainless
- FEATURES** The shaft does not interfere and enables inspection of diameter deep into a hole

Order No.	Model No.	Standard	Weight
393503	SHLP3-H7	3	4g
393504	SHLP4-H7	4	8g
393505	SHLP5-H7	5	10g
393506	SHLP6-H7	6	20g
393507	SHLP7-H7	7	24g
393508	SHLP8-H7	8	27g
393509	SHLP9-H7	9	32g
393510	SHLP10-H7	10	58g
393511	SHLP11-H7	11	63g
393512	SHLP12-H7	12	69g
393513	SHLP13-H7	13	69g
393514	SHLP14-H7	14	82g
393515	SHLP15-H7	15	89g
393516	SHLP16-H7	16	136g
393517	SHLP17-H7	17	146g
393518	SHLP18-H7	18	157g
393519	SHLP19-H7	19	169g
393520	SHLP20-H7	20	181g

Other size above the list also available on request

BLOCK GAUGES

PIN GAUGES

PIN VISE

PIN GAUGE ACCESSORIES

GAUGES

THREAD GAUGES

PLUG GAUGES

RING GAUGES

THICKNESS GAUGES

TAPER GAUGES

WELDING GAUGES

OTHER GAUGES

LIMIT PLUG GAUGE with MAINTENANCE LINE



New product! Maintenance line series plug gauge now available



Custom Size with Fast Delivery!

Please contact us with request

- USE** For inspecting hole diameter
- MATERIAL** Alloy tool steel
- FEATURES** Maintenance line on Plug Gage allows easy checking for gauge wear-out
When line disappears, wear is more than 1µm



STEEL RING GAUGE



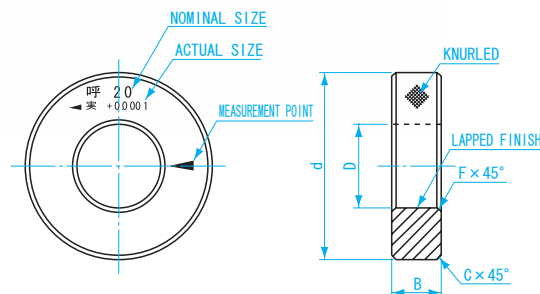
SUB-ZERO Treatment (Cryogenic hardened) for improved durability

Use Ring Gauge as master gauge for "0" adjustment of measuring tools such as bore gauge, inside micrometer, dial caliper, etc.



DIMENSIONS

Units : mm



BLOCK GAUGES

PIN GAUGES

PIN VISE

PIN GAUGE ACCESSORIES

GAUGES

THREAD GAUGES

PLUG GAUGES

RING GAUGES

THICKNESS GAUGES

TAPER GAUGES

WELDING GAUGES

OTHER GAUGES

MATERIAL Alloy tool steel

SPECIFICATIONS

Size (mm)	Step (mm)	Out of Roundness (μm)	Out of Cylindricity (μm)	Tolerance (μm)	Hardness (HV)
1 to less than 30	0.1 step	0.5	0.5	± 1.0	653 772
30 to less than 50		0.8	0.8	± 1.5	
50 to less than 60	0.5 step	1.0	1.0	± 2.0	
60 to less than 80		2.0	2.0	± 5.0	
100 to less than 200	5.0 step	2.0	2.0	± 5.0	

Stock available size

Size (mm)	Step (mm)	Stock available size
1 to less than 50	0.1 step	1.0·1.1·1.2·1.3·1.4·1.5·1.6·1.7·1.8·1.9·2.0·2.1·2.2·2.3·2.4·2.5·2.6·2.7.....50.0
50 to less than 100	0.5 step	50.5·51.0·51.5·52.0·52.5·53.0·53.5·54.0·54.5·55.0·55.5·56.0·56.5·57.0·57.5.....100.0
100 to less than 200	5.0 step	105.0·110.0·115.0·120.0·125.0·130.0·135.0·140.0·145.0·150.0·155.0·160.0·165.0.....200.0

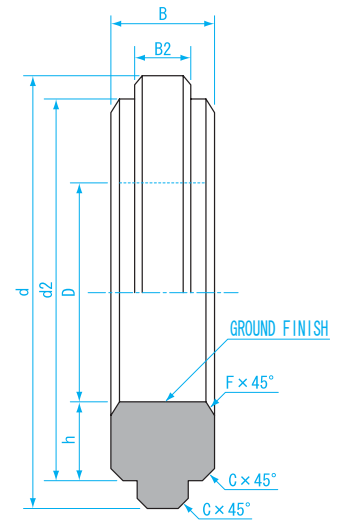
Size List

Size D (mm)	Outside Diameter d (mm)	Thickness B (mm)	Chamfering for outside diameter R (mm)	Chamfering for inside diameter R (mm)	Remarks	Weight
1 to less than 2.5	22	4	0.4	0.3	Knurled	10g
2.5 to less than 5		5				10g
5 to less than 10	32	8	0.8	0.5		50g
10 to less than 15	38	10				80g
15 to less than 20	45	12	1.2	1.0		100g
20 to less than 25	53	14				200g
25 to less than 32	63	16	1.5	1.5		300g
32 to less than 40	71	18				400g
40 to less than 50	85	20	2.0	1.5		600 ~ 700g
50 to less than 60	100	24				0.9 ~ 1.1kg
60 to less than 70	112		2.0	1.5	1.1 ~ 1.3kg	
70 to less than 80	125	1.4 ~ 1.6kg				
80 to less than 90	140	40	2.0	1.7 ~ 1.9kg		
90 to less than 100	160			2.3 ~ 2.6kg		
100 to less than 110	180	30	2.4	2.0	3.7 ~ 4.1kg	
110 to less than 120	190				4.7 ~ 5.1kg	
120 to less than 130	200	35	2.4	2.0	5.0 ~ 5.5kg	
130 to less than 140	210				5.7 ~ 6.3kg	
140 to less than 160	230	40	2.4	2.0	6.6 ~ 8.2kg	
160 to less than 180	260				8.6 ~ 10kg	
180 to less than 200	280	40	2.4	2.0	9.4 ~ 11kg	

SUB-ZERO TREATMENT (Cryogenic hardened) for improved durability

DIMENSIONS

Units : mm



06

MATERIALS Alloy tool steel

SPECIFICATIONS

Size (mm)	Step (mm)	Out of Roundness (μm)	Out of Cylindricity (μm)	Tolerance (μm)	Hardness (HV)
200 to less 230	5.0 step	5.0	5.0	± 7.0	653 772
230 to less 300	10.0 step			± 8.0	
300 to less 400				± 9.0	
400 to less 500				± 10.0	
500 to less 520					

BLOCK GAUGES

PIN GAUGES

PIN VISE

PIN GAUGE ACCESSORIES

Size List

Make- to- order manufacturing

Size D (mm)	Outside Diameter (mm)		Thickness (mm)		h (mm)	Chamfering for outside diameter C (mm)	Chamfering for inside diameter F (mm)	Remarks	Weight (kg)
	d	d2	B	B2					
200 to less than 230	310	250 ~ 270	45	25	20	2.0	2.5	NOT Knurled	9 ~ 10
230 to less than 260	340	280 ~ 300							11 ~ 14
260 to less than 290	370	310 ~ 330							11 ~ 13
290 to less than 320	400	340 ~ 360							12 ~ 14
320 to less than 360	440	380 ~ 410	50	25	25	2.0	2.5	NOT Knurled	14 ~ 16
360 to less than 400	480	420 ~ 450							15 ~ 18
400 to less than 450	540	460 ~ 500							19 ~ 24
450 to less than 500	600	510 ~ 550							23 ~ 29
500 to less than 520	660	560 ~ 600							27 ~ 33

GAUGES

THREAD GAUGES

PLUG GAUGES

RING GAUGES

THICKNESS GAUGES

TAPER GAUGES

WELDING GAUGES

OTHER GAUGES

Order No.	Size (mm)
420500	205.0
421000	210.0
421500	215.0
422000	220.0
422500	225.0
423000	230.0
424000	240.0
425000	250.0
426000	260.0
427000	270.0
428000	280.0
429000	290.0

Order No.	Size (mm)
430000	300.0
431000	310.0
432000	320.0
433000	330.0
434000	340.0
435000	350.0
436000	360.0
437000	370.0
438000	380.0
439000	390.0
440000	400.0



STEEL RING GAUGE SET



GAUGES

SUB-ZERO TREATMENT (Cryogenic hardened)



06

Set List

Set No.	Nominal Size	Pieces per set
RG-1	1.0 · 1.5 · 2.0 · 2.5 · 3.0 · 4.0 · 5.0 · 6.0 · 7.0 · 8.0 · 9.0 · 10.0	12
RG-2	11.0 · 12.0 · 13.0 · 14.0 · 15.0 · 16.0 · 17.0 · 18.0 · 19.0 · 20.0 · 22.0 · 24.0	12
RG-3	25.0 · 26.0 · 27.0 · 28.0 · 30.0 · 32.0 · 34.0 · 35.0 · 36.0 · 37.0 · 38.0 · 40.0	12
RG-4	42.0 · 44.0 · 45.0 · 46.0 · 47.0 · 48.0 · 50.0	7
RG-5	52.0 · 54.0 · 55.0 · 56.0 · 58.0 · 60.0 · 65.0	7
RG-6	68.0 · 70.0 · 75.0 · 80.0	4
RG-7	85.0 · 90.0 · 95.0 · 100.0	4

BLOCK GAUGES

PIN GAUGES

PIN VISE

PIN GAUGE ACCESSORIES

STEEL RING GAUGE with MAINTENANCE LINE



New product! Maintenance line series ring gauge now available

GAUGES

THREAD GAUGES

PLUG GAUGES

RING GAUGES

THICKNESS GAUGES

TAPER GAUGES

WELDING GAUGES

OTHER GAUGES



MATERIAL

Alloy tool steel

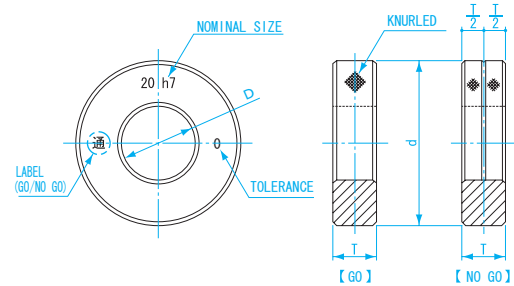
FEATURES

Maintenance line on steel ring gauge allows easy checking for gauge wear-out. When line disappears, wear is more than 1µm Available for sizes : 15 ~ 50mm (1mm step)



DIMENSIONS

Units : mm



- USE** For shaft diameter inspection
- MATERIAL** Alloy tool steel
- FEATURES** Pair of gauges with maximum and minimum limit size to test the compatibility of hole width
- SPECIFICATIONS** Hardness HV653 ~ 772

BLOCK GAUGES

PIN GAUGES

PIN VISE

PIN GAUGE ACCESSORIES

Order No.	Model No.	Nominal size D (mm)	Outside Diameter d (mm)	Thickness T (mm)	Tolerance Class	Tolerance (μm)
394000	LR10-h7	10	32	8	h7	0 -15
394010	LR11-h7	11				
394020	LR12-h7	12				
394030	LR13-h7	13				
394040	LR14-h7	14				
394050	LR15-h7	15	45	12		0 -18
394060	LR16-h7	16				
394070	LR17-h7	17				
394080	LR18-h7	18				
394090	LR19-h7	19				
394100	LR20-h7	20	53	14		0 -21
394110	LR21-h7	21				
394120	LR22-h7	22				
394130	LR23-h7	23				
394140	LR24-h7	24				
394150	LR25-h7	25				
394160	LR26-h7	26	63	16		
394170	LR27-h7	27				
394180	LR28-h7	28				
394190	LR29-h7	29				
394200	LR30-h7	30				

GAUGES

THREAD GAUGES

PLUG GAUGES

RING GAUGES

THICKNESS GAUGES

TAPER GAUGES

WELDING GAUGES

OTHER GAUGES

CARBIDE RING GAUGE

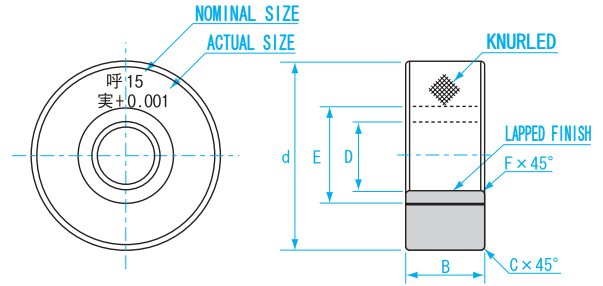


LAPPED FINISH



DIMENSIONS

Units : mm



FEATURES

- Durable and long life
- The coefficient of thermal expansion is small ($1/2$ of steel, $5 \times 10^{-6} K^{-1}$), so better tolerates temperature changes
- Less likely to be damaged due to high hardness
- Economical- Frequent periodic calibration not required

MATERIAL Steel with carbide insert

SPECIFICATIONS

Size (mm)	Step (mm)	Out of Roundness/ Cylindricity(μm)	Tolerance (μm)
1 to less than 30	—	0.5	± 1
30 to less than 50	—	0.8	± 1.5

Size List

Size D (mm)	Diameter of Carbide part E (mm)	Outside Diameter d (mm)	Thickness B (mm)	Chamfering for outside Diameter C (mm)	Chamfering for inside Diameter F (mm)
1 to less than 2.5	8	22	4	0.4	0.3
2.5 to less than 5	11		5		
5 to less than 10	16	32	8	0.8	0.5
10 to less than 15	21	38	10		
15 to less than 20	28	45	12	1.2	1.0
20 to less than 25	33	53	14		
25 to less than 32	40	63	16	1.5	1.0
32 to less than 40	50	71	18		
40 to less than 50	60	85	20	2.0	

BLOCK GAUGES

PIN GAUGES

PIN VISE

CERAMIC RING GAUGE



LAPPED FINISH

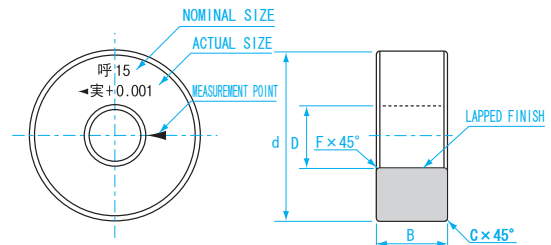


SPECIFICATIONS

Size (mm)	Step (mm)	Out of Roundness (μm)	Tolerance (μm)
1 to less than 30	0.5 step	0.5	± 1
30 to less than 50		0.8	± 1.5

DIMENSIONS

Units : mm



Size List

Size D (mm)	Outside Diameter d (mm)	Thickness B (mm)	Chamfering for outside diameter C (mm)	Chamfering for inside diameter F (mm)
3 to less than 10	32	8	0.8	0.5
10 to less than 15	38	10		
15 to less than 20	45	12	1.2	1.0
20 to less than 25	53	14		
25 to less than 32	63	16	1.5	1.0
32 to less than 40	71	18		
40 to less than 50	85	20	2.0	

THREAD GAUGES

PLUG GAUGES

RING GAUGES

THICKNESS GAUGES

TAPER GAUGES

WELDING GAUGES

OTHER GAUGES

FEATURES

- Ceramic material is less susceptible to abrasion and age deterioration than steel
- Free from rust and corrosion, and easy maintenance
- Non-magnetic body
- Does not deform with damage, resists scratches and forming burrs
- Size is laser marked

MATERIAL Ceramics

Material Data

List	Material	Ceramic	
		Aluminum	Zircon
Gravity	—	3.8	5.6
Hardness	HV	1500	1100
Bending Strength	MPa	3.9	7~8
Young's modulus	GPa	360	205
Coefficient of thermal expansion	$10^{-6} K^{-1}$	8	8
Heat conductivity	W/m·K	29	3.4

RING GAUGE (with protective cover)

No-Slip and Easy to Handle, will increase productivity

CARBIDE RING GAUGE (with Protective Cover)



STEEL RING GAUGE (with Protective Cover)



CERAMIC RING GAUGE (with Protective Cover)

FEATURES

A ring gauge embedded in Aluminum Protective Cover.
Covered gauge is easier to handle with dirty hands Less susceptible to thermal expansion when holding a gauge by hand.
Protects from chipping when dropped

MATERIAL

Protective Cover: Anodized Aluminum
Gauge: Steel / Carbide / Ceramic

SPECIFICATIONS

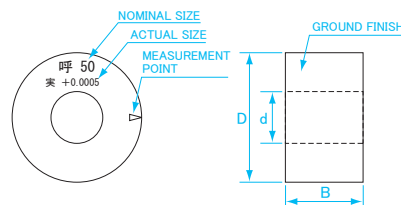
Size (mm)	Step (mm)	Roundness·Cylindricity (μm)	Tolerance (μm)
1 to less than 2 (Steel & Carbide only)	1mm step	0.5	±1
2 to less than 30	1mm step	0.5	±1
30 to less than 50	1mm step	0.8	±1.5

STEEL RING GAUGE OD model

New Product! Available from 40-400mm. Simple calibration or 0 adjustment of outside measuring instrument



DIMENSIONS



SPECIFICATIONS

Size D (mm)	Step (mm)	OD tolerance (μm)	Out of Roundness (μm)	Out of Cylindricity (μm)	Thickness (mm)	Hole Diameter (mm)
40 to less than 50	10.0 step	±3	1.5	1.5	30	20
50 to less than 70		±5	2.5	2.5		30
70 to less than 100						40
100 to less than 150		±10	5	5		50
150 to less than 200						80
200 to less than 300						160
300 to less than 350	200					
350 to less than 375					250	
375 to less than 400						

USE For quick calibration of micrometer

MATERIAL
Alloy tool steel

FEATURES
Custom sizes are available up to 400
Size range: 40-400mm

SPECIFICATIONS
Hardness: HV653-772



SPECIAL SHAPE- multiple-step gauge

APPLICATIONS

Quick calibration of Micrometers(0-25mm)

MATERIAL

Alloy tool steel

FEATURES

OD pitch: 5·10·15·20·25mm Integrated type gauge



Sample of special shape

Custom Designs for Fast Delivery!

Please contact us with request



SPECIAL SHAPE- multiple-step gauge/ OD model

APPLICATIONS

Use for calibration or 0 adjustment

MATERIAL

Alloy tool steel

FEATURES

Size combination is arranged on request



Sample of custom design

Custom Design for Fast Delivery!

Please contact us with request

SPECIAL SHAPE- Step gauge/ Inner model

APPLICATIONS

0 adjustment for dial bore gauge

MATERIAL

Alloy tool steel

FEATURES

Size combination is arranged on request



Sample of custom design

Custom Designs for Fast Delivery!

Please contact us with request

SPECIAL SHAPE- Cut out

APPLICATIONS

Hold ring gauge in a jig and prevent movement

MATERIAL

Alloy tool steel



Sample of custom design

Custom Designs for Fast Delivery!

Please contact us with request

USE

Measurement of gap width

MATERIAL

SFG series : Stainless steel

FG series : Carbon tool steel (Hardened)

FEATURES

Use for assembly or adjustment of automotive engine components or other machines by cutting it to necessary size

Leaf width: 12.7mm

3m and 5m also available



SFG series (Stainless Steel)

Order No.	Model No.	Size	Leaf Width (mm)	Accuracy (mm)	Case size (mm)	Weight
007245	SFG-005-1	0.005 x 1m	12.7	± 0.004	77 x 77 x 22	40g
007251	SFG-01-1	0.01 x 1m				
007252	SFG-02-1	0.02 x 1m				
007381	SFG-03-1	0.03 x 1m		± 0.005		
007382	SFG-04-1	0.04 x 1m				
007383	SFG-05-1	0.05 x 1m				
007384	SFG-06-1	0.06 x 1m				
007385	SFG-07-1	0.07 x 1m				
007386	SFG-08-1	0.08 x 1m				
007387	SFG-09-1	0.09 x 1m				
007388	SFG-10-1	0.10 x 1m	± 0.006	50g		

FG series (Carbon Tool Steel)

Order No.	Model No.	Size	Leaf Width (mm)	Accuracy (mm)	Case size (mm)	Weight
007253	FG-03-1	0.03 x 1m	12.7	± 0.005	77 x 77 x 22	40g
007254	FG-04-1	0.04 x 1m				
007255	FG-05-1	0.05 x 1m				
007256	FG-06-1	0.06 x 1m				
007257	FG-07-1	0.07 x 1m				
007258	FG-08-1	0.08 x 1m				
007259	FG-09-1	0.09 x 1m				
007260	FG-10-1	0.10 x 1m				
007261	FG-11-1	0.11 x 1m				
007262	FG-12-1	0.12 x 1m				
007263	FG-13-1	0.13 x 1m				
007264	FG-14-1	0.14 x 1m				
007265	FG-15-1	0.15 x 1m				
007270	FG-20-1	0.20 x 1m				
007275	FG-25-1	0.25 x 1m				
007280	FG-30-1	0.30 x 1m	± 0.012	115 x 115 x 22	60g	
007282	FG-35-1	0.35 x 1m			120g	
007284	FG-40-1	0.40 x 1m			140g	
007286	FG-45-1	0.45 x 1m			60g	
007287	FG-50-1	0.50 x 1m	± 0.02	-	80g	
007289	FG-60-1	0.60 x 1m			90g	
007291	FG-70-1	0.70 x 1m			100g	
007292	FG-80-1	0.80 x 1m			110g	
007293	FG-90-1	0.90 x 1m				
007294	FG-00-1	1.00 x 1m				

BLOCK GAUGES
PIN GAUGES
PIN VISE
PIN GAUGE ACCESSORIES

GAUGES

THREAD GAUGES

PLUG GAUGES

RING GAUGES

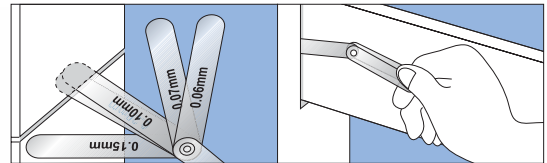
THICKNESS GAUGES

TAPER GAUGES

WELDING GAUGES

OTHER GAUGES

THICKNESS GAUGE



※Leaves can be combined for a wide range of measurements

USE

Measurement of gap width

MATERIAL

Carbon tool steel

65M

FEATURES

Use for precise spacing inspection by inserting into the gap between two flat surfaces
 Indispensable instrument for measuring gap between piston and cylinder of automotive engine
 Leaf width 12.7mm

ACCURACY

Leaf size(mm)	Tolerance(mm)
0.01 ~ 0.06	± 0.005
0.07 ~ 0.10	± 0.01
0.11 ~ 0.35	± 0.015
0.40 ~ 0.60	± 0.02
0.70 ~ 3.00	± 0.035

Order No.	Model No.	Leaf Length (mm)	Pieces/ Set	Nominal Size (mm)	Weight
111032	172MA	75	9	0.30 0.04 0.05 0.06 0.07 0.08 0.10 0.15 0.20	30g
111033	172MB	100			30g
111034	172MC	150			50g
110970	172MD	230			70g
110971	172ME	300			90g
110972	100MR	100	10	0.03 0.04 0.05 0.08 0.10 0.15 0.20 0.25 0.30 0.40	40g
110973	150MR	150			60g
110974	100MK	100			30g
110975	150MK	150	10	0.01 0.02 0.03 0.04 0.05 0.06 0.07 0.08 0.09 0.10	40g
111038	60M	75			60g
111039	100MY	100	19	0.03 0.04 0.05 0.06 0.07 0.08 0.09 0.10 0.15 0.20 0.25 0.30 0.35 0.40 0.45 0.50 0.70 0.80 1.00	80g
111040	150MY	150			120g
111035	65M	75			80g
111036	100MZ	100	25	0.03 0.04 0.05 0.06 0.07 0.08 0.09 0.10 0.11 0.12 0.13 0.14 0.15 0.20 0.25 0.30 0.35 0.40 0.45 0.50 0.60 0.70 0.80 0.90 1.00	100g
111037	150MZ	150			150g
111031	72M	75			70g
111044	100MT	100	12	0.04 0.05 0.06 0.07 0.08 0.10 0.15 0.20 0.30 1.00 2.00 3.00	100g
111045	150MT	150			140g
110976	100ML	100	19	0.01 0.02 0.03 0.04 0.05 0.06 0.07 0.08 0.09 0.10 0.20 0.30 0.40 0.50 0.60 0.70 0.80 0.90 1.00	80g
110977	150ML	150			120g
110978	80M	75	13	0.03 0.04 0.05 0.06 0.07 0.08 0.10 0.15 0.20 0.30 1.00 2.00 3.00	60g
111046	100MX	100			90g
111047	150MX	150			140g
111048	100MH	100	10	0.10 0.20 0.30 0.40 0.50 0.60 0.70 0.80 0.90 1.00	80g
111049	150MH	150			110g

06

BLOCK GAUGES
PIN GAUGES
PIN VISE
PIN GAUGE ACCESSORIES

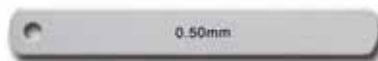
THICKNESS GAUGES Leaf



GAUGES

MATERIAL

Carbon tool steel



S100-05



S150-10

SPECIFICATIONS

Leaf width : 12.7mm

Leaf Length : 100mm

Leaf Length : 150mm

Order No.	Model No.	Thickness (mm)
NEW 110801	S100-001	0.01
NEW 110802	S100-002	0.02
NEW 110803	S100-003	0.03
NEW 110804	S100-004	0.04
NEW 110805	S100-005	0.05
NEW 110806	S100-006	0.06
NEW 110807	S100-007	0.07
NEW 110808	S100-008	0.08
NEW 110809	S100-009	0.09
NEW 110810	S100-01	0.10
NEW 110811	S100-02	0.20
NEW 110812	S100-03	0.30
NEW 110813	S100-04	0.40
NEW 110814	S100-05	0.50
NEW 110815	S100-06	0.60
NEW 110816	S100-07	0.70
NEW 110817	S100-08	0.80
NEW 110818	S100-09	0.90
NEW 110819	S100-10	1.00

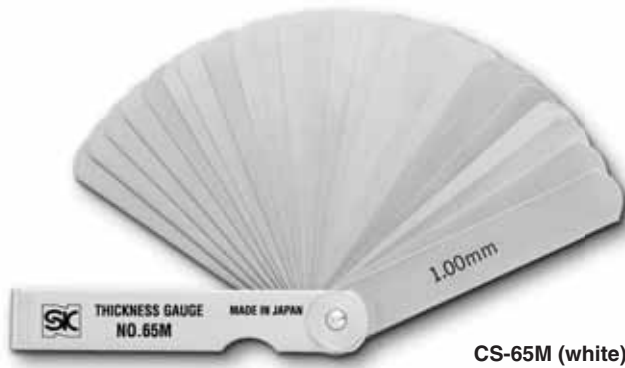
Order No.	Model No.	Thickness (mm)
NEW 110820	S150-001	0.01
NEW 110821	S150-002	0.02
NEW 110822	S150-003	0.03
NEW 110823	S150-004	0.04
NEW 110824	S150-005	0.05
NEW 110825	S150-006	0.06
NEW 110826	S150-007	0.07
NEW 110827	S150-008	0.08
NEW 110828	S150-009	0.09
NEW 110829	S150-01	0.10
NEW 110830	S150-02	0.20
NEW 110831	S150-03	0.30
NEW 110832	S150-04	0.40
NEW 110833	S150-05	0.50
NEW 110834	S150-06	0.60
NEW 110835	S150-07	0.70
NEW 110836	S150-08	0.80
NEW 110837	S150-09	0.90
NEW 110838	S150-10	1.00

THREAD GAUGES
PLUG GAUGES
RING GAUGES
THICKNESS GAUGES
TAPER GAUGES
WELDING GAUGES
OTHER GAUGES

THICKNESS GAUGE with COLOR SLEEVES

Please choose from white, black and green.

For parts other than 172 series, Threaded pivot so leaves can be removed and replaced.



CS-65M (white)



CS-65M (black)



CS-65M (green)

USE Measurement of gap width

MATERIAL
Carbon tool steel

FEATURES
Use for precise spacing inspection by inserting into the gap between two flat surfaces
Indispensable for measuring the gap between piston and cylinder of automotive engine
Leaf width 12.7mm

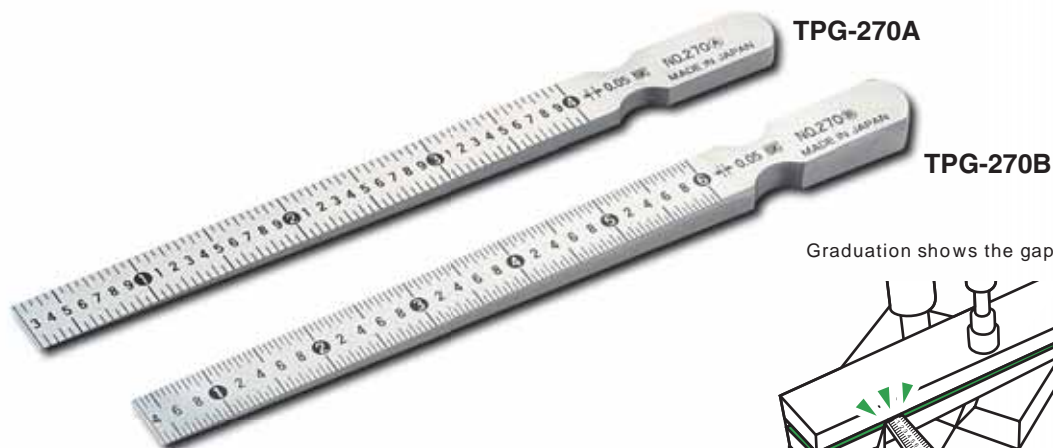
Please specify color (White, Black, Green) when ordering

Model No.	Leaf Length (mm)	Pieces/set	Size (mm)										Weight	
CS-172MA	75	9	0.30	0.04	0.05	0.06	0.07	0.08	0.10	0.15	0.20	30g		
CS-172MB	100												30g	
CS-172MC	150												50g	
CS-172MD	230												70g	
CS-172ME	300												90g	
CS-100MR	100	10	0.03	0.04	0.05	0.08	0.10	0.15	0.20	0.25	0.30	0.40	40g	
CS-150MR	150													60g
CS-100MK	100	10	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09	0.10	30g	
CS-150MK	150													40g
CS-60M	75	19	0.03	0.04	0.05	0.06	0.07	0.08	0.09	0.10	0.15	0.20	60g	
CS-100MY	100													80g
CS-150MY	150													120g
CS-65M	75	25	0.03	0.04	0.05	0.06	0.07	0.08	0.09	0.10	0.11	0.12	80g	
CS-100MZ	100													100g
CS-150MZ	150													150g
CS-72M	75	12	0.04	0.05	0.06	0.07	0.08	0.10	0.15	0.20	0.30	1.00	70g	
CS-100MT	100													100g
CS-150MT	150													140g
CS-100ML	100	19	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09	0.10	80g	
CS-150ML	150													120g
CS-80M	75	13	0.03	0.04	0.05	0.06	0.07	0.08	0.10	0.15	0.20	0.30	60g	
CS-100MX	100													90g
CS-150MX	150													140g
CS-100MH	100	10	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00	80g	
CS-150MH	150													110g

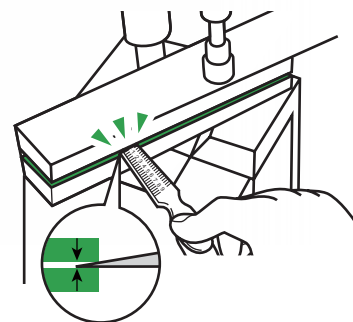
Other color variation are also available,
please contact us with request.



TAPER GAUGES



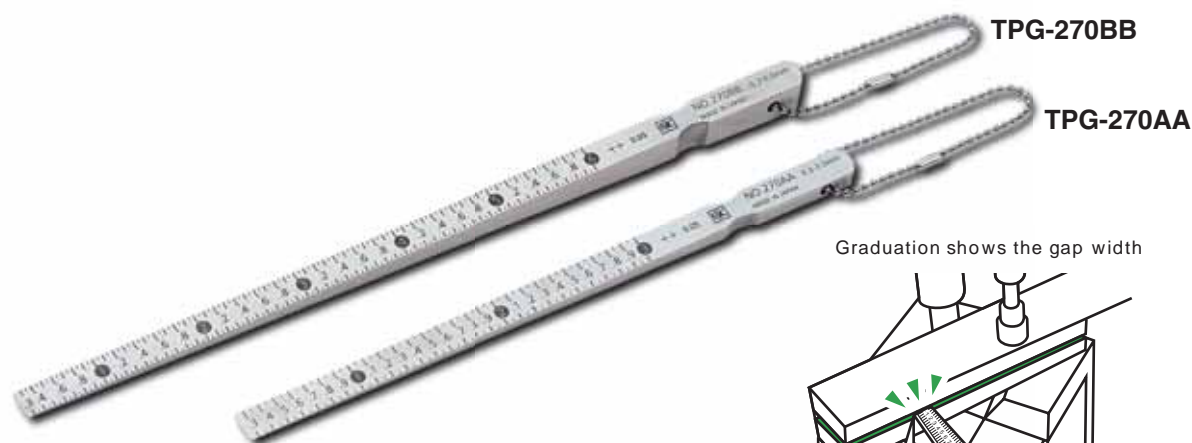
Graduation shows the gap width



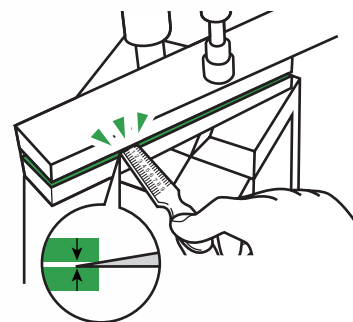
- USE** Measurement of groove and gap etc.
- MATERIAL** Machine grade carbon steel (S55C), not hardened
- FEATURES** Use the thickness of taper to measure the gap width
Packed in plastic carrying case
Accuracy $\pm 0.04\text{mm}$ Satin finish

Order No.	Model No.	Standard	Measuring Range (mm)	Accuracy (mm)	Graduation (mm)	Taper Angle	Full Length (H) x (W) (mm)	Weight
007000	TPG-270A	270A	0.3 ~ 4	± 0.04	0.05	1° 54' 33"	160 x 11	95g
007001	TPG-270B	270B	0.4 ~ 6	± 0.04	0.05	2° 51' 45"	160 x 11	95g

TAPER GAUGES



Graduation shows the gap width



- USE** Measurement of groove and gap etc.
- MATERIAL** Machine grade carbon steel (S55C), not hardened
- FEATURES** Use the thickness of taper to measure the gap width, also can use as high adjustment jig
Narrow width type
Satin finish
Packed in plastic carrying case
Ball chain attached

Order No.	Model No.	Standard	Measuring Range (mm)	Accuracy (mm)	Graduation (mm)	Taper Angle	Full Length (H) x (W) (mm)	Weight
007002	TPG-270AA	270AA	0.3 ~ 3	± 0.04	0.05	1° 54' 33"	127.5 x 6	18g
007003	TPG-270BB	270BB	0.3 ~ 6	± 0.04	0.05	2° 51' 45"	160 x 6	38g

BLOCK GAUGES

PIN GAUGES

PIN VISE

PIN GAUGE ACCESSORIES

GAUGES

THREAD GAUGES

PLUG GAUGES

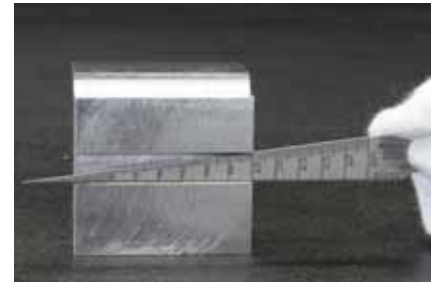
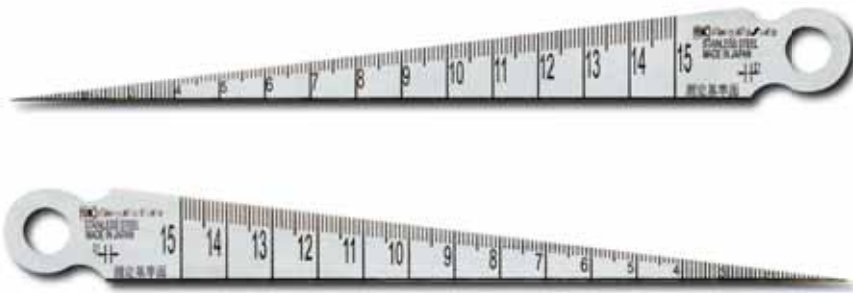
RING GAUGES

THICKNESS GAUGES

TAPER GAUGES

WELDING GAUGES

OTHER GAUGES



- USE** Measurement of groove and gap etc.
- MATERIAL** Hardened stainless steel (SUS420J2)
- FEATURES** Taper gauge specialized for inner width measurements. One side of gauge rests secure along with the workpiece for a stable measurement.
Scale is on the side of gauge to allow reading when top surface is not visible during measurement

Order No.	Model No.	Measuring Range (mm)	Accuracy (mm)	Graduation (mm)	Taper Angle	Product Dimensions Full Length x Width (mm)	Weight
007004	TPG-700T	1 ~ 15	±0.05	0.1	7 °9 10	148.5	10g

BLOCK GAUGES

PIN GAUGES

PIN VISE

PIN GAUGE ACCESSORIES

TAPER GAUGES

Clip style plastic case



Perfect for carrying in shirt pocket

- USE** Use the width of taper to measure the gap width
- MATERIAL** Hardened stainless steel (SUS420J2)
Hardness : HV480
- FEATURES** Satin finish
Reverse side- scale graduated, hole diameter conversion table
Pocket clip style carrying case
Scale : Front side- Width scale, Reverse side - Length scale

Order No.	Model No.	Standard	Measuring Range (mm)	Accuracy (mm)	Graduation (mm)	Taper Angle	Full Length (mm)	Thickness (mm)	Weight
007008	TPG-700AC	#700 1-15 with Plastic case	1 ~ 15	± 0.05	0.1	7 °9 10	148.5	1.2	10g

GAUGES

THREAD GAUGES

PLUG GAUGES

RING GAUGES

THICKNESS GAUGES

TAPER GAUGES

WELDING GAUGES

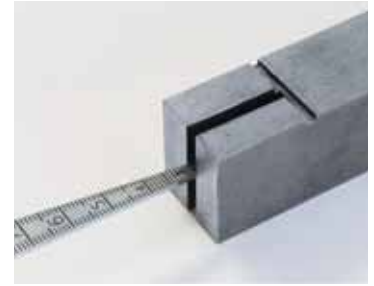
OTHER GAUGES



TPG-700A



TPG-700B



Measurement of gap width



TPG-700C



TPG-700D

BLOCK GAUGES

PIN GAUGES

PIN VISE

PIN GAUGE ACCESSORIES

GAUGES

THREAD GAUGES

PLUG GAUGES

RING GAUGES

THICKNESS GAUGES

TAPER GAUGES

WELDING GAUGES

OTHER GAUGES

- USE** Measure openings, slot width, hole size etc
- MATERIAL** Hardened stainless steel (SUS420J2)
Hardness : HV480
- FEATURES** Satin finish

Order No.	Model No.	Standard	Measuring Range (mm)	Accuracy (mm)	Graduation (mm)	Taper Angle	Full Length (mm)	Thickness (mm)	Weight
007010	TPG-700A	#700 1-15	1 ~ 15	± 0.05	0.1	7 °9 10	148.5	1.2	10g
007011	TPG-700B	#700 15-30	15 ~ 30	± 0.05	0.1	7 °9 10	153	1.2	40g
007012	TPG-700C	#700 30-45	30 ~ 45	± 0.05	0.1	7 °9 10	159	1.2	60g
007013	TPG-700D	#700 45-60	45 ~ 60	± 0.05	0.1	7 °9 10	161.5	1.2	80g



- USE** Measuring of tubing, bore, slot width, hole size and flange face to face dimension, etc.
- MATERIAL** Hardened stainless steel(SUS420J2)
- FEATURES** Convenient set, taper gauge 700A with 130mm ruler
Folds safely with pocket clip, easy to carry.

Order No.	Model No.	Standard	Weight
007200	TPG-700S	700S	40g

	Measuring Range (mm)	Accuracy (mm)	Graduation (mm)	Full length (mm)	Taper Angle
Taper gauge	1 ~ 15	± 0.05	0.1	148.5	7 ° 10
Ruler	0 ~ 130	± 0.13	0.5	155	-

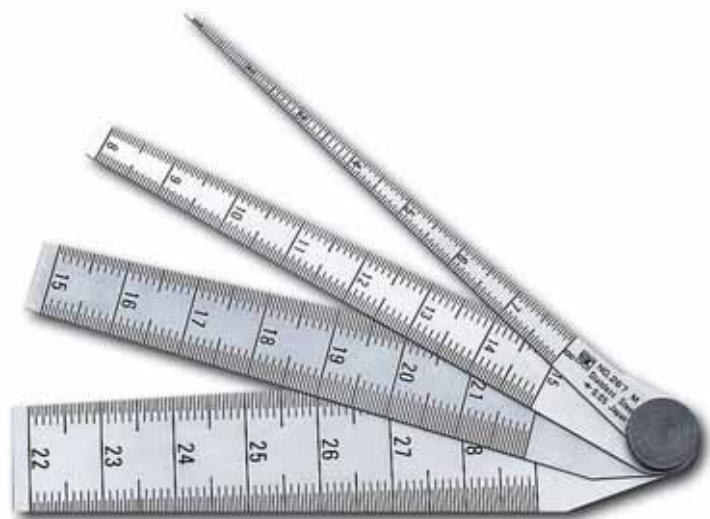
BLOCK GAUGES

PIN GAUGES

PIN VISE

PIN GAUGE ACCESSORIES

TAPER GAUGES



- USE** Measurement of slot width and hole size etc.
- MATERIAL** Hardened stainless steel(SUS420J2)
- FEATURES** Use the width of taper to check the inside diameter of tubing or hole size
Number of leaves: 4 pieces (1 ~ 8mm, 8 ~ 15mm, 15 ~ 22mm, 22 ~ 29mm)

Order No.	Model No.	Standard	Measuring Range (mm)	Accuracy (mm)	Graduation (mm)	Full Length (mm)	Thickness (mm)	Weight
007030	TPG-267M	267M	1 ~ 29	± 0.05	0.05	144	1.2	80g

GAUGES

THREAD GAUGES

PLUG GAUGES

RING GAUGES

THICKNESS GAUGES

TAPER GAUGES

WELDING GAUGES

OTHER GAUGES



CIRCULAR TAPER GAUGES



TPG-710A



TPG-710B



TPG-710C

USE Measure hole size or gap width

MATERIAL TPG-710A : SK Steel, TPG-710B/710C : Carbon steel for machine structural use
Grip : Free cutting steel

FEATURES Cylindrical type
Silver finish

Order No.	Model No.	Standard	Measuring Range (mm)	Accuracy (mm)	Graduation (mm)	Taper Angle	Full Length (mm)	Weight
007100	TPG-710A	710A	1 ~ 6	± 0.05	0.1	5 °44	93	20g
007101	TPG-710B	710B	4 ~ 15	± 0.05	0.1	5 °44	175	140g
007102	TPG-710C	710C	4 ~ 25	± 0.05	0.1	5 °44	290	550g

BLOCK GAUGES

PIN GAUGES

PIN VISE

PIN GAUGE ACCESSORIES

CIRCULAR TAPER GAUGES



TPG-715A

USE Use for measuring hole size or gap width

MATERIAL Gauge : SK Steel (Non-Hardened)
Case : Brass

FEATURES Silver finish
Comes with a protective cap for the gauge tip

Order No.	Model No.	Standard	Measuring Range (mm)	Accuracy (mm)	Graduation (mm)	Taper Angle	Full Length (mm)	Weight
007150	TPG-715A	715A	0.1 ~ 3	± 0.05	0.1	5 °43 29	118.5	33g
007151	TPG-715B	715B	1 ~ 6	± 0.05	0.1	5 °43 29	168	80g

GAUGES

THREAD GAUGES

PLUG GAUGES

RING GAUGES

THICKNESS GAUGES

TAPER GAUGES

WELDING GAUGES

OTHER GAUGES

CIRCULAR TAPER GAUGE WITH GREEN COLOR GRIP



New line-up with Green Aluminum Grip



CGTPG-710A



CGTPG-710B



CGTPG-710C

USE Measure hole size or gap width

MATERIAL

Gauge : SK steel (CGTPG-710A), Carbon steel for machine structure use (CGTPG-710B & CGTPG-710C)
Grip : Anodized aluminum

FEATURES

Sliver finish

Order No.	Model No.	Standard	Measuring Range (mm)	Accuracy (mm)	Graduation (mm)	Taper Angle	Full Length (mm)	Weight
007103	CGTPG-710A	710A	1 ~ 6	± 0.05	0.1	5 °44	93	20g
007104	CGTPG-710B	710B	4 ~ 15	± 0.05	0.1	5 °44	175	140g
007105	CGTPG-710C	710C	4 ~ 25	± 0.05	0.1	5 °44	290	550g

CIRCULAR TAPER GAUGE WITH GREEN COLOR CASE



New line-up. Circular taper gauge with green case



CCTPG-715A

USE Use for measuring hole size or gap width

MATERIAL

Gauge : SK steel
Anodized aluminum

FEATURES

Comes with a protective cap for the gauge tip

Order No.	Model No.	Standard	Measuring Range (mm)	Accuracy (mm)	Graduation (mm)	Taper Angle	Full Length (mm)	Weight
007152	CCTPG-715A	715A	0.1 ~ 3	± 0.05	0.1	5 °43 29	118.5	33g
007153	CCTPG-715B	715B	1 ~ 6	± 0.05	0.1	5 °43 29	168	80g



SLIDE TAPER GAUGES



Clip-style slide case



Perfect for carrying in shirt pocket

- USE** Measurement of tubing, bore, slot width, hole size etc.
- MATERIAL** Hardened stainless steel (SUS420J2)
Hardness : HV480
- FEATURES** Satin finish
Clip-type slide case for safe and convenient carrying
Gauge tip is rounded for safety
Slide into case for storage

Order No.	Model No.	Standard	Measuring Range (mm)	Accuracy (mm)	Graduation (mm)	Taper Angle	Weight
007201	TPG-700SL	700SL	1~9	±0.05	0.1	7° 9' 10"	20g

BLOCK GAUGES

PIN GAUGES

PIN VISE

PIN GAUGE ACCESSORIES

PLASTIC TAPER GAUGES



can put in a pocket

- USE** Measure openings, slot width, hole size, etc.
- MATERIAL** Polycarbonate
- FEATURES** Scratch resistant
Clip design

Order No.	Model No.	Standard	Measuring range (mm)	Accuracy (mm)	Graduation (mm)	Weight
007040	TPG-800	800	1~15	±0.2	0.1	5g

GAUGES

THREAD GAUGES

PLUG GAUGES

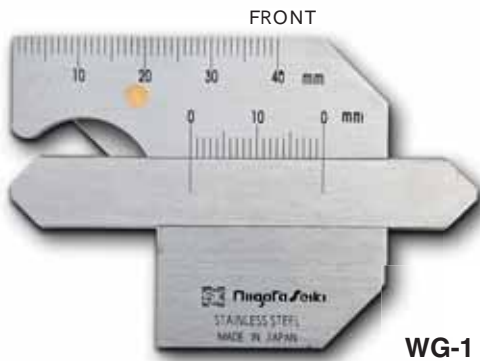
RING GAUGES

THICKNESS GAUGES

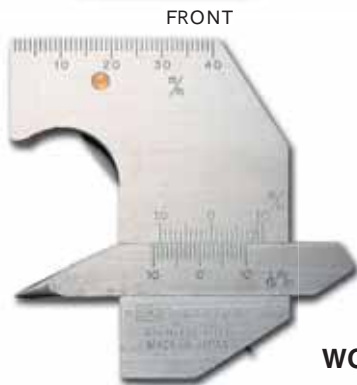
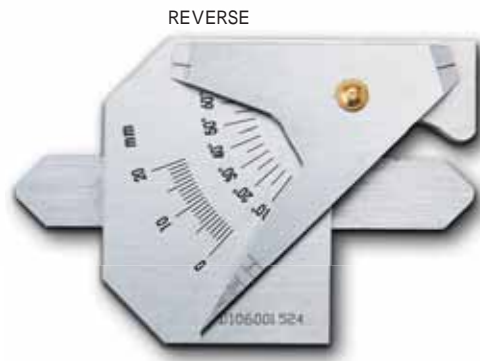
TAPER GAUGES

WELDING GAUGES

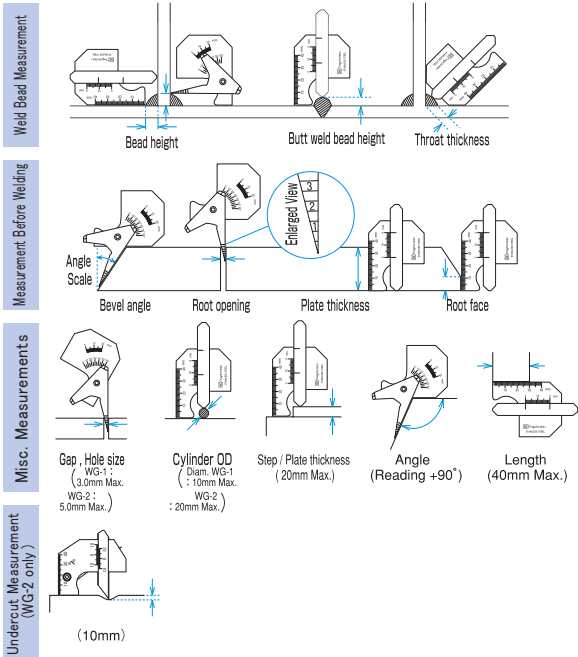
OTHER GAUGES



WG-1

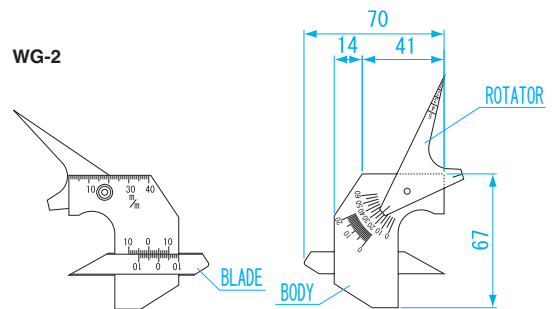
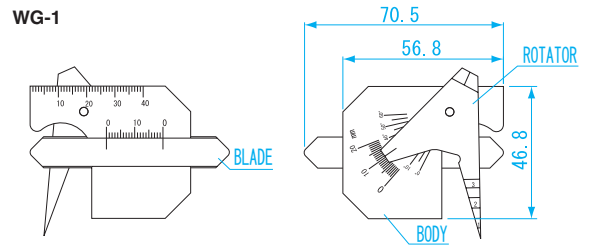


WG-2



DIMENSIONS

Units : mm



BLOCK GAUGES

PIN GAUGES

PIN VISE

PIN GAUGE ACCESSORIES

GAUGES

THREAD GAUGES

PLUG GAUGES

RING GAUGES

THICKNESS GAUGES

TAPER GAUGES

WELDING GAUGES

OTHER GAUGES

- USE** For measuring fillet weld, bead weld, etc.
- MATERIAL** Stainless steel(SUS410)
- FEATURES** Efficient for welding and quality control
Tough and portable (with vinyl case)

Order No.	Model No.	Measurement Accuracy for Throat Thickness of Fillet Weld	Bevel Angle Accuracy	Accuracy	Weight
007502	WG-1 (M)	± 0.4mm	± 0.7 °	± 0.4mm	79g
007503	WG-2 (L)	± 0.2mm	± 0.7 °	± 0.4mm	91g

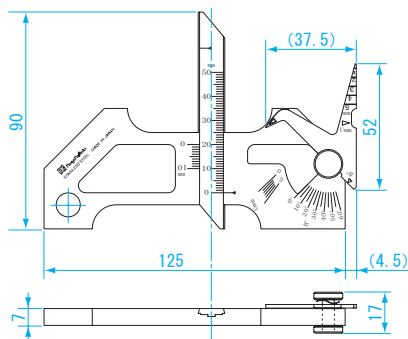
WELDING GAUGE

New product! Gauges with new features added to existing welding gauge line-up
 Measure weld reinforcement height up to 50mm

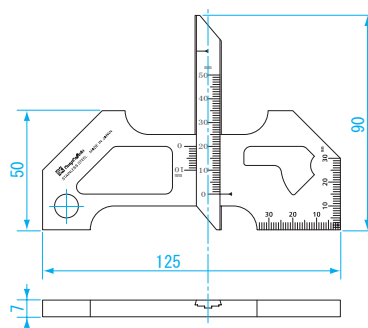

WG-3

WG-5
DIMENSIONS

Units : mm


DIMENSIONS

Units : mm



BLOCK GAUGES

PIN GAUGES

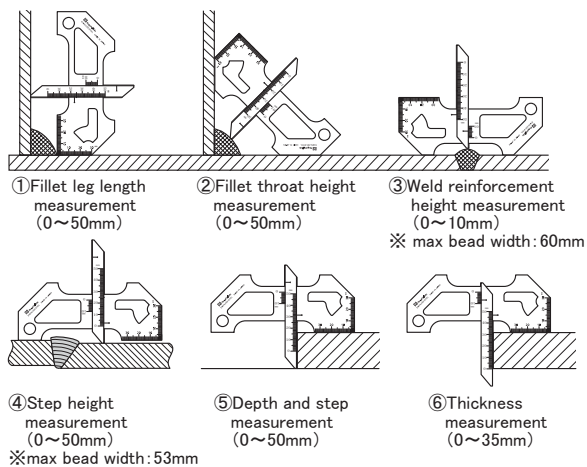
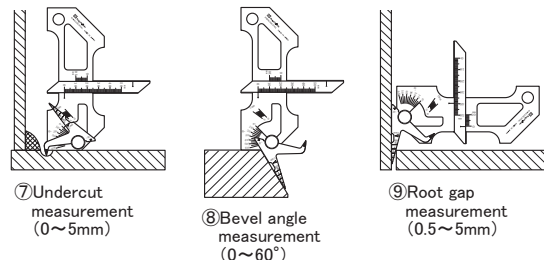
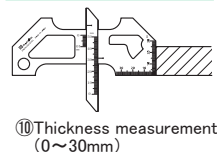
PIN VISE

PIN GAUGE ACCESSORIES

USE Measurement of size and alignment of bead, gap size, undercut, etc.

MATERIAL
 Stainless Steel (SUS410) Silver finish

FEATURES
 Speed up and streamline the quality control of welding
 Measures weld reinforcement height up to 50mm
 Wide base for stability during measurements
 Pivoting gauge provides a variety of measurement functions
 Translucent case for easy confirmation of contents

Measurement Functions
WG-3, WG-5 capabilities

WG-3 only

WG-5 only


THREAD GAUGES

PLUG GAUGES

RING GAUGES

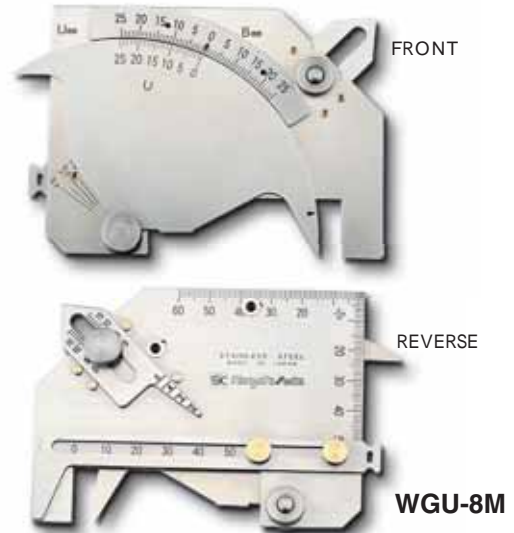
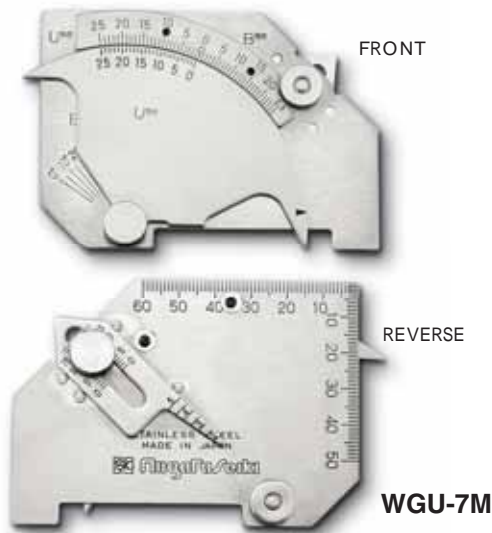
THICKNESS GAUGES

TAPER GAUGES

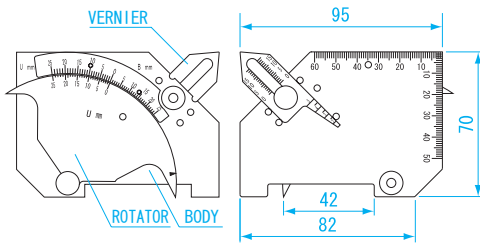
WELDING GAUGES

OTHER GAUGES

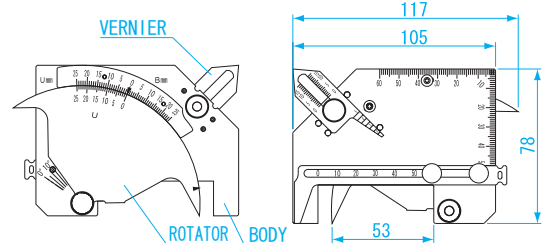
Order No.	Model No.	Weight
007506	WG-3	198g
007507	WG-5	187g



DIMENSIONS Units : mm



DIMENSIONS Units : mm



USE For wide of variety welding measurements

Undercut depth/ Groove angle/ Inconsistent level
Height of fillet weld & bead weld/ Throat thickness of fillet
Root opening/ Plate thickness

USE For wide of variety welding measurements

Undercut depth/ Groove angle/ Inconsistent level
Height of fillet weld & bead weld/ Throat thickness of fillet
Root opening/ Plate thickness/ External diameter of circular workpiece/ Width of bead weld

MATERIAL Stainless steel(SUS410)

MATERIAL Stainless steel(SUS420J2)

FEATURES

Long usage life, rust and corrosion resistant and extremely durable as well as being light weight
Very convenient to the welding process involving steel frame assembly such as general welding, ship building, bridge construction, etc.
Easy reading scale

FEATURES

Additional function for measurement of external diameter of circular workpiece, swelling of pressure welding of reinforcing iron and width of bead weld
Bead stride width: 53mm
Bevel angle range: 0-70°
Easy reading scale

BLOCK GAUGES
PIN GAUGES
PIN VISE
PIN GAUGE ACCESSORIES

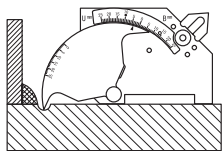
GAUGES

THREAD GAUGES
PLUG GAUGES
RING GAUGES
THICKNESS GAUGES
TAPER GAUGES
WELDING GAUGES
OTHER GAUGES

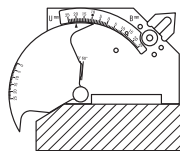
MEASUREMENT FUNCTION

WGU-7M,WGU-8M, WGU-9M common functions

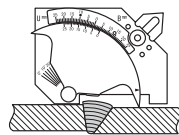
WGU-8M, WGU-9M common functions



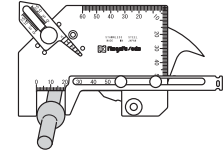
① Undercut depth (0~25mm)



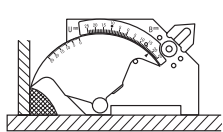
② Bevel angle (WGU-7M: 0~60°) (WGU-8M-WGU-9M: 0~70°)



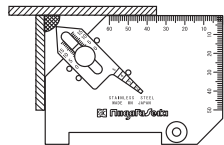
③ Bead striding width (WGU-7M: 42mm) (WGU-8M-WGU-9M: 53mm) Step difference (0~25mm)



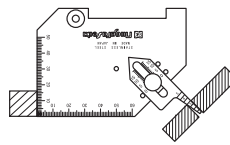
⑧ External diameter of circular workpiece (WGU-8M: up to 30mm) (WGU-9M: up to 50mm)



④ Height of fillet & bead weld (0~25mm)

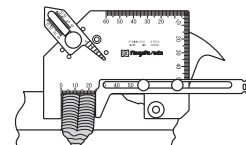


⑤ Throat thickness of fillet weld (0~15mm)



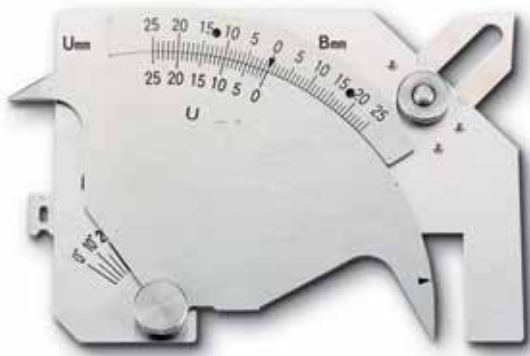
⑥ Root opening (2~5mm)

⑦ Plate thickness (scale)

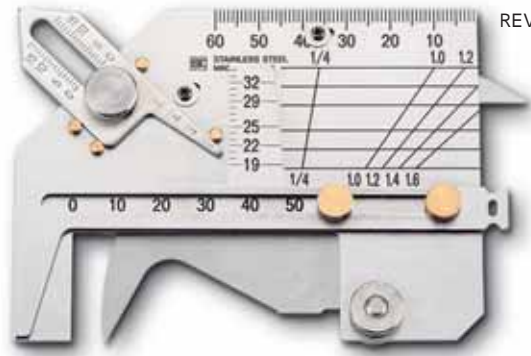


⑨ Width of bead weld (0~53mm)

Order No.	Model No.	Weight
007513	WGU-7M	150g
007514	WGU-8M	190g



FRONT



REVERSE

USE

- Undercut depth/ Groove angle/ Inconsistent level
- Height of fillet weld & bead weld/ Throat thickness of fillet
- Root opening/ Plate thickness/ External diameter of circular workpiece/ Width of bead weld

MATERIAL

Stainless steel (SUS420J2)

FEATURES

- Additional functions for measurement of
 - external diameter of circular workpiece
 - swelling of pressure welded reinforcing iron
 - width of bead weld

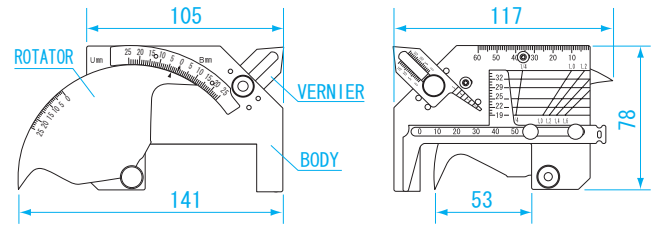
Bead stride width: 53mm

Bevel angle range: 0-70°

Higher accuracy undercut measurement function

DIMENSIONS

Units : mm



BLOCK GAUGES

PIN GAUGES

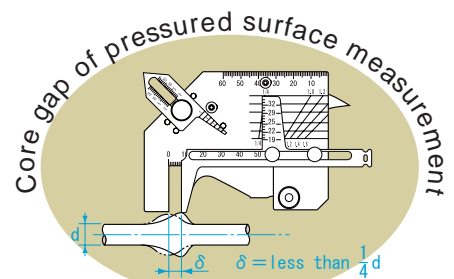
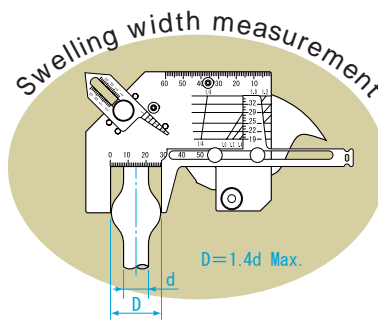
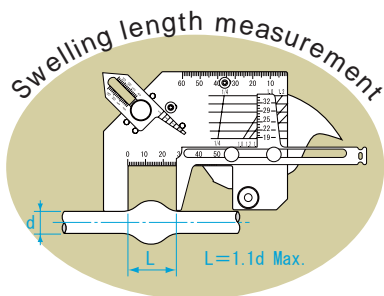
PIN VISE

PIN GAUGE ACCESSORIES

Additional functions

Provides quick way to measure the diameter of welded rebar to insure proper dimensions of weld seam.

Scale marked for material diameter (19, 20, 25, 29, 32) corresponding to various rebar diameters, and amount of expansion (1/4, 1.0 ~ 1.6). You can quickly find the ratio by reading the intersection of the two scale lines.



GAUGES

THREAD GAUGES

PLUG GAUGES

RING GAUGES

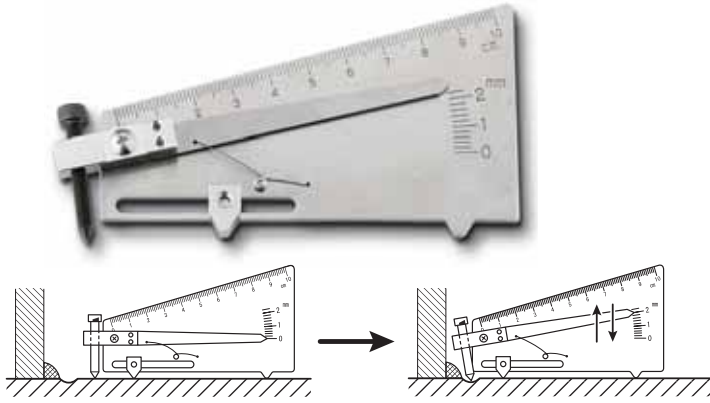
THICKNESS GAUGES

TAPER GAUGES

WELDING GAUGES

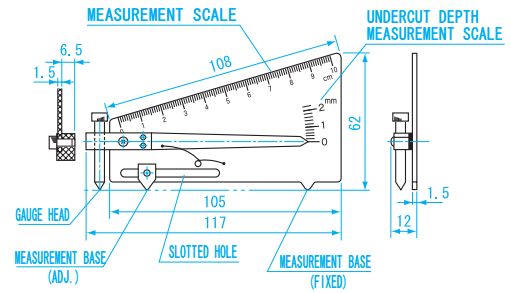
OTHER GAUGES

Order No.	Model No.	Rebar diameter (mm)	Expansion	Weight
007515	WGU-9M	19 ~ 35	1/4, 1.0 ~ 1.6	190g



DIMENSIONS

Units : mm



Zero Adjustment

1. Press this gauge to the measuring sample.
2. Adjust Zero point adjustment screw to indicate 0, insuring that all three points contact surface.

Measurement

After 0 adjustment, put the tool on undercut and the spring will move indicator arm to show depth of undercut on graduation.

USE For undercut depth and length measurement (Scale range : 0-2mm)

MATERIAL
Stainless steel (SUS410)

FEATURES
Easy to measure depth and length of undercut
Capable of 0 adjustment with screw type of gauge head

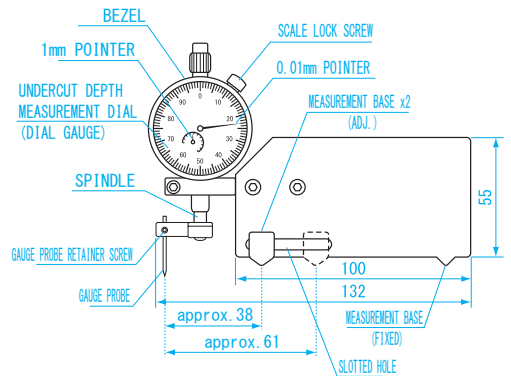
SPECIFICATIONS
Exclusive use for undercut measurement (minimum reading : 0.2mm)

Order No.	Model No.	Weight
007521	WGU-2S	100g

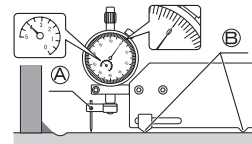


DIMENSIONS

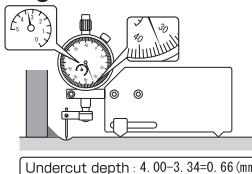
Units : mm



(Figure 1)



(Figure 2)



Zero Adjustment

Recommended to be performed on a flat surface such as a surface plate.

- ① Loosen GAUGE PROBE RETAINER SCREW using hex key.
- ② Place Welding Gauge on surface insuring all three points of MEASUREMENT BASE are making contact (2x ADJ. 1x FIXED) and push on SPINDLE shaft. When 1mm POINTER indicates 4.00mm, tighten GAUGE PROBE RETAINER SCREW. (Insure that probe tip is in contact with the surface plate)

Measurement

- ① Place the gauge on a flat surface and rotate BEZEL to indicate 0.01mm. (Figure 1)
- ② Place PROBE tip on weld undercut point to be measured. (Figure 2)
- ③ Undercut value is obtained by subtracting Dial Gauge reading from 4.00mm.

USE Exclusive use for undercut measurement

FEATURES
Stainless steel (SUS420J2)
Easy and accurate to measure depth and length of undercut
Dial gauge type performs more precise measurement
Three point support for stable measurement

SPECIFICATIONS
Measurement range : 0 ~ 4.00mm
Minimum reading : 0.01mm
Accuracy : ± 0.04mm
Width of measurement base : 23mm

Order No.	Model No.	Weight
007520	FDW-1	280g

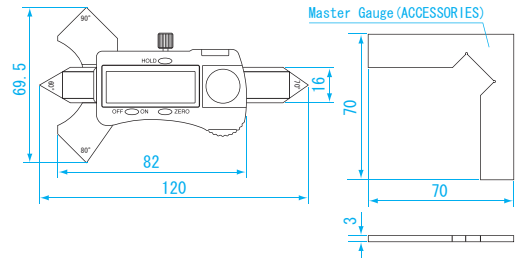
DIGITAL WELDING GAUGE

Essential for welding process. Digital welding gauge specialized for measuring fillet weld and bead weld height
 Provided with zero setting master gauge



DIMENSIONS

Units : mm



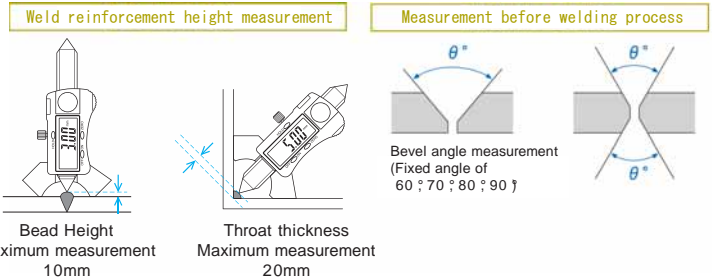
USE For measuring the size of fillet weld and bead weld

MATERIAL
Stainless steel

FEATURES
 Easy to read with digital display
 Bevel angle: 60°, 70°, 80°, 90°
 Master gauge included
 Hold function

SPECIFICATIONS
 Throat thickness : 20mm
 Bead height : 10mm
 operating temperature : 0 ~ 40

POWER
SR44 or LR44, one included for testing



Bead Height
Maximum measurement 10mm

Throat thickness
Maximum measurement 20mm

Order No.	Model No.	Resolution (mm)	Accuracy (mm)	Weight
007526	DWG-20G	0.01	± 0.03	130g

Quantization Error (± 1 digit) not included

BLOCK GAUGES

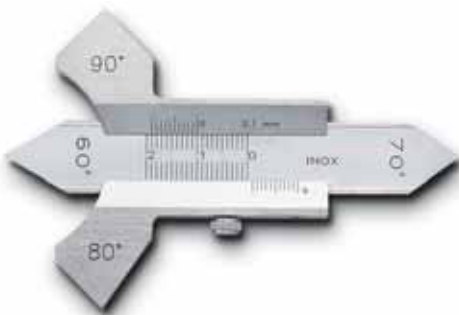
PIN GAUGES

PIN VISE

PIN GAUGE ACCESSORIES

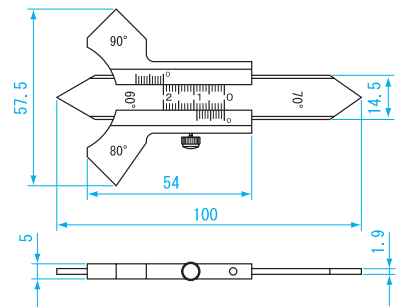
WELDING GAUGE

GAUGES



DIMENSIONS

Units : mm

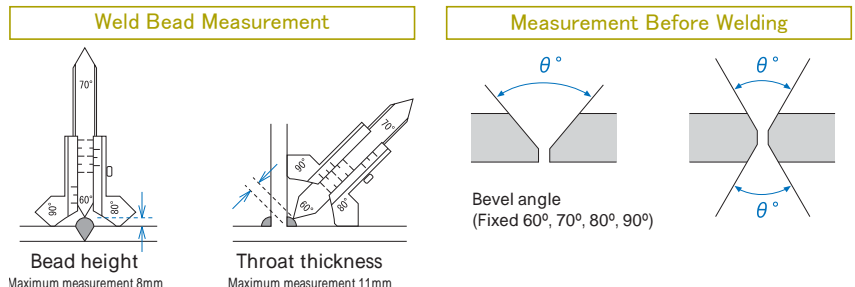


USE Use for measuring the size of fillet weld and bead weld

MATERIAL
Stainless steel

FEATURES
Bevel angle: 60° 70° 80° 90°

SPECIFICATIONS
 Fillet weld : 11mm
 Bead weld : 8mm
 Accuracy: ± 0.2mm
 Minimum reading : 0.1mm



Bead height
Maximum measurement 8mm

Throat thickness
Maximum measurement 11mm

Order No.	Model No.	Weight
007516	AWG-10	80g

THREAD GAUGES

PLUG GAUGES

RING GAUGES

THICKNESS GAUGES

TAPER GAUGES

WELDING GAUGES

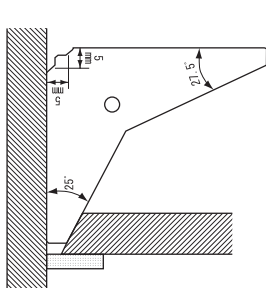
OTHER GAUGES



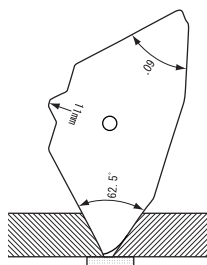
WAL2542

WAL4562

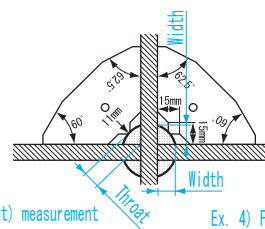
Example use



Ex. 1) Joint gap angle (inside) measurement



Ex. 2) Butt joint gap angle measurement



Ex. 3) Fillet weld (throat) measurement

Ex. 4) Fillet weld width measurement

USE For measuring bevel angle of T-joint (interior angle), bevel angle of facing joint (interior angle), leg length (height), and throat thickness of fillet weld

MATERIAL

SUS304

FEATURES

- Indication of size limit for easy judgement (angle step by 2.5 °; throat thickness step by 1mm)
- Set of 4 pieces
- Provided with plastic case and ball chain

SPECIFICATIONS

Model No.		WAL2542				WAL4562			
Blank No.		1	2	3	4	1	2	3	4
Outline Dimension (mm)	Overall width	92				92			
	Overall height	46	45	44	43	43	44	45	46
	Plate thickness	1.5				1.5			
Material/ Finish		SUS304 /barrel semi-gloss finish				SUS304 / barrel semi-gloss finish			
Measurement Value Indication	Angle degree (Both side)	25 °	30 °	35 °	40 °	45 °	50 °	55 °	60 °
	Throat thickness (Front)	4	5	6	7	8	9	10	11
	Leg Length(Back)	5	7	8	10	11	13	14	15
Accuracy		Fillet weld•Reinforcement±0.1mm/ Angle ±1 °				Fillet weld•Reinforcement±0.1mm / Angle ±1 °			

Order No.	Model No.	Weight
007550	WAL2542	100g
007551	WAL4562	120g

BLOCK GAUGES

PIN GAUGES

PIN VISE

PIN GAUGE ACCESSORIES

GAUGES

THREAD GAUGES

PLUG GAUGES

RING GAUGES

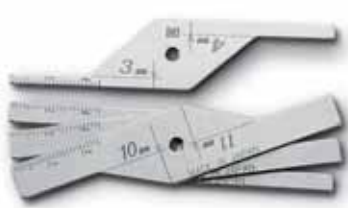
THICKNESS GAUGES

TAPER GAUGES

WELDING GAUGES

OTHER GAUGES

ROOT LIMIT GAUGE

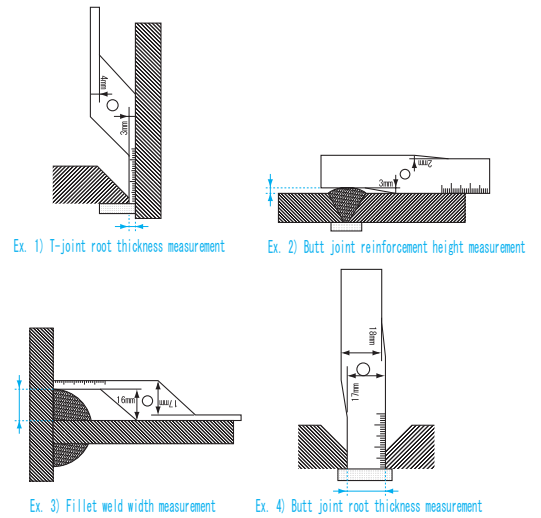


WRL310



WRL1118

Example use



USE

Use for measuring root gap of T-joint or facing joint, leg length (height) of fillet weld and excess weld and height of facing joint

MATERIAL

SUS304

FEATURES

- Measure with 1mm interval
- The measurement result of root thickness will be indicated on the scale
- Measurement range chosen so most frequently used dimensions are combined
- Provided with plastic case & ball chain

SPECIFICATIONS

Model No.		WRL310				WRL1118			
Blank No.		1	2	3	4	1	2	3	4
Outline dimension (mm)	Overall width	90				90			
	Overall height	20				20			
	Plate thickness	2				2			
Material/ Finish		SUS304 / barrel semi-gloss finish				SUS304 / barrel semi-gloss finish			
Measurement Value Indication	Root gap (Front)	3·4	5·6	7·8	9·10	11·12	13·14	15·16	17·18
	Leg length·height (Back)	16·17	14·15	12·13	10·11	8·9	6·7	4·5	2·3
	Root side(Front)	20				20			
	Plate thickness	20				20			
Accuracy		±0.1mm				±0.1mm			

Order No.	Model No.	Weight
007560	WRL310	60g
007561	WRL1118	90g

BLOCK GAUGES

PIN GAUGES

PIN VISE

PIN GAUGE ACCESSORIES

GAUGES

WELDING ELECTRODE GAUGE

THREAD GAUGES

PLUG GAUGES

RING GAUGES

THICKNESS GAUGES

TAPER GAUGES

WELDING GAUGES

OTHER GAUGES



Sample of custom design

Custom Designs with Fast Delivery

Please contact us with request

USE Use for measuring height of welding electrode

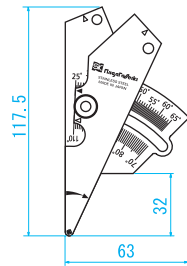
MATERIAL SUS420J2

New Product. Specialized for angle measurement of grooves with minimum reading 0.5 °



DIMENSIONS

Units : mm



USE Butt angle measurement and gap angle measurement

MATERIAL Stainless(SUS410)

FEATURES

- Measurement of butt joint gap angle
- Sharpened tip enables measurement for root gap of 0mm, or when sheet thickness is less than 15mm
- Minimum reading 0.5 °, large scale for easy reading
- T-joint gap angle can be measured avoiding weld buildup
- Non-reflective satin finish for easy to read scale
- Solid and convenient carrying.(Provided with plastic carrying case)

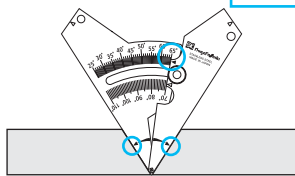
SPECIFICATIONS

- Bevel angle : 25 ~ 65 ° (Minimum graduation: 0.5 °)
- Angle of cross weld part : 70-110 °

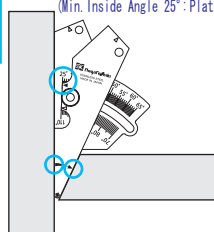
Example use

1) Butt joint gap angle measurement
(Max. Inside Angle 65° : Plate Thickness :30mm)

• How to Read the value for examples 1) & 2)
Angle between ◀ marks indicated at ▶

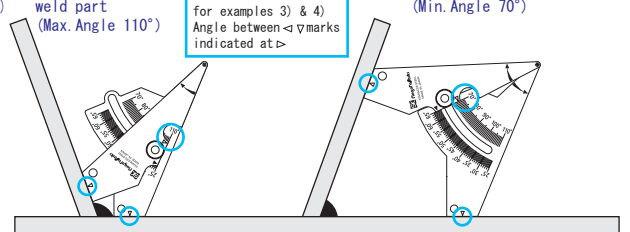


2) T-joint gap angle measurement (Min. Inside Angle 25°:Plate Thickness : 30mm)



3) Angle of cross weld part (Max. Angle 110°)

• How to Read the value for examples 3) & 4)
Angle between ◀ marks indicated at ▶



4) Angle of cross weld part (Min. Angle 70°)

SPECIFICATIONS

Order No.	Model No.	Accuracy of angle	Weight
007518	WGA-65	± 0.5 °	73.5g

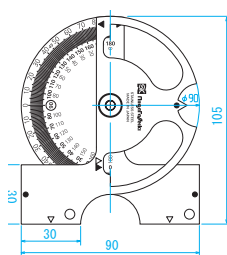
ANGLE PROTRACTOR

New Product. Specialized for angle measurement. 3 measurement points enable multiple angle measurements



DIMENSIONS

Units : mm



USE Measuring angles for sheet metal bending, welding flanges and butt joints, openings and bevels, scissors plates, etc.

MATERIAL Stainless steel (SUS410)

FEATURES

- Enables a wide range of angle measurements before and after welding process
- Direct measurement can be done without interference from swelling or weld bead
- Can measure sheet metal bends and outside angle measurements
- Non-reflective satin finish for easy to read scale
- Solid and convenient carrying (provided with plastic case)

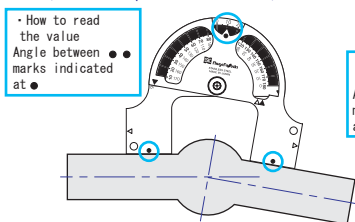
SPECIFICATIONS

- Bevel angle : Scissors angle 30-130 ° (Minimum graduation : 1 °)
- Bending angle and angle of butt weld joint : 0 ~ 90 °
- Stud and beam angle after welding : 0 ~ 180 °

Example use

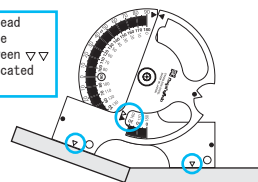
Example 1) Angle measurement of bent butt weld (0-90°:Example indicates 10°)

• How to read the value
Angle between ●● marks indicated at ●



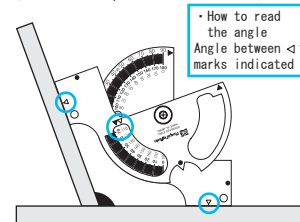
Example 2) Angle measurement of bent Flange and metal plate (0-180°:Example indicates 20°)

• How to read the value
Angle between ▼▼ marks indicated at ▶



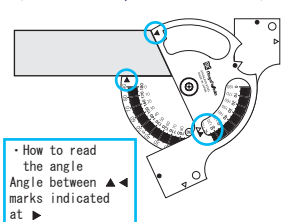
Example 3) Angle of cross weld part (0-180°:Example indicates 110°)

• How to read the angle
Angle between ◀▼ marks indicated at ▶



Example 4) Plate bevel angle (30-130°: Example indicates 65°)

• How to read the angle
Angle between ▲ marks indicated at ▶



SPECIFICATIONS

Order No.	Model No.	Accuracy of angle	Weight
007519	AP-130	± 0.5 °	100g

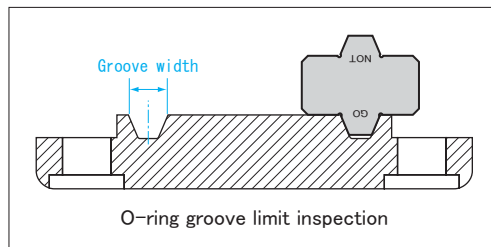
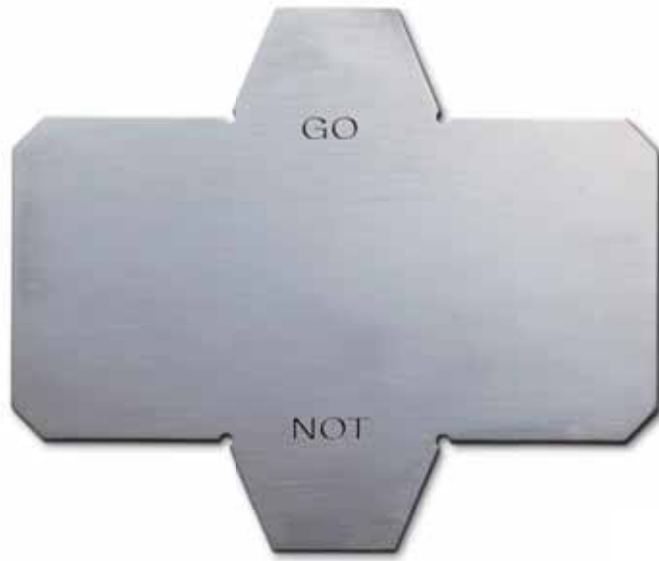
Measurement function and List

Process	No.	Categories	Figures	Applicable Model														
				Taper Gauge	WG-1	WG-2	WG-3	WG-5	WGU-7M	WGU-8M	WGU-9M	WGU-2S	FDW-1	WRL310 WRL1118	WAL2542 WAL4562	AWG-10	DWG-20G	WGA-65
Machining and Assembly (Before welding)	1	T joint Gap		✓	✓	✓	✓	—	✓	✓	✓	—	—	✓	—	—	—	—
	2	Lap joint Gap		✓	✓	✓	✓	—	✓	✓	✓	—	—	✓	—	—	—	—
	3	Misalignment of Butt weld		✓	✓	✓	✓	—	✓	✓	✓	—	—	✓	—	—	—	—
	4	Root Openings		✓	✓	✓	✓	—	✓	✓	✓	—	—	✓	—	—	—	—
	5	Root gap of T-joint		—	—	—	—	—	—	—	—	—	—	✓	—	—	—	—
	6	Root Face		—	✓	✓	✓	✓	✓	✓	✓	✓	—	✓	—	—	—	—
	7	Bevel Angle		—	✓	✓	✓	—	✓	✓	✓	—	—	—	—	—	—	✓
	8	Groove angle		—	—	—	—	—	—	—	—	—	—	—	✓	✓	✓	✓
	9	T-joint gap angle		—	—	—	—	—	—	—	—	—	—	—	✓	—	—	✓
	10	Edg Misalignment		—	✓	✓	✓	✓	✓	✓	✓	—	—	—	—	—	—	—
After Welding	11	Leg length (height) of Fillet Weld		—	✓	✓	✓	✓	✓	✓	✓	—	—	✓	✓	—	—	—
	12	Throat Thickness of Fillet Weld		—	✓	✓	✓	✓	✓	✓	✓	—	—	—	✓	✓	✓	—
	13	Height of Butt weld Overlay		—	✓	✓	✓	✓	✓	✓	✓	—	—	✓	—	✓	—	—
	14	Height of T-joint weld Overlay		—	✓	✓	✓	✓	✓	✓	✓	—	—	✓	—	✓	—	—
	15	Undercut		—	—	✓	✓	—	✓	✓	✓	✓	✓	—	—	—	—	—
	16	Misalignment of Butt Weld		—	—	✓	✓	✓	✓	✓	✓	—	—	—	—	—	—	—
	17	Bending angle and angle of butt weld joint		—	—	—	—	—	—	—	—	—	—	—	—	—	—	✓
	18	Angle of Cross weld part		—	—	—	—	—	—	—	—	—	—	—	—	—	—	✓
	19	Stud angle after welding		—	—	—	—	—	—	—	—	—	—	—	—	—	—	✓
	20	Irregularity of Bead Surface		—	—	—	—	—	—	—	✓	✓	—	—	—	—	—	—
Pressure welding	21	Swelling diameter		—	—	—	—	—	—	△※	✓	—	—	—	—	—	—	—
	22	Swelling length		—	—	—	—	—	—	—	△※	✓	—	—	—	—	—	—
	23	Misalignment of Pressured Surface		—	—	—	—	—	—	—	—	△※	✓	—	—	—	—	—
	24	Bending angle		—	—	—	—	—	—	—	—	—	—	—	—	—	—	✓

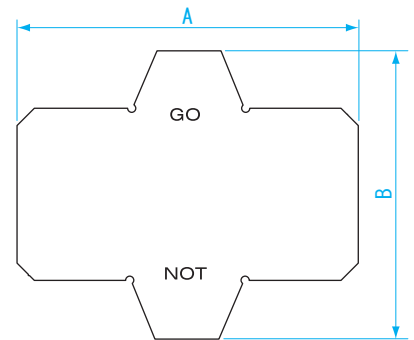
※ Measures dimension of weld, relative amount must be calculated.

SPECIFICATIONS

Model No.	Material	Scale	Height of Bead Weld	Height of Fillet Weld	Throat thickness of fillet weld	Undercut depth	Root Opening	Width of Bead Weld	Welding Bar Diameter	Length Accuracy	Beveling(groove) angle	Bending angle and angle of butt weld joint	Stud and beam angle after welding	Angle Accuracy
WG-1	Stainless steel SUS410 Plate thickness: 4.3mm	40mm	10mm	20mm	10mm	—	0.5~3mm	—	10mm	±0.4mm	0~60° Minimum reading value: 5°	—	—	±0.7°
WG-2	Stainless steel (SUS410) Plate thickness: 4.9mm			10mm Minimum reading 0.1						10mm				
WG-3	Stainless steel SUS410	30·35mm	10mm	50mm	50mm	10mm	0.5~5mm	—	10mm	±0.4mm	0~60° Minimum reading value: 5°	—	—	±0.7°
WG-5	Plate thickness 7mm Satin finish													
WGU-7M	Stainless steel (SUS410) Plate thickness: 1.5mm	50·60mm	25mm	25mm	15mm	25mm	2~5mm	0~53mm	30mm	±0.4mm (Throat thickness measurement ±0.7mm-manufacturing accuracy)	0~60° Minimum reading value: 5°	—	—	±2°
WGU-8M	Stainless steel (SUS420J2) Plate thickness: 1.5mm									50mm				
WGU-9M	Stainless steel (SUS420J2) Plate thickness: 1.5mm	60mm	—	—	—	—	—	—	50mm	±0.4mm	0~70° Minimum reading value: 5°	—	—	—
WGU-2S	Stainless steel (SUS410) Plate thickness: 1.5mm	100mm	—	—	—	2mm	—	—	—	±0.1mm	—	—	—	—
FDW-1	Stainless steel (SUS420J2) Plate thickness: 1.5mm	—	—	—	—	4mm	—	—	—	±0.04mm	—	—	—	—
AWG-10	Stainless steel Thickness: Body: 5mm, Blade: 1.9mm	—	8mm	—	11mm	—	—	—	—	±0.2mm	60·70·80·90° fixed	—	—	—
DWG-20	Stainless steel Thickness: Body: 5.2mm Blade: 2.7mm Display: 13.5mm	—	10mm	—	20mm	—	—	—	—	±0.05mm				
WRL310	Stainless steel (SUS304) Plate thickness: 2mm	20mm	10~17mm (1mm step)	10~17mm fixed (1mm step)	—	—	3~10mm fixed (1mm step)	—	—	±0.1mm	—	—	—	—
WRL1118	Stainless steel (SUS304) Plate thickness: 2mm		2~9mm (1mm step)	2~9mm fixed (1mm step)	—	—	11~18mm fixed (1mm step)	—	—	—	±0.1mm			
WAL2542	Stainless steel (SUS304) Plate thickness: 1.5mm	—	—	5·7·8·10mm fixed	4~7mm fixed (1mm step)	—	—	—	—	±0.1mm	25·27.5·30·32.5 35·37.5·40·42.5° fixed	—	—	±1°
WAL4562	Stainless steel (SUS304) Plate thickness: 1.5mm	—	—	11·13·14·15mm fixed	8~11mm fixed (1mm step)	—	—	—	—	—	45·47.5·50·52.5 55·57.5·60·62.5° fixed	—	—	±1°
WGA-65	Stainless steel SUS410 Plate thickness 1.5mm Satin finish	—	—	—	—	—	—	—	—	—	25~65° Minimum reading value: 0.5°	—	70~110°	±0.5°
AP-130	—	—	—	—	—	—	—	—	—	—	30~130° Minimum reading value: 1°	0~90°	0~180°	



DIMENSIONS



BLOCK GAUGES

PIN GAUGES

PIN VISE

PIN GAUGE ACCESSORIES

GAUGES

THREAD GAUGES

PLUG GAUGES

RING GAUGES

THICKNESS GAUGES

TAPER GAUGES

WELDING GAUGES

OTHER GAUGES

USE Limit gauge for measuring width of O-ring groove

MATERIAL
SUS420J2 (Polished finish)

FEATURES
GO/NO GO standard conforms to JPI-7S-23
Groove width accuracy : $\pm 0.20\text{mm}$
Groove depth accuracy : $\pm 0.41/0\text{mm}$
Groove bottom corner radius tolerance:
Less than 1.5mm ... +0.8mm
More than 1.5mm... $\pm 0.8\text{mm}$
Angle accuracy : $\pm 0.5^\circ$

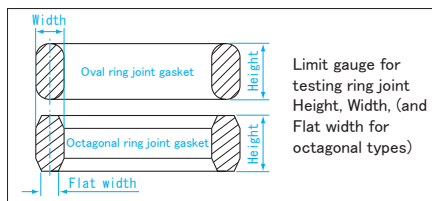
Units : mm

Model No.	A	B
GSW-1	40	35
GSW-2	40	35
GSW-3	60	50
GSW-4	60	50
GSW-5	80	60
GSW-6	80	60
GSW-7	80	70

Order No.	Model No.	Compatible O-Ring No	Groove Width (mm)	Groove Depth (mm)	Groove Bottom Corner Radius	Weight
007471	GSW-1	21,23,24,26,27,30,31,34,35,37,39,41,44,45,49,53,57,61,65,69,82,84,92,99	7.92	11.91	0.8	11g
007472	GSW-2	28,32,46,73	9.52	13.49	1.5	11g
007473	GSW-3	38,50,54,62,66,77,86,87	11.13	16.66	1.5	22g
007474	GSW-4	42,47,70,74,88,89,93,94,95	12.70	19.84	1.5	22g
007475	GSW-5	51,58,96,97,98	14.27	23.01	1.5	35g
007476	GSW-6	63,78	15.88	26.97	1.5	35g
007477	GSW-7	55,67,71,100	17.48	30.18	1.5	40g

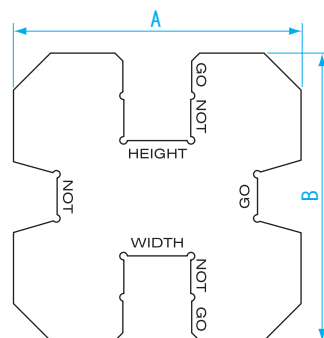


GASKET LIMIT GAUGE for width and height measurement



Limit gauge for testing ring joint Height, Width, (and Flat width for octagonal types)

DIMENSIONS



Units : mm

Model No.	A	B
GST-1	80	80
GST-2	80	80
GST-3	80	80
GST-4	120	120
GST-5	120	120
GST-6	140	140
GST-7	140	140

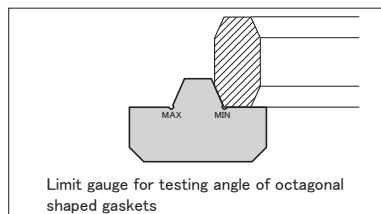
USE Limit gauge for GO / NO GO testing of ring joint gaskets

MATERIAL
SUS420J2 (Polished finish)

SPECIFICATIONS
GO/NO GO standard conforms to JPI-7S-23
Gasket width accuracy : ± 0.20mm
Gasket height accuracy : ± 0.5/0mm
Octagonal corner radius accuracy : ± 0.5mm

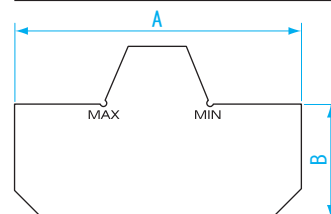
Order No.	Model No.	Compatible Gasket No.	Gasket Width (mm)	Gasket Height (mm)	Octagonal Corner Radius (mm)	Weight
007478	GST-1	21,23,24,26,27,30,31,34,35,37,39,41,44,45,49,53,57,61,65,69,82,84,92,99	11.13	15.7	1.5	53g
007479	GST-2	28,32,46,73	12.70	17.5	1.5	53g
007480	GST-3	38,50,54,62,66,77,86,87	15.88	20.6	1.5	110g
007481	GST-4	42,47,70,74,88,89,93,94,95	19.05	23.9	1.5	110g
007482	GST-5	51,58,96,97,98	22.22	26.9	1.5	110g
007483	GST-6	63,78	25.40	31.8	2.3	139g
007484	GST-7	55,67,71,100	28.58	35.1	2.3	139g

OCTAGONAL GASKET LIMIT GAUGE



Limit gauge for testing angle of octagonal shaped gaskets

DIMENSIONS Units : mm



USE Limit gauge for GO/ NO GO testing of angle for octagonal ring joint gaskets

MATERIAL
SUS420J2 (Polished finish)

SPECIFICATIONS
Conform to JPI-7S-23 standards
Dimensional tolerance of angle : ± 0.5 °

Order No.	Model No.	Width A (mm)	Height B (mm)	MAX	MIN	Weight
007485	OG-1	50	20	23 °30'	22 °30'	10g
007486	OG-2	60	27	23 °30'	22 °30'	18g

BLOCK GAUGES

PIN GAUGES

PIN VISE

PIN GAUGE ACCESSORIES

GAUGES

THREAD GAUGES

PLUG GAUGES

RING GAUGES

THICKNESS GAUGES

TAPER GAUGES

WELDING GAUGES

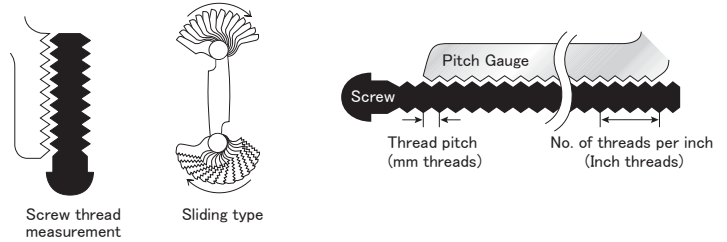
OTHER GAUGES

PITCH GAUGE



W26

- USE** Use for measuring screw pitch
- MATERIAL** Machine grade carbon steel
- FEATURES** Pitch is marked on leaf



06

Order No.	Model No.	Indication unit	Number of leaves	Pitch size	Weight
110961	M28	mm	28	0.25 0.3 0.35 0.4 0.45 0.5 0.55 0.6 0.65 0.7 0.75 0.8 0.85 0.9 1 1.1 1.2 1.25 1.3 1.4 1.5 1.6 1.7 1.75 1.8 1.9 2 2.5	40g
110962	W26	inch	26	4 4 1/2 5 6 7 8 9 10 11 12 13 14 16 18 19 20 22 24 25 26 28 30 32 40 48 60	40g

BLOCK GAUGES

PIN GAUGES

PIN VISE

PIN GAUGE ACCESSORIES

CENTER GAUGE

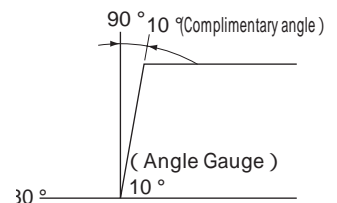
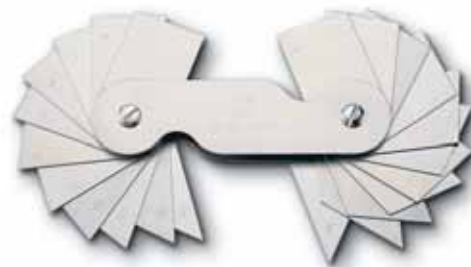


SG-60M

- USE** Use for inspection of the angle of lathe center, angle of the tool for screw cutting, etc
- MATERIAL** Machine grade carbon steel
- FEATURES** Can check the angle of tool bits and tool edges

Order No.	Model No.	Angle	Graduation	Accuracy	Weight
007541	SG-60M	60°	0 ~ 25mm 0.5mm step, 1mm step	±1°	10g
007542	SG-55I	55°	0 ~ 1inch 1/14 inch step, 1/20 inch step	±1°	10g

ANGLE GAUGE



- USE** Use for inspection of internal angle
- MATERIAL** Stainless steel
- FEATURES** 11 leaves on each side, range of 1° ~ 45°
The angle marked on each leaf is complementary angle

Order No.	Model No.	Graduation	Accuracy	Weight
110931	AG-22	1 2 3 4 5 6 7 8 9 10 12 14 14.5 15 16 18 20 25 30 35 40 45°	±20'	200g

GAUGES

THREAD GAUGES

PLUG GAUGES

RING GAUGES

THICKNESS GAUGES

TAPER GAUGES

WELDING GAUGES

OTHER GAUGES



RADIUS GAUGE

USE Use for checking the radius curve of dies, jigs, and wooden molds, etc.

MATERIAL

Machine grade carbon steel

FEATURES

Concave and convex leaves are separated.



RG-32

Order No.	Model No.	Number of Leaves per set	Details of Radius Dimension (mm)	Accuracy(mm)	Weight
110923	RG-34	34	1.0 ~ 3.0 (0.25 step) 3.5 ~ 7.0 (0.5 step)	±0.1	65g
110922	RG-32	32	7.5 ~ 15.0 (0.5 step)	±0.1	115g
110921	RG-30	30	15.5 ~ 20.0 (0.5 step) 21.0 ~ 25.0 (1.0 step)	±0.1	110g

RADIUS GAUGE (Set/ Single part)



BLOCK GAUGES

PIN GAUGES

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PIN GAUGE ACCESSORIES

GAUGES

THREAD GAUGES

PLUG GAUGES

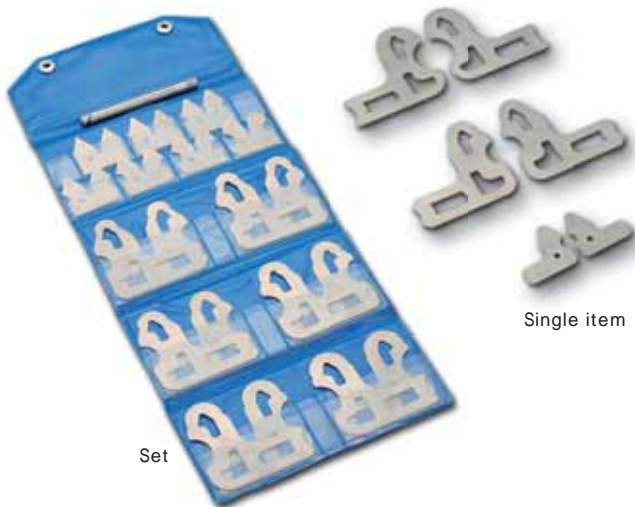
RING GAUGES

THICKNESS GAUGES

TAPER GAUGES

WELDING GAUGES

OTHER GAUGES



Set

Single item

SPECIFICATIONS (Single part)

Order No.	Model No.	Detail of Radius Dimension (mm)
110881	RGL-05	0.5
110882	RGL-10	1.0
110883	RGL-15	1.5
110884	RGL-20	2.0
110885	RGL-25	2.5
110886	RGL-30	3.0
110887	RGL-35	3.5
110888	RGL-40	4.0
110889	RGL-45	4.5
110890	RGL-50	5.0
110891	RGL-55	5.5
110892	RGL-60	6.0
110893	RGL-65	6.5
110894	RGL-70	7.0
110895	RGL-75	7.5
110896	RGL-80	8.0
110897	RGL-85	8.5
110898	RGL-90	9.0
110899	RGL-95	9.5
110900	RGL-100	10.0
110901	RGL-105	10.5
110902	RGL-110	11.0
110903	RGL-115	11.5
110904	RGL-120	12.0
110905	RGL-125	12.5
110906	RGL-130	13.0

USE For checking radius curve of dies, jigs and wooden mold etc.

MATERIAL

Machine grade carbon steel

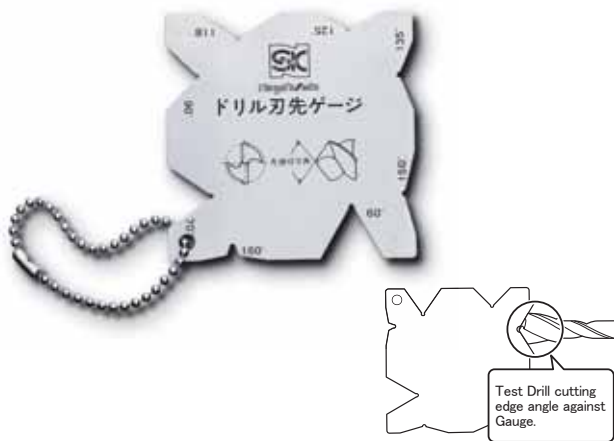
FEATURES

Each size is separated, suitable for measuring difficult to access parts

SPECIFICATIONS (radius gauge set)

Order No.	Model No.	Pieces per set	Detail of Radius Dimension (mm)
110875	RG-26S	26	0.5 ~ 13.0 (0.5 step)
Accuracy (mm)		Weight	
±0.1		290g	

DRILL TIP GAUGE



USE Use for measuring drill-tip after grinding (60° 70° 90° 118° 125° 135° 150° 160°)

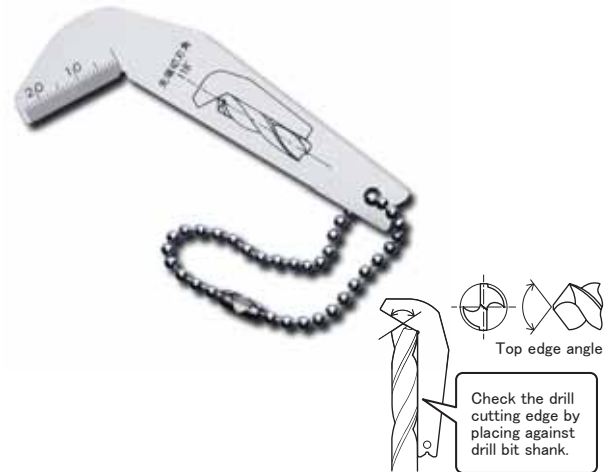
MATERIAL Stainless steel (SUS420J2)

FEATURES

8 types of edge angle gauges are useful when grinding
2mm scale to measure length of drill tip
Provided with ball chain

Order No.	Model No.	Product Dimension W x H x D (mm)	Accuracy	Weight
007531	DPG-A	77 x 77 x 1	± 1.5°	11g

DRILL TIP GAUGE



USE Use for measuring drill-tip after grinding (118°)

MATERIAL Stainless steel (SUS420J2)

FEATURES

Confirms drill tip edge angle after grinding
Provided with ball chain

Order No.	Model No.	Product Dimension L x D (mm)	Accuracy	Weight
007532	DPG-118	90 x 0.5	± 1.5°	10g

DRILL POINT GAUGE



USE Use for measuring the drill edge length range of 3mm-45mm, right and left side

MATERIAL Carbon tool steel

FEATURES

Provided with ball chain
Rotating tip angle gauge
(Marking at 60° 70° 90° 125° 135° 150°)
Tip angle : 118°
Drill edge length : 3 ~ 45mm

Order No.	Model No.	Product Dimension (mm)	Accuracy	Weight
007535	DP-118	Base: 22 x 110 x 8 Rotor: 7.5 x 50 x 2 Main Scale: 68 x 9	± 1.5°	160g

SLIDING DRILL POINT GAUGE



USE Maintenance management of drill point angle
Use for measuring the drill tip edge length range of 3-40mm

MATERIAL

Stainless steel (SUS420J2) Satin finish

FEATURES

Tip angle : 118°
Drill edge length : 3 ~ 40mm

Order No.	Model No.	Accuracy	Weight
007536	S-118	± 1.5°	150g



CHAMFER MEASURING GAUGE



06

- USE** Use for measuring the size of all kinds of chamfer
- MATERIAL** Stainless steel (SUS420J2)
- FEATURES**
 - Measure chamfer circumference of workpiece on lathe
 - For milling, measure hole chamfer on workpiece
 - Measurement range : 0 ~ 15C
 - Minimum reading : 0.5mm

Order No.	Model No.	Product Dimension (mm)	Accuracy (mm)	Weight
006990	CMG-10	Overall Length 71.6×2 Side Length 16	±0.25	20g

CRACK GAUGE/ CLEAR CARD TYPE



CM-P



CM-C

- USE** Use for measuring cracks
- MATERIAL** Polyester
- FEATURES**
 - CM-P: can measure width and length of cracks
 - CM-C: can measure width, angle and length of cracks
 - Flexible, transparent polyester makes it easy to use
 - Portable (Business card size)

Order No.	Model No.	Product Dimension (H) × (W) × (D) (mm)	Weight
111162	CM-P	91 × 55 × 0.175	1g
111163	CM-C	91 × 55 × 0.175	1g

BLOCK GAUGES

PIN GAUGES

PIN VISE

PIN GAUGE ACCESSORIES

PROFILE GAUGE



GAUGES

THREAD GAUGES

PLUG GAUGES

RING GAUGES

THICKNESS GAUGES

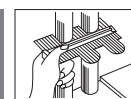
TAPER GAUGES

WELDING GAUGES

OTHER GAUGES



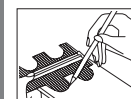
Example of Use



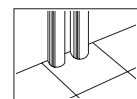
1. Push profile gauge against desired sample



3. Cut workpiece to shape



2. Transfer profile to workpiece



4. A perfect fit made easy

- USE** Use for recording the cross-sectional shape of a surface
- MATERIAL** Pin material : Stainless steel
- FEATURES** Pins are thin and can easily record a smooth curve
- SPECIFICATIONS** Active Length: 150mm

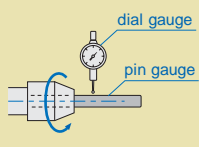
Order No.	Model No.	Product Dimension (mm)	Weight
011440	CG-100S	155 × 84	210g

HOW TO USE PIN GAUGE

Measuring Tool Checking



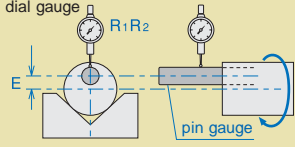
Center Runout Measurement



Hole eccentricity Measurement



R₁... Max. reading of dial gauge
R₂... Min. reading of dial gauge
 $E = \frac{R_1 - R_2}{2}$



Dovetail Measurement



Determination of channel width



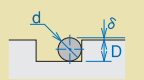
Key way and etc



Groove depth measurement

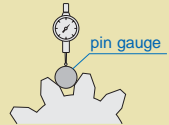


δ... Dial gauge reading
D = d - δ



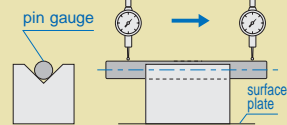
Gear tooth measurement

Dial gauge measurement

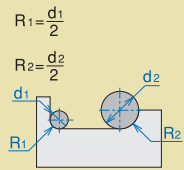


Measuring V groove parallelism

Dial gauge measurement



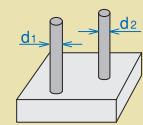
Radius measurement



Hole diameter measurement



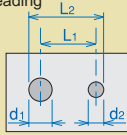
GO / No-Go Pin Gauges also available



Measurement between holes



d₁ • d₂... Pin Gauge diameters
L₂... Micrometer reading
 $L_1 = L_2 - \frac{d_1 + d_2}{2}$



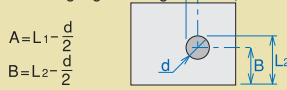
Mill tool positioning



Measurement of hole position, parallelism



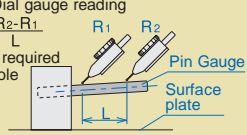
Measuring hole center position
d... Pin Gauge diameter
L₁ • L₂... Dial gauge reading



Slope of hole (parallelism measurement)

R₁ • R₂... Dial gauge reading
Slope = $\frac{R_2 - R_1}{L}$

Repeat as required for each hole



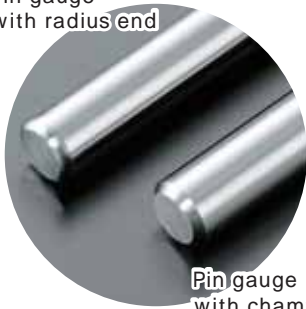


SPECIAL SHAPES

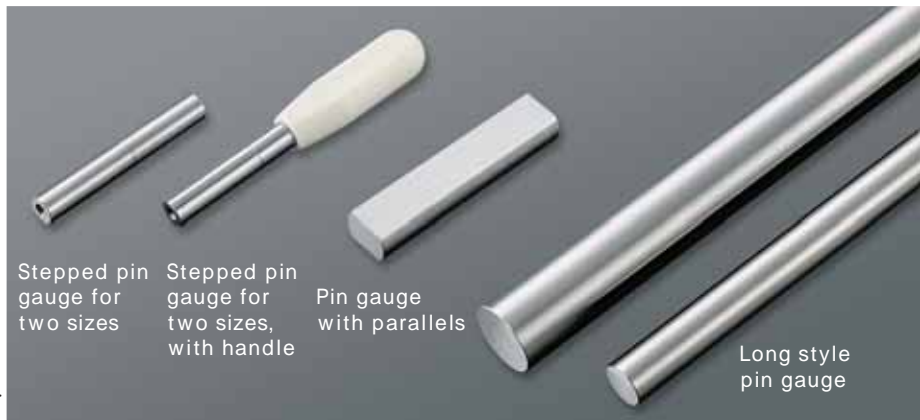
Custom shape pin gauges available upon request

Pin gauges for special applications

Pin gauge with radius end



Pin gauge with chamfer



Stepped pin gauge for two sizes

Stepped pin gauge for two sizes, with handle

Pin gauge with parallels

Long style pin gauge

Custom Ring gauges. Stepped gauges, special shapes available upon request.

Ring gauges for special applications

Custom marking also available



Stepped ring gauge for two sizes



Ring gauge with included OD standard



Ring gauge with notch(A)



Ring Gauge with notch (B)

Please contact us with request



174p



175p



175p



176p



176p



177p



178p



178p



179p



179p



180p



180p



181p



182p



183p



185p



185p



186p



186p



187p



187p



188p

ANGLE



188p



189p



189p



190p



191p



191p



192p



192p



193p



193p



194p



194p



194p



195p



196p



196p



196p



196p



196p



196p



196p



196p



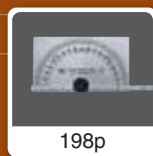
197p



197p



197p



198p



198p



198p



198p



199p



199p



199p



199p



200p



200p



200p



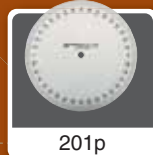
200p



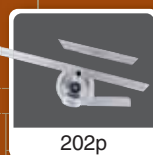
201p



201p



201p



202p



202p

LEVELNIC
PRECISION
LEVEL
ANGLE
LEVEL
LEVEL
PROTRA
CTOR

Angle Measurement Specifications Summary

Refer to the page listed for each item for detailed specifications

	Product Name	Model No.	Measuring Range	Minimum Reading	Page
DIGITAL LEVEL	LEVELNIC	DL-S3 · DL-S3C · DL-S3L	$\pm 5.00\text{mm/m} \cdot \pm 0.286^\circ$	$0.001\text{mm/m} \cdot \pm 0.0001^\circ$	173 · 174
	LEVELNIC	DL-S2W	$\pm 5.000\text{mm/m} \cdot \pm 0.2865^\circ$	$0.001\text{mm/m} \cdot \pm 0.0001^\circ$	177
	LEVELNIC	DL-m1	$\pm 5.00\text{mm/m}$	0.01mm/m	179
	LEVELNIC	DL-m3 · DL-m3LS	$\pm 5.00\text{mm/m}$	0.01mm/m	179 · 180
	SEPARATE SYSTEM	DL-S2+ · DL-D3	$\pm 5.000\text{mm/m} \cdot \pm 0.2865^\circ$	$0.001\text{mm/m} \cdot \pm 0.0001^\circ$	181
	LEVELNIC	DL-S1	$\pm 9.99\text{mm/m}$	0.01mm/m	182
LEVEL	LEVELNIC	EL-01A	$\pm 0.2\text{mm/m}$ $\pm 1\text{mm/m}$ $\pm 2\text{mm/m}$	"0.01mm/m 0.05mm/m 0.1mm/m"	183
DIGITAL ANGLE LEVEL	DIGITAL ANGLE GAUGE	DP-10XY	$\pm 9.99^\circ$	0.01° (in sensor mode : 0.002°)	190
	DIGITAL ANGLE GAUGE	DP-10S · DP-10D SET	$\pm 9.99^\circ$	0.01° (in sensor mode : 0.002°)	191
	DIGITAL LEVEL SENSOR	DP-10M	$\pm 9.998^\circ$	0.002°	191
	DIGITAL PROTRACTOR	DP-50	$\pm 50^\circ$	0.1°	189
	DIGITAL PROTRACTOR	DP-90	$\pm 90^\circ$	$1\text{mm/m} \cdot 0.05^\circ \cdot 0.1\%$	189
	BEVEL BOX	BB-180	$\pm 180.0^\circ$	0.1°	192
	BEVEL BOX	BB-180A	$\pm 180.0^\circ$	0.1°	192
ANGLE LEVEL	LEVEL METER	LM-90	$0 \sim 90^\circ$	1°	193
	LEVEL MATE	LM-360	$0 \sim 360^\circ$	1°	193
	DIAL SLANT RULE	DSR-ST · DSR-MG	$0 \sim 180^\circ$	1°	194
	LEVEL POINT GAUGE	LP-360	$0 \sim 360^\circ$	1°	194
PROTRACTOR	PROTRACTOR No.15	PRT-15	180°	1°	198
	PROTRACTOR No.19 Satin finish	PRT-19	180°	1°	198
	PROTRACTOR No.19 Polished finish	PRT-19S	180°	1°	198
	PROTRACTOR No.19 with 2 blades	PRT-19SW	180°	1°	198
	PROTRACTOR No.19A	PRT-19A	90°	1°	199
	PROTRACTOR No.19B	PRT-19B	180°	1°	199
	PROTRACTOR No.182	PRT-182S	180°	1°	199
	PROTRACTOR No.183	PRT-183S	180°	1°	199
	PROTRACTOR No.30	PRT-30S	180°	1°	200
	PROTRACTOR No.101	PRT-101S	180°	1°	200
	PROTRACTOR No.300	PRT-300S · PRT-300SW	180°	0.5°	200
	PROTRACTOR No.400	PRT-400S · PRT-400SW	180°	0.5°	200
	PROTRACTOR No.600	PRT-600S · PRT-600SW	180°	0.5°	200
	PROTRACTOR No.1000	PRT-1000S · PRT-1000SW	180°	0.5°	200
	INSIDE PROTRACTOR	IP-90	$10^\circ \sim 90^\circ$	1°	201
	PROTRACTOR No.192	PRT192-90S · 120S	180°	1°	201
	PROTRACTOR No.192	PRT192-200S · 250S · 300S	180°	0.5°	201
PROTRACTOR No.193	PRT193-	360°	1°	201	
UNIVERSAL BEVEL PROTRACTOR	495D	360°	$5''$	202	
DIGITAL UNIVERSAL BEVEL PROTRACTOR	DUP-360	360°	$30''$ (0.008°)	202	
ANGLE GAUGE	ANGLE GAUGE	WGA-65	$25 \sim 65^\circ$ $70 \sim 110^\circ$	0.5° 1°	161
	ANGLE PROTRACTOR	AP-130	$30 \sim 130^\circ \cdot 0 \sim 90^\circ \cdot 0 \sim 180^\circ$	1°	161

ANGLE

07

ANGLE

LEVELNIC

PRECISION LEVEL

ANGLE LEVEL

LEVEL

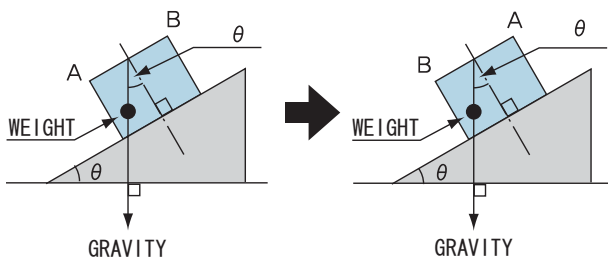
PROTRACTOR

— Levelnic principles of operation —

The role of "0 adjust", and "1/2 adjust".

Levelnic, like every level, is an instrument which is sensitive to its position relative to earth's gravity. The operation is as follows.

We can show how we determine true horizontal using the following method. On a slope, put a board with a weight suspended by a string. The weight will hang at an angle of θ from a line perpendicular to the slope. If the board is rotated 180° , the weight will hang at the same angle θ from a line perpendicular to the slope. Without having an absolute reference, we can determine the angle 2θ by rotating our instrument 180° and measuring the total change in angle relative our perpendicular reference. We can thereby determine θ if we divide by two. Also notice that the angle of the slope relative to true horizontal is also θ . If we set zero with the level on a slope, when we rotate the level 180° the reading will be twice the actual angle of the slope. If we then adjust the slope of the surface being measured (the device under test) until the angle reading is reduced to 1/2 of that value, the surface will be horizontal. Conversely, some desire having an absolute standard only because of confusion or misunderstanding regarding the above process.



DL-S3, DL-m1, DL-m3, have a built in computer that allows one touch adjustment using the 0 adjust and 1/2 adjust buttons

Zero point set

Levelnic does not have true horizontal reference built in. When it is turned on, the first number that appears is not necessarily referenced to true horizontal. If you need to reference true horizontal, you will have to set a zero point each time you turn it on. Once the zero point is correctly set, each measurement is properly reference to true horizontal, eliminating any possible errors from the deviation of zero point. To set zero point a "0 adjust" and "1/2 adjust" operation must be performed.

A) To compare slope of different surfaces

Place levelnic on an inclined surface.

When display stabilizes press "0 adjust" and "0" will be displayed.

For comparison purposes a zero point has been set which is not true horizontal.

B) If zero point is set to true horizontal.

Place the levelnic on the surface to be adjusted to horizontal

Adjust surface until display stabilizes to zero

The surface is level

C) If you are unsure if a surface is horizontal

Place the levelnic on the surface

When display stabilizes press "0 adjust" and "0" will be displayed

Rotate the levelnic 180° and put in the same spot

When display stabilizes press "1/2 adjust", and display will be halved.

Zero is now set to true horizontal

To set the zero point precisely, there should be minimal slope in the roll direction (perpendicular to the measurement axis) so please set the level in two directions (X, Y) to set zero.

Handling instruction for Levelnic

Levelnic is a precision instrument. Please handle with care and avoid shock such as bumping or dropping.

Before use, the levelnic base and the surface to be measured should be wiped clean of any dirt or oil using a paper towel or cloth dampened with ligroin or alcohol.

There should be no temperature difference between levelnic and surface being measured. In general, precision measurements should be done in a temperature controlled environment.

After use, the levelnic base should be coated with an anti-rust oil to protect from corrosion.



LEVELNIC DL-S3

High accuracy Level with Simple & Clear Operation
Worlds first Digital Level with built-in Microcomputer

Digital Display
0.001mm/m



MATERIALS Body : Aluminum
Base : Cast Iron

FEATURES Easy to Fix the Datum point, Divide measurement value into halves with one-touch operation (With "0" cal. switch, 1/2 cal. switch)
Measurement value can be output with RS232 signal
Connectible to PC or Printer with RS232 interface
Custom-made base can be attached to the threaded screw holes in the bottom base

SPECIFICATIONS

Measuring Range	$\pm 5.00\text{mm/m} \cdot \pm 0.286^\circ$	
Minimum Reading	$\pm 0.001\text{mm/m} \cdot \pm 0.0001^\circ$ (0 ~ $\pm 2\text{mm/m} \cdot 0 \sim \pm 0.115^\circ$) $\pm 0.01\text{mm/m} \cdot \pm 0.001^\circ$	
Operating Temperature	0 ~ 40	
Accuracy	17 ~ 23	$\pm 0.85\% \text{rdg}$ (0 ~ $\pm 2\text{mm/m} \cdot 0 \sim \pm 0.115^\circ$) $\pm 1.0\% \text{rdg}$ ($\pm 2 \sim \pm 5\text{mm/m} \cdot \pm 0.115^\circ \sim \pm 0.286^\circ$)
	0 ~ 40	$\pm 2.6\% \text{rdg}$ (0 ~ $\pm 2\text{mm/m} \cdot 0 \sim \pm 0.115^\circ$) $\pm 2.7\% \text{rdg}$ ($\pm 2 \sim \pm 5\text{mm/m} \cdot \pm 0.115^\circ \sim \pm 0.286^\circ$)
Repeatability	Within $\pm 0.005\text{mm/m} \cdot \pm 0.0003^\circ$	
Output Signal	Conforms to RS-232C	
Dimensions	L172 x W65 x H129mm (Base Dimension : L150 x W55mm)	

1 : For DEG (°) Display mode, "0 (Zero)" before the decimal point is not displayed.

For 0.001mm/m (0.0001 °) display mode, maximum reading which can be displayed is less than $\pm 1.999\text{mm/m}$ ($\pm 0.1145^\circ$)

2 : % rdg indicates the percentage of displayed value

Model No.	DL-S3	DL-S3C
Charging time	-	12hours (when fully charged)
Power Source	"9V" type dry cell, 1 pc AC adapter	Ni-MH rechargeable 8.4 nominal voltage, 200mAh
Run time (continuous use) ³	Zinc-carbon Cell : approx. 10 hrs. Alkaline Cell : approx. 20 hrs.	12hour charge... approx. 9hrs 8hour charge... approx. 6hrs 4hour charge... approx. 2hrs

3 : May vary depending upon measurement conditions

Order No.	Model No.	Weight
010013	DL-S3	2.2kg
010030	DL-S3C	2.2kg

With V Groove (available on request)

Model	DL - S3V
Tolerance	Within 0.1mm/m (On condition that the bubble in the sub-bubble tube is within the base line)
Tolerance between Flat and V Groove	Within 0.05mm/m
Angle of V Groove	130 °(for cylindrical objects up to 65mm)



LEVELNIC DL-S3 with magnetic L-type base.
Magnetic base enables Z-axis measurement in addition to X-axis and Y-axis.



- USE** High precision leveling of machine tools and surface plates, Straightness, flatness, and vertical measurement
- MATERIALS** DL-S3 / Body: Aluminum, Base: Cast Iron
L-type base : Cast Iron
- FEATURES** Quick display of the measured value
Measurement value can be output with RS-232 signal.
L-type magnetic base enables vertical(Z-axis) measurement
With 130 °V groove

Order No.	Model No.	Base Squareness (mm)	Weight
010027	DL-S3L	within ± 0.04	5.5kg

Refer to DL-S3 for detailed specifications for this unit.

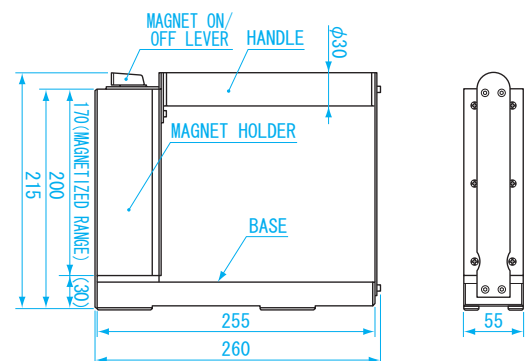
L-TYPE BASE

LEVELNIC DL-S3 or DL-S2W, equipped with L-type base enables measurement in the Z-axis in addition to X-axis and Y-axis



DIMENSIONS

Units : mm



- MATERIALS** Cast Iron
- FEATURES** Applicable Levelnic: DL-S3 · DL-S2W
Vertical(Z-axis) measurement is available by mounting on Levelnic
With 130 °V groove

Order No.	Model No.	Base Squareness (mm)	Weight
010028	DL-SL	within ± 0.04	4.9kg

ANGLE

LEVELNIC

PRECISION LEVEL

ANGLE LEVEL

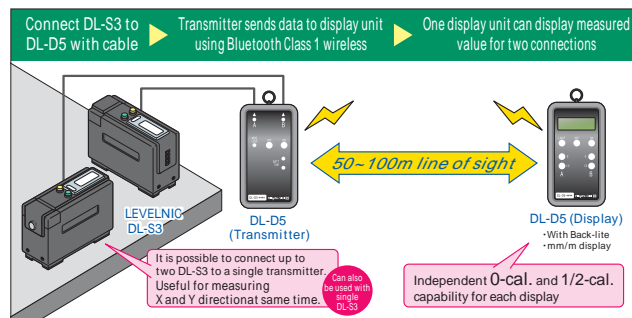
LEVEL

PROTRACTOR



TRANSMITTER / DISPLAY SET

Connects to two DL-S3 at the same time
Receiver can display measurements from X and Y directions



USE Transmit and display measurements for up to two Levelnic DL-S3

FEATURES

- Simultaneous display of two connected DL-S3. Useful for measuring X and Y directions.
- Eases installation of large machine tools by allowing multiple operators to work at same time
- Measured data is more easily visible, especially when used in locations which are remote or have low clearance height.
- Since transmitter and receiver are a paired set, there is no need to set up after purchase -- it can be used immediately.

Order No.	Model No.	Compatible Model	Weight
010043	DL-D5	DL-S3 · DL-S3C	290g each

Including silicone battery cover

SPECIFICATIONS

	Transmitter	Display
Input	Levelnic DL-S3 external signal (x2)	-
Display	-	16char x 2lines, character size = 4.9 x 2.5mm, with backlight
Wireless	Bluetooth Class1	
Communication range	50 100m line-of-sight (depending on conditions)	
operating temperature	0 ~ 40	
Power	2x AA cells (can also use commercially available rechargeable batteries)	
operating life (continuous use)	communicating with display device : approx. 17 hours attempting communication with display : approx: 3 hours	Alkaline cells : approx. 8 hours
DIMENSIONS	144 x W76 x D27mm (Including lanyard ring) (when mounted in silicone cover : L147 x W81 x D35mm)	
Accessories	2x connecting cable (approx. 80cm length) 2x AA cells, Silicone cover.	2x AA cells, Silicone cover

LEVELNIC WIRELESS ADAPTER DL-BW

Allows communicating with Levelnic using Bluetooth
Wireless range of 50-100mm line-of-sight



Shown mounted on DL-S3C

USE Wireless adapter for Levelnic

MATERIALS Body: Stainless

FEATURES The RS232 output signal is transmitted using Bluetooth wireless
Eliminating cables greatly improves work efficiency

Order No.	Model No.	Weight
010038	DL-BW	530g

SPECIFICATIONS

Input	Levelnic RS-232C signals (Levelnic use only)
Wireless System	Bluetooth Class1
Power Source	AAA battery 6 pcs (rechargeable batteries can be used)
Run time (continuous use)	Alkaline cell : Approx. 70 hrs/ Zinc-carbon cell : Approx. 30 hrs 1700mAh rechargeable battery: Approx. 45 hrs May vary depending upon measurement conditions
Dimensions	L143 x W50 x H173mm (Including trasmission unit)
Applicable Levelnic	DL-S3, DL-S3C, DL-m3, DL-m3LS, DL-D3, DL-S3L DL-S3, DL-S3C can direct mount

A small thermal printer can not be used



High accuracy Digital Level
(Wireless by Bluetooth)
Resolution 0.001mm/m

Wireless Data transmission.
The maximum longitudinal coverage is
50 ~ 100m.



- MATERIALS** Body: Aluminum
Base: Cast iron
- FEATURES** Wireless type Levelnic, useful for leveling and tilt measurement;
 - In overhead location
 - In places where the cable can not reach
 - PC screen becomes Display of Levelnic
 - Measurement data can be displayed on PC, using receiver and Data display software
 - Wireless data transmission
 - Custom-made base can be attached to the threaded screw holes (M5 x P0.8) in the bottom of Level base (Flat base)

SPECIFICATIONS

Measuring Range	$\pm 5.000\text{mm/m} \cdot \pm 0.2865^\circ$
Minimum Reading	0.001mm/m · 0.0001 °
Operating Temperature	0 ~ 40
Accuracy	17 ~ 23 $\pm 0.85\% \text{ rdg}$ (0 ~ $\pm 2\text{mm/m}$ 、 0 ~ $\pm 0.1146^\circ$) $\pm 1.0\% \text{ rdg}$ ($\pm 2 \sim \pm 5\text{mm/m}$ 、 $\pm 0.1146 \sim \pm 0.2865^\circ$)
	0 ~ 40 $\pm 2.6\% \text{ rdg}$ (0 ~ $\pm 2\text{mm/m}$ 、 0 ~ $\pm 0.1146^\circ$) $\pm 2.7\% \text{ rdg}$ ($\pm 2 \sim \pm 5\text{mm/m}$ 、 $\pm 0.1146 \sim \pm 0.2865^\circ$)
Repeatability	within $\pm 0.005\text{mm/m} \cdot \pm 0.0003^\circ$
Radio System	Bluetooth Class1
Power Source	"9V" type dry cell (1pc)
	AC Adapter (AC 100V) included
Run time (Continuous use)	Alkaline dry cell: Approx. 10 hrs May vary depending upon measurement conditions
Dimensions	L173 x W59 x H147mm (H : up to top of Antenna) (Base Dimensions : L150 x W55mm)

% rdg indicates percentage of displayed value

Order No.	Model No.	Weight
010017	DL-S2W	2.1kg

ANGLE

LEVELNIC

PRECISION LEVEL

ANGLE LEVEL

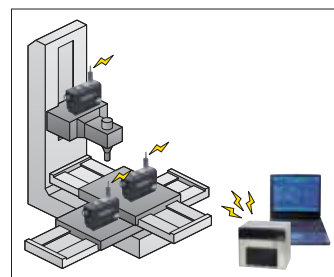
LEVEL

PROTRACTOR



LEVELNIC DATA SYSTEM

Enables data display and saving of up to 8 levelnic with one PC



Example using multiple units with Bluetooth wireless communication

USE For data management of multiple Levelnics

MATERIALS Body: Stainless steel

FEATURES 8 Levelnics can be connected at once
Data display software included

SPECIFICATIONS

Order No.	Model No.	Weight
010037	DL-ADP	1.6kg

Input	D-SUB (9 pins, male) RS-232C compliant, 8 inputs (For Levelnic connection only) 1200 Baud, 1 stop bit, No parity, No handshaking
Output	D-SUB (9 pins, male) RS-232C compliant, 1 output (PC connection) 9600 Baud, 1 stop bit, No parity No Hardware handshaking
Operating Temperature	0 ~ 40
Power Source	AC100V Adapter [DC9V Output](Included) AAA batteries (1.5V) 6 pc Run time depends on number of Levelnics
Dimensions	W180 x H150 x D130mm
Applicable Levelnic	DL-S3, DL-S3C, DL-S3L, DL-m3, DL-m3LS, DL-S2W DL-P5AD, DL-P6 can also use cable connection DL-S2W, DL-BW can connect using buit-in wireless capability

LEVELNIC DISPLAY

Can display data at a distance of 50-100m (line-of-sight). Enables measurement process to be done by one person. The work of two can be done by one person.



Combination example with DL-S2W

USE Levelnic measurement data display

MATERIALS Body: Stainless steel

FEATURES Can divide measurement value into half with one-touch operation (DL-S2W only)

SPECIFICATIONS

Order No.	Model No.	Weight
010024	DL-D4	330g

Display Range	As per Levelnic spec.
Minimum Reading	As per Levelnic spec.
Operating Temperature	0 ~ 40
Input Signal	Conforms to RS-232C (Levelnic digital output signal only)
Power Source	" 9V " type dry cell / AC adapter (included)
Run time (Continuous use)	with wireless connection : Alkaline cell : Approx. 5 hrs with cable connection : Alkaline cell : Approx. 60 hrs May vary depending upon measurement conditions
Dimensions	L116 x W62 x H48mm
Applicable Levelnic	DL-S3, DL-S3C, DL-S3L, DL-m3, DL-m3LS, DL-S2W DL-P5AD, DL-P6 can also use cable connection Can connect to Wireless such as DL-S2W, DL-BW

LEVELNIC DL-m1



Digital display with 0.01mm/m resolution. Unlike bubble level, there is no delay waiting for reading to settle, reducing human error.

High accuracy Level
Digital Display 0.01mm/m



- USE** High precision leveling of machine tools and surface plates. Straightness and flatness measurement.
- MATERIALS** Body: Aluminum
Base: Cast iron
- FEATURES** Compact, Lightweight and simple operation
Easy to fix the Datum point, divide measurement value into half with one touch operation
Fast output reduces installation time for field work

Order No.	Model No.	Weight
010014	DL-m1	880g

SPECIFICATIONS

Measuring Range	± 5.00mm/m
Minimum Reading	0.01mm/m
Operating Temperature	0 ~ 40
Accuracy	17 ~ 23 ± 0.02mm/m or ± 3% rdg whichever is larger (0 ~ ± 2mm/m) ± 4% rdg (± 2 ~ ± 5mm/m) 0 ~ 40 ± 0.02mm/m or ± 5% rdg whichever is larger (0 ~ ± 2mm/m) ± 6% rdg (± 2 ~ ± 5mm/m)
Repeatability	within ± 0.01mm/m
Power Source	9V type dry cell, 1 pc
Run time (continuous use)	Zinc-carbon cell Approx. 45 hrs, Alkaline cell Approx. 90 hrs. May vary depending upon the measurement conditions
Dimensions	L105 × W50 × H73mm (Base Dimensions : L100 × W50mm)

% rdg indicates the percentage of displayed value

LEVELNIC DL-m3



High accuracy digital level
0.01mm/m, with RC-232C



- USE** High precision leveling of machine tools and surface plates. Straightness and flatness measurement.
- MATERIALS** Body: Aluminum
Base: Cast iron
- FEATURES** Equipped with RS-232C output and Softwares for Data Saving, and calculating Flatness, Straightness
Easy to fix the Datum point, divide measurement value into half with one touch operation
Digital display for easy to read measurement
Compact, Light weight and Simple operation

Order No.	Model No.	Weight
010015	DL-m3	880g

SPECIFICATIONS

Measuring Range	± 5.00mm/m
Minimum Reading	0.01mm/m
Operating Temperature	0 ~ 40
Accuracy	17 ~ 23 ± 0.02mm/m or ± 3% rdg whichever is larger (0 ~ ± 2mm/m) ± 4% rdg (± 2 ~ ± 5mm/m) 0 ~ 40 ± 0.02mm/m or ± 5% rdg whichever is larger (0 ~ ± 2mm/m) ± 6% rdg (± 2 ~ ± 5mm/m)
Repeatability	within ± 0.01mm/m
Output Signal	Conforms to RS-232C
Power Source	" 9V" type dry cell, 1 pc
Run time (continuous use)	Zinc-carbon cell Approx. 35 hrs, Alkaline cell Approx. 70 hrs. May vary depending upon measurement conditions
Dimensions	L105 × W50 × H73mm (Base Dimensions : L100 × W50mm)

% rdg indicates percentage of displayed value



LEVELNIC DL-m3LS



Levelnic DL-m3 on L-type Base
X axis·Y axis and in addition, Z-axis measurements are possible



Base does not have magnetic capability

- USE** High precision leveling of machine tools and surface plates. Straightness, flatness and vertical measurement.
- MATERIALS** DL-m3 Body: Aluminum, Base: Cast iron
L type base: Cast iron
- FEATURES** Digital Display
Small and lightweight
Equipped with RS-232C output and software for data saving, and calculating flatness, straightness
L type base allows measurements in the vertical direction with 130 °V groove

Order No.	Model No.	Base Squareness (mm)	Weight
010019	DL-m3LS	within ± 0.035	2.8kg

DL-m3LS conforms to DL-S3 specifications

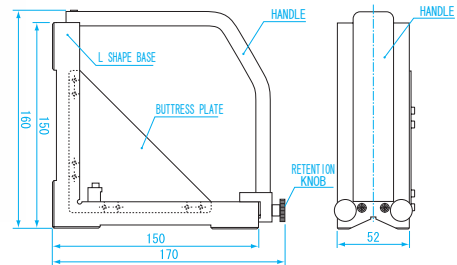
L-TYPE BASE FOR LEVELNIC DL-mL

Levelnic DL-m1, m3 mounted on base will be able to take vertical measurements



DIMENSIONS

Units : mm



Base does not have magnetic capability

- MATERIALS** Cast iron
- FEATURES** Applicable Levelnic : DL-m1 · DL-m3
Levelnic DL-m1, m3 mounted on base will be able to take vertical measurements with 130 °V groove

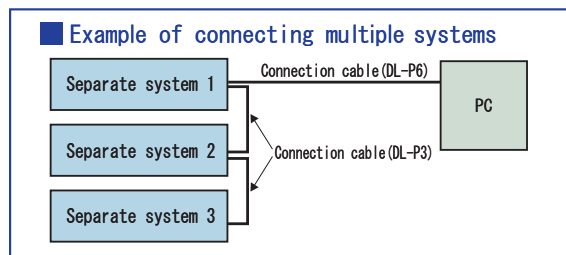
Order No.	Model No.	Base Squareness (mm)	Weight
010022	DL-mL	within ± 0.035	1.9kg



High accuracy digital Level
with output to external display 0.001mm/m



Digital sensor (DL-S2) · Digital display (DL-D3) · Cable (DL-P1) as combined system.
PC is not included



- USE** High precision leveling of machine tools and surface plates. Straightness and flatness measurement for digital display
- MATERIALS** Body: Aluminum Sensor base : Cast iron
- FEATURES**
 - Display allows machine tool data obtained by Levelnic to be close at hand.
 - When leveling large equipment or in high places, the separate display allows the operator to easily see the data. Output data is available on built in RS-232C interface for connection to computer or printer
 - Multiple output signals can be combined onto one signal allowing expansion to 2, 3, or 4 devices for easy processing
 - Easy to fix the Datum point, divide measurement value into half with one touch operation
 - Custom-made base can be attached to the threaded screw holes(M5 × P0.8)n the bottom of digital sensor base

SPECIFICATIONS

Measuring Range	± 5.000mm/m · ± 0.2865 °
Minimum Reading	0.001mm/m · 0.0001 ° 0.01mm/m · 0.001 °
Operating Temperature	0 ~ 40
Accuracy	17 ~ 23 ± 0.85% rdg (0 ~ ± 2mm/m · 0 ~ ± 0.1146 °) ± 1.0% rdg (± 2 ~ ± 5mm/m · ± 0.1146 ~ ± 0.2865 °) 0 ~ 40 ± 2.6% rdg (0 ~ ± 2mm/m · 0 ~ ± 0.1146 °) ± 2.7% rdg (± 2 ~ ± 5mm/m · ± 0.1146 ~ ± 0.2865 °)
Repeatability	within ± 0.005mm/m · ± 0.0003 °
Output Signal	Conforms to RS-232C
Power Source	AAA battery 6 pc AC adapter (included)
Run time (Continuous use)	Zinc-carbon cell : Approx. 27 hrs Alkaline cell : Approx. 55 hrs May vary depending upon measurement conditions
Dimensions	DL-S2 L167 × W59 × H111mm (Base Dimension : L150 × W55mm) DL-D3 L235 × W106 × H51mm DL-P1 Length : 5m (standard cable)

Order No.	Model No.	Weight
010023	DL-D3	1kg
010012	DL-S2	2kg
010031	DL-P1	400g
010033	DL-P3	100g

PC connection cable

- USE** For connecting Levelnic to PC, printer (DL-P6 not for printer connection)
- FEATURES**
 - Length: 3 × 5m
 - DL-P5AD : 25-pin connector, with pin adapter 25 9 (serial port connection)
 - DL-P6 : 9 pins connector (Serial port connection)
 - Applicable Levelnic : DL-m3 · DL-S3 · DL-m3L · DL-S3L · DL-S3C · Separate system

Order No.	Model No.	Material
010036	DL-P5AD	2 cond. w/ shield (Cu)
010040	DL-P6	2 cond. w/ shield (Cu)



LEVELNIC DL-S1



ANGLE

Digital display with 0.01mm/m resolution. Unlike bubble level, there is no delay waiting for reading to settle, reducing human error.

Digital display with 0.01mm/m resolution



07

- USE** High precision leveling of machine tools and surface plates, Straightness and flatness measurement
- MATERIALS** Body : Aluminum
Base : Cast iron
- FEATURES** Faster response than bubble level
Wider range of measurement than conventional level
Measurement can be taken in difficult to see position by pressing hold switch and then reading

SPECIFICATIONS

Measuring Range	± 9.99mm/m
Minimum Reading	0.01mm/m
Operating Temperature	0 ~ 40
Accuracy	17 ~ 23 ± 1.3% rdg 0 ~ 40 ± 3.0% rdg
Repeatability	within ± 0.01mm/m
Power Source	"9V" type dry cell × 1 AC adapter (Optional)
Run time (continuous use)	Zinc-carbon Cell---Approx. 25 hrs Alkaline Cell---Approx. 50 hrs May vary depending upon measurement conditions
Dimensions	L159 × W78 × H104mm (Base Dimension : L150 × W55mm)

1 : AC adapter sold separately
2 : % rdg indicates percentage of displayed value.

Order No.	Model No.	Weight
010011	DL-S1	2.0kg

Also available with special V-groove base

Model	DL - S1V
Rolling Error	Within 0.1mm/m
Plane and V groove error	0.05mm/m
V groove angle	130 ° (for cylindrical objects up to 65mm)

ANGLE

LEVELNIC

PRECISION LEVEL

ANGLE LEVEL

LEVEL

PROTRACTOR



High-sensitive (0.01mm/m) Pendulum type level with analog output.
Three levels of sensitivity

Analog Display
0.01mm/m



USE Leveling of machine tools and surface plates. Straightness and flatness measurements.

MATERIALS Body : Aluminum
Base : Cast iron

FEATURES
Quicker response than bubble level
Sensitivity is switchable in 3 steps
Connectible directly to commonly-available analog recorder through analog output
Custom-made base can be attached to the threaded screw holes (M5 × P0.8) in the bottom of level base (flat base)
Automatically switches from DC to AC when the adapter is connected
Pendulum system prevents any hysteresis errors and is not influenced by temperature change.

SPECIFICATIONS

Sensitivity	: 1 Division = 0.01mm/m : 1 Division = 0.05mm/m : 1 Division = 0.1mm/m
Measuring Range	± 0.2mm/m (1 Division 0.01mm/m) ± 1mm/m (1 Division 0.05mm/m) ± 2mm/m (1 Division 0.1mm/m)
Operating Temperature	0 ~ 40
Pointing Error	within ± 0.5 Division
Repeatability Accuracy	within ± 0.005mm/m
Output Signal	Analog output ± 200mV F.S. (for all range) Connectible load resistance: No less than 100
Power Source	"9V" type dry cell, 1 pc AC Adapter (included)
Run time (continuous use)	Zinc-carbon Cell : Approx. 25 hrs Alkaline cell : Approx. 50hrs May vary depending upon measurement condition
Base Dimension	L150 × W85 × H195mm Excluding Handle (Dimension : L150 × W55mm)

Oeder No.	Model No.	Weight
010005	EL-01A	2.9kg

Connection Cable / EL-K2

USE Connects to analog recorder with analog output of EL-01A

FEATURES
Length : 3 × 5m
Recorder: Banana plug
Levelnic : M3 plug

Oeder No.	Model No.	Weight
010082	EL-K2	150g



SOFTWARE FOR LEVELNIC

Software for Levelnic.

Simple operation and graphics for easy use and understanding

Straightness measurement computer software (ST)
Flatness measurement computer software (FL)

Greatly reduces measurement time by recording the results for straightness and flatness measurements

For cabled and wireless system

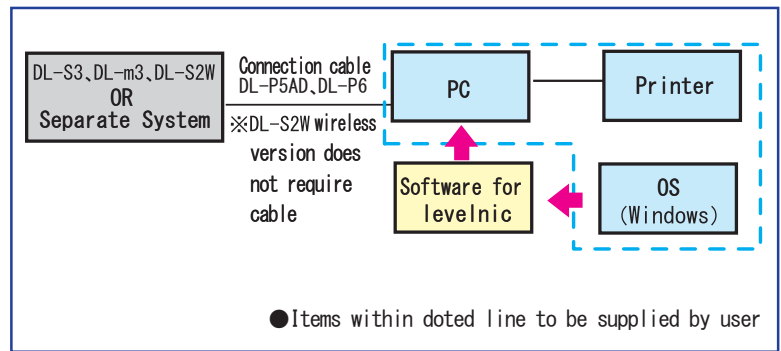
Supported OS : Windows 95 · 98 · ME · 2000 · XP · Vista · 7

Direct input from DL-S2+D3, DL-S3, DL-S3C, DL-S3L, DL-m3, DL-m3LS, DL-S2W, and Separate System

Flatness measurement



Straightness measurement while connected to PC



No need to install the software to PC

Only drag and drop .exe file, and double click to start. Also can be used directly from USB memory.

Input selection

Data can be manually typed in from any level, including bubble tube type level.

Input signal from Levelnic over RS-232C

With computer connected to the Levelnic output, sequential measurements taken at regular intervals can be used to calculate flatness and straightness for display, printing and storage. (saved measurement data can not be revised)

Input typed onto keyboard from bubble level for display, calculation and storage

Using a bubble level, and keyboard to enter data, sequential measurement taken at regular intervals can be used for calculation, display and storage.

Displacement measurements (μm) typed onto keyboard for display, calculation and storage

Measurement of displacement from a reference plane made with a linear gauge or dial indicator at regular intervals can be used in place of an electronic angle gauge (goniometer) and entered into keyboard for calculation, display and storage.

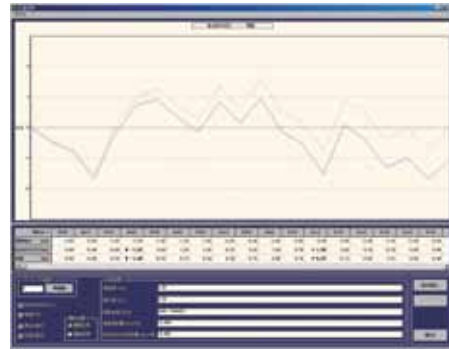
LEVELNIC MEASUREMENT SOFTWARE

Use to easily calculate flatness and straightness when connected to Levelnic with cable or wireless connection

Straightness software ver. 2.0

With straightness software Levelnic can easily perform the straightness measurements that once required an autocollimator, and for a lower cost!

Straightness measurement



USE Software to perform straightness calculations

FEATURES

Both wired and wireless capability

Model compatibility: DL-S2 + D3 • DL-S3 • DL-S3C • DL-S3L • DL-m3 • DL-m3LS • DL-S2W

Above compatibility applies for direct connection. Data can be manually typed in from any model, including bubble tube type level.

SPECIFICATIONS

Supports : Windows 95 • 98 • ME • 2000 • XP • Vista • 7

Order No.	Model No.
010066	ST

Flatness software Ver. 2.0

With Flatness software Levelnic can easily perform the flatness measurements that once required an autocollimator, and for a lower cost!

Flatness measurement



USE Software to perform flatness calculations

FEATURES

Both wired and wireless capability

Model compatibility: DL-S2 + D3 • DL-S3 • DL-S3C • DL-S3L • DL-m3 • DL-m3LS • DL-S2W

Above compatibility applies for direct connection. Data can be manually typed in from any model, including bubble tube type level.

SPECIFICATIONS

Supports : Windows 95 • 98 • ME • 2000 • XP • Vista • 7

Order No.	Model No.
010065	FL

Data Record Software Ver. 2.0

USE Records output data from Levelnic

FEATURES

Levelnic measurements are recorded to text file

Model compatibility: DL-S2 + D3 • DL-S3 • DL-S3C • DL-S3L • DL-m3 • DL-m3LS • DL-S2W

SPECIFICATIONS

Supports : Windows 95 • 98 • ME • 2000 • XP • Vista • 7

Order No.	Model No.
010067	LEVELOG



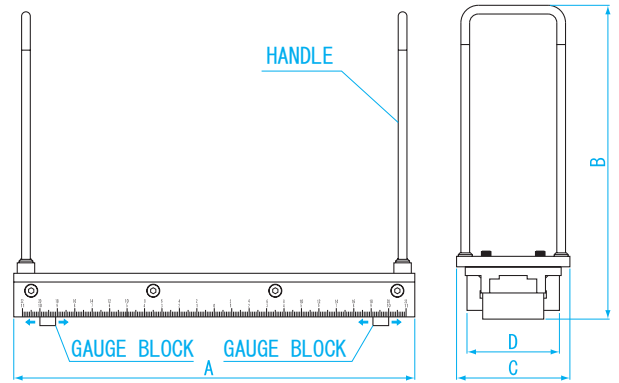
LEVELNIC BASE WITH ADJUSTABLE PITCH

By attaching Levelnic to this base, any desired measurement pitch can be set



LP-300

DIMENSIONS



USE Setting a fixed pitch for straightness and flatness measurements

FEATURES

- Made of Carbon tool steel
- Applicable levelnic: DL-S2 · DL-S3 · DL-S3C · DL-S2W · EL-01A
- The base is graduated in mm and enables setting measurement pitch
- Measuring face consists of 2 pcs of 15mm Gauge block

Units : mm

Model No.	A	B	C	D
LP-200	230	180	65	55
LP-300	330	180	65	55

Order No.	Model No.	Measurement pitch range (mm)	Weight
010020	LP-200	50 ~ 200	1.8kg
010021	LP-300	50 ~ 300	2kg

CASE FOR LEVELNIC



Shock resistant aluminum case for Levelnic. Suitable for storage and carrying



LV-CS3



LV-CM1

FEATURES

- Carrying case for Levelnic (Levelnic is a precision instrument, we recommend that you use a carrying case)
- Body : Aluminum
- Inside : Urethane foam
- Applicable levelnic :
 - LV-CS3 : DL-S1 · DL-S2 · DL-S2W · DL-S3 · DL-S3C
 - LV-CM1 : DL-m1 · DL-m3
- Shock protection during transport

Order No.	Model No.	Dimensions (mm)	Weight
010025	LV-CS3	362 × 236 × 184	1.86kg
010026	LV-CM1	250 × 200 × 150	1.15kg

PRECISION LEVEL (JIS CLASS A)



- USE** Bubble tube indicates horizontal and measures small inclinations
Precision measurement for machine inspection and leveling

FEATURES

- JIS B7510 standard product
- Special tool steel body (hardened) is lapped and polished
- Sensitivity : 0.02mm/m
- Accuracy of the main bubble Full range accuracy : less than ± 0.5 graduation
- Adjacent accuracy : less than 0.2 graduation
- Parallelism between V groove and base : within 0.5 graduation
- Parallelism on base : within 0.003mm

Order No.	Model No.	Standard (mm)	Dimensions L x W x H (mm)	Weight
160001	FLA-150002	150	150 x 44 x 42	1.6kg
160002	FLA-200002	200	200 x 46 x 42	2.3kg
160003	FLA-250002	250	250 x 46 x 42	2.5kg
160004	FLA-300002	300	300 x 46 x 42	3.2kg

PRECISION LEVEL



- USE** Bubble tube indicates horizontal and measures small inclinations
For machine installation and general mechanical assembly

FEATURES

- Quality cast iron(FC250) with perfect seasoning and lapped to a fine finish to maintain precision
- Sensitivity : 0.02mm/m

Order No.	Model No.	Standard (mm)	Dimensions L x W x H (mm)	Weight
160005	FLW-150002	150	150 x 44 x 42	1.6kg
160006	FLW-200002	200	200 x 46 x 42	2.3kg
160007	FLW-250002	250	250 x 46 x 42	2.5kg
160008	FLW-300002	300	300 x 46 x 42	3.2kg



SQUARE PRECISION LEVEL (JIS CLASS A)



USE Bubble tube indicates horizontal and measures small inclination
Precision measurement for machine inspection and leveling

FEATURES

- JIS B7510 standard product
- Special tool steel body (hardened) is lapped and polished
- Sensitivity : 0.02mm/m
- Accuracy of the main bubble
- Full range of the main bubble : less than ± 0.5 graduation
- Adjacent accuracy : less than 0.2 graduation
- Perpendicularity of sides and bottom : less than 0.015mm/m
- Parallelism of V groove and V groove surface : less than 0.5 graduation
- Parallelism of top and bottom : less than 0.5 graduation
- Flatness of bottom and sides : less than 0.003mm

Order No.	Model No.	Standard (mm)	Dimensions L x W x H (mm)	Weight
160009	SLA-150002	150	150 x 40 x 150	2.8kg
160010	SLA-200002	200	200 x 43 x 200	4.6kg
160011	SLA-250002	250	250 x 45 x 250	7.2kg
160012	SLA-300002	300	300 x 47 x 300	8.8kg

GENERAL PURPOSE SQUARE PRECISION LEVEL



USE Bubble tube indicates horizontal and measures small inclinations
Ideal for machine assembly and general purpose use

FEATURES

- Quality cast iron (FC250) with perfect seasoning and lapped to a fine finish to maintain precision
- Sensitivity : 0.02mm/m

Order No.	Model No.	Standard (mm)	Dimensions L x W x H (mm)	Weight
160013	SLW-150002	150	150 x 40 x 150	2.8kg
160014	SLW-200002	200	200 x 43 x 200	4.6kg
160015	SLW-250002	250	250 x 45 x 250	7.2kg
160016	SLW-300002	300	300 x 47 x 300	8.8kg

DIGITAL PROTRACTOR DP-50



Digital angle measurement. High precision measurement & quick measurement time

- USE** For angle of tilt measurement
- MATERIALS** Body : Aluminum
- FEATURES**
 - Digital angle meter is useful tool for every site
 - Slit encoder ensures accuracy and stability
 - Zero setting not required
 - Zero setting function
 - Display hold function
 - Measuring face : V-Groove (2 sides)
 - Vertical sides are magnetic
 - Display unit : DEG



SPECIFICATIONS

Measuring Range	± 50 °
Minimum Reading	0.1 °
Accuracy	± 0.1 ° (0 ~ 50 °)
Repeatability	± 0.1 °
Operating Temperature	0 ~ 50
Display Units	DEG
Dimensions	L141 × W47 × H109mm (excluding protrusions)
M5 Mounting holes	Screw hole spacing- 80mm (distance from end to screw hole -11mm)
Power Source	"9V" type dry cell, 1 pc
Run time (continuous use)	Alkaline dry cell : Approx. 15 hrs May vary depending upon measurement conditions
Accessories	Soft case, Manual, 9V battery

Order No.	Model No.	Weight
010091	DP-50	950g

DIGITAL PROTRACTOR DP-90



Digital angle measurement. High precision measurement & quick measurement time

- USE** Angle of tilt measurement
- MATERIALS** Body: Aluminum
- FEATURES**
 - Wide range of measurement (90 °)
 - Automatically reverses display when turned upside down
 - Display options : DEG, mm/m, % slope
 - Notification tones for 0 °, 90 ° and for 0%, 0mm/m
 - Display hold function
 - Measuring surface : V-Groove, with magnet
 - Auto power off function (after 6 min)



SPECIFICATIONS

Measuring Range	± 90 °
Minimum Reading	Degree display : 0.05 °
	Percent display : 0.1%
	Gradient : 1mm/m
Accuracy	0.0 ° ~ 90.0 ° = ± 0.2 °
Operating Temperature	0 ~ 50
Display Setting Time	Approx. 10 sec
Power Source	"9V" type dry cell, 1 pc
Dimensions	L173 × W47 × H68mm (excluding protrusions)
Accessories	Soft case, Manual, 9V dry cell

Order No.	Model No.	Weight
010092	DP-90	550g



DIGITAL ANGLE GAUGE DP-10XY

New product! This two-axis digital inclinometer takes measurements in X and Y direction at same time With 0 cal., 1/2 cal. features, can also be used as a level



Output from sensors can also be displayed or recorded on PC with dedicated software.

USE Surface plate and machine tool angle of inclination measurement

MATERIAL

Case: Aluminum
Base: Aluminum alloy

FEATURES

Simultaneously measures angle of inclination in X and Y directions making leveling tasks easier
Display is switchable to show only X, only Y, or XY measurements
0-cal. and 1/2 cal. switches allow calibration at the touch of a button.
In sensor mode, the measurement range is $\pm 9.998^\circ$ with minimum reading of 0.002° (0-cal. and 1/2 cal. can not be used in this mode)
Built in output for display of sensor reading on PC
Back-light display
Output from sensors can also be displayed or recorded on PC with dedicated software.

SPECIFICATIONS

Measuring range	$\pm 9.99^\circ$
Minimum reading	0.01°
Operating temperature	0 ~ 40
Accuracy	$\pm 0.01^\circ$ (for measuring range less than $\pm 2^\circ$) $\pm 0.05^\circ$ (for measuring range greater than $\pm 2^\circ$)
Repeatability	$\pm 0.01^\circ$
XY orthogonal accuracy	1%
Response time (measurement period)	approx. 2.5s
Output signal	Conforms to RS-232C
Power	2x AA cells AC Adapter (3V)
Run time (continuous use)	Alkaline cells approx. 10 hrs. may vary depending on measurement conditions
Dimensions	L88 x W85 x H73mm

Order No.	Model No.	Weight
NEW 010093	DP-10XY	560g

New Products! Wireless 2-axis digital angle gauge with remote display set. Capable of simultaneous X and Y measurements.

Model	Sensor:DP-10S Display:DP-10D
Measuring range	± 9.99 °
Minimum reading	0.01 °
Operating temperature	0 ~ 40
Accuracy	± 0.01 °(for measuring range less than ± 2 °) ± 0.05 °(for measuring range greater than ± 2 °)
Wireless	Bluetooth Class 1
Communication range	30 ~ 50m
Repeatability	± 0.01 °
XY orthogonal accuracy	1%
response time (measurement period)	approx. 2.5s
Output signal	Conforms to RS-232C (DP-10D)
Power	2x AA cells each / AC Adapter (3V)
Run time (continuous use)	DP-10S: approx. 10 hrs. (communicating) approx 4 hrs. (waiting to communicate)
Alkaline cells	DP-10D : About 10 hrs.
Dimensions	DP-10S : L85 × W85 × H73mm DP-10D : L145 × W76 × H30mm
Weight	DP-10S : 540g
(Including battery)	DP-10D : 230g



USE Surface plate and machine tool angle of inclination measurement

MATERIAL
DP-10S...Case:Aluminum / Base: Aluminum alloy
DP-10D...Case: ABS

FEATURES
Simultaneously measures angle of inclination in X and Y directions making leveling tasks easier
Display is switchable to show only X, only Y, or XY measurements
0-cal. and 1/2 cal. switches allow calibration at the touch of a button.
In sensor mode, the measurement range is ± 9.998 ° with minimum reading of 0.002 ° (0-cal. and 1/2 cal. can not be used in this mode)
0-cal. and 1/2 cal. switches allow calibration at the touch of a button.
In sensor mode, the measurement range is ± 9.998 ° with minimum reading of 0.002 ° (0-cal. and 1/2 cal. can not be used in this mode)
Built in output for display of sensor reading on PC
Output from sensors can also be displayed or recorded on PC with dedicated software.

Order No.	Model No.
010094	DP-10S · DP-10D SET

DIGITAL LEVEL SENSOR

New Product! Can be used as built in two-axis sensor for OEM equipment.

USE Sensors for measurement and control of angle of inclination in machine tools, construction machinery, structures, etc.

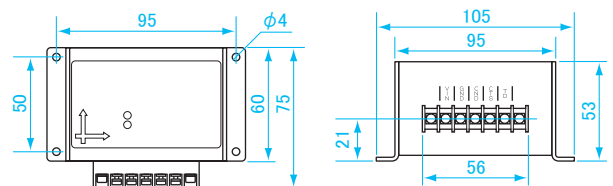
MATERIAL
Case : Aluminum

FEATURES
Simultaneously measures angle of inclination in X and Y directions
When power applied, angle of inclination is output via RS-232C signal. (Power and output connection via terminal block)
Output from sensors can also be displayed or recorded on PC with dedicated software.

Measuring Range	± 9.998 °
Minimum reading	0.002 °
Operating temperature	0 ~ 40
Accuracy	± 0.01 °(for measuring range less than ± 2 °) ± 0.05 °(for measuring range greater than ± 2 °)
Repeatability	± 0.01 °
XY orthogonal accuracy	1%
response time (measurement period)	approx. 2.5s
Output signal	Conforms to RS-232C
Power	DC9 to 15V (approx 70mA)
Dimensions	L105 × W75 × H53mm



DIMENSIONS Units : mm



Order No.	Model No.	Weight
010096	DP-10M	270g



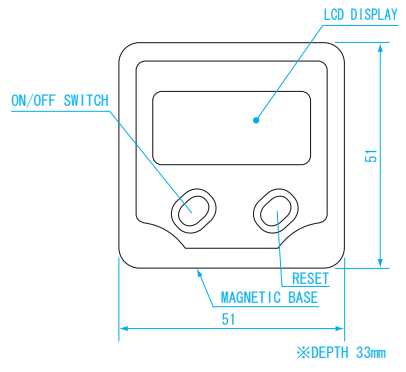
BEVEL BOX BB-180

Compact design digital angle meter



DIMENSIONS

Units : mm



USE For all processes that require precise angle measurement, such as assembly, molding, machining and fixtures.

MATERIALS Aluminum frame, Plastic face/back, magnet on base

FEATURES Zero-setting at desired position
Auto power off function (after 5 min.)
One CR2032 (Lithium) battery included for testing

Order No.	Model No.	Measuring Range	Resolution	Operating Temperature	Accuracy	Repeatability	Weight
010101	BB-180	± 180.0 °	0.1 °	5 ~ 45	± 0.2 °	0.1 °	120g

Quantization Error (± 1 digit) not included

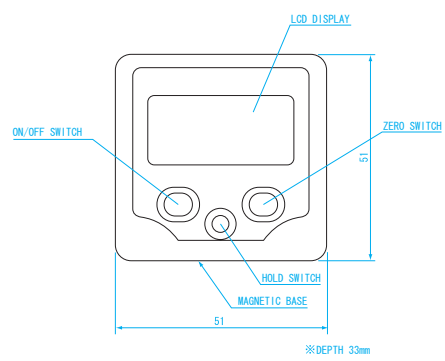
BEVEL BOX BB-180A

Compact design digital angle meter
Absolute measurement mode stores true horizontal



DIMENSIONS

Units : mm



USE For all processes that require precise angle measurement, such as assembly, molding, machining and fixtures.

MATERIALS Body : Aluminum (with magnet on base)

FEATURES Zero setting at desired position
Absolute measurement mode stores true horizontal
"Hold" button to fix reading on display
Auto power off function (after 5 min.)
One CR2032 (Lithium) battery included for testing



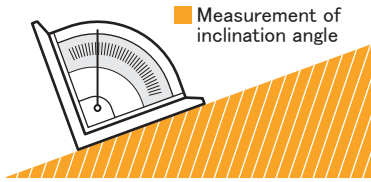
Order No.	Model No.	Measuring Range	Resolution	Operating Temperature	Accuracy	Repeatability	Weight
010102	BB-180A	± 180.0 °	0.1 °	5 ~ 45	± 0.2 °	0.1 °	170g

Quantization Error (± 1 digit) not included

LEVEL METER LM-90



Analog type goniometer with magnetic base



USE Measurement of inclination angle

MATERIALS
Plastic

FEATURES
Analog dial easier to read than bubble tube type meter
With magnetic base to enables measuring horizontal and vertical angle
Light weight, easy to use

SPECIFICATIONS
Measuring range : 0 ~ 90°
Graduation : 1°
Accuracy : ± 0.5°

Order No.	Model No.	Dimensions (H) x (W) x (T) (mm)	Weight
011010	LM-90	95 x 95 x 30	120g

LEVEL MATE LM-360



Analog type goniometer
With magnet for vertical surfaces

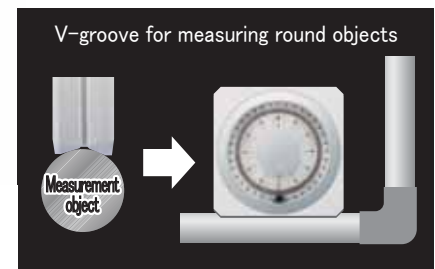


USE
Angle of tilt measurement
Mechanical assembly, installation
Setting angles for machine work
Miscellaneous plumbing work
Construction and related work

MATERIALS
Plastic

FEATURES
V groove on bottom, magnet for vertical surface

SPECIFICATIONS
Measurement range : 0 ~ 360°
Graduation : 1°
Reading accuracy : ± 0.5°



Order No.	Model No.	Dimensions (H) x (W) x (T) (mm)	Weight
011030	LM-360	110 x 110 x 20	140g



DIAL SLANT RULE



Analog dial angle meter



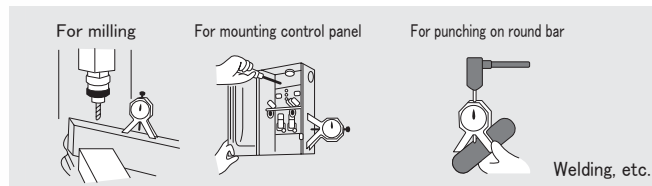
DSR-ST

DSR-MG
(with magnet)

- USE** Measurement of inclination angle
- MATERIALS** Plastic
- FEATURES** Analog dial easier to read than bubble tube type meter
Light weight and easy to use
- SPECIFICATIONS** Measuring Range : 0 ~ 180°
Graduation : 1°
Accuracy : ± 0.5°

Order No.	Model No.	Dimensions (L) × (H) × (W) (mm)	Weight
011000	DSR-ST	182 × 92 × 20	80g
011001	DSR-MG	182 × 92 × 20	90g

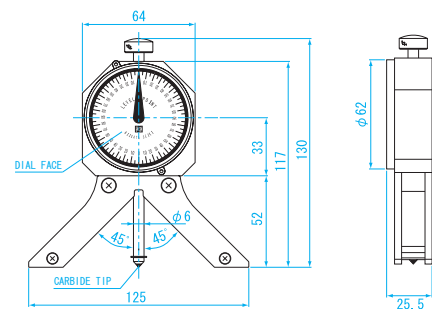
LEVEL POINT GAUGE



- USE** Measure angle of round bar, or center punch at exact angle
- MATERIALS** Body : Aluminum Leg : Steel
- FEATURES** One touch direct angle reading
You can quickly and accurately measure any angle from horizontal to vertical
Punch end is carbide tipped
Magnetic feet
- SPECIFICATIONS** Measuring Range : 0 ~ 360° Accuracy : within 1°
Graduation : 1° Applicable diameter for V base : 20 ~ 100mm

DIMENSIONS

Units : mm



Order No.	Model No.	Dimensions (H) × (W) × (T) (mm)	Weight
011022	LP-360	130 × 125 × 25	400g



Horizontal, vertical, and 45 ° measurements in one level
Magnetic measuring surface (ALM series)



ALM-600

USE Horizontal, vertical, and 45 ° measurements

MATERIAL
Aluminum

FEATURES
V-grooved measuring surface for convenient measurement on round objects
Can measure 1/100 and 2/100 gradient.
Magnifying lens on horizontal bubble tube for easy reading
ALM type with magnet
With scale on both sides

SPECIFICATIONS
Horizontal bubble tube Sensitivity: 0.35mm/m=0.0201 °
Accuracy: ± 1.00mm/m= ± 0.0573 °
Vertical bubble tube Sensitivity: 0.50mm/m=0.0286 °
Accuracy: ± 1.50mm/m= ± 0.0859 °

Order No.	Model No.	Type	Bubble tube type	Length (mm)	Height (mm)	Thickness (mm)	Weight
111200	ALM-150	with magnet	Horizontal	150	56	25	164g
111201	ALM-230	with magnet	Horizontal vertical	230	56	25	220g
111202	ALM-300	with magnet	Horizontal Vertical 45 °	300	56	25	340g
111203	ALM-380	with magnet	Horizontal Vertical 45 °	380	56	25	380g
111204	ALM-450	with magnet	Horizontal Vertical 45 °	450	56	25	410g
111205	ALM-600	with magnet	Horizontal Vertical 45 °	600	56	25	500g
111206	ALM-750	with magnet	Horizontal Vertical 45 °	750	56	25	630g
111207	ALM-900	with magnet	Horizontal Vertical 45 °	900	56	25	770g
111208	ALM-1200	with magnet	Horizontal Vertical 45 °	1200	56	25	930g
111209	ALM-1500	with magnet	Horizontal Vertical 45 °	1500	56	25	1200g
111210	ALM-1800	with magnet	Horizontal Vertical 45 °	1800	56	25	1340g
111211	ALS-150	-	Horizontal	150	56	25	100g
111212	ALS-300	-	Horizontal Vertical 45 °	300	56	25	194g
111213	ALS-380	-	Horizontal Vertical 45 °	380	56	25	234g
111214	ALS-450	-	Horizontal Vertical 45 °	450	56	25	270g
111215	ALS-600	-	Horizontal Vertical 45 °	600	56	25	345g
111216	ALS-900	-	Horizontal Vertical 45 °	900	56	25	492g
111217	ALS-1200	-	Horizontal Vertical 45 °	1200	56	25	622g

ANGLE

LEVELNIC

PRECISION LEVEL

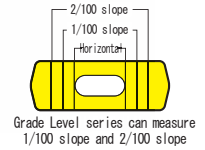
ANGLE LEVEL

LEVEL

PROTRACTOR



GRADE LEVEL



USE

Measuring horizontal, vertical

MATERIALS

Body : Aluminum

FEATURES

Luminous vial can be seen clearly, even in the dark
 Graduations at 1/100, 2/100 inclination value
 Vial has large lens for easy reading
 GLM type are with magnet

Sensitivity is the amount of gradient required to make the bubble move.
 Precision [0 ± precision value] is the range of variation in the reading

Order No.	Model No.	Length (mm)	Height (m)	Thickness (mm)	Sensitivity (mm/m)	Precision (mm/m)	Weight	Note
011049	GL-230	230	45	22	0.35	± 1.00	190g	
011050	GL-300	300	45	22	0.35	± 1.00	220g	
011051	GL-380	380	45	22	0.35	± 1.00	270g	
011052	GL-450	450	45	22	0.35	± 1.00	300g	
011053	GL-600	600	45	22	0.35	± 1.00	390g	
011054	GL-900	900	45	22	0.35	± 1.00	560g	
011060	GLM-300	300	50	20	0.35	± 1.00	320g	with magnet
011061	GLM-380	380	50	20	0.35	± 1.00	360g	with magnet
011062	GLM-450	450	50	20	0.35	± 1.00	400g	with magnet
011063	GLM-600	600	50	20	0.35	± 1.00	460g	with magnet

MINI LEVEL



USE Horizontal measurements for construction, installation, and leveling machinery

MATERIALS Acrylic resin, aluminum, cast iron

Sensitivity is the amount of gradient required to make the bubble move.
 Precision [0 ± precision value] is the range of variation in the reading

Order No.	Model	Type	Length (mm)	Height (mm)	Thickness (mm)	Sensitivity (mm/m)	Precision (mm/m)	Weight
011070	CT-70	Acrylic resin/ Cross	70	25	15	0.5	± 1.5	40g
011071	CS-70	Acrylic resin/ Scale	70	35	12	0.5	± 2.5	40g
011072	CR-24	Acrylic resin/ Round	24	—	10	0.5	± 2.5	10g
011077	A-90-13	Aluminum/ Hex	90	13	—	0.5	± 1.5	20g
011078	A-90-17	Aluminum/ Hex	90	17	—	0.5	± 1.5	50g
011079	A-105-13	Aluminum/ Hex	105	13	—	0.5	± 1.5	20g
011080	A-105-17	Aluminum/ Hex	105	17	—	0.5	± 1.5	50g
011081	S-65	Aluminum/ Straight	65	20	14	0.5	± 1.5	40g
011082	S-90	Aluminum/ Straight	90	20	14	0.5	± 1.5	50g
011083	T-50	Aluminum/ Flat	50	30	15	0.5	± 1.5	50g
011084	T-100	Aluminum/ Flat	100	30	15	0.5	± 1.5	120g
011085	F-90	Cast iron	90	20	30	0.5	± 1.5	180g



SUPER STRONG MAGNETIC LEVEL

Twice as strong as our other magnetic levels

USE Horizontal, vertical, and 45 ° measurements

MATERIAL Plastic

FEATURES

Magnetic measuring surface (Attraction force: 118N)

V-grooved measuring surface for convenient measurement on round objects

SPECIFICATIONS

Bubble tube sensitivity: 0.50mm/m=0.0286 °

Vial accuracy: within $\pm 1.50\text{mm/m} = \pm 0.0859^\circ$

4-line acrylic bubble tube with phosphorescent tape with 360 ° acrylic spot level (ML-100KB · ML-100KW)



ML-100KB



ML-150KW

Order No.	Model No.	Color	Bubble tube type	Length (mm)	Height (m)	Thickness (mm)	Weight
111218	ML-100KB	Black	Horizontal - Vertical	100	47	20	80g
111219	ML-100KW	White	Horizontal - Vertical	100	47	20	80g
111220	ML-150KB	Black	Horizontal - Vertical - 45 °	150	47	20	110g
111221	ML-150KW	White	Horizontal - Vertical - 45 °	150	47	20	110g

AUTO LASER LEVEL SET



With automatic correction feature that automatically compensates for slope. Horizontal and vertical guide lines can be made simply by placing in room.

1. Horizontal	2. Vertical	3. Horizontal and Vertical	4. Horizontal and Vertical	OFF
				OFF
Out of compensation range warning (buzzer sounds and laser line disappears when out of compensation range)			Clear compensation warning	OFF
Automatic correction (compensates up to $\pm 4^\circ$)				OFF



Storage bag



Laser glasses



mounting base



Height approx.
55cm - 165cm
with aluminum
tripod

USE Horizontal and Vertical laser lines

MATERIAL Main body : plastic Tripod: Aluminum

FEATURES

Automatically corrects for inclination up to $\pm 4^\circ$ for easy leveling

Will sound buzzer and turn off laser if out of range of automatic compensation
magnetic damping of laser for stability and fast setup

Easy adjustment of laser height and tilt with mount and aluminum tripod.

SPECIFICATIONS laser type : visible semiconductor laser
laser output : < 1mW (JIS class 2)
Laser life : approx. 5,000 h

POWER Three AA Cells (Included for testing)

ACCESSORIES Aluminum tripod, Mounting base, Laser glasses,
storage case, 3x AA cells (for testing)

Order No.	Model No.	line Accuracy	Line width	Output Distance	Output Angle	Auto correction range	Weight
111222	LL-635ARS	within 5m : $\pm 3\text{mm}$	at 5m : approx. 3.5mm	approx. 12m ¹	approx. 120 °	$\pm 4^\circ$	450g ²

When marking on wall For level body only, including battery



PROTRACTOR No.15



MATERIALS Stainless steel (SUS420J2)

FEATURES

- Graduation on blade
- With rectangle head
- The blade is firmly set on the center of the protractor by a knurled nut and adjustable to any desired angle for use as a protractor
- Also can measure depth

SPECIFICATIONS

- Protractor size : (H)52mm x (W)90mm x (T)1.2mm
- Graduation : 1 °
- Maximum angle : 180 °
- Accuracy : ± 20
- Blade size : (L)177mm x (T)1.2mm
- 150mm scale (Graduation: 0.5mm)

Order No.	Model No.	Weight
008000	PRT-15	80g

PROTRACTOR No.19



No.19 Graduation on blade



For angle measurement

MATERIALS

Stainless steel (SUS420J2)

FEATURES

- Graduation on blade
- Polished finish



SPECIFICATIONS

- Protractor size : 90mm x (T)1.2mm
- Graduation : 1 °
- Maximum angle : 180 °
- Accuracy : ± 20
- Blade size : (L)204mm x (T)1.2mm
- 100mm scale (Graduation: 1mm)

Order No.	Model No.	Weight
008001	PRT-19	81g

PROTRACTOR No.19



No.19 with two blades



MATERIALS

Stainless steel (SUS420J2)

FEATURES

- With 2 blades
- Can measure acute angle down to 10 °
- Satin finish

SPECIFICATIONS

- Graduation : 1 °
- Maximum angle : 180 °
- Accuracy : ± 20
- Size: 90mm x (T)1.2mm
- Blade size: (L)204 x (T)1.2mm

Order No.	Model No.	Weight
008002	PRT-19SW	110g

PROTRACTOR No.19



No. 19 Satin finish



MATERIALS

Stainless steel (SUS420J2)

FEATURES

- Graduation on blade
- Satin finish

SPECIFICATIONS

- Graduation: 1 °
- Maximum angle : 180 °
- Accuracy : ± 20
- Size: 90mm x (T)1.2mm
- Blade size: (L)204mm x (T)1.2mm
- 100mm scale (Graduation: 1mm)

Order No.	Model No.	Weight
008003	PRT-19S	81g

PROTRACTOR No.19A



MATERIALS

Stainless steel (SUS420J2)

FEATURES

Cutout for measuring small angle
Polished finish

SPECIFICATIONS

Protractor size : 90mm x (T)1.2mm
Graduation: 1 °
Maximum angle : 90 °
Accuracy ± 20
Blade : (L)204mm x (T)1.2mm

Order No.	Model No.	Weight
008004	PRT-19A	90g

PROTRACTOR No.19B



MATERIALS

Stainless steel (SUS420J2)

FEATURES

Protractor blade contains stop for setting a baseline angle and measuring against that set point
Polished finish

SPECIFICATIONS

Protractor size : 90mm x (T)1.2mm
Graduation : 1 °
Maximum angle : 180 °
Accuracy : ± 20
Blade : (L)204mm x (T)1.2mm

Order No.	Model No.	Weight
008005	PRT-19B	90g

PROTRACTOR No.182



MATERIALS

Stainless steel (SUS420J2)

FEATURES

Center lock nut has a built in needle for marking center point
Satin finish

SPECIFICATIONS

Protractor size : 90mm x (T)1.2mm
Graduation : 1 °
Maximum angle : 180 °
Accuracy : ± 20
Blade : (L)204mm x (T)1.2mm

Order No.	Model No.	Weight
008182	PRT-182S	155g

PROTRACTOR No.183



MATERIALS

Stainless steel (SUS420J2)

FEATURES

With rectangle head
Satin finish

SPECIFICATIONS

Protractor size : (H)52mm x (W)90mm x (T)1.2mm
Graduation : 1 °
Maximum angle : 180 °
Accuracy : ± 20
Blade : (L)204mm x (T)1.2mm

Order No.	Model No.	Weight
008183	PRT-183S	90g





PROTRACTOR No.30



PROTRACTOR No.101



MATERIALS

Stainless steel (SUS420J2)

FEATURES

Angle measurement
Satin finish

SPECIFICATIONS

Protractor size : 120mm x Thickness 1.5mm
Graduation : 1 °
Maximum angle : 180 °
Accuracy : ± 15
Blade size : (L)315mm x (T)1.5mm

Order No.	Model No.	Weight
008030	PRT-30S	190g

MATERIALS

Stainless steel (SUS420J2)

FEATURES

Blade can be fixed. Ideal for work requiring high accuracy
Satin finish

SPECIFICATIONS

Protractor size : 120mm x (T)1.5mm
Graduation : 1 °
Maximum angle : 180 °
Accuracy : ± 15
Blade size : 304mm x (T)1.5mm

Order No.	Model No.	Weight
008101	PRT-101S	158g

PROTRACTOR No.300 · No.400 · No.600 · No.1000



PRT-400S



PRT-400SW

MATERIALS

Stainless steel (SUS420J2)

FEATURES

Large size protractors
Satin finish

SPECIFICATIONS

Graduation : 0.5 °
Maximum angle : 180 °
Accuracy : ± 15

Order No.	Model No.	Size	Diameter (mm)	Thickness (mm)	Number of blade	Blade Length (mm)	Blade Thickness (mm)	Graduation on Blade	Weight
008300	PRT-300S	300mm	210	2.0	1	500	2.0	300mm (1mm step)	610g
008400	PRT-400S	400mm	250	2.0	1	634	2.0	400mm (1mm step)	700g
008600	PRT-600S	600mm	320	2.5	1	823	2.5	600mm (1mm step)	1.6kg
008700	PRT-1000S	1000mm	320	2.5	1	1260	2.5	1000mm (1mm step)	2kg
008302	PRT-300SW	300mm	210	2.0	2	489	2.0	300mm (1mm step)	670g
008402	PRT-400SW	400mm	250	2.0	2	634	2.0	400mm (1mm step)	1.1kg
008602	PRT-600SW	600mm	320	3.2	2	823	2.5	600mm (1mm step)	2.45kg
008702	PRT-1000SW	1000mm	320	3.2	2	1260	2.5	1000mm (1mm step)	3.15kg

INSIDE PROTRACTOR

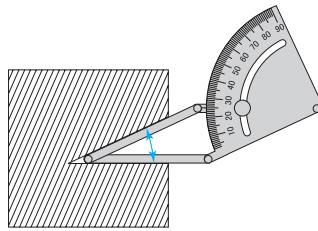


ANGLE

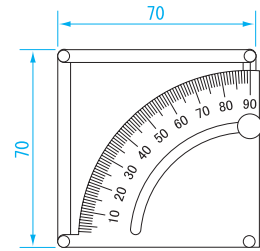
Measure interior angles in one step
Measurements at a glance

Example of use

DIMENSIONS Units : mm



Measurement of interior angles



USE Measurement of interior angles

MATERIAL
Stainless steel (SUS410)

FEATURES
Measure interior angles at a glance
Silver matte finish for easy to read scale
With plastic case for convenient transport

Order No.	Model No.	Graduation	Angle measurement range	Accuracy	Weight
007517	IP-90	1°	10° ~ 90°	± 0.5°	43g

07

PROTRACTOR No.192



PROTRACTOR No.193



PRT192-120S

USE Set attachment angle for machines and jigs

MATERIALS
Stainless steel (SUS420J2)

FEATURES
Polished finish : PRT192-90S
Satin finish : PRT192-120S · PRT192-200S ·
PRT192-250S · PRT192-300S

Order No.	Model No.	Graduation	Maximum Angle	Diameter (mm)	Thickness (mm)	Accuracy	Weight	Note
008901	PRT192-90S	1°	180°	90	1.2	±20	40g	Polished finish
008903	PRT192-120S	1°	180°	120	1.5	±20	80g	Satin finish
008930	PRT192-200S	0.5°	180°	210	2.0	±15	310g	Satin finish
008940	PRT192-250S	0.5°	180°	250	2.0	±15	440g	Satin finish
008960	PRT192-300S	0.5°	180°	320	2.5	±15	870g	Satin finish



PRT193-150

USE Set attachment angle for machines and jigs

MATERIALS
Stainless steel (SUS420J2)

FEATURES
Satin finish
A circle plate protractor

Order No.	Model No.	Graduation	Maximum angle	Diameter (mm)	Thickness (mm)	Accuracy	Weight
009109	PRT193-90	1°	360°	90	1.2	±20	60g
009112	PRT193-120	1°	360°	120	1.5	±20	140g
009115	PRT193-150	1°	360°	150	1.5	±20	210g
009120	PRT193-200	1°	360°	200	2.0	±20	510g
009125	PRT193-250	1°	360°	250	2.0	±20	780g
009130	PRT193-300	1°	360°	300	2.5	±20	1.38kg

ANGLE

LEVELNIC

PRECISION LEVEL

ANGLE LEVEL

LEVEL

PROTRACTOR



UNIVERSAL BEVEL PROTRACTOR



USE Angle measurement

MATERIALS
Body: Carbon tool steel
Blade: Stainless steel

FEATURES
Extremely fine measurement of accurate angles can be obtained from this protractor by simply rotating the ultra sensitive adjustment knob.
Attached magnification lens on the front of the protractor permits reading and setting of angles accurately and easily.

SPECIFICATIONS
Graduation: 1°
Minimum reading: 5 (or 1/12 degree)
Interchangeable blade: 150mm and 300mm

Order No.	Model No.	Product Dimensions (mm)	Weight
151052	495D	140 x 73 x 10	400g

DIGITAL UNIVERSAL PROTRACTOR



With master speed square, precision measurement without reading error



USE Precise angle measurement for tooling and fixtures, assembly, machining, mold making, and for use as a standard

MATERIALS
Body : Carbon tool steel
Blade : Stainless steel

FEATURES
Quick display of the measured value
One CR2032 (Lithium) battery included for testing

SPECIFICATIONS
Minimum reading: 30 (0.008°)
Accuracy : ± 5 (0.08°)
Repeatability : 1 (0.0167°)
Interchangeable blade : 150mm and 300mm

Order No.	Model No.	Product Dimensions (mm)	Weight
151050	DUP-360	135 x 71 x 34	350g

Quantization Error (± 1 digit) not included



204p



205p



205p



206p



206p



207p



207p



207p



208p



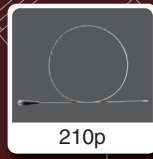
208p



209p



210p



210p



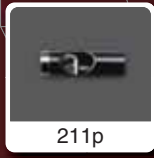
210p



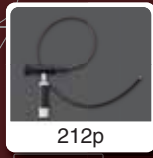
211p



211p



211p



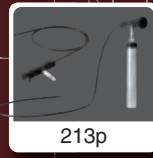
212p



212p



212p



213p



213p

MICROSCOPE



214p



214p



214p



215p



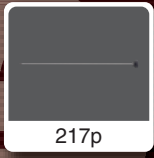
215p



216p



217p



217p



218p



219p



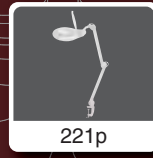
219p



220p



221p



221p



221p



222p



222p



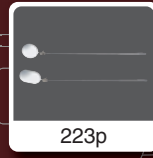
222p



223p



223p



223p



224p



224p



225p



225p



225p



226p



226p



227p



227p



227p



228p



228p



228p



228p



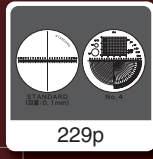
229p



229p



229p



229p



230p



230p



231p



231p



231p



231p



232p



232p

STEREO MICROSCOPE

FIBER SCOPE

TECHNO-ENDOSCOPE

CIRCLE SCOPE

INSPECTION MIRROR

MAGNIFIER



MICROSCOPE SPECIFICATION SUMMARY

Product Name	Model No.	Magnification	Objective	Eyepiece	Working Distance	Eyepiece Angle	Eyepiece Width adj. Range	Lighting	Base Dimensions	Diopter adj. Range	Stand
ZOOM STEREO MICROSCOPE	XTS2021	6.5x ~ 45x 13x ~ 90x	0.65x ~ 4.5x (Zoom Ratio 1:7)	WF10x (Field of View 20mm)	95mm	45 °	55 ~ 75mm	Epi-illumination (Halogen Bulb:6V 15W) Transmitted Illumination (5W Fluorescent Bulb)	245x190x60mm	± 5 ° diopter	Rack and Pinion
	XTS-SP2			WF20x (Field of View 10mm)				RK-9 Ring Light Included Attachment Size: 48mm	245x170x40mm		Pole Stand (25mm)
	XZ-34	7.5x ~ 34x	0.75x ~ 3.4x (Zoom Ratio 1:4.5)	WF10x (Field of View 19mm)	90mm			Optional Ring Light Sold Separately Attachment Size: 50mm	250x210x21mm		Pole Stand (30mm)
VARIABLE POWER STEREO MICROSCOPE	XT-2040	20x 40x	2x 4x		105mm			Optional Ring Light Sold Separately Attachment Size:48mm	280x270x28mm		Pole Stand (30mm)
VARIABLE POWER TURRET STYLE STEREO MICROSCOPE	XTDB-SP2N	10x 30x	1x 3x	WF10x (Field of View 20mm)	100mm			RK-9 Ring Light Included	255x200x20mm		Pole Stand (32mm)

ZOOM STEREO MICROSCOPE



STEREO MICROSCOPE

FIBER SCOPE

TECHNO-ENDOSCOPE

CIRCLE SCOPE

MICRO SCOPE

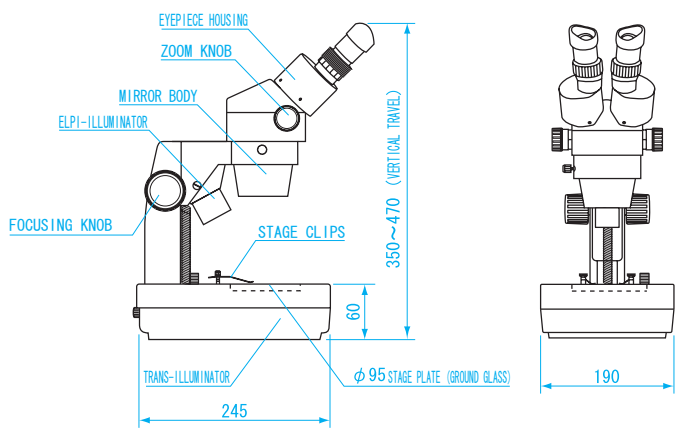
INSPECTION MIRROR

MAGNIFIER



DIMENSIONS

Units : mm



FEATURES

Ideal for inspection of semiconductors, electronics, and precision parts
Zoom stereoscopic microscope

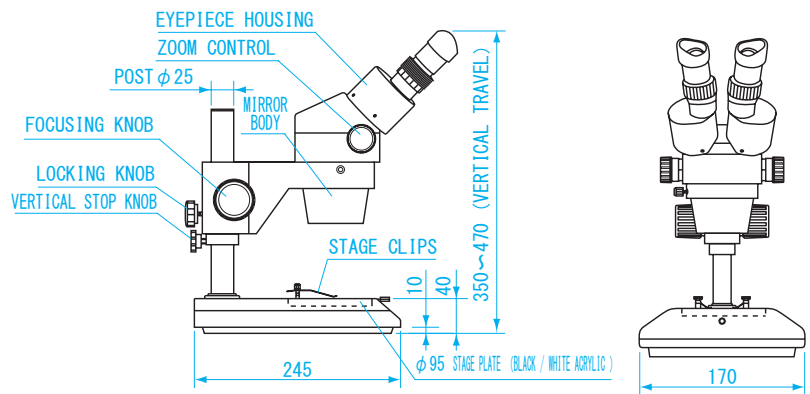
Order No.	Model No.	Magnification	Objective	Eye Piece	Working Distance	Focus Adjustment	Eye Width Adjustment	Eye Piece Inclination	Diopter Adjustment Range	Stand	Lighting System	Weight
140003	XTS2021	6.5 ~ 45x 13 ~ 90x	0.65 ~ 4.5x (Zoom Ratio:1:7)	WF10x (FOV20mm) WF20x (FOV10mm)	95mm	Main body vert. position control	55 ~ 75mm	45 °	± 5 diopter	Rack & Pinion	Epifluorescence ---6V·15W Transillumination ---5W	5.7kg

ZOOM STEREO MICROSCOPE



DIMENSIONS

Units : mm



FEATURES

- Ideal for inspection of semiconductors, electronics, and precision parts
- Zoom stereoscopic microscope
- With Fluorescent ring epi-illuminator

Order No.	Model No.	Magnification	Objective	Eye Piece	Working Distance	Focus Adjustment	Eye Width Adjustment	Eye Piece Inclination	Diopter Adjustment Range	Stand	Lighting System	Weight
140000	XTS-SP2	6.5 ~ 45x 13 ~ 90x	0.65 ~ 4.5x (Zoom Ratio:1:7)	WF10x (FOV20mm) WF20x (FOV10mm)	95mm	Main body vert. position control	55 ~ 75mm	45°	±5 diopter	Pole Stand	Ring Illuminator 17W Light fluorescent included	5.4kg

ZOOM STEREO MICROSCOPE



STEREO MICROSCOPE

FIBER SCOPE

TECHNO-ENDOSCOPE

CIRCLE SCOPE

MICRO SCOPE

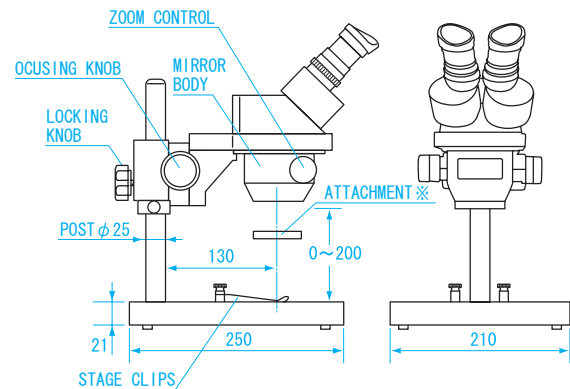
INSPECTION MIRROR

MAGNIFIER



DIMENSIONS

Units : mm



with optional lighting installed

FEATURES

- Ideal for inspection of semiconductors, electronics, and precision parts
- Zoom stereoscopic microscope
- Optional lighting unit available

Order No.	Model No.	Magnification	Objective	Eye Piece	Working Distance	Focus Adjustment	Eye Width Adjustment	Eye Piece Inclination	Diopter Adjustment Range	Stand	Weight
140100	XZ-34	7.5 ~ 34x	0.75 ~ 3.4x (Zoom Ratio:1:4.5)	WF10x (FOV 19mm)	90mm	Main body vert. position control	55 ~ 75mm	45°	±5 diopter	Pole stand	5.5kg

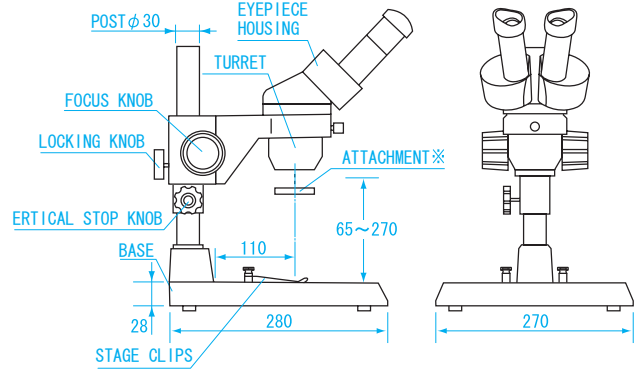


VARIABLE POWER STEREO MICROSCOPE



DIMENSIONS

Units : mm



with optional lighting installed

FEATURES

- Ideal for continuous inspection of components of similar size
- Turret style zoom stereo microscope
- Optional lighting unit available

Order No.	Model No.	Magnification	Objective	Eye Piece	Working Distance	Focus Adjustment	Eye Width Adjustment	Eye Piece Inclination	Diopter Adjustment Range	Stand	Weight
140101	XT-2040	20x 40x	2x 4x	WF10x (FOV19mm)	105mm	Main body vert. position control	55 - 75mm	45 °	± 5 diopter	Pole stand	4.1kg

VARIABLE POWER TURRET STYLE MICROSCOPE

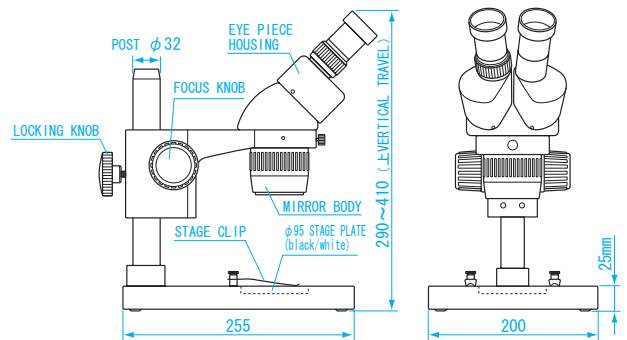


Two magnifications with switchable objective lens!



DIMENSIONS

Units : mm



USE Ideal for continuous inspection of components of similar size

FEATURES

- Binocular turret type stereo microscope with switchable objective lens.
- With fluorescent ring epi-illuminator

Order No.	Model No.	Magnification	Objective	Eye Piece	Working Distance	Focus Adjustment	Eye Width Adjustment	Eye Piece Inclination	Diopter Adjustment Range	Stand	Lighting System	Weight
NEW 140007	XTDB-SP2N	10x 30x	1x 3x	WF10x (FOV 20mm)	100mm	Main body vert. position control	55 - 75mm	45 °	± 5 diopter	Pole Stand	Ring illuminator 17W	3.6kg



USE Small and light weight ring illuminator for microscope

FEATURES

- Can be mounted on microscope with a bottom tube of 65mm or less
- 87mm circular fluorescent lamp, electric start
- One spare replaceable bulb included
- Replaceable bulb (RL-9) sold separately

Order No.	Model No.	Lamp OD (mm)	Rated Voltage
140012	RK-9	87	AC100V
Rated Power	Rated Frequency	Weight	
17W	50/60Hz	200g	

LED TYPE



L-54

FEATURES

- Compact and lightweight lighting for stereo microscope
- For mounting on microscopes with a bottom tube diameter of 60mm or less
- High intensity, long life LED light
- Variable output control

Order No.	Model No.	Rated Voltage	Rated Power	Rated Frequency	Output Voltage
140200	L-54	AC100V ~ 240V	6W	50-60Hz	DC12V
Output Current	Number of LED	LED Brightness	Weight		
280mA	54 pcs	2500mcd	400g		

LED Type with light quadrant control



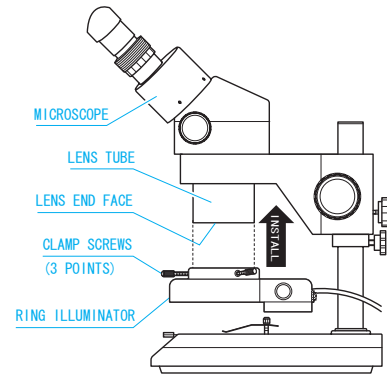
L-60T

FEATURES

- Compact and lightweight lighting for stereo microscope
- For mounting on microscopes with a bottom tube diameter of 60mm or less
- High intensity, long life LED light
- Variable output control
- LED mode switchable between four options (shown at right)

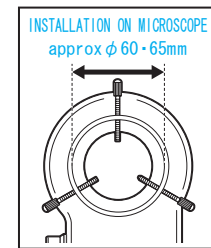
Order No.	Model No.	Rated Voltage	Rated Power	Rated Frequency	Output Voltage
140205	L-60T	AC100V ~ 120V	6.5W	50-60Hz	DC12V
Output Current	Number of LED	LED Brightness	Weight		
400mA	60 pcs	1500mcd	260g		

Example of mounting



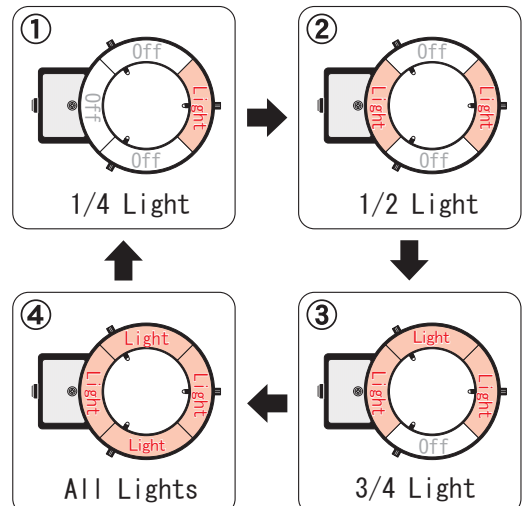
How to mount

Tighten 3 screws to fix illuminator to microscope body
Adapter is required if body tube is not a cylinder



Mounting dimensions applies to
RK-9 : 65mm
L-54, L-60T : 60mm

L-60T Illumination Pattern
Switchable between four types of Illumination depending on the application



STEREO MICROSCOPE

FIBER SCOPE

TECHNO-ENDOSCOPE

CIRCLE SCOPE

MICRO SCOPE

INSPECTION MIRROR

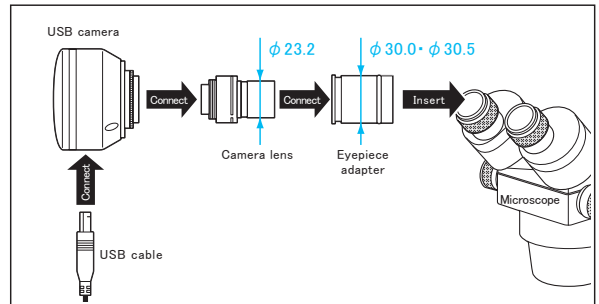
MAGNIFIER



USB CAMERA FOR MICROSCOPE



Easy installation! Image can be confirmed with your PC. Also can be mounted on any other microscope brand



USE Camera can be inserted into microscope eyepiece

FEATURES

Low price USB camera for microscope
1,300,000 pixels
OS support : Windows XP、Vista、7

ACCESSORIES

Viewer Software
Eye-piece adapter
(23.2 30.0mm...1 pc 23.2 30.5mm...1 pc)

Order No.	Model No.	Image Sensor	No. of Pixels	Frame Rate	Output	Power	Weight
NEW 140022	MU-130	1/3.2CMOS	1,300,000 pixels	30 frame/ sec	USB 2.0	Provided from USB port	175g

MINI MICROSCOP WITH BASE



High performance at an affordable price



USE Ideal for machine parts, metal, textiles, paper, plastic, biological tissues, cracks and corrosion inspection
Still image picture and video image can be saved

FEATURES

Simple measurement functionality
Included stand for easy focus and alignment
OS support : Windows XP (SP2) Vista、7、 Mac OSX 10.4

Order No.	Model No.	Imaging Sensor	Resolution	Magnification	Light
140172	MMS-30	1/4 CMOS sensor	640 x 480pixels(VGA) approx. 300,000 pixels	Approx. 10-230 x	Internal LED 8 pcs

Frame Rate	Exposure	Interface	Features	Weight
30 frame / sec	Auto Exposure	USB 2.0	Still image picture (bmp) Video capture (AVI) Simple measurement (line, circle radius, circle diameter, angle)	Body : 95g Base: 1.1 kg



Resolution 1,300,000 pixels, high image quality! Still image picture and video image can be saved



STEREO MICROSCOPE

FIBER SCOPE

TECHNO-ENDOSCOPE

CIRCLE SCOPE

MICRO SCOPE

INSPECTION MIRROR

MAGNIFIER

USE Ideal for machine parts, metal, textiles, paper, plastic, biological tissues, cracks and corrosion inspection
Still image picture and video image can be saved

FEATURES

- Simple measurement functionality. With calibration correction function.
- Included stand for easy focus and alignment
- Shutter switch on body for taking pictures without using mouse.
- Polarized filter (PL) to prevent di use reflections and sharpen image (MMS-130PL)
- Supported OS: Windows XP (SP2), Vista, 7, Mac OSX 10.4

Order No.	Model No.	Type	Image Sensor	Resolution	Magnification	Light
140173	MMS-130	—	1/4 CMOS sensor	1280 x 1024 pixels (SXGA) approx. 1,300,000 pixels	Approx. 10-230 x	Internal LED 8 pcs
140174	MMS-130PL	With PL filter				

Frame Rate	Exposure	Interface	Features	Weight
30 frame / sec	Auto Exposure	USB2.0	Still image picture (bmp) Video capture (AVI) Simple measurement (line, circle radius, circle diameter, angle)	Body : 98g Base: 1.1 kg



BORE SCOPE WITH MONITOR (MIS series)



New Product! Borescope can shoot still images and movies. You can view images directly, or connect to your computer via USB.

- USE** Industrial bore scope can inspect inside holes and around corners
- MATERIAL**
Body : Plastic
- FEATURES**
Integrated monitor allows real time viewing and capture to memory
Can view images directly, or connect to PC with USB.
Video output
Cable is compliant to IP66
- SPECIFICATIONS**
Continuous use : approx. 3 hrs (without recording)
- ACCESSORIES**
5.5mm x 1m semi-hard type cable camera
View adapter 45 °
AC adapter
Lithium-ion battery x 2 pcs

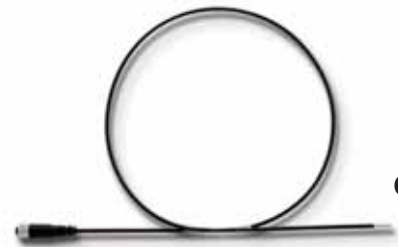


Order No.	Model No.	Cable Size	Monitor Size	Resolution	View Angle	Depth of Focus	Power
NEW 140210	MIS-5510G	5.5mm x (L) 1m	3.5 inch	300,000 pixels	Approx. 67 °	Approx. 20-50mm	DC5V
AV output	Light	Still Image Pixels	Video Image Pixels	File Format	Recording Media	Dimensions (mm)	Weight
NTSC/PAL	White LED (Dimming)	640 x 480 pixels	640 x 480 pixels	JPEG (still image) AVI (video image)	SD card (less than 2 GB)	approx. L210 x W100 x H45	410g

OPTIONAL ACCESSORIES for MIS series



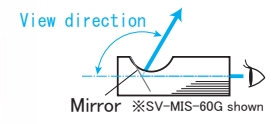
- Camera for MIS**
- USE** Optional camera for MIS series bore scope (IP66 equivalent)
- MATERIAL**
3.9 model : plastic cable
5.5 model : stainless cable
- FEATURES**
3.9 model :Thin and flexible cable is ideal for inspection of narrow places
5.5 model : High rigidity stainless cable is ideal for inspection of harsh places



C-MIS-3910G

Order No.	Model No.	Cable size	Cable type	Resolution	Number of Pixels	Focal Length (mm)
NEW 140211	C-MIS-3910G	3.9mm x 1m	Soft tube	300,000 pixels	640 x 480	Approx.20 ~ 50
NEW 140212	C-MIS-3920G	3.9mm x 2m	Soft tube	300,000 pixels	640 x 480	Approx.20 ~ 50
NEW 140213	C-MIS-3930G	3.9mm x 3m	Soft tube	300,000 pixels	640 x 480	Approx.20 ~ 50
NEW 140214	C-MIS-5520G	5.5mm x 2m	Semi-hard tube	300,000 pixels	640 x 480	Approx.20 ~ 50
NEW 140215	C-MIS-5530G	5.5mm x 3m	Semi-hard tube	300,000 pixels	640 x 480	Approx.20 ~ 50

- SIDE VIEW ADAPTER FOR MIS series**
- USE** Side view adapter for monitor type industrial bore scope
- MATERIAL** Copper plated(excluding mirror)
- FEATURES** Install on tip of bore scope to change viewing angle



Order No.	Model No.	Mirror Angle	View Direction	Weight
NEW 140217	SV-MIS-35G	Approx.35 °	Approx. 70 °	2g
NEW 140218	SV-MIS-60G	Approx. 60 °	Approx. 120 °	2g

- LITHIUM BATTERY FOR MIS**
- USE** Lithium battery for monitor type industrial bore scope

Order No.	Model No.	Rated Voltage	Rated Capacity	Weight
NEW 140216	B-MIS-37G	DC3.7V	1,880mAh	42g

STEREO MICROSCOPE

FIBER SCOPE

TECHNO-ENDOSCOPE

CIRCLE SCOPE

MICRO SCOPE

INSPECTION MIRROR

MAGNIFIER



FEATURES

Industrial bore scope can inspect inside holes and around corners
Body : Plastic

SPECIFICATIONS

Integrated monitor allows real time viewing and capture to memory
IP 57 equivalent cable
1GB SD CARD included



Order No.	Model No.	Cable size	Monitor Size	Image Sensor	View Angle	Focal Length	Power	AV Output
140185	MFS-6100	5.5mm (Tip 6mm) x (L) 1m	3.5 inch	300,000 pixels	Approx. 67 °	Approx. 15 ~ 100mm	DC6V	NTSC / PAL
140193	MFS-6200	5.5mm (Tip 6mm) x (L) 2m	3.5 inch	300,000 pixel	Approx. 67 °	Approx. 15 ~ 100mm	DC6V	NTSC / PAL
140194	MFS-6300	5.5mm (Tip 6mm) x (L) 3m	3.5 inch	300,000 pixel	Approx. 67 °	Approx. 15 ~ 100mm	DC6V	NTSC / PAL

Light	Still Image Pixels	Video Image Pixels	File Format	Recording Media	Continuous Use	Dimensions (mm)	Weight
4x white LED (Dimming)	640 x 480pixels	320 x 240pixels	JPEG (still) ASR video)	SD Card (2GB or less)	Approx. 4 hours	Approx. L205 x W 120 x H35	Approx. 500g (including cable)
4x white LED (Dimming)	640 x 480pixels	320 x 240pixels	JPEG (still) ASR video)	SD Card (2GB or less)	Approx. 4 hours	Approx. L205 x W 120 x H35	Approx. 560g (including cable)
4x white LED (Dimming)	640 x 480pixels	320 x 240pixels	JPEG (still) ASR video)	SD Card (2GB or less)	Approx. 4 hours	Approx. L205 x W 120 x H35	Approx. 620g (including cable)

CABLE FOR BORE SCOPE



M-200F

Replacement cable for monitor type industrial bore scope
Plastic cable (IP57 compatible)
Install on bore scope for extended viewing distance

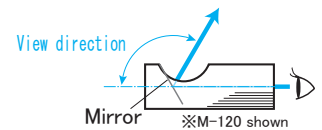
Order No.	Model No.
140196	M-100F
140191	M-200F
140192	M-300F

Cable Length	Weight
1m	90g
2m	150g
3m	210g

SIDE VIEW ADAPTER



M-90



Side view adapter for monitor type industrial bore scope
Copper plated (excluding mirror)
Install on tip of bore scope to change viewing angle

Order No.	Model No.	Mirror Angle
140186	M-70	Approx. 35 °
140187	M-90	Approx. 45 °
140188	M-120	Approx. 60 °

View Direction	Weight
Approx. 70 °	5g
Approx. 90 °	5g
Approx. 120 °	5g

STEREO MICROSCOPE

FIBER SCOPE

TECHNO- ENDOSCOPE

CIRCLE SCOPE

MICRO SCOPE

INSPECTION MIRROR

MAGNIFIER



FIBER OPTIC SCOPE



USE

Fiber scope can inspect inside of curved pipe and various components that can not be viewed externally

FEATURES

- IP57 equivalent cable
- 2 pcs CR123A batteries included for testing
- Xenon bulb...3 pcs

Order No.	Model No.	Fiber Outside Diameter	Fiber Length	Minimum Bend Radius	Light Intensity	Light Run time
140175	FS-436	Approx. 4.7mm	Approx. 914mm	Approx. 75mm	120 lx (at a distance of 30mm)	Approx. 15hrs.
140176	FS-636	Approx. 5.8mm	Approx. 914mm	Approx. 75mm	120 lx (at a distance of 30mm)	Approx. 15hrs.

No. of Pixels	Focal Length	View Direction	Battery	Weight
7,400 pixels	3mm ~	0 °	Lithium Battery CR123A 3V×2 Rechargeable CR123A type can not be used	380g (Including fiber)
7,400 pixels	3mm ~	0 °		380g (Including fiber)

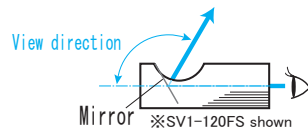
SIDE VIEW ADAPTER FOR FS-436/636



Xenon BULB FOR FS-436/636



SV1-90FS



Copper plated (excluding mirror)

Install on tip of fiber scope FS-436/636 to change viewing angle



Order No.	Model No.	Mirror Angle	View Angle
140177	SV1-70FS	Approx. 35 °	Approx. 70 °
140178	SV1-90FS	Approx. 45 °	Approx. 90 °
140179	SV1-120FS	Approx. 60 °	Approx. 120 °
140180	SV2-70FS	Approx. 35 °	Approx. 70 °
140181	SV2-90FS	Approx. 45 °	Approx. 90 °
140182	SV2-120FS	Approx. 60 °	Approx. 120 °

Model can be installed on	Weight
FS-436	5g
FS-436	5g
FS-436	5g
FS-636	5g
FS-636	5g
FS-636	5g

Replacement bulb for FS-436/636 fiber scope

Rating : 6V

Order No.	Model No.	Weight
140183	XB-1	5g

STEREO MICROSCOPE

FIBER SCOPE

TECHNO-ENDOSCOPE

CIRCLE SCOPE

MICRO SCOPE

INSPECTION MIRROR

MAGNIFIER



FEATURES

- Ideal for inspecting inside wall of bent pipe for scratches and burrs, and visual inspection of cavities
- Body : Stainless steel
- Fiber : Plastic (waterproof)
- Flexible plastic fiber
- Illuminates objects with bright halogen bulb (3.5V)
- 7,400 pixels, 120,000lx
- For direct viewing
- Halogen Bulb : 3.5V(HB-078)
- Power : Battery handle (BH-370) , holds 3 standard "C" size batteries (not included)

Accessory

Battery Handle ---adapts for use with 2 batteries
(light output is reduced by about 2/3)



when using 3 batteries



when using 2 batteries

Batteries not included, please purchase separately

Hard case---storage, convenient to carry



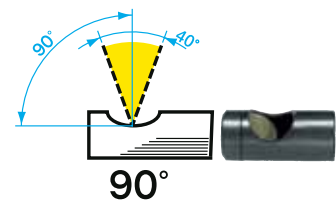
3.5V Halogen bulb 1 pc

Order No.	Model No.	Outside Diameter (mm)	Effective Length (mm)	Minimum Bend Radius (mm)	Light Intensity	No. of Pixels	Focal Length	View Direction	Battery	Weight
128200	SF6-1000	6	1	30	120,000lx	7,400 pixels	10mm ~	0°	Three "C" size batteries	350g (Including fiber)

90°side view adapter



- Body : Stainless steel
- Attach to the tip of fiber optic bore scope to view at 90° orientation
- OD : 6mm
- View direction : 90°
- Viewing angle : 40°



Order No.	Model No.	Weight
128152	TE-415	30g

STEREO MICROSCOPE

FIBER SCOPE

TECHNO-ENDOSCOPE

CIRCLE SCOPE

MICRO SCOPE

INSPECTION MIRROR

MAGNIFIER

MINI BORE SCOPE SET-A



FEATURES

- For viewing inside small diameter holes, inspection
- Body : Plastic
- Able to inspect inside holes of 0.3 mm or larger
- Built-in lens allows focusing at a distance from 5 to 250mm
- Halogen bulb for high brightness
- Small and light weight- pocket sized
- Maximum magnification : 10x
- Focal Length : 5 ~ 250mm
- Halogen bulb : 2.5V(HB-042)
- Power : Battery handle with 2 "AA" size batteries included for testing

Set includes

Order No.	Model No.	Item Name	Specification	Weight
120000	SET-A	Set	(L) 160mm	100g
129042	HB-042	Halogen Bulb	2.5V	5g

MINI BORE SCOPE SET-C



FEATURES

- For viewing inside small diameter holes, inspection
- Body : Plastic
- Probe : Stainless steel (Satin finish)
- Able to inspect inside holes of 5mm or larger
- Mirror adapter allows viewing at 0 °angle or with replacement, viewing at 90 °angle
- Halogen bulb for high brightness
- Power : Battery handle with 2 "AA" size batteries included for testing

Set includes

Order No.	Model No.	Item Name	Specification	Weight
120003	SET-C	Set	(L)163mm	150g
121104	MVP-104	Mini view probe	4-5x	120g
121240	FL-240	Mirror probe	5x25mm	10g
121241	FL-241	Mirror probe	6x30mm	10g
129040	HB-037	Halogen bulb	2.5V	5g

MINI BORE SCOPE SET-E



FEATURES

- For viewing inside small diameter holes, inspection
- Body : Stainless steel
- Probe : Stainless steel (Satin finish)
- Able to inspect inside holes of 5mm or larger
- Mirror adapter allows viewing at 0 °angle or with replacement, viewing at 90 °angle
- 3.5V Halogen bulb for high brightness
- Maximum magnification : 3-4x
- Focal length : up to 70mm
- Halogen bulb: 3.5V(HB-078)
- Power : Battery handle(BH-370)
- Three standard "C" type batteries



Set includes

Order No.	Model No.	Item Name	Specification	Weight
120005	SET-E	Set	(L) 240mm	350g
121200	FL-200	Head Loupe	3-4 x	90g
121240	FL-240	Mirror Probe	5 x 25mm	10g
121241	FL-241	Mirror Probe	6 x 30mm	10g
121242	FL-242	Mirror Probe	6 x 50mm	10g
129068	HB-078	Halogen bulb	3.5V	5g
130370	BH-370	Battery Handle	3.5V	220g

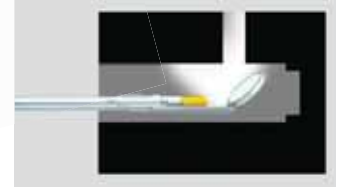
MINI LIGHT AND MIRROR PROBE SET-D



USE Mirror with light for inspecting work

FEATURES

- Body : Plastic
- Probe : Stainless steel
- Glass mirror(16 · 25mm) for good visibility of hard-to-see parts
- Halogen bulb for high brightness
- Halogen bulb : 2.5V(HB-057)
- Power : Battery handle with two "AA" size batteries included for testing



Set includes

Order No.	Model No.	Item Name	Specification	Weight
120004	SET-D	Set	(L) 250mm	150g
123142	LP-142	Mini Light Probe	5 × 110mm	70g
126305	GM-305	Glass Mirror	16mm	5g
126307	GM-307	Glass Mirror	25mm	5g
129057	HB-057	Halogen Bulb	2.5V	5g

MIRROR PROBE SET-G



USE Mirror with light for inspecting work.

FEATURES

- Body : Stainless steel
- Can inspect cavity in any direction with control from outside hole
- View holes down to 30mm
- Can adjust mirror angle at handle
- Mirror angle adjustable between 30 °~ 120 °
- Objects can be illuminated with halogen lamp and magnified
- Halogen Bulb : 3.5V(HB-066)
- Power : Battery handle(BH-370) holds 3 standard "C" size batteries(not included)

Set includes:

Order No.	Model No.	Item Name	Specifications	Weight
120007	SET-G	SET		1.2kg
122200	LP-200	Universal Probe	5 × 400mm	180g
126201	GM-201	Glass Mirror	20mm	5g
126202	GM-202	Glass Mirror	25mm	5g
126203	GM-203	Glass Mirror	30mm	5g
128350	PL-350	Prism Telescope	4-5 ×	120g
129066	HB-066	Halogen Bulb	3.5V	5g
130370	BH-370	Battery Handle	3.5V	220g

STEREO
MICROSCOPE

FIBER
SCOPE

TECHNO-
ENDOSCOPE

CIRCLE
SCOPE

MICRO
SCOPE

INSPECTION
MIRROR

MAGNIFIER



INTERCHANGEABLE MIRROR PROBE SET-J



USE Mirror with light for inspecting work

FEATURES

Body : Stainless steel

Inspection of inner walls of cavity or tube which can not be viewed directly. In addition, objects can be illuminated with halogen lamp and magnified (with loupe, or prism telescope installed)

Inspect defects, corrosion, joints, welds, to determine workpiece quality

Interchangeable probes can inspect up to 500mm deep and 8mm diameter mirror can be installed to inspect inside small holes

Mirror rotates 360 °for viewing in any direction

Halogen bulb : 3.5V (HB-066)

Power : Battery handle : (BH-370) holds three standard "C" type batteries (not included)

Set includes

Order No.	Model No.	Item Name	Specification	Weight
120010	SET-J	Set		1.3kg
121100	HP-100	Probe Head		50g
122120	LP-120	Light Probe	5 x 100mm	17g
122121	LP-121	Light Probe	5 x 200mm	30g
122122	LP-122	Light Probe	5 x 300mm	40g
123123	LP-123	Light Probe	5 x 400mm	50g
123124	LP-124	Light Probe	5 x 500mm	57g
127003	L-003	Loupe	2 x	5g
128350	PL-350	Prism Telescope	4-5 x	120g
125300	SM-300	Steel Mirror	8mm	5g
125301	SM-301	Steel Mirror	12mm	5g
126305	GM-305	Glass Mirror	16mm	5g
126306	GM-306	Glass Mirror	20mm	5g
126307	GM-307	Glass Mirror	25mm	5g
126308	GM-308	Glass Mirror	30mm	5g
129066	HB-066	Halogen Bulb	3.5V	5g
130370	BH-370	Battery Handle	For 3.5V	220g

STEREO MICROSCOPE

FIBER SCOPE

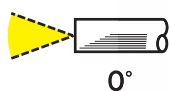
TECHNO-ENDOSCOPE

CIRCLE SCOPE

MICRO SCOPE

INSPECTION MIRROR

MAGNIFIER



Shown with protection tube attached

Battery handle BH-370 not included

FEATURES

- Inspect the walls of tubing and deep inside cavities which can not be viewed directly
- Stainless steel
- Near objects are magnified by fiber optic system (up to 10x) for focus distance of 5 to 250mm
- Tip protector included
- Illuminates objects with bright halogen bulb
- For direct viewing

SPECIFICATIONS

- Length : 270mm
- OD : 4.5mm (with protection tube)
- E ffective length : 158mm (with protection tube)
- Viewing angle : 0 °
- Halogen bulb : 3.5V (HB-078)
- Dimensions : 4.5 x 270mm
- Power : Optional battery handle (BH-370) holds 3 standard "C" size batteries (not included)

Order No.	Model No.	Weight
128150	TE-410	200g

70 °SIDE VIEW ADAPTER



STEREO MICROSCOPE

FIBER SCOPE

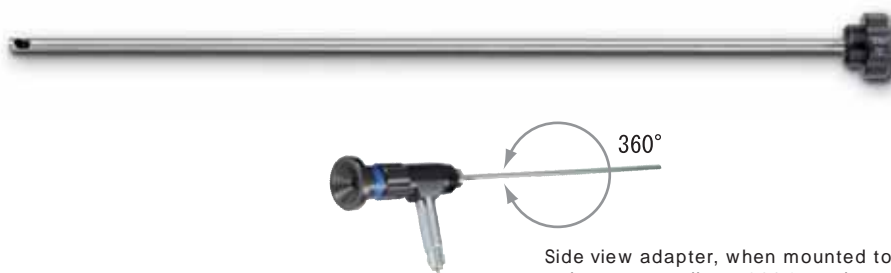
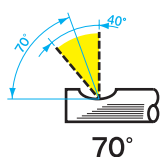
TECHNO-ENDOSCOPE

CIRCLE SCOPE

MICRO SCOPE

INSPECTION MIRROR

MAGNIFIER



Side view adapter, when mounted to the techno scope, allows 360 ° rotation

FEATURES

- Side adapter for use with Techno scope TE-410
- Stainless steel
- Replace standard protection tube on the TE-410 scope
- Provides 70 ° view angle

SPECIFICATIONS

- OD : 4.5mm
- E ffective length : 163mm
- View direction : 70 °
- Field of view : 40 °
- Dimensions : 4.5 x 163mm

Order No.	Model No.	Weight
128151	TE-414	30g



TE-110

Battery handle BH-370 not included

STEREO
MICROSCOPE

FIBER
SCOPE

TECHNO-
ENDOSCOPE

CIRCLE
SCOPE

MICRO
SCOPE

INSPECTION
MIRROR

MAGNIFIER

FEATURES

Inspect the inner wall of tubing and inside cavities which can not be easily seen from the outside

Stainless steel (Satin finish)

Near objects are magnified by fiber optic system (up to 10x) for focus distance of 5 to 250mm

Illuminates objects with bright halogen bulb

Halogen bulb : 3.5V (HB-075)

Power : Optional battery handle (BH-370) holds standard " C" size batteries(not included)

Order No.	Model No.	Item Name	Length (mm)	E ffective Length (mm)	View Direction	Field of View	Diameter (mm)	Weight
128101	TE-101	Techno Scope	330	230	90 °	35 °	8	500g
128110	TE-110	Techno Scope	335	230	70 °	80 °	8	500g
128100	TE-100	Techno Scope	485	385	90 °	35 °	8	600g
128111	TE-111	Techno Scope	490	385	70 °	80 °	8	600g
128123	TE-123	Techno Scope	270	165	70 °	80 °	8	400g
129067	HB-075	Halogen Bulb 3.5V	22					5g
130370	BH-370	Battery Handle 3.5V	190					220g



FEATURES

- Can inspect 360 degree of pipe or cavity without changing position by rotating scope from the outside
- Stainless steel (Satin finish)
- Illuminates objects with bright halogen bulb
- View angle : 90 °
- Connection cord(sold separately) can be used to attach battery handle to reduce interference where access is limited



SPECIFICATIONS

- Length : 340mm
- OD : 8mm
- Effective length : 280mm
- Field of view : 35 °
- Halogen bulb : 3.5V(HB-075)
- Power : Optional battery handle(BH-370) holds 3 standard "C" size batteries (not included)

Order No.	Model No.	Item Name	Specification	Weight
128235	UK-35	Techno scope	Angle length : 200mm · 120 °	700g

Optional

Order No.	Model No.	Item Name	Specification	Weight
139230	CC-230	Connection cord	1.8m	80g
130370	BH-370	Battery handle	3.5V	220g
139522	C-522	Carrying case		

60 ° ANGLE ADAPTER



STEREO MICROSCOPE

FIBER SCOPE

TECHNO-ENDOSCOPE

CIRCLE SCOPE

MICRO SCOPE

INSPECTION MIRROR

MAGNIFIER



For mounting on Techno scope TE-110



Techno scope not included

FEATURES

- Angle adapter for techno scope viewfinder
- Stainless steel (Satin finish)
- Adapts view finder angle (60 °)
- Retaining ring fixes adapter to techno scope

Order No.	Model No.	Angle	Lens Diameter (mm)	Length (mm)	Weight
128090	AA-090	60 °	8	120	200g



INSPECTION SET



For inspection and failure analysis(cracks, corrosion, wear, contamination, etc.)

Testing, inspection of new equipment

Set includes

Order No.	Model No.	Item Name	Specification	Weight
120523	T-523	SET		1.85kg
128110	TE-110	Techno scope	70 °/ 270mm	500g
120000	SET-A	Short bore scope	(L) 160mm	100g
121104	MVP-104	Short view probe	(L) 163mm	120g
121240	FL-240	Mirror probe	5 × 25mm	10g
121241	FL-241	Mirror probe	6 × 30mm	10g
123142	LP-142	Short light probe	(L) 250mm	70g
126305	GM-305	Glass mirror	16mm	5g
126308	GM-308	Glass mirror	30mm	5g
125509	MS-509	Universal measure scale	26mm	5g
129067	HB-075	Halogen bulb	3.5V	5g
129042	HB-042	Halogen bulb	2.5V	5g
129040	HB-037	Halogen bulb	2.5V	5g
129057	HB-057	Halogen bulb	2.5V	5g
130370	BH-370	Battery handle	3.5V	220g
139230	CC-230	Battery cord	1.8m	80g
139523	C-523	Carrying case		

STEREO MICROSCOPE

FIBER SCOPE

TECHNO-ENDOSCOPE

CIRCLE SCOPE

MICRO SCOPE

INSPECTION MIRROR

MAGNIFIER



STAND type MAGNIFIER with LED LIGHT

Durable, long-life LED light!

USE For precision assembly and inspection

MATERIAL Lens : Glass
Body : Steel, plastic

FEATURES

- Durable and long-life LED light
- Large lens for clear view with both eyes
- With protective cover for lens
- Clear glass lens does not affect color of items viewed

SPECIFICATIONS

- Rated voltage : AC100V
- Rated frequency : 50/60Hz
- Luminous intensity : 3,700lx (with 250mm distance from lens to object)
- Number of LED : 84 pcs
- Power cable length : 1.8 m



Order No.	Model No.	Product Dimensions (mm)	Lens Diameter (mm)	Magnification	Weight
140122	LS2-175S	Total Height 430	178	2 x	5.2kg



ARM type MAGNIFIER with LED LIGHT

Durable, long-life LED light!

USE For precision assembly and inspection

MATERIAL Lens : Glass
Body : Steel, plastic

FEATURES

- Durable and long-life LED light
- Large lens for clear view with both eyes
- With protective cover for lens
- Clear glass lens does not affect color or items viewed

SPECIFICATIONS

- Rated voltage : AC100V
- Rated frequency : 50/60Hz
- Luminous intensity : 3,700lx (with 250mm distance from lens to object)
- Number of LED : 84 pcs
- Power cable length : 1.8 m



Order No.	Model No.	Arm Length	Lens Diameter(mm)	Magnification	Weight
140121	LS2-175A	Lower: 435 Upper: 425 Max: 870	178	2 x	2.5kg

STEREO
MICROSCOPEFIBER
SCOPETECHNO-
ENDOSCOPECIRCLE
SCOPEMICRO
SCOPE

INTERCHANGEABLE LENS



Additional lens for illuminated magnifier with LED light, total magnification becomes

USE Additional lens for LS2-175S, LS2-175A. Total magnification becomes 4 x

MATERIAL Glass

FEATURES

- Additional lens for illuminated magnifier with LED light, total magnification becomes 4 x

INSPECTION
MIRROR

MAGNIFIER

Order No.	Model No.	Lens Diameter(mm)	Magnification	Weight
140123	SL-4	150	4 x	1kg



INSPECTION MIRROR WITH LED LIGHT

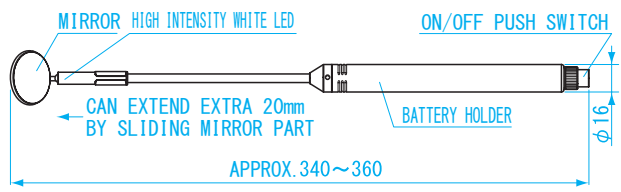


FEATURES

- Inspection around and behind obstacles and in poorly lit areas
- LED light for high visibility
- Inspection mirror : 2 pcs (20mm, 30mm)
- Power : Two "AA" size batteries included for testing
- Stalk : Stainless steel
- Grip : Brass (Silver finish)

DIMENSIONS

Units : mm



Order No.	Model No.	Operating Temperature	Luminance	Weight
011105	LM-340	- 10 ~ 40	10000mcd	126g

INSPECTION MIRROR WITH LIGHT

STEREO MICROSCOPE

FIBER SCOPE

TECHNO-ENDOSCOPE

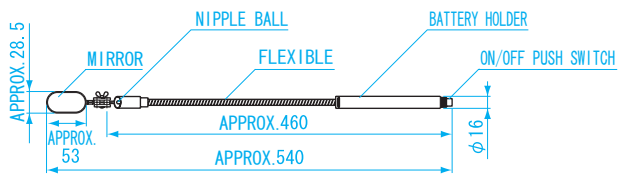
CIRCLE SCOPE

M type



DIMENSIONS

Units : mm



FEATURES

- Inspection solution for dark tight spaces
- Flexible stem can be bent to any angle
- Mirror can be removed for use as flexible light
- Power : two "AA" size batteries included for testing

Order No.	Model No.	Ball nipple bulb	Weight
011100	LMF-M	2.2V 0.25A	200g

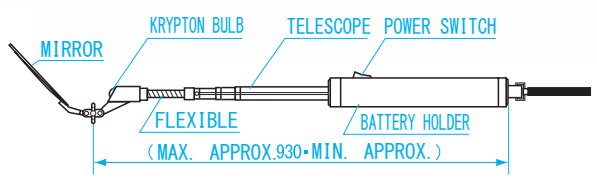
INSPECTION MIRROR WITH LIGHT

L type



DIMENSIONS

Units : mm



FEATURES

- Inspection solution for dark tight spaces
- Brass (Silver finish)
- Telescoping stalk with flexible end mirror angle adjustable for any requirement
- 100 planar mirror
- Krypton bulb for high intensity light
- Power : two "AA" size batteries included for testing

Order No.	Model No.	Krypton bulb	Weight
011103	LMF-L	2.5V 0.75A	500g

MICRO SCOPE

INSPECTION MIRROR

MAGNIFIER



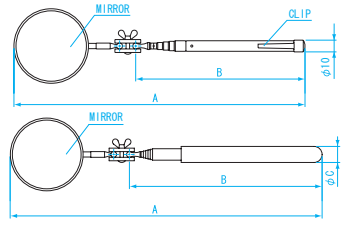
TELESCOPING INSPECTION MIRROR



FEATURES

- Inspection of hard-to-see locations
- Body : Stainless steel
- Mirror : Glass
- Extendable reach and easy to carry
- Replacement mirror (Round type 60, oval type 80) also sold separately

DIMENSIONS

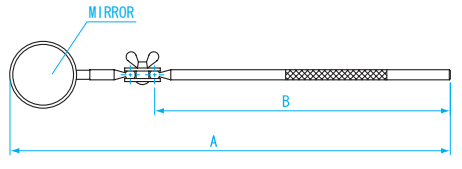


Order No.	Model No.	Mirror Shape (mm)	A : Maximum Length (mm)	B : Telescope Length (mm)	C (mm)	Dimensions	Weight	Note
011140	IMT-20R	Round 20	Approx. 525	Approx. 130 ~ 475	10		40g	with clip
011150	IMT-30R	Round 30	Approx. 535	Approx. 130 ~ 475	10		40g	with clip
011170	IMT-50K	Oval 50x25	Approx. 555	Approx. 130 ~ 475	10		45g	with clip
011185	IMT-85S	Square 85x85	Approx. 745	Approx. 245 ~ 610	13		200g	with clip
011186	IMT-100S	Square 100x100	Approx. 745	Approx. 245 ~ 610	13		200g	with clip
011187	IMT-100R	Round 100	Approx. 745	Approx. 245 ~ 610	13		200g	with clip
011181	IMT-80LK	Oval 80x50	Approx. 945	Approx. 160 ~ 840	14		100g	Long type
011161	IMT-60LR	Round 60	Approx. 925	Approx. 160 ~ 840	14		100g	Long type

INSPECTION MIRROR



DIMENSIONS

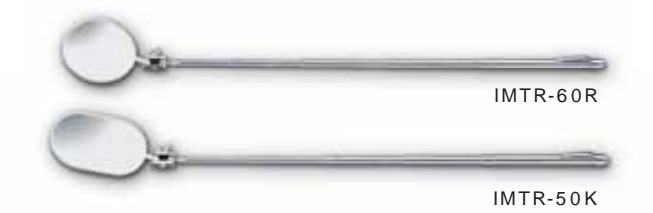


FEATURES

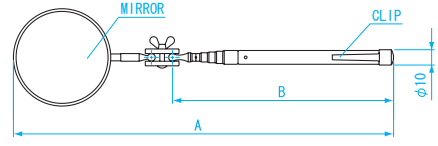
- For inspection in hard-to-see location
- Body : Steel
- Mirror : Glass
- Mirror firmly held for easy inspection

Order No.	Model No.	Mirror shape (mm)	A (mm)	B (mm)	Weight
011120	IM-20R	Round 20	Approx. 200	Approx. 145	50g
011130	IM-30R	Round 30	Approx. 210	Approx. 145	50g
011110	IM-50K	Oval 50x25	Approx. 230	Approx. 145	50g

MAGNIFYING INSPECTION MIRROR WITH TELESCOPING



DIMENSIONS



FEATURES

- For inspection in hard-to-see location
- Body : Stainless steel
- Mirror : Glass
- Extendable reach and easy to carry
- Mirror magnifies objects for better visibility

Order No.	Model No.	Mirror shape (mm)	A: Max Length (mm)	B: Telescope Length (mm)	Magnification	Weight
011195	IMTR-20R	Round 20	Approx. 525	Approx. 130 ~ 475	2	40g
011196	IMTR-30R	Round 30	Approx. 535	Approx. 130 ~ 475	2	40g
011197	IMTR-60R	Round 60	Approx. 560	Approx. 130 ~ 475	1.5	60g
011198	IMTR-50K	Oval 50x25	Approx. 555	Approx. 130 ~ 475	2	45g
NEW 011199	IMTR-80K	Oval 80x50	Approx. 575	Approx. 130 ~ 475	1.5	60g

STEREO MICROSCOPE

FIBER SCOPE

TECHNO-ENDOSCOPE

CIRCLE SCOPE

MICRO SCOPE

INSPECTION MIRROR

MAGNIFIER



MAGNETIC LIGHT STAND

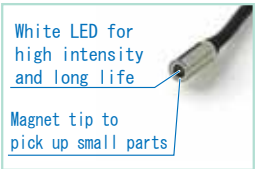
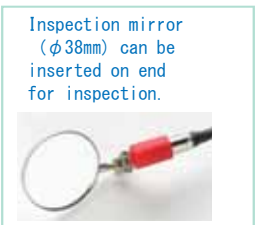


FEATURES

- Auxiliary lighting improves visibility and quality
- Ferrite magnet
- Holding force : 800N (180 lb)
- Strong magnet with ON/OFF lever for easy removal
- Light is concentrated on workpiece
- Flexible stem directs light where needed
- Includes light guard
- Bulb : AC100V、100Watt or less
- Bulb sold separately

Order No.	Model No.	Base Dimension (mm)	Height (mm)	Rated voltage	Rated Frequency	Weight
011090	MFR-100	50 x 60 x 55	440	AC100V	50-60Hz	1.7kg

FLEXIBLE LIGHT WITH MAGNET



FEATURES

- Locate and pick up small fasteners, temporary lighting for test, maintenance
- Flexible stem : Stainless steel
- With attached inspection mirror(38mm)
- LED for long usage life
- Adheres to steel surfaces for hands free operation
- Flexible stem conforms to any shape
- Magnet can also be used as pick-up tool
- Power : Three LR44 batteries included for testing

● Vehicle maintenance



● Microscope light



Order No.	Model No.	Continuous Lighting	Magnetic Force	Weight
011092	MFL-350M	Approx. 12 hrs	Tip 0.5N Bottom 10N	150g



CLIP ON HOBBY MAGNIFIER



USE Assembly of small parts, inspection

FEATURES

- Lens : Acrylic resin
- Body : ABS resin
- One touch mounting on glasses
- Small size

Order No.	Model No.	Magnification	Lens dimension (mm)	Weight
011255	RX-4825	2.5 x	25 x 50	40g
011256	RX-4835	3.5 x	25 x 50	40g

MAGNIFIER WITH BAND



USE Assembly of small parts, inspection

FEATURES

- Lens : Acrylic resin
- Body : ABS resin
- Adjustable belt tightens to stay secure on head freeing both hands for detailed work
- Light weight frame with velcro strap

Order No.	Model No.	Magnification	Lens dimension (mm)	Weight
011252	RX-58	2.5 x	190x260x45	100g
011253	RX-59	1.5x · 2 x · 3 x Three lens set	190x260x45	100g

HEAD LOUPE



Both hands free! Loupe with light for best efficiency and ease!

USE Assembly of small parts and inspection

MATERIAL Lens : Acrylic resin

FEATURES

- Adjustable belt tightens to stay secure on head freeing both hands for detailed work
- The attached light can move up, down, left, right to shine on workpiece
- With 4 interchangeable lenses to adjust magnification.

SPECIFICATIONS

- Battery life : approx. 3.5 hr with Alkaline battery
- Bulb life : approx. 800hr

POWER 2 AAA battery (2pc)

ACCESSORIES

- Lens (4 pcs)
- Cleaning cloth
- Bulb cap
- Light bulb (already attached)



Order No.	Model No.	Product Name	Magnification	Lens Diameter (mm)	Weight
111230	HMG-4L	Head loupe	1.2 · 1.8 · 2.5 · 3.5	50 x 103	116g
111231	HMG-4LB	Replacement bulb for HMG-4L			2g
111232	1.2 x	Replacement lens for HMG-4G	1.2	50 x 103 x 4	17g
111233	1.8 x	Replacement lens for HMG-4G	1.8	50 x 103 x 6	26g
111234	2.5 x	Replacement lens for HMG-4G	2.5	50 x 103 x 8	30g
111235	3.5 x	Replacement lens for HMG-4G	3.5	50 x 103 x 12	42g

STEREO MICROSCOPE

FIBER SCOPE

TECHNO-ENDOSCOPE

CIRCLE SCOPE

MICRO SCOPE

INSPECTION MIRROR

MAGNIFIER



ILLUMINATED MAGNIFIER WITH LED LIGHT



10x magnification loupe with power-saving LED light



USE Lighted magnifier

MATERIAL

Lens (external): Glass
Lens (Internal): Acrylic

FEATURES

Magnifier with LED light for convenient inspection

POWER

2pcs, C size cells (not included)

Order No.	Model No.	Lens Diameter (mm)	Magnification	Length (mm)	Weight
NEW111238	M-100	30	10	180	90g

ILLUMINATED MAGNIFIER WITH LED LIGHT



2x magnification loupe with power-saving LED light



USE Magnifying glass with light

MATERIAL

Lens : glass

FEATURES

With long-life LED light

POWER

2 pcs, AAA batteries (not included)

Order No.	Model No.	Lens Diameter (mm)	Magnification	Length (mm)	Weight
NEW111239	M-320	80	2	235	194g



ILLUMINATED MAGNIFIER WITH LED LIGHT

Durable 10x & 15x high magnification lens with LED light! A high performance magnifier.



USE Lighted magnifier

MATERIAL

Lens: glass
Body: ABS resin

FEATURES

Magnifier with LED light for convenient inspection
With protective carrying case

SPECIFICATIONS

Battery life: Approx. 40 hrs with alkaline battery
【LED part specifications】
Diameter : approx. 5mm
Voltage: 3V
Luminosity: 8,000 ~ 10,000mcd
LED Life: approx. 40,000 hrs
Directional angle: approx. 30 °
3 pcs, AAA cells (not included)

Order No.	Model No.	Lens Diameter (mm)	Magnification	Length (mm)	Weight
111236	LFL-10	30	10	105	41g
111237	LFL-15	20	15	105	49g

WOOD HANDLE MAGNIFIER

PLASTIC HANDLE MAGNIFIER



STEREO MICROSCOPE

FIBER SCOPE

TECHNO-ENDOSCOPE

CIRCLE SCOPE

MICROSCOPE

INSPECTION MIRROR

MAGNIFIER



No.1430



No.7507

FEATURES

Scratch resistant glass lens
Check edge of knife, use to examine many small parts
Lens : Glass

FEATURES

Bifocal lens
Lens : Acrylic resin
One piece frame of smooth, durable
Lightweight lens

Order No.	Model No.	Lens Diameter (mm)	Magnification	Length (mm)	Weight
011264	No.1430	75	2.5 x	185	129g
011265	No.1450	100	2 x	235	256g

Order No.	Model No.	Lens Diameter (mm)	Magnification	Length (mm)	Weight
011266	No.7507	75	2x·4x	185	55g
011267	No.7515	90	2x·4x	210	86g



POCKET MAGNIFIER



No.3150



No.3122-P

USE Slide into handle for convenient storage
 Lens : Acrylic resin
 with protective carrying case
 Bifocal lens

Order No.	Model No.	Lens Dimensions	Magnifications	Weight
011268	No.3150	60x50	3.5x·5x	24g
011269	No.3122-P	65	2.5x·4x	21g

POCKET MAGNIFIER

STEREO MICROSCOPE

FIBER SCOPE

TECHNO-ENDOSCOPE

CIRCLE SCOPE

MICROSCOPE

INSPECTION MIRROR

MAGNIFIER



No.7910



No.7920



No.7930

USE Slide into handle for convenient storage
 Lens : Acrylic resin

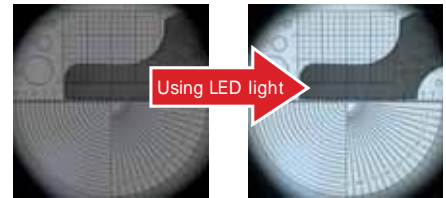
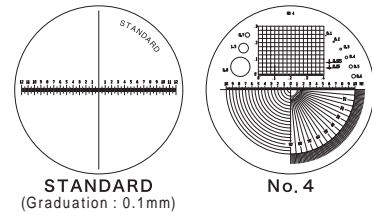
Order No.	Model No.	Lens Dimensions	Magnifications	Weight
011270	No.7910	36	4x	30g
011271	No.7920	36	4x 2pcs	50g
011272	No.7930	36	4x 3pcs	50g



LSL-26

LSL-35

(Scale plate)



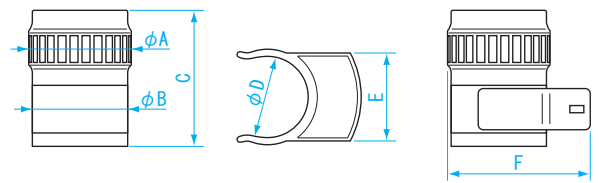
FEATURES

- With LED light to improve visibility for reading scale
- Lens : Glass
- Reticle with full width scale, can be used to measure dimensions and diameter of objects.
- Three LR41 batteries included for testing

ACCESSORIES

- 2 reticles (1 installed)
- 1 eyepiece cap
- 1 cleaning cloth

DIMENSIONS



Unit : mm

Model No.	A	B	C(Adjustable)	D	E	F
LSL-26	37.2	30.6	46.5 ~ 55.5	30	30.5	51.5
LSL-35	45	40	45 ~ 54	39.5	30.5	60

Order No.	Model No.	Magnification	Weight
140141	LSL-26	10 x	45g
140142	LSL-35	10 x	73g

SCALE LOUPE LIGHT



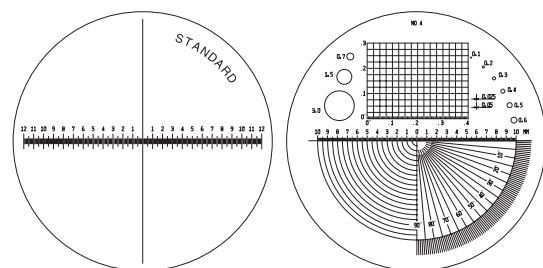
L-26

FEATURES

- Accessory light for scale loupe
- Light supplied with lighted scale loupe set (LSL-26, LSL-35) as separate item.

Order No.	Model No.	Weight
140143	L-26	10g
140144	L-35	11g

SCALE PLATE FOR LOUPE



STANDARD
(Graduation: 0.1mm)

No. 4

USE Reticle for scale loupe

FEATURES

Reticle for scale loupe (LSL-26, LSL-35) with pattern shown above.

Order No.	Model No.	Pattern	Applicable Model	Weight
NEW 140146	S-26-4	No.4	LSL-26	3g
NEW 140147	S-26-S	STANDARD	LSL-26	3g
NEW 140148	S-35-4	No.4	LSL-35	4g
NEW 140149	S-35-S	STANDARD	LSL-35	4g

STEREO MICROSCOPE

FIBER SCOPE

TECHNO-ENDOSCOPE

CIRCLE SCOPE

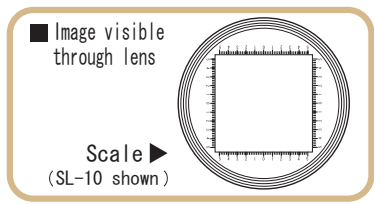
MICRO SCOPE

INSPECTION MIRROR

MAGNIFIER



SCALE LOUPE



SL-10

SL-15

USE Precision work, check edge of knife, use to examine many small parts

FEATURES
 Lens : Glass
 Case : Plastic
 Reticle with full width scale, can be used to measure dimensions and diameter of objects
 Reticle can be removed to use as standard loupe

Order No.	Model No.	Lens Diameter (mm)	Magnifications	Scale Graduation	Measurement Range (mm)	Weight
011274	SL-10	28	10 x	0.2mm	± 5	20g
011275	SL-15	20	15 x	0.1mm	± 3	15g

LOUPE



For precision work. Use to examine many small parts



L-10

L-15

USE For precision work

MATERIAL
 Lens : Glass

FEATURES
 Support allows use to place loupe directly on specimen to set focus distance
 Acrylic support for bright viewing

Order No.	Model No.	Lens Diameter (mm)	Magnification	Weight
011284	L-10	30	10	23g
011285	L-15	21	15	20g



HIGH POWER MAGNIFIER



HL-10

USE Check edge of knife, use to examine microfilm, jewelry appraisal etc.

FEATURES
Lens : Glass
Case : Plastic
High magnification for precision work

Order No.	Model No.	Lens Dimension (mm)	Magnification	Weight
011276	HL-10	28	10x	38g
011277	HL-15	21	15x	30g

METAL MAGNIFIER



No.7070

No.7020-W

USE Examining minerals, insects, plant etc.

FEATURES
Lens : Glass
Case : Stainless steels (Silver finish)
Useful tool for factory and office
Slide into case for storage

Order No.	Model No.	Lens Dimension (mm)	Magnification	Weight
011279	No.7070	20	3x·4x·5x	40g
011280	No.7020-W	8·13	10x·20x	60g

MAGNETIC STAND MAGNIFIER



USE For detailed work and inspection at factory

FEATURES
Lens : Glass
Flexible arm can be positioned as required
Holding force : 800N (180 lb)

Order No.	Model No.	Lens Diameter (mm)	Magnifications	Base Dimension (mm)	Weight
012876	SB-80K	100	2 x	50 x 60 x 55	1.4kg

STAND MAGNIFIER



USE For detailed work and inspection at factory

FEATURES
Lens : Glass
Base : Cast iron
Convenient to use with both hands free
Flexible arm can be positioned as required

Order No.	Model No.	Lens Diameter (mm)	Magnifications	Weight
011281	No.1650	90	2.5 x	890g

STEREO MICROSCOPE

FIBER SCOPE

TECHNO-ENDOSCOPE

CIRCLE SCOPE

MICROSCOPE

INSPECTION MIRROR

MAGNIFIER



STAND MAGNIFIER with Clips



USE Check edge of knife etc., use to examine many small parts

FEATURES
Lens : Glass
Base : Cast iron

Order No.	Model No.	Lens Diameter (mm)	Magnification	Weight
601264	CS-65	65	2.5 x	520g

STAND MAGNIFIER



USE Check edge of knife, use to examine many small parts

FEATURES
Lens : Glass
Base : Cast iron
Convenient to use with both hands free
Flexible arm can be positioned as required

Order No.	Model No.	Lens Diameter (mm)	Magnification	Weight
011282	No.1630	75	2.5x	450g

STEREO MICROSCOPE

FIBER SCOPE

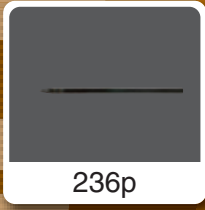
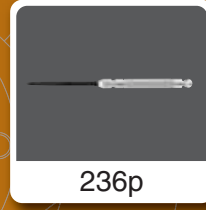
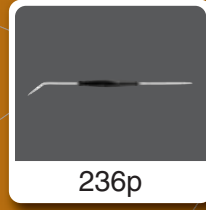
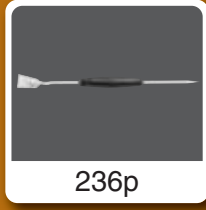
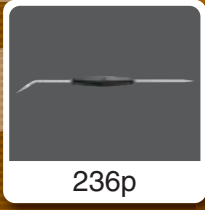
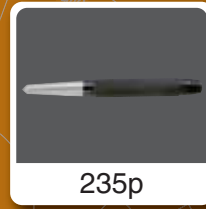
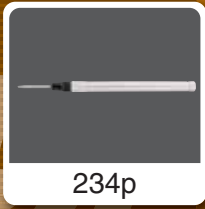
TECHNO-ENDOSCOPE

CIRCLE SCOPE

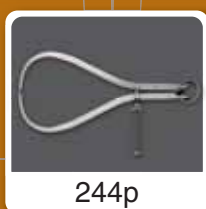
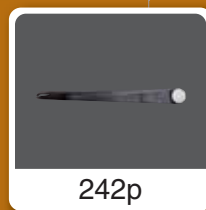
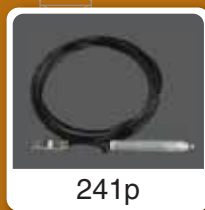
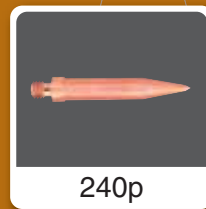
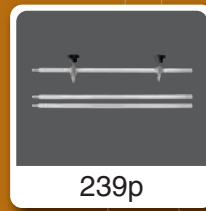
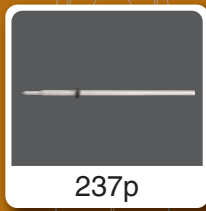
MICROSCOPE

INSPECTION MIRROR

MAGNIFIER



SCRIBE



- PUNCH
- SCRIBER
- POWER SCRIBE
- DIVIDERS
- CALIPERS
- TOOLMAKER SURFACE GAUGES

COMBINATION CARBIDE TIP SCRIBER AND AUTOMATIC PUNCH (S TYPE)



USE For center punch and marking work

MATERIALS

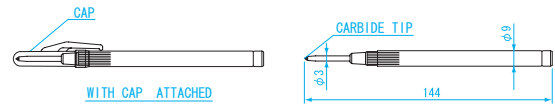
Body : Aluminum(anodized)
 Tip : Carbide tip(G5)
 Tip hardness : HRA87

FEATURES

Spring loaded, no need to use a hammer
 Can be used as center punch and as a scribe
 Strength of the driving force can be adjustable by rotating the rear cap
 Parts diagram is available at the end of this section

DIMENSIONS

Unit : mm



Punching work

Scribing work

Order No.	Model No.	Punch Force	Weight
000001	AP-S	98N	33g

CARBIDE TIP AUTOMATIC PUNCH (M TYPE)



USE For center punch

MATERIALS

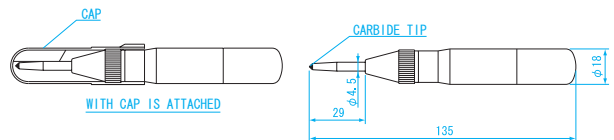
Body : Plastic
 Tip : Carbide tip(G5)
 Tip hardness : HRA87

FEATURES

Spring loaded, no need to use a hammer
 Strength of the driving force can be adjustable by rotating the rear cap
 Parts diagram is available at the end of this section

DIMENSIONS

Unit : mm



Punching work



Piercing empty spray can for safe disposal

Order No.	Model No.	Punch Force	Weight
000002	AP-M	294N	65g

CARBIDE TIP AUTOMATIC PUNCH (M2 TYPE)



USE For center punch

MATERIALS

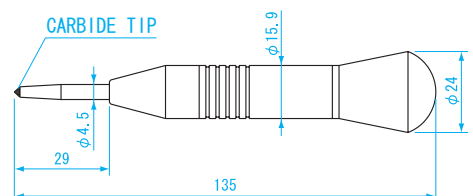
Body : Brass (nickel plated)
 Tip : Carbide tip(G5)
 Tip hardness : HRA87

FEATURES

Spring loaded, no need to use a hammer
 Strength of the driving force can be adjustable by rotating the rear cap

DIMENSIONS

Unit : mm



Order No.	Model No.	Punch Force	Weight
000004	AP-M2	294N	155g

CARBIDE TIP AUTOMATIC PUNCH



USE For center Punch

MATERIALS

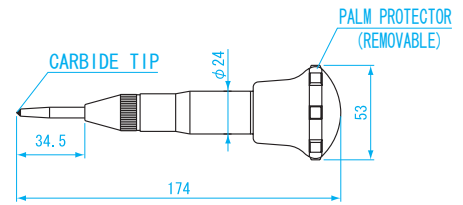
Body : Plastic
Tip : Carbide tip(G5)
Tip hardness : HRA87

FEATURES

Spring loaded, no need to use a hammer
Strength of the driving force can be adjustable by rotating the rear cap
Wide grip for palm protection. Can be used continuously without impact on hand
Parts diagram is available at the end of this section

DIMENSIONS

Unit : mm



Order No.	Model No.	Punch Force	Weight
000003	AP-L	490N	114g

CARBIDE TIP CENTER PUNCH

Pocket size

USE For punch work

MATERIALS

Body : Sulfur free cutting steel
Tip : Carbide tip(G5)

FEATURES

Ideal for work with small parts. with clip

Order No.	Model No.	Length (mm)	Knurled part Diameter (mm)	Tip angle	Weight
000020	PS	100	6	60 °	20g

CARBIDE TIP CENTER PUNCH



TCP-M

USE For punch work

MATERIALS

Body : Sulfur free cutting steel
Tip : Carbide tip(G5)

FEATURES

Black oxide knurled grip

Order No.	Model No.	Length (mm)	Knurled part Diameter (mm)	Tip angle	Weight
000021	TCP-S	77	8	85 °	36g
000022	TCP-M	100	10	85 °	59g
000023	TCP-L	110	15	85 °	137g
000024	TCP-LL	125	17	85 °	190g
000025	TCP-XL	177	20	85 °	320g



SCRIBER



K

N

09

USE For scribing work

MATERIALS Body : Carbon tool steel for machine use(nickel plated)
 Grip : Plastic
 Hardened tip
 Tip hardness : HV520 ~ 590

FEATURES Plated for rust resistance



Order No.	Model No.	Length (mm)	Diameter (mm)	Grip Length (mm)	Grip Diameter (mm)	Spatula Width (mm)	Weight
000150	K	240	5	82	15		46g
000151	N	240	5	82	15	20	48g

CARBIDE TIP SCRIBER

PUNCH

SCRIBER

POWER SCRIBER

DIVIDERS

CALIPERS

TOOLMAKER SURFACE GAUGES



KW

PKW

A

H

S

USE For scribing/drawing on steel, brass, plastic and glass

MATERIALS Tip : carbide tip(G2)
 Tip hardness : HRA87

FEATURES Carbide tip for use on hard steel or marking glass
 Low wear. The marking point is durable and will not burr
 Tip angle: 55 °

Order No.	Model No.	Length (mm)	Diameter (mm)	Grip Length (mm)	Grip Diameter (mm)	Material	Weight
000160	KW	224	4.5	-	-	Sulphur free-cutting steel	54g
000170	PKW	235	7	80	11	Carbon tool steel for machine use	70g
000180	A	170 (Stored 110)	5	97	10	Carbon steel	40g
000190	H	150	(HEX 6)	-	-	Carbon tool steel	50g
000200	S	156	6	-	-	Carbon tool steel	40g

SCRIBER

CARBIDE TIP SCRIBER (HANDY POCKET TYPE)

USE Scribing/drawing work on steel, brass, plastic and glass

MATERIALS Body : ABS resin
Tip : Carbide tip (G2)

FEATURES Carbide tip for use on hard steel or marking glass
Low wear. The marking point is durable and will not burr
Cap with clip for storage and carrying

SC-P10



Order No.	Model No.	Size	Length (mm)	Diameter (mm)	Carbide tip Dia. (mm)	Carbide tip Angle	Weight
000260	SC-P05	0.5mm	125	10	0.5	50 °	10g
000262	SC-P10	1.0mm	125	10	1.0	50 °	10g
000264	SC-P20	2.0mm	125	10	2.0	50 °	10g
000261	SC-PE05	Spare tip 0.5mm	-	-	0.5	50 °	5g
000263	SC-PE10	Spare tip 1.0mm	-	-	1.0	50 °	5g
000265	SC-PE20	Spare tip 2.0mm	-	-	2.0	50 °	5g

CARBIDE TIP SCRIBER (HANDY POCKET TYPE)

SC-P



SC-PDX



USE For scribing work

MATERIALS Body : Plastic (DX- metal)
Tip : Carbide tip (G2)

FEATURES
Clip for convenient carrying
Scriber tip retracts into body
Low wear. The marking point is durable and will not burr
Tip angle : 50 °

Order No.	Model No.	Standard	Tip Angle (mm)	Length (mm)	Diameter (mm)	Weight
000210	SC-P	-	1	145	7.2	26g
000215	SC-PDX	DX	1	132	8	30g

Replacement tip for Pencil scribers



MATERIALS

Tip holder : Brass
Tip : Carbide tip (G2)

Minimum order quantity : 5pcs

Order No.	Model No.	Tip Diameter (mm)	Length (mm)	Weight
000211	SC-PE	1	40	10g

DIAMOND TIP SCRIBER



USE For scribing work

MATERIALS Body : Aluminum
Tip : Diamond tip

FEATURES
Durable diamond tip for scribing on glass etc
Scriber tip retracts into body

Order No.	Model No.	Length (mm)	Diameter (mm)	Tip Diameter (mm)	Weight
000250	SC-D	138	8	2	19g

Replacement tip for Diamond tip scriber



MATERIALS

Body : Carbon tool steel
Tip : Diamond tip

Order No.	Model No.	Length (mm)	Diameter (mm)	Tip Diameter (mm)	Weight
000251	SC-DE	90	3.5	2	10g

PUNCH

SCRIBER

POWER SCRIBER

DIVIDERS

CALIPERS

TOOLMAKER SURFACE GAUGES

SCRIBE

CARBIDE TOOL SET



- USE** For scribing materials such as glass, brass, plastic, copper
For punch work
For scribing circles and dividing distances
- FEATURES** Plastic carrying case
- CONTENTS** Carbide tipped scriber KW
Carbide tipped center punch M
Carbide tipped dividers 150mm (one each)

Order No.	Model No.	Weight
000303	CTS-3	280g

CARBIDE TOOL SET

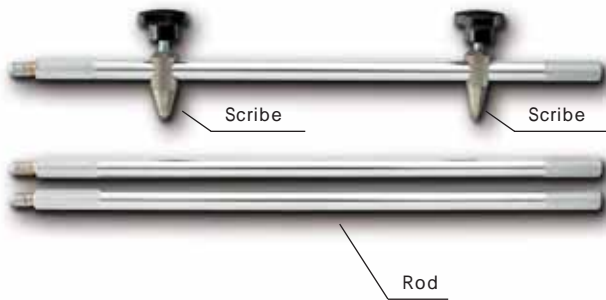
PUNCH
SCRIBER
POWER SCRIBE
DIVIDERS
CALIPERS
TOOLMAKER SURFACE GAUGES



- USE** For scribing work
- FEATURES** Metal case holds 8 tools
- CONTENTS** Stainless scale 150mm
Carbide tipped scriber KW
Carbide tipped center punch S
Carbide tipped center punch M
Carbide tipped dividers 100mm TFD-100
Carbide tipped dividers 150mm TFD-150
Carbide tipped dividers 250mm TFD-250
Hermaphrodite caliper 150mm FHC-150
(one each)

Order No.	Model No.	Weight
000308	CTS-8	1.5kg

BEAM TRAMMELS WITH CARBIDE TIP



USE For scribing steel

FEATURES

- Rod : Carbon tool steel (nickel plated)
- Scriber : Stainless steel
- Three rods will scribe a circle of approx. 1.5m
- Includes three bars
- Additional rods available (up to four rods can be combined)

Order No.	Model No.	Outside Diameter (mm)	Weight
000100	BT-13	10	800g



DIGITAL SCRIBING CALIPERS



Please refer to Page 33 for dimensions or detailed specifications for this item

USE Outside diameter, inside diameter, step and depth measurement, and also scribing

FEATURES

- Measuring and accurate marking work can be performed with this caliper
- Made of stainless steel
- Auto power off function(after 20min.)
- Carbide-tipped measuring faces
- One SR44 battery included for testing

Order No.	Model No.	Measuring Range (mm)	Resolution (mm)	Weight
152005	D-150S	0-150	0.01	160g

ATTACHEMENT SCRIBER FOR CALIPERS



USE Mounting on caliper for scribing

FEATURES

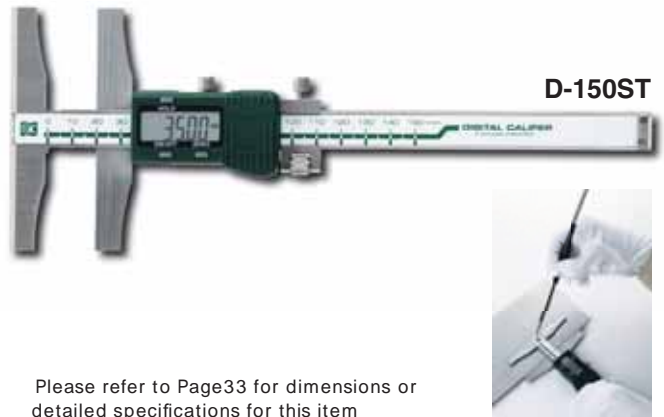
- Body : Carbon steel (black oxide coated)
- Tip : Carbide tipped (G2)
- Attach to the jaw of calipers for accurate scribing

Order No.	Model No.	Applicable caliper size	Length (mm)	Groove Width (mm)	Weight
000111	N-10	100mm	36	3.5	100g
000112	N-20	150-200mm	43	4	200g
000113	N-30	250-300mm	72	4.5	500g
000116	N-60	500-600mm	98	7	1.1kg



DIGITAL SCRIBING CALIPERS

Enables stable and high-accuracy scribing work



Please refer to Page 33 for dimensions or detailed specifications for this item

USE Measures distance from caliper base to scribe edge

MATERIAL Stainless steel

FEATURES

- Measuring and accurate marking work can be performed with this caliper
- Hold function

POWER

One CR2032 (Lithium) battery included for testing

Order No.	Model No.	Measuring Range (mm)	Resolution (mm)	Weight
151277	D-150ST	0-150	0.01	240g
151278	D-300ST	0-300	0.01	330g

ELECTRIC MARKING PENCIL



09

USE Iron, steel, hard metal marking

FEATURES

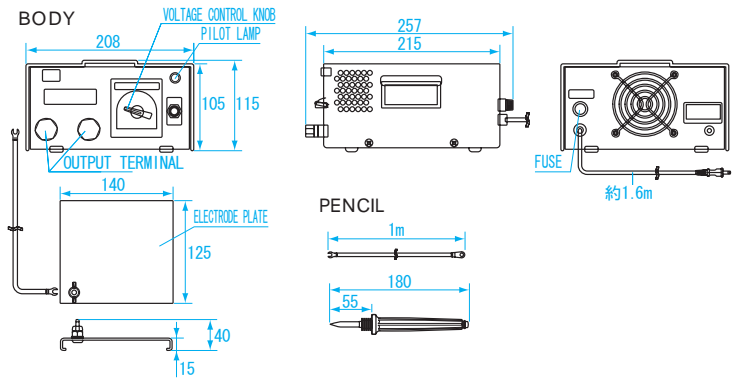
Body : steel
 Capable of marking conductive metals(iron, steel, stainless steel) Hard clean surface can be marked (Copper, aluminum, carbide can not be marked. Black oxide coated can not be marked because of poor conductance
 Tip alloy has superior abrasion resistance and electrical conductance

SPECIFICATIONS

Rated voltage : 100V
 Rated frequency : 50-60Hz
 Rated current : 4.2A
 Fuse : 5A (Diameter 6.4mm x Length 30mm)
 Power cord : 1.6m
 Product dimensions : (W) 115 x (D) 208 x (H)257mm
 Accessories includes :
 Cable with marking pen(approx. 1m)
 Cable with fine marking pen (approx. 1m)
 Grounding plate, Ground cable(approx. 1m)

DIMENSIONS

Unit : mm



PUNCH

SCRIBER

POWER SCRIBE

Order No.	Model No.	Weight
011716	EP-A3	9.5kg(includes accessories)

DIVIDERS

CALIPERS

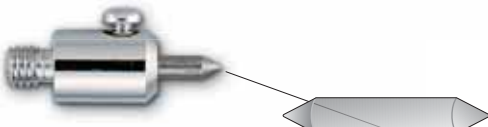
TOOLMAKER SURFACE GAUGES

SCRIBE

ELECTRIC MARKING PENCIL TIP



EPC-P

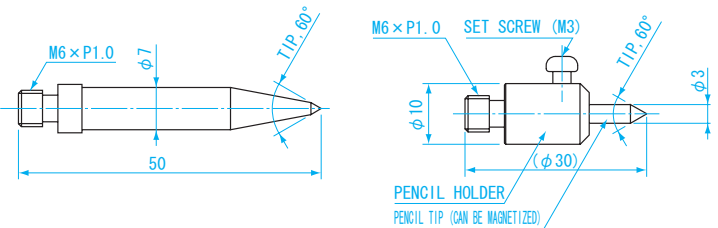


EPC-T

Reversible

DIMENSIONS

Unit : mm



Replacement for A3 Electric Marking Pencil

EPC-P : Standard tip supplied with A3

EPC-T : Excellent abrasion resistance, tip insert has two usable points

Order No.	Model No.	Material	Weight
011720	EPC-P	Copper alloy	13g
011724	EPC-T	Tungsten	10g

HANDY ELECTRIC MARKING PEN



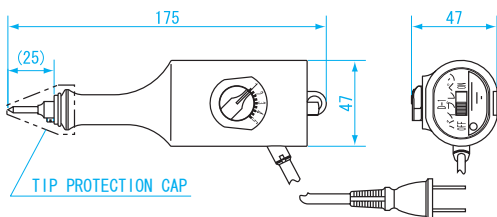
USE Marking on steel, aluminum, brass, plastic, copper, glass, stone, wood

FEATURES

- Body : ABS resin
- Tip : Hard metal (G2)
(Optional tip available)
- Adjustable vibration (5 steps)
- With Template
- Rated voltage : AC100V
- Rated frequency : 50-60Hz
- Rated power consumption : 7W
- Tip angle : 60 °
- Hardness limit of marking object : Less than HV510

DIMENSIONS

Unit : mm



【Application Table】 (...possible to mark / ×...will not mark)

Plastic	Glass	Non ferrous metal	Iron	Hardened steel	Stainless steel	Carbide alloy
				×		×

Order No.	Model No.	Weight
011700	D-1	250g

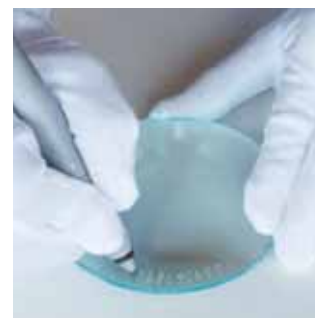
PNEUMATIC ENGRAVING PERFORATOR



Engraving tool powered by compressed air



for metal



for glass

USE Excellent for engraving metal, processed goods, cutlery, glass etc.
Engraving patterns on non ferrous metals.
Removing debris from fine details in castings.

MATERIAL Bit : Carbide

FEATURES

- 500 pulses per sec. for deep, clear engraving
- Can engrave hardened products (less than HV510)

SPECIFICATIONS

Air pressure : 0.4 ~ 0.7 MPa

【Marking Table】 (...possible ×...will not mark)

Plastic	Glass	Non ferrous metal	Iron	Hardened steel (Less than HV510)	Stainless steel	Carbide
						×

Order No.	Model No.	Weight
NEW 011751	AP-03	250g

PENCIL TIP for AP-03

Order No.	Model No.	Weight
NEW 011752	AP-PH3	4g

CARBIDE TIP FIRM JOINT HERMAPHRODITE CALIPERS

USE Transferring dimension o edge

FEATURES

Body : Carbon steel (black oxide coated)

Tip : Carbide tipped (G2)

Carbide tips for scribing on glass or hardened steel

Riveted construction



FHC-150

Order No.	Model No.	Nominal Size (mm)	Length (mm)	Thickness (mm)	Weight
000703	FHC-100	100	113	2	509
000705	FHC-150	150	161	2	709
000707	FHC-200	200	212	2.2	1009
000709	FHC-300	300	304	2.8	2009

CARBIDE TIP FIRM JOINT DIVIDER



TFD-150

USE Scribing circles and dividing distance

FEATURES

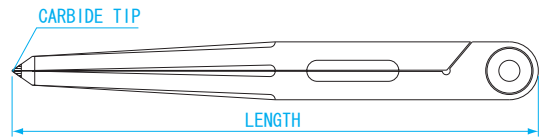
Body : Carbon steel (black oxide coated)

Tip : Carbide tip(G2)

Carbide tips for scribing on glass or hardened steel

Riveted construction with pin and washer

DIMENSIONS



Compass circle is approx. diameter of circle transcribed with jaws open 45 °angle.

Order No.	Model No.	Nominal Size (mm)	Length (mm)	Compass Circle (mm)	Weight
000403	TFD-100	100	100	150	709
000405	TFD-150	150	150	230	1409
000407	TFD-200	200	200	300	2609
000408	TFD-250	250	250	380	3509
000409	TFD-300	300	300	460	5109
000411	TFD-400	400	400	610	9009
000413	TFD-500	500	500	765	1.7k9
000414	TFD-600	600	600	920	2.1k9
000415	TFD-750	750	750	1150	2.6k9
000417	TFD-1000	1000	1000	1530	4.2k9

FIRM JOINT DIVIDER



FD-150

USE For scribing circles, and dividing distances

FEATURES

Body : Carbon tool steel for machine use

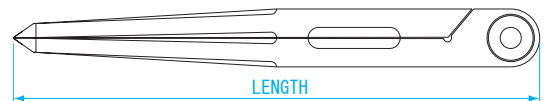
Tip : Hardened tip

Hardened tip for crisp scribing

Construction : Riveted with washer(FD-100 ~ FD-600) ;

Bolted(FD-750、 FD-1000)

DIMENSIONS



Compass circle is approx. diameter of circle transcribed with jaws open 45 °angle

Order No.	Model No.	Nominal Size (mm)	Length (mm)	Compass Circle (mm)	Weight
000503	FD-100	100	100	150	589
000505	FD-150	150	150	230	1359
000507	FD-200	200	200	300	2399
000508	FD-250	250	250	380	3409
000509	FD-300	300	300	460	4409
000511	FD-400	400	400	610	8209
000513	FD-500	500	500	765	1.63k9
000514	FD-600	600	600	920	2k9
000515	FD-750	750	750	1150	2.55k9
000517	FD-1000	1000	1000	1530	4k9

INSIDE CALIPER



IC-150



USE Transfer inside diameter and groove dimensions

FEATURES

Cold rolled steel

Smooth opening and closing enable correct size transfers for measurement

Order No.	Model No.	Length (mm)	Thickness (mm)	Weight
001103	IC-100	100	1.6	40g
001105	IC-150	150	1.6	50g
001107	IC-200	200	1.6	70g
001109	IC-300	300	2.0	150g
001111	IC-400	400	2.5	250g
001113	IC-500	500	3.2	440g
001114	IC-600	600	3.2	520g
001115	IC-750	750	3.2	720g
001117	IC-1000	1000	3.2	1.05kg

OUTSIDE CALIPERS



OC-150

USE Transfer diameters and measure round stock

FEATURES

Cold rolled steel

Smooth opening and closing enable accurate size transfers for measurement



Order No.	Model No.	Length (mm)	Thickness (mm)	Weight
001203	OC-100	100	1.6	40g
001205	OC-150	150	1.6	50g
001207	OC-200	200	1.6	70g
001209	OC-300	300	2.0	150g
001211	OC-400	400	2.5	250g
001213	OC-500	500	3.2	440g
001214	OC-600	600	3.2	520g
001215	OC-750	750	3.2	720g
001217	OC-1000	1000	3.2	1.05kg

HERMAPHRODITE CALIPERS



HC-150



USE Transfer dimensions on edge of material

FEATURES

Cold rolled steel

Smooth opening and closing
Can scribe brass and aluminum

Order No.	Model No.	Length (mm)	Thickness (mm)	Weight
001303	HC-100	100	1.6	30g
001305	HC-150	150	1.6	50g
001307	HC-200	200	1.6	70g
001309	HC-300	300	2.0	150g

DIVIDER (SPRING TYPE)

USE Scribing circles, and dividing distance

FEATURES

- Body : Carbon tool steel (SK steel)
- Hardened tip
- Opening/closing screw is centrally located in the legs to assure sensitive and smooth action



SD-150

Order No.	Model No.	Nominal Size (mm)	Length (Tip to Pivot Center)	Thickness (mm)	Weight
000805	SD-150	150	150mm	3.2	80g
000807	SD-200	200	200mm	3.2	120g

INSIDE CALIPERS (SPRING TYPE)

USE Transfer inside diameter and groove dimensions

FEATURES

- Body : Carbon tool steel
- Set to proper dimension, and move to scale for measurement
- Opening/closing screw is centrally located in the legs to assure sensitive and smooth action



SI-150

Order No.	Model No.	Nominal Size (mm)	Length (Tip to Pivot Center)	Thickness (mm)	Weight
000905	SI-150	150	150mm	3.2	80g
000907	SI-200	200	200mm	3.2	120g

OUTSIDE CALIPER (SPRING TYPE)

USE Transfer dimensions and measure round stock

FEATURES

- Body : Carbon tool steel
- Set to proper dimension, and move to scale for measurement
- Opening/closing screw is centrally located in the legs to assure sensitive and smooth action



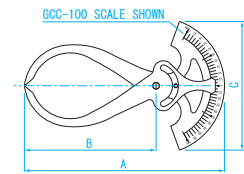
SO-200

Order No.	Model No.	Nominal Size (mm)	Length (Tip to Pivot Center)	Thickness (mm)	Weight
001005	SO-150	150	150mm	3.2	80g
001007	SO-200	200	200mm	3.2	120g



GCC-150

DIMENSIONS



Unit : mm

Model No.	A	B	C	Thickness
GCC-100	152	100	98	1.5
GCC-130	196	130	125	1.5
GCC-150	225	150	143	1.5
GCC-200	300	200	190	2.0
GCC-250	367	250	210	2.5
GCC-300	450	300	268	2.5
GCC-350	500	350	272	2.5
GCC-400	600	400	360	2.5
GCC-500	900	600	545	3.0
GCC-600	900	600	545	3.0

FEATURES

OD, ID, Thickness and groove measurement

FEATURES

Stainless steel (Hardened tip)

Graduated in millimeters from the center by photo etching on the head of the calipers

Combination calipers are engineered for measuring both inner and outer diameters.

Order No.	Model No.	Nominal Size (mm)	Graduation (mm)	Accuracy (mm)	Weight
002003	GCC-100	100	1	± 0.5	100g
002004	GCC-130	130	1	± 0.5	180g
002005	GCC-150	150	1	± 0.5	250g
002007	GCC-200	200	1	± 0.5	500g
002008	GCC-250	250	1	± 0.5	720g
002009	GCC-300	300	1	± 0.5	1.0kg
002010	GCC-350	350	1	± 0.5	1.3kg
002011	GCC-400	400	1	± 0.5	1.7kg
002013	GCC-500	500	1	± 0.5	3.8kg
002014	GCC-600	600	1	± 0.5	4.0kg

TOOL MARKER SURFACE GAUGE



PUNCH

SCRIBER

POWER SCRIBE

DIVIDERS

CALIPERS

TOOLMAKER SURFACE GAUGES

SCRIBE



TSG-150C



USE Alignment work, scribing on steel

MATERIAL

Scribe : Carbon tool steel (Hardened scribe tip)

Base : Cast iron

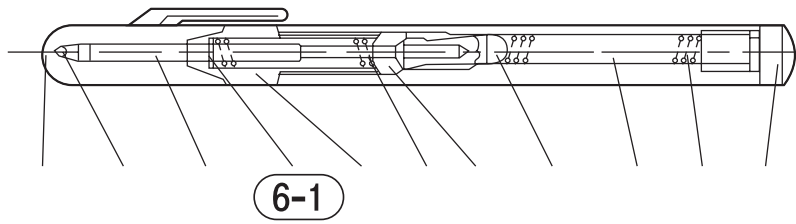
FEATURES

Scribe height can be easily adjusted by sliding up or down in slotted hole.

Order No.	Model No.	Nominal Size (mm)	Scribe Length (mm)	Length (mm)	Base Length (mm)	Base Width (mm)	Base Height (mm)	Weight
151188	TSG-150C	150	130	150	70	45	23	460g
151189	TSG-200C	200	170	200	70	45	23	490g
151190	TSG-300C	300	265	300	80	55	25	690g

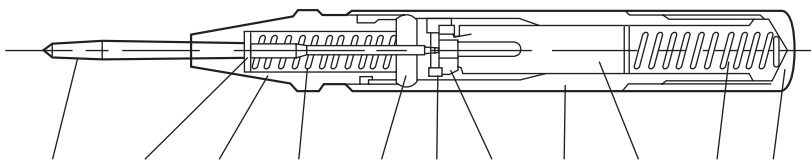
AUTOMATIC PUNCH PARTS DRAWINGS

Automatic Center Punch S

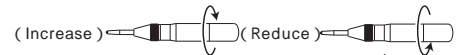


Parts No.	Parts Name	Parts No.	Parts Name	Parts No.	Parts Name
	PORT CAP		ECCENTRIC GUIDE		MAIN SPRING
	HAMMER GUIDE		MARKER ROD		RETURN SPRING
	PILOT CAP	6-1	E-RING		CAP
	HAMMER		CENTER POINT		

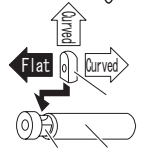
Automatic Center Punch M



Impact strength adjustment.
(AP-S, AP-M, AP-L)

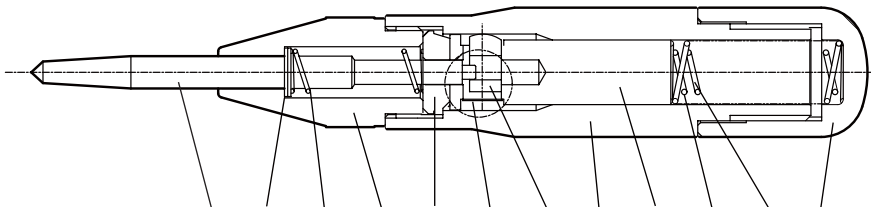


After assembly, carefully loosen cap, gradually tighten cap while doing test shots to test impact. If necessary to improve trigger response, impact strength should be increased.



Parts No.	Parts Name	Parts No.	Parts Name	Parts No.	Parts Name
	CAP		TRIGGER		MARKER ROD
	MAIN SPRING		HAMMER		PILOT CAP
	TRIGGER GUIDE		STOP RING		GUIDE
	SPRING TRIGGER		RETURN SPRING		

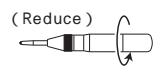
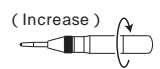
Automatic Center Punch L



Impact strength adjustment

After assembly, carefully loosen cap, gradually tighten cap while doing test shots to test impact.

If necessary to improve trigger response, impact strength should be increased.



Parts No.	Parts Name	Parts No.	Parts Name	Parts No.	Parts Name
	MARKING ROD		STOP RING		TRIGGER GUIDE
	PILOT CAP		HAMMER		MAIN SPRING
	RETURN SPRING		TRIGGER		SUB SPRING
	GUIDE LOCK		SPRING TRIGGER		CAP

PUNCH

SCRIBER

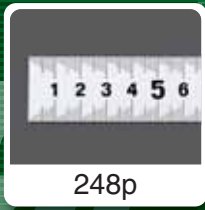
POWER SCRIBE

DIVIDERS

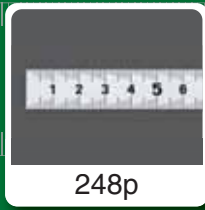
CALIPERS

TOOLMAKER SURFACE GAUGES

SCRIBE



248p



248p



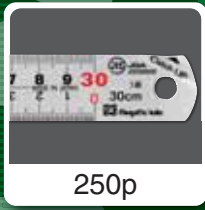
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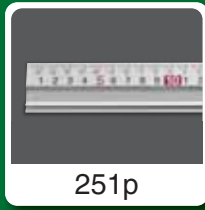
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250p



250p



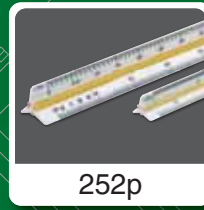
251p



251p



252p



252p

SCALE



253p



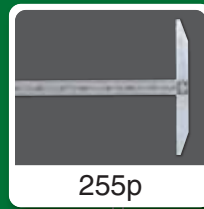
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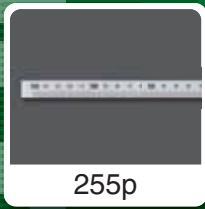
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254p



255p



255p



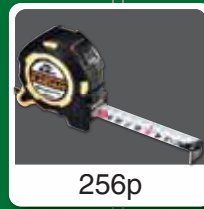
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256p



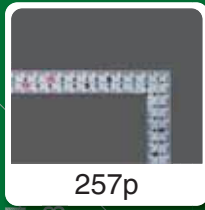
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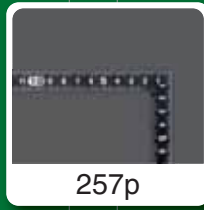
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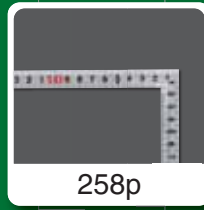
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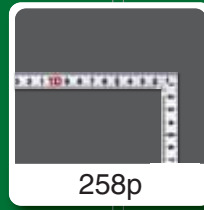
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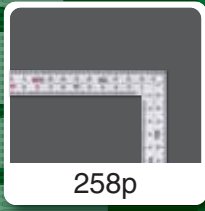
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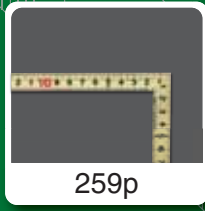
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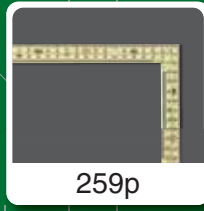
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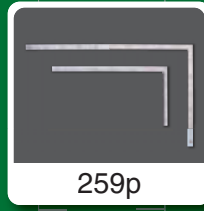
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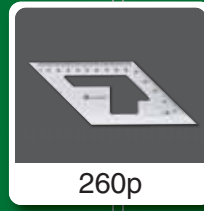
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259p



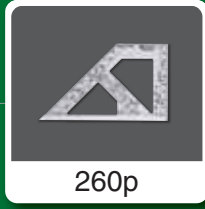
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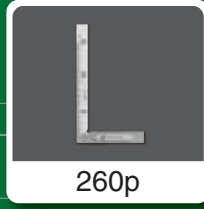
260p



260p



260p



260p

RULES

CARPENTER'S
SQUARES

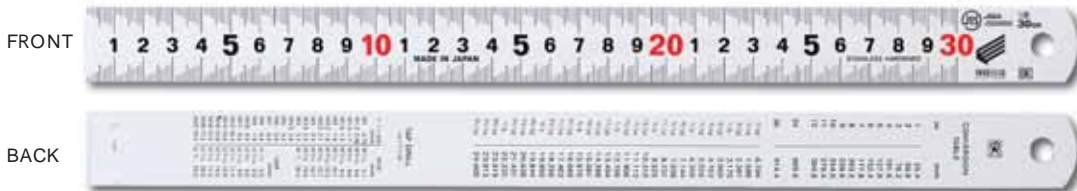
ANGLE
SQUARES

SATIN SCALE -- K Aidan (Ziggurat) scale

New stepped millimeter graduations prevents misreading



SV-15KD



SV-30KD



USE For measuring dimensions, drawing a straight line and/or scribing

MATERIAL
Stainless steel(SUS420J2)

FEATURES
 increasing height of each mark makes it easier for eye to distinguish 1mm steps
 Repeating number style
 Edges are finished smooth to prevent marring surfaces
 JIS B7516
 Satin finish

Order No.	Model No.	Size (mm)	Finish	Accuracy (mm)	Length (mm)	Width (mm)	Thickness (mm)	Weight
NEW 111097	SV-15KD	150	Satin	±0.15	175	15	0.5	10g
NEW 111098	SV-30KD	300	Satin	±0.15	335	25	1	65g
NEW 111099	SV-60KD	600	Satin	±0.20	640	30	1.2	181g
NEW 111100	SV-100KD	1000	Satin	±0.20	1050	35	1.5	425g

RULES SATIN SCALE -- K Aidan (Ziggurat) Scale, Narrow Type

New stepped millimeter graduations prevents misreading

CARPENTER'S SQUARES
ANGLE SQUARES

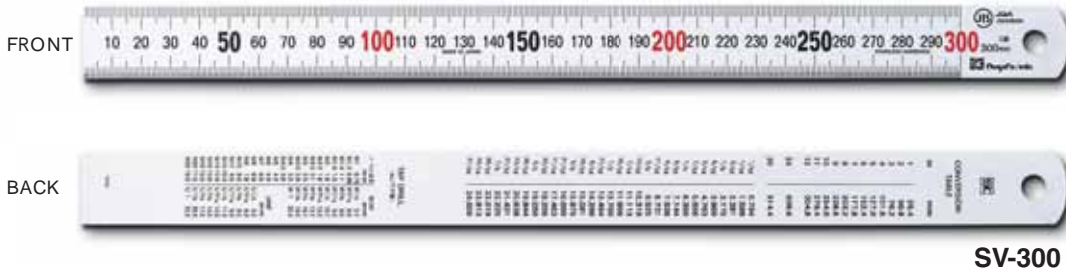


USE For measuring dimensions, drawing a straight line and/or scribing

MATERIAL
Stainless steel(SUS420J2)

FEATURES
 Increasing height of each mark makes it easier for eye to distinguish 1mm steps
 Repeating number style
 Thin, Narrow type, can also be mounted on machine
 Edges are finished smooth to prevent marring surfaces
 Satin finish

Order No.	Model No.	Size (mm)	Finish	Accuracy (mm)	Length (mm)	Width (mm)	Thickness (mm)	Weight
NEW 111164	HS-30KD	300	Satin	±0.15	325	15	0.5	18g



SV-300

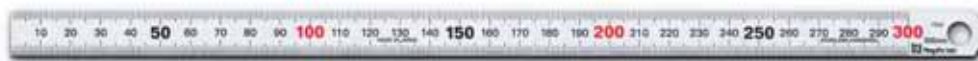
USE For measuring distance, drawing a straight line and/or scribing

MATERIAL
Stainless steel (SUS420J2)

FEATURES
JIS B7516

Order No.	Model No.	Nominal Size (mm)	Finish	Accuracy (mm)	Length (mm)	Width (mm)	Thickness (mm)	Weight
111101	ST-150	150	Polished	± 0.15	175	15	0.5	10g
111102	ST-300	300	Polished	± 0.15	335	25	1	65g
111103	ST-600	600	Polished	± 0.20	640	30	1.2	180g
111104	ST-1000	1000	Polished	± 0.20	1050	35	1.5	425g
506108	ST-1500	1500	Polished	± 0.25	1565	40	2	950g
506109	ST-2000	2000	Polished	± 0.30	2065	40	2	1250g
111106	SV-150	150	Satin	± 0.15	175	15	0.5	10g
111107	SV-300	300	Satin	± 0.15	335	25	1	65g
111108	SV-600	600	Satin	± 0.20	640	30	1.2	180g
111109	SV-1000	1000	Satin	± 0.20	1050	35	1.5	425g
111160	SV-1500	1500	Satin	± 0.25	1565	40	2	950g
111161	SV-2000	2000	Satin	± 0.30	2065	40	2	1250g

METAL RULES- NARROW TYPE



USE For measuring distance, drawing a straight line and/or scribing

MATERIAL
Stainless steel (SUS420J2)

FEATURES
Conforms to measured surface, can also be mounted on machine
Thin and narrow ruler
Satin finish

Order No.	Model No.	Nominal Size (mm)	Accuracy (mm)	Length (mm)	Width (mm)	Thickness (mm)	Weight
506022	HS-300	300	± 0.15	325	15	0.5	18g

KAIDAN(Ziggurat) CATCH-UP SCALE



Easy to pick up with on hand
New stepped millimeter graduations prevents misreading



CU-15KD



CU-30KD



USE For measuring dimensions, drawing a straight line and/or scribing

MATERIAL

Stainless steel (SUS420J2)

FEATURES

- Increasing height of each mark makes it easier for eye to distinguish 1mm steps
- Sequential number style can be read directly without checking the surrounding numbers. 2mm point markings
- Bent up edge makes scale easy to pick up with one hand.
- Edges are finished smooth to prevent marring surfaces
- JIS B7516
- Satin finish

Order No.	Model No.	Size (mm)	Finish	Accuracy (mm)	Length (mm)	Width (mm)	Thickness (mm)	Weight
NEW 111158	CU-15KD	150	Satin	±0.15	175	15	0.5	10g
NEW 111159	CU-30KD	300	Satin	±0.15	335	25	1	65g

CATCH-UP SCALE



Press on edge to lift. Easy to pick up with on hand



CU-30



USE For measuring dimensions, drawing a straight line and/or scribing

MATERIAL

Stainless steel (SUS420J2)

FEATURES

- Bent up edge makes scale easy to pick up with one hand.
- Edges are finished smooth to prevent marring surfaces
- JIS B7516

Order No.	Model No.	Size (mm)	Finish	Accuracy (mm)	Length (mm)	Width (mm)	Thickness (mm)	Weight
111170	CU-15	150	Satin	± 0.15	175	15	0.5	10g
111171	CU-30	300	Satin	± 0.15	335	25	1	65g
111172	CU-60	600	Satin	± 0.20	640	30	1.2	180g
111173	CU-100	1000	Satin	± 0.20	1050	35	1.5	425g

ALUMINUM RULER--KAIDAN(Ziggurat)



Increasing height of each mark makes it easier for eye to distinguish 1mm steps



AS-30

USE For measuring distance, cutting and/or scribing

MATERIAL
Aluminum

FEATURES
Increasing height of each mark makes it easier for eye to distinguish 1mm steps
Two color printing (Navy & Red), easy to distinguish the lines and graduations when drawing
Centered-zero secondary markings on some models (AS-30 · AS-60 · AS-100)
With anti-slip sheet (except AS-15), and grip groove.

Order No.	Model No.	Size (mm)	Center-zero secondary marking (Yes/No)	Accuracy (mm)	Length (mm)	Width (mm)	Thickness (mm)	Weight
111165	AS-15	150	None	± 0.16	180	35	5	36g
111166	AS-30	300	Yes	± 0.20	330	35	5	65g
111167	AS-45	450	None	± 0.25	480	35	5	95g
111168	AS-60	600	Yes	± 0.28	630	35	5	124g
111169	AS-100	1000	Yes	± 0.40	1030	35	5	203g

ALUMINUM CUTTING RULER--KAIDAN(Ziggurat)



Optimal for cutting with no-slip backing and Stainless plate



ACS-60



With Stainless steel plate to protect blade when used as cutting guide

USE For measuring dimensions, drawing a straight line, cutting and/or scribing

MATERIAL
Aluminum

FEATURES
Increasing height of each mark makes it easier for eye to distinguish 1mm steps
Two color printing (Navy & Red), easy to distinguish the lines and graduations when drawing
Centered-zero secondary markings.
Anti-slip back sheet and Stainless steel back plate.

Order No.	Model No.	Size (mm)	Center-zero secondary marking (Yes/No)	Accuracy (mm)	Length (mm)	Width (mm)	Thickness (mm)	Weight
NEW 006851	ACS-60	600	Yes	± 0.28	630	61	9	330g
NEW 006852	ACS-100	1000	Yes	± 0.40	1030	61	9	530g
NEW 006853	ACS-150	1500	Yes	± 0.55	1530	61	9	770g
NEW 006854	ACS-200	2000	Yes	± 0.70	2030	61	9	1020g

ALUMINUM CUTTING RULER WITH HANDLE--KAIDAN(Ziggurat)



Optimal for cutting with no-slip backing and Stainless plate. Handle to help stabilize work



ACS-60H



Handle has slot for blade removal



With Stainless steel plate to protect blade when used as cutting guide.

USE For measuring dimensions, drawing a straight line, cutting and/or scribing

MATERIAL

Aluminum

FEATURES

Increasing height of each mark makes it easier for eye to distinguish 1 mm steps

Handle to help stabilize work while cutting

Slot in handle for snapping utility knife blade

Two color printing (Navy & Red), easy to distinguish the lines and graduations when drawing

Centered-zero secondary markings.

Anti-slip back sheet and Stainless steel back plate.

Order No.	Model No.	Size (mm)	Center-zero secondary marking (Yes/No)	Accuracy (mm)	Length (mm)	Width (mm)	Thickness (mm)	Weight
NEW 006855	ACS-60H	600	Yes	±0.28	630	61	58	500g
NEW 006856	ACS-100H	1000	Yes	±0.40	1030	61	58	700g
NEW 006857	ACS-150H	1500	Yes	±0.55	1530	61	58	940g
NEW 006858	ACS-200H	2000	Yes	±0.70	2030	61	58	1190g

KAIDAN(Ziggurat) TRIANGLE SCALE



New stepped millimeter graduations prevents misreading.



TSB-30KD

TSB-15KD

USE Drafting, for reading scaled drawing.

MATERIAL

ABS

FEATURES

Increasing height of each mark makes it easier for eye to distinguish 1 mm steps

Scale specification

Scale : 1/20, 1/50, 1/100, 1/200, 1/250, 1/300

Order No.	Model No.	Length (mm)	Width (mm)	Thickness (mm)	Weight
NEW 111148	TSB-15KD	170	18	16	15g
NEW 111149	TSB-30KD	325	27	24	60g

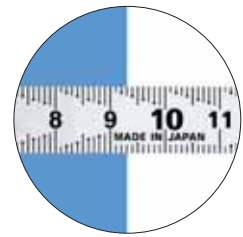
RULES

CARPENTER'S SQUARES

ANGLE SQUARES

SCALE

New stepped millimeter graduations prevents misreading



USE For measuring dimensions, drawing and marking work

MATERIAL
Stainless steel (SUS420J2)

FEATURES
 Increasing height of each mark makes it easier for eye to distinguish 1 mm steps
 Sequential number style can be read directly without checking the surrounding numbers.
 2mm point markings
 Can be used as depth gauge by sliding clip along scale.
 With clip for easy carrying
 Edges are finished smooth to prevent marring surfaces
 Satin finish



With clip for easy carrying

Order No.	Model No.	Size (mm)	Finish	Length (mm)	Width (mm)	Thickness (mm)	Weight
009903	SVC-15KD	150	Satin	160	12	0.5	8g

METAL SCALE WITH CLIP



SVC-150

USE For measuring distance, drawing a straight line and/ or scribing

MATERIAL
Stainless steel (SUS420J2)

FEATURES
 Clip for easy carrying
 Slide is helpful for measure depth and steps
 Satin finish (SVC-150)
 Polished finish (STC-150)

Order No.	Model No.	Nominal Size (mm)	Length (mm)	Width (mm)	Thickness (mm)	Weight
009902	SVC-150	150	160	12	0.5	8g
009901	STC-150	150	160	12	0.5	8g

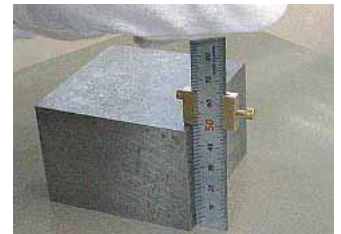
SCALE DEPTH GAUGE Attachment



SD-300



SD-6010



USE For accurate marking and measurement for width, height and depth

MATERIAL
Brass (SD-150、SD-300) Aluminum (SD-6010)

FEATURES
Slide to any position on scale. Screw tightens for setting
Convenient size for metal and woodworking use
Attachable to JIS rules

Order No.	Model No.	Type	Length (mm)	Thickness (mm)	Weight
006843	SD-150	For 150mm Scale	15	5	20g
006844	SD-300	For 300mm Scale	20	6	90g
006845	SD-6010	For 600・1000mm Scale	30	13	26g

DEPTH SCALE



Scale with depth gauge attachment! Repeated marking with efficiency!

RULES

CARPENTER'S SQUARES

ANGLE SQUARES

FRONT



BACK



SD-300S

USE Accurate marking, and measuring if component depth, height, width.

MATERIAL
Scale: Stainless Steel (SUS420J2)
Depth attachment: Brass

FEATURES
Scale with depth gauge attachment
Edges are finished smooth to prevent marring surfaces

Order No.	Model No.	Size (mm)	Length (mm)	Width (mm)	Thickness (mm)	Weight
006846	SD-150S	150	175	32	5	20g
006847	SD-300S	300	335	45	6	86g

SCALE

T -SQUARE



TT-100

USE Measurement and marking dimensions relative to an end face.

MATERIAL

Base: Aluminum
Scale: Stainless Steel (SUS420J2)

FEATURES

Make measurements or markings relative to an end face.

Order No.	Model No.	Size	Accuracy (mm)	Length (mm)	Width (mm)	Thickness (mm)	Weight
111228	TT-100	1m	± 0.20	1300	300	16	640g
111229	TT-200	2m	± 0.30	2400	300	16	1530g

MACHINE SCALE - custom

Custom Designs with Fast Delivery!
Please contact us with request



Center ' 0 ' scale



Standard scale
Sample of custom design

APPLICATIONS

Size measurements
For attaching to fixtures and machines

MATERIALS

Stainless steel (SUS420J2)
Satin finish

SPECIFICATIONS

Units : mm

Size	50	100	150	200	300	600	1000	1500	2000
Width	15								
Thickness	0.5								
Width	20								
Thickness	0.5 or 1.0								

Scales are available with "0" on end , or "0" at center

Custom sizes can be provided in addition to the standard sizes listed.

New stepped millimeter graduations prevents misreading.

ALCP-1955KD



ALCP-2555KD



ALCP-1620KD



ALCP-1635KD



RULES Increasing height of each mark makes it easier for eye to distinguish 1mm steps

CARPENTER'S SQUARES

ANGLE SQUARES

USE Measure dimensions

MATERIAL

Body: ABS, Rubber
Tape: SK4 tool steel (Nylon coated)

FEATURES

Increasing height of each mark makes it easier for eye to distinguish 1mm steps
Repeating digit type for large, easy to read numbers.
Auto-lock engages when tape is pulled to prevent retraction
Water resistant Nylon-coated tape
Tape standard: JIS class 1
Non-slip rubber grip



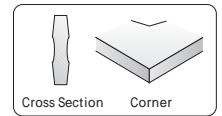
With belt clip and strap for easy carrying

SCALE

Order No.	Model No.	Max measuring length (m)	Tape width (mm)	Weight
NEW 111196	ALCP-1620KD	2.0	16	110g
NEW 111197	ALCP-1635KD	3.5	16	140g
NEW 111198	ALCP-1955KD	5.5	19	270g
NEW 111199	ALCP-2555KD	5.5	25	340g

SATIN STEEL SQUARE -- K Aidan(Ziggurat), Single Marking

New stepped millimeter graduations prevents misreading.



USE Measure dimensions and marking for stone or metal work.

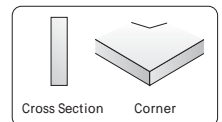
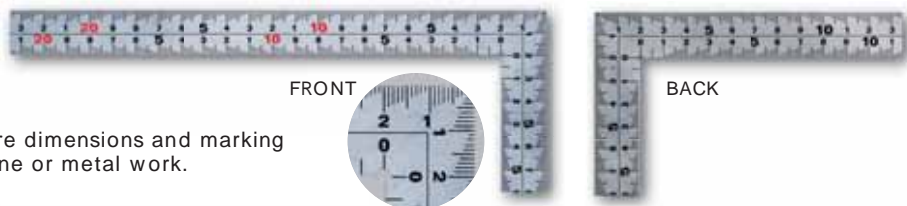
MATERIAL
Stainless (SUS420J1)

FEATURES
Increasing height of each mark makes it easier for eye to distinguish 1 mm steps
Repeating digit type for large, easy to read numbers.
Same graduations on both edges for easy marking

Order No.	Model No.	Size	Type	Graduations	Length (mm)	Length (mm)	Width (mm)	Thickness (mm)	Weight
New 111188	SDD-30CKD	30cm	Constant thickness	four edge	320	160	15	1.3	50g
New 111189	SDD-50CKD	50cm	Constant thickness	four edge	520	260	15	1.5	90g

SATIN STEEL SQUARE -- K Aidan(Ziggurat), Wide type

New stepped millimeter graduations prevents misreading.



USE Measure dimensions and marking for stone or metal work.

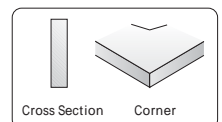
MATERIAL
Stainless steel

FEATURES
Increasing height of each mark makes it easier for eye to distinguish 1 mm steps
Repeating digit type for large, easy to read numbers.
Wide, scale for inner and outer measurements

Order No.	Model No.	Size	Type	Graduations	Length (mm)	Length (mm)	Width (mm)	Thickness (mm)	Weight
New 111190	MT-30KD	30cm	Wide	four edge	320	160	20	2.0	145g
New 111191	MT-50KD	50cm	Wide	four edge	520	260	20	2.0	235g

STEEL CARPENTER SQUARE -- K Aidan(Ziggurat) Type

New stepped millimeter graduations prevents misreading.



USE Measure dimensions and marking for carpentry work.

MATERIAL
Steel

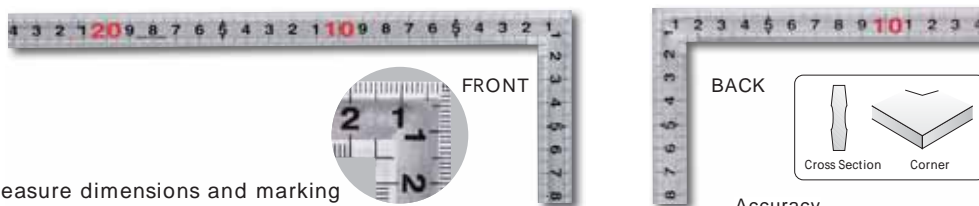
FEATURES
Increasing height of each mark makes it easier for eye to distinguish 1 mm steps
Sequential number style can be read directly without checking the surrounding numbers. 2mm point markings

Order No.	Model No.	Size	Type	Graduations	Length (mm)	Length (mm)	Width (mm)	Thickness (mm)	Weight
New 111192	CB-15KD	30cm	Constant thickness	top - 4 edge/ reverse - 2 edge	325	165	15	1.2	68g

SATIN CARPENTER'S SQUARE [OURYU]



Sheet metal workshop essential!



USE Measure dimensions and marking for carpentry and sheet metal work.

MATERIAL Stainless (SUS420J1)

FEATURES Pliable and sturdy for long life.

Accuracy

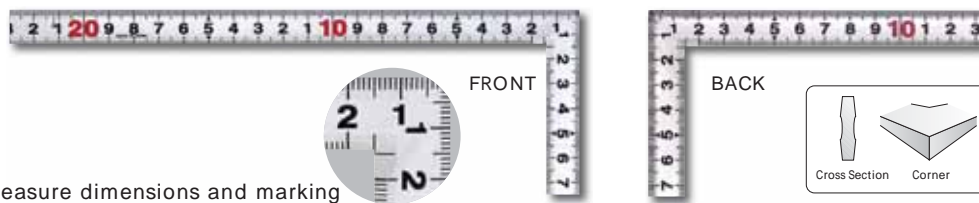
Model No.	Squareness	Length Tolerance
FSDD-50C	less than 0.07mm per 100mm	500mm ± 0.2mm
SDD-50C	less than 0.1mm per 100mm	500mm ± 0.2mm
SDD-30C	less than 0.1mm per 100mm	300mm ± 0.2mm

Order No.	Model No.	Size	Type	Graduations	Length (mm)	Length (mm)	Width (mm)	Thickness (mm)	Weight
111185	FSDD-50C	50cm	High precision	four edge	520	260	15	1.3	90g
111184	SDD-50C	50cm	Constant thickness	four edge	520	260	15	1.3	90g
111183	SDD-30C	30cm	Constant thickness	four edge	320	160	15	1.3	50g

SATIN CARPENTER'S SQUARE -- Metalworker's [SEIRYU]



Metal workshop essential!



USE Measure dimensions and marking for carpentry and metal work.

MATERIAL Stainless (SUS420J1)

FEATURES Pliable and sturdy for long life.

Accuracy

Model No.	Squareness	Length Tolerance
M-50	less than 0.1mm per 100mm	500mm ± 0.2mm
M-30	less than 0.1mm per 100mm	300mm ± 0.2mm

Order No.	Model No.	Size	Type	Graduations	Length (mm)	Length (mm)	Width (mm)	Thickness (mm)	Weight
111176	M-50	50cm	Rolled corner	four edge	520	260	15	1.3	90g
111177	M-30	30cm	Rolled corner	four edge	320	160	15	1.3	50g

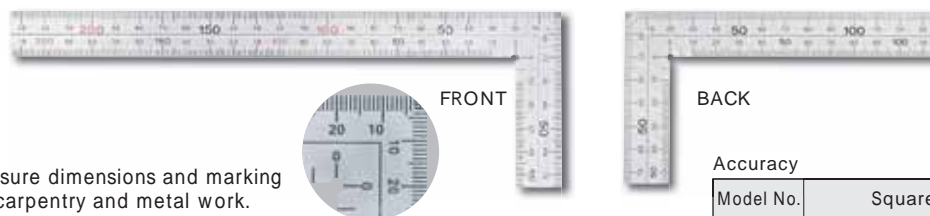
RULES

SATIN CARPENTER'S SQUARE - Thick / Thin Types [GINRYU]



CARPENTER'S SQUARES

Metal workshop essential! Wide, with thick or thin blade.



USE Measure dimensions and marking for carpentry and metal work.

MATERIAL Thick type: Stainless steel
Thin Type: Hardened Stainless Steel

FEATURES Wide, same graduations on both edges for easy marking

Accuracy

Model No.	Squareness	Length Tolerance
MT-50	less than 0.1mm per 100mm	500mm ± 0.2mm
MT-30	less than 0.1mm per 100mm	300mm ± 0.2mm
MT-15	less than 0.1mm per 100mm	150mm ± 0.2mm
TH-50	less than 0.1mm per 100mm	500mm ± 0.2mm
TH-30	less than 0.1mm per 100mm	300mm ± 0.2mm

Order No.	Model No.	Size	Type	Graduations	Length (mm)	Length (mm)	Width (mm)	Thickness (mm)	Weight
111178	MT-50	50cm	Wide, thick	four edge	520	260	20	2.0	235g
111179	MT-30	30cm	Wide, thick	four edge	320	160	20	2.0	145g
111180	MT-15	15cm	Wide, thick	four edge	170	90	20	2.0	78g
111181	TH-50	50cm	Wide, thin	four edge	520	260	20	1.0	120g
111182	TH-30	30cm	Wide, thin	four edge	320	160	20	1.0	75g

ANGLE SQUARES

SCALE

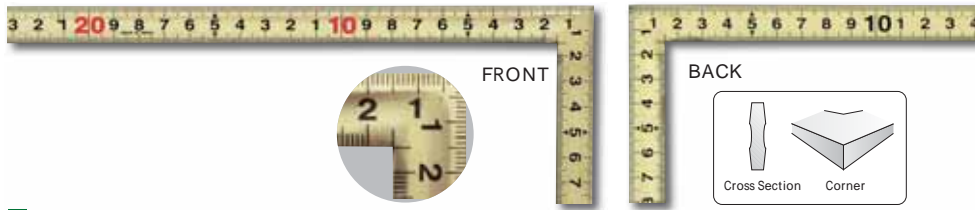
CARPENTER'S SQUARE - Ironworker's [TOBI]



Oil repelling coating makes scale easy to read!



JIS mark indicates that product is certified compliant to JIS (Japan Industrial Standards) quality requirements.
JIS B 7516 Metal Rules
JIS B 7514 Metal Squares



Oil repelling coating



Lanyard hole for safety rope

USE Measuring dimensions, checking right angles, marking work.

MATERIAL Stainless (SUS420J1)

FEATURES Lanyard hole for safety rope

Accuracy

Model No.	Squareness	Length Tolerance
GCT-30C	less than 0.1mm per 100mm	300mm ± 0.2mm

Order No.	Model No.	Size	Type	Graduations	Length (mm)	Length (mm)	Width (mm)	Thickness (mm)	Weight
111186	GCT-30C	30cm	Gold-coat	four edges	320	160	15	1.3	60g

SCALE

10

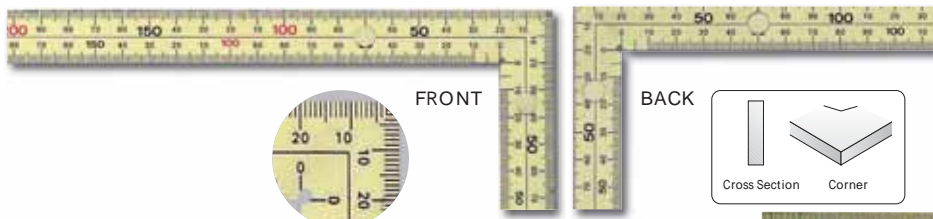
WIDE CARPENTER'S SQUARE - Ironworker's, Magnetized [TOBI]



Oil repelling coating makes scale easy to read!



JIS mark indicates that product is certified compliant to JIS (Japan Industrial Standards) quality requirements.
JIS B 7516 Metal Rules
JIS B 7514 Metal Squares



Oil repelling coating



Powerful magnet

Lanyard hole for safety rope

USE Measuring dimensions, checking right angles, marking work.

MATERIAL Stainless steel

FEATURES Powerful magnet firmly holds to metal. Position at right angle with one hand.

Accuracy

Model No.	Squareness	Length Tolerance
GWT-30CMG	less than 0.1mm per 100mm	300mm ± 0.2mm

Order No.	Model No.	Size	Type	Graduations	Length (mm)	Length (mm)	Width (mm)	Thickness (mm)	Weight
111187	GWT-30CMG	30cm	Gold-coat	four edge	320	160	20	2.0	142g

RULES

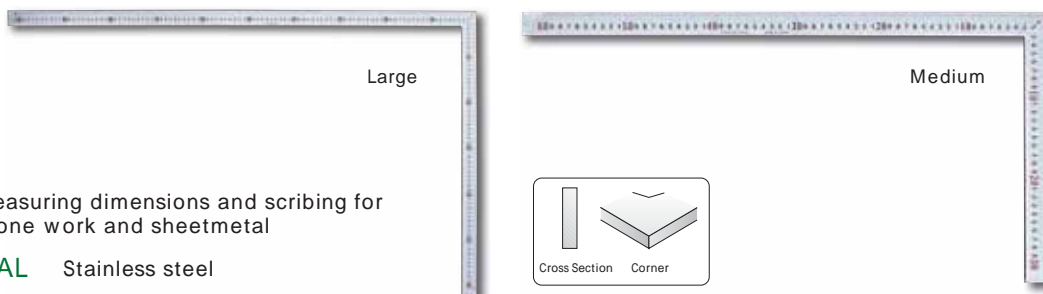
CARPENTER'S SQUARES

ANGLE SQUARES

Medium/Large Metal



Sheet metal workshop essential! Measure dimensions, check right angles, and marking work.



USE Measuring dimensions and scribing for stone work and sheet metal

MATERIAL Stainless steel

FEATURES For working with large material

Order No.	Model No.	Size	Type	Graduations	Length (mm)	Length (mm)	Width (mm)	Thickness (mm)	Weight
111175	MT-100	100cm	Large	both side, two edge	1026	629	35	3.6	1090g
111174	MT-60	60cm	Medium	both side, two edge	631	325	30	2.0	420g

SCALE

ANGLE SCRIBING SQUARE



SCALE

10



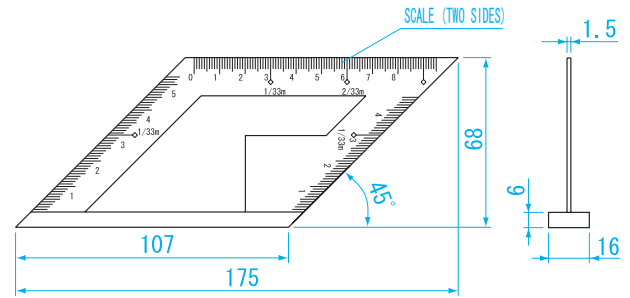
ASQ-175AL



ASQ-175SS

DIMENSIONS

Units : mm



Order No.	Model No.	Scale	Graduation	Weight
006822	ASQ-175AL	Graduated	mm	47g
006823	ASQ-175SS	Graduated	mm Shaku	126g

ANGLE SCRIBING SQUARE

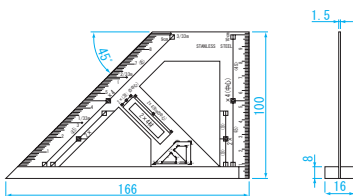


ANGLE SCRIBING SQUARE



DIMENSIONS

Units : mm



Marking 45°



Speed square



USE

For marking boards for square and bevel cuts, for measuring 90° and length

MATERIAL

Stainless steel

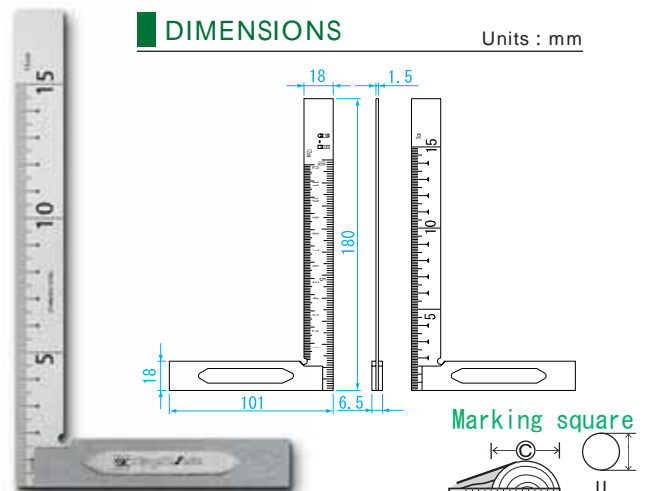
FEATURES

Graduated in mm, Shaku

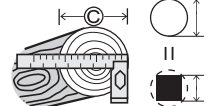
Order No.	Model No.	Base Dimension (mm)	Scale Dimensions (mm)	Weight
506086	ASQ-100SS	166 × 8 × 16	160 × 100 × 1.5	230g

DIMENSIONS

Units : mm



Marking square



Dimensions of a square can be determined for a measured diameter (Ø) using the reverse side scale.

USE

Measuring right angles, size

MATERIAL

Stainless steel

FEATURES

Front : Graduated in mm
Back : Graduated in mm length of inscribed square

Order No.	Model No.	Nominal Size (mm)	Dimensions (L × W × T) (mm)	Weight
506082	SQ-150SS	150	178 × 100 × 7	105g

RULES

CARPENTER'S SQUARES

ANGLE SQUARES

SCALE



263p



263p



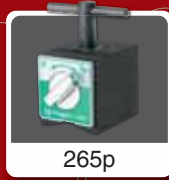
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264p



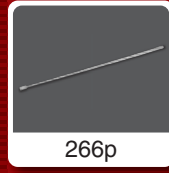
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266p



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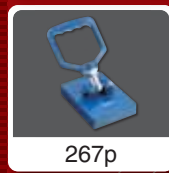


267p

MAGNETIC TOOLS



267p



267p



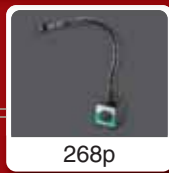
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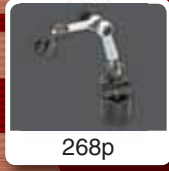
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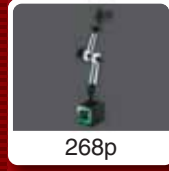
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268p



268p



268p



269p



270p



270p



271p



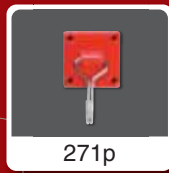
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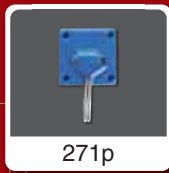
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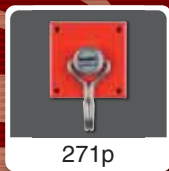
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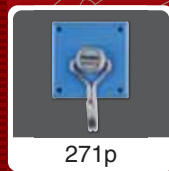
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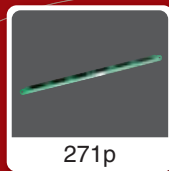
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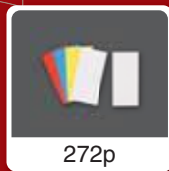
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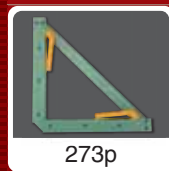
273p



273p



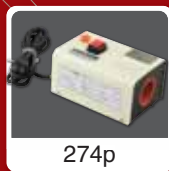
273p



273p



274p



274p

MAGNETIC HOLDER

MAGNETIC TOOLS

FERRITE MAGNET

RARE EARTH MAGNET

MAGNETIC HOOK

MAGNETIC SHEET

WELDING MAGNET

MAGNETIC TOUCH

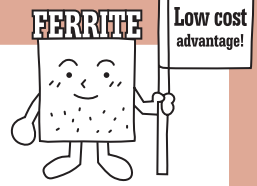


Reference

Magnet Types and Characteristics

Ferrite Magnet

The main component is iron oxide. Ferrite magnets are used in various type of goods and products such as automotive motors, audio speakers, etc.



Advantage	Low cost, corrosion-resistant, does not rust and very little degradation of the magnetic force
Disadvantage	Fragile. High set up costs make this type ill-suited for custom designs in low volume.
Temperature characteristics	Thermal demagnetization is large. Magnetic force is greatly reduced at temperatures above 100 °C, and magnetic force is halved in an environment of 200 °C.
Magnetic Properties	Anisotropic: Has preferred direction of magnetization with large magnetic field strength. Isotropic: Can be magnetized in any direction. Isotropic magnets have weaker magnetic field strength.

Rare Earth Magnet

Samarium cobalt magnets and Neodymium magnets. High magnetic flux density and coercive force makes these types well suited for applications which require a small, flat size.



Samarium cobalt

Advantage	Excellent corrosion resistance and temperature stability
Disadvantage	Poor mechanical strength and workability
Temperature characteristic	Relatively low thermal demagnetization. Up to 300 °C, most of magnetic force will be recovered upon return to room temperature.



Neodymium

Advantage	One of the highest magnetic properties of common types. Excellent mechanical strength, hard without tendency to chip or crack.
Disadvantage	Not suitable for high temperature applications, and easy to rust
Temperature characteristics	Thermal demagnetization is particularly large. Not suitable for use above 80 °C.

Alnico

Iron alloyed with aluminum, nickel, and cobalt. Elongated shape, this type is commonly used in meters and communication equipment which demand precision.



Advantage	High magnetic flux density and temperature stability. Also has excellent mechanical strength.
Disadvantage	Low holding force, and susceptible to demagnetization. High price instability due to main raw materials of cobalt and nickel.
Temperature characteristic	The lowest thermal demagnetization characteristics. Up to 400 °C, most of magnetic force will be recovered upon return to room temperature.

MAGNETIC HOLDER -Alnico-



- USE** For holding drawings, stencils and rulers to surface
For holding items during processing
- MATERIALS** Alnico magnet
Steel
- FEATURES** Durable and resistant to high temperature

Order No.	Model No.	Magnet Dimensions (mm)	Screw Hole Size	Maximum Pull Force	Weight
012750	SKM-0005	5 × 13	-	1.8N	8g
012751	SKM-0007	7 × 13	-	4N	8g
012710	SKM-001	10 × 15	-	8N	10g
012740	SKM-001TN	10 × 18	M5 × P0.8	8N	10g
012715	SKM-0015	15 × 15	-	12N	20g
012741	SKM-0015TN	15 × 18	M5 × P0.8	12N	20g
012720	SKM-002	20 × 15	-	30N	30g
012742	SKM-002TN	20 × 18	M5 × P0.8	30N	40g
012801	SKM-01	25 × 30	M6 × P1.0	80N	120g
012802	SKM-02	25 × 25 × 25	M6 × P1.0	65N	120g
012803	SKM-03	57 × 25 × 25	M6 × P1.0	120N	270g
012804	SKM-04	40 × 30	M8 × P1.25	300N	290g
012805	SKM-05	50 × 40	M8 × P1.25	400N	610g

MAGNETIC HOLDER -Samarium cobalt-



- USE** Embed into stamping dies, hold work during EDM(Electric Discharge Machining)
- MATERIALS** Samarium cobalt magnet
- FEATURES** Thin and high magnetic intensity

Order No.	Model No.	Product Dimensions (mm)	Maximum Pull Force	Weight
012735	SKT-0010	10 × 8	30N	8g
012736	SKT-0018	18 × 8	50N	20g
012737	SKT-0025	25 × 10	90N	30g



MAGNETIC HOLDER

MAGNETIC TOOLS

FERRITE MAGNET

RARE EARTH MAGNET

MAGNETIC HOOK

MAGNETIC SHEET

WELDING MAGNET

MAGNET TOUCH

MAGNETIC TOOLS



MAGNETIC HOLDER anisotropic ferrite with yoke

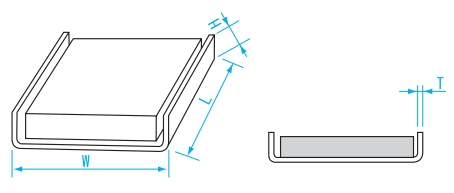


25L



49L

DIMENSIONS



USE Can be used to attach parts of a mold, attaching jig to workpiece

MATERIAL Anisotropic ferrite magnet

FEATURES Anisotropic ferrite magnet in combination with iron yoke provide a strong magnetic field, concentrated in one direction.
5mm hole can be used to mount magnet (25L only)
Rough dimensions are not suitable for precise positioning of jig or fixture

Order No.	Model No.	L (mm)	W (mm)	H (mm)	T (mm)	Maximum Pull Force	Weight
012670	20L	20	8	4	0.6	10N	5g
012671	24L	24	14	5.5	1.0	20N	10g
012672	25L	25.5	23.5	6.5	1.4	60N	20g
012673	45L	45	30	7	1.6	150N	50g
012674	49L	49	41	13	2.0	200N	120g
012675	60L	60	24	7	1.4	150N	50g

MAGNETIC HOLDER anisotropic ferrite with yoke



24R

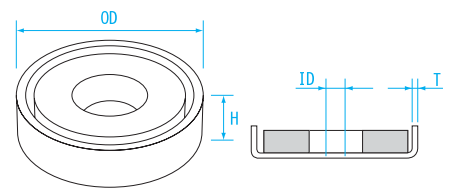


44R



20R

DIMENSIONS



USE Can be used to attach parts of a mold, attaching jig to workpiece

MATERIALS Anisotropic ferrite magnet

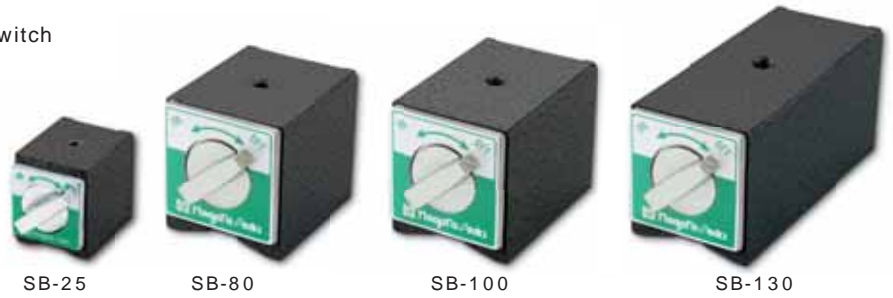
FEATURES Anisotropic ferrite magnet in combination with iron yoke provide a strong magnetic field, concentrated in one direction.
Hole can be used to mount magnet. (20R, 44R only)
Rough dimensions are not suitable for precise positioning of jig or fixture

Order No.	Model No.	OD (mm)	H (mm)	ID (mm)	T (mm)	Maximum Pull Force	Weight
012650	18R	18	5		0.6	9.8 N	5g
012651	20R	20	4	3.5	0.8	19 N	10g
012652	24R	24	5		0.8	29 N	10g
012653	36R	36	7		1.6	68 N	30g
012654	44R	44	8	4.5	1.6	98 N	50g

MAGNETIC HOLDER

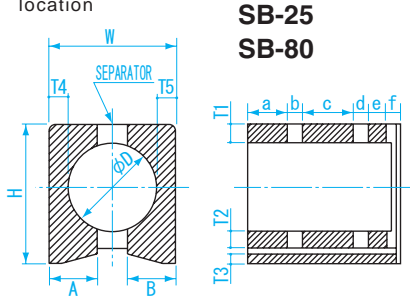


- USE** Magnetic holder with ON/OFF switch
- MATERIALS** Ferrite magnet
- FEATURES** Compact and High-magnetic intensity

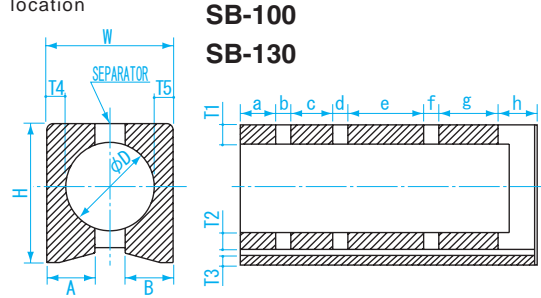


DIMENSIONS

Allowable machining location



Allowable machining location



Shade areas indicate where items can be machined or holes added (holding force will be reduced)

Units : mm

Model No.	Ref. Fig.	H	W	A	B	D	T1	T2	T3	T4	T5	a	b	c	d	e	f	g	h
SB-25		35	30	10	10	24.2	4	2	2	3	6.5	5	6	14	-	-	9	-	-
SB-80		55	50	19	19	35.4	7	7	7	7	12	12.5	6	22	6	7	6.5	-	-
SB-100		55	50	19	19	35.4	7	7	7	7	12	13	6	11	6	20	6	5.5	5.5
SB-130		55	50	19	19	35.4	7	7	7	7	12	14	6	15	6	31	6	25	14

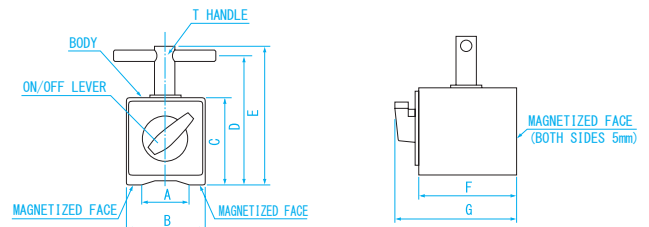
Order No.	Model No.	Maximum Pull Force	Screw Diameter	Surface magnetic flux density (mT)	Weight
012885	SB-25	Approx. 250N	M5 × P0.8	Max 100	200g
012886	SB-80	Approx. 800N	M8 × P1.25	Max 100	1kg
012887	SB-100	Approx. 1000N	M8 × P1.25	Max 100	1.2kg
012888	SB-130	Approx. 1300N	M10 × P1.25	Max 100	1.9kg

MAGNETIC RULER HOLDER WITH HANDLE



SB-80TH

DIMENSIONS



Units : mm

Model No.	A	B	C	D	E	F	G
SB-80TH	40	50	55	85	90	60	75
SB-100TH	40	50	55	85	90	73	88
SB-130TH	40	50	55	85	90	117	132

- USE** Hold ruler to workbench for scribing
- MATERIALS** Ferrite magnet
ON/OFF lever : Aluminum alloy
- FEATURES** Compact magnet with strong holding force

Order No.	Model No.	Maximum Pull Force	Screw Diameter	Surface magnetic flux density (mT)	Weight
012791	SB-80TH	Approx. 800N	M8 × P1.25	Max 100	1.1kg
012792	SB-100TH	Approx. 1000N	M8 × P1.25	Max 100	1.3kg
012793	SB-130TH	Approx. 1300N	M8 × P1.25	Max 100	2kg

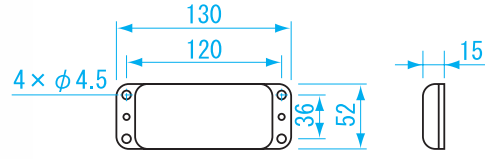


PLATE MAGNET

- USE** Collecting pieces of iron
- MATERIALS** Ferrite magnet



DIMENSIONS Units : mm



Order No.	Model No.	Maximum Pull Force	Weight
012895	MP-130	600N	350g

TELESCOPING PICK UP MAGNET

- USE** Pick up small parts from hard-to-reach places
- MATERIALS** Alnico magnet
- FEATURES** Pocket sized
Includes clip for carrying in pocket



Order No.	Model No.	Maximum Pull Force	Stalk Length (mm)	Magnet Dimensions (mm)	Weight
012905	PMA-490	3.9N	135 ~ 490	10 x 20	50g

PICK UP MAGNET

- MAGNETIC HOLDER
- MAGNETIC TOOLS
- FERRITE MAGNET
- RARE EARTH MAGNET
- MAGNETIC HOOK
- MAGNETIC SHEET
- WELDING MAGNET
- MAGNETIC TOUCH

Straight type



PM-10R

Flexible type

- FEATURES** Stalk is flexible and freely bent to any desired position



PMF-10R

Spring type

- FEATURES** Wound spring extends under handle for durability
Useful for removing filings from hole after drilling or tapping into iron components



PMS-10R3

- USE** Pick up small parts from hard-to-reach places
- MATERIALS** Alnico magnet

Order No.	Model No.	Type	Magnetic Force	Stalk Length (mm)	Magnet Dimension (mm)	Weight
012920	PM-10R	Straight	4.9N	290	10 x 20	100g
012925	PM-15R	Straight	7.8N	290	15 x 30	100g
012910	PMF-10R	Flexible	6.8N	330	10 x 20	100g
012915	PMF-15R	Flexible	15.6N	330	15 x 20	100g
012961	PMS-5R3	Spring	1.7N	300	5 x 30	10g
012962	PMS-10R3	Spring	7.8N	300	10 x 30	50g
012963	PMS-10R6	Spring	7.8N	600	10 x 30	100g
012964	PMS-26R3	Spring	11.7N	300	15 x 30	50g

RELEASING MAGNETIC FINDER WITH WHEELS



Sample of Use



How to Use

Sweep over nails, needles or iron scrap.
Pull the lever to release



USE Picking up nails, needles and iron scraps

MATERIALS Ferrite magnet
Body : Aluminum

FEATURES Equipped with wheels, easy to maneuver with one hand
Telescoping handle for a long reach

SPECIFICATIONS Maximum Pull Force : Approx. 80N(18 lb) 1.8 x 34mm iron nails, approx. 350pcs (250g)
Telescoping Length : Approx. 725 ~ 1040mm
Receiver Surface : 320 x 55mm
Wheel Diameter : Approx. 95mm

Order No.	Model No.	Weight
160211	SS-30	1.2kg

HAND MAGNET



MAGNET LIFTER



MAGNETIC HOLDER

MAGNETIC TOOLS

FERRITE MAGNET

RARE EARTH MAGNET

MAGNETIC HOOK

MAGNETIC SHEET

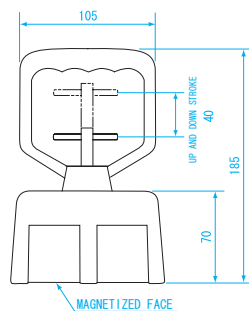
WELDING MAGNET

MAGNETIC TOUCH

MAGNETIC TOOLS

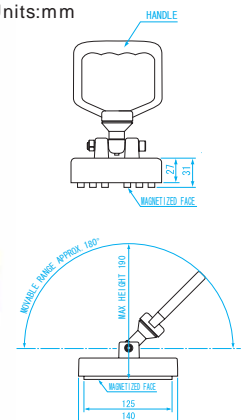


DIMENSIONS Units:mm



DIMENSIONS

Units:mm



USE For picking up metal scraps

MATERIALS Ferrite magnet
Body : Steel

FEATURES
Magnet ON/OFF with simple lever action

Order No.	Model No.	Maximum Pull Force	Weight
160221	HM-10	Approx. 80N (18 lb)	1.1kg

USE For carrying plate of magnetic material

MATERIALS Ferrite magnet
Body : Steel

FEATURES
Magnet ON/OFF with simple lever action

Order No.	Model No.	Maximum Pull Force	Weight
160225	ML-150	Approx. 1500N (340 lb)	2.1kg



MAGNET BASE

Refer to Dial Gauge Section for detailed specifications (P90 ~ 94)



Model No.	SB-6C
Type	Standard



Model No.	SB-6B
Type	with Fine Adjustment



Model No.	SB-80P
Type	Extra Thick Main Post



Model No.	SB-80F
Type	Flexible



Model No.	SB-100G
Type	with Lock



Model No.	SB-25M
Type	Mini



Model No.	B-2
Type	Mini



Model No.	B-3
Type	Mini / Fine Adjustment type



Model No.	B-4
Type	Mini/ Fine Adjustment/ Long



Model No.	B-5
Type	Universal/ Mini



Model No.	MB-6
Type	Universal/ Mini/ Fine Adjustment



Model No.	MB-7
Type	Mini/ Lock

MAGNETIC TOOLS

11

MAGNETIC HOLDER
MAGNETIC TOOLS
FERRITE MAGNET
RARE EARTH MAGNET
MAGNETIC HOOK
MAGNETIC SHEET
WELDING MAGNET
MAGNET TOUCH

MAGNETIC TOOLS

FERRITE MAGNET

USE Low cost magnet commonly used in speakers, motors, and many consumer products.

FEATURES

Excellent corrosion resistance



Isotropic/ Round

Order No.	Model No.	OD (mm)	Height (mm)	Magnetic Flux Density (mT)	Weight
012000	FM-5R3	5	3	30	5g
012001	FM-6R3	6	3	35	5g
012002	FM-10R3	10	3	40	5g
012003	FM-10R5	10	5	50	5g
012004	FM-20R4	20	4	40	5g
012005	FM-25R4	25	4	45	5g
012006	FM-25R5	25	5	55	10g
012007	FM-30R5	30	5	60	20g

Isotropic/ Rectangle

Order No.	Model No.	Height (mm)	Length (mm)	Width (mm)	Magnetic Flux Density (mT)	Weight
012050	FM-13L9	3	13	9	30	5g
012051	FM-20L10	4	20	10	40	5g
012052	FM-25L19	3.8	25	19	45	5g
012053	FM-30L10	5	30	10	50	5g
012054	FM-48L10	7	48	10	70	10g
012055	FM-20L14	4	20	14	40	5g

Anisotropic/ Round

Order No.	Model No.	OD (mm)	Height (mm)	Magnetic Flux Density (mT)	Weight
012101	AFM-8R3	8	3	100	5g
012102	AFM-10R3	10	3	85	5g
012103	AFM-10R5	10	5	75	5g
012104	AFM-10R10	10	10	110	5g
012105	AFM-12R4	12	4	60	5g
012107	AFM-15R4	15	4	85	5g
012108	AFM-15R8	15	8	120	10g
012109	AFM-18R8	18	8	130	10g
012110	AFM-20R4	20	4	100	5g
012111	AFM-20R10	20	10	140	10g
012113	AFM-25R4	25	4	70	10g
012114	AFM-30R5	30	5	100	20g
012115	AFM-30R10	30	10	150	30g
012116	AFM-30R15	30	15	190	40g
012118	AFM-38R10	38	10	180	60g

Anisotropic/ Ring

Order No.	Model No.	OD (mm)	Height (mm)	ID (mm)	Magnetic Flux Density (mT)	Weight
012150	AFM-13R5R	13.5	2	5	30	5g
012151	AFM-17R7R	17.5	3	7	45	5g
012152	AFM-18R6R	19	10	6.5	150	10g
012153	AFM-29R10R	29	3.5	10	50	10g
012163	AFM-100R60R	100	15	60	190	370g

Anisotropic/ Rectangle

Order No.	Model No.	Height (mm)	Length (mm)	Width (mm)	Magnetic Flux Density (mT)	Weight
012201	AFM-13L8	4	13	8	110	5g
012202	AFM-20L10	4	20	10	115	5g
012203	AFM-25L8	5	25	8	80	5g
012204	AFM-25L19	4.5	25	19	90	10g
012205	AFM-30L10	5	30	10	115	10g
012206	AFM-30L15	5	30	15	115	10g
012209	AFM-40L12	8	40	12	125	10g
012210	AFM-40L25	10	40	25	120	30g
012211	AFM-40L40	10	40	40	130	40g
012217	AFM-100L100	10	100	100	150	500g

MAGNETIC HOLDER

MAGNETIC TOOLS

FERRITE MAGNET

RARE EARTH MAGNET

MAGNETIC HOOK

MAGNETIC SHEET

WELDING MAGNET

MAGNETIC TOUCH

MAGNETIC TOOLS



RARE EARTH MAGNET

USE Higher strength than other magnet types. Suitable for applications which require small or thin size

FEATURES
Strong permanent magnet



Neodymium

Samarium cobalt

Neodymium

High magnetism and excellent mechanical strength
Not suitable for high temperature applications, plated to protect from corrosion

Neodymium/ Round

Order No.	Model No.	OD (mm)	Height (mm)	Magnetic Flux Density (mT)	Weight
012301	NRM-2R3	2	3	320	5g
012302	NRM-3R4	3	4	350	5g
012303	NRM-3R10	3	10	400	5g
012304	NRM-4R2	4	2	300	10g
012305	NRM-5R1	5	1.5	200	5g
012306	NRM-5R3	5	3	350	5g
012307	NRM-5R5	5	5	400	5g
012308	NRM-5R10	5	10	400	5g
012309	NRM-6R2	6	2	200	5g
012310	NRM-6R5	6	5	350	5g
012311	NRM-6R10	6	10	420	5g
012312	NRM-8R8	8	8	400	5g
012313	NRM-10R5	10	5	350	5g
012314	NRM-12R1	12.5	1.5	180	5g
012315	NRM-15R1	15	1.5	180	5g
012316	NRM-22R10	22	10	450	30g

Neodymium/ Rectangle

Order No.	Model No.	Height (mm)	Length (mm)	Width (mm)	Magnetic Flux Density (mT)	Weight
012400	NRM-10L5	1	10	5	200	5g
012401	NRM-6L6	5	6	6	320	5g
012402	NRM-12L7	4	12	7	300	5g
012403	NRM-15L2	2.8	15	6	280	5g

Samarium cobalt

Excellent corrosion resistance and temperature stability

Samarium cobalt/ Round

Order No.	Model No.	OD (mm)	Height (mm)	Magnetic Flux Density (mT)	Weight
012500	CRM-3R1	3	1.5	200	5g
012501	CRM-4R8	4	8.5	320	5g
012502	CRM-5R1	5	1.5	200	5g
012503	CRM-5R3	5	3	300	5g
012504	CRM-5R5	5	5	350	5g
012505	CRM-5R10	5	10	380	5g
012506	CRM-5R25	5	25	400	5g
012507	CRM-6R5	6	5	350	5g
012508	CRM-7R8	7	8	330	5g
012509	CRM-9R1	9.5	1.5	150	5g
012510	CRM-10R2	10	2	160	5g
012511	CRM-10R3	10	3	250	5g
012512	CRM-10R5	10	5	300	5g
012513	CRM-10R8	10	8	250	5g
012516	CRM-15R5	15	5	250	5g

Samarium cobalt/ Rectangle

Order No.	Model No.	Height (mm)	Length (mm)	Width (mm)	Magnetic Flux Density (mT)	Weight
012600	CRM-14L2	1	14	2	140	5g
012601	CRM-14L10	4.5	14.5	10	280	5g

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MAGNETIC HOOK

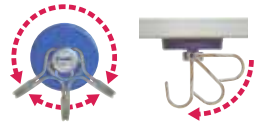
Example of swivel type



Round 66 type



Hook can move in two directions



Square 36 type



Hook rotates on base



Square 66 type



Hook can move in two directions



- USE** Storage, hanging goods on metal surfaces
- MATERIAL** Ferrite magnet
Yoke : Steel
- FEATURES**
 - Super strong magnet hook
 - Use as a standard hanger, or for difficult applications
 - 180 °swivel allows mounting on ceiling
 - Square type can also be mounted to wood (with 4 wood screws)

Type	Order No.	Model No.	Color	Magnet Force	Dimensions	Weight
Round 66	012945	MH-66RD	red	29.4N	66mm	310g
	012946	MH-66BL	blue	29.4N	66mm	310g
	012947	MH-66BC	black	29.4N	66mm	310g
	012948	MH-66SB	plating	29.4N	66mm	310g
	012949	MH-66BR	bronze	29.4N	66mm	310g
Square 36	012821	MS-36WH	white	7.8N	36 x 36mm	40g
	012822	MS-36RD	red	7.8N	36 x 36mm	40g
	012823	MS-36BL	blue	7.8N	36 x 36mm	40g
	012824	MS-36BR	bronze	7.8N	36 x 36mm	40g
	012825	MS-36SB	plating	7.8N	36 x 36mm	40g
	012826	MS-36BC	black	7.8N	36 x 36mm	40g
Square 66	012831	MS-66WH	white	29.4N	66 x 66mm	230g
	012832	MS-66RD	red	29.4N	66 x 66mm	230g
	012833	MS-66BL	blue	29.4N	66 x 66mm	230g
	012834	MS-66BR	bronze	29.4N	66 x 66mm	230g
	012835	MS-66SB	plating	29.4N	66 x 66mm	230g
	012836	MS-66BC	black	29.4N	66 x 66mm	230g

MAGNETIC HOLDER

MAGNETIC TOOLS

FERRITE MAGNET

RARE EARTH MAGNET

MAGNETIC HOOK

MAGNETIC SHEET

WELDING MAGNET

MAGNETIC TOUCH

MAGNETIC TOOLS

MAGNETIC TOOL RACK



Sample of Use



- USE** For convenient tool storage
- MATERIALS** Ferrite magnet
- FEATURES**
 - Keeps tools within easy reach and out of the way with a safe, yet strong magnetic rack
 - Recommended to use 2 racks for the heavier tools
 - Comes with 3 screws

Order No.	Model No.	Product Dimensions L x W x H (mm)	Magnetic Force	Weight
012900	MTH-ST	445 x 19 x 18	88N	320g



MAGNETIC SHEET

USE Ideal for factory informational displays.
Use to create charts, graphs, or temporary marking on metal surface

MATERIALS
Flexible magnet
Surface : Vinyl coated (Except for adhesive top type)

FEATURES
Can be cut to desired size with scissors
Adhesive backed type will easily adhere to almost any surface



Order No.	Model No.	Type	Color	Length	Width (mm)	Thickness (mm)	Weight
012930	MST-100RD	cut	red	200mm	100	0.8	50g
012931	MST-100BL	cut	blue	200mm	100	0.8	50g
012932	MST-100YL	cut	yellow	200mm	100	0.8	50g
012933	MST-100WT	cut	white	200mm	100	0.8	50g
012934	MST-100AD	cut	adhesive top	200mm	100	0.8	50g
012965	MSR-100RD	Roll/ 100mm width	red	10m	100	0.8	3kg
012966	MSR-100BL	Roll/ 100mm width	blue	10m	100	0.8	3kg
012967	MSR-100YL	Roll/ 100mm width	yellow	10m	100	0.8	3kg
012968	MSR-100WT	Roll/ 100mm width	white	10m	100	0.8	3kg
012969	MSR-100AD	Roll/ 100mm width	adhesive top	10m	100	0.8	3kg
012970	MSR-500RD	Roll/ 500mm width	red	10m	500	0.8	16kg
012971	MSR-500BL	Roll/ 500mm width	blue	10m	500	0.8	16kg
012972	MSR-500YL	Roll/ 500mm width	yellow	10m	500	0.8	16kg
012973	MSR-500WT	Roll/ 500mm width	white	10m	500	0.8	16kg
012974	MSR-500AD	Roll/ 500mm width	adhesive top	10m	500	0.8	16kg

MAGNET WELDING JIG

MAGNET WELDING JIG

MAGNETIC HOLDER

MAGNETIC TOOLS

FERRITE MAGNET

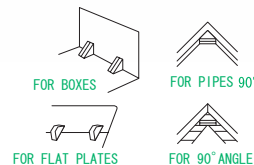
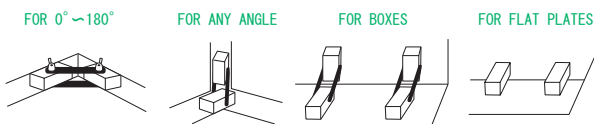
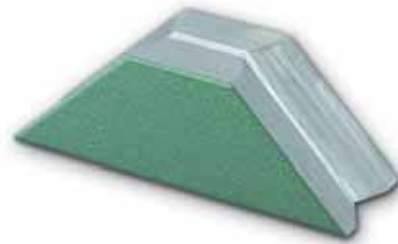
RARE EARTH MAGNET

MAGNETIC HOOK

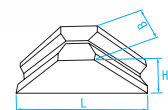
MAGNETIC SHEET

WELDING MAGNET

MAGNET TOUCH



DIMENSIONS



USE For temporary jig during welding and assembly

MATERIALS
Alnico magnet

FEATURES
2 magnets can be freely set to any angle

Order No.	Model No.	Magnetic Force	Size (mm)	Weight
012860	MGW-F03	117.6N (2pcs)	57×25×25 (2pcs)	640g

USE For temporary jig during welding and assembly

MATERIALS
Alnico magnet

FEATURES
Quick holder for temporary operations such as welding and assembly
45°, 90°, 135° angles

Order No.	Model No.	Magnetic Force	Size L x B x H (mm)	Weight
012861	MGW-FT27	60N	76×27×27	220g

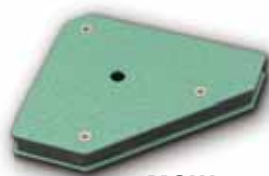


Compact hand held type

Freely adjustable type (45° ~ 90°)



MGW-90



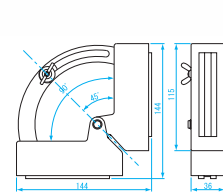
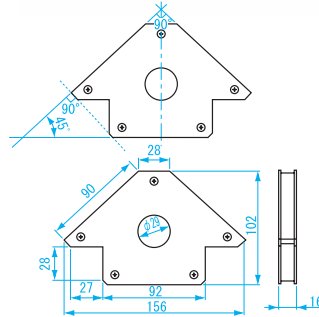
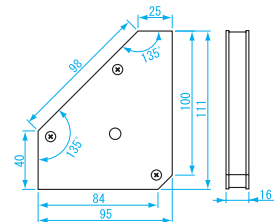
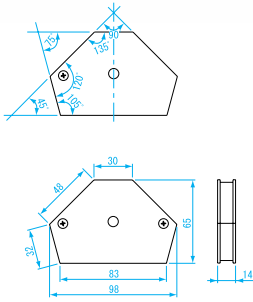
MGW-120



MGW-120A



MGW-C145



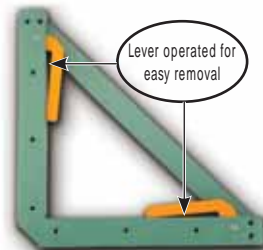
90° fixed type



MGW-S145

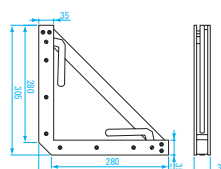
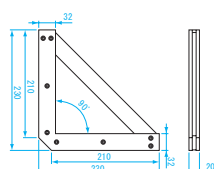
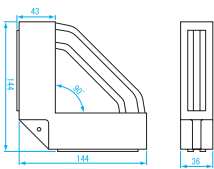


MGW-S200



MGW-S300

Lever operated for easy removal



MAGNETIC HOLDER

MAGNETIC TOOLS

FERRITE MAGNET

RARE EARTH MAGNET

MAGNETIC HOOK

MAGNETIC SHEET

WELDING MAGNET

MAGNETIC TOUCH

- USE** Temporary jig during welding and assembly
- MATERIALS** Ferrite magnet
Yoke : steel
- FEATURES** Strong magnetic force over entire length, can be used for general purpose applications

HOLDING ANGLE			
90°		90°	
75° (105°)			
60° (120°)			
45°		45°	
30°			

Order No.	Model No.	Magnetic Force	Magnet Flux Density (mT)	Weight
012851	MGW-90	98N	60	300g
012852	MGW-120	147N	10	520g
012853	MGW-120A	147N	12	600g
012854	MGW-C145	245N	17	1.5kg
012855	MGW-S145	245N	17	1.5kg
012856	MGW-S200	588N	14	2.3kg
012857	MGW-S300	980N	15	5kg



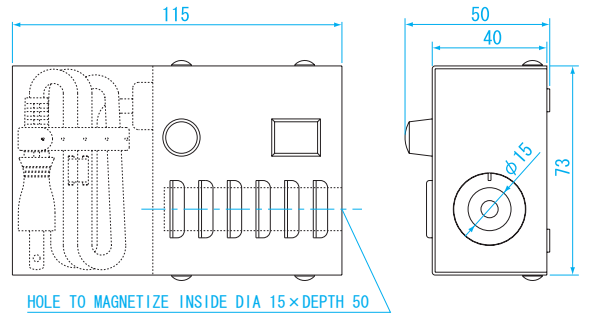
MAGNE TOUCH

Inner diameter 15 x Depth 50mm type



DIMENSIONS

Units:mm



USE

For magnetizing and demagnetizing Twist drill bits, Endmills, Taps and Countersink bits

FEATURES

Magnetize drivers to allow them to retain fasteners when used in hard to reach locations.
Able to demagnetize tools that have become magnetized

SPECIFICATIONS

Chamber : Inner diameter 15 x Depth 50mm
Magnetic Force : 0.17N (when 6 carbon tool steel driver used)
Rated voltage : AC100V
Rated frequency : 50-60Hz
Current : 1.3A
Rated power consumption : 125W
Thermal protection circuit setpoint : 80 ± 5

Order No.	Model No.	Weight
011500	MT-F	450g

- MAGNETIC HOLDER
- MAGNETIC TOOLS
- FERRITE MAGNET
- RARE EARTH MAGNET
- MAGNETIC HOOK
- MAGNETIC SHEET
- WELDING MAGNET
- MAGNE TOUCH

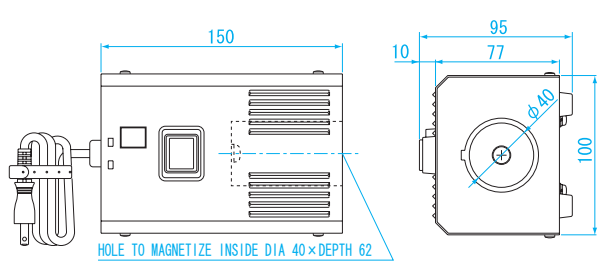
MAGNE TOUCH

Inner diameter 40 x Depth 62mm type



DIMENSIONS

Units:mm



USE

For magnetizing and demagnetizing Twist drill bits, Endmills, Taps and Countersink bits

FEATURES

Magnetize drivers to allow them to retain fasteners when used in hard to reach locations.
Able to demagnetize tools that have become magnetized

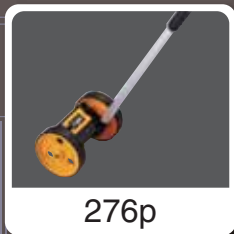
SPECIFICATIONS

Chamber : Inner diameter 40mm x Depth 62mm
Magnetic Force : 0.17N (when 6 carbon tool steel driver used)
Rated voltage : AC100V
Rated frequency : 50-60Hz
Current : 5A
Rated power consumption : 275W
Thermal protection circuit setpoint : 80 ± 5

Order No.	Model No.	Weight
011501	MT-G	1.4kg



276p



276p



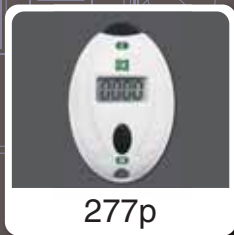
277p



277p



277p



277p



277p



277p



278p



278p



278p



278p

OTHERS



279p



279p



279p



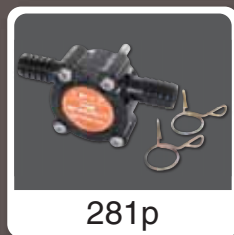
279p



280p



280p



281p



281p



281p



282p



282p



282p



282p



282p



282p



282p

SURVEYORS
WHEEL

COUNTER

DRILL
CASE

TOOLING

ELECTRIC
TOOLS

WORKING
TOOLS

SUCTION
LIFTER



ROAD COUNTER

Measure distance by simply rolling! Equipped with a convenient stand to support in an upright position

Maximum measurement distance: 9999.9m
Minimum display: 10cm



With carrying bag

USE Distance measurement in road construction or on building site, land measurement, or ground maintenance.

FEATURES
Distance measurement by simply rolling
Equipped with a convenient stand to hold in an upright position.
With carrying bag

Order No.	Model No.	Minimum Display	Maximum Measurement Distance	Counter Display	Measurement Error	Weight
111226	RM-4	10cm	9999.9m	First digit on right : 10cm dist. display 4 digits on left: meters display	within 0.15%	570g



ROAD COUNTER

Measure distance by simply rolling! Equipped with a convenient stand to support in an upright position

Maximum measurement distance: 999.99m / Minimum display: 1cm



With carrying bag

USE Distance measurement in road construction or on building site, land measurement, or ground maintenance.

FEATURES
Distance measurement by simply rolling
Double wheel for a stable measurement
With carrying bag

Order No.	Model No.	Minimum Display	Maximum Measurement Distance	Counter Display	Measurement Error	Weight
111227	RM-3MW	1cm	999.99m	2 digits on right: cm display 3 digits on left: meters display	within 0.15%	570g

There is no doubt for the correct count!

- USE** For checking product quantity, traffic volume, headcount or other counting tasks.
- MATERIAL** Steel
Plastic (C-4PC)
- FEATURES**
1 count per push. Various type available for every application.
4 digit counter
- POWER (DC-4WS)**
2pcs of LR44 (for testing)



Order No.	Model No.	TYPE	Weight
151740	C-4B	Stand type	77g
151741	C-4H	hand-held	53g
151742	C-4PC	Plastic	33g
151744	DC-4WS	Digital	45g

SAFETY CAP FOR ENDMILLS

- USE** Protects tips of endmills
- FEATURES**
Polypropylene
Easy to distinguish endmills with clear case
Suitable for protecting tip of endmills kept on tooling rack
Designed to prevent slipping out



Order No.	Model No.	Shaft Dia. (mm)	Length (mm)	Protection Length (mm)	1 Set contains	Weight
111130	AMS-06	6	45	40	100 pcs	60g
111131	AMS-08	8	45	40	100 pcs	80g
111132	AMS-10	10	77	70	100 pcs	180g
111133	AMS-12	12	77	70	100 pcs	210g
111134	AMS-16	16	122	110	50 pcs	250g
111135	AMS-20	20	122	111	50 pcs	350g
111136	AMS-25	25	170	117	50 pcs	380g
111137	AMS-32	32	170	150	20 pcs	400g
111138	AMS-42	42	215	190	20 pcs	700g
111139	AMS-55	55	215	190	20 pcs	950g

DRILL BIT CASE



- USE** Arranging drill bits
- FEATURES**
Plastic
Arranging drill bits for easy access with size marking
Rotary type

storage size

R-113	1.0 ~ 10.0 (0.1 step)	1.0 ~ 9.8	1.1 ~ 9.9	1.2 ~ 10.0	91pcs	計100pcs
	Other size	10.5 ~ 12.0	10.9 ~ 12.5	11.0 ~ 13.0	9pcs	

Order No.	Model No.	Type	Dimension (mm)	Weight
013010	R-113	Rotary	Diameter x Height 180 x 82	300g



STYLUS CENTER



SR-10



SR-104



SR-104L

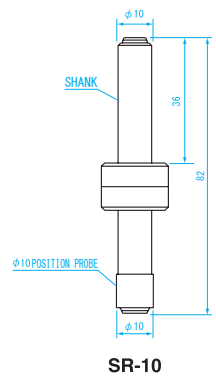


SR-102

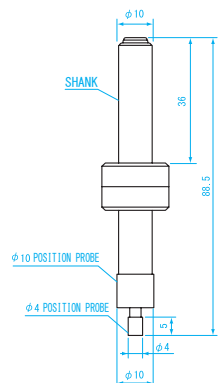


DIMENSIONS

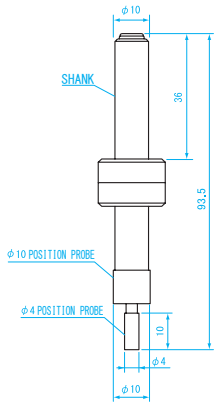
Units: mm



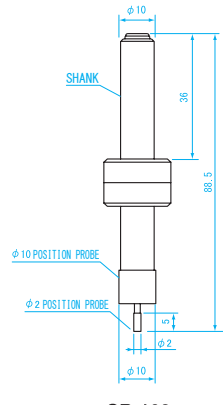
SR-10



SR-104



SR-104L
(Long probe type)



SR-102
(Thin probe type)

USE

High precision centering X and Y axis

FEATURES

- High carbon chromium steel
- Position detection within $\pm 2 \mu\text{m}$
- Working face is lapped finish
- General, NC milling machine, MC origin positioning, high accuracy positioning
- Position probe on workpiece edge

Order No.	Model No.	Probe (mm)	Shank Diameter (mm)	X-Z Repeatability	Operating Speed (rpm)	Weight
013310	SR-10	10	10	Within $\pm 2 \mu\text{m}$	450 ~ 600	55g
013314	SR-104	4 x 5 · 10	10	Within $\pm 2 \mu\text{m}$	450 ~ 600	56g
013320	SR-104L	4 x 10 · 10	10	Within $\pm 2 \mu\text{m}$	450 ~ 600	57g
013325	SR-102	2 x 5 · 10	10	Within $\pm 2 \mu\text{m}$	450 ~ 600	56g

SURVEYORS WHEEL

COUNTER

DRILL CASE

TOOLING

ELECTRIC TOOLS

WORKING TOOLS

SUCTION LIFTER

OTHERS

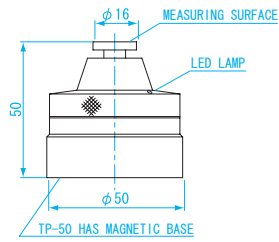
TOOL POINT GAUGE



TP-50

DIMENSIONS

Units: mm



USE High accuracy position detection

FEATURES

- Alloy tool steel
- Zero point with light sensor(electr)
- Zero point setting (NC lathe, Machining Center)

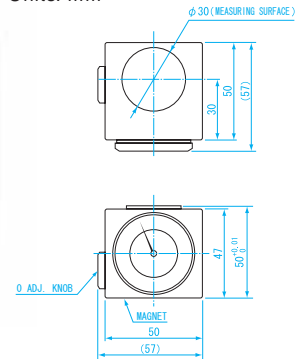
Order No.	Model No.	Nominal Size (mm)	Accuracy (mm)	Repeatability	Measuring Force
013205	TP-50	50	$50^{+0.005}_0$	$\pm 1 \mu\text{m}$	2.5N
013206	TP-50M	50	$50^{+0.005}_0$	$\pm 1 \mu\text{m}$	2.5N
Stroke		Magnetic Force		Weight	
3mm		-		300g	
3mm		29N		300g	

TOOL POINT GAUGE WITH DIAL GAUGE



DIMENSIONS

Units: mm



USE Position detection with dial gauge

FEATURES

- Measuring surface: SKD11
- Body : S45C
- Easy zero setting with dial gauge
- With magnet on the bottom surface

Order No.	Model No.	Nominal Size (mm)	Accuracy (mm)	Repeatability (m)	Measuring Force less than	Dial gauge Graduation (mm)
013207	DTP-50M	50	$50^{+0.01}_0$	$\pm 10 \mu\text{m}$	5N	0.01
Stroke		Magnetic Force		Weight		
2mm		100N		840g		

POINT MASTER WITH CARBIDE TIP

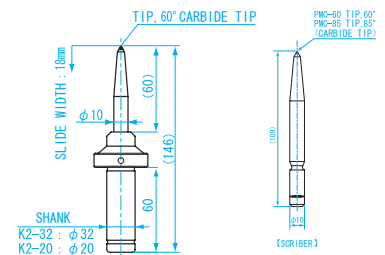


K2-32

K2-20

DIMENSIONS

Units: mm



USE Marking for milling operation

FEATURES

- Body · Scriber: Carbon tool steel
- Tip: Carbide tip
- High accuracy marking operation can be performed
- 60 °carbide tip comes with standard

SPECIFICATION

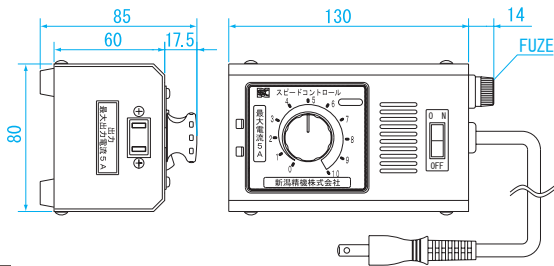
- Slide width: 18mm
- Spring strength: 3.5-4N (for 10mm spring compression)
- Concentricity: 0.02mm
- Steel ball diameter: 5mm

Order No.	Model No.	Point Angle	Length (mm)	Scriber Diameter (mm)	Weight
013420	K2-32	60 °	146	10	510g
013425	K2-20	60 °	146	10	280g
013421	PMC-6Q (Scriber)	60 °	109	10	58g
013422	PMC-8Q (Scriber)	85 °	109	10	54g

SPEED CONTROLLER

DIMENSIONS

Units: mm



FEATURES

Useful for: Electric drills, Hand grinders, Belt sanders, Jig-saws, Disc grinders, Drivers, Heating equipment, Soldering irons & Incandescent lights

Body: Steel

Energy saving model reduces power and eliminates wasteful energy use

With power switch

Noise (interference) protection (TV, radio etc.)

Control for reduced speed

SPECIFICATIONS

Single phase

Rated voltage: AC100V

Rated frequency: 50-60Hz

Operating temperature range: 0-45

Control: Triac phase control

Load current: 5A

Comparison of level control settings



Level set to 5



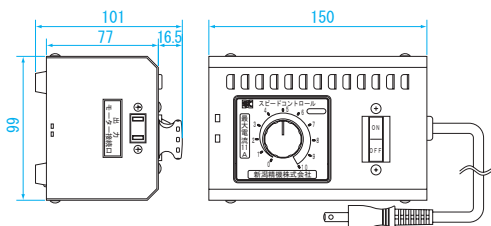
Level set to 10

Order No.	Model No.	Weight
011305	SP-105	600g

SPEED CONTROLLER

DIMENSIONS

Units: mm



FEATURES

Control speed of power tools(single phase commutator motors) and dimming of incandescent lights

Body: Steel

Energy saving model reduces power and eliminates wasteful energy use

With power switch

Circuit protection: circuit breaker

Control for reduced speed

SPECIFICATIONS

Single phase

Rated voltage: AC100V

Rated frequency: 50-60Hz

Operating temperature range: 0 ~ 45

Control: Triac phase control

Load current: 11A

Order No.	Model No.	Weight
011311	SP-110	1kg

SURVEYORS WHEEL

COUNTER

DRILL CASE

TOOLING

ELECTRIC TOOLS

WORKING TOOLS

SUCTION LIFTER

OTHERS

MINI PUMP

Update on classic tool! Hand drill becomes a mini pump with easy installation onto drill chuck. Now with hex shank for use on standard drill or on driver.



Attached to hand drill Easily lifts water to 2nd floor

USE Water supply and drainage of waste water

MATERIAL

Main body: Plastic
Rotor: Oil-resistant rubber

FEATURES

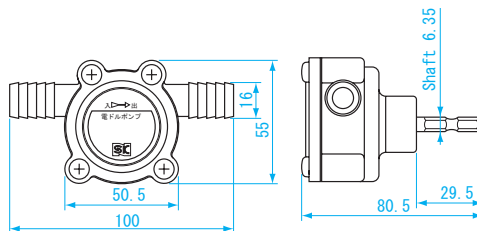
Corrosion resistant pump is self contained. Operated by a standard electric hand drill

SPECIFICATIONS

Hose diameter: 16mm
Max water rise: 12m
Pumping capacity: 10 ~ 12L/min
Operating speed: 1600min⁻¹
Shaft diameter: 6.35mm
Accessories: hose band 2pc

DIMENSIONS

Units: mm



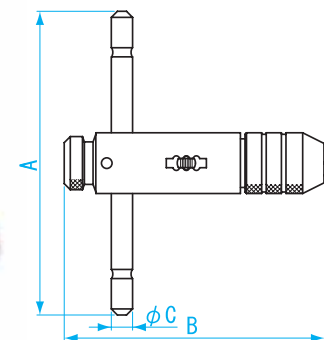
Order No.	Model No.	Drive shaft	Weight
011771	RDP-01	1/4" hex shaft (6.35mm)	160g

T-HANDLE RATCHET TAP WRENCH



RTH-M

DIMENSIONS



Units: mm

Model No.	A	B	C
RTH-M	100	85	7
RTH-L	120	110	8

USE Tapping

FEATURES

Body: Carbon tool steel
Chuck: Sintered metal
Sliding T-shaped handle
Can work with one hand
Tapping easily in narrow spaces
Three switch position (left, right and fixed)

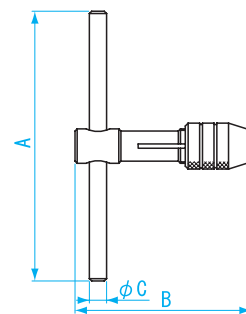
Order No.	Model No.	Size	Tap Range	Weight
013002	RTH-M	M	M3 ~ M8	200g
013003	RTH-L	L	M8 ~ M12	330g

TAP WRENCH



TRS-1

DIMENSIONS



Units: mm

Model No.	A	B	C
TRS-1	94	60	6
TRS-2	103	74	6
TRS-3	124	90	8

USE Tapping

FEATURES

Carbon tool steel
Sliding T-shaped handle
Can work with one hand
Tapping easily in narrow spaces

Order No.	Model No.	Tap Range	Weight
012995	TRS-1	M3 ~ M6	90g
012996	TRS-2	M4 ~ M10	130g
012997	TRS-3	M8 ~ M12	210g

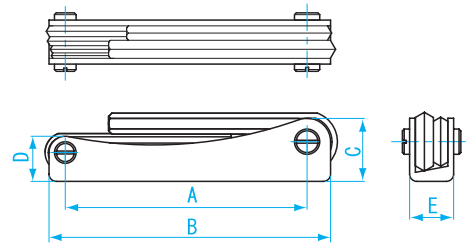
SURVEYORS WHEEL
COUNTER
DRILL CASE
TOOLING
ELECTRIC TOOLS
WORKING TOOLS
SUCTION LIFTER

OTHERS

FOLDING HEX WRENCH SET



DIMENSIONS



Units: mm

Model No.	A	B	C	D	E
HKS-1	67	78	17.5	12.5	12
HKS-2	86	105	28	21	20
HKS-02	86	105	28	21	20
HKS-B2	86	105	28	21	20

USE For use on Hex head bolt and screws

FEATURES

- Chrome molybdenum steel
- Hardness: HV510 ~ 600
- Operates at oblique angle (Max angle 30 °)

Order No.	Model No.	Type	Size						Weight
			1.5	2	2.5	3	4	5	
013101	HKS-1	mm	1.5	2	2.5	3	4	5	80g
013102	HKS-2	mm	2.5	3	4	5	6	8	230g
013120	HKS-02	inch	3/32	1/8	5/32	3/16	1/4	5/16	240g
013130	HKS-B2	mm (ball point)	2.5	3	4	5	6	8	230g

SUCTION LIFTER



USE For lifting and transporting material with no handle, such as metal sheet and glass.

FEATURES

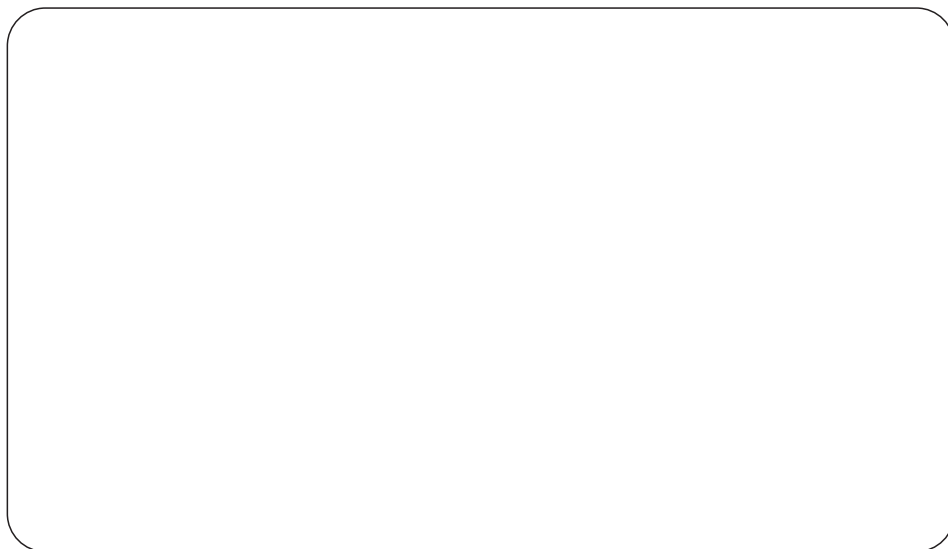
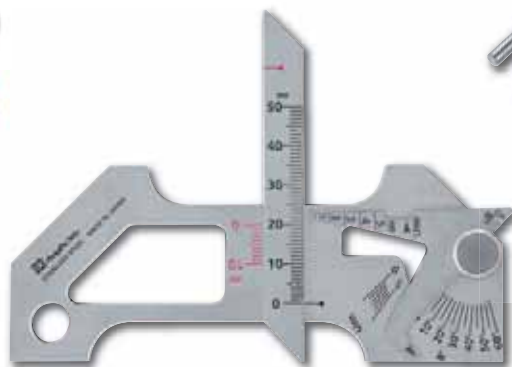
- Strong suction with one lever operation
- Easy to grasp handle for lifting and carrying cumbersome objects.

Order No.	Model No.	Suction Face (mm)	Maximum load capacity	Weight
160200	SL-A20	123	20kg	340g
160201	SL-A30	123	30kg	480g
160202	SL-B25	115	25kg	820g
160203	SL-W40	123 × 2	Horizontal Direction 40kg/ Vertical Direction 80kg	1230g

SURVEYORS WHEEL
COUNTER
DRILL CASE
TOOLING
ELECTRIC TOOLS
WORKING TOOLS
SUCTION LIFTER

OTHERS

0
50
100
150
200
250



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