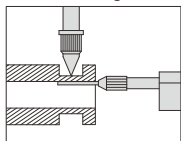


DATA OUTPUT

measure wall thickness of grooves



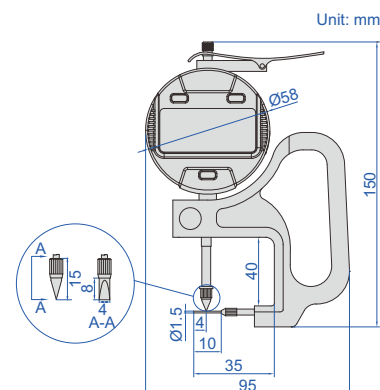
- Buttons: on/off, inch/mm, zero, data preset, change measuring direction, absolute/incremental measurement
- Keep preset data in memory after restart
- Battery CR2032, automatic power off (time is adjustable)
- Data output
- Optional accessory: data output cable (code **7315-50M** need receiver page 5, **7302-50M** page 13)

Code	Range	Resolution	Accuracy
2873-10	0-10mm/0-0.4"	0.01mm/0.0005"	±0.02mm
2873-101	0-10mm/0-0.4"	0.001mm/0.00005"	±0.005mm

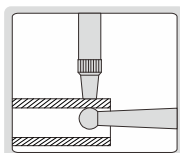
DIGITAL TUBE THICKNESS GAGES



2873-10



DATA OUTPUT



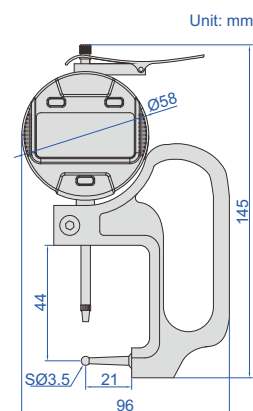
- Buttons: on/off, inch/mm, zero, data preset, change measuring direction, absolute/incremental measurement
- Keep preset data in memory after restart
- Battery CR2032, automatic power off (time is adjustable)
- Data output
- Optional accessory: data output cable (code **7315-50M** need receiver page 5, **7302-50M** page 13)

Code	Range	Resolution	Accuracy
2876-10	0-10mm/0-0.4"	0.01mm/0.0005"	±0.02mm
2876-101	0-10mm/0-0.4"	0.001mm/0.00005"	±0.005mm

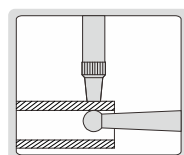
DIGITAL TUBE THICKNESS GAGES



2876-10



12



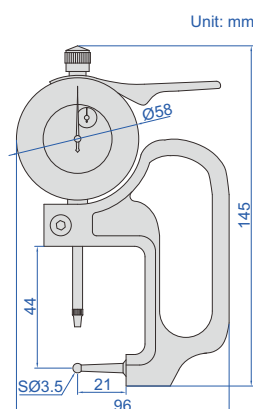
- Measure tube wall thickness

Code	Range	Graduation	Accuracy
2367-10A	0-10mm	0.01mm	±0.02mm

TUBE THICKNESS GAGE

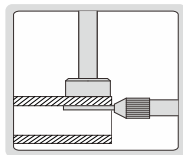


2367-10A

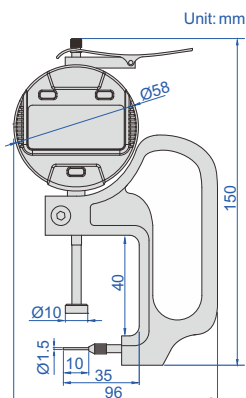


DIGITAL TUBE THICKNESS GAGES

DATA
OUTPUT



- Buttons: on/off, inch/mm, zero, data preset, change measuring direction, absolute/incremental measurement
- Keep preset data in memory after restart
- Battery CR2032, automatic power off (time is adjustable)
- Data output
- Optional accessory: data output cable (code **7315-50M** need receiver page 5, **7302-50M** page 13)



2859-101

Code	Range	Resolution	Accuracy
2859-10	0-10mm/0-0.4"	0.01mm/0.0005"	±0.02mm
2859-101	0-10mm/0-0.4"	0.001mm/0.00005"	±0.005mm

SAW TEETH SETTING GAGE

INSIZE PLUS
MADE IN EUROPE



front

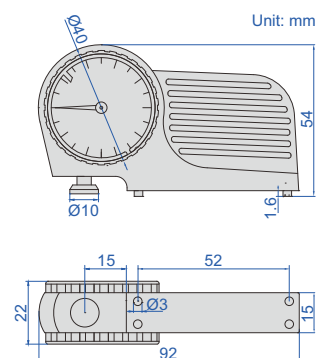


back

2874-02

- Supplied with limit pointer
- Read from both sides

Code	Range	Graduation	Accuracy
2874-02	0-2mm	0.05mm	±0.05mm



DIAL SNAP GAGES

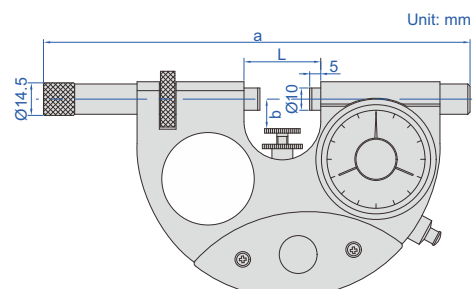
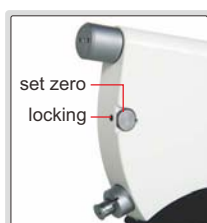
INSIZE PLUS
MADE IN EUROPE

IP54
WATERPROOF

- Quick Go/No-Go measurement for mass production
- Anvil retracting stroke: 2.5mm
- Dial indicator: measuring range ±0.07mm, graduation 1µm, accuracy ±1µm
- Constant measuring force over the whole range: 8.5N
- Carbide measuring faces
- IP54 dust/waterproof
- Zero position of dial indicator is adjustable and can be locked (supplied with locking wrench)
- Adjustable platform height



3335-25



Code	Range	L	a	b
3335-25	0-25mm	35mm	191mm	<15mm
3335-50	25-50mm	60mm	215mm	<25mm
3335-75	50-75mm	84mm	239mm	<37.5mm
3335-100	75-100mm	110mm	265mm	<50mm

ATTENTION: SETTING
STANDARDS ARE NOT INCLUDED

IP54
WATERPROOF

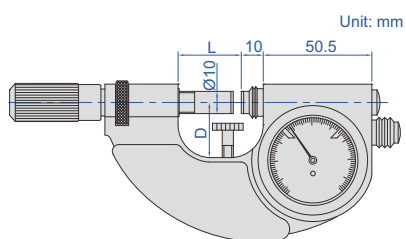
DIAL SNAP GAGES

- Quick measurement for mass production
- Dial indicator: range $\pm 0.04\text{mm}$, graduation 0.001mm , accuracy 0.001mm
- IP54 dust/waterproof
- Measuring force: 5-10N
- Carbide measuring faces
- Optional accessory: gage blocks grade 0 (4101-A series), for zero setting



3334-25

Code	Range	L	D
3334-25	0-25mm	28.5mm	25mm
3334-50	25-50mm	53.5mm	35mm
3334-75	50-75mm	78.5mm	47.5mm
3334-100	75-100mm	103.5mm	60mm



QUICK AND ACCURATE MEASUREMENT
OF CYLINDRICAL WORKPIECES

INSPECTION
CERTIFICATE

DIAL SNAP GAGES



- Left anvil retracting stroke: 2mm
- Measuring force: 6-8N
- Flatness of anvil: $1.5\mu\text{m}$
- Repeatability: $1\mu\text{m}$
- Carbide measuring faces for anvils
- Front edges of anvils are chamfered for easy workpiece insertion
- Optional accessory: dial indicators and digital indicators (reading 0.001mm or 0.01mm)



digital indicator
is optional

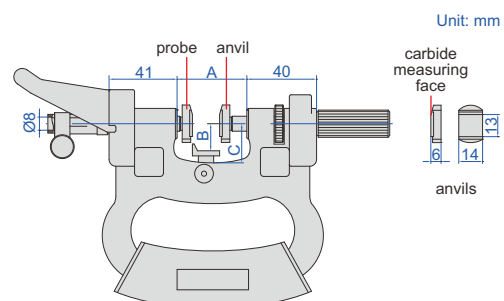
application



2186-25

Code	Range	Parallelism of measuring faces	A	B	C
2186-25 *	0-25mm	$4\mu\text{m}$	42	11-18	20
2186-50 *	25-50mm	$4\mu\text{m}$	69	11-32	41
2186-75 *	50-75mm	$5\mu\text{m}$	94	17-41	51
2186-100 *	75-100mm	$6\mu\text{m}$	119	31-55	65
2186-125 *	100-125mm	$6\mu\text{m}$	144	42-70	75
2186-150 *	125-150mm	$8\mu\text{m}$	169	55-82	90
2186-175 *	150-175mm	$8\mu\text{m}$	194	68-95	100
2186-200 *	175-200mm	$10\mu\text{m}$	219	85-110	115
2186-225 *	200-225mm	$10\mu\text{m}$	244	95-120	130
2186-250 *	225-250mm	$10\mu\text{m}$	269	110-135	145
2186-275 *	250-275mm	$12\mu\text{m}$	294	120-150	160
2186-300 *	275-300mm	$12\mu\text{m}$	319	128-160	170

* Supplied with manufacturer inspection certificate



DIAL SNAP GAGES

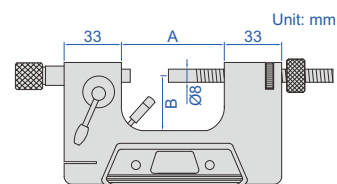
**ATTENTION: NOT SUITABLE
FOR 0.001MM DIAL INDICATORS**

- Quick measurement for mass production
- Anvil retracting stroke: 3mm
- Measuring force: 6-9N
- Carbide measuring faces
- Optional accessory:
dial indicators (graduation 0.01mm),
digital indicators (resolution 0.01mm/0.0005")



2184-50W

Code	Range	A	B
2184-25W	0-25mm	34mm	18mm
2184-50W	0-50mm	62mm	32mm
2184-100W	50-100mm	112mm	62mm
2184-150W	100-150mm	162mm	85mm
2184-200W	150-200mm	212mm	110mm

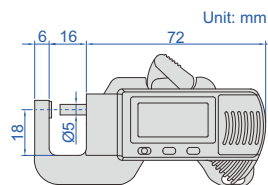


DIGITAL SNAP GAGE

ATTENTION: NO DATA OUTPUT



2166-12



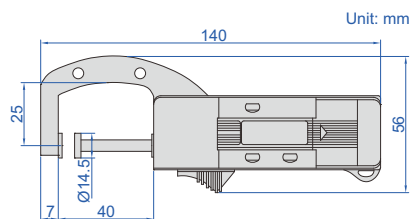
Code	Range	Resolution	Accuracy
2166-12	0-12mm/0-0.5"	0.01mm/0.0005"	±0.03mm

DIGITAL SNAP GAGE

ATTENTION: NO DATA OUTPUT



2167-25



Code	Range	Resolution	Accuracy
2167-25	0-25mm/0-1"	0.01mm/0.0005"	±0.03mm

ATTENTION: NO
DATA OUTPUT

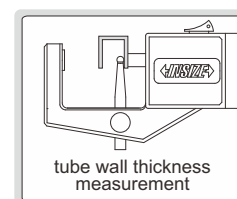
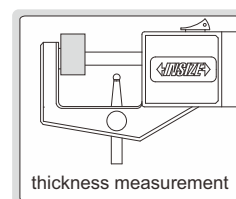
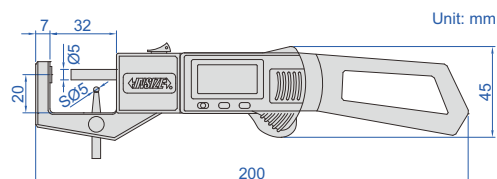
DIGITAL SNAP GAGE



2163-25

- Resolution: 0.01mm/0.0005"
- Accuracy: $\pm 0.04\text{mm}$
- For thickness and tube wall thickness measurement

Code	Thickness range	Tube wall thickness range
2163-25	0-25mm/0-1"	0-2mm/0.08"



DATA
OUTPUT

DIGITAL SNAP GAGES



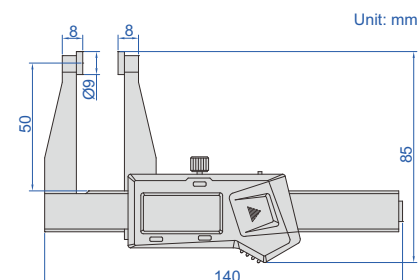
1163-50A

With data interface (data output cable
code 7315-21 need receiver page 4, 7302-21 page 12, optional)

Code	Range	Resolution	Accuracy
1163-50A	0-50mm/0-2"	0.01mm/0.0005"	$\pm 0.03\text{mm}$

Built-in wireless (receiver code 7315-2/3/6/7/8/9 is required)

Code	Range	Resolution	Accuracy
1163-50AWL	0-50mm/0-2"	0.01mm/0.0005"	$\pm 0.03\text{mm}$



- Non waterproof
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel

12

ATTENTION: NO
DATA OUTPUT

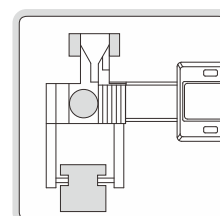
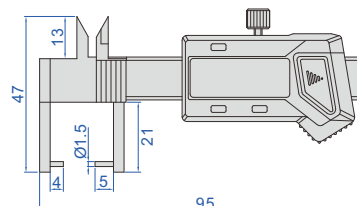
SUITABLE FOR
JEWELLERY

DIGITAL 3-PURPOSE SNAP GAGE



2164-25A

Unit: mm



Code	Range	Resolution	Accuracy
2164-25A	0-25mm/0-1"	0.01mm/0.0005"	$\pm 0.03\text{mm}$

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

STEP AND GAP GAGES

DATA
OUTPUT

- Non waterproof
- Measure step height and gap width
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, set, mm/inch, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel
- Supplied with zero setting block



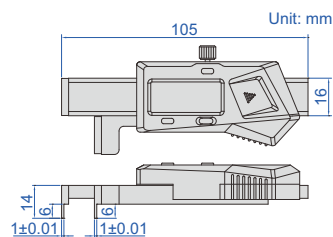
2168-12

With data interface (data output cable code 7315-21 need receiver page 4, 7302-21 page 12, optional)

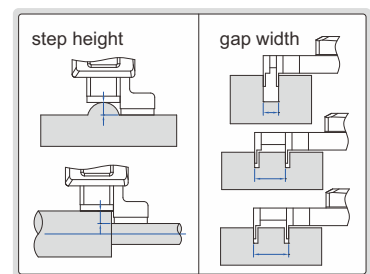
Code	Range	Accuracy
2168-12	0-12.7mm/0-0.5"	±0.03mm

Built-in wireless (receiver code 7315-2/3/6/7/8/9 is required)

Code	Range	Accuracy
2168-12WL	0-12.7mm/0-0.5"	±0.03mm

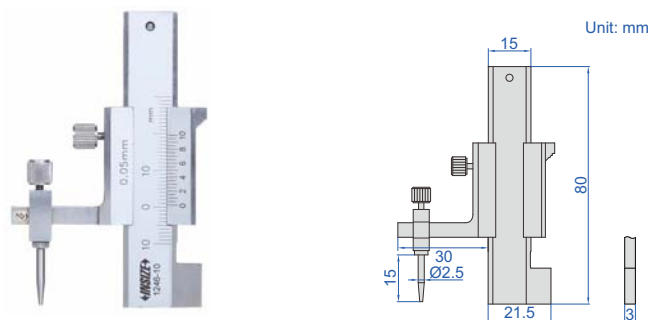


zero setting block
(included)



MINI VERNIER HEIGHT GAGE

12

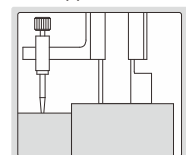


1246-10

- Measure height difference of two surfaces
- Graduation: 0.05mm
- Made of stainless steel
- Satin chrome plated reading surface

Code	Range	Accuracy
1246-10	0~±10mm	±0.05mm

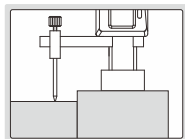
application



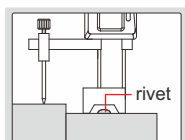
DATA OUTPUT

MINI DIGITAL HEIGHT GAGES

application of
1146-20A/1146-20AWL



application of
1146-20B/1146-20BWL



- Non waterproof
- Measure height difference of two surfaces (1146-20B, 1146-20BWL suitable for surfaces with barrier, such as rivet)
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel

With data interface
(data output cable code 7315-21 need receiver page 4, 7302-21 page 12, optional)

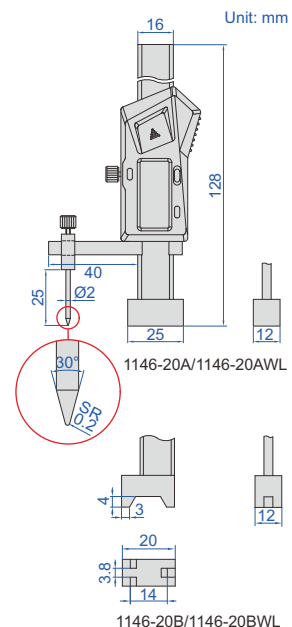
Code	Range	Accuracy
1146-20A	0~±20mm/0~±0.8"	±0.02mm
1146-20B	0~±20mm/0~±0.8"	±0.02mm



1146-20A



1146-20B

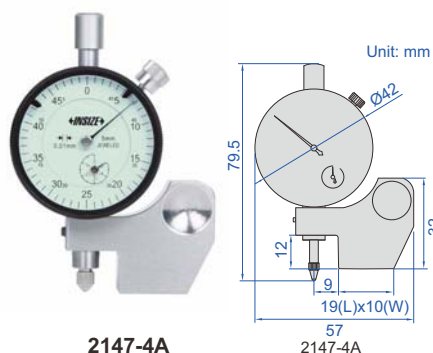


Built-in wireless
(receiver code 7315-2/3/6/7/8/9 is required)

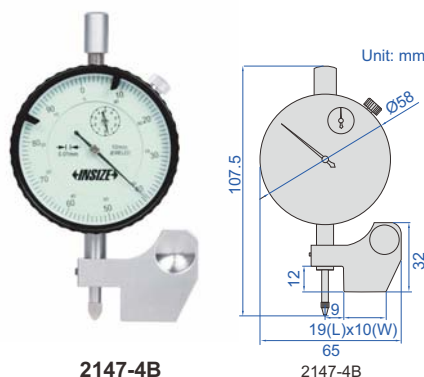
Code	Range	Accuracy
1146-20AWL	0~±20mm/0~±0.8"	±0.02mm
1146-20BWL	0~±20mm/0~±0.8"	±0.02mm

DIAL HEIGHT GAGES

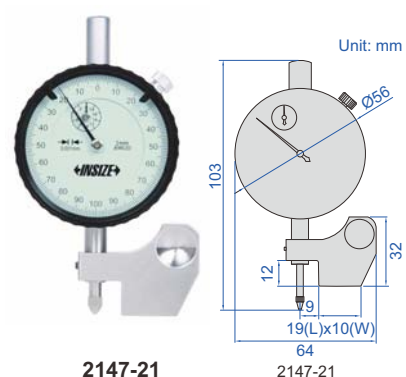
12



2147-4A



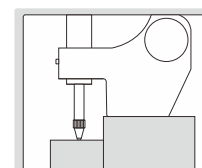
2147-4B



2147-21

- Measure height difference of two surfaces

Code	Range	Dial indicator stroke	Dial indicator graduation	Accuracy
2147-4A	0~±5mm (adjustable)	5mm	0.01mm	±0.014mm
2147-4B	0~±5mm	10mm	0.01mm	±0.017mm
2147-21	0~±2mm (adjustable)	2mm	0.001mm	±0.006mm

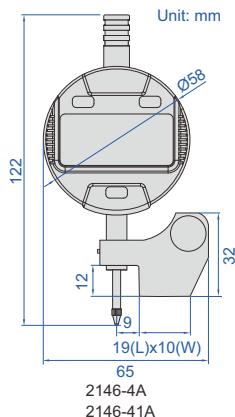


DIGITAL HEIGHT GAGES

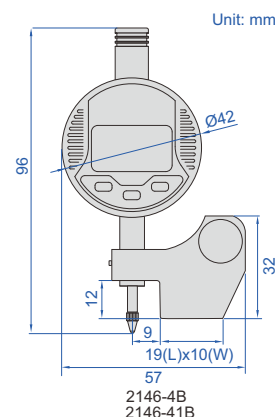
DATA
OUTPUT



2146-4A

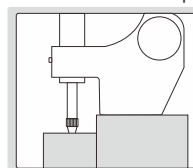


2146-4B

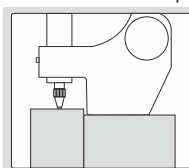


- Measure height difference of two surfaces
- Button function: on/off, inch/mm, zero, data preset, change measuring direction, absolute/incremental measurement
- Keep preset data in memory after restart
- CR2032 battery, automatic power off (time is adjustable)
- Data output
- Optional accessory: data output cable (code 7315-50M need receiver page 5, 7302-40M page 13)

measure sunked step



measure raised step

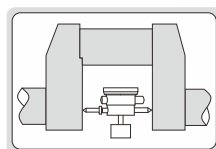
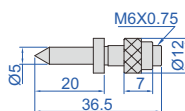
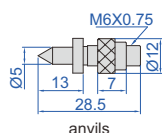
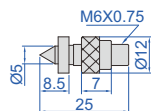
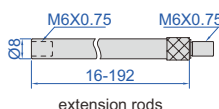
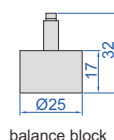
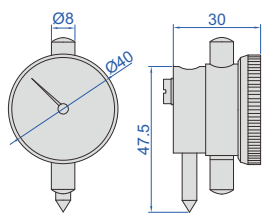


Code	Range (adjustable)	Digital indicator stroke	Digital indicator resolution	Accuracy
2146-4A	0~4mm/0~0.16" (sunked)	12.7mm/0.5"	0.01mm/0.0005"	±0.02mm
2146-41A	0~12.7mm/0~0.5" (raised)	12.7mm/0.5"	0.001mm/0.00005"	±0.005mm
2146-4B	0~4mm/0~0.16" (sunked)	5mm/0.2"	0.01mm/0.0005"	±0.02mm
2146-41B	0~5mm/0~0.2" (raised)	5mm/0.2"	0.001mm/0.00005"	±0.005mm

CRANKSHAFT TESTERS

12

Unit: mm



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

Code	Range	Dial indicator range	Graduation	Extension rods	Accuracy
2841-300	60-300mm	3mm	0.01mm	16mm, 32mm, 64mm, 128mm	±0.016mm
2841-500	60-500mm	3mm	0.01mm	16mm, 32mm, 64mm, 96mm, 128mm, 192mm	±0.016mm



Thread Pitch Measuring Instruments
Page 302-303



Thread Taper Measuring Instruments
Page 304-306



Thread Height Measuring Instruments
Page 307-309



Thread Crest Diameter Measuring Instruments
Page 310-313



Groove Diameter Measuring Instruments
Page 314



Groove Width Measuring Instruments
Page 315



Calipers With Interchangeable Ball Tips
Page 316



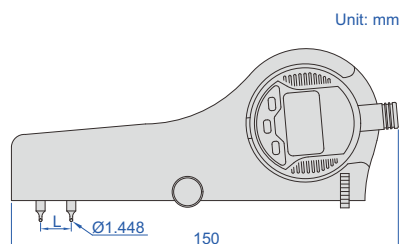
RTJ Ring Groove Calipers
Page 316



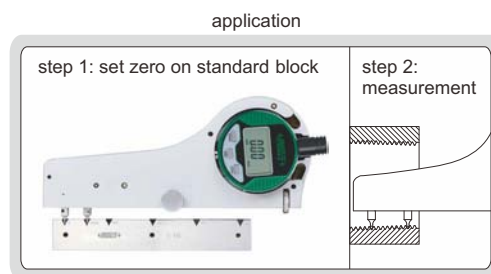
Thread Gages For Petroleum Equipment
Page 316

DIGITAL THREAD PITCH MEASURING INSTRUMENT

MEET INTERNATIONAL
STANDARD API5B



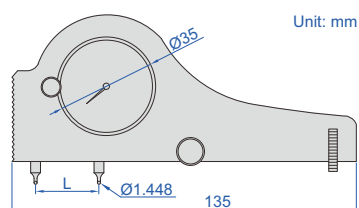
- Measure the pitch of external thread and internal thread with nominal diameter larger than 5 1/2" (139.7mm)
- Optional accessory: data output cable (code **7315-50M** need receiver page 5, **7302-50M** page 13), ball points (code **6252** series), standard pitch blocks (code **6251** series)



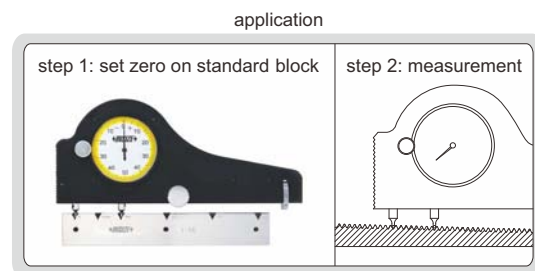
Code	Range (L)	Digital indicator stroke	Resolution	Accuracy
2245-4	0.5-4"/12.7-101.6mm	0.2"/5mm	0.0005"/0.01mm	0.02mm

THREAD PITCH MEASURING INSTRUMENTS

MEET INTERNATIONAL
STANDARD API5B



- Measure the pitch of external thread and internal thread with nominal diameter larger than 5 1/2" (139.7mm)
- Optional accessory: ball points (code **6252** series), standard pitch blocks (code **6251** series)



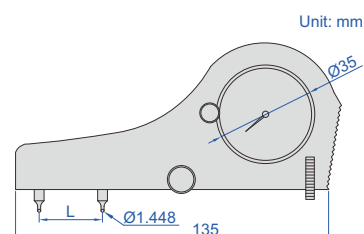
Code	Range (L)	Dial indicator stroke	Dial indicator graduation	Accuracy
2234-4	0.5-4"/12.7-101.6mm	0.5mm	0.01mm	0.02mm
2234-4E	0.5-4"/12.7-101.6mm	0.025"	0.0005"	0.0008"

MEET INTERNATIONAL
STANDARD API5B

INTERNAL THREAD PITCH MEASURING INSTRUMENTS



2235-4

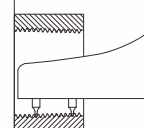


application

step 1: set zero on standard block



step 2:
measurement



- Measure the pitch of internal thread with nominal diameter larger than 1 1/2" (38.1mm) and less than 5 1/2" (139.7mm)
- Optional accessory: ball points (code 6252 series), standard pitch blocks (code 6251 series)

Code	Range (L)	Dial indicator stroke	Dial indicator graduation	Accuracy
2235-4	0.5-4"/12.7-101.6mm	0.5mm	0.01mm	0.02mm
2235-4E	0.5-4"/12.7-101.6mm	0.025"	0.0005"	0.0008"

CAN BE CUSTOMIZED
ACCORDING TO WORKPIECES

STANDARD PITCH BLOCKS

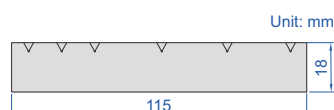
13



6251-S8

- Set zero of internal and external pitch measuring instruments (code 2234, 2235, 2245)

Code	Taper	Threads per inch
6251-S8	1:16	8, 10
6251-S5	1:16	5
6251-S4	1:6	4

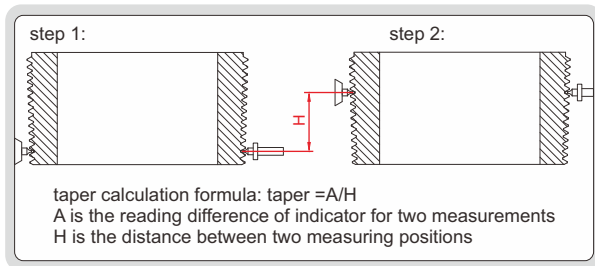


DIGITAL EXTERNAL THREAD TAPER MEASURING INSTRUMENT

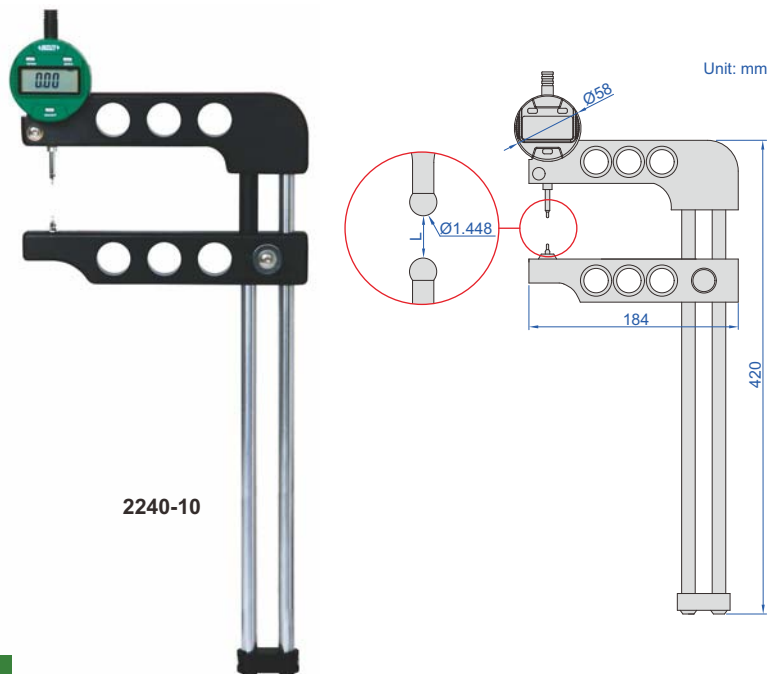
MEET INTERNATIONAL
STANDARD API5B

- Measure the taper of external thread
- Digital indicator stroke: 10mm/0.4"
- Optional accessory: data output cable (code **7315-50M** need receiver page 5, **7302-40M** page 13), ball points (code **6252** series)

principle of measurement



Code	Range (L)	Resolution	Accuracy
2240-10	0-10"/0-254mm	0.0005"/0.01mm	0.03mm

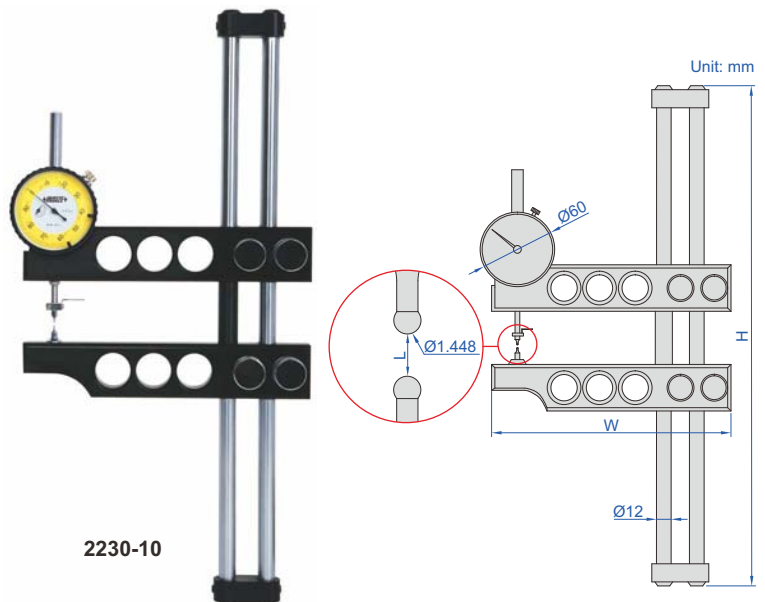
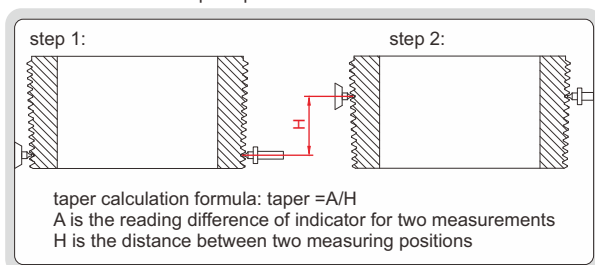


EXTERNAL THREAD TAPER MEASURING INSTRUMENTS

MEET INTERNATIONAL
STANDARD API5B

- Measure the taper of external thread
- Dial indicator stroke: 0.5"
- Dial indicator graduation: 0.001"
- Optional accessory: ball points (code **6252** series)

principle of measurement



Code	Range (L)	Accuracy	H	W
2230-10	0-10"/0-254mm	0.0015"	400mm	200mm
2230-45	1-4 1/2"/25.4-114.3mm	0.0015"	278mm	178mm
2230-16	8-16"/203.2-406.4mm	0.0015"	600mm	260mm
2230-20	8-20"/203.2-508mm	0.0015"	680mm	260mm

MEET INTERNATIONAL
STANDARD API5B

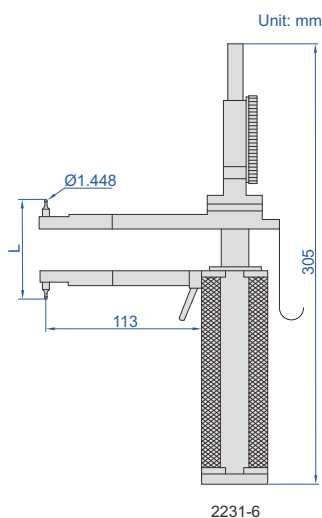
INTERNAL THREAD TAPER MEASURING INSTRUMENTS



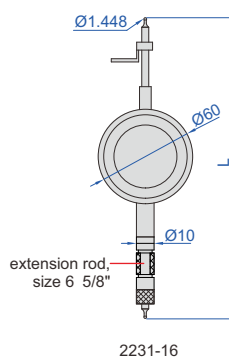
2231-6



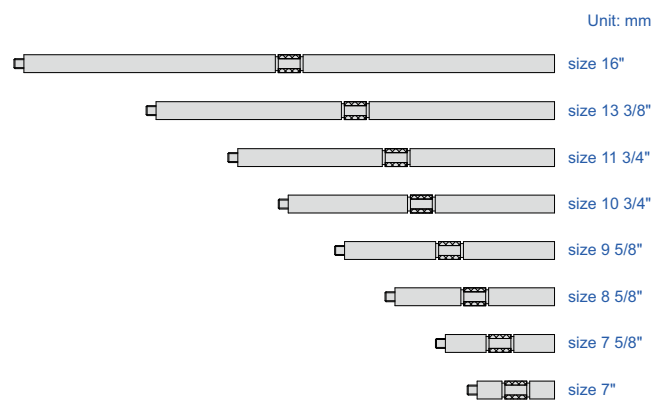
2231-16



2231-6



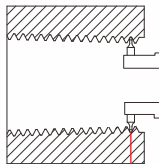
2231-16



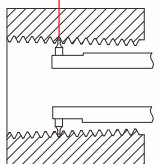
principle of measurement

2231-6

step 1:

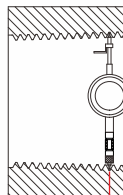


step 2:

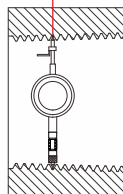


2231-16

step 1:



step 2:



taper calculation formula: $\text{taper} = A/H$
A is the reading difference of two measurements
H is the distance between two measuring positions

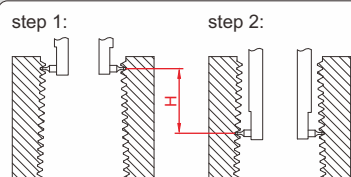
- Measure the taper of internal thread
- Optional accessory: ball points (code 6252 series)

Code	Range (L)	Dial indicator stroke	Dial indicator graduation	Accuracy	Remark
2231-6	1.5-6"/38.1-152.4mm	1"	0.001"	0.0015"	—
2231-16	5 1/2-16"/139.7-406.4mm	0.5"	0.001"	0.0015"	with 9 extension rods

DIGITAL INTERNAL THREAD TAPER MEASURING INSTRUMENT

MEET INTERNATIONAL
STANDARD API5B

principle of measurement



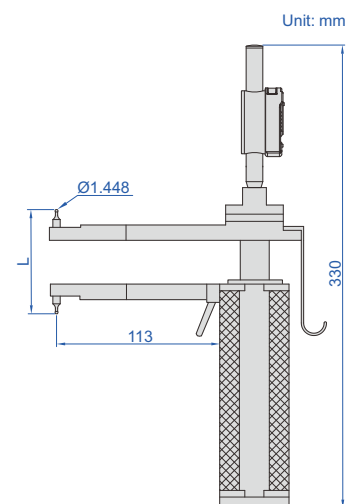
taper calculation formula: $\text{taper} = A/H$
A is the reading difference of two measurements
H is the distance between two measuring positions



2241-6

- Measure the taper of internal thread
- Digital indicator stroke: 25.4mm/1"
- Optional accessory: data output cable (code **7315-50M** need receiver page 5, **7302-40M** page 13), ball points (code **6252** series)

Code	Range (L)	Resolution	Accuracy
2241-6	1.5-6"/38.1-152.4mm	0.0005"/0.01mm	0.04mm



BALL POINTS

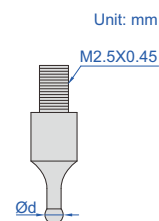
- Supplied in pair
- For taper measuring instruments (code **2230**, **2231**, **2240**, **2241**) and pitch measuring instruments (code **2234**, **2235**, **2245**)



6252-B10

Code	Thread type	Threads per inch	Ball dia. (Ød)	
			taper	pitch
6252-B8	round thread, line pipe	8	1.829mm	1.829mm
6252-B10	round thread, line pipe	10	1.448mm	1.448mm
6252-B115	line pipe	11.5	1.27mm	1.27mm
6252-B14	line pipe	14	1.041mm	1.041mm
6252-B18	line pipe	18	0.813mm	0.813mm
6252-B27	line pipe	27	0.533mm	0.533mm
6252-B5	butress thread	5	2.286mm	—
6252-B51	butress thread	5	—	1.575mm
6252-B52	extreme line thread	5,6	1.524mm	—
6252-B53	extreme line thread	5	—	2.667mm*
6252-B6	extreme line thread	6	—	2.210mm*

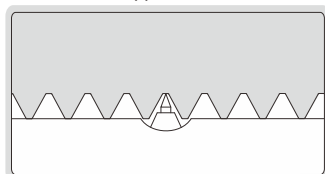
* 0.58mm off the top of ball



MEET INTERNATIONAL
STANDARD API5B

DIGITAL INTERNAL THREAD HEIGHT MEASURING INSTRUMENT

application

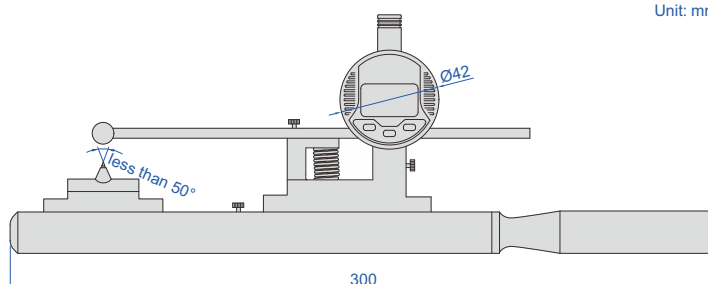


2243-35

- Measure the height of internal thread with nominal diameter less than 5 1/2" (139.7mm)
- Optional accessory: data output cable (code **7315-50M** need receiver page 5, **7302-50M** page 13), thread height standard blocks (code **6250**)

Unit: mm

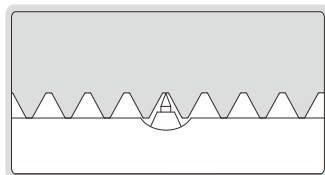
Code	Range	Resolution	Accuracy
2243-35	0-0.135"/0-3.5mm	0.0005"/0.01mm	0.02mm



MEET INTERNATIONAL
STANDARD API5B

INTERNAL THREAD HEIGHT MEASURING INSTRUMENTS

application

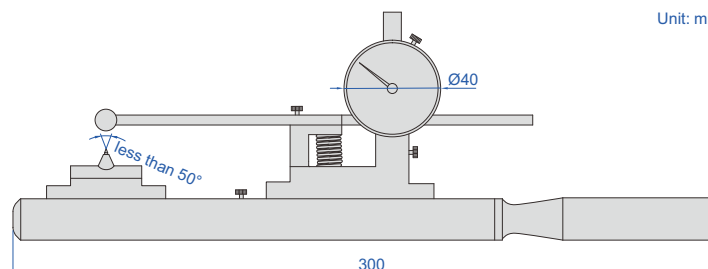


2233-35

- Measure the height of internal thread with nominal diameter less than 5 1/2" (139.7mm)
- Optional accessory: thread height standard blocks (code **6250**)

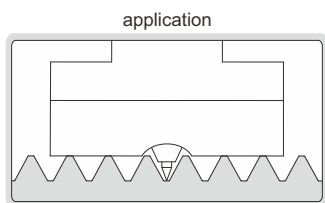
Unit: mm

Code	Range	Dial indicator graduation	Accuracy
2233-35	0-3.5mm	0.01mm	0.02mm
2233-35E	0-1/4"	0.0005"	0.0008"



DIGITAL THREAD HEIGHT MEASURING INSTRUMENT

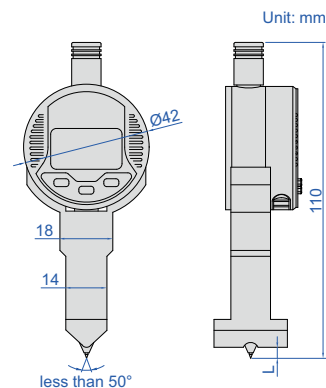
MEET INTERNATIONAL
STANDARD API5B



- Measure the height of external thread and internal thread with nominal diameter larger than 5 1/2" (139.7mm)
- Optional accessory: data output cable (code **7315-50M** need receiver page 5, **7302-40M** page 13), thread height standard blocks (code **6250**)



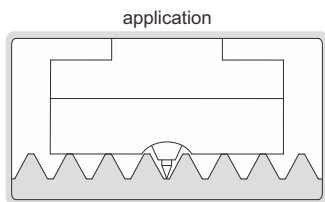
2242-35



Code	Range (L)	Resolution	Accuracy
2242-35	0-0.135"/0-3.5mm	0.0005"/0.01mm	0.02mm

THREAD HEIGHT MEASURING INSTRUMENTS

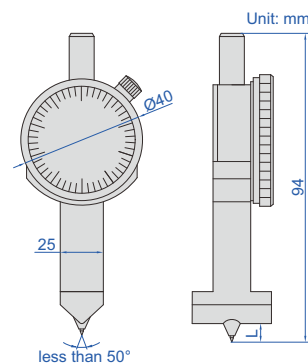
MEET INTERNATIONAL
STANDARD API5B



- Measure the height of external thread and internal thread with nominal diameter larger than 5 1/2" (139.7mm)
- Optional accessory: thread height standard blocks (code **6250**)



2232-35



Code	Range (L)	Dial indicator graduation	Accuracy
2232-35	0-3.5mm	0.01mm	0.02mm
2232-35E	0-1/4"	0.0005"	0.0008"

THREAD HEIGHT STANDARD BLOCKS

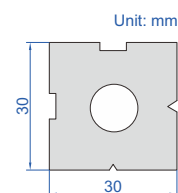
CAN BE CUSTOMIZED
ACCORDING TO WORKPIECES

- Set zero of internal and external thread height measuring instruments (code **2232**, **2233**, **2242**, **2243**)

Code	Taper	Number of thread per inch
6250-4	1:4	4
6250-5	1:4	5
6250-8	1:16	8, 10
6250-51	1:16	5

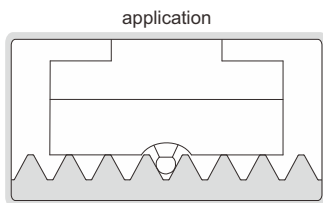


6250-8



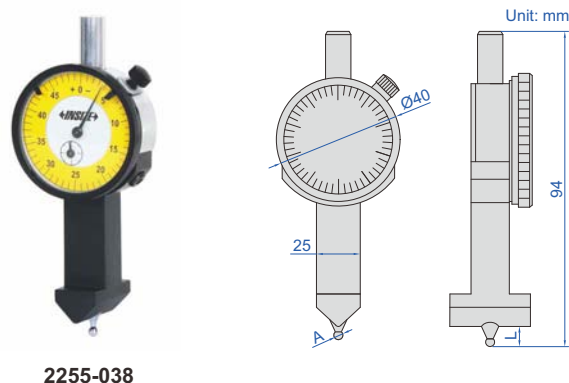
MEET INTERNATIONAL
STANDARD API 7-2

ROTARY SHOULDERED EXTERNAL THREAD CONNECTION HEIGHT MEASURING INSTRUMENTS



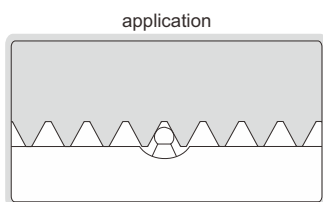
- Measure the height of rotary shouldered external thread connections
- Dial indicator graduation: 0.01mm
- Accuracy: 0.02mm
- Optional accessory: thread height standard blocks (code 6255)

Code	Form of thread to be inspected	Range (L)	A
2255-038	V-0.038R	0-3.5mm	Ø1.829mm
2255-040	V-0.040	0-3.5mm	Ø0.864mm
2255-050	V-0.050	0-5mm	Ø1.118mm
2255-055	V-0.055	0-3.5mm	Ø1.829mm



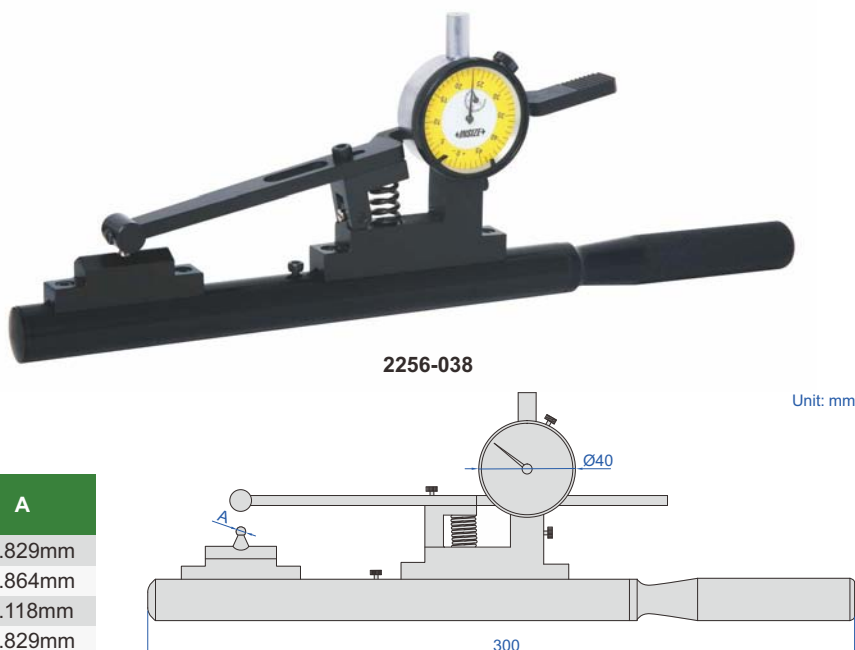
MEET INTERNATIONAL
STANDARD API 7-2

ROTARY SHOULDERED INTERNAL THREAD CONNECTION HEIGHT MEASURING INSTRUMENTS



- Measure the height of rotary shouldered internal thread connections
- Dial indicator graduation: 0.01mm
- Accuracy: 0.02mm
- Optional accessory: thread height standard blocks (code 6255)

Code	Form of thread to be inspected	Range (L)	A
2256-038	V-0.038R	0-3.5mm	Ø1.829mm
2256-040	V-0.040	0-3.5mm	Ø0.864mm
2256-050	V-0.050	0-5mm	Ø1.118mm
2256-055	V-0.055	0-3.5mm	Ø1.829mm



- Set zero of internal and external thread height measuring instruments (code 2255, 2256)

Code	Form of thread to be inspected	Taper	Number of thread per inch
6255-038	V-0.038R	1:6 and 1:4	4
6255-040	V-0.040	1:4	5
6255-050	V-0.050	1:6 and 1:4	4
6255-055	V-0.055	1:8	6

THREAD HEIGHT STANDARD BLOCKS

CAN BE CUSTOMIZED
ACCORDING TO WORKPIECES



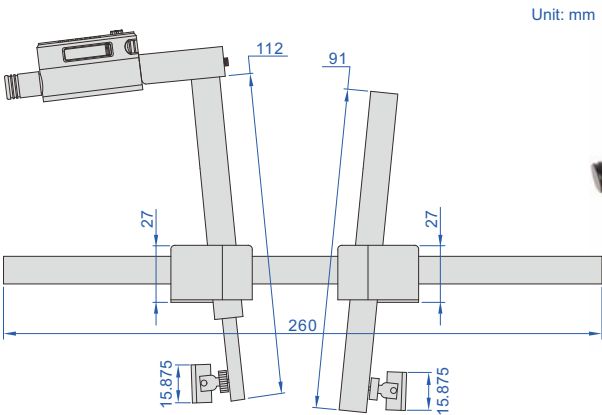
DIGITAL DEPTH GAGE (60° KNIFE EDGE BASE)

REFER TO PAGE 81
FOR DETAILS

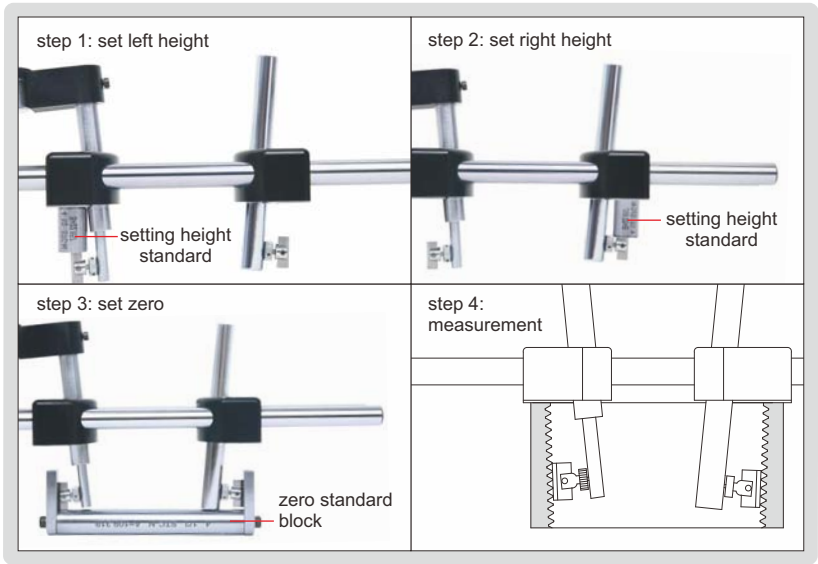


DIGITAL INTERNAL THREAD CREST DIAMETER MEASURING INSTRUMENT

MEET INTERNATIONAL
STANDARD API5B



application



- Measure the crest diameter of internal thread with nominal diameter larger than 2 3/8" (60.325mm) and less than 5 1/2" (139.7mm)
- Optional accessory: data output cable (code 7315-50M need receiver page 5, 7302-40M page 13), height standard and zero standard block (code 2237-G□□□, 2237-K□□□)

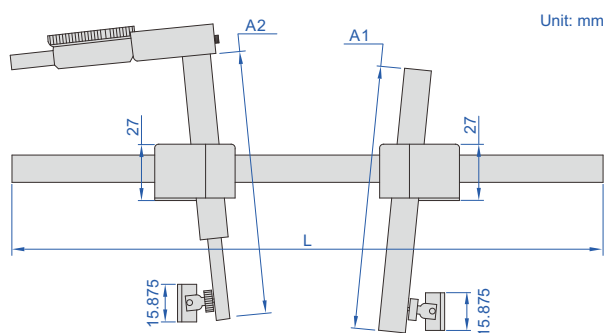
Code	Range	Digital indicator stroke	Resolution	Accuracy
2247-5	2 3/8-5 1/2"/60.325-139.7mm	0.2"/5mm	0.0005"/0.01mm	0.02mm

MEET INTERNATIONAL
STANDARD API5B

INTERNAL THREAD CREST DIAMETER MEASURING INSTRUMENTS

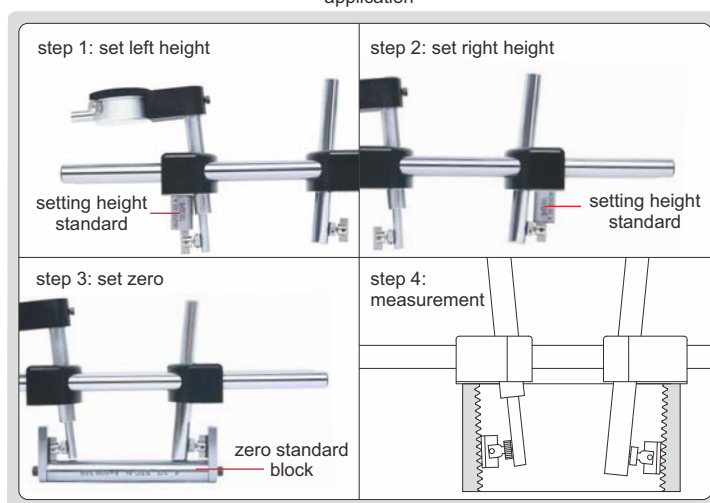


2237-5



- Measure the crest diameter of internal thread with nominal diameter larger than 2 3/8" (60.325mm) and less than 20" (508mm)
- Optional accessory: height standard and zero standard block

application



Code	Range	Dial indicator stroke	Dial indicator graduation	Accuracy	L	A1	A2
2237-5	2 3/8-5 1/2"/60.325-139.7mm	5mm	0.01mm	0.02mm	260mm	112mm	91mm
2237-5E	2 3/8-5 1/2"/60.325-139.7mm	0.25"	0.0005"	0.0008"	260mm	112mm	91mm
2237-20	4 1/2-20"/114.3-508mm	0.50"	0.0005"	0.002"	12", 18" or 24" *	177mm	182mm

* Select suitable length of arm according to workpieces



height standard



zero standard block A



zero standard block B

HEIGHT STANDARD AND ZERO STANDARD BLOCK (optional)

Code	Remark
2237-G □□□ **	including height standard and zero standard block A (without taper)
2237-K □□□ **	including height standard and zero standard block B (with taper)

** Can be customized according to workpieces

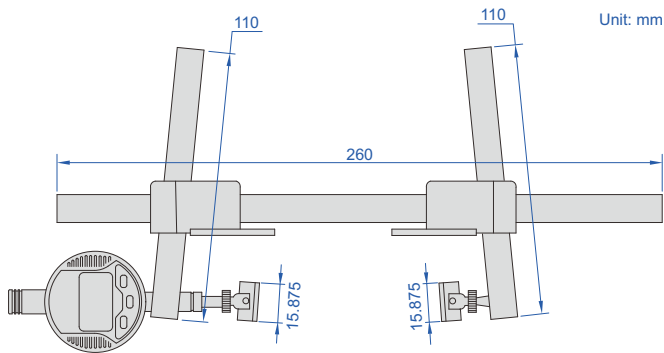
DIGITAL EXTERNAL THREAD CREST DIAMETER MEASURING INSTRUMENT

MEET INTERNATIONAL
STANDARD API5B

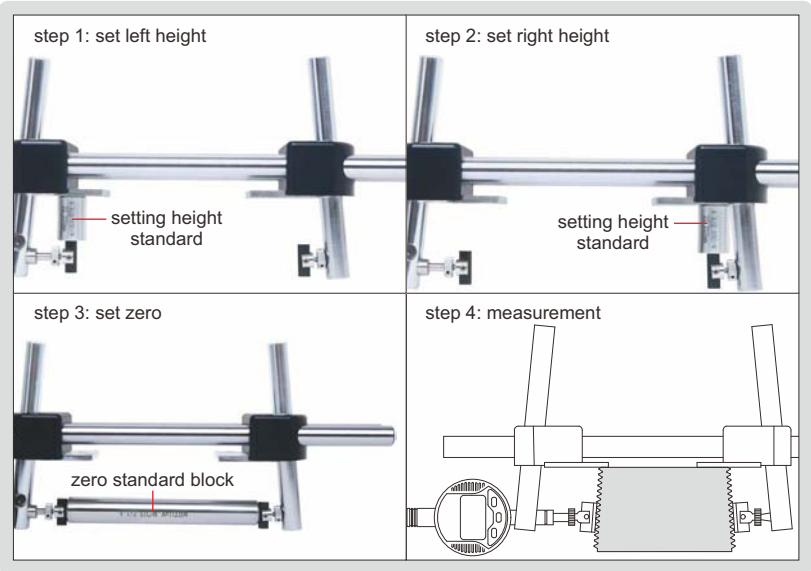


2246-5

- Measure the crest diameter of external thread with nominal diameter larger than 2 3/8" (60.325mm) and less than 5 1/2" (139.7mm)
- Optional accessory: data output cable (code 7315-50M need receiver page 5, 7302-40M page 13), height standard and zero standard block (code 2236-G□□□, 2236-K□□□)



application



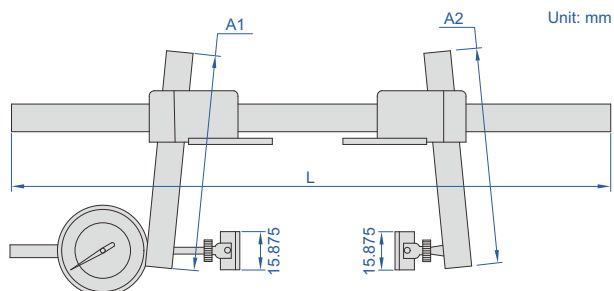
Code	Range	Digital indicator stroke	Resolution	Accuracy
2246-5	2 3/8-5 1/2"/60.325-139.7mm	0.2"/5mm	0.0005"/0.01mm	0.02mm

MEET INTERNATIONAL
STANDARD API5B

EXTERNAL THREAD CREST DIAMETER MEASURING INSTRUMENTS

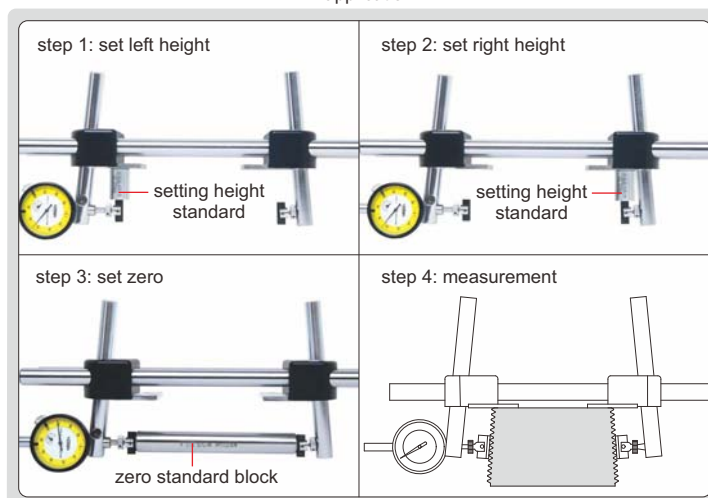


2236-5



- Measure the crest diameter of external thread with nominal diameter larger than 2 3/8" (60.325mm) and less than 20" (508mm)
- Optional accessory: height standard and zero standard block

application



Code	Range	Dial indicator stroke	Dial indicator graduation	Accuracy	L	A1	A2
2236-5	2 3/8-5 1/2"/60.325-139.7mm	5mm	0.01mm	0.02mm	260mm	110mm	110mm
2236-5E	2 3/8-5 1/2"/60.325-139.7mm	0.25"	0.0005"	0.0008"	260mm	110mm	110mm
2236-20	2 3/8-20"/60.325-508mm	0.50"	0.0005"	0.002"	12", 18" or 24" *	177mm	160mm

* Select suitable length of arm according to workpieces



HEIGHT STANDARD AND ZERO STANDARD BLOCK (optional)

Code	Remark
2236-G □□□ **	including height standard and zero standard block A (without taper)
2236-K □□□ **	including height standard and zero standard block B (with taper)

** Can be customized according to workpieces

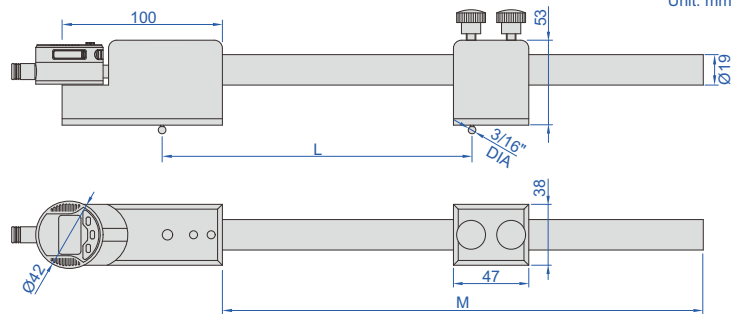
DIGITAL GROOVE DIAMETER MEASURING INSTRUMENT

POINT DIAMETER CAN BE CUSTOM-MADE

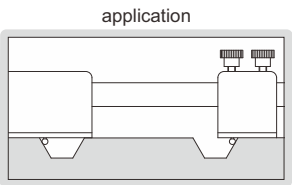


2261-5

- Measure the groove diameter of flange ring groove
- Point height is adjustable
- Optional: data output cable (code 7315-50M need receiver page 5, 7302-40M page 13), groove standard block (code 6254)



Unit: mm



Stem (optional)

Code	M
2261-M24	24"/600mm
2261-M30	30"/750mm
2261-M36	36"/900mm

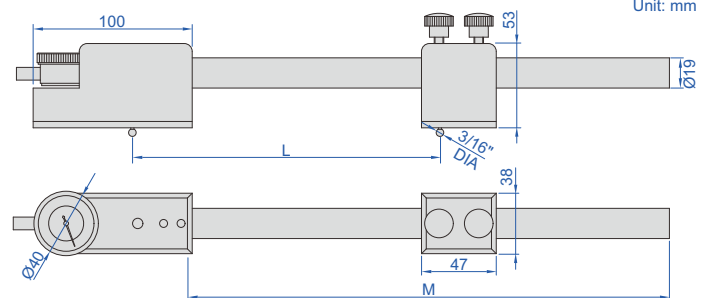
GROOVE DIAMETER MEASURING INSTRUMENTS

POINT DIAMETER CAN BE CUSTOM-MADE

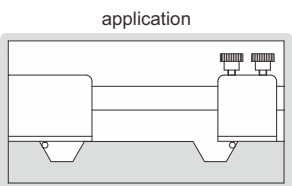


2251-5

- Measure the groove diameter of flange ring groove
- Point height is adjustable
- Optional: groove standard block (code 6254)



Unit: mm



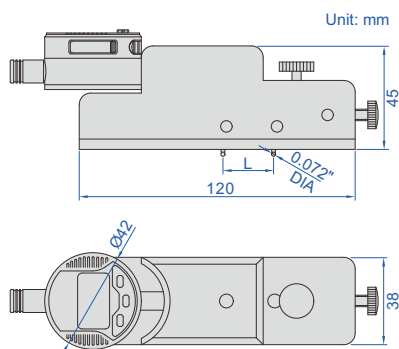
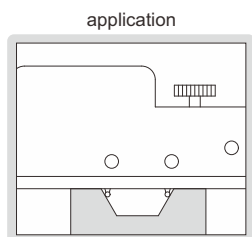
Stem (optional)

Code	M
2261-M24	24"/600mm
2261-M30	30"/750mm
2261-M36	36"/900mm

Code	Range (L)	Movable point stroke	Graduation	Repeatability	M
2251-5	2.6-13"/66-330mm	0.2"/5mm	0.01mm	0.005mm	12"/300mm
2251-5E	2.6-13"/66-330mm	0.2"/5mm	0.0005"	0.0002"	12"/300mm

POINT DIAMETER CAN
BE CUSTOM-MADE

DIGITAL GROOVE WIDTH MEASURING INSTRUMENT



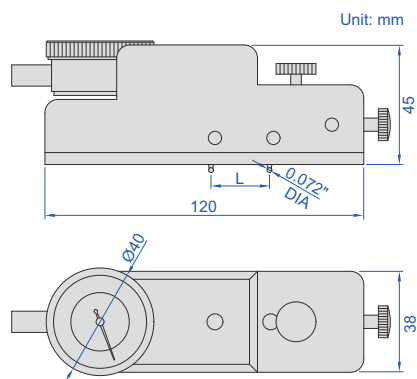
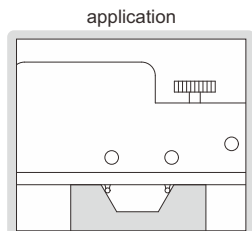
2260-4

- Measure the groove width of flange ring groove
- Point height is adjustable
- Optional: data output cable (code 7315-50M need receiver page 5, 7302-40M page 13), groove standard block (code 6254)

Code	Range (L)	Movable point stroke	Resolution	Repeatability
2260-4	0.55-1.4"/14-35.5mm	0.16"/4mm	0.00005"/0.001mm	0.002mm

POINT DIAMETER CAN
BE CUSTOM-MADE

GROOVE WIDTH MEASURING INSTRUMENTS



2250-4

- Measure the groove width of flange ring groove
- Point height is adjustable
- Optional: groove standard block (code 6254)

Code	Range (L)	Movable point stroke	Graduation	Repeatability
2250-4	0.55-1.4"/14-35.5mm	0.16"/4mm	0.01mm	0.005mm
2250-4E	0.55-1.4"/14-35.5mm	0.16"/4mm	0.0005"	0.0002"

CUSTOM-MADE

STANDARD GROOVE BLOCK CODE 6254



- Set zero of groove width and groove diameter measuring instruments (code 2250, 2251, 2260, 2261)

DIGITAL CALIPERS WITH INTERCHANGEABLE BALL TIPS

REFER TO PAGE 61
FOR DETAILS



1527-3001



1528-3001

DIGITAL RTJ RING GROOVE CALIPERS

REFER TO PAGE 60
FOR DETAILS



1179-300



1179-600

THREAD GAGES FOR ROTARY SHOULDERED CONNECTIONS OF PETROLEUM EQUIPMENT

REFER TO PAGE 372
FOR DETAILS



4177-23

CASING, TUBING AND LINE PIPE THREAD GAGES OF PETROLEUM AND GAS EQUIPMENT

REFER TO PAGE
373-374 FOR DETAILS



4178-21T



Gage Blocks
Page 318-325



Caliper Inspection Gage Block Sets
Page 326



Micrometer Inspection Gage Block Sets
Page 327



Gage Block Holders
Page 327



Gage Block Accessories
Page 328



Cylinder Gage Blocks
Page 329



CMM Check Masters
Page 330-331



Caliper/Height Gage Checkers
Page 332



Angle Gage Blocks
Page 333



Pin Gages
Page 334-337



Pin Gage Handles
Page 337-339



Cylinder Gages
Page 340



Adjustable Snap Gages
Page 341



Setting Rings
Page 342-344



Plain Plug Gages
Page 345-348



Measuring Balls
Page 349-350



Threaded Hole Location Gages
Page 350-351



Thread Depth Gages
Page 352-353



Thread Ring/Plug Gages
Page 354-374



Semi-Automatic Thread Inspectors
Page 374

GAGE BLOCKS

Accuracy according to ISO3650

Nominal length (mm)	Grade 0		Grade 1		Grade 2	
	Limit deviation of length	Tolerance for the variation in length	Limit deviation of length	Tolerance for the variation in length	Limit deviation of length	Tolerance for the variation in length
over 0.5 to 10	±0.12µm	0.10µm	±0.20µm	0.16µm	±0.45µm	0.30µm
over 10 to 25	±0.14µm	0.10µm	±0.30µm	0.16µm	±0.60µm	0.30µm
over 25 to 50	±0.20µm	0.10µm	±0.40µm	0.18µm	±0.80µm	0.30µm
over 50 to 75	±0.25µm	0.12µm	±0.50µm	0.18µm	±1.00µm	0.35µm
over 75 to 100	±0.30µm	0.12µm	±0.60µm	0.20µm	±1.20µm	0.35µm
over 100 to 150	±0.40µm	0.14µm	±0.80µm	0.20µm	±1.60µm	0.40µm
over 150 to 200	±0.50µm	0.16µm	±1.00µm	0.25µm	±2.00µm	0.40µm
over 200 to 250	±0.60µm	0.16µm	±1.20µm	0.25µm	±2.40µm	0.45µm
over 250 to 300	±0.70µm	0.18µm	±1.40µm	0.25µm	±2.80µm	0.50µm
over 300 to 400	±0.90µm	0.20µm	±1.80µm	0.30µm	±3.60µm	0.50µm
over 400 to 500	±1.10µm	0.25µm	±2.20µm	0.35µm	±4.40µm	0.60µm
over 500 to 600	±1.30µm	0.25µm	±2.60µm	0.40µm	±5.00µm	0.70µm
over 600 to 700	±1.50µm	0.30µm	±3.00µm	0.45µm	±6.00µm	0.70µm
over 700 to 800	±1.70µm	0.30µm	±3.40µm	0.50µm	±6.50µm	0.80µm
over 800 to 900	±1.90µm	0.35µm	±3.80µm	0.50µm	±7.50µm	0.90µm
over 900 to 1000	±2.00µm	0.40µm	±4.20µm	0.60µm	±8.00µm	1.00µm

Grade and application

Grade	Application
0	To be used as basic standards in calibration laboratories by skilled inspection staff, to calibrate or set high accuracy measuring instruments, to calibrate gage blocks of grade 1 and 2.
1	To be used in inspection rooms, to check gages, inspect high accuracy parts and set measuring instruments.
2	To be used in workshops, to check production gages, set measuring instruments and mount tools.

WEAR BLOCK SETS

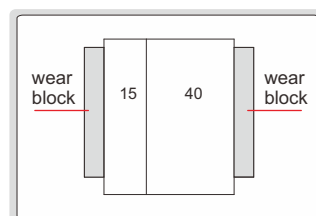


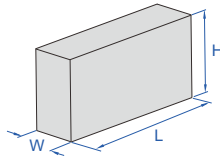
- Protect the measuring surfaces of gage blocks from excessive wear
- Meet ISO3650
- Supplied with manufacturer inspection certificate



4111-2

Blocks per set	Size	Material	Code	
			Grade 0	Grade 1
2	1.0mm	ceramic	4111-1	4111-11
2	1.0mm	alloy steel	4111-1A	4111-11A
2	2.0mm	ceramic	4111-2	4111-12
2	2.0mm	alloy steel	4111-2A	4111-12A





Dimension:

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



4105-87

- Made of ceramic, extremely wear resistance and corrosion resistance, excellent dimension stability
- Meet ISO3650
- Supplied with manufacturer inspection certificate

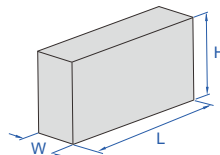
Blocks per set	Gage blocks included in set			Code	
	Size (mm)	Step (mm)	Quantity	Grade 0	Grade 1
112	1.0005		1	4105-112	4105-1112
	1.001-1.009	0.001	9		
	1.01-1.49	0.01	49		
	0.5-24.5	0.5	49		
	25-100	25	4		
103	1.005		1	4105-103	4105-1103
	1.01-1.49	0.01	49		
	0.5-24.5	0.5	49		
	25-100	25	4		
88	1.0005		1	4105-88	4105-188
	1.001-1.009	0.001	9		
	1.01-1.49	0.01	49		
	0.5-9.5	0.5	19		
	10-100	10	10		
87	1.001-1.009	0.001	9	4105-87	4105-187
	1.01-1.49	0.01	49		
	0.5-9.5	0.5	19		
	10-100	10	10		
76	1.005		1	4105-76	4105-176
	1.01-1.49	0.01	49		
	0.5-9.5	0.5	19		
	10-40	10	4		
	50-100	25	3		
56	0.5		1	4105-56	4105-156
	1.001-1.009	0.001	9		
	1.01-1.09	0.01	9		
	1.1-1.9	0.1	9		
	1-24	1	24		
	25-100	25	4		

Blocks per set	Gage blocks included in set			Code	
	Size (mm)	Step (mm)	Quantity	Grade 0	Grade 1
47	1.005		1	4105-47A	4105-147A
	1.01-1.09	0.01	9		
	1.1-1.9	0.1	9		
	1-24	1	24		
	25-100	25	4		
47	1.005		1	4105-47	4105-147
	1.01-1.19	0.01	19		
	1.2-1.9	0.1	8		
	1-9	1	9		
	10-100	10	10		
46	1.001-1.009	0.001	9	4105-46	4105-146
	1.01-1.09	0.01	9		
	1.1-1.9	0.1	9		
	1-9	1	9		
	10-100	10	10		
34	1.0005		1	4105-34	4105-134
	1.001-1.009	0.001	9		
	1.01-1.09	0.01	9		
	1.1-1.9	0.1	9		
	1-5	1	5		
	10		1		
32	1.005		1	4105-32	4105-132
	1.01-1.09	0.01	9		
	1.1-1.9	0.1	9		
	1-9	1	9		
	10-30	10	3		
	50		1		

CERAMIC INDIVIDUAL GAGE BLOCKS



4106-A80



Dimension:

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

- Grade 0 and 1 gage blocks are available
- Made of ceramic, extremely wear resistance and corrosion resistance
- Meet ISO3650
- Supplied with manufacturer inspection certificate

Code explanation:

4106-X□□□□

→ A for grade 0

→ B for grade 1

Code examples:

Size (L)	Grade	Code
0.5mm	0	4106-AD5
10mm	1	4106-B10

Size	Code
0.5mm	4106- <u>X</u> D5
1mm	4106- <u>X</u> 1
1.0005mm	4106- <u>X</u> 1D0005
1.001mm	4106- <u>X</u> 1D001
1.002mm	4106- <u>X</u> 1D002
1.003mm	4106- <u>X</u> 1D003
1.004mm	4106- <u>X</u> 1D004
1.005mm	4106- <u>X</u> 1D005
1.006mm	4106- <u>X</u> 1D006
1.007mm	4106- <u>X</u> 1D007
1.008mm	4106- <u>X</u> 1D008
1.009mm	4106- <u>X</u> 1D009
1.01mm	4106- <u>X</u> 1D01
1.02mm	4106- <u>X</u> 1D02
1.03mm	4106- <u>X</u> 1D03
1.04mm	4106- <u>X</u> 1D04
1.05mm	4106- <u>X</u> 1D05
1.06mm	4106- <u>X</u> 1D06
1.07mm	4106- <u>X</u> 1D07
1.08mm	4106- <u>X</u> 1D08
1.09mm	4106- <u>X</u> 1D09
1.1mm	4106- <u>X</u> 1D1
1.11mm	4106- <u>X</u> 1D11
1.12mm	4106- <u>X</u> 1D12
1.13mm	4106- <u>X</u> 1D13
1.14mm	4106- <u>X</u> 1D14
1.15mm	4106- <u>X</u> 1D15
1.16mm	4106- <u>X</u> 1D16
1.17mm	4106- <u>X</u> 1D17
1.18mm	4106- <u>X</u> 1D18
1.19mm	4106- <u>X</u> 1D19
1.2mm	4106- <u>X</u> 1D2
1.21mm	4106- <u>X</u> 1D21
1.22mm	4106- <u>X</u> 1D22

Size	Code
1.23mm	4106- <u>X</u> 1D23
1.24mm	4106- <u>X</u> 1D24
1.25mm	4106- <u>X</u> 1D25
1.26mm	4106- <u>X</u> 1D26
1.27mm	4106- <u>X</u> 1D27
1.28mm	4106- <u>X</u> 1D28
1.29mm	4106- <u>X</u> 1D29
1.3mm	4106- <u>X</u> 1D3
1.31mm	4106- <u>X</u> 1D31
1.32mm	4106- <u>X</u> 1D32
1.33mm	4106- <u>X</u> 1D33
1.34mm	4106- <u>X</u> 1D34
1.35mm	4106- <u>X</u> 1D35
1.36mm	4106- <u>X</u> 1D36
1.37mm	4106- <u>X</u> 1D37
1.38mm	4106- <u>X</u> 1D38
1.39mm	4106- <u>X</u> 1D39
1.4mm	4106- <u>X</u> 1D4
1.41mm	4106- <u>X</u> 1D41
1.42mm	4106- <u>X</u> 1D42
1.43mm	4106- <u>X</u> 1D43
1.44mm	4106- <u>X</u> 1D44
1.45mm	4106- <u>X</u> 1D45
1.46mm	4106- <u>X</u> 1D46
1.47mm	4106- <u>X</u> 1D47
1.48mm	4106- <u>X</u> 1D48
1.49mm	4106- <u>X</u> 1D49
1.5mm	4106- <u>X</u> 1D5
1.6mm	4106- <u>X</u> 1D6
1.7mm	4106- <u>X</u> 1D7
1.8mm	4106- <u>X</u> 1D8
1.9mm	4106- <u>X</u> 1D9
2mm	4106- <u>X</u> 2
2.5mm	4106- <u>X</u> 2D5

Size	Code
3mm	4106- <u>X</u> 3
3.5mm	4106- <u>X</u> 3D5
4mm	4106- <u>X</u> 4
4.5mm	4106- <u>X</u> 4D5
5mm	4106- <u>X</u> 5
5.1mm	4106- <u>X</u> 5D1
5.5mm	4106- <u>X</u> 5D5
6mm	4106- <u>X</u> 6
6.5mm	4106- <u>X</u> 6D5
7mm	4106- <u>X</u> 7
7.5mm	4106- <u>X</u> 7D5
7.7mm	4106- <u>X</u> 7D7
8mm	4106- <u>X</u> 8
8.5mm	4106- <u>X</u> 8D5
9mm	4106- <u>X</u> 9
9.5mm	4106- <u>X</u> 9D5
10mm	4106- <u>X</u> 10
10.3mm	4106- <u>X</u> 10D3
10.5mm	4106- <u>X</u> 10D5
11mm	4106- <u>X</u> 11
11.5mm	4106- <u>X</u> 11D5
12mm	4106- <u>X</u> 12
12.5mm	4106- <u>X</u> 12D5
12.9mm	4106- <u>X</u> 12D9
13mm	4106- <u>X</u> 13
13.5mm	4106- <u>X</u> 13D5
14mm	4106- <u>X</u> 14
14.5mm	4106- <u>X</u> 14D5
15mm	4106- <u>X</u> 15
15.5mm	4106- <u>X</u> 15D5
16mm	4106- <u>X</u> 16
16.5mm	4106- <u>X</u> 16D5
17mm	4106- <u>X</u> 17
17.5mm	4106- <u>X</u> 17D5

Size	Code
17.6mm	4106- <u>X</u> 17D6
18mm	4106- <u>X</u> 18
18.5mm	4106- <u>X</u> 18D5
19mm	4106- <u>X</u> 19
19.5mm	4106- <u>X</u> 19D5
20mm	4106- <u>X</u> 20
20.2mm	4106- <u>X</u> 20D2
20.5mm	4106- <u>X</u> 20D5
21mm	4106- <u>X</u> 21
21.5mm	4106- <u>X</u> 21D5
22mm	4106- <u>X</u> 22
22.5mm	4106- <u>X</u> 22D5
22.8mm	4106- <u>X</u> 22D8
23mm	4106- <u>X</u> 23
23.5mm	4106- <u>X</u> 23D5
24mm	4106- <u>X</u> 24
24.5mm	4106- <u>X</u> 24D5
25mm	4106- <u>X</u> 25
30mm	4106- <u>X</u> 30
40mm	4106- <u>X</u> 40
41.3mm	4106- <u>X</u> 41D3
50mm	4106- <u>X</u> 50
60mm	4106- <u>X</u> 60
70mm	4106- <u>X</u> 70
75mm	4106- <u>X</u> 75
80mm	4106- <u>X</u> 80
90mm	4106- <u>X</u> 90
100mm	4106- <u>X</u> 100
125mm	4106- <u>X</u> 125
131.4mm	4106- <u>X</u> 131D4
150mm	4106- <u>X</u> 150

CUSTOM-MADE
CAN SUPPLY ANY SIZES FROM
0.5 TO 100MM, SUCH AS 70.672MM

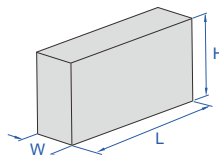


CERAMIC INDIVIDUAL GAGE BLOCKS

INSIZE PLUS
MADE IN EUROPE



4103-A80



Dimension:

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

- Grade K, 0 and 1 gage blocks are available
- Made of ceramic, extremely wear resistance and corrosion resistance
- Meet ISO3650
- Supplied with manufacturer inspection certificate

Code explanation:

4103-X□□□□

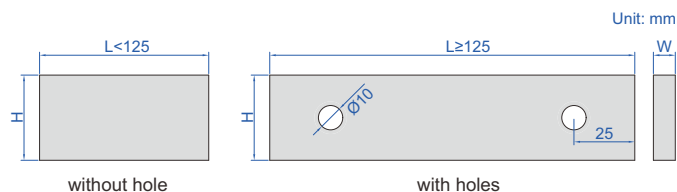
- K for grade K
- A for grade 0
- B for grade 1

Code examples:

Size (L)	Grade	Code
0.5mm	K	4103-KD5
10mm	0	4103-A10
10mm	1	4103-B10

Size	Code	Size	Code	Size	Code	Size	Code
0.5mm	4103-XD5	1.23mm	4103-X1D23	3mm	4103-X3	20mm	4103-X20
1mm	4103-X1	1.24mm	4103-X1D24	3.5mm	4103-X3D5	20.5mm	4103-X20D5
1.0005mm	4103-X1D0005	1.25mm	4103-X1D25	4mm	4103-X4	21mm	4103-X21
1.001mm	4103-X1D001	1.26mm	4103-X1D26	4.5mm	4103-X4D5	21.5mm	4103-X21D5
1.002mm	4103-X1D002	1.27mm	4103-X1D27	5mm	4103-X5	22mm	4103-X22
1.003mm	4103-X1D003	1.28mm	4103-X1D28	5.5mm	4103-X5D5	22.5mm	4103-X22D5
1.004mm	4103-X1D004	1.29mm	4103-X1D29	6mm	4103-X6	23mm	4103-X23
1.005mm	4103-X1D005	1.3mm	4103-X1D3	6.5mm	4103-X6D5	23.5mm	4103-X23D5
1.006mm	4103-X1D006	1.31mm	4103-X1D31	7mm	4103-X7	24mm	4103-X24
1.007mm	4103-X1D007	1.32mm	4103-X1D32	7.5mm	4103-X7D5	24.5mm	4103-X24D5
1.008mm	4103-X1D008	1.33mm	4103-X1D33	8mm	4103-X8	25mm	4103-X25
1.009mm	4103-X1D009	1.34mm	4103-X1D34	8.5mm	4103-X8D5	30mm	4103-X30
1.01mm	4103-X1D01	1.35mm	4103-X1D35	9mm	4103-X9	40mm	4103-X40
1.02mm	4103-X1D02	1.36mm	4103-X1D36	9.5mm	4103-X9D5	50mm	4103-X50
1.03mm	4103-X1D03	1.37mm	4103-X1D37	10mm	4103-X10	60mm	4103-X60
1.04mm	4103-X1D04	1.38mm	4103-X1D38	10.5mm	4103-X10D5	70mm	4103-X70
1.05mm	4103-X1D05	1.39mm	4103-X1D39	11mm	4103-X11	75mm	4103-X75
1.06mm	4103-X1D06	1.4mm	4103-X1D4	11.5mm	4103-X11D5	80mm	4103-X80
1.07mm	4103-X1D07	1.41mm	4103-X1D41	12mm	4103-X12	90mm	4103-X90
1.08mm	4103-X1D08	1.42mm	4103-X1D42	12.5mm	4103-X12D5	100mm	4103-X100
1.09mm	4103-X1D09	1.43mm	4103-X1D43	13mm	4103-X13		
1.1mm	4103-X1D1	1.44mm	4103-X1D44	13.5mm	4103-X13D5		
1.11mm	4103-X1D11	1.45mm	4103-X1D45	14mm	4103-X14		
1.12mm	4103-X1D12	1.46mm	4103-X1D46	14.5mm	4103-X14D5		
1.13mm	4103-X1D13	1.47mm	4103-X1D47	15mm	4103-X15		
1.14mm	4103-X1D14	1.48mm	4103-X1D48	15.5mm	4103-X15D5		
1.15mm	4103-X1D15	1.49mm	4103-X1D49	16mm	4103-X16		
1.16mm	4103-X1D16	1.5mm	4103-X1D5	16.5mm	4103-X16D5		
1.17mm	4103-X1D17	1.6mm	4103-X1D6	17mm	4103-X17		
1.18mm	4103-X1D18	1.7mm	4103-X1D7	17.5mm	4103-X17D5		
1.19mm	4103-X1D19	1.8mm	4103-X1D8	18mm	4103-X18		
1.2mm	4103-X1D2	1.9mm	4103-X1D9	18.5mm	4103-X18D5		
1.21mm	4103-X1D21	2mm	4103-X2	19mm	4103-X19		
1.22mm	4103-X1D22	2.5mm	4103-X2D5	19.5mm	4103-X19D5		

STEEL GAGE BLOCK SETS



Dimension:

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

Code example:
“-122” stands for “4100-122”

- Made of alloy steel
- Meet ISO3650
- Gage blocks ≥ 125mm have clamping holes
- Supplied with manufacturer inspection certificate



4100-87

POPULAR
MODEL

Blocks per set	Gage blocks included in set			Code (4100)		
	Size (mm)	Step (mm)	Quantity	Grade 0	Grade 1	Grade 2
122	1.0005		1			
	1.001-1.009	0.001	9			
	1.01-1.49	0.01	49			
	1.6-1.9	0.1	4	-122	-1122	-2122
	0.5-24.5	0.5	49			
	30-100	10	8			
	25-75	50	2			
112	1.0005		1			
	1.001-1.009	0.001	9			
	1.01-1.49	0.01	49	-112	-1112	-2112
	0.5-24.5	0.5	49			
	25-100	25	4			
103	1.005		1			
	1.01-1.49	0.01	49			
	0.5-24.5	0.5	49	-103	-1103	-2103
	25-100	25	4			
88	1.0005		1			
	1.001-1.009	0.001	9			
	1.01-1.49	0.01	49	-88	-188	-288
	0.5-9.5	0.5	19			
	10-100	10	10			
87	1.001-1.009	0.001	9			
	1.01-1.49	0.01	49			
	0.5-9.5	0.5	19	-87	-187	-287
	10-100	10	10			
83	0.5		1			
	1		1			
	1.005		1			
	1.01-1.49	0.01	49	-83	-183	-283
	1.5-1.9	0.1	5			
76	2-9.5	0.5	16			
	10-100	10	10			
	1.005		1			
	1.01-1.49	0.01	49			
	0.5-9.5	0.5	19	-76	-176	-276
	10-40	10	4			
	50-100	25	3			

Blocks per set	Gage blocks included in set			Code (4100)		
	Size (mm)	Step (mm)	Quantity	Grade 0	Grade 1	Grade 2
56	0.5		1			
	1.001-1.009	0.001	9			
	1.01-1.09	0.01	9			
	1.1-1.9	0.1	9	-56	-156	-256
	1-24	1	24			
	25-100	25	4			
47	1.005		1			
	1.01-1.09	0.01	9			
	1.1-1.9	0.1	9	-47A	-147A	-247A
	1-24	1	24			
47	25-100	25	4			
	1.005		1			
	1.01-1.19	0.01	19			
	1.2-1.9	0.1	8	-47	-147	-247
	1-9	1	9			
46	10-100	10	10			
	1.001-1.009	0.001	9			
	1.01-1.09	0.01	9			
	1.1-1.9	0.1	9	-46	-146	-246
	1-9	1	9			
34	10-100	10	10			
	1.0005		1			
	1.001-1.009	0.001	9			
	1.01-1.09	0.01	9	-34	-134	-234
	1.1-1.9	0.1	9			
	1-5	1	5			
32	10		1			
	1.005		1			
	1.01-1.09	0.01	9			
	1.1-1.9	0.1	9	-32	-132	-232
	1-9	1	9			
	10-30	10	3			
9	50		1			
	1.001-1.009	0.001	9	-9	-19	-29
9	0.991-0.999	0.001	9	-9A	-19A	-29A
8	125-175	25	3			
	200-250	50	2	-8	-18	-28
	300-500	100	3			

CUSTOM-MADE
CAN SUPPLY ANY SIZES FROM
0.5 TO 1000MM, SUCH AS 72.672MM



STEEL INDIVIDUAL GAGE BLOCKS



4101-A70



4101-A200

Unit: mm

- Grade 0, 1 and 2 gage blocks are available
- Made of alloy steel
- Meet ISO3650
- Gage blocks with clamping holes: 125, 150, 175, 200, 250, 300, 400, 500, 600, 700, 800, 900, 1000mm
- Supplied with manufacturer inspection certificate



without hole



with holes

Code explanation:

4101-X□□□□□

- A for grade 0
- B for grade 1
- C for grade 2

Code examples:

Size (L)	Grade	Code
0.5mm	0	4101-AD5
1mm	1	4101-B1
10.5mm	2	4101-C10D5

Dimension:

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

Size	Code
0.5mm	4101-XD5
0.991mm	4101-XD991
0.992mm	4101-XD992
0.993mm	4101-XD993
0.994mm	4101-XD994
0.995mm	4101-XD995
0.996mm	4101-XD996
0.997mm	4101-XD997
0.998mm	4101-XD998
0.999mm	4101-XD999
1mm	4101-X1
1.0005mm	4101-X1D0005
1.001mm	4101-X1D001
1.002mm	4101-X1D002
1.003mm	4101-X1D003
1.004mm	4101-X1D004
1.005mm	4101-X1D005
1.006mm	4101-X1D006
1.007mm	4101-X1D007
1.008mm	4101-X1D008
1.009mm	4101-X1D009
1.01mm	4101-X1D01
1.02mm	4101-X1D02
1.03mm	4101-X1D03
1.04mm	4101-X1D04
1.05mm	4101-X1D05
1.06mm	4101-X1D06
1.07mm	4101-X1D07
1.08mm	4101-X1D08
1.09mm	4101-X1D09
1.1mm	4101-X1D1
1.11mm	4101-X1D11
1.12mm	4101-X1D12
1.13mm	4101-X1D13
1.14mm	4101-X1D14
1.15mm	4101-X1D15
1.16mm	4101-X1D16
1.17mm	4101-X1D17
1.18mm	4101-X1D18

Size	Code
1.19mm	4101-X1D19
1.2mm	4101-X1D2
1.21mm	4101-X1D21
1.22mm	4101-X1D22
1.23mm	4101-X1D23
1.24mm	4101-X1D24
1.25mm	4101-X1D25
1.26mm	4101-X1D26
1.27mm	4101-X1D27
1.28mm	4101-X1D28
1.29mm	4101-X1D29
1.3mm	4101-X1D3
1.31mm	4101-X1D31
1.32mm	4101-X1D32
1.33mm	4101-X1D33
1.34mm	4101-X1D34
1.35mm	4101-X1D35
1.36mm	4101-X1D36
1.37mm	4101-X1D37
1.38mm	4101-X1D38
1.39mm	4101-X1D39
1.4mm	4101-X1D4
1.41mm	4101-X1D41
1.42mm	4101-X1D42
1.43mm	4101-X1D43
1.44mm	4101-X1D44
1.45mm	4101-X1D45
1.46mm	4101-X1D46
1.47mm	4101-X1D47
1.48mm	4101-X1D48
1.49mm	4101-X1D49
1.5mm	4101-X1D5
1.6mm	4101-X1D6
1.7mm	4101-X1D7
1.8mm	4101-X1D8
1.9mm	4101-X1D9
2mm	4101-X2
2.5mm	4101-X2D5
3mm	4101-X3

Size	Code
3.5mm	4101-X3D5
4mm	4101-X4
4.5mm	4101-X4D5
5mm	4101-X5
5.1mm	4101-X5D1
5.5mm	4101-X5D5
6mm	4101-X6
6.5mm	4101-X6D5
7mm	4101-X7
7.5mm	4101-X7D5
7.7mm	4101-X7D7
8mm	4101-X8
8.5mm	4101-X8D5
9mm	4101-X9
9.5mm	4101-X9D5
10mm	4101-X10
10.3mm	4101-X10D3
10.5mm	4101-X10D5
11mm	4101-X11
11.5mm	4101-X11D5
12mm	4101-X12
12.5mm	4101-X12D5
12.9mm	4101-X12D9
13mm	4101-X13
13.5mm	4101-X13D5
14mm	4101-X14
14.5mm	4101-X14D5
15mm	4101-X15
15.5mm	4101-X15D5
16mm	4101-X16
16.5mm	4101-X16D5
17mm	4101-X17
17.5mm	4101-X17D5
17.6mm	4101-X17D6
18mm	4101-X18
18.5mm	4101-X18D5
19mm	4101-X19
19.5mm	4101-X19D5
20mm	4101-X20

Size	Code
20.2mm	4101-X20D2
20.5mm	4101-X20D5
21mm	4101-X21
21.5mm	4101-X21D5
22mm	4101-X22
22.5mm	4101-X22D5
22.8mm	4101-X22D8
23mm	4101-X23
23.5mm	4101-X23D5
24mm	4101-X24
24.5mm	4101-X24D5
25mm	4101-X25
30mm	4101-X30
35mm	4101-X35
40mm	4101-X40
41.3mm	4101-X41D3
45mm	4101-X45
50mm	4101-X50
60mm	4101-X60
70mm	4101-X70
75mm	4101-X75
80mm	4101-X80
90mm	4101-X90
100mm	4101-X100
125mm	4101-X125
131.4mm	4101-X131D4
150mm	4101-X150
175mm	4101-X175
200mm	4101-X200
250mm	4101-X250
300mm	4101-X300
400mm	4101-X400
500mm	4101-X500
600mm	4101-X600
700mm	4101-X700
750mm	4101-X750
800mm	4101-X800
900mm	4101-X900
1000mm	4101-X1000

STEEL INDIVIDUAL GAGE BLOCKS

INSIZE PLUS
MADE IN EUROPE



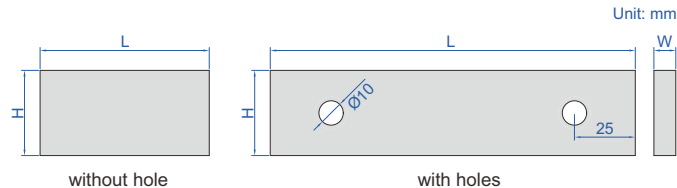
CUSTOM-MADE
CAN SUPPLY ANY SIZES FROM
0.1 TO 1000MM, SUCH AS 72.672MM



Code explanation:

4104-X□□□□□

- K for grade K
- A for grade 0
- B for grade 1



Code examples:

Size (L)	Grade	Code
0.5mm	K	4104-KD5
1mm	0	4104-A1
10.5mm	1	4104-B10D5

Dimension:

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

- Grade K, 0 and 1 gage blocks are available
- Made of alloy steel
- Meet ISO3650
- Gage blocks with clamping holes: 125, 150, 175, 200, 250, 300, 400, 500, 600, 700, 800, 900, 1000mm
- Supplied with manufacturer inspection certificate

Size	Code
0.1mm	4104-XD1
0.2mm	4104-XD2
0.3mm	4104-XD3
0.4mm	4104-XD4
0.5mm	4104-XD5
1mm	4104-X1
1.0005mm	4104-X1D0005
1.001mm	4104-X1D001
1.002mm	4104-X1D002
1.003mm	4104-X1D003
1.004mm	4104-X1D004
1.005mm	4104-X1D005
1.006mm	4104-X1D006
1.007mm	4104-X1D007
1.008mm	4104-X1D008
1.009mm	4104-X1D009
1.01mm	4104-X1D01
1.02mm	4104-X1D02
1.03mm	4104-X1D03
1.04mm	4104-X1D04
1.05mm	4104-X1D05
1.06mm	4104-X1D06
1.07mm	4104-X1D07
1.08mm	4104-X1D08
1.09mm	4104-X1D09
1.1mm	4104-X1D1
1.11mm	4104-X1D11
1.12mm	4104-X1D12
1.13mm	4104-X1D13
1.14mm	4104-X1D14
1.15mm	4104-X1D15
1.16mm	4104-X1D16
1.17mm	4104-X1D17
1.18mm	4104-X1D18
1.19mm	4104-X1D19
1.2mm	4104-X1D2

Size	Code
1.21mm	4104-X1D21
1.22mm	4104-X1D22
1.23mm	4104-X1D23
1.24mm	4104-X1D24
1.25mm	4104-X1D25
1.26mm	4104-X1D26
1.27mm	4104-X1D27
1.28mm	4104-X1D28
1.29mm	4104-X1D29
1.3mm	4104-X1D3
1.31mm	4104-X1D31
1.32mm	4104-X1D32
1.33mm	4104-X1D33
1.34mm	4104-X1D34
1.35mm	4104-X1D35
1.36mm	4104-X1D36
1.37mm	4104-X1D37
1.38mm	4104-X1D38
1.39mm	4104-X1D39
1.4mm	4104-X1D4
1.41mm	4104-X1D41
1.42mm	4104-X1D42
1.43mm	4104-X1D43
1.44mm	4104-X1D44
1.45mm	4104-X1D45
1.46mm	4104-X1D46
1.47mm	4104-X1D47
1.48mm	4104-X1D48
1.49mm	4104-X1D49
1.5mm	4104-X1D5
1.6mm	4104-X1D6
1.7mm	4104-X1D7
1.8mm	4104-X1D8
1.9mm	4104-X1D9
2mm	4104-X2
2.5mm	4104-X2D5

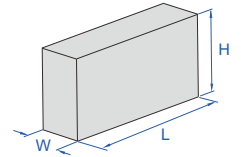
Size	Code
3mm	4104-X3
3.5mm	4104-X3D5
4mm	4104-X4
4.5mm	4104-X4D5
5mm	4104-X5
5.5mm	4104-X5D5
6mm	4104-X6
6.5mm	4104-X6D5
7mm	4104-X7
7.5mm	4104-X7D5
8mm	4104-X8
8.5mm	4104-X8D5
9mm	4104-X9
9.5mm	4104-X9D5
10mm	4104-X10
10.5mm	4104-X10D5
11mm	4104-X11
11.5mm	4104-X11D5
12mm	4104-X12
12.5mm	4104-X12D5
13mm	4104-X13
13.5mm	4104-X13D5
14mm	4104-X14
14.5mm	4104-X14D5
15mm	4104-X15
15.5mm	4104-X15D5
16mm	4104-X16
16.5mm	4104-X16D5
17mm	4104-X17
17.5mm	4104-X17D5
18mm	4104-X18
18.5mm	4104-X18D5
19mm	4104-X19
19.5mm	4104-X19D5
20mm	4104-X20
20.5mm	4104-X20D5

Size	Code
21mm	4104-X21
21.5mm	4104-X21D5
22mm	4104-X22
22.5mm	4104-X22D5
23mm	4104-X23
23.5mm	4104-X23D5
24mm	4104-X24
24.5mm	4104-X24D5
25mm	4104-X25
30mm	4104-X30
40mm	4104-X40
50mm	4104-X50
60mm	4104-X60
70mm	4104-X70
75mm	4104-X75
80mm	4104-X80
90mm	4104-X90
100mm	4104-X100
125mm	4104-X125
131.4mm	4104-X131D4
150mm	4104-X150
175mm	4104-X175
200mm	4104-X200
243.5mm	4104-X243D5
250mm	4104-X250
281.2mm	4104-X281D2
300mm	4104-X300
400mm	4104-X400
481.1mm	4104-X481D1
500mm	4104-X500
550mm	4104-X550
600mm	4104-X600
700mm	4104-X700
800mm	4104-X800
900mm	4104-X900
1000mm	4104-X1000

CARBIDE GAGE BLOCK SETS



4164-32



- Made of carbide, extremely wear resistance and corrosion resistance, excellent dimension stability
- Meet ISO3650
- Supplied with manufacturer inspection certificate

Dimension:

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

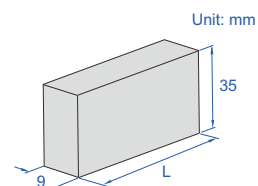
Blocks per set	Gage blocks included in set			Code	
	Size (mm)	Step (mm)	Quantity	Grade 0	Grade 1
122	1.0005		1		
	1.001-1.009	0.001	9		
	1.01-1.49	0.01	49		
	1.6-1.9	0.1	4	4164-122	4164-1122
	0.5-24.5	0.5	49		
	30-100	10	8		
	25-75	50	2		
112	1.0005		1		
	1.001-1.009	0.001	9		
	1.01-1.49	0.01	49	4164-112	4164-1112
	0.5-24.5	0.5	49		
	25-100	25	4		
103	1.005		1		
	1.01-1.49	0.01	49	4164-103	4164-1103
	0.5-24.5	0.5	49		
	25-100	25	4		
87	1.001-1.009	0.001	9		
	1.01-1.49	0.01	49	4164-87	4164-187
	0.5-9.5	0.5	19		
	10-100	10	10		
83	0.5		1		
	1		1		
	1.005		1		
	1.01-1.49	0.01	49	4164-83	4164-183
	1.5-1.9	0.1	5		
	2-9.5	0.5	16		
	10-100	10	10		

Blocks per set	Gage blocks included in set			Code	
	Size (mm)	Step (mm)	Quantity	Grade 0	Grade 1
76	1.005		1		
	1.01-1.49	0.01	49		
	0.5-9.5	0.5	19	4164-76	4164-176
	10-40	10	4		
	50-100	25	3		
47	1.005		1		
	1.01-1.09	0.01	9		
	1.1-1.9	0.1	9	4164-47A	4164-147A
	1-24	1	24		
47	25-100	25	4		
	1.005		1		
	1.01-1.19	0.01	19		
	1.2-1.9	0.1	8	4164-47	4164-147
	1-9	1	9		
46	10-100	10	10		
	1.001-1.009	0.001	9		
	1.01-1.09	0.01	9		
	1.1-1.9	0.1	9	4164-46	4164-146
	1-9	1	9		
32	10-100	10	10		
	1.005		1		
	1.01-1.09	0.01	9		
	1.1-1.9	0.1	9	4164-32	4164-132
	1-9	1	9		
	10-30	10	3		
	50		1		

CALIPER INSPECTION GAGE BLOCK SET



4108-3005



- Meet ISO3650/grade 2
- Supplied with manufacturer inspection certificate

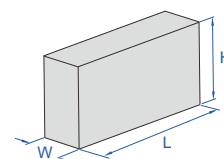
Code	Material	Gage blocks included in set (L)	Applicable calipers
4108-3005	alloy steel	30, 41.3, 131.4, 243.5, 281.2	0-150, 0-200, 0-300

(mm)

MICROMETER INSPECTION GAGE BLOCK SETS



4107-10



- One piece of optical flat is included in 4107-10 and 4107-101
- Meet ISO3650/grade 0
- Supplied with manufacturer inspection certificate

Dimension:

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

Code	Material	Gage blocks included in set (mm)	Applicable micrometer	Optical flat
4107-10	ceramic	2.5, 5.1, 7.7, 10.3, 12.9, 15, 17.6, 20.2, 22.8, 25, optical flat	0-25mm	included
4107-101	alloy steel	2.5, 5.1, 7.7, 10.3, 12.9, 15, 17.6, 20.2, 22.8, 25, optical flat	0-25mm	included
4107-112	alloy steel	25, 27.5, 30.1, 32.7, 35.3, 37.9, 40, 42.6, 45.2, 47.8, 50	25-50mm	not included
4107-113	alloy steel	50, 52.5, 55.1, 57.7, 60.3, 62.9, 65, 67.6, 70.2, 72.8, 75	50-75mm	not included
4107-114	alloy steel	75, 77.5, 80.1, 82.7, 85.3, 87.9, 90, 92.6, 95.2, 97.8, 100	75-100mm	not included
4107-115	alloy steel	5.12, 10.24, 15.36, 21.5, 25, 30.12, 35.24, 40.36, 46.5, 50, 55.12, 60.24, 65.36, 71.5, 75, 80.12, 85.24, 90.36, 96.5, 100	0-100mm	not included

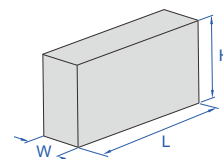


MICROMETER INSPECTION GAGE BLOCK SET

application



4160-10



Dimension:

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

optical flat (included)



- Meet ISO3650/grade 0
- One piece of optical flat is included (size Ø30x12mm)
- Supplied with manufacturer inspection certificate

Code	Material	Gage blocks included in set	Applicable micrometer
4160-10	alloy steel	2.5mm, 5.1mm, 7.7mm, 10.3mm, 12.9mm, 15mm, 17.6mm, 20.2mm, 22.8mm, 25mm	0-25mm

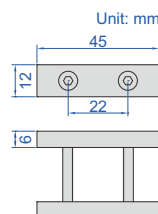
GAGE BLOCK HOLDERS

- Made of aluminum
- To be used with individual steel gage blocks (code 4101) as Go and No-Go gage

Code	Applicable gage block size
6883-1	1.5-5mm
6883-2	5-10mm
6883-3	10-15mm
6883-4	15-20mm
6883-5	20-25mm



6883-4



to be used as Go and No-Go gage



VIDEO

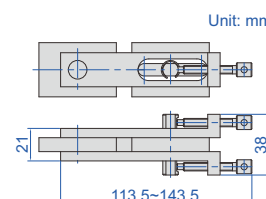
- For gage blocks over 125mm with clamping holes
- Optional accessory: gage block holder accessory, gage block accessory (code 6881)

Code
6886-1

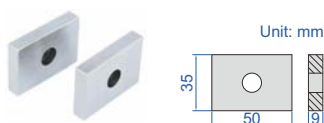


6886-1

GAGE BLOCK HOLDER



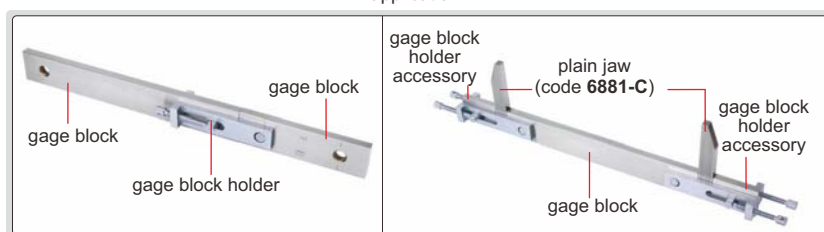
GAGE BLOCK HOLDER ACCESSORY



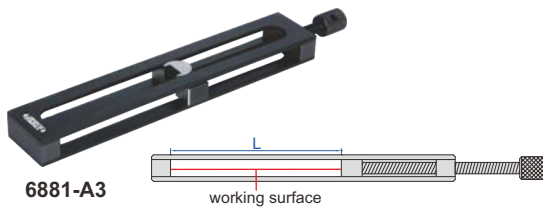
Code
6886-A

6886-A

application



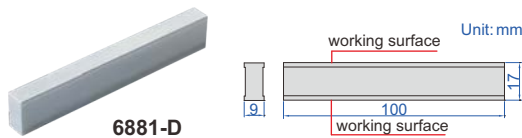
GAGE BLOCK ACCESSORIES



Code	Name	Clamping range* (L)
6881-A1	holder	0-25mm
6881-A2	holder	25-50mm
6881-A3	holder	50-100mm
6881-A4	holder	100-200mm
6881-A5	holder	200-300mm
6881-A6**	holder	300-500mm
6881-A7**	holder	500-750mm
6881-A8**	holder	750-1000mm

*The actual clamping range should deduct the width of jaws

**Not suitable for base 6881-B



Code	Name	Remark
6881-D	parallel jaw	made of carbide



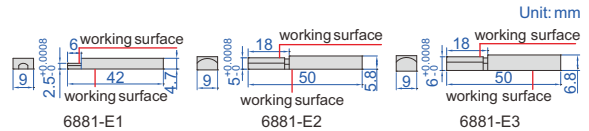
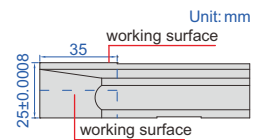
GAGE BLOCK ACCESSORY SET

Code	Remark
6881-S17	17 pcs (including below items)

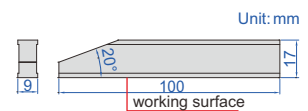
holder, 0-25mm (code 6881-A1)	1 pc
holder, 25-50mm (code 6881-A2)	1 pc
holder, 50-100mm (code 6881-A3)	1 pc
holder, 100-200mm (code 6881-A4)	1 pc
holder, 200-300mm (code 6881-A5)	1 pc
base (code 6881-B)	1 pc
plain jaw (code 6881-C)	1 pair
parallel jaw (code 6881-D)	1 pc
half round jaw, 2.5mm (code 6881-E1)	1 pair
half round jaw, 5.0mm (code 6881-E2)	1 pair
half round jaw, 6.0mm (code 6881-E3)	1 pair
scraper (code 6881-F)	1 pc
centre point (code 6881-G)	1 pc



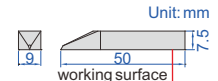
Code	Name
6881-B	base



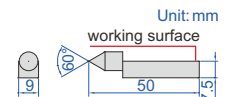
Code	Name	Size	Remark
6881-E1	half round jaw	2.5mm	made of carbide, supplied in pair
6881-E2	half round jaw	5.0mm	made of carbide, supplied in pair
6881-E3	half round jaw	6.0mm	made of carbide, supplied in pair



Code	Name	Remark
6881-C	plain jaw	made of carbide, supplied in pair

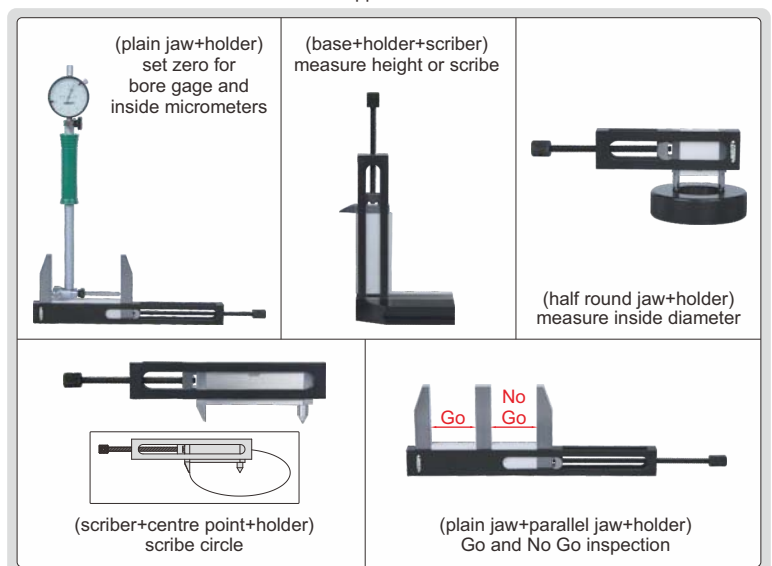


Code	Name	Remark
6881-F	scraper	made of carbide



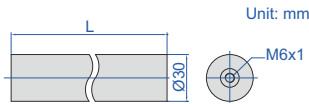
Code	Name	Remark
6881-G	centre point	the tip is made of carbide

application



CUSTOM-MADE
CAN SUPPLY ANY LENGTH, SUCH AS 80.672MM

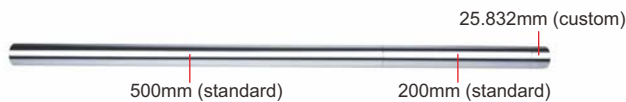
CYLINDER GAGE BLOCKS



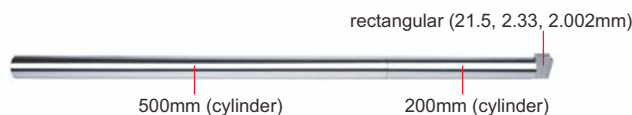
- Made of special alloy steel, hardness HRC64, high stability, wear resistance and easy combination
- Meet ISO3650 grade 1
- Can be connected with M6x1 screw and combined to any sizes up to 4m

can be combined to any sizes up to 4m

Combination 1: combined by several standard size cylinder gage blocks and one custom size cylinder gage block
For example: 500 (standard) + 200 (standard) + 25.832 (custom)=725.832mm
Note: in order to reduce cost, custom size should be within 100mm



Combination 2: combined by standard size cylinder gage blocks and rectangular gage blocks
For example: 500 (cylinder) + 200 (cylinder) + 21.5 (rectangular) + 2.33 (rectangular) + 2.002 (rectangular)=725.832mm



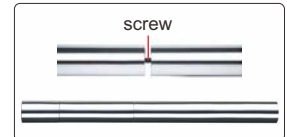
high stability in vertical position,
suitable for checking height gages



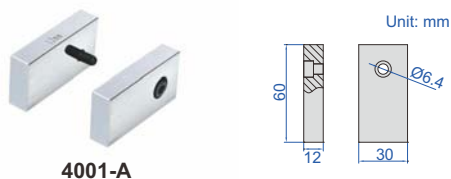
Code	Length (L)
4001-25 *	25mm
4001-50 *	50mm
4001-75 *	75mm
4001-100 *	100mm
4001-200 *	200mm
4001-300 *	300mm
4001-400 *	400mm
4001-500 *	500mm

* Supplied with manufacturer inspection certificate

connected with M6x1mm screw



INTERNAL BLOCKS



4001-A

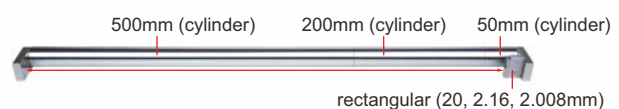
- Can be attached to cylinder and rectangular gage blocks
- Made of special alloy steel, hardness HRC64, high stability, wear resistance and easy combination
- Supplied in a matched pair

Code	Size	Flatness
4001-A	12mm	0.2µm

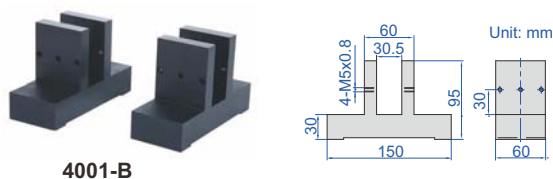
Combination 1: combined by several standard size cylinder gage blocks and one custom size cylinder gage block
For example: 500 (standard) + 200 (standard) + 25.832 (custom)=725.832mm
Note: in order to reduce cost, custom size should be within 100mm



Combination 2: combined by standard size cylinder gage blocks and rectangular gage blocks
For example: 500 (cylinder) + 200 (cylinder) + 50 (rectangular) - 20 (rectangular) - 2.16 (rectangular) - 2.008 (rectangular)=725.832mm



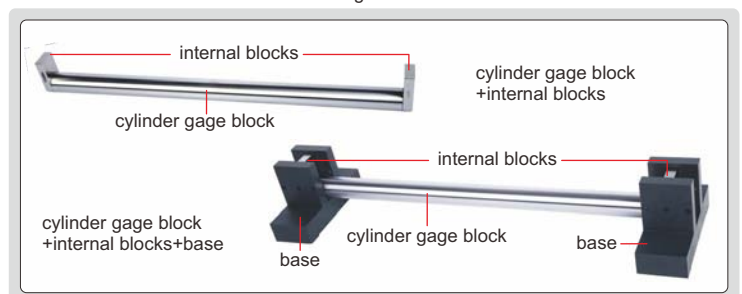
BASE



4001-B

Code	Remark
4001-B	supplied in pair

working with base

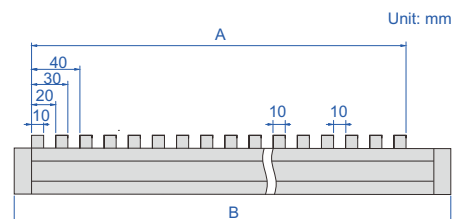


CMM CHECK MASTERS



6882-600A

- To check the accuracy of table movements of machine tools and calibrate CMM
- Horizontal use and vertical use
- Constructed with ceramic gage blocks
- Can be used with stand



Standard accuracy

Code	Size	Step	A	B
6882-300A *	0-300mm	10mm	310mm	350mm
6882-400A *	0-400mm	10mm	410mm	450mm
6882-500A *	0-500mm	10mm	510mm	550mm
6882-600A *	0-600mm	10mm	610mm	650mm
6882-1000A *	0-1000mm	10mm	1010mm	1050mm

High accuracy

Code	Size	Step	A	B
6882-300H *	0-300mm	10mm	310mm	350mm
6882-400H *	0-400mm	10mm	410mm	450mm
6882-500H *	0-500mm	10mm	510mm	550mm
6882-600H *	0-600mm	10mm	610mm	650mm
6882-1000H *	0-1000mm	10mm	1010mm	1050mm

* Supplied with manufacturer inspection certificate



horizontal use

Accuracy

Range (mm)	Standard accuracy	High accuracy
≤300	±1.3μm	±0.8μm
>300, ≤400	±1.6μm	±1.0μm
>400, ≤500	±2.0μm	±1.0μm
>500, ≤600	±2.5μm	±1.0μm
>600, ≤800	±3.0μm	±2.5μm
>800, ≤1000	±4.0μm	±2.5μm

Stand (optional)

Code	Applicable check masters
6882-S1	6882-300A, 6882-300H
6882-S2	6882-400A, 6882-400H
6882-S3	6882-500A, 6882-500H
6882-S4	6882-600A, 6882-600H
6882-S5	6882-1000A, 6882-1000H



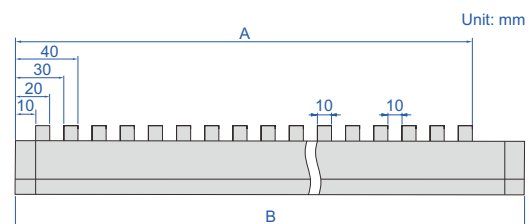
can be used with stand (optional)

CMM CHECK MASTERS (ADVANCED TYPE)



6874-1000

- To check the accuracy of table movements of machine tools and calibrate CMM
- Horizontal use and vertical use
- Constructed with ceramic gage blocks
- Can be used with stand



Code	Size	Step	A	B
6874-300 *	0-300mm	10mm	320mm	345mm
6874-450 *	0-450mm	10mm	470mm	495mm
6874-600 *	0-600mm	10mm	620mm	645mm
6874-1000 *	0-1000mm	10mm	1020mm	1045mm

* Supplied with ISO17025 calibration certificate of Shenzhen Institute of Metrology&Quality Inspection (SMQ)

Accuracy

Range (mm)	Accuracy	Work face size variation
≤100	±1.0μm	0.5μm
>100, ≤200	±1.1μm	0.5μm
>200, ≤300	±1.3μm	0.6μm
>300, ≤400	±1.6μm	0.7μm
>400, ≤500	±2.0μm	0.8μm
>500, ≤600	±2.5μm	1.0μm
>600, ≤800	±3.0μm	1.4μm
>800, ≤1000	±4.0μm	1.8μm

Stand (optional)

Code	Applicable check masters
6874-A	6874-300, 6874-450, 6874-600
6874-B	6874-1000

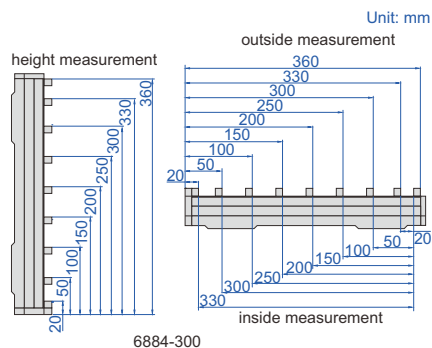


ISO17025 calibration certificate



can be used with stand (optional)

CALIPER/HEIGHT GAGE CHECKERS

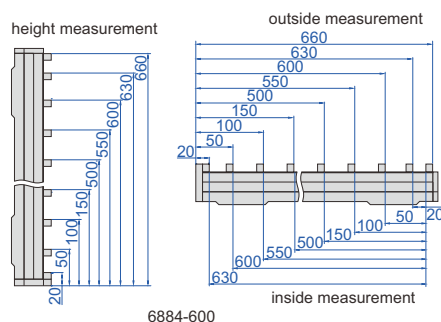


horizontal use

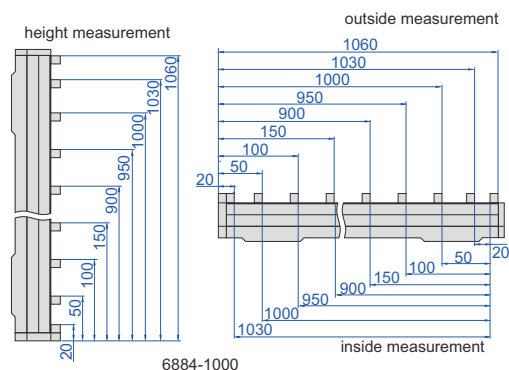


vertical use

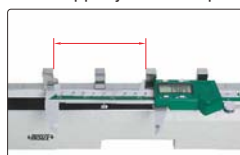
6884-300



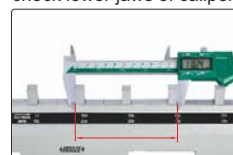
- To check calipers and height gages
- Constructed with steel gage blocks



check upper jaws of calipers



check lower jaws of calipers



check height gages



Code	Size	Range of inside measurement	Range of outside measurement	Range of height measurement	Accuracy (mm)
6884-300*	0-300mm	20, 50, 100, 150, 200, 250, 300, 330	20, 50, 100, 150, 200, 250, 300, 330, 360	20, 50, 100, 150, 200, 250, 300, 330, 360	±3μm
6884-600*	0-600mm	20, 50, 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, 630	20, 50, 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, 630, 660	20, 50, 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, 630, 660	±5μm
6884-1000*	0-1000mm	20, 50, 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, 650, 700, 750, 800, 850, 900, 950, 1000, 1030	20, 50, 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, 650, 700, 750, 800, 850, 900, 950, 1000, 1030, 1060	20, 50, 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, 650, 700, 750, 800, 850, 900, 950, 1000, 1030, 1060	±7μm

* Supplied with manufacturer inspection certificate

INSIDE MICROMETER ACCESSORY

- Supplied with a pair of 5mm carbide gage blocks

Code

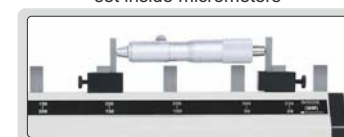
6884-A10*

* Supplied with manufacturer inspection certificate



6884-A10

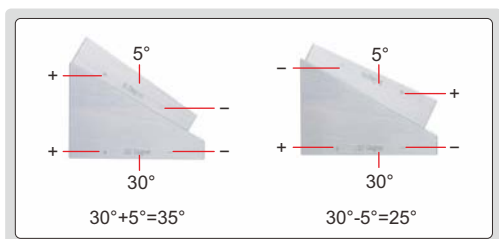
set inside micrometers



ANGLE GAGE BLOCKS

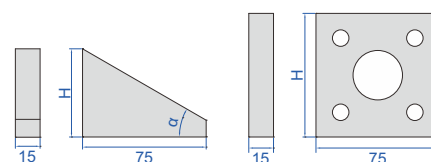


combination



4002-15

Unit: mm



- Accuracy: $\pm 2''$
- To inspect protractor, taper gage, index plate, index head and goniometer, can also be used to set angle
- Made of special alloy steel, hardness HRC64, high stability, wear resistance and easy combination
- Can be combined to any angle with interval 6 seconds after combination (6", 12", 18", ... , 360°)

Individual

Code	Angle (α)	H (mm)
4002-A1 *	1°	11.5
4002-A3 *	3°	14.0
4002-A5 *	5°	16.5
4002-A9 *	9°	22.0
4002-A15 *	15°	30.5
4002-A27 *	27°	48.0
4002-A30 *	30°	53.5
4002-A41 *	41°	75.0
4002-A45 *	45°	84.0
4002-B1 *	1'	10.0
4002-B3 *	3'	10.0
4002-B5 *	5'	10.0
4002-B9 *	9'	10.0
4002-B20 *	20'	10.0
4002-B27 *	27'	10.0
4002-B30 *	30'	10.0
4002-C6 *	6"	10.0
4002-C12 *	12"	10.0
4002-C18 *	18"	10.0
4002-C30 *	30"	10.0
4002-D *	90°/90°/90°/90°	75.0

inspect angle



set angle of plate



Set

Code	Angle (α)	Total quantity
4002-13 *	1°, 3°, 9°, 27°, 41°, 1', 3', 9', 27', 6", 18", 30", 90°/90°/90°/90°	13
4002-15 *	1°, 3°, 5°, 15°, 30°, 45°, 1', 3', 5', 20', 30', 6", 12", 30", 90°/90°/90°/90°	15

* Supplied with manufacturer inspection certificate

14

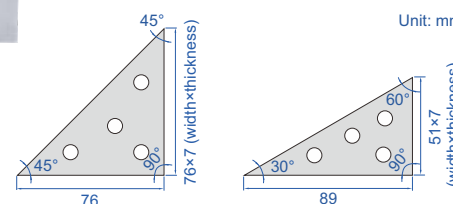
ANGLE BLOCK SET

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



6540-1

Unit: mm



Code	Angle plates included	Angle
6540-1	2	45°, 45°, 90° 30°, 60°, 90°

CARBIDE PIN GAGE SETS

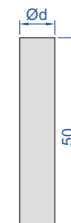
- Meet DIN2269, grade 1
- Made of carbide
- Hardness HRA90-90.5
- Diameter accuracy: $\pm 1\mu\text{m}$



4194-10D

Code	Diameter Ød (mm)	Step	Pin gages per set
4194-1S	0.30, 0.31, 0.32, ..., 1.00	0.01mm	71
4194-2S	1.00, 1.01, 1.02, ..., 2.00	0.01mm	101
4194-3S	2.00, 2.01, 2.02, ..., 3.00	0.01mm	101
4194-4S	3.00, 3.01, 3.02, ..., 4.00	0.01mm	101
4194-5S	4.00, 4.01, 4.02, ..., 5.00	0.01mm	101
4194-6S	5.00, 5.01, 5.02, ..., 6.00	0.01mm	101
4194-7S	6.00, 6.01, 6.02, ..., 7.00	0.01mm	101
4194-8S	7.00, 7.01, 7.02, ..., 8.00	0.01mm	101
4194-9S	8.00, 8.01, 8.02, ..., 9.00	0.01mm	101
4194-10S	9.00, 9.01, 9.02, ..., 10.00	0.01mm	101
4194-10D	10.00, 10.01, 10.02, ..., 10.50	0.01mm	51
4194-11	10.50, 10.51, 10.52, ..., 11.00	0.01mm	51
4194-11D	11.00, 11.01, 11.02, ..., 11.50	0.01mm	51
4194-12	11.50, 11.51, 11.52, ..., 12.00	0.01mm	51
4194-12D	12.00, 12.01, 12.02, ..., 12.50	0.01mm	51
4194-13	12.50, 12.51, 12.52, ..., 13.00	0.01mm	51
4194-13D	13.00, 13.01, 13.02, ..., 13.50	0.01mm	51
4194-14	13.50, 13.51, 13.52, ..., 14.00	0.01mm	51
4194-14D	14.00, 14.01, 14.02, ..., 14.50	0.01mm	51
4194-15	14.50, 14.51, 14.52, ..., 15.00	0.01mm	51

Unit: mm



CARBIDE INDIVIDUAL PIN GAGES



14

- Meet DIN2269, grade 1
- Diameter range: Ø0.300~Ø30.000mm with three decimal, for example 0.311mm, 5.562mm, 16.298mm
- Diameter accuracy: $\pm 1\mu\text{m}$
- Made of carbide
- Hardness HRA90-90.5
- Optional accessory: wooden box (code 7340)



Unit: mm



Ordering examples:

Diameter	Code
0.311mm	4193-0D311
5.562mm	4193-5D562
16.298mm	4193-16D298

Note: "D" stands for "."

4193-8D015

Code	Diameter range Ød (mm)
4193-□□□□*	0.300~30.000

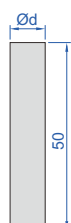
* Supplied with manufacturer inspection certificate

POPULAR
MODEL

STEEL PIN GAGE SETS

- Meet DIN2269, grade 1
- Made of alloy steel
- Hardness HRC62-65
- Diameter accuracy: $\pm 1\mu\text{m}$

Unit: mm



4166-10

Code	Diameter Ød (mm)	Step	Pin gages per set
4166-2S	1.00, 1.01, 1.02, ..., 2.00	0.01mm	101
4166-3S	2.00, 2.01, 2.02, ..., 3.00	0.01mm	101
4166-4S	3.00, 3.01, 3.02, ..., 4.00	0.01mm	101
4166-5S	4.00, 4.01, 4.02, ..., 5.00	0.01mm	101
4166-6S	5.00, 5.01, 5.02, ..., 6.00	0.01mm	101
4166-7S	6.00, 6.01, 6.02, ..., 7.00	0.01mm	101
4166-8S	7.00, 7.01, 7.02, ..., 8.00	0.01mm	101
4166-9S	8.00, 8.01, 8.02, ..., 9.00	0.01mm	101
4166-10S	9.00, 9.01, 9.02, ..., 10.00	0.01mm	101

Code	Diameter Ød (mm)	Step	Pin gages per set
4166-411	1.0, 1.1, 1.2, ..., 5.0	0.1mm	41
4166-511	5.0, 5.1, 5.2, ..., 10.0	0.1mm	51
4166-512	10.0, 10.1, 10.2, ..., 15.0	0.1mm	51
4166-513	15.0, 15.1, 15.2, ..., 20.0	0.1mm	51

Code	Diameter Ød (mm)	Step	Pin gages per set
4166-0D	0.20, 0.21, 0.22, ..., 0.50	0.01mm	31
4166-1	0.50, 0.51, 0.52, ..., 1.00	0.01mm	51
4166-1D	1.00, 1.01, 1.02, ..., 1.50	0.01mm	51
4166-2	1.50, 1.51, 1.52, ..., 2.00	0.01mm	51
4166-2D	2.00, 2.01, 2.02, ..., 2.50	0.01mm	51
4166-3	2.50, 2.51, 2.52, ..., 3.00	0.01mm	51
4166-3D	3.00, 3.01, 3.02, ..., 3.50	0.01mm	51
4166-4	3.50, 3.51, 3.52, ..., 4.00	0.01mm	51
4166-4D	4.00, 4.01, 4.02, ..., 4.50	0.01mm	51
4166-5	4.50, 4.51, 4.52, ..., 5.00	0.01mm	51
4166-5D	5.00, 5.01, 5.02, ..., 5.50	0.01mm	51
4166-6	5.50, 5.51, 5.52, ..., 6.00	0.01mm	51
4166-6D	6.00, 6.01, 6.02, ..., 6.50	0.01mm	51
4166-7	6.50, 6.51, 6.52, ..., 7.00	0.01mm	51
4166-7D	7.00, 7.01, 7.02, ..., 7.50	0.01mm	51
4166-8	7.50, 7.51, 7.52, ..., 8.00	0.01mm	51
4166-8D	8.00, 8.01, 8.02, ..., 8.50	0.01mm	51
4166-9	8.50, 8.51, 8.52, ..., 9.00	0.01mm	51
4166-9D	9.00, 9.01, 9.02, ..., 9.50	0.01mm	51
4166-10	9.50, 9.51, 9.52, ..., 10.00	0.01mm	51

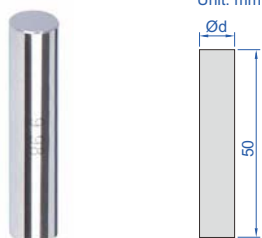
Code	Diameter Ød (mm)	Step	Pin gages per set
4166-10D	10.00, 10.01, 10.02, ..., 10.50	0.01mm	51
4166-11	10.50, 10.51, 10.52, ..., 11.00	0.01mm	51
4166-11D	11.00, 11.01, 11.02, ..., 11.50	0.01mm	51
4166-12	11.50, 11.51, 11.52, ..., 12.00	0.01mm	51
4166-12D	12.00, 12.01, 12.02, ..., 12.50	0.01mm	51
4166-13	12.50, 12.51, 12.52, ..., 13.00	0.01mm	51
4166-13D	13.00, 13.01, 13.02, ..., 13.50	0.01mm	51
4166-14	13.50, 13.51, 13.52, ..., 14.00	0.01mm	51
4166-14D	14.00, 14.01, 14.02, ..., 14.50	0.01mm	51
4166-15	14.50, 14.51, 14.52, ..., 15.00	0.01mm	51
4166-15D	15.00, 15.01, 15.02, ..., 15.50	0.01mm	51
4166-16	15.50, 15.51, 15.52, ..., 16.00	0.01mm	51
4166-16D	16.00, 16.01, 16.02, ..., 16.50	0.01mm	51
4166-17	16.50, 16.51, 16.52, ..., 17.00	0.01mm	51
4166-17D	17.00, 17.01, 17.02, ..., 17.50	0.01mm	51
4166-18	17.50, 17.51, 17.52, ..., 18.00	0.01mm	51
4166-18D	18.00, 18.01, 18.02, ..., 18.50	0.01mm	51
4166-19	18.50, 18.51, 18.52, ..., 19.00	0.01mm	51
4166-19D	19.00, 19.01, 19.02, ..., 19.50	0.01mm	51
4166-20	19.50, 19.51, 19.52, ..., 20.00	0.01mm	51

STEEL INDIVIDUAL PIN GAGES WITH TWO DECIMAL PLACES (0.01MM STEP)

Ordering examples:

Diameter	Code
0.21mm	4110-0D21
5.56mm	4110-5D56
16.00mm	4110-16D00

Note : "D" stands for "."



4110-9D98

- Meet DIN2269, grade 1
- Diameter range: Ø0.20~Ø20.00mm
- Diameter accuracy: $\pm 1\mu\text{m}$
- Made of alloy steel
- Hardness HRC62-65
- Optional accessory: wooden box (code 7340)

Code

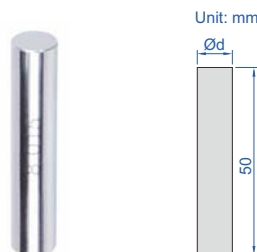
4110-□□□□

Diameter Ød (mm)

0.20, 0.21, 0.22, 0.23, ..., 1.00
1.01, 1.02, 1.03, 1.04, ..., 2.00
2.01, 2.02, 2.03, 2.04, ..., 3.00
3.01, 3.02, 3.03, 3.04, ..., 4.00
4.01, 4.02, 4.03, 4.04, ..., 5.00
5.01, 5.02, 5.03, 5.04, ..., 6.00
6.01, 6.02, 6.03, 6.04, ..., 7.00
7.01, 7.02, 7.03, 7.04, ..., 8.00
8.01, 8.02, 8.03, 8.04, ..., 9.00
9.01, 9.02, 9.03, 9.04, ..., 10.00
10.01, 10.02, 10.03, 10.04, ..., 11.00
11.01, 11.02, 11.03, 11.04, ..., 12.00
12.01, 12.02, 12.03, 12.04, ..., 13.00
13.01, 13.02, 13.03, 13.04, ..., 14.00
14.01, 14.02, 14.03, 14.04, ..., 15.00
15.01, 15.02, 15.03, 15.04, ..., 16.00
16.01, 16.02, 16.03, 16.04, ..., 17.00
17.01, 17.02, 17.03, 17.04, ..., 18.00
18.01, 18.02, 18.03, 18.04, ..., 19.00
19.01, 19.02, 19.03, 19.04, ..., 20.00

STEEL INDIVIDUAL PIN GAGES WITH THREE DECIMAL PLACES (0.001MM STEP)

- Meet DIN2269, grade 1
- Diameter range: Ø0.200~Ø30.000mm with three decimal, for example 0.211mm, 5.562mm, 16.298mm
- Diameter accuracy: $\pm 1\mu\text{m}$
- Made of alloy steel
- Hardness HRC62-65
- Optional accessory: wooden box (code 7340)



4118-8D015

Ordering examples:

Diameter	Code
0.211mm	4118-0D211
5.562mm	4118-5D562
16.298mm	4118-16D298

Note: "D" stands for "."

Code

4118-□□□□*

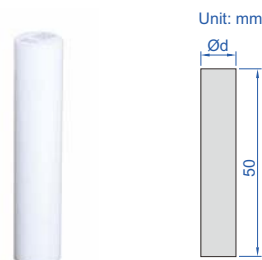
Diameter range Ød (mm)

0.200~30.000

* Supplied with manufacturer inspection certificate

CERAMIC INDIVIDUAL PIN GAGES

- Meet DIN2269, grade 1
- Diameter range: Ø1.000~Ø15.000mm
- With three decimal, for example 1.211mm, 5.562mm, 14.955mm
- Diameter accuracy: $\pm 1\mu\text{m}$
- Made of ceramic, extremely wear resistance, corrosion resistance and dimensional stability
- Optional accessory: wooden box (code 7340)



4192-10D000

Ordering examples:

Diameter	Code
1.211mm	4192-1D211
5.562mm	4192-5D562
14.955mm	4192-14D955

Note : "D" stands for "."

Code

4192-□□□□

Diameter range Ød (mm)

1.000-15.000

BOXES FOR PIN GAGES

- For individual pin gages (4110, 4118, 4192 and 4193 series)

Code	Applicable pin gage diameter Ød	Quantity of pin gages
7340	0.20-10.00mm	51 pcs
7340-101	0.20-10.00mm	101 pcs
7340-201	10.00-15.00mm	51 pcs
7340-202	15.00-20.00mm	51 pcs

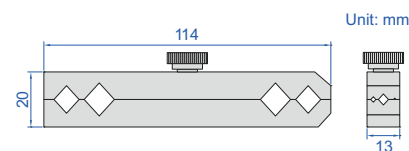


7340

PIN GAGE HANDLE



7345-13



Unit: mm

- Operated without wrench
- Made of aluminum

Code	Applicable pin gage diameter
7345-13	1~13mm

application



PIN GAGE HANDLES (OPERATED WITHOUT WRENCH)

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



7342-M1

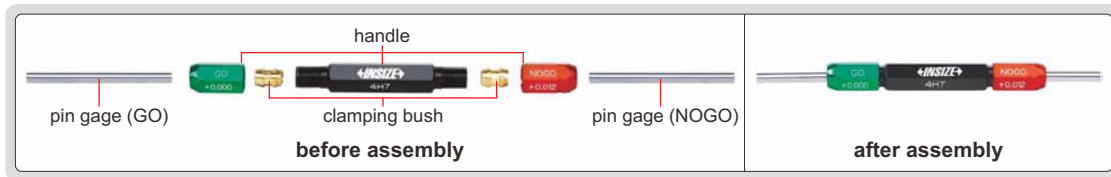
(mm)

Code	Applicable pin gage diameter	H	L
7342-M0	0.30-1.50mm/0.011-0.049"	10	112
7342-M1	1.51-6.35mm/0.050-0.250"	24	131
7342-M2	6.36-12.70mm/0.251-0.500"	32	152
7342-M3	12.71-15.88mm/0.501-0.625"	37	152
7342-M4	15.89-19.00mm/0.626-0.750"	37	152
7342-M5	19.01-21.13mm/0.751-0.832"	40	158
7342-M6	21.14-23.27mm/0.833-0.916"	40	158
7342-M7	23.28-25.40mm/0.917-1.000"	40	158

application



PIN GAGE HANDLES (OPERATED WITH WRENCH)



handle



brass clamping bush
(0.2~7.14mm)

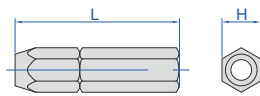
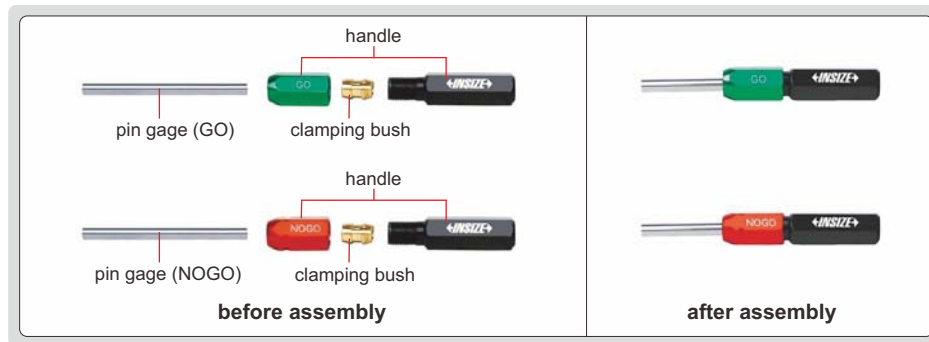


aluminum clamping bush
(7.14~24.80mm)

- Wrench is needed to install pins
- Clamping bushes (0.2~7.14mm) are made of brass,
clamping bushes (7.14~24.80mm) are made of aluminum

Code	Applicable pin gage diameter	Including		H	L
		handle	clamping bush (mm)		
7341-0S	0.2-1.02mm	1 pc	6 pairs (the clamping range are 0.2-0.38, 0.38-0.51, 0.51-0.64, 0.64-0.76, 0.76-0.89, 0.89-1.02)	7	57
7341-1S	1.02-1.91mm	1 pc	7 pairs (the clamping range are 1.02-1.14, 1.14-1.27, 1.27-1.40, 1.40-1.52, 1.52-1.65, 1.65-1.78, 1.78-1.91)	7	57
7341-2S	1.91-3.33mm	1 pc	8 pairs (the clamping range are 1.91-2.08, 2.08-2.26, 2.26-2.44, 2.44-2.62, 2.62-2.79, 2.79-2.97, 2.97-3.15, 3.15-3.33)	9	73
7341-3S	3.33-4.57mm	1 pc	7 pairs (the clamping range are 3.33-3.51, 3.51-3.68, 3.68-3.86, 3.86-4.04, 4.04-4.22, 4.22-4.39, 4.39-4.57)	9	73
7341-4S	4.57-5.79mm	1 pc	6 pairs (the clamping range are 4.57-4.78, 4.78-4.98, 4.98-5.18, 5.18-5.38, 5.38-5.59, 5.59-5.79)	14	79
7341-5S	5.79-7.14mm	1 pc	6 pairs (the clamping range are 5.79-5.99, 5.99-6.20, 6.20-6.40, 6.40-6.63, 6.63-6.88, 6.88-7.14)	14	79
7341-6S	7.14-8.66mm	1 pc	6 pairs (the clamping range are 7.14-7.39, 7.39-7.65, 7.65-7.90, 7.90-8.15, 8.15-8.41, 8.41-8.66)	19	91
7341-7S	8.66-10.31mm	1 pc	6 pairs (the clamping range are 8.66-8.92, 8.9 -9.17, 9.17-9.42, 9.42-9.70, 9.70-10.01, 10.01-10.31)	19	91
7341-8S	10.31-11.81mm	1 pc	4 pairs (the clamping range are 10.31-10.67, 10.67-11.05, 11.05-11.43, 11.43-11.81)	22	106
7341-9S	11.81-12.95mm	1 pc	3 pairs (the clamping range are 11.81-12.19, 12.19-12.57, 12.57-12.95)	22	106
7341-10S	12.95-14.71mm	1 pc	4 pairs (the clamping range are 12.95-13.51, 13.51-13.89, 13.89-14.30, 14.30-14.71)	24	115
7341-11S	14.71-16.13mm	1 pc	4 pairs (the clamping range are 14.71-15.09, 15.09-15.49, 15.49-15.88, 15.88-16.13)	24	115
7341-12S	16.13-17.88mm	1 pc	4 pairs (the clamping range are 16.13-16.66, 16.66-17.07, 17.07-17.48, 17.48-17.88)	27	118
7341-13S	17.88-19.30mm	1 pc	4 pairs (the clamping range are 17.88-18.26, 18.26-18.67, 18.67-19.05, 19.05-19.30)	27	118
7341-15S	19.30-24.80mm	1 pc	8 pairs (the clamping range are 19.30-19.84, 19.84-20.62, 20.62-21.41, 21.41-22.23, 22.23-23.03, 23.03-23.80, 23.80-24.59, 24.59-24.80)	32	133

SINGLE END PIN GAGE HANDLES (OPERATED WITH WRENCH)



7344-4G
green (GO)



7344-4R
red (NOGO)



brass clamping bush
(0.2~7.14mm)



aluminum clamping bush
(7.14~24.80mm)

- Wrench is needed to install pins
- Clamping bushes (0.2~7.14mm) are made of brass, clamping bushes (7.14~24.80mm) are made of aluminum

(mm)

Code		Including		Applicable pin gage diameter	H	L
green (GO)	red (NOGO)	handle	clamping bush (mm)			
7344-0G	7344-0R	1 pc	6 pcs (the clamping range are 0.2-0.38, 0.38-0.51, 0.51-0.64, 0.64-0.76, 0.76-0.89, 0.89-1.02)	0.2-1.02mm	7	52
7344-1G	7344-1R	1 pc	7 pcs (the clamping range are 1.02-1.14, 1.14-1.27, 1.27-1.40, 1.40-1.52, 1.52-1.65, 1.65-1.78, 1.78-1.91)	1.02-1.91mm	7	52
7344-2G	7344-2R	1 pc	8 pcs (the clamping range are 1.91-2.08, 2.08-2.26, 2.26-2.44, 2.44-2.62, 2.62-2.79, 2.79-2.97, 2.97-3.15, 3.15-3.33)	1.91-3.33mm	9	68
7344-3G	7344-3R	1 pc	7 pcs (the clamping range are 3.33-3.51, 3.51-3.68, 3.68-3.86, 3.86-4.04, 4.04-4.22, 4.22-4.39, 4.39-4.57)	3.33-4.57mm	9	68
7344-4G	7344-4R	1 pc	6 pcs (the clamping range are 4.57-4.78, 4.78-4.98, 4.98-5.18, 5.18-5.38, 5.38-5.59, 5.59-5.79)	4.57-5.79mm	14	73
7344-5G	7344-5R	1 pc	6 pcs (the clamping range are 5.79-5.99, 5.99-6.20, 6.20-6.40, 6.40-6.63, 6.63-6.88, 6.88-7.14)	5.79-7.14mm	14	73
7344-6G	7344-6R	1 pc	6 pcs (the clamping range are 7.14-7.39, 7.39-7.65, 7.65-7.90, 7.90-8.15, 8.15-8.41, 8.41-8.66)	7.14-8.66mm	19	79
7344-7G	7344-7R	1 pc	6 pcs (the clamping range are 8.66-8.92, 8.92-9.17, 9.17-9.42, 9.42-9.70, 9.70-10.01, 10.01-10.31)	8.66-10.31mm	19	79
7344-8G	7344-8R	1 pc	4 pcs (the clamping range are 10.31-10.67, 10.67-11.05, 11.05-11.43, 11.43-11.81)	10.31-11.81mm	22	93
7344-9G	7344-9R	1 pc	3 pcs (the clamping range are 11.81-12.19, 12.19-12.57, 12.57-12.95)	11.81-12.95mm	22	93
7344-10G	7344-10R	1 pc	4 pcs (the clamping range are 12.95-13.51, 13.51-13.89, 13.89-14.30, 14.30-14.71)	12.95-14.71mm	24	98
7344-11G	7344-11R	1 pc	4 pcs (the clamping range are 14.71-15.09, 15.09-15.49, 15.49-15.88, 15.88-16.13)	14.71-16.13mm	24	98
7344-12G	7344-12R	1 pc	4 pcs (the clamping range are 16.13-16.66, 16.66-17.07, 17.07-17.48, 17.48-17.88)	16.13-17.88mm	27	110
7344-13G	7344-13R	1 pc	4 pcs (the clamping range are 17.88-18.26, 18.26-18.67, 18.67-19.05, 19.05-19.30)	17.88-19.30mm	27	110
7344-15G	7344-15R	1 pc	8 pcs (the clamping range are 19.30-19.84, 19.84-20.62, 20.62-21.41, 21.41-22.23, 22.23-23.03, 23.03-23.80, 23.80-24.59, 24.59-24.80)	19.30-24.80mm	32	118

CYLINDER GAGES

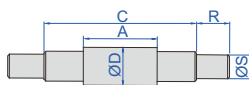
CAN SUPPLY CUSTOM SIZES FROM Ø3.000mm
TO Ø200.000mm, FOR EXAMPLE, Ø20.218mm



- Made of tungsten steel, quenched, ultra-low temperature treatment
- Wear resistant, long life, dimension stability
- Hardness HRC60-62

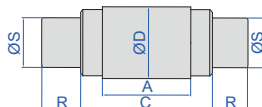


6316-30



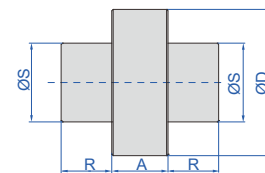
(mm)

Diameter ØD **	A	C	R	ØS	Size *** difference	Roundness and cylindricity
3.0-3.81	9.52	17.46	11.1	2.4	±5µm	0.5µm
3.81-5.84	11.11	19.05	11.1	3.2	±5µm	0.5µm
5.84-9.27	12.7	20.64	11.1	5.6	±5µm	0.5µm



(mm)

Diameter ØD **	A	C	R	ØS	Size *** difference	Roundness and cylindricity
9.27-12.95	14.29	22.22	12.7	8.7	±5µm	0.5µm
12.95-20.96	15.88	23.81	12.7	12.7	±5µm	0.5µm
20.96-28.83	17.46	25.4	15.9	19	±5µm	0.7µm
28.83-38.35	20.64	28.58	15.9	25.4	±5µm	0.7µm



(mm)

Diameter ØD **	A	ØS	R	Size *** difference	Roundness and cylindricity
38.35-51.05	31.8	22.2	15.8	±5µm	1µm
51.05-63.75	31.8	22.2	15.8	±5µm	1µm
63.75-76.45	38.1	25.4	39.8	±5µm	1.2µm
76.45-89.15	38.1	25.4	39.8	±5µm	1.2µm
89.15-101.85	38.1	25.4	39.8	±5µm	1.2µm
101.85-114.55	38.1	25.4	39.8	±5µm	1.2µm
114.55-127.25	38.1	25.4	39.8	±5µm	1.6µm
127.25-139.95	38.1	25.4	39.8	±5µm	1.6µm
139.95-152.62	38.1	25.4	39.8	±5µm	1.6µm
152.65-165.35	38.1	25.4	39.8	±5µm	1.6µm
165.35-178.05	38.1	25.4	39.8	±5µm	2µm
178.05-190.75	38.1	25.4	39.8	±5µm	2µm
190.75-203.45	38.1	25.4	39.8	±5µm	2µm

** For example, 3-3.81 indicates 3mm<D≤3.8mm

*** Size difference (difference between the ordered size and the size marked on the cylinder gages when supplied).
For example, the ordered size is Ø3.000mm, the size marked on the cylinder gages when supplied may be Ø3.003mm

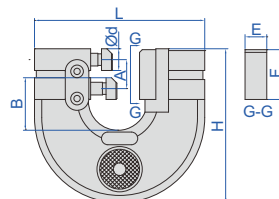
Code	ØD	Code	ØD	Code	ØD	Code	ØD	Code	ØD
6316-3 *	Ø3mm	6316-16 *	Ø16mm	6316-29 *	Ø29mm	6316-42 *	Ø42mm	6316-70 *	Ø70mm
6316-4 *	Ø4mm	6316-17 *	Ø17mm	6316-30 *	Ø30mm	6316-43 *	Ø43mm	6316-75 *	Ø75mm
6316-5 *	Ø5mm	6316-18 *	Ø18mm	6316-31 *	Ø31mm	6316-44 *	Ø44mm	6316-80 *	Ø80mm
6316-6 *	Ø6mm	6316-19 *	Ø19mm	6316-32 *	Ø32mm	6316-45 *	Ø45mm	6316-85 *	Ø85mm
6316-7 *	Ø7mm	6316-20 *	Ø20mm	6316-33 *	Ø33mm	6316-46 *	Ø46mm	6316-87 *	Ø87mm
6316-8 *	Ø8mm	6316-21 *	Ø21mm	6316-34 *	Ø34mm	6316-47 *	Ø47mm	6316-90 *	Ø90mm
6316-9 *	Ø9mm	6316-22 *	Ø22mm	6316-35 *	Ø35mm	6316-48 *	Ø48mm	6316-95 *	Ø95mm
6316-10 *	Ø10mm	6316-23 *	Ø23mm	6316-36 *	Ø36mm	6316-49 *	Ø49mm	6316-100 *	Ø100mm
6316-11 *	Ø11mm	6316-24 *	Ø24mm	6316-37 *	Ø37mm	6316-50 *	Ø50mm	6316-125 *	Ø125mm
6316-12 *	Ø12mm	6316-25 *	Ø25mm	6316-38 *	Ø38mm	6316-55 *	Ø55mm	6316-150 *	Ø150mm
6316-13 *	Ø13mm	6316-26 *	Ø26mm	6316-39 *	Ø39mm	6316-60 *	Ø60mm	6316-175 *	Ø175mm
6316-14 *	Ø14mm	6316-27 *	Ø27mm	6316-40 *	Ø40mm	6316-62 *	Ø62mm	6316-200 *	Ø200mm
6316-15 *	Ø15mm	6316-28 *	Ø28mm	6316-41 *	Ø41mm	6316-65 *	Ø65mm		

* Supplied with manufacturer inspection certificate

FAST AND ACCURATE
MEASUREMENT OF CYLINDERS

ADJUSTABLE SNAP GAGES

- Used as Go/No-Go gage by setting upper and lower limits
- Flatness of anvil: 1.5µm
- Parallelism of measuring faces:
range 0-32mm: 3µm
range 32-89mm: 4µm
range 89-300mm: 5µm



2187-19

(mm)

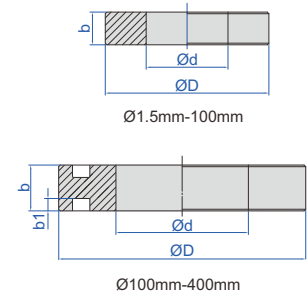
Code	Range	L	A	B	E	F	H	Ød
2187-6	0-6mm	74	15	17.5	12.2	27.2	71.5	7
2187-13	6-13mm	85	15	26	12.2	27.2	79.5	12.3
2187-19	13-19mm	93	15	27	12.2	27.2	83	12.3
2187-25	19-25mm	100	15	33.5	12.2	27.2	89.5	12.3
2187-32	25-32mm	111	18	38.5	15.2	35.2	104	15.3
2187-38	32-38mm	117	18	41.5	15.2	35.2	105	15.3
2187-44	38-44mm	123	18	44.5	15.2	35.2	109	15.3
2187-51	44-51mm	130	18	48	15.2	35.2	117	15.3
2187-57	51-57mm	136	18	45	15.2	35.2	119	15.3
2187-63	57-63mm	143	18	50	15.2	35.2	122	15.3
2187-70	63-70mm	156	20	58	15.2	35.2	132	15.3
2187-76	70-76mm	163	20	60.5	15.2	35.2	137	15.3
2187-82	76-82mm	169	20	64.5	15.2	35.2	140	15.3
2187-89	82-89mm	175	20	66.5	15.2	35.2	146	15.3
2187-95	89-95mm	181	20	69.5	15.2	35.2	149	15.3
2187-101	95-101mm	188	20	70	15.2	35.2	154	15.3
2187-108	101-108mm	198	24	79	15.2	39.2	166	15.3
2187-114	108-114mm	204	24	81	15.2	39.2	172	15.3
2187-120	114-120mm	210	24	86	15.2	39.2	179	15.3
2187-127	120-127mm	217	24	89.5	15.2	39.2	186	15.3
2187-133	127-133mm	223	24	92.5	15.2	39.2	192	15.3
2187-139	133-139mm	229	24	95.5	15.2	39.2	197	15.3
2187-146	139-146mm	235	24	98.5	15.2	39.2	201	15.3
2187-152	146-152mm	242	24	102	15.2	39.2	205	15.3
2187-163	152-163mm	273	21.4	106.7	18.2	39.2	211	18.3
2187-175	163-175mm	273	21.4	106.7	18.2	39.2	211	18.3
2187-188	175-188mm	298.5	21.4	119.7	18.2	39.2	227	18.3
2187-200	188-200mm	298.5	21.4	119.7	18.2	39.2	227	18.3
2187-213	200-213mm	324	21.4	131.7	18.2	39.2	242	18.3
2187-225	213-225mm	324	21.4	131.7	18.2	39.2	242	18.3
2187-238	225-238mm	349.5	21.4	144.7	18.2	39.2	250	18.3
2187-250	238-250mm	349.5	21.4	149	18.2	39.2	250	18.3
2187-263	250-263mm	375.5	21.4	157.7	18.2	39.2	278	18.3
2187-275	263-275mm	375.5	21.4	157.7	18.2	39.2	278	18.3
2187-288	275-288mm	400	21.4	170.7	18.2	39.2	291	18.3
2187-300	288-300mm	400	21.4	170.7	18.2	39.2	291	18.3

SETTING RINGS



CAN SUPPLY CUSTOM SETTING RINGS FROM Ø1.50MM TO Ø400.00MM, FOR EXAMPLE, Ø17.08MM

- For zero setting of inside micrometers, three points internal micrometers and bore gages
- The size marked on the setting ring is checked at the direction of the marking line
- Size difference (difference between the ordered size and the size marked on the setting ring when supplied): For example, the ordered size is Ø10.12mm, the size marked on the setting ring when supplied may be Ø10.130mm
- Meet DIN2250-1:2008



(mm)				
Diameter d**	b	ØD	Size difference	Roundness and cylindricity
Ø1.5-2.5	4	22	±10.0µm	0.3µm
Ø2.5-3	5	22	±10.0µm	0.3µm
Ø3-5	5	22	±10.0µm	0.4µm
Ø5-10	8	32	±10.0µm	0.4µm
Ø10-15	10	38	±10.0µm	0.5µm
Ø15-18	12	45	±10.0µm	0.5µm
Ø18-20	12	45	±10.0µm	0.6µm
Ø20-25	14	53	±10.0µm	0.6µm
Ø25-30	16	63	±10.0µm	0.6µm
Ø30-32	16	63	±10.0µm	0.7µm
Ø32-40	18	71	±10.0µm	0.7µm
Ø40-50	20	85	±10.0µm	0.7µm
Ø50-60	20	100	±10.0µm	0.8µm
Ø60-70	24	112	±10.0µm	0.8µm
Ø70-80	24	125	±10.0µm	0.8µm
Ø80-90	24	140	±10.0µm	1.0µm
Ø90-100	24	160	±10.0µm	1.0µm

** For example Ø3-5mm means Ø3mm<diameter d≤Ø5mm

(mm)					
Diameter d**	b	b1	ØD	Size difference	Roundness and cylindricity
Ø100-110	30	8	164	±10.0µm	1.0µm
Ø110-130	34	10	192	±10.0µm	1.0µm
Ø130-150	34	10	220	±10.0µm	1.2µm
Ø150-170	36	10	248	±10.0µm	1.5µm
Ø170-190	36	10	276	±10.0µm	1.5µm
Ø190-210	38	10	300	±10.0µm	1.5µm
Ø210-230	38	10	324	±10.0µm	2.5µm
Ø230-250	40	12	350	±10.0µm	2.5µm
Ø250-270	40	12	375	±10.0µm	3.0µm
Ø270-290	42	12	400	±10.0µm	3.0µm
Ø290-300	42	12	425	±10.0µm	3.0µm
Ø300-320	42	12	430	±10.0µm	4.0µm
Ø320-330	42	12	440	±10.0µm	4.0µm
Ø330-340	42	12	450	±10.0µm	4.0µm
Ø340-350	42	12	460	±10.0µm	4.0µm
Ø350-360	42	12	470	±10.0µm	4.0µm
Ø360-370	42	12	480	±10.0µm	4.0µm
Ø370-380	42	12	490	±10.0µm	4.0µm
Ø380-390	42	12	500	±10.0µm	4.0µm
Ø390-400	42	12	510	±10.0µm	4.0µm

(mm)	
Code	Size
6312-1D5 *	Ø1.5
6312-2 *	Ø2
6312-2D5 *	Ø2.5
6312-3 *	Ø3
6312-3D5 *	Ø3.5
6312-4 *	Ø4
6312-4D5 *	Ø4.5
6312-5 *	Ø5
6312-5D5 *	Ø5.5
6312-6 *	Ø6
6312-6D5 *	Ø6.5
6312-7 *	Ø7
6312-7D5 *	Ø7.5
6312-8 *	Ø8
6312-8D5 *	Ø8.5
6312-9 *	Ø9
6312-9D5 *	Ø9.5
6312-10 *	Ø10
6312-10D5 *	Ø10.5
6312-11 *	Ø11
6312-11D5 *	Ø11.5
6312-12 *	Ø12

(mm)	
Code	Size
6312-12D5 *	Ø12.5
6312-13 *	Ø13
6312-13D5 *	Ø13.5
6312-14 *	Ø14
6312-14D5 *	Ø14.5
6312-15 *	Ø15
6312-15D5 *	Ø15.5
6312-16 *	Ø16
6312-16D5 *	Ø16.5
6312-17 *	Ø17
6312-17D5 *	Ø17.5
6312-18 *	Ø18
6312-18D5 *	Ø18.5
6312-19 *	Ø19
6312-19D5 *	Ø19.5
6312-20 *	Ø20
6312-20D5 *	Ø20.5
6312-21 *	Ø21
6312-21D5 *	Ø21.5
6312-22 *	Ø22
6312-22D5 *	Ø22.5
6312-23 *	Ø23

(mm)	
Code	Size
6312-23D5 *	Ø23.5
6312-24 *	Ø24
6312-24D5 *	Ø24.5
6312-25 *	Ø25
6312-25D5 *	Ø25.5
6312-26 *	Ø26
6312-26D5 *	Ø26.5
6312-27 *	Ø27
6312-27D5 *	Ø27.5
6312-28 *	Ø28
6312-28D5 *	Ø28.5
6312-29 *	Ø29
6312-29D5 *	Ø29.5
6312-30 *	Ø30
6312-31 *	Ø31
6312-32 *	Ø32
6312-33 *	Ø33
6312-34 *	Ø34
6312-35 *	Ø35
6312-36 *	Ø36
6312-37 *	Ø37
6312-38 *	Ø38

(mm)	
Code	Size
6312-39 *	Ø39
6312-40 *	Ø40
6312-41 *	Ø41
6312-42 *	Ø42
6312-43 *	Ø43
6312-44 *	Ø44
6312-45 *	Ø45
6312-46 *	Ø46
6312-47 *	Ø47
6312-48 *	Ø48
6312-49 *	Ø49
6312-50 *	Ø50
6312-55 *	Ø55
6312-60 *	Ø60
6312-62 *	Ø62
6312-65 *	Ø65
6312-70 *	Ø70
6312-75 *	Ø75
6312-80 *	Ø80
6312-85 *	Ø85
6312-87 *	Ø87
6312-90 *	Ø90

(mm)	
Code	Size
6312-95 *	Ø95
6312-100 *	Ø100
6312-112D5 *	Ø112.5
6312-125 *	Ø125
6312-137D5 *	Ø137.5
6312-150 *	Ø150
6312-162D5 *	Ø162.5
6312-175 *	Ø175
6312-187D5 *	Ø187.5
6312-200 *	Ø200
6312-212D5 *	Ø212.5
6312-225 *	Ø225
6312-237D5 *	Ø237.5
6312-250 *	Ø250
6312-262D5 *	Ø262.5
6312-275 *	Ø275
6312-287D5 *	Ø287.5
6312-300 *	Ø300
6312-350 *	Ø350
6312-400 *	Ø400

* Supplied with manufacturer inspection certificate

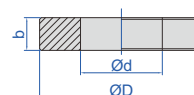


CAN SUPPLY CUSTOM SETTING RINGS FROM Ø0.40MM TO Ø50.00MM, FOR EXAMPLE, Ø17.08MM

CARBIDE SETTING RINGS



6317-10



- For zero setting of inside micrometers, three points internal micrometers and bore gages
- Size difference (difference between the ordered size and the size marked on the setting ring when supplied): For example, the ordered size is Ø10.00mm, the size marked on the setting ring when supplied may be Ø10.002mm
- Meet DIN2250-1:2008

(mm)

Diameter d **	b	ØD	Size difference	Roundness and cylindricity
Ø0.4-0.5	4	10	±10µm	0.3µm
Ø0.5-1.6	6	10	±10µm	0.3µm
Ø1.6-12.1	8	30	±10µm	0.3µm
Ø12.1-18.1	12	40	±10µm	0.4µm
Ø18.1-25	15	50	±10µm	0.4µm
Ø25-30	15	60	±10µm	0.4µm
Ø30-35	18	80	±10µm	0.4µm
Ø35-40	20	80	±10µm	0.4µm
Ø40-45	20	90	±10µm	0.4µm
Ø45-50	20	100	±10µm	0.4µm

** For example Ø0.4-0.5mm means Ø0.4mm < diameter d ≤ Ø0.5mm

Code	Size
6317-0D5 *	Ø0.5mm
6317-1 *	Ø1mm
6317-1D5 *	Ø1.5mm
6317-2 *	Ø2mm
6317-2D5 *	Ø2.5mm
6317-3 *	Ø3mm
6317-3D5 *	Ø3.5mm
6317-4 *	Ø4mm
6317-4D5 *	Ø4.5mm
6317-5 *	Ø5mm
6317-5D5 *	Ø5.5mm
6317-6 *	Ø6mm
6317-6D5 *	Ø6.5mm
6317-7 *	Ø7mm
6317-7D5 *	Ø7.5mm
6317-8 *	Ø8mm
6317-8D5 *	Ø8.5mm
6317-9 *	Ø9mm
6317-9D5 *	Ø9.5mm
6317-10 *	Ø10mm

Code	Size
6317-10D5 *	Ø10.5mm
6317-11 *	Ø11mm
6317-11D5 *	Ø11.5mm
6317-12 *	Ø12mm
6317-12D5 *	Ø12.5mm
6317-13 *	Ø13mm
6317-13D5 *	Ø13.5mm
6317-14 *	Ø14mm
6317-14D5 *	Ø14.5mm
6317-15 *	Ø15mm
6317-15D5 *	Ø15.5mm
6317-16 *	Ø16mm
6317-16D5 *	Ø16.5mm
6317-17 *	Ø17mm
6317-17D5 *	Ø17.5mm
6317-18 *	Ø18mm
6317-18D5 *	Ø18.5mm
6317-19 *	Ø19mm
6317-19D5 *	Ø19.5mm
6317-20 *	Ø20mm

Code	Size
6317-20D5 *	Ø20.5mm
6317-21 *	Ø21mm
6317-21D5 *	Ø21.5mm
6317-22 *	Ø22mm
6317-22D5 *	Ø22.5mm
6317-23 *	Ø23mm
6317-23D5 *	Ø23.5mm
6317-24 *	Ø24mm
6317-24D5 *	Ø24.5mm
6317-25 *	Ø25mm
6317-25D5 *	Ø25.5mm
6317-26 *	Ø26mm
6317-26D5 *	Ø26.5mm
6317-27 *	Ø27mm
6317-27D5 *	Ø27.5mm
6317-28 *	Ø28mm
6317-28D5 *	Ø28.5mm
6317-29 *	Ø29mm
6317-29D5 *	Ø29.5mm
6317-30 *	Ø30mm

Code	Size
6317-31 *	Ø31mm
6317-32 *	Ø32mm
6317-33 *	Ø33mm
6317-34 *	Ø34mm
6317-35 *	Ø35mm
6317-36 *	Ø36mm
6317-37 *	Ø37mm
6317-38 *	Ø38mm
6317-39 *	Ø39mm
6317-40 *	Ø40mm
6317-41 *	Ø41mm
6317-42 *	Ø42mm
6317-43 *	Ø43mm
6317-44 *	Ø44mm
6317-45 *	Ø45mm
6317-46 *	Ø46mm
6317-47 *	Ø47mm
6317-48 *	Ø48mm
6317-49 *	Ø49mm
6317-50 *	Ø50mm

* Supplied with manufacturer inspection certificate

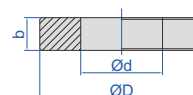
CERAMIC SETTING RINGS



CAN SUPPLY CUSTOM SETTING RINGS FROM Ø1.30MM TO Ø50.00MM, FOR EXAMPLE, Ø17.08MM



6319-10



- For zero setting of inside micrometers, three points internal micrometers and bore gages
- Size difference (difference between the ordered size and the size marked on the setting ring when supplied): For example, the ordered size is Ø10.12mm, the size marked on the setting ring when supplied may be Ø10.130mm
- Made of ceramic, extremely wear resistance and corrosion resistance, dimensional stability
- Meet DIN2250-1:2008

(mm)

Diameter d **	b	ØD	Size difference	Roundness and cylindricity
Ø1.3-2.7	6	20	±10µm	0.3µm
Ø2.7-12.1	8	30	±10µm	0.3µm
Ø12.1-18.1	12	40	±10µm	0.4µm
Ø18.1-25	15	50	±10µm	0.4µm
Ø25-30	15	60	±10µm	0.4µm
Ø30-35	18	80	±10µm	0.4µm
Ø35-40	20	80	±10µm	0.4µm
Ø40-45	20	90	±10µm	0.4µm
Ø45-50	20	100	±10µm	0.4µm

** For example Ø1.3-2.7mm means Ø1.3mm < diameter d ≤ Ø2.7mm

Code	Size
6319-1D5 *	Ø1.5mm
6319-2 *	Ø2mm
6319-2D5 *	Ø2.5mm
6319-3 *	Ø3mm
6319-3D5 *	Ø3.5mm
6319-4 *	Ø4mm
6319-4D5 *	Ø4.5mm
6319-5 *	Ø5mm
6319-5D5 *	Ø5.5mm
6319-6 *	Ø6mm
6319-6D5 *	Ø6.5mm
6319-7 *	Ø7mm
6319-7D5 *	Ø7.5mm
6319-8 *	Ø8mm
6319-8D5 *	Ø8.5mm
6319-9 *	Ø9mm
6319-9D5 *	Ø9.5mm
6319-10 *	Ø10mm
6319-10D5 *	Ø10.5mm

Code	Size
6319-11 *	Ø11mm
6319-11D5 *	Ø11.5mm
6319-12 *	Ø12mm
6319-12D5 *	Ø12.5mm
6319-13 *	Ø13mm
6319-13D5 *	Ø13.5mm
6319-14 *	Ø14mm
6319-14D5 *	Ø14.5mm
6319-15 *	Ø15mm
6319-15D5 *	Ø15.5mm
6319-16 *	Ø16mm
6319-16D5 *	Ø16.5mm
6319-17 *	Ø17mm
6319-17D5 *	Ø17.5mm
6319-18 *	Ø18mm
6319-18D5 *	Ø18.5mm
6319-19 *	Ø19mm
6319-19D5 *	Ø19.5mm
6319-20 *	Ø20mm

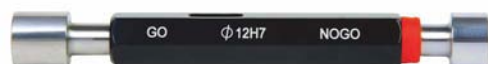
Code	Size
6319-20D5 *	Ø20.5mm
6319-21 *	Ø21mm
6319-21D5 *	Ø21.5mm
6319-22 *	Ø22mm
6319-22D5 *	Ø22.5mm
6319-23 *	Ø23mm
6319-23D5 *	Ø23.5mm
6319-24 *	Ø24mm
6319-24D5 *	Ø24.5mm
6319-25 *	Ø25mm
6319-25D5 *	Ø25.5mm
6319-26 *	Ø26mm
6319-26D5 *	Ø26.5mm
6319-27 *	Ø27mm
6319-27D5 *	Ø27.5mm
6319-28 *	Ø28mm
6319-28D5 *	Ø28.5mm
6319-29 *	Ø29mm
6319-29D5 *	Ø29.5mm
6319-30 *	Ø30mm

Code	Size
6319-31 *	Ø31mm
6319-32 *	Ø32mm
6319-33 *	Ø33mm
6319-34 *	Ø34mm
6319-35 *	Ø35mm
6319-36 *	Ø36mm
6319-37 *	Ø37mm
6319-38 *	Ø38mm
6319-39 *	Ø39mm
6319-40 *	Ø40mm
6319-41 *	Ø41mm
6319-42 *	Ø42mm
6319-43 *	Ø43mm
6319-44 *	Ø44mm
6319-45 *	Ø45mm
6319-46 *	Ø46mm
6319-47 *	Ø47mm
6319-48 *	Ø48mm
6319-49 *	Ø49mm
6319-50 *	Ø50mm

* Supplied with manufacturer inspection certificate

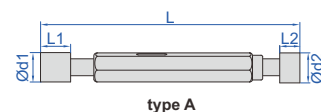
CUSTOM-MADE
OTHER CLASSES ARE AVAILABLE, SUCH AS H8, H9
OTHER DIAMETERS ARE AVAILABLE, SUCH AS 19.003mm
OTHER LENGTHS ARE AVAILABLE, SUCH AS 70mm

PLAIN PLUG GAGES



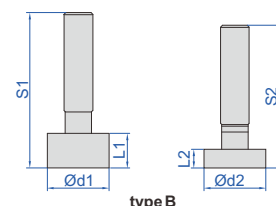
4124-12

type A



type A

type B



type B

- Supplied with Go and No-Go gages together
- Class H7
- Hardness HRC 60±2
- Standard DIN7150-2

Size tolerance of H7

(mm)

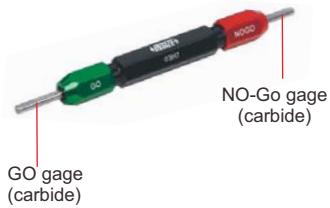
Diameter Ød	Type	Size tolerance of Go gage (µm)	Size tolerance of No-Go gage (µm)	L1	L2	L	S1, S2
≥2, ≤3	A	+0.5 / +2.5	+9 / +11	6.5	4.5	62	—
>3, ≤6	A	+0.75 / +3.25	+10.75 / +13.25	8	6	74	—
>6, ≤10	A	+0.75 / +3.25	+13.75 / +16.25	10	7	87	—
>10, ≤14	A	+1 / +4	+16.5 / +19.5	12	8	99	—
>14, ≤18	A	+1 / +4	+16.5 / +19.5	14	10	114	—
>18, ≤24	A	+1 / +5	+19 / +23	16	12	132	—
>24, ≤30	A	+1 / +5	+19 / +23	18	14	136	—
>30, ≤40	A	+1.5 / +5.5	+23 / +27	20	15	155	—
>40, ≤50	A	+1.5 / +5.5	+23 / +27	25	18	169	—
>50, ≤65	B	+1.5 / +6.5	+27.5 / +32.5	30	18	—	164, 152
>65, ≤80	B	+1.5 / +6.5	+27.5 / +32.5	35	25	—	169, 159
>80, ≤100	B	+2 / +8	+32 / +38	35	25	—	169, 159

Code	Diameter	Type	Code	Diameter	Type	Code	Diameter	Type	Code	Diameter	Type
4124-2	2mm	A	4124-17	17mm	A	4124-32	32mm	A	4124-47	47mm	A
4124-3	3mm	A	4124-18	18mm	A	4124-33	33mm	A	4124-48	48mm	A
4124-4	4mm	A	4124-19	19mm	A	4124-34	34mm	A	4124-49	49mm	A
4124-5	5mm	A	4124-20	20mm	A	4124-35	35mm	A	4124-50	50mm	A
4124-6	6mm	A	4124-21	21mm	A	4124-36	36mm	A	4124-52	52mm	B
4124-7	7mm	A	4124-22	22mm	A	4124-37	37mm	A	4124-55	55mm	B
4124-8	8mm	A	4124-23	23mm	A	4124-38	38mm	A	4124-60	60mm	B
4124-9	9mm	A	4124-24	24mm	A	4124-39	39mm	A	4124-65	65mm	B
4124-10	10mm	A	4124-25	25mm	A	4124-40	40mm	A	4124-70	70mm	B
4124-11	11mm	A	4124-26	26mm	A	4124-41	41mm	A	4124-75	75mm	B
4124-12	12mm	A	4124-27	27mm	A	4124-42	42mm	A	4124-80	80mm	B
4124-13	13mm	A	4124-28	28mm	A	4124-43	43mm	A	4124-85	85mm	B
4124-14	14mm	A	4124-29	29mm	A	4124-44	44mm	A	4124-90	90mm	B
4124-15	15mm	A	4124-30	30mm	A	4124-45	45mm	A	4124-95	95mm	B
4124-16	16mm	A	4124-31	31mm	A	4124-46	46mm	A	4124-100	100mm	B

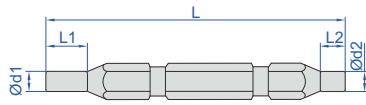
CARBIDE PLAIN PLUG GAGES



CUSTOM-MADE
OTHER CLASSES ARE AVAILABLE, SUCH AS H8, H9, G7
OTHER DIAMETERS ARE AVAILABLE, SUCH AS 19.003mm
OTHER LENGTHS ARE AVAILABLE, SUCH AS 70mm



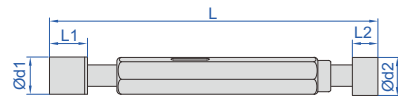
4128-3



type A



4128-50



type B

- Supplied with Go and No-Go gages together
- Standard DIN7150-2

Size tolerance of H7

(mm)

Diameter	Size tolerance of Go gage Ød1 (µm)	Size tolerance of No-Go gage Ød2 (µm)	L1	L2	L
≥1, ≤1.9	+0.5/+2.5	+9/+11	15	12	67
>1.9, ≤3	+0.5/+2.5	+9/+11	15	12	79
>3, ≤4.7	+0.75/+3.25	+10.75/+13.25	15	12	79
>4.7, ≤6	+0.75/+3.25	+10.75/+13.25	15	12	88.5
>6, ≤7.1	+0.75/+3.25	+13.75/+16.25	15	12	88.5
>7.1, ≤8	+0.75/+3.25	+13.75/+16.25	15	12	99
>8, ≤10	+0.75/+3.25	+13.75/+16.25	12	7	75
>10, ≤14	+1/+4	+16.5/+19.5	12	7	82
>14, ≤18	+1/+4	+16.5/+19.5	17	10	97
>18, ≤24	+1/+5	+19/+23	17	12	109
>24, ≤30	+1/+5	+19/+23	17	14	111
>30, ≤40	+1.5/+5.5	+23/+27	20	15	115
>40, ≤50	+1.5/+5.5	+23/+27	20	15	160
>50, ≤60	+1.5/+6.5	+27.5/+32.5	20	15	160

14

H7

(mm)

Code	Diameter	Type	Code	Diameter	Type	Code	Diameter	Type	Code	Diameter	Type
4128-1*	1	A	4128-14*	14	B	4128-27*	27	B	4128-40*	40	B
4128-2*	2	A	4128-15*	15	B	4128-28*	28	B	4128-41*	41	B
4128-3*	3	A	4128-16*	16	B	4128-29*	29	B	4128-42*	42	B
4128-4*	4	A	4128-17*	17	B	4128-30*	30	B	4128-43*	43	B
4128-5*	5	A	4128-18*	18	B	4128-31*	31	B	4128-44*	44	B
4128-6*	6	A	4128-19*	19	B	4128-32*	32	B	4128-45*	45	B
4128-7*	7	A	4128-20*	20	B	4128-33*	33	B	4128-46*	46	B
4128-8*	8	A	4128-21*	21	B	4128-34*	34	B	4128-47*	47	B
4128-9*	9	B	4128-22*	22	B	4128-35*	35	B	4128-48*	48	B
4128-10*	10	B	4128-23*	23	B	4128-36*	36	B	4128-49*	49	B
4128-11*	11	B	4128-24*	24	B	4128-37*	37	B	4128-50*	50	B
4128-12*	12	B	4128-25*	25	B	4128-38*	38	B	4128-52*	52	B
4128-13*	13	B	4128-26*	26	B	4128-39*	39	B	4128-55*	55	B
									4128-60*	60	B

* Supplied with manufacturer inspection certificate



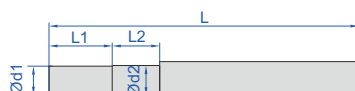
CARBIDE PLAIN PLUG GAGES (SINGLE END)

CUSTOM-MADE
OTHER CLASSES ARE AVAILABLE, SUCH AS H8, H9, G7
OTHER DIAMETERS ARE AVAILABLE, SUCH AS 19.003mm
OTHER LENGTHS ARE AVAILABLE, SUCH AS 70mm



6331-9

- Supplied with Go and No-Go gages together
- Standard DIN7150-2



Size tolerance of H7

(mm)

Diameter	Size tolerance of Go gage $\varnothing d1$ (μm)	Size tolerance of No-Go gage $\varnothing d2$ (μm)	L1	L2	L
$\geq 0.5, \leq 3$	+0.5/+2.5	+9/+11	20	15	95
$> 3, \leq 6$	+0.75/+3.25	+10.75/+13.25	20	15	95
$> 6, \leq 10$	+0.75/+3.25	+13.75/+16.25	20	15	95
$> 10, \leq 15$	+1/+4	+16.5/+19.5	20	15	95
$> 15, \leq 18$	+1/+4	+16.5/+19.5	20	15	115
$> 18, \leq 30$	+1/+5	+19/+23	20	15	115
$> 30, \leq 40$	+1.5/+5.5	+23/+27	20	15	115

H7

(mm)

Code	Diameter	Code	Diameter
6331-1 *	1	6331-21 *	21
6331-2 *	2	6331-22 *	22
6331-3 *	3	6331-23 *	23
6331-4 *	4	6331-24 *	24
6331-5 *	5	6331-25 *	25
6331-6 *	6	6331-26 *	26
6331-7 *	7	6331-27 *	27
6331-8 *	8	6331-28 *	28
6331-9 *	9	6331-29 *	29
6331-10 *	10	6331-30 *	30
6331-11 *	11	6331-31 *	31
6331-12 *	12	6331-32 *	32
6331-13 *	13	6331-33 *	33
6331-14 *	14	6331-34 *	34
6331-15 *	15	6331-35 *	35
6331-16 *	16	6331-36 *	36
6331-17 *	17	6331-37 *	37
6331-18 *	18	6331-38 *	38
6331-19 *	19	6331-39 *	39
6331-20 *	20	6331-40 *	40

* Supplied with manufacturer inspection certificate



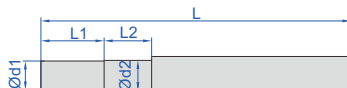
CERAMIC PLAIN PLUG GAGES (SINGLE END)

CUSTOM-MADE
OTHER CLASSES ARE AVAILABLE, SUCH AS H8, H9, G7
OTHER DIAMETERS ARE AVAILABLE, SUCH AS 19.003mm
OTHER LENGTHS ARE AVAILABLE, SUCH AS 70mm



6333-10

- Supplied with Go and No-Go gages together
- Made of ceramic, extremely wear resistance and corrosion resistance, dimensional stability
- Standard DIN7150-2



Size tolerance of H7

(mm)

Diameter	Size tolerance of Go gage $\varnothing d1$ (μm)	Size tolerance of No-Go gage $\varnothing d2$ (μm)	L1	L2	L
$\geq 0.5, \leq 3$	+0.5/+2.5	+9/+11	20	15	95
$> 3, \leq 6$	+0.75/+3.25	+10.75/+13.25	20	15	95
$> 6, \leq 10$	+0.75/+3.25	+13.75/+16.25	20	15	95
$> 10, \leq 15$	+1/+4	+16.5/+19.5	20	15	95
$> 15, \leq 18$	+1/+4	+16.5/+19.5	20	15	115
$> 18, \leq 30$	+1/+5	+19/+23	20	15	115
$> 30, \leq 40$	+1.5/+5.5	+23/+27	20	15	115

H7

(mm)

Code	Diameter	Code	Diameter
6333-1 *	1	6333-21 *	21
6333-2 *	2	6333-22 *	22
6333-3 *	3	6333-23 *	23
6333-4 *	4	6333-24 *	24
6333-5 *	5	6333-25 *	25
6333-6 *	6	6333-26 *	26
6333-7 *	7	6333-27 *	27
6333-8 *	8	6333-28 *	28
6333-9 *	9	6333-29 *	29
6333-10 *	10	6333-30 *	30
6333-11 *	11	6333-31 *	31
6333-12 *	12	6333-32 *	32
6333-13 *	13	6333-33 *	33
6333-14 *	14	6333-34 *	34
6333-15 *	15	6333-35 *	35
6333-16 *	16	6333-36 *	36
6333-17 *	17	6333-37 *	37
6333-18 *	18	6333-38 *	38
6333-19 *	19	6333-39 *	39
6333-20 *	20	6333-40 *	40

* Supplied with manufacturer inspection certificate

CERAMIC PLAIN PLUG GAGES

CUSTOM-MADE
OTHER CLASSES ARE AVAILABLE, SUCH AS H8, H9, G7
OTHER DIAMETERS ARE AVAILABLE, SUCH AS 19.003mm
OTHER LENGTHS ARE AVAILABLE, SUCH AS 70mm



6332-17

- Supplied with Go and No-Go gages together
- Made of ceramic, extremely wear resistance and corrosion resistance, dimensional stability
- Standard DIN7150-2



Size tolerance of H7

(mm)

Diameter	Size tolerance of Go gage Ød1 (µm)	Size tolerance of No-Go gage Ød2 (µm)	L1	L2	L
≥0.5, ≤3	+0.5/+2.5	+9/+11	20	15	95
>3, ≤6	+0.75/+3.25	+10.75/+13.25	20	15	95
>6, ≤10	+0.75/+3.25	+13.75/+16.25	20	15	95
>10, ≤15	+1/+4	+16.5/+19.5	20	15	95
>15, ≤18	+1/+4	+16.5/+19.5	20	15	115
>18, ≤30	+1/+5	+19/+23	20	15	115
>30, ≤40	+1.5/+5.5	+23/+27	20	15	115

H7

(mm)

Code	Diameter
6332-1 *	1
6332-2 *	2
6332-3 *	3
6332-4 *	4
6332-5 *	5
6332-6 *	6
6332-7 *	7
6332-8 *	8
6332-9 *	9
6332-10 *	10
6332-11 *	11
6332-12 *	12
6332-13 *	13
6332-14 *	14
6332-15 *	15
6332-16 *	16

Code	Diameter
6332-17 *	17
6332-18 *	18
6332-19 *	19
6332-20 *	20
6332-21 *	21
6332-22 *	22
6332-23 *	23
6332-24 *	24
6332-25 *	25
6332-26 *	26
6332-27 *	27
6332-28 *	28
6332-29 *	29
6332-30 *	30
6332-31 *	31
6332-32 *	32
6332-33 *	33

Code	Diameter
6332-34 *	34
6332-35 *	35
6332-36 *	36
6332-37 *	37
6332-38 *	38
6332-39 *	39
6332-40 *	40
6332-41 *	41
6332-42 *	42
6332-43 *	43
6332-44 *	44
6332-45 *	45
6332-46 *	46
6332-47 *	47
6332-48 *	48
6332-49 *	49
6332-50 *	50

* Supplied with manufacturer inspection certificate



4190-40D000

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

Individual

Code	Diameter	Accuracy	Roundness
4190-1D000	1.000mm	±2µm	0.5µm
4190-1D200	1.200mm	±2µm	0.5µm
4190-1D300	1.300mm	±2µm	0.5µm
4190-1D340	1.340mm	±2µm	0.5µm
4190-1D500	1.500mm	±2µm	0.5µm
4190-1D588	1.588mm (1/16")	±2µm	0.5µm
4190-1D750	1.750mm	±2µm	0.5µm
4190-2D000	2.000mm	±2µm	0.5µm
4190-2D381	2.381mm (3/32")	±2µm	0.5µm
4190-2D500	2.500mm	±2µm	0.5µm
4190-2D778	2.778mm (7/64")	±2µm	0.5µm
4190-3D000	3.000mm	±2µm	0.5µm
4190-3D175	3.175mm (1/8")	±2µm	0.5µm
4190-3D500	3.500mm	±2µm	0.5µm
4190-3D969	3.969mm (5/32")	±2µm	0.5µm
4190-4D000	4.000mm	±2µm	0.5µm
4190-4D500	4.500mm	±2µm	0.5µm
4190-4D763	4.763mm (3/16")	±2µm	0.5µm
4190-5D000	5.000mm	±2µm	0.5µm
4190-5D556	5.556mm (7/32")	±2µm	0.5µm
4190-5D953	5.953mm (15/64")	±2µm	0.5µm
4190-6D000	6.000mm	±2µm	0.5µm
4190-6D350	6.350mm (1/4")	±2µm	0.5µm
4190-6D500	6.500mm	±2µm	0.5µm
4190-6D747	6.747mm (17/64")	±2µm	0.5µm
4190-7D000	7.000mm	±2µm	0.5µm
4190-7D144	7.144mm (9/32")	±2µm	0.5µm
4190-7D500	7.500mm	±2µm	0.5µm
4190-7D938	7.938mm (5/16")	±2µm	0.5µm
4190-8D000	8.000mm	±2µm	0.5µm
4190-8D731	8.731mm (11/32")	±2µm	0.5µm

Individual

Code	Diameter	Accuracy	Roundness
4190-9D525	9.525mm (3/8")	±2µm	0.5µm
4190-10D000	10.000mm	±2µm	0.5µm
4190-10D318	10.318mm (13/32")	±2µm	0.5µm
4190-11D000	11.000mm	±2µm	0.5µm
4190-11D113	11.113mm (7/16")	±2µm	0.5µm
4190-11D509	11.509mm (29/64")	±2µm	0.5µm
4190-11D906	11.906mm (15/32")	±2µm	0.5µm
4190-12D000	12.000mm	±2µm	0.5µm
4190-12D303	12.303mm (31/64")	±2µm	0.5µm
4190-12D700	12.700mm (1/2")	±2µm	0.5µm
4190-13D000	13.000mm	±2µm	0.6µm
4190-13D494	13.494mm (17/32")	±2µm	0.6µm
4190-14D000	14.000mm	±2µm	0.6µm
4190-14D288	14.288mm (9/16")	±2µm	0.6µm
4190-15D000	15.000mm	±2µm	0.6µm
4190-15D081	15.081mm (19/32")	±2.5µm	0.6µm
4190-15D875	15.875mm (5/8 ")	±2.5µm	0.6µm
4190-16D000	16.000mm	±2.5µm	0.6µm
4190-16D669	16.669mm (21/32")	±2.5µm	0.6µm
4190-17D462	17.462mm (11/16")	±2.5µm	0.6µm
4190-18D000	18.000mm	±2.5µm	0.6µm
4190-18D256	18.256mm (23/32")	±2.5µm	0.6µm
4190-19D050	19.050mm (3/4")	±2.5µm	0.6µm
4190-19D844	19.844mm (25/32")	±2.5µm	0.6µm
4190-20D000	20.000mm	±2.5µm	0.6µm
4190-22D000	22.000mm	±2.5µm	1µm
4190-22D225	22.225mm (7/8")	±2.5µm	1µm
4190-23D812	23.812mm (15/16")	±2.5µm	1µm
4190-25D000	25.000mm	±2.5µm	1µm
4190-40D000	40.000mm	±2.5µm	1.5µm

Set (25 pairs)

Code	Ceramic balls included (one pair per size)
4190-S25	1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5, 6, 6.5, 7, 7.5, 8, 10, 11, 12, 13, 14, 15, 16, 18, 20, 22, 25mm

STEEL MEASURING BALLS

- To measure angle and diameter of taper holes
- Material: tool steel
- Hardness: HRC63
- Diameter accuracy: $\pm 3\mu\text{m}$
- Roundness: $1\mu\text{m}$
- Supplied with manufacturer inspection certificate



Individual

Code	Diameter
4168-01	1mm
4168-02	2mm
4168-03	3mm
4168-04	4mm
4168-05	5mm
4168-06	6mm
4168-07	7mm
4168-08	8mm
4168-09	9mm
4168-10	10mm
4168-11	11mm
4168-12	12mm
4168-13	13mm

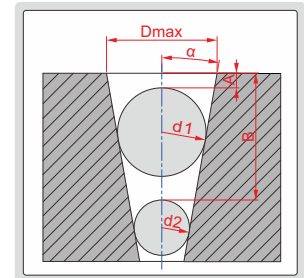
Individual

Code	Diameter
4168-14	14mm
4168-15	15mm
4168-16	16mm
4168-17	17mm
4168-18	18mm
4168-19	19mm
4168-20	20mm
4168-21	21mm
4168-22	22mm
4168-23	23mm
4168-24	24mm
4168-25	25mm



4168-S25

calculate angle (α) and diameter (Dmax) according to the ball diameter ($d1$, $d2$), height (A) and depth (B)



Set (25 pairs)

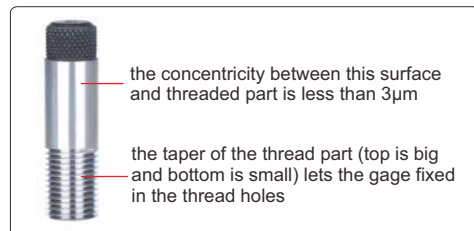
Code	Steel balls included (one pair per size)
4168-S25	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25mm

THREADED HOLE LOCATION GAGES



ANY SIZE WITHIN THE RANGE OF M3-M150MM CAN BE CUSTOMIZED

ACCURACY CLASS CAN BE CUSTOMIZED



Code	Size	L	L1	L2	ØD
4662-3	M3×0.5-6H	29	8	6	3
4662-4	M4×0.7-6H	31.4	8	8.4	4
4662-5	M5×0.8-6H	32.6	8	9.6	5
4662-6	M6×1-6H	47	10	12	6
4662-8	M8×1.25-6H	50	10	15	8
4662-8P	M8×1-6H	47	10	12	8
4662-10	M10×1.5-6H	53	10	18	10
4662-10P	M10×1-6H	47	10	12	10
4662-12	M12×1.75-6H	56	10	21	12
4662-12P	M12×1-6H	47	10	12	12
4662-12R	M12×1.5-6H	53	10	18	12
4662-14	M14×2-6H	59	10	24	14
4662-14P	M14×1-6H	47	10	12	14
4662-14R	M14×1.5-6H	53	10	18	14
4662-16	M16×2-6H	59	10	24	16
4662-16P	M16×1-6H	47	10	12	16
4662-16R	M16×1.5-6H	53	10	18	16
4662-20	M20×2.5-6H	65	10	30	20
4662-20P	M20×1-6H	47	10	12	20
4662-20R	M20×1.5-6H	53	10	18	20

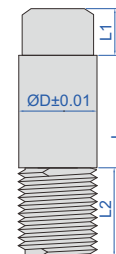


4662-12R



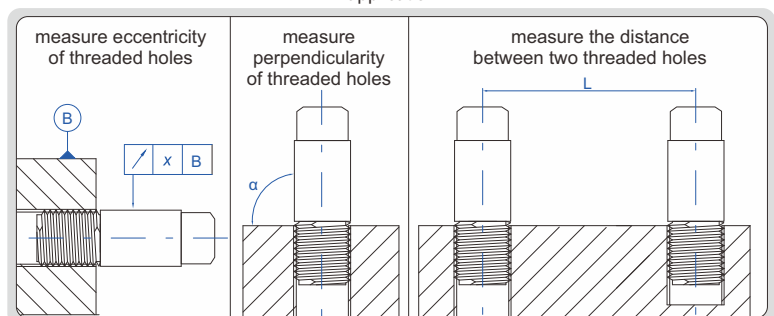
4662-3

Unit: mm

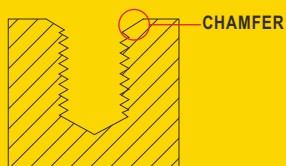


- Hardness: HRC60-63

application



ATTENTION: ONLY FOR THE WORKPIECES THAT THE CHAMFER IS CONCENTRIC WITH THE SCREW PART



THREADED HOLE LOCATION GAGES

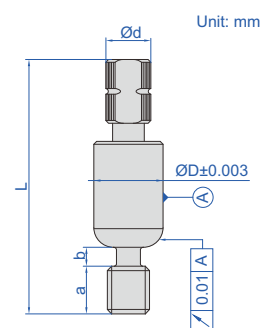
INSIZE PLUS
MADE IN EUROPE



the concentricity between this surface and threaded part is less than 0.01mm

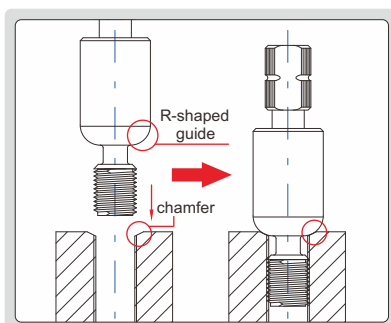


4676-12

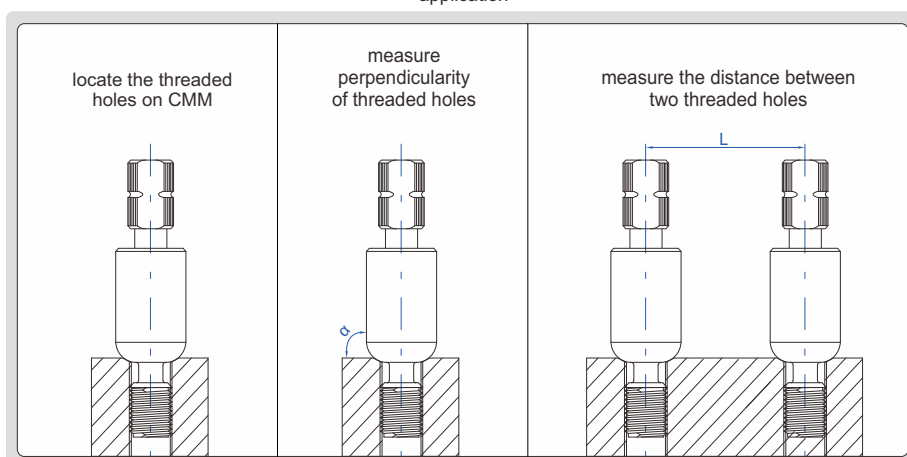


- Only for the workpieces that the chamfer is concentric with the screw part

there is a R-shaped guide, which leads the gage to the center of the threaded holes by fitting the R-shaped guide on the chamfer of the threaded holes



application



(mm)

Code	Size	Ød	ØD	a	b	L
4676-3	M3×0.5	4	7	4	2	26
4676-4	M4×0.7	4	7	4	2	26
4676-5	M5×0.8	5.5	9	6	2	33
4676-6	M6×1.0	5.5	9	6	2	33
4676-8	M8×1.25	8.5	13	9	3.5	48
4676-10	M10×1.5	8.5	13	9	3.5	48
4676-12	M12×1.75	12	17	10	3.5	55

DIGITAL THREAD DEPTH GAGES

INSIZE PLUS
MADE IN EUROPE

**INSPECTION
CERTIFICATE**

DATA
OUTPUT

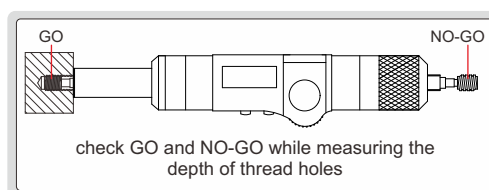
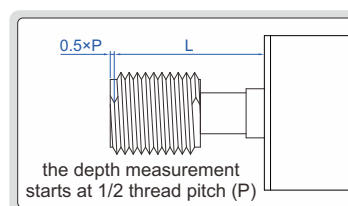


VIDEO



4649-6

- Supplied with GO and NO-GO gages together
- Check GO and NO-GO while measuring the depth of thread holes
- Resolution: 0.01mm/0.0005"
- Depth 0-40mm: accuracy $\pm 0.04\text{mm}$;
Depth 40-80mm: accuracy $\pm 0.06\text{mm}$
- Data output
- Button function: on/of, inch/metric conversion, reading hold, data preset, absolute/incremental measurement
- Battery CR2032, automatic power off, move the digital unit to turn on power
- The GO gage can be replaced after wear
- Optional accessory: data output cable (code **7302-85**), zero block (code **4668-SETTER**), removal tool (code **4668-TOOL**)



Metric thread

Code	Size (mm)	Depth range
4649-2 *	M2x0.4-6H	0-8mm
4649-2D5 *	M2.5x0.45-6H	0-10mm
4649-3 *	M3x0.5-6H	0-12mm
4649-3D5 *	M3.5x0.6-6H	0-14mm
4649-4 *	M4x0.7-6H	0-16mm
4649-5 *	M5x0.8-6H	0-20mm
4649-6 *	M6x1-6H	0-24mm
4649-7 *	M7x1-6H	0-28mm
4649-8 *	M8x1.25-6H	0-32mm
4649-10 *	M10x1.5-6H	0-40mm
4649-12 *	M12x1.75-6H	0-48mm
4649-14 *	M14x2-6H	0-56mm
4649-16 *	M16x2-6H	0-64mm
4649-18 *	M18x2.5-6H	0-72mm
4649-20 *	M20x2.5-6H	0-80mm
4649-22 *	M22x2.5-6H	0-80mm
4649-24 *	M24x3-6H	0-80mm
4649-27 *	M27x3-6H	0-80mm
4649-30 *	M30x3.5-6H	0-80mm

Metric fine thread

Code	Size (mm)	Depth range
4649-8P *	M8x1-6H	0-32mm
4649-10P *	M10x1-6H	0-40mm
4649-10T *	M10x1.25-6H	0-40mm
4649-12P *	M12x1-6H	0-48mm
4649-12T *	M12x1.25-6H	0-48mm
4649-12R *	M12x1.5-6H	0-48mm
4649-14P *	M14x1-6H	0-56mm
4649-14T *	M14x1.25-6H	0-56mm
4649-14R *	M14x1.5-6H	0-56mm
4649-16P *	M16x1-6H	0-64mm
4649-16R *	M16x1.5-6H	0-64mm
4649-18P *	M18x1-6H	0-72mm
4649-18R *	M18x1.5-6H	0-72mm
4649-20P *	M20x1-6H	0-80mm
4649-20R *	M20x1.5-6H	0-80mm
4649-22P *	M22x1-6H	0-80mm
4649-22R *	M22x1.5-6H	0-80mm
4649-24P *	M24x1-6H	0-80mm
4649-24R *	M24x1.5-6H	0-80mm

* Supplied with manufacturer inspection certificate

THREAD DEPTH GAGES

INSIZE PLUS
MADE IN EUROPE

**INSPECTION
CERTIFICATE**

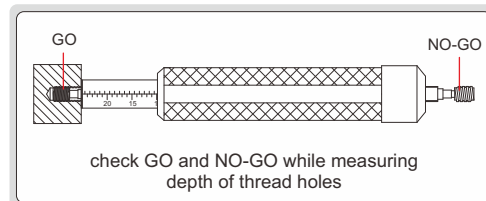
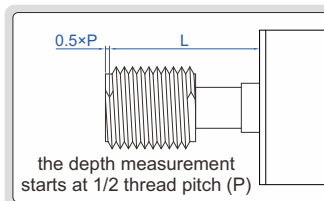


4666-6



4666-14PA

- Supplied with GO and NO-GO gages together
- Check GO and NO-GO while measuring the depth thread holes
- The GO gage can be replaced after wear
- Optional accessory: zero block (code 4668-SETTER), removal tool (code 4668-TOOL)



Metric thread (without vernier reading,
graduation: 0.5mm, accuracy: ±0.25mm)

Code	Size (mm)	Depth range
4666-2 *	M2x0.4-6H	0-8mm
4666-2D5 *	M2.5x0.45-6H	0-10mm
4666-3 *	M3x0.5-6H	0-12mm
4666-3D5 *	M3.5x0.6-6H	0-14mm
4666-4 *	M4x0.7-6H	0-16mm
4666-5 *	M5x0.8-6H	0-20mm
4666-6 *	M6x1-6H	0-24mm
4666-7 *	M7x1-6H	0-28mm
4666-8 *	M8x1.25-6H	0-32mm
4666-10 *	M10x1.5-6H	0-40mm
4666-12 *	M12x1.75-6H	0-48mm
4666-14 *	M14x2-6H	0-56mm
4666-16 *	M16x2-6H	0-64mm
4666-18 *	M18x2.5-6H	0-72mm
4666-20 *	M20x2.5-6H	0-80mm
4666-22 *	M22x2.5-6H	0-80mm
4666-24 *	M24x3-6H	0-80mm
4666-27 *	M27x3-6H	0-80mm
4666-30 *	M30x3.5-6H	0-80mm

Metric fine thread (without vernier reading,
graduation: 0.5mm, accuracy: ±0.25mm)

Code	Size (mm)	Depth range
4666-8P *	M8x1-6H	0-32mm
4666-10P *	M10x1-6H	0-40mm
4666-10T *	M10x1.25-6H	0-40mm
4666-12P *	M12x1-6H	0-48mm
4666-12T *	M12x1.25-6H	0-48mm
4666-12R *	M12x1.5-6H	0-48mm
4666-14P *	M14x1-6H	0-56mm
4666-14T *	M14x1.25-6H	0-56mm
4666-14R *	M14x1.5-6H	0-56mm
4666-16P *	M16x1-6H	0-64mm
4666-16R *	M16x1.5-6H	0-64mm
4666-18P *	M18x1-6H	0-72mm
4666-18R *	M18x1.5-6H	0-72mm
4666-20P *	M20x1-6H	0-80mm
4666-20R *	M20x1.5-6H	0-80mm
4666-22P *	M22x1-6H	0-80mm
4666-22R *	M22x1.5-6H	0-80mm
4666-24P *	M24x1-6H	0-80mm
4666-24R *	M24x1.5-6H	0-80mm

Metric thread (with vernier reading,
graduation: 0.1mm, accuracy: ±0.1mm)

Code	Size (mm)	Depth range
4666-2A *	M2x0.4-6H	0-8mm
4666-2D5A *	M2.5x0.45-6H	0-10mm
4666-3A *	M3x0.5-6H	0-12mm
4666-3D5A *	M3.5x0.6-6H	0-14mm
4666-4A *	M4x0.7-6H	0-16mm
4666-5A *	M5x0.8-6H	0-20mm
4666-6A *	M6x1-6H	0-24mm
4666-7A *	M7x1-6H	0-28mm
4666-8A *	M8x1.25-6H	0-32mm
4666-10A *	M10x1.5-6H	0-40mm
4666-12A *	M12x1.75-6H	0-48mm
4666-14A *	M14x2-6H	0-56mm
4666-16A *	M16x2-6H	0-64mm
4666-18A *	M18x2.5-6H	0-72mm
4666-20A *	M20x2.5-6H	0-80mm
4666-22A *	M22x2.5-6H	0-80mm
4666-24A *	M24x3-6H	0-80mm
4666-27A *	M27x3-6H	0-80mm
4666-30A *	M30x3.5-6H	0-80mm

Metric fine thread (with vernier reading,
graduation: 0.1mm, accuracy: ±0.1mm)

Code	Size (mm)	Depth range
4666-8PA *	M8x1-6H	0-32mm
4666-10PA *	M10x1-6H	0-40mm
4666-10TA *	M10x1.25-6H	0-40mm
4666-12PA *	M12x1-6H	0-48mm
4666-12TA *	M12x1.25-6H	0-48mm
4666-12RA *	M12x1.5-6H	0-48mm
4666-14PA *	M14x1-6H	0-56mm
4666-14TA *	M14x1.25-6H	0-56mm
4666-14RA *	M14x1.5-6H	0-56mm
4666-16PA *	M16x1-6H	0-64mm
4666-16RA *	M16x1.5-6H	0-64mm
4666-18PA *	M18x1-6H	0-72mm
4666-18RA *	M18x1.5-6H	0-72mm
4666-20PA *	M20x1-6H	0-80mm
4666-20RA *	M20x1.5-6H	0-80mm
4666-22PA *	M22x1-6H	0-80mm
4666-22RA *	M22x1.5-6H	0-80mm
4666-24PA *	M24x1-6H	0-80mm
4666-24RA *	M24x1.5-6H	0-80mm

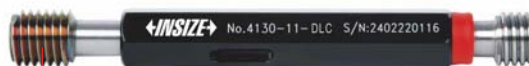
* Supplied with manufacturer inspection certificate



DLC COATED THREAD RING GAGES AND PLUG GAGES



DLC coated GO ring gage



DLC coated GO plug gage

- The DLC coating has the following advantages:
 - High hardness, extremely wear resistance
 - Low friction coefficient
 - Corrosion resistance
- Plug gages: GO is coated, NO-GO is not;
Ring gages: GO is coated, NO-GO is not
- The following thread ring gages and plug gages are available with DLC coating:
 - Metric fine thread ring gages and plug gages (**4139, 4129** series);
 - Metric thread ring gages and plug gages (**4130, 4120** series);
 - American standard thread ring gages and plug gages (**4131, 4121** series)

Code example:

Original code	DLC coating code
4120-12	4120-12-DLC
4130-4	4130-4-DLC

DLC coating characteristics

Hardness	6000HV
Friction coefficient	0.15
Coating color	interference color

METRIC THREAD PLUG GAGES

WARNING: LIFE TIME IS LIMITED,
CAN BE USED ABOUT 2000 TIMES

- Supplied with Go and No-Go gages together
- Standard ISO1502
- Supplied with manufacturer inspection certificate



4130-10



Individual

Size (mm)		Code		
Nominal diameter	Pitch	Class 6H	Class 6G	Class 4H
M0.8	0.2	4130-D8	4130-D8G	4130-D8H
M0.9	0.225	4130-D9	4130-D9G	4130-D9H
M1	0.25	4130-1	4130-1G	4130-1H
M1.1	0.25	4130-1D1	4130-1D1G	4130-1D1H
M1.2	0.25	4130-1D2	4130-1D2G	4130-1D2H
M1.4	0.3	4130-1D4	4130-1D4G	4130-1D4H
M1.6	0.35	4130-1D6	4130-1D6G	4130-1D6H
M1.7	0.35	4130-1D7	4130-1D7G	4130-1D7H
M1.8	0.35	4130-1D8	4130-1D8G	4130-1D8H
M2	0.4	4130-2	4130-2G	4130-2H
M2.2	0.45	4130-2D2	4130-2D2G	4130-2D2H
M2.3	0.4	4130-2D3	4130-2D3G	4130-2D3H
M2.5	0.45	4130-2D5	4130-2D5G	4130-2D5H
M2.6	0.45	4130-2D6	4130-2D6G	4130-2D6H
M3	0.5	4130-3	4130-3G	4130-3H
M3.5	0.6	4130-3D5	4130-3D5G	4130-3D5H
M4	0.7	4130-4	4130-4G	4130-4H
M4.5	0.75	4130-4D5	4130-4D5G	4130-4D5H
M5	0.8	4130-5	4130-5G	4130-5H
M6	1	4130-6	4130-6G	4130-6H
M7	1	4130-7	4130-7G	4130-7H
M8	1.25	4130-8	4130-8G	4130-8H

Individual

Size (mm)		Code		
Nominal diameter	Pitch	Class 6H	Class 6G	Class 4H
M9	1.25	4130-9	4130-9G	4130-9H
M10	1.5	4130-10	4130-10G	4130-10H
M11	1.5	4130-11	4130-11G	4130-11H
M12	1.75	4130-12	4130-12G	4130-12H
M14	2	4130-14	4130-14G	4130-14H
M16	2	4130-16	4130-16G	4130-16H
M18	2.5	4130-18	4130-18G	4130-18H
M20	2.5	4130-20	4130-20G	4130-20H
M22	2.5	4130-22	4130-22G	4130-22H
M24	3	4130-24	4130-24G	4130-24H
M27	3	4130-27	4130-27G	4130-27H
M30	3.5	4130-30	4130-30G	4130-30H
M33	3.5	4130-33	4130-33G	4130-33H
M36	4	4130-36	4130-36G	4130-36H
M39	4	4130-39	4130-39G	4130-39H
M42	4.5	4130-42	4130-42G	4130-42H
M45	4.5	4130-45	4130-45G	4130-45H
M48	5	4130-48	4130-48G	4130-48H
M52	5	4130-52	4130-52G	4130-52H
M56	5.5	4130-56	4130-56G	4130-56H
M60	5.5	4130-60	4130-60G	4130-60H
M64	6	4130-64	4130-64G	4130-64H
M68	6	4130-68	4130-68G	4130-68H

Set (class 6H)

Code	Thread plug gages included (mm)
4130-S7	M3x0.5 (4130-3), M4x0.7 (4130-4), M5x0.8 (4130-5), M6x1 (4130-6), M8x1.25 (4130-8), M10x1.5 (4130-10), M12x1.75 (4130-12)

WARNING: LIFE TIME IS LIMITED,
CAN BE USED ABOUT 2000 TIMES



METRIC FINE THREAD PLUG GAGES



4139-20G

- Supplied with Go and No-Go gages together
- Standard ISO1502
- Supplied with manufacturer inspection certificate

Code example:
"-1A" stands for "4139-1A"

Size (mm)		Code (4139)		
Nominal diameter	Pitch	Class 6H	Class 6G	Class 4H
M1	0.2	-1A	-1AG	-1AH
M1.2	0.2	-1D2A	-1D2AG	-1D2AH
M1.4	0.2	-1D4A	-1D4AG	-1D4AH
M1.6	0.2	-1D6A	-1D6AG	-1D6AH
M1.8	0.2	-1D8A	-1D8AG	-1D8AH
M2	0.2	-2A	-2AG	-2AH
	0.25	-2B	-2BG	-2BH
M2.5	0.2	-2D5A	-2D5AG	-2D5AH
	0.25	-2D5B	-2D5BG	-2D5BH
	0.35	-2D5D	-2D5DG	-2D5DH
M3	0.25	-3B	-3BG	-3BH
	0.35	-3D	-3DG	-3DH
M3.5	0.25	-3D5B	-3D5BG	-3D5BH
	0.35	-3D5D	-3D5DG	-3D5DH
	0.5	-3D5G	-3D5GG	-3D5GH
M4	0.25	-4B	-4BG	-4BH
	0.35	-4D	-4DG	-4DH
	0.5	-4G	-4GG	-4GH
M4.5	0.35	-4D5D	-4D5DG	-4D5DH
	0.5	-4D5G	-4D5GG	-4D5GH
M5	0.25	-5B	-5BG	-5BH
	0.35	-5D	-5DG	-5DH
	0.5	-5G	-5GG	-5GH
M5.5	0.5	-5D5G	-5D5GG	-5D5GH
M6	0.25	-6B	-6BG	-6BH
	0.35	-6D	-6DG	-6DH
	0.5	-6G	-6GG	-6GH
M6.5	0.5	-6D5G	-6D5GG	-6D5GH
M7	0.35	-7D	-7DG	-7DH
	0.5	-7G	-7GG	-7GH
M7.5	0.5	-7D5G	-7D5GG	-7D5GH
M8	0.35	-8D	-8DG	-8DH
	0.5	-8G	-8GG	-8GH

Size (mm)		Code (4139)		
Nominal diameter	Pitch	Class 6H	Class 6G	Class 4H
M8	1	-8P	-8PG	-8PH
M8.5	0.5	-8D5G	-8D5GG	-8D5GH
M9	0.35	-9D	-9DG	-9DH
	0.5	-9G	-9GG	-9GH
	0.75	-9L	-9LG	-9LH
	1	-9P	-9PG	-9PH
M10	0.35	-10D	-10DG	-10DH
	0.5	-10G	-10GG	-10GH
	1	-10P	-10PG	-10PH
	1.25	-10Q	-10QG	-10QH
M11	0.5	-11G	-11GG	-11GH
	1	-11P	-11PG	-11PH
M12	0.5	-12G	-12GG	-12GH
	1	-12P	-12PG	-12PH
	1.25	-12Q	-12QG	-12QH
	1.5	-12R	-12RG	-12RH
M13	0.5	-13G	-13GG	-13GH
	1	-13P	-13PG	-13PH
	1.5	-13R	-13RG	-13RH
M14	0.5	-14G	-14GG	-14GH
	1	-14P	-14PG	-14PH
	1.25	-14Q	-14QG	-14QH
M15	1.5	-14R	-14RG	-14RH
	0.5	-15G	-15GG	-15GH
M16	1	-15P	-15PG	-15PH
	1.5	-15R	-15RG	-15RH
	0.5	-16G	-16GG	-16GH
M17	1	-16P	-16PG	-16PH
	1.25	-16Q	-16QG	-16QH
	1.5	-16R	-16RG	-16RH
M17	0.5	-17G	-17GG	-17GH
	1	-17P	-17PG	-17PH
	1.5	-17R	-17RG	-17RH

To be continued

Continued from previous page

Size (mm)		Code (4139)		
Nominal diameter	Pitch	Class 6H	Class 6G	Class 4H
M18	0.5	-18G	-18GG	-18GH
	1	-18P	-18PG	-18PH
	1.25	-18Q	-18QG	-18QH
	1.5	-18R	-18RG	-18RH
	2	-18T	-18TG	-18TH
M19	0.5	-19G	-19GG	-19GH
	1	-19P	-19PG	-19PH
	1.5	-19R	-19RG	-19RH
M20	0.5	-20G	-20GG	-20GH
	1	-20P	-20PG	-20PH
	1.25	-20Q	-20QG	-20QH
	1.5	-20R	-20RG	-20RH
	2	-20T	-20TG	-20TH
M21	0.5	-21G	-21GG	-21GH
	1	-21P	-21PG	-21PH
	1.5	-21R	-21RG	-21RH
M22	0.5	-22G	-22GG	-22GH
	1	-22P	-22PG	-22PH
	1.25	-22Q	-22QG	-22QH
	1.5	-22R	-22RG	-22RH
	2	-22T	-22TG	-22TH
M23	0.5	-23G	-23GG	-23GH
	1	-23P	-23PG	-23PH
M24	0.5	-24G	-24GG	-24GH
	1	-24P	-24PG	-24PH
	1.25	-24Q	-24QG	-24QH
	1.5	-24R	-24RG	-24RH
	2	-24T	-24TG	-24TH
M25	0.5	-25G	-25GG	-25GH
	1	-25P	-25PG	-25PH
	1.5	-25R	-25RG	-25RH
	2	-25T	-25TG	-25TH
M26	0.5	-26G	-26GG	-26GH
	1	-26P	-26PG	-26PH
	1.5	-26R	-26RG	-26RH
	2	-26T	-26TG	-26TH
M27	0.5	-27G	-27GG	-27GH
	1	-27P	-27PG	-27PH
	1.5	-27R	-27RG	-27RH
	2	-27T	-27TG	-27TH
M28	0.5	-28G	-28GG	-28GH
	1	-28P	-28PG	-28PH
	1.5	-28R	-28RG	-28RH
	2	-28T	-28TG	-28TH
M29	0.5	-29G	-29GG	-29GH
	0.75	-29L	-29LG	-29LH
	1	-29P	-29PG	-29PH
M30	0.5	-30G	-30GG	-30GH
	0.75	-30L	-30LG	-30LH
	1	-30P	-30PG	-30PH
	1.5	-30R	-30RG	-30RH
	2	-30T	-30TG	-30TH
	3	-30V	-30VG	-30VH

Size (mm)		Code (4139)		
Nominal diameter	Pitch	Class 6H	Class 6G	Class 4H
M31	0.5	-31G	-31GG	-31GH
	0.75	-31L	-31LG	-31LH
M32	0.5	-32G	-32GG	-32GH
	0.75	-32L	-32LG	-32LH
	1	-32P	-32PG	-32PH
	1.5	-32R	-32RG	-32RH
	2	-32T	-32TG	-32TH
M33	0.5	-33G	-33GG	-33GH
	0.75	-33L	-33LG	-33LH
	1	-33P	-33PG	-33PH
	1.5	-33R	-33RG	-33RH
	2	-33T	-33TG	-33TH
	3	-33V	-33VG	-33VH
M34	0.75	-34L	-34LG	-34LH
	1	-34P	-34PG	-34PH
	1.5	-34R	-34RG	-34RH
	2	-34T	-34TG	-34TH
M35	0.75	-35L	-35LG	-35LH
	1	-35P	-35PG	-35PH
	1.5	-35R	-35RG	-35RH
	2	-35T	-35TG	-35TH
M36	0.75	-36L	-36LG	-36LH
	1	-36P	-36PG	-36PH
	1.5	-36R	-36RG	-36RH
	2	-36T	-36TG	-36TH
M37	3	-36V	-36VG	-36VH
M38	0.75	-37L	-37LG	-37LH
	0.75	-38L	-38LG	-38LH
	1	-38P	-38PG	-38PH
	1.5	-38R	-38RG	-38RH
M39	2	-38T	-38TG	-38TH
	0.75	-39L	-39LG	-39LH
	1	-39P	-39PG	-39PH
	1.5	-39R	-39RG	-39RH
	2	-39T	-39TG	-39TH
M40	3	-39V	-39VG	-39VH
	0.75	-40L	-40LG	-40LH
	1	-40P	-40PG	-40PH
	1.5	-40R	-40RG	-40RH
M42	2	-40T	-40TG	-40TH
	3	-40V	-40VG	-40VH
M45	1	-42P	-42PG	-42PH
	1.5	-42R	-42RG	-42RH
	2	-42T	-42TG	-42TH
	3	-42V	-42VG	-42VH
M48	1	-45P	-45PG	-45PH
	1.5	-45R	-45RG	-45RH
	2	-45T	-45TG	-45TH
	3	-45V	-45VG	-45VH
M48	1	-48P	-48PG	-48PH
	1.5	-48R	-48RG	-48RH
	2	-48T	-48TG	-48TH
	3	-48V	-48VG	-48VH

To be continued



Continued from previous page

Size (mm)		Code (4139)		
Nominal diameter	Pitch	Class 6H	Class 6G	Class 4H
M50	1	-50P	-50PG	-50PH
	1.5	-50R	-50RG	-50RH
	2	-50T	-50TG	-50TH
	3	-50V	-50VG	-50VH
M52	1	-52P	-52PG	-52PH
	1.5	-52R	-52RG	-52RH
	2	-52T	-52TG	-52TH
	3	-52V	-52VG	-52VH
	4	-52X	-52XG	-52XH
M55	1	-55P	-55PG	-55PH
	1.5	-55R	-55RG	-55RH
	2	-55T	-55TG	-55TH
	3	-55V	-55VG	-55VH
	4	-55X	-55XG	-55XH
M56	1	-56P	-56PG	-56PH
	1.5	-56R	-56RG	-56RH
	2	-56T	-56TG	-56TH
	3	-56V	-56VG	-56VH
	4	-56X	-56XG	-56XH
M58	1	-58P	-58PG	-58PH
	1.5	-58R	-58RG	-58RH
	2	-58T	-58TG	-58TH
	3	-58V	-58VG	-58VH
	4	-58X	-58XG	-58XH
M60	1	-60P	-60PG	-60PH
	1.5	-60R	-60RG	-60RH
	2	-60T	-60TG	-60TH
	3	-60V	-60VG	-60VH
	4	-60X	-60XG	-60XH
M62	1.5	-62R	-62RG	-62RH
	2	-62T	-62TG	-62TH
	3	-62V	-62VG	-62VH
	4	-62X	-62XG	-62XH
M64	1.5	-64R	-64RG	-64RH
	2	-64T	-64TG	-64TH
	3	-64V	-64VG	-64VH
	4	-64X	-64XG	-64XH
M65	1.5	-65R	-65RG	-65RH
	2	-65T	-65TG	-65TH
	3	-65V	-65VG	-65VH
	4	-65X	-65XG	-65XH
M68	1.5	-68R	-68RG	-68RH
	2	-68T	-68TG	-68TH
	3	-68V	-68VG	-68VH
	4	-68X	-68XG	-68XH
M70	1.5	-70R	-70RG	-70RH
	2	-70T	-70TG	-70TH
	3	-70V	-70VG	-70VH
	4	-70X	-70XG	-70XH
	6	-70O	-70OG	-70OH
M72	1.5	-72R	-72RG	-72RH

Size (mm)		Code (4139)		
Nominal diameter	Pitch	Class 6H	Class 6G	Class 4H
M72	2	-72T	-72TG	-72TH
	3	-72V	-72VG	-72VH
	4	-72X	-72XG	-72XH
	6	-72O	-72OG	-72OH
M75	1.5	-75R	-75RG	-75RH
	2	-75T	-75TG	-75TH
	3	-75V	-75VG	-75VH
	4	-75X	-75XG	-75XH
M76	1.5	-76R	-76RG	-76RH
	2	-76T	-76TG	-76TH
	3	-76V	-76VG	-76VH
	4	-76X	-76XG	-76XH
M78	6	-76O	-76OG	-76OH
	2	-78T	-78TG	-78TH
M80	1.5	-80R	-80RG	-80RH
	2	-80T	-80TG	-80TH
	3	-80V	-80VG	-80VH
	4	-80X	-80XG	-80XH
M82	6	-80O	-80OG	-80OH
	2	-82T	-82TG	-82TH
M85	2	-85T	-85TG	-85TH
	3	-85V	-85VG	-85VH
	4	-85X	-85XG	-85XH
	6	-85O	-85OG	-85OH
M90	2	-90T	-90TG	-90TH
	3	-90V	-90VG	-90VH
	4	-90X	-90XG	-90XH
	6	-90O	-90OG	-90OH
M95	2	-95T	-95TG	-95TH
	3	-95V	-95VG	-95VH
	4	-95X	-95XG	-95XH
	6	-95O	-95OG	-95OH
M100	2	-100T	-100TG	-100TH
	3	-100V	-100VG	-100VH
	4	-100X	-100XG	-100XH
	6	-100O	-100OG	-100OH
M105	2	-105T	-105TG	-105TH
	3	-105V	-105VG	-105VH
	4	-105X	-105XG	-105XH
	6	-105O	-105OG	-105OH
M110	2	-110T	-110TG	-110TH
	3	-110V	-110VG	-110VH
	4	-110X	-110XG	-110XH
	6	-110O	-110OG	-110OH
M115	2	-115T	-115TG	-115TH
	3	-115V	-115VG	-115VH
	4	-115X	-115XG	-115XH
	6	-115O	-115OG	-115OH
M120	2	-120T	-120TG	-120TH
	3	-120V	-120VG	-120VH
	4	-120X	-120XG	-120XH
	6	-120O	-120OG	-120OH

METRIC THREAD RING GAGES

WARNING: LIFE TIME IS LIMITED,
CAN BE USED ABOUT 2000 TIMES



- Standard ISO1502
- Supplied with manufacturer inspection certificate



4120-16



4120-16N

Code example:
"-2" stands for "4120-2"

Individual

Size (mm)		Code (4120)					
		Class 6g		Class 6e		Class 6h	
Nominal diameter	Pitch	GO	NOGO	GO	NOGO	GO	NOGO
M2	0.4	-2	-2N	-2E	-2EN	-2H	-2HN
M2.2	0.45	-2D2	-2D2N	-2D2E	-2D2EN	-2D2H	-2D2HN
M2.3	0.4	-2D3	-2D3N	-2D3E	-2D3EN	-2D3H	-2D3HN
M2.5	0.45	-2D5	-2D5N	-2D5E	-2D5EN	-2D5H	-2D5HN
M2.6	0.45	-2D6	-2D6N	-2D6E	-2D6EN	-2D6H	-2D6HN
M3	0.5	-3	-3N	-3E	-3EN	-3H	-3HN
M3.5	0.6	-3D5	-3D5N	-3D5E	-3D5EN	-3D5H	-3D5HN
M4	0.7	-4	-4N	-4E	-4EN	-4H	-4HN
M4.5	0.75	-4D5	-4D5N	-4D5E	-4D5EN	-4D5H	-4D5HN
M5	0.8	-5	-5N	-5E	-5EN	-5H	-5HN
M6	1	-6	-6N	-6E	-6EN	-6H	-6HN
M7	1	-7	-7N	-7E	-7EN	-7H	-7HN
M8	1.25	-8	-8N	-8E	-8EN	-8H	-8HN
M9	1.25	-9	-9N	-9E	-9EN	-9H	-9HN
M10	1.5	-10	-10N	-10E	-10EN	-10H	-10HN
M11	1.5	-11	-11N	-11E	-11EN	-11H	-11HN
M12	1.75	-12	-12N	-12E	-12EN	-12H	-12HN
M14	2	-14	-14N	-14E	-14EN	-14H	-14HN
M16	2	-16	-16N	-16E	-16EN	-16H	-16HN
M18	2.5	-18	-18N	-18E	-18EN	-18H	-18HN
M20	2.5	-20	-20N	-20E	-20EN	-20H	-20HN
M22	2.5	-22	-22N	-22E	-22EN	-22H	-22HN
M24	3	-24	-24N	-24E	-24EN	-24H	-24HN
M27	3	-27	-27N	-27E	-27EN	-27H	-27HN
M30	3.5	-30	-30N	-30E	-30EN	-30H	-30HN
M33	3.5	-33	-33N	-33E	-33EN	-33H	-33HN
M36	4	-36	-36N	-36E	-36EN	-36H	-36HN
M39	4	-39	-39N	-39E	-39EN	-39H	-39HN
M42	4.5	-42	-42N	-42E	-42EN	-42H	-42HN
M45	4.5	-45	-45N	-45E	-45EN	-45H	-45HN
M48	5	-48	-48N	-48E	-48EN	-48H	-48HN
M52	5	-52	-52N	-52E	-52EN	-52H	-52HN
M56	5.5	-56	-56N	-56E	-56EN	-56H	-56HN
M60	5.5	-60	-60N	-60E	-60EN	-60H	-60HN
M64	6	-64	-64N	-64E	-64EN	-64H	-64HN
M68	6	-68	-68N	-68E	-68EN	-68H	-68HN

Go ring gage set (Class 6g)

Code	Thread ring gages included (mm)
4120-S7	M3x0.5 (4120-3), M4x0.7 (4120-4), M5x0.8 (4120-5), M6x1 (4120-6), M8x1.25 (4120-8), M10x1.5 (4120-10), M12x1.75 (4120-12)

No Go ring gage set (Class 6g)

Code	Thread ring gages included (mm)
4120-S7N	M3x0.5 (4120-3N), M4x0.7 (4120-4N), M5x0.8 (4120-5N), M6x1 (4120-6N), M8x1.25 (4120-8N), M10x1.5 (4120-10N), M12x1.75 (4120-12N)

- Standard ISO1502
- Supplied with manufacturer inspection certificate (except gages larger than M100)



4129-10P



4129-10PN

Code example:
"-3D5G" stands for "4129-3D5G"

Size (mm)		Code (4129)					
Nominal diameter	Pitch	Class 6g		Class 6e		Class 6h	
		GO	NOGO	GO	NOGO	GO	NOGO
M3.5	0.5	-3D5G	-3D5GN	-3D5GE	-3D5GEN	-3D5GH	-3D5GHN
M4	0.5	-4G	-4GN	-4GE	-4GEN	-4GH	-4GHN
M4.5	0.5	-4D5G	-4D5GN	-4D5GE	-4D5GEN	-4D5GH	-4D5GHN
M5	0.5	-5G	-5GN	-5GE	-5GEN	-5GH	-5GHN
M5.5	0.5	-5D5G	-5D5GN	-5D5GE	-5D5GEN	-5D5GH	-5D5GHN
M6	0.5	-6G	-6GN	-6GE	-6GEN	-6GH	-6GHN
	0.75	-6L	-6LN	-6LE	-6LEN	-6LH	-6LHN
M6.5	0.5	-6D5G	-6D5GN	-6D5GE	-6D5GEN	-6D5GH	-6D5GHN
M7	0.5	-7G	-7GN	-7GE	-7GEN	-7GH	-7GHN
	0.75	-7L	-7LN	-7LE	-7LEN	-7LH	-7LHN
M7.5	0.5	-7D5G	-7D5GN	-7D5GE	-7D5GEN	-7D5GH	-7D5GHN
M8	0.5	-8G	-8GN	-8GE	-8GEN	-8GH	-8GHN
	0.75	-8L	-8LN	-8LE	-8LEN	-8LH	-8LHN
	1	-8P	-8PN	-8PE	-8PEN	-8PH	-8PHN
M8.5	0.5	-8D5G	-8D5GN	-8D5GE	-8D5GEN	-8D5GH	-8D5GHN
M9	0.5	-9G	-9GN	-9GE	-9GEN	-9GH	-9GHN
	0.75	-9L	-9LN	-9LE	-9LEN	-9LH	-9LHN
	1	-9P	-9PN	-9PE	-9PEN	-9PH	-9PHN
M10	0.5	-10G	-10GN	-10GE	-10GEN	-10GH	-10GHN
	0.75	-10L	-10LN	-10LE	-10LEN	-10LH	-10LHN
	1	-10P	-10PN	-10PE	-10PEN	-10PH	-10PHN
	1.25	-10Q	-10QN	-10QE	-10QEN	-10QH	-10QHN
M11	0.5	-11G	-11GN	-11GE	-11GEN	-11GH	-11GHN
	0.75	-11L	-11LN	-11LE	-11LEN	-11LH	-11LHN
	1	-11P	-11PN	-11PE	-11PEN	-11PH	-11PHN
M12	0.5	-12G	-12GN	-12GE	-12GEN	-12GH	-12GHN
	0.75	-12L	-12LN	-12LE	-12LEN	-12LH	-12LHN
	1	-12P	-12PN	-12PE	-12PEN	-12PH	-12PHN
	1.25	-12Q	-12QN	-12QE	-12QEN	-12QH	-12QHN
M13	1.5	-12R	-12RN	-12RE	-12REN	-12RH	-12RHN
	0.5	-13G	-13GN	-13GE	-13GEN	-13GH	-13GHN
	0.75	-13L	-13LN	-13LE	-13LEN	-13LH	-13LHN
	1	-13P	-13PN	-13PE	-13PEN	-13PH	-13PHN
M14	1.5	-13R	-13RN	-13RE	-13REN	-13RH	-13RHN
	0.5	-14G	-14GN	-14GE	-14GEN	-14GH	-14GHN
	0.75	-14L	-14LN	-14LE	-14LEN	-14LH	-14LHN
	1	-14P	-14PN	-14PE	-14PEN	-14PH	-14PHN
	1.25	-14Q	-14QN	-14QE	-14QEN	-14QH	-14QHN
	1.5	-14R	-14RN	-14RE	-14REN	-14RH	-14RHN

To be continued

Continued from previous page

Size (mm)		Code (4129)					
		Class 6g		Class 6e		Class 6h	
Nominal diameter	Pitch	GO	NOGO	GO	NOGO	GO	NOGO
M15	0.5	-15G	-15GN	-15GE	-15GEN	-15GH	-15GHN
	0.75	-15L	-15LN	-15LE	-15LEN	-15LH	-15LHN
	1	-15P	-15PN	-15PE	-15PEN	-15PH	-15PHN
	1.5	-15R	-15RN	-15RE	-15REN	-15RH	-15RHN
M16	0.5	-16G	-16GN	-16GE	-16GEN	-16GH	-16GHN
	0.75	-16L	-16LN	-16LE	-16LEN	-16LH	-16LHN
	1	-16P	-16PN	-16PE	-16PEN	-16PH	-16PHN
	1.25	-16Q	-16QN	-16QE	-16QEN	-16QH	-16QHN
	1.5	-16R	-16RN	-16RE	-16REN	-16RH	-16RHN
M17	0.5	-17G	-17GN	-17GE	-17GEN	-17GH	-17GHN
	0.75	-17L	-17LN	-17LE	-17LEN	-17LH	-17LHN
	1	-17P	-17PN	-17PE	-17PEN	-17PH	-17PHN
	1.5	-17R	-17RN	-17RE	-17REN	-17RH	-17RHN
M18	0.5	-18G	-18GN	-18GE	-18GEN	-18GH	-18GHN
	0.75	-18L	-18LN	-18LE	-18LEN	-18LH	-18LHN
	1	-18P	-18PN	-18PE	-18PEN	-18PH	-18PHN
	1.25	-18Q	-18QN	-18QE	-18QEN	-18QH	-18QHN
	1.5	-18R	-18RN	-18RE	-18REN	-18RH	-18RHN
	2	-18T	-18TN	-18TE	-18TEN	-18TH	-18THN
M19	0.5	-19G	-19GN	-19GE	-19GEN	-19GH	-19GHN
	0.75	-19L	-19LN	-19LE	-19LEN	-19LH	-19LHN
	1	-19P	-19PN	-19PE	-19PEN	-19PH	-19PHN
	1.5	-19R	-19RN	-19RE	-19REN	-19RH	-19RHN
M20	0.5	-20G	-20GN	-20GE	-20GEN	-20GH	-20GHN
	0.75	-20L	-20LN	-20LE	-20LEN	-20LH	-20LHN
	1	-20P	-20PN	-20PE	-20PEN	-20PH	-20PHN
	1.25	-20Q	-20QN	-20QE	-20QEN	-20QH	-20QHN
	1.5	-20R	-20RN	-20RE	-20REN	-20RH	-20RHN
	2	-20T	-20TN	-20TE	-20TEN	-20TH	-20THN
M21	0.75	-21L	-21LN	-21LE	-21LEN	-21LH	-21LHN
	1	-21P	-21PN	-21PE	-21PEN	-21PH	-21PHN
	1.5	-21R	-21RN	-21RE	-21REN	-21RH	-21RHN
M22	0.75	-22L	-22LN	-22LE	-22LEN	-22LH	-22LHN
	1	-22P	-22PN	-22PE	-22PEN	-22PH	-22PHN
	1.25	-22Q	-22QN	-22QE	-22QEN	-22QH	-22QHN
	1.5	-22R	-22RN	-22RE	-22REN	-22RH	-22RHN
	2	-22T	-22TN	-22TE	-22TEN	-22TH	-22THN
M23	0.75	-23L	-23LN	-23LE	-23LEN	-23LH	-23LHN
	1	-23P	-23PN	-23PE	-23PEN	-23PH	-23PHN
M24	0.75	-24L	-24LN	-24LE	-24LEN	-24LH	-24LHN
	1	-24P	-24PN	-24PE	-24PEN	-24PH	-24PHN
	1.25	-24Q	-24QN	-24QE	-24QEN	-24QH	-24QHN
	1.5	-24R	-24RN	-24RE	-24REN	-24RH	-24RHN
	2	-24T	-24TN	-24TE	-24TEN	-24TH	-24THN
M25	0.75	-25L	-25LN	-25LE	-25LEN	-25LH	-25LHN
	1	-25P	-25PN	-25PE	-25PEN	-25PH	-25PHN
	1.5	-25R	-25RN	-25RE	-25REN	-25RH	-25RHN
	2	-25T	-25TN	-25TE	-25TEN	-25TH	-25THN
M26	0.75	-26L	-26LN	-26LE	-26LEN	-26LH	-26LHN
	1	-26P	-26PN	-26PE	-26PEN	-26PH	-26PHN
	1.5	-26R	-26RN	-26RE	-26REN	-26RH	-26RHN
	2	-26T	-26TN	-26TE	-26TEN	-26TH	-26THN

To be continued

Continued from previous page

Size (mm)		Code (4129)					
Nominal diameter	Pitch	Class 6g		Class 6e		Class 6h	
		GO	NOGO	GO	NOGO	GO	NOGO
M27	0.75	-27L	-27LN	-27LE	-27LEN	-27LH	-27LHN
	1	-27P	-27PN	-27PE	-27PEN	-27PH	-27PHN
	1.5	-27R	-27RN	-27RE	-27REN	-27RH	-27RHN
	2	-27T	-27TN	-27TE	-27TEN	-27TH	-27THN
M28	0.75	-28L	-28LN	-28LE	-28LEN	-28LH	-28LHN
	1	-28P	-28PN	-28PE	-28PEN	-28PH	-28PHN
	1.5	-28R	-28RN	-28RE	-28REN	-28RH	-28RHN
	2	-28T	-28TN	-28TE	-28TEN	-28TH	-28THN
M29	0.75	-29L	-29LN	-29LE	-29LEN	-29LH	-29LHN
	1	-29P	-29PN	-29PE	-29PEN	-29PH	-29PHN
M30	0.75	-30L	-30LN	-30LE	-30LEN	-30LH	-30LHN
	1	-30P	-30PN	-30PE	-30PEN	-30PH	-30PHN
	1.5	-30R	-30RN	-30RE	-30REN	-30RH	-30RHN
	2	-30T	-30TN	-30TE	-30TEN	-30TH	-30THN
	3	-30V	-30VN	-30VE	-30VEN	-30VH	-30VHN
M31	0.75	-31L	-31LN	-31LE	-31LEN	-31LH	-31LHN
M32	0.75	-32L	-32LN	-32LE	-32LEN	-32LH	-32LHN
	1	-32P	-32PN	-32PE	-32PEN	-32PH	-32PHN
	1.5	-32R	-32RN	-32RE	-32REN	-32RH	-32RHN
	2	-32T	-32TN	-32TE	-32TEN	-32TH	-32THN
M33	0.75	-33L	-33LN	-33LE	-33LEN	-33LH	-33LHN
	1	-33P	-33PN	-33PE	-33PEN	-33PH	-33PHN
	1.5	-33R	-33RN	-33RE	-33REN	-33RH	-33RHN
	2	-33T	-33TN	-33TE	-33TEN	-33TH	-33THN
	3	-33V	-33VN	-33VE	-33VEN	-33VH	-33VHN
M34	1	-34P	-34PN	-34PE	-34PEN	-34PH	-34PHN
	1.5	-34R	-34RN	-34RE	-34REN	-34RH	-34RHN
	2	-34T	-34TN	-34TE	-34TEN	-34TH	-34THN
M35	1	-35P	-35PN	-35PE	-35PEN	-35PH	-35PHN
	1.5	-35R	-35RN	-35RE	-35REN	-35RH	-35RHN
	2	-35T	-35TN	-35TE	-35TEN	-35TH	-35THN
M36	1	-36P	-36PN	-36PE	-36PEN	-36PH	-36PHN
	1.5	-36R	-36RN	-36RE	-36REN	-36RH	-36RHN
	2	-36T	-36TN	-36TE	-36TEN	-36TH	-36THN
	3	-36V	-36VN	-36VE	-36VEN	-36VH	-36VHN
M38	1	-38P	-38PN	-38PE	-38PEN	-38PH	-38PHN
	1.5	-38R	-38RN	-38RE	-38REN	-38RH	-38RHN
	2	-38T	-38TN	-38TE	-38TEN	-38TH	-38THN
M39	1	-39P	-39PN	-39PE	-39PEN	-39PH	-39PHN
	1.5	-39R	-39RN	-39RE	-39REN	-39RH	-39RHN
	2	-39T	-39TN	-39TE	-39TEN	-39TH	-39THN
	3	-39V	-39VN	-39VE	-39VEN	-39VH	-39VHN
M40	1.5	-40R	-40RN	-40RE	-40REN	-40RH	-40RHN
	2	-40T	-40TN	-40TE	-40TEN	-40TH	-40THN
	3	-40V	-40VN	-40VE	-40VEN	-40VH	-40VHN
M42	1.5	-42R	-42RN	-42RE	-42REN	-42RH	-42RHN
	2	-42T	-42TN	-42TE	-42TEN	-42TH	-42THN
	3	-42V	-42VN	-42VE	-42VEN	-42VH	-42VHN
M45	1.5	-45R	-45RN	-45RE	-45REN	-45RH	-45RHN
	2	-45T	-45TN	-45TE	-45TEN	-45TH	-45THN
	3	-45V	-45VN	-45VE	-45VEN	-45VH	-45VHN

Continued from previous page

Size (mm)		Code (4129)					
		Class 6g		Class 6e		Class 6h	
Nominal diameter	Pitch	GO	NOGO	GO	NOGO	GO	NOGO
M48	1.5	-48R	-48RN	-48RE	-48REN	-48RH	-48RHN
	2	-48T	-48TN	-48TE	-48TEN	-48TH	-48THN
	3	-48V	-48VN	-48VE	-48VEN	-48VH	-48VHN
M50	1.5	-50R	-50RN	-50RE	-50REN	-50RH	-50RHN
	2	-50T	-50TN	-50TE	-50TEN	-50TH	-50THN
	3	-50V	-50VN	-50VE	-50VEN	-50VH	-50VHN
M52	1.5	-52R	-52RN	-52RE	-52REN	-52RH	-52RHN
	2	-52T	-52TN	-52TE	-52TEN	-52TH	-52THN
	3	-52V	-52VN	-52VE	-52VEN	-52VH	-52VHN
	4	-52X	-52XN	-52XE	-52XEN	-52XH	-52XHN
M55	1.5	-55R	-55RN	-55RE	-55REN	-55RH	-55RHN
	2	-55T	-55TN	-55TE	-55TEN	-55TH	-55THN
	3	-55V	-55VN	-55VE	-55VEN	-55VH	-55VHN
	4	-55X	-55XN	-55XE	-55XEN	-55XH	-55XHN
M56	1.5	-56R	-56RN	-56RE	-56REN	-56RH	-56RHN
	2	-56T	-56TN	-56TE	-56TEN	-56TH	-56THN
	3	-56V	-56VN	-56VE	-56VEN	-56VH	-56VHN
	4	-56X	-56XN	-56XE	-56XEN	-56XH	-56XHN
M58	1.5	-58R	-58RN	-58RE	-58REN	-58RH	-58RHN
	2	-58T	-58TN	-58TE	-58TEN	-58TH	-58THN
	3	-58V	-58VN	-58VE	-58VEN	-58VH	-58VHN
	4	-58X	-58XN	-58XE	-58XEN	-58XH	-58XHN
M60	1.5	-60R	-60RN	-60RE	-60REN	-60RH	-60RHN
	2	-60T	-60TN	-60TE	-60TEN	-60TH	-60THN
	3	-60V	-60VN	-60VE	-60VEN	-60VH	-60VHN
	4	-60X	-60XN	-60XE	-60XEN	-60XH	-60XHN
M62	1.5	-62R	-62RN	-62RE	-62REN	-62RH	-62RHN
	2	-62T	-62TN	-62TE	-62TEN	-62TH	-62THN
	3	-62V	-62VN	-62VE	-62VEN	-62VH	-62VHN
	4	-62X	-62XN	-62XE	-62XEN	-62XH	-62XHN
M64	1.5	-64R	-64RN	-64RE	-64REN	-64RH	-64RHN
	2	-64T	-64TN	-64TE	-64TEN	-64TH	-64THN
	3	-64V	-64VN	-64VE	-64VEN	-64VH	-64VHN
	4	-64X	-64XN	-64XE	-64XEN	-64XH	-64XHN
M65	1.5	-65R	-65RN	-65RE	-65REN	-65RH	-65RHN
	2	-65T	-65TN	-65TE	-65TEN	-65TH	-65THN
	3	-65V	-65VN	-65VE	-65VEN	-65VH	-65VHN
	4	-65X	-65XN	-65XE	-65XEN	-65XH	-65XHN
M68	1.5	-68R	-68RN	-68RE	-68REN	-68RH	-68RHN
	2	-68T	-68TN	-68TE	-68TEN	-68TH	-68THN
	3	-68V	-68VN	-68VE	-68VEN	-68VH	-68VHN
	4	-68X	-68XN	-68XE	-68XEN	-68XH	-68XHN
M70	1.5	-70R	-70RN	-70RE	-70REN	-70RH	-70RHN
	2	-70T	-70TN	-70TE	-70TEN	-70TH	-70THN
	3	-70V	-70VN	-70VE	-70VEN	-70VH	-70VHN
	4	-70X	-70XN	-70XE	-70XEN	-70XH	-70XHN
	6	-70O	-70ON	-70OE	-70OEN	-70OH	-70OHN
M72	1.5	-72R	-72RN	-72RE	-72REN	-72RH	-72RHN
	2	-72T	-72TN	-72TE	-72TEN	-72TH	-72THN

To be continued

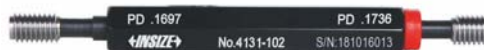


Continued from previous page

Size (mm)		Code (4129)					
Nominal diameter	Pitch	Class 6g		Class 6e		Class 6h	
		GO	NOGO	GO	NOGO	GO	NOGO
M72	3	-72V	-72VN	-72VE	-72VEN	-72VH	-72VHN
	4	-72X	-72XN	-72XE	-72XEN	-72XH	-72XHN
	6	-72O	-72ON	-72OE	-72OEN	-72OH	-72OHN
M75	1.5	-75R	-75RN	-75RE	-75REN	-75RH	-75RHN
	2	-75T	-75TN	-75TE	-75TEN	-75TH	-75THN
	3	-75V	-75VN	-75VE	-75VEN	-75VH	-75VHN
	4	-75X	-75XN	-75XE	-75XEN	-75XH	-75XHN
M76	1.5	-76R	-76RN	-76RE	-76REN	-76RH	-76RHN
	2	-76T	-76TN	-76TE	-76TEN	-76TH	-76THN
	3	-76V	-76VN	-76VE	-76VEN	-76VH	-76VHN
	4	-76X	-76XN	-76XE	-76XEN	-76XH	-76XHN
M78	6	-76O	-76ON	-76OE	-76OEN	-76OH	-76OHN
M80	2	-78T	-78TN	-78TE	-78TEN	-78TH	-78THN
	1.5	-80R	-80RN	-80RE	-80REN	-80RH	-80RHN
	2	-80T	-80TN	-80TE	-80TEN	-80TH	-80THN
	3	-80V	-80VN	-80VE	-80VEN	-80VH	-80VHN
	4	-80X	-80XN	-80XE	-80XEN	-80XH	-80XHN
M82	6	-80O	-80ON	-80OE	-80OEN	-80OH	-80OHN
M85	2	-82T	-82TN	-82TE	-82TEN	-82TH	-82THN
	3	-85T	-85TN	-85TE	-85TEN	-85TH	-85THN
	4	-85V	-85VN	-85VE	-85VEN	-85VH	-85VHN
	6	-85X	-85XN	-85XE	-85XEN	-85XH	-85XHN
M90	6	-85O	-85ON	-85OE	-85OEN	-85OH	-85OHN
	2	-90T	-90TN	-90TE	-90TEN	-90TH	-90THN
	3	-90V	-90VN	-90VE	-90VEN	-90VH	-90VHN
	4	-90X	-90XN	-90XE	-90XEN	-90XH	-90XHN
M95	6	-90O	-90ON	-90OE	-90OEN	-90OH	-90OHN
	2	-95T	-95TN	-95TE	-95TEN	-95TH	-95THN
	3	-95V	-95VN	-95VE	-95VEN	-95VH	-95VHN
	4	-95X	-95XN	-95XE	-95XEN	-95XH	-95XHN
M100	6	-95O	-95ON	-95OE	-95OEN	-95OH	-95OHN
	2	-100T	-100TN	-100TE	-100TEN	-100TH	-100THN
	3	-100V	-100VN	-100VE	-100VEN	-100VH	-100VHN
	4	-100X	-100XN	-100XE	-100XEN	-100XH	-100XHN
M105	6	-100O	-100ON	-100OE	-100OEN	-100OH	-100OHN
	2	-105T	-105TN	-105TE	-105TEN	-105TH	-105THN
	3	-105V	-105VN	-105VE	-105VEN	-105VH	-105VHN
	4	-105X	-105XN	-105XE	-105XEN	-105XH	-105XHN
M110	6	-105O	-105ON	-105OE	-105OEN	-105OH	-105OHN
	2	-110T	-110TN	-110TE	-110TEN	-110TH	-110THN
	3	-110V	-110VN	-110VE	-110VEN	-110VH	-110VHN
	4	-110X	-110XN	-110XE	-110XEN	-110XH	-110XHN
M115	6	-110O	-110ON	-110OE	-110OEN	-110OH	-110OHN
	2	-115T	-115TN	-115TE	-115TEN	-115TH	-115THN
	3	-115V	-115VN	-115VE	-115VEN	-115VH	-115VHN
	4	-115X	-115XN	-115XE	-115XEN	-115XH	-115XHN
M120	6	-115O	-115ON	-115OE	-115OEN	-115OH	-115OHN
	2	-120T	-120TN	-120TE	-120TEN	-120TH	-120THN
	3	-120V	-120VN	-120VE	-120VEN	-120VH	-120VHN
	4	-120X	-120XN	-120XE	-120XEN	-120XH	-120XHN
M120	6	-120O	-120ON	-120OE	-120OEN	-120OH	-120OHN

AMERICAN STANDARD THREAD PLUG GAGES

WARNING: LIFE TIME IS LIMITED,
CAN BE USED ABOUT 2000 TIMES



4131-102

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

Size	Code	
	Class 2B	Class 3B
No. 0-80UNF	4131-02	4131-02B
No. 1-64UNC	4131-11	4131-11B
No. 1-72UNF	4131-12	4131-12B
No. 2-56UNC	4131-21	4131-21B
No. 2-64UNF	4131-22	4131-22B
No. 3-48UNC	4131-31	4131-31B
No. 3-56UNF	4131-32	4131-32B
No. 4-40UNC	4131-41	4131-41B
No. 4-48UNF	4131-42	4131-42B
No. 5-40UNC	4131-51	4131-51B
No. 5-44UNF	4131-52	4131-52B
No. 6-32UNC	4131-61	4131-61B
No. 6-40UNF	4131-62	4131-62B
No. 8-32UNC	4131-81	4131-81B
No. 8-36UNF	4131-82	4131-82B
No. 10-24UNC	4131-101	4131-101B
No. 10-32UNF	4131-102	4131-102B
No. 12-24UNC	4131-121	4131-121B
No. 12-28UNF	4131-122	4131-122B
No. 12-32UNEF	4131-123	4131-123B
1/4-20UNC	4131-1B1	4131-1B1B
1/4-28UNF	4131-1B2	4131-1B2B
1/4-32UNEF	4131-1B3	4131-1B3B
1/4-36UNS	4131-1B4	4131-1B4B
5/16-18UNC	4131-5D1	4131-5D1B
5/16-24UNF	4131-5D2	4131-5D2B
5/16-32UNEF	4131-5D3	4131-5D3B
3/8-16UNC	4131-3C1	4131-3C1B
3/8-24UNF	4131-3C2	4131-3C2B
3/8-32UNEF	4131-3C3	4131-3C3B
7/16-14UNC	4131-7D1	4131-7D1B
7/16-20UNF	4131-7D2	4131-7D2B
7/16-28UNEF	4131-7D3	4131-7D3B
1/2-13UNC	4131-1A1	4131-1A1B
1/2-20UNF	4131-1A2	4131-1A2B
1/2-28UNEF	4131-1A3	4131-1A3B

Size	Code	
	Class 2B	Class 3B
9/16-12UNC	4131-9D1	4131-9D1B
9/16-18UNF	4131-9D2	4131-9D2B
9/16-24UNEF	4131-9D3	4131-9D3B
5/8-11UNC	4131-5C1	4131-5C1B
5/8-18UNF	4131-5C2	4131-5C2B
5/8-24UNEF	4131-5C3	4131-5C3B
11/16-16UN	4131-11D516	4131-11D516B
11/16-24UNEF	4131-11D3	4131-11D3B
3/4-10UNC	4131-3B1	4131-3B1B
3/4-16UNF	4131-3B2	4131-3B2B
3/4-20UNEF	4131-3B3	4131-3B3B
13/16-16UN	4131-13D516	4131-13D516B
13/16-20UNEF	4131-13D3	4131-13D3B
7/8-9UNC	4131-7C1	4131-7C1B
7/8-14UNF	4131-7C2	4131-7C2B
7/8-16UN	4131-7C516	4131-7C516B
7/8-20UNEF	4131-7C3	4131-7C3B
15/16-20UNEF	4131-15D3	4131-15D3B
1-8UNC	4131-2A1	4131-2A1B
1-12UNF	4131-2A2	4131-2A2B
1-14UNS	4131-2A514	4131-2A514B
1-20UNEF	4131-2A3	4131-2A3B
1-32UN	4131-2A532	4131-2A532B
1 1/16-12UN	4131-1E512	4131-1E512B
1 1/16-18UNEF	4131-1E3	4131-1E3B
1 1/8-7UNC	4131-1F1	4131-1F1B
1 1/8-8UN	4131-1F58	4131-1F58B
1 1/8-12UNF	4131-1F2	4131-1F2B
1 1/8-18UNEF	4131-1F3	4131-1F3B
1 3/16-12UN	4131-3E512	4131-3E512B
1 3/16-18UNEF	4131-3E3	4131-3E3B
1 1/4-7UNC	4131-1G1	4131-1G1B
1 1/4-8UN	4131-1G58	4131-1G58B
1 1/4-12UNF	4131-1G2	4131-1G2B
1 1/4-18UNEF	4131-1G3	4131-1G3B
1 5/16-12UN	4131-5E512	4131-5E512B



WARNING: LIFE TIME IS LIMITED,
CAN BE USED ABOUT 2000 TIMES

AMERICAN STANDARD THREAD RING GAGES



4121-1B1



4121-1B1N

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

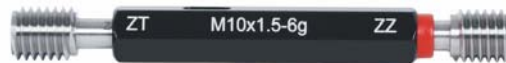
Size	Code	
	GO	NOGO
No. 4-40UNC	4121-41	4121-41N
No. 4-48UNF	4121-42	4121-42N
No. 5-40UNC	4121-51	4121-51N
No. 5-44UNF	4121-52	4121-52N
No. 6-32UNC	4121-61	4121-61N
No. 6-40UNF	4121-62	4121-62N
No. 8-32UNC	4121-81	4121-81N
No. 8-36UNF	4121-82	4121-82N
No. 10-24UNC	4121-101	4121-101N
No. 10-32UNF	4121-102	4121-102N
No. 12-24UNC	4121-121	4121-121N
No. 12-28UNF	4121-122	4121-122N
No. 12-32UNEF	4121-123	4121-123N
1/4-20UNC	4121-1B1	4121-1B1N
1/4-28UNF	4121-1B2	4121-1B2N
1/4-32UNEF	4121-1B3	4121-1B3N
1/4-36UNS	4121-1B4	4121-1B4N
5/16-18UNC	4121-5D1	4121-5D1N
5/16-24UNF	4121-5D2	4121-5D2N
5/16-32UNEF	4121-5D3	4121-5D3N
3/8-16UNC	4121-3C1	4121-3C1N
3/8-24UNF	4121-3C2	4121-3C2N
3/8-32UNEF	4121-3C3	4121-3C3N
7/16-14UNC	4121-7D1	4121-7D1N
7/16-20UNF	4121-7D2	4121-7D2N
7/16-28UNEF	4121-7D3	4121-7D3N
1/2-13UNC	4121-1A1	4121-1A1N
1/2-20UNF	4121-1A2	4121-1A2N
1/2-28UNEF	4121-1A3	4121-1A3N
9/16-12UNC	4121-9D1	4121-9D1N
9/16-18UNF	4121-9D2	4121-9D2N
9/16-24UNEF	4121-9D3	4121-9D3N

Size	Code	
	GO	NOGO
5/8-11UNC	4121-5C1	4121-5C1N
5/8-18UNF	4121-5C2	4121-5C2N
5/8-24UNEF	4121-5C3	4121-5C3N
11/16-16UN	4121-11D516	4121-11D516N
11/16-24UNEF	4121-11D3	4121-11D3N
3/4-10UNC	4121-3B1	4121-3B1N
3/4-16UNF	4121-3B2	4121-3B2N
3/4-20UNEF	4121-3B3	4121-3B3N
13/16-16UN	4121-13D516	4121-13D516N
13/16-20UNEF	4121-13D3	4121-13D3N
7/8-9UNC	4121-7C1	4121-7C1N
7/8-14UNF	4121-7C2	4121-7C2N
7/8-16UN	4121-7C516	4121-7C516N
7/8-20UNEF	4121-7C3	4121-7C3N
15/16-20UNEF	4121-15D3	4121-15D3N
1-8UNC	4121-2A1	4121-2A1N
1-12UNF	4121-2A2	4121-2A2N
1-14UNS	4121-2A514	4121-2A514N
1-20UNEF	4121-2A3	4121-2A3N
1-32UN	4121-2A532	4121-2A532N
1 1/16-12UN	4121-1E512	4121-1E512N
1 1/16-18UNEF	4121-1E3	4121-1E3N
1 1/8-7UNC	4121-1F1	4121-1F1N
1 1/8-8UN	4121-1F58	4121-1F58N
1 1/8-12UNF	4121-1F2	4121-1F2N
1 1/8-18UNEF	4121-1F3	4121-1F3N
1 3/16-12UN	4121-3E512	4121-3E512N
1 3/16-18UNEF	4121-3E3	4121-3E3N
1 1/4-7UNC	4121-1G1	4121-1G1N
1 1/4-8UN	4121-1G58	4121-1G58N
1 1/4-12UNF	4121-1G2	4121-1G2N
1 1/4-18UNEF	4121-1G3	4121-1G3N
1 5/16-12UN	4121-5E512	4121-5E512N

CHECK PLUGS FOR METRIC THREAD RING GAGES



4647-10



4647-10N

- Standard ISO1502
- Check thread ring gages
- Supplied with manufacturer inspection certificate

Code example:
"-2" stands for "4647-2"

Size (mm)		Code (4647)					
		Class 6g		Class 6e		Class 6h	
Nominal diameter	Pitch	GO	NOGO	GO	NOGO	GO	NOGO
M2	0.4	-2	-2N	-2E	-2EN	-2H	-2HN
M2.2	0.45	-2D2	-2D2N	-2D2E	-2D2EN	-2D2H	-2D2HN
M2.3	0.4	-2D3	-2D3N	-2D3E	-2D3EN	-2D3H	-2D3HN
M2.5	0.45	-2D5	-2D5N	-2D5E	-2D5EN	-2D5H	-2D5HN
M2.6	0.45	-2D6	-2D6N	-2D6E	-2D6EN	-2D6H	-2D6HN
M3	0.5	-3	-3N	-3E	-3EN	-3H	-3HN
M3.5	0.6	-3D5	-3D5N	-3D5E	-3D5EN	-3D5H	-3D5HN
M4	0.7	-4	-4N	-4E	-4EN	-4H	-4HN
M4.5	0.75	-4D5	-4D5N	-4D5E	-4D5EN	-4D5H	-4D5HN
M5	0.8	-5	-5N	-5E	-5EN	-5H	-5HN
M6	1	-6	-6N	-6E	-6EN	-6H	-6HN
M7	1	-7	-7N	-7E	-7EN	-7H	-7HN
M8	1.25	-8	-8N	-8E	-8EN	-8H	-8HN
M9	1.25	-9	-9N	-9E	-9EN	-9H	-9HN
M10	1.5	-10	-10N	-10E	-10EN	-10H	-10HN
M11	1.5	-11	-11N	-11E	-11EN	-11H	-11HN
M12	1.75	-12	-12N	-12E	-12EN	-12H	-12HN
M14	2	-14	-14N	-14E	-14EN	-14H	-14HN
M16	2	-16	-16N	-16E	-16EN	-16H	-16HN
M18	2.5	-18	-18N	-18E	-18EN	-18H	-18HN
M20	2.5	-20	-20N	-20E	-20EN	-20H	-20HN
M22	2.5	-22	-22N	-22E	-22EN	-22H	-22HN
M24	3	-24	-24N	-24E	-24EN	-24H	-24HN
M27	3	-27	-27N	-27E	-27EN	-27H	-27HN
M30	3.5	-30	-30N	-30E	-30EN	-30H	-30HN
M33	3.5	-33	-33N	-33E	-33EN	-33H	-33HN
M36	4	-36	-36N	-36E	-36EN	-36H	-36HN
M39	4	-39	-39N	-39E	-39EN	-39H	-39HN
M42	4.5	-42	-42N	-42E	-42EN	-42H	-42HN
M45	4.5	-45	-45N	-45E	-45EN	-45H	-45HN
M48	5	-48	-48N	-48E	-48EN	-48H	-48HN
M52	5	-52	-52N	-52E	-52EN	-52H	-52HN
M56	5.5	-56	-56N	-56E	-56EN	-56H	-56HN
M60	5.5	-60	-60N	-60E	-60EN	-60H	-60HN
M64	6	-64	-64N	-64E	-64EN	-64H	-64HN
M68	6	-68	-68N	-68E	-68EN	-68H	-68HN

CHECK PLUGS FOR METRIC FINE THREAD RING GAGES



4677-10P



4677-10PN

- Standard ISO1502
- Check thread ring gages
- Supplied with manufacturer inspection certificate

Code example:
"-3D5G" stands for "4677-3D5G"

Size (mm)		Code (4677)					
		Class 6g		Class 6e		Class 6h	
Nominal diameter	Pitch	GO	NOGO	GO	NOGO	GO	NOGO
M3.5	0.5	-3D5G	-3D5GN	-3D5GE	-3D5GEN	-3D5GH	-3D5GHN
M4	0.5	-4G	-4GN	-4GE	-4GEN	-4GH	-4GHN
M4.5	0.5	-4D5G	-4D5GN	-4D5GE	-4D5GEN	-4D5GH	-4D5GHN
M5	0.5	-5G	-5GN	-5GE	-5GEN	-5GH	-5GHN
M5.5	0.5	-5D5G	-5D5GN	-5D5GE	-5D5GEN	-5D5GH	-5D5GHN
M6	0.5	-6G	-6GN	-6GE	-6GEN	-6GH	-6GHN
	0.75	-6L	-6LN	-6LE	-6LEN	-6LH	-6LHN
M6.5	0.5	-6D5G	-6D5GN	-6D5GE	-6D5GEN	-6D5GH	-6D5GHN
M7	0.5	-7G	-7GN	-7GE	-7GEN	-7GH	-7GHN
	0.75	-7L	-7LN	-7LE	-7LEN	-7LH	-7LHN
M7.5	0.5	-7D5G	-7D5GN	-7D5GE	-7D5GEN	-7D5GH	-7D5GHN
M8	0.5	-8G	-8GN	-8GE	-8GEN	-8GH	-8GHN
	0.75	-8L	-8LN	-8LE	-8LEN	-8LH	-8LHN
	1	-8P	-8PN	-8PE	-8PEN	-8PH	-8PHN
M8.5	0.5	-8D5G	-8D5GN	-8D5GE	-8D5GEN	-8D5GH	-8D5GHN
M9	0.5	-9G	-9GN	-9GE	-9GEN	-9GH	-9GHN
	0.75	-9L	-9LN	-9LE	-9LEN	-9LH	-9LHN
	1	-9P	-9PN	-9PE	-9PEN	-9PH	-9PHN
M10	0.5	-10G	-10GN	-10GE	-10GEN	-10GH	-10GHN
	0.75	-10L	-10LN	-10LE	-10LEN	-10LH	-10LHN
	1	-10P	-10PN	-10PE	-10PEN	-10PH	-10PHN
	1.25	-10Q	-10QN	-10QE	-10QEN	-10QH	-10QHN
M11	0.5	-11G	-11GN	-11GE	-11GEN	-11GH	-11GHN
	0.75	-11L	-11LN	-11LE	-11LEN	-11LH	-11LHN
	1	-11P	-11PN	-11PE	-11PEN	-11PH	-11PHN
M12	0.5	-12G	-12GN	-12GE	-12GEN	-12GH	-12GHN
	0.75	-12L	-12LN	-12LE	-12LEN	-12LH	-12LHN
	1	-12P	-12PN	-12PE	-12PEN	-12PH	-12PHN
	1.25	-12Q	-12QN	-12QE	-12QEN	-12QH	-12QHN
	1.5	-12R	-12RN	-12RE	-12REN	-12RH	-12RHN
M13	0.5	-13G	-13GN	-13GE	-13GEN	-13GH	-13GHN
	0.75	-13L	-13LN	-13LE	-13LEN	-13LH	-13LHN
	1	-13P	-13PN	-13PE	-13PEN	-13PH	-13PHN
	1.5	-13R	-13RN	-13RE	-13REN	-13RH	-13RHN
M14	0.5	-14G	-14GN	-14GE	-14GEN	-14GH	-14GHN
	0.75	-14L	-14LN	-14LE	-14LEN	-14LH	-14LHN
	1	-14P	-14PN	-14PE	-14PEN	-14PH	-14PHN
	1.25	-14Q	-14QN	-14QE	-14QEN	-14QH	-14QHN
	1.5	-14R	-14RN	-14RE	-14REN	-14RH	-14RHN

To be continued

Continued from previous page

Size (mm)		Code (4677)					
		Class 6g		Class 6e		Class 6h	
Nominal diameter	Pitch	GO	NOGO	GO	NOGO	GO	NOGO
M15	0.5	-15G	-15GN	-15GE	-15GEN	-15GH	-15GHN
	0.75	-15L	-15LN	-15LE	-15LEN	-15LH	-15LHN
	1	-15P	-15PN	-15PE	-15PEN	-15PH	-15PHN
	1.5	-15R	-15RN	-15RE	-15REN	-15RH	-15RHN
M16	0.5	-16G	-16GN	-16GE	-16GEN	-16GH	-16GHN
	0.75	-16L	-16LN	-16LE	-16LEN	-16LH	-16LHN
	1	-16P	-16PN	-16PE	-16PEN	-16PH	-16PHN
	1.25	-16Q	-16QN	-16QE	-16QEN	-16QH	-16QHN
	1.5	-16R	-16RN	-16RE	-16REN	-16RH	-16RHN
M17	0.5	-17G	-17GN	-17GE	-17GEN	-17GH	-17GHN
	0.75	-17L	-17LN	-17LE	-17LEN	-17LH	-17LHN
	1	-17P	-17PN	-17PE	-17PEN	-17PH	-17PHN
	1.5	-17R	-17RN	-17RE	-17REN	-17RH	-17RHN
M18	0.5	-18G	-18GN	-18GE	-18GEN	-18GH	-18GHN
	0.75	-18L	-18LN	-18LE	-18LEN	-18LH	-18LHN
	1	-18P	-18PN	-18PE	-18PEN	-18PH	-18PHN
	1.25	-18Q	-18QN	-18QE	-18QEN	-18QH	-18QHN
	1.5	-18R	-18RN	-18RE	-18REN	-18RH	-18RHN
	2	-18T	-18TN	-18TE	-18TEN	-18TH	-18THN
M19	0.5	-19G	-19GN	-19GE	-19GEN	-19GH	-19GHN
	0.75	-19L	-19LN	-19LE	-19LEN	-19LH	-19LHN
	1	-19P	-19PN	-19PE	-19PEN	-19PH	-19PHN
	1.5	-19R	-19RN	-19RE	-19REN	-19RH	-19RHN
M20	0.5	-20G	-20GN	-20GE	-20GEN	-20GH	-20GHN
	0.75	-20L	-20LN	-20LE	-20LEN	-20LH	-20LHN
	1	-20P	-20PN	-20PE	-20PEN	-20PH	-20PHN
	1.25	-20Q	-20QN	-20QE	-20QEN	-20QH	-20QHN
	1.5	-20R	-20RN	-20RE	-20REN	-20RH	-20RHN
	2	-20T	-20TN	-20TE	-20TEN	-20TH	-20THN
M21	0.75	-21L	-21LN	-21LE	-21LEN	-21LH	-21LHN
	1	-21P	-21PN	-21PE	-21PEN	-21PH	-21PHN
	1.5	-21R	-21RN	-21RE	-21REN	-21RH	-21RHN
M22	0.75	-22L	-22LN	-22LE	-22LEN	-22LH	-22LHN
	1	-22P	-22PN	-22PE	-22PEN	-22PH	-22PHN
	1.25	-22Q	-22QN	-22QE	-22QEN	-22QH	-22QHN
	1.5	-22R	-22RN	-22RE	-22REN	-22RH	-22RHN
	2	-22T	-22TN	-22TE	-22TEN	-22TH	-22THN
M23	0.75	-23L	-23LN	-23LE	-23LEN	-23LH	-23LHN
	1	-23P	-23PN	-23PE	-23PEN	-23PH	-23PHN
M24	0.75	-24L	-24LN	-24LE	-24LEN	-24LH	-24LHN
	1	-24P	-24PN	-24PE	-24PEN	-24PH	-24PHN
	1.25	-24Q	-24QN	-24QE	-24QEN	-24QH	-24QHN
	1.5	-24R	-24RN	-24RE	-24REN	-24RH	-24RHN
	2	-24T	-24TN	-24TE	-24TEN	-24TH	-24THN
M25	0.75	-25L	-25LN	-25LE	-25LEN	-25LH	-25LHN
	1	-25P	-25PN	-25PE	-25PEN	-25PH	-25PHN
	1.5	-25R	-25RN	-25RE	-25REN	-25RH	-25RHN
	2	-25T	-25TN	-25TE	-25TEN	-25TH	-25THN
M26	0.75	-26L	-26LN	-26LE	-26LEN	-26LH	-26LHN
	1	-26P	-26PN	-26PE	-26PEN	-26PH	-26PHN
	1.5	-26R	-26RN	-26RE	-26REN	-26RH	-26RHN
	2	-26T	-26TN	-26TE	-26TEN	-26TH	-26THN

To be continued



Continued from previous page

Size (mm)		Code (4677)					
Nominal diameter	Pitch	Class 6g		Class 6e		Class 6h	
		GO	NOGO	GO	NOGO	GO	NOGO
M27	0.75	-27L	-27LN	-27LE	-27LEN	-27LH	-27LHN
	1	-27P	-27PN	-27PE	-27PEN	-27PH	-27PHN
	1.5	-27R	-27RN	-27RE	-27REN	-27RH	-27RHN
	2	-27T	-27TN	-27TE	-27TEN	-27TH	-27THN
M28	0.75	-28L	-28LN	-28LE	-28LEN	-28LH	-28LHN
	1	-28P	-28PN	-28PE	-28PEN	-28PH	-28PHN
	1.5	-28R	-28RN	-28RE	-28REN	-28RH	-28RHN
	2	-28T	-28TN	-28TE	-28TEN	-28TH	-28THN
M29	0.75	-29L	-29LN	-29LE	-29LEN	-29LH	-29LHN
	1	-29P	-29PN	-29PE	-29PEN	-29PH	-29PHN
M30	0.75	-30L	-30LN	-30LE	-30LEN	-30LH	-30LHN
	1	-30P	-30PN	-30PE	-30PEN	-30PH	-30PHN
	1.5	-30R	-30RN	-30RE	-30REN	-30RH	-30RHN
	2	-30T	-30TN	-30TE	-30TEN	-30TH	-30THN
	3	-30V	-30VN	-30VE	-30VEN	-30VH	-30VHN
M31	0.75	-31L	-31LN	-31LE	-31LEN	-31LH	-31LHN
M32	0.75	-32L	-32LN	-32LE	-32LEN	-32LH	-32LHN
	1	-32P	-32PN	-32PE	-32PEN	-32PH	-32PHN
	1.5	-32R	-32RN	-32RE	-32REN	-32RH	-32RHN
	2	-32T	-32TN	-32TE	-32TEN	-32TH	-32THN
M33	0.75	-33L	-33LN	-33LE	-33LEN	-33LH	-33LHN
	1	-33P	-33PN	-33PE	-33PEN	-33PH	-33PHN
	1.5	-33R	-33RN	-33RE	-33REN	-33RH	-33RHN
	2	-33T	-33TN	-33TE	-33TEN	-33TH	-33THN
	3	-33V	-33VN	-33VE	-33VEN	-33VH	-33VHN
M34	1	-34P	-34PN	-34PE	-34PEN	-34PH	-34PHN
	1.5	-34R	-34RN	-34RE	-34REN	-34RH	-34RHN
	2	-34T	-34TN	-34TE	-34TEN	-34TH	-34THN
M35	1	-35P	-35PN	-35PE	-35PEN	-35PH	-35PHN
	1.5	-35R	-35RN	-35RE	-35REN	-35RH	-35RHN
	2	-35T	-35TN	-35TE	-35TEN	-35TH	-35THN
M36	1	-36P	-36PN	-36PE	-36PEN	-36PH	-36PHN
	1.5	-36R	-36RN	-36RE	-36REN	-36RH	-36RHN
	2	-36T	-36TN	-36TE	-36TEN	-36TH	-36THN
	3	-36V	-36VN	-36VE	-36VEN	-36VH	-36VHN
M38	1	-38P	-38PN	-38PE	-38PEN	-38PH	-38PHN
	1.5	-38R	-38RN	-38RE	-38REN	-38RH	-38RHN
	2	-38T	-38TN	-38TE	-38TEN	-38TH	-38THN
M39	1	-39P	-39PN	-39PE	-39PEN	-39PH	-39PHN
	1.5	-39R	-39RN	-39RE	-39REN	-39RH	-39RHN
	2	-39T	-39TN	-39TE	-39TEN	-39TH	-39THN
	3	-39V	-39VN	-39VE	-39VEN	-39VH	-39VHN
M40	1.5	-40R	-40RN	-40RE	-40REN	-40RH	-40RHN
	2	-40T	-40TN	-40TE	-40TEN	-40TH	-40THN
	3	-40V	-40VN	-40VE	-40VEN	-40VH	-40VHN
M42	1.5	-42R	-42RN	-42RE	-42REN	-42RH	-42RHN
	2	-42T	-42TN	-42TE	-42TEN	-42TH	-42THN
	3	-42V	-42VN	-42VE	-42VEN	-42VH	-42VHN
M45	1.5	-45R	-45RN	-45RE	-45REN	-45RH	-45RHN
	2	-45T	-45TN	-45TE	-45TEN	-45TH	-45THN
	3	-45V	-45VN	-45VE	-45VEN	-45VH	-45VHN

Continued from previous page

Size (mm)		Code (4677)					
Nominal diameter	Pitch	Class 6g		Class 6e		Class 6h	
		GO	NOGO	GO	NOGO	GO	NOGO
M48	1.5	-48R	-48RN	-48RE	-48REN	-48RH	-48RHN
	2	-48T	-48TN	-48TE	-48TEN	-48TH	-48THN
	3	-48V	-48VN	-48VE	-48VEN	-48VH	-48VHN
M50	1.5	-50R	-50RN	-50RE	-50REN	-50RH	-50RHN
	2	-50T	-50TN	-50TE	-50TEN	-50TH	-50THN
	3	-50V	-50VN	-50VE	-50VEN	-50VH	-50VHN
M52	1.5	-52R	-52RN	-52RE	-52REN	-52RH	-52RHN
	2	-52T	-52TN	-52TE	-52TEN	-52TH	-52THN
	3	-52V	-52VN	-52VE	-52VEN	-52VH	-52VHN
	4	-52X	-52XN	-52XE	-52XEN	-52XH	-52XHN
M55	1.5	-55R	-55RN	-55RE	-55REN	-55RH	-55RHN
	2	-55T	-55TN	-55TE	-55TEN	-55TH	-55THN
	3	-55V	-55VN	-55VE	-55VEN	-55VH	-55VHN
	4	-55X	-55XN	-55XE	-55XEN	-55XH	-55XHN
M56	1.5	-56R	-56RN	-56RE	-56REN	-56RH	-56RHN
	2	-56T	-56TN	-56TE	-56TEN	-56TH	-56THN
	3	-56V	-56VN	-56VE	-56VEN	-56VH	-56VHN
	4	-56X	-56XN	-56XE	-56XEN	-56XH	-56XHN
M58	1.5	-58R	-58RN	-58RE	-58REN	-58RH	-58RHN
	2	-58T	-58TN	-58TE	-58TEN	-58TH	-58THN
	3	-58V	-58VN	-58VE	-58VEN	-58VH	-58VHN
	4	-58X	-58XN	-58XE	-58XEN	-58XH	-58XHN
M60	1.5	-60R	-60RN	-60RE	-60REN	-60RH	-60RHN
	2	-60T	-60TN	-60TE	-60TEN	-60TH	-60THN
	3	-60V	-60VN	-60VE	-60VEN	-60VH	-60VHN
	4	-60X	-60XN	-60XE	-60XEN	-60XH	-60XHN
M62	1.5	-62R	-62RN	-62RE	-62REN	-62RH	-62RHN
	2	-62T	-62TN	-62TE	-62TEN	-62TH	-62THN
	3	-62V	-62VN	-62VE	-62VEN	-62VH	-62VHN
	4	-62X	-62XN	-62XE	-62XEN	-62XH	-62XHN
M64	1.5	-64R	-64RN	-64RE	-64REN	-64RH	-64RHN
	2	-64T	-64TN	-64TE	-64TEN	-64TH	-64THN
	3	-64V	-64VN	-64VE	-64VEN	-64VH	-64VHN
	4	-64X	-64XN	-64XE	-64XEN	-64XH	-64XHN
M65	1.5	-65R	-65RN	-65RE	-65REN	-65RH	-65RHN
	2	-65T	-65TN	-65TE	-65TEN	-65TH	-65THN
	3	-65V	-65VN	-65VE	-65VEN	-65VH	-65VHN
	4	-65X	-65XN	-65XE	-65XEN	-65XH	-65XHN
M68	1.5	-68R	-68RN	-68RE	-68REN	-68RH	-68RHN
	2	-68T	-68TN	-68TE	-68TEN	-68TH	-68THN
	3	-68V	-68VN	-68VE	-68VEN	-68VH	-68VHN
	4	-68X	-68XN	-68XE	-68XEN	-68XH	-68XHN
M70	1.5	-70R	-70RN	-70RE	-70REN	-70RH	-70RHN
	2	-70T	-70TN	-70TE	-70TEN	-70TH	-70THN
	3	-70V	-70VN	-70VE	-70VEN	-70VH	-70VHN
	4	-70X	-70XN	-70XE	-70XEN	-70XH	-70XHN
	6	-70O	-70ON	-70OE	-70OEN	-70OH	-70OHN
M72	1.5	-72R	-72RN	-72RE	-72REN	-72RH	-72RHN
	2	-72T	-72TN	-72TE	-72TEN	-72TH	-72THN
	3	-72V	-72VN	-72VE	-72VEN	-72VH	-72VHN

To be continued



Continued from previous page

Size (mm)		Code (4677)					
		Class 6g		Class 6e		Class 6h	
Nominal diameter	Pitch	GO	NOGO	GO	NOGO	GO	NOGO
M72	4	-72X	-72XN	-72XE	-72XEN	-72XH	-72XHN
	6	-72O	-72ON	-72OE	-72OEN	-72OH	-72OHN
M75	1.5	-75R	-75RN	-75RE	-75REN	-75RH	-75RHN
	2	-75T	-75TN	-75TE	-75TEN	-75TH	-75THN
	3	-75V	-75VN	-75VE	-75VEN	-75VH	-75VHN
	4	-75X	-75XN	-75XE	-75XEN	-75XH	-75XHN
M76	1.5	-76R	-76RN	-76RE	-76REN	-76RH	-76RHN
	2	-76T	-76TN	-76TE	-76TEN	-76TH	-76THN
	3	-76V	-76VN	-76VE	-76VEN	-76VH	-76VHN
	4	-76X	-76XN	-76XE	-76XEN	-76XH	-76XHN
M78	6	-76O	-76ON	-76OE	-76OEN	-76OH	-76OHN
M80	2	-78T	-78TN	-78TE	-78TEN	-78TH	-78THN
	1.5	-80R	-80RN	-80RE	-80REN	-80RH	-80RHN
	2	-80T	-80TN	-80TE	-80TEN	-80TH	-80THN
	3	-80V	-80VN	-80VE	-80VEN	-80VH	-80VHN
	4	-80X	-80XN	-80XE	-80XEN	-80XH	-80XHN
M82	6	-80O	-80ON	-80OE	-80OEN	-80OH	-80OHN
M85	2	-82T	-82TN	-82TE	-82TEN	-82TH	-82THN
	2	-85T	-85TN	-85TE	-85TEN	-85TH	-85THN
	3	-85V	-85VN	-85VE	-85VEN	-85VH	-85VHN
	4	-85X	-85XN	-85XE	-85XEN	-85XH	-85XHN
M90	6	-85O	-85ON	-85OE	-85OEN	-85OH	-85OHN
	2	-90T	-90TN	-90TE	-90TEN	-90TH	-90THN
	3	-90V	-90VN	-90VE	-90VEN	-90VH	-90VHN
	4	-90X	-90XN	-90XE	-90XEN	-90XH	-90XHN
M95	6	-90O	-90ON	-90OE	-90OEN	-90OH	-90OHN
	2	-95T	-95TN	-95TE	-95TEN	-95TH	-95THN
	3	-95V	-95VN	-95VE	-95VEN	-95VH	-95VHN
	4	-95X	-95XN	-95XE	-95XEN	-95XH	-95XHN
M100	6	-95O	-95ON	-95OE	-95OEN	-95OH	-95OHN
	2	-100T	-100TN	-100TE	-100TEN	-100TH	-100THN
	3	-100V	-100VN	-100VE	-100VEN	-100VH	-100VHN
	4	-100X	-100XN	-100XE	-100XEN	-100XH	-100XHN
M105	6	-100O	-100ON	-100OE	-100OEN	-100OH	-100OHN
	2	-105T	-105TN	-105TE	-105TEN	-105TH	-105THN
	3	-105V	-105VN	-105VE	-105VEN	-105VH	-105VHN
	4	-105X	-105XN	-105XE	-105XEN	-105XH	-105XHN
M110	6	-105O	-105ON	-105OE	-105OEN	-105OH	-105OHN
	2	-110T	-110TN	-110TE	-110TEN	-110TH	-110THN
	3	-110V	-110VN	-110VE	-110VEN	-110VH	-110VHN
	4	-110X	-110XN	-110XE	-110XEN	-110XH	-110XHN
M115	6	-110O	-110ON	-110OE	-110OEN	-110OH	-110OHN
	2	-115T	-115TN	-115TE	-115TEN	-115TH	-115THN
	3	-115V	-115VN	-115VE	-115VEN	-115VH	-115VHN
	4	-115X	-115XN	-115XE	-115XEN	-115XH	-115XHN
M120	6	-115O	-115ON	-115OE	-115OEN	-115OH	-115OHN
	2	-120T	-120TN	-120TE	-120TEN	-120TH	-120THN
	3	-120V	-120VN	-120VE	-120VEN	-120VH	-120VHN
	4	-120X	-120XN	-120XE	-120XEN	-120XH	-120XHN
	6	-120O	-120ON	-120OE	-120OEN	-120OH	-120OHN

THREAD GAGES FOR ROTARY SHOULDERED CONNECTIONS OF PETROLEUM EQUIPMENT

API PRODUCTION LICENSE



■ Measure the thread of rotary shouldered connections

4177-23

Number style gages

Code	Gage code	Form of thread to be inspected	Number of thread per inch	Taper	Angle of thread	Basic pitch dia
4177-10	NC10	V-0.055	6	1:8	60°	27.000mm
4177-12	NC12	V-0.055	6	1:8	60°	32.121mm
4177-13	NC13	V-0.055	6	1:8	60°	35.331mm
4177-16	NC16	V-0.055	6	1:8	60°	40.869mm
4177-23	NC23	V-0.038R	4	1:6	60°	59.817mm
4177-26	NC26	V-0.038R	4	1:6	60°	67.767mm
4177-31	NC31	V-0.038R	4	1:6	60°	80.848mm
4177-35	NC35	V-0.038R	4	1:6	60°	89.687mm
4177-38	NC38	V-0.038R	4	1:6	60°	96.723mm
4177-40	NC40	V-0.038R	4	1:6	60°	103.429mm
4177-44	NC44	V-0.038R	4	1:6	60°	112.192mm
4177-46	NC46	V-0.038R	4	1:6	60°	117.500mm
4177-50	NC50	V-0.038R	4	1:6	60°	128.059mm
4177-56	NC56	V-0.038R	4	1:4	60°	142.646mm
4177-61	NC61	V-0.038R	4	1:4	60°	156.921mm
4177-70	NC70	V-0.038R	4	1:4	60°	179.146mm
4177-77	NC77	V-0.038R	4	1:4	60°	196.621mm

Regular style gages

Code	Gage code	Form of thread to be inspected	Number of thread per inch	Taper	Angle of thread	Basic pitch dia
4177-2R	2 3/8 REG	V-0.040	5	1:4	60°	60.080mm
4177-21R	2 7/8 REG	V-0.040	5	1:4	60°	69.605mm
4177-3R	3 1/2 REG	V-0.040	5	1:4	60°	82.293mm
4177-4R	4 1/2 REG	V-0.040	5	1:4	60°	110.868mm
4177-5R	5 1/2 REG	V-0.050	4	1:4	60°	132.944mm
4177-6R	6 5/8 REG	V-0.050	4	1:6	60°	146.248mm
4177-7R	7 5/8 REG	V-0.050	4	1:4	60°	170.549mm
4177-8R	8 5/8 REG	V-0.050	4	1:4	60°	194.731mm

Full-hole style gages

Code	Gage code	Form of thread to be inspected	Number of thread per inch	Taper	Angle of thread	Basic pitch dia
4177-3H	3 1/2 FH	V-0.040	5	1:4	60°	94.844mm
4177-4H	4 1/2 FH	V-0.040	5	1:4	60°	115.113mm
4177-5H	5 1/2 FH	V-0.050	4	1:6	60°	142.011mm
4177-6H	6 5/8 FH	V-0.050	4	1:6	60°	165.598mm

Internal-flush style gage

Code	Gage code	Form of thread to be inspected	Number of thread per inch	Taper	Angle of thread	Basic pitch dia
4177-5F	5 1/2 IF	V-0.065	4	1:6	60°	157.201mm

CASING, TUBING AND LINE PIPE THREAD GAGES OF PETROLEUM AND GAS EQUIPMENT

Casing round thread gages

Code	Gage code	Outer dia	Number of thread per inch	Taper	Angle of thread
4178-4	4 1/2 CSG	114.30mm	8	1:16	60°
4178-4L	4 1/2 LCSG				
4178-5	5 CSG	127.00mm	8	1:16	60°
4178-5L	5 LCSG				
4178-51	5 1/2 CSG	139.70mm	8	1:16	60°
4178-51L	5 1/2 LCSG				
4178-6	6 5/8 CSG	168.28mm	8	1:16	60°
4178-6L	6 5/8 LCSG				
4178-7	7 CSG	177.80mm	8	1:16	60°
4178-7L	7 LCSG				
4178-71	7 5/8 CSG	193.68mm	8	1:16	60°
4178-71L	7 5/8 LCSG				
4178-8	8 5/8 CSG	219.08mm	8	1:16	60°
4178-8L	8 5/8 LCSG				
4178-9	9 5/8 CSG	244.48mm	8	1:16	60°
4178-9L	9 5/8 LCSG				
4178-10	10 3/4 CSG	273.05mm	8	1:16	60°
4178-10L	10 3/4 LCSG				
4178-11	11 3/4 CSG	298.45mm	8	1:16	60°
4178-11L	11 3/4 LCSG				
4178-13	13 3/8 CSG	339.73mm	8	1:16	60°
4178-13L	13 3/8 LCSG				
4178-16	16 CSG	406.40mm	8	1:16	60°
4178-16L	16 LCSG				



4178-21T

- Measure the casing, tubing and line pipe threads

Non-upset tubing thread gages

Code	Gage code	Outer dia	Number of thread per inch	Taper	Angle of thread
4178-11T	1.050 TBG	26.67mm	10	1:16	60°
4178-13T	1.315 TBG	33.40mm	10	1:16	60°
4178-16T	1.660 TBG	42.16mm	10	1:16	60°
4178-19T	1.900 TBG	48.26mm	10	1:16	60°
4178-2T	2 3/8 TBG	60.33mm	10	1:16	60°
4178-21T	2 7/8 TBG	73.03mm	10	1:16	60°
4178-3T	3 1/2 TBG	88.90mm	10	1:16	60°
4178-4T	4 TBG	101.60mm	8	1:16	60°
4178-41T	4 1/2 TBG	114.30mm	8	1:16	60°

External-upset tubing thread gages

Code	Gage code	Outer dia	Number of thread per inch	Taper	Angle of thread
4178-11U	1.050 UP TBG	26.67mm	10	1:16	60°
4178-13U	1.315 UP TBG	33.40mm	10	1:16	60°
4178-16U	1.660 UP TBG	42.16mm	10	1:16	60°
4178-19U	1.900 UP TBG	48.26mm	10	1:16	60°
4178-2U	2 3/8 UP TBG	60.33mm	8	1:16	60°
4178-21U	2 7/8 UP TBG	73.03mm	8	1:16	60°
4178-3U	3 1/2 UP TBG	88.90mm	8	1:16	60°
4178-4U	4 UP TBG	101.60mm	8	1:16	60°
4178-41U	4 1/2 UP TBG	114.30mm	8	1:16	60°

To be continued

Continued from previous page

Buttress casing thread gages

Code	Gage code	Outer dia	Number of thread per inch	Taper	Angle of thread
4178-4B	4 1/2 BCSG	114.30mm	5	1:16	3°, 10°
4178-5B	5 BCSG	127.00mm	5	1:16	3°, 10°
4178-51B	5 1/2 BCSG	139.70mm	5	1:16	3°, 10°
4178-6B	6 5/8 BCSG	168.28mm	5	1:16	3°, 10°
4178-7B	7 BCSG	177.80mm	5	1:16	3°, 10°
4178-71B	7 5/8 BCSG	193.68mm	5	1:16	3°, 10°
4178-8B	8 5/8 BCSG	219.08mm	5	1:16	3°, 10°
4178-9B	9 5/8 BCSG	244.48mm	5	1:16	3°, 10°
4178-10B	10 3/4 BCSG	273.05mm	5	1:16	3°, 10°
4178-11B	11 3/4 BCSG	298.45mm	5	1:16	3°, 10°
4178-13B	13 3/8 BCSG	339.73mm	5	1:16	3°, 10°
4178-16B	16 BCSG	406.40mm	5	1:12	3°, 10°

Line pipe thread gages

Code	Gage code	Outer dia	Number of thread per inch	Taper	Angle of thread
4178-01P	1/8 LP	3.18mm	27	1:16	60°
4178-02P	1/4 LP	6.35mm	18	1:16	60°
4178-03P	3/8 LP	9.53mm	18	1:16	60°
4178-05P	1/2 LP	12.70mm	14	1:16	60°
4178-07P	3/4 LP	19.05mm	14	1:16	60°
4178-10P	1 LP	25.40mm	11 1/2	1:16	60°
4178-12P	1 1/4 LP	31.75mm	11 1/2	1:16	60°
4178-15P	1 1/2 LP	38.10mm	11 1/2	1:16	60°
4178-20P	2 LP	50.80mm	11 1/2	1:16	60°
4178-25P	2 1/2 LP	63.50mm	8	1:16	60°
4178-30P	3 LP	76.20mm	8	1:16	60°
4178-35P	3 1/2 LP	88.90mm	8	1:16	60°
4178-40P	4 LP	101.60mm	8	1:16	60°
4178-50P	5 LP	127.00mm	8	1:16	60°
4178-60P	6 LP	152.40mm	8	1:16	60°
4178-80P	8 LP	203.20mm	8	1:16	60°
4178-100P	10 LP	254.00mm	8	1:16	60°

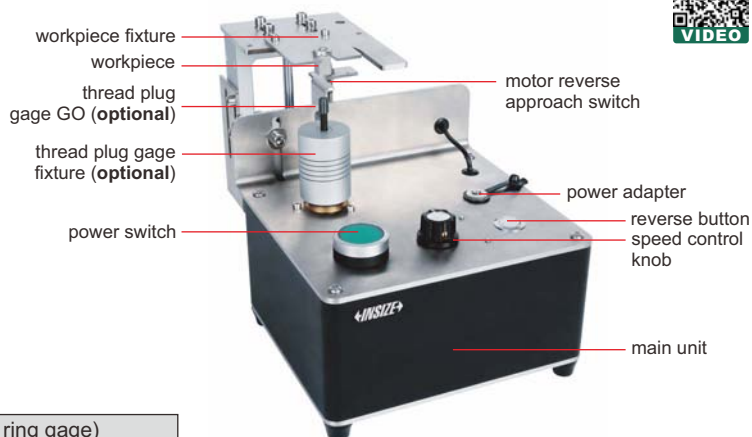
SEMI-AUTOMATIC THREAD INSPECTOR

CUSTOM-MADE

- Rapid inspection of thread
- Speed and torque are adjustable
- Reverse button: if abnormal thread is detected, thread gage will be stuck, press the reverse button to exit
- Different thread gages and workpiece fixtures can be replaced
- Thread gages with DLC coating, excellent wear resistance
- For different length of thread by adjusting the position of approach switch

SPECIFICATION

Measuring range	external thread: M5~M20 (Go thread ring gage)
	internal thread: M3~M36 (Go thread plug gage)
Torque range	clearance fit: 0.1~0.35Nm, interference fit: 0.4~1.4Nm
Speed range	100~2200r/min
Power supply	power adapter
Rated power	24W
Weight	3kg
Dimension	160×190×250mm



Code No. example (thread gages are optional)
TGI-□□□ (□□□ is the code No. of Go thread gage)

TGI-4641-6T	thread inspector with M6-6H Go thread plug gage
TGI-4631-8	thread inspector with M8-6g Go thread ring gage

ANGLE, STRAIGHTNESS, FLATNESS MEASUREMENT

15



Angle Meters
Page 376



Protractors
Page 376-381



Granite Squares
Page 381-382



Cylinder Squares
Page 382



Perpendicularity Testers
Page 383



Squares
Page 383-389



Straight Edges
Page 389



Straight Edges
Page 390-391



Optical Flats
Page 391



Flatness Measurement Stands
Page 392

DIGITAL ANGLE METER CODE 2177-121



VIDEO



- Clockwise and counter-clockwise operation
- 9 target angle values can be set, with audible and visible alarm:
 - Green LED light on and buzzer sounds when angle value is 80%~99.5% of target angle
 - Both green and red LED light on and buzzer sounds when angle value is over 99.5% of target angle
- Memory of 250 results, can upload to the computer
- Back with magnet
- Power off in 2 minutes automatically

SPECIFICATION

Display range	0~999°
Setting range	1~360° (increment 1°)
Resolution	0.1°
Accuracy	±2° for 90° rotation @30°/sec
Power supply	2×1.5V AAA batteries
Dimension	58×58×41mm
Weight	70g

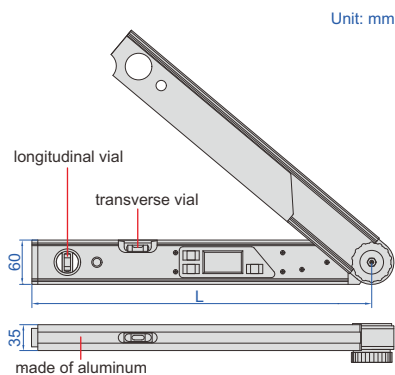


WATERPROOF DIGITAL PROTRACTOR (HEAVY DUTY)

AUTOMATIC
BACKLIGHT

ABSOLUTE
LEVEL

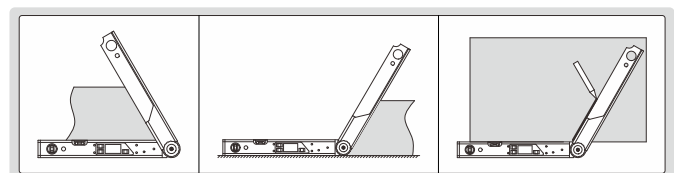
IP54
WATERPROOF



2174-225

- Suitable for setting horizontal and vertical mitre angles of cutting machines
- Buttons: ON/OFF, HOLD/SUP, SPR/CNR/MTR/BVL
- IP54 dust/waterproof
- With transverse and longitudinal vials
- 2xAAA batteries
- Absolute level, zero setting is not needed when batteries are replaced
- Backlight turns off in one minute after reading is stable, automatic power off in 5 minutes

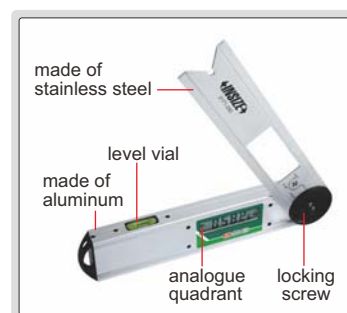
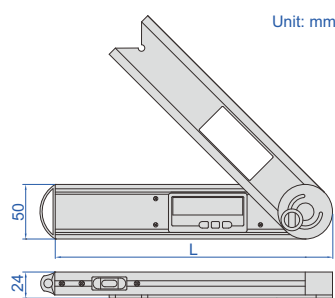
Code	Size (L)	Range	Resolution	Accuracy
2174-225	460mm	0-225°	0.05°	±0.10°



DIGITAL PROTRACTOR

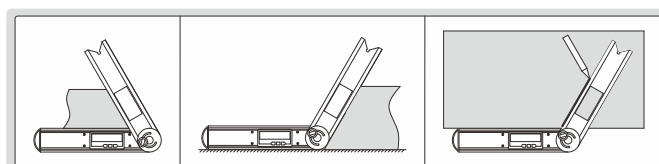


2171-250



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

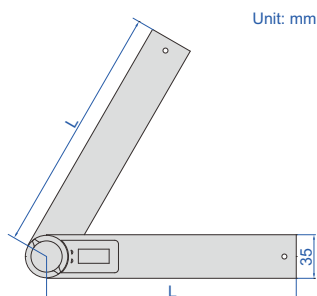
Code	Size (L)	Range	Resolution	Accuracy
2171-250	250mm	0-360°	0.05°	±0.15°



DIGITAL PROTRACTORS

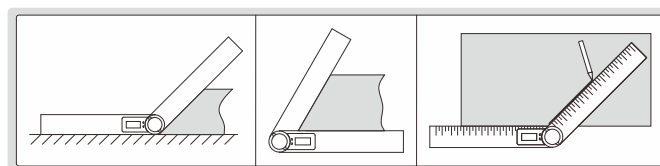


2176-200



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

Code	Size (L)	Range	Resolution	Accuracy
2176-200	200mm	0-360°	0.1°	±0.3°
2176-300	300mm	0-360°	0.1°	±0.3°



REFER TO PAGE
498-500 FOR DETAILS

DIGITAL LEVELS AND SLOPE METERS



2179-360



2175-360



2199-1



2170-1

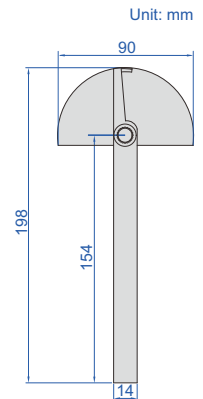
PROTRACTOR (ECONOMIC TYPE)

- Graduation: 1°
- Made of stainless steel
- With clamping screw

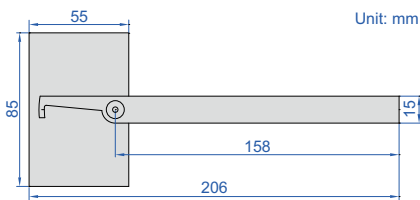


4780-85A

Code	Size	Range	Accuracy
4780-85A	90x154mm	0-180°	±0.5°



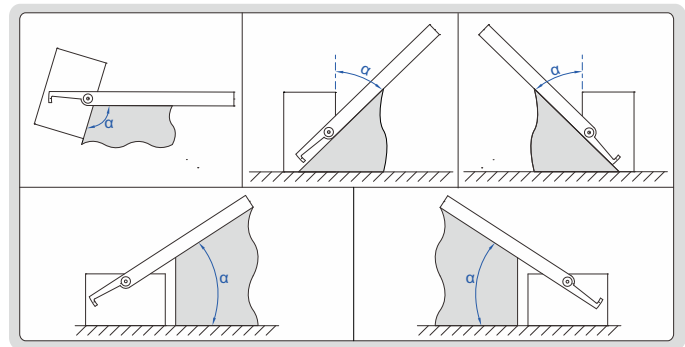
PROTRACTOR



4781-85A

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

Code	Size	Range	Graduation	Accuracy
4781-85A	85x158mm	0-180°	1°	±0.3°



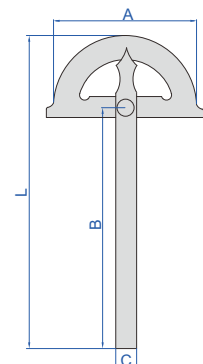
PROTRACTORS

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



4799-180

Code	Size (AxB)	Range	Accuracy	L	C
4799-180	80x120mm	0-180°	±0.3°	168mm	11mm
4799-1120	120x150mm	0-180°	±0.3°	220mm	14mm
4799-1150	150x200mm	0-180°	±0.3°	285mm	16mm
4799-1200	200x300mm	0-180°	±0.3°	413mm	20mm
4799-1300	300x500mm	0-180°	±0.3°	675mm	30mm



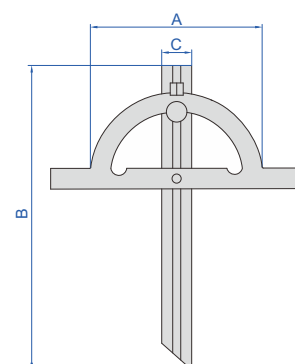
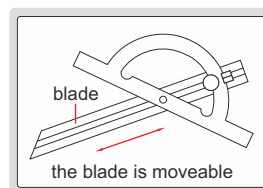
PROTRACTORS

- Graduation: 1°
- Made of carbon steel
- Satin chrome plated
- With clamping screw
- The blade is moveable



4797-100

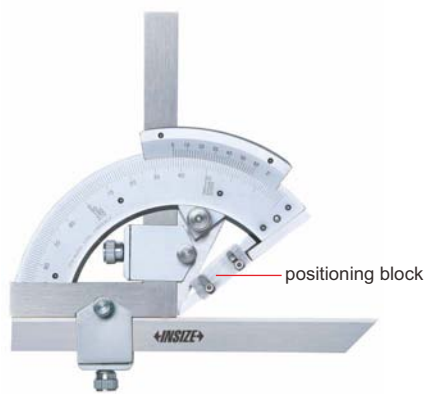
Code	Size (AxB)	Range	Accuracy	C
4797-100	100x150mm	10-170°	±0.3°	18mm
4797-150	150x300mm	10-170°	±0.3°	22mm
4797-200	200x400mm	10-170°	±0.3°	24mm
4797-250	250x500mm	10-170°	±0.3°	28mm
4797-300	300x600mm	10-170°	±0.3°	32mm



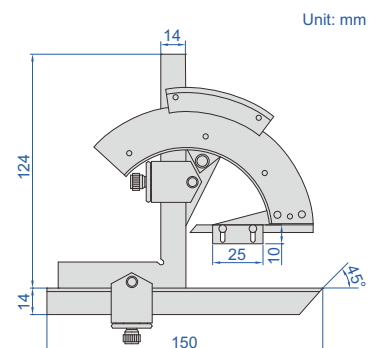
PROTRACTORS



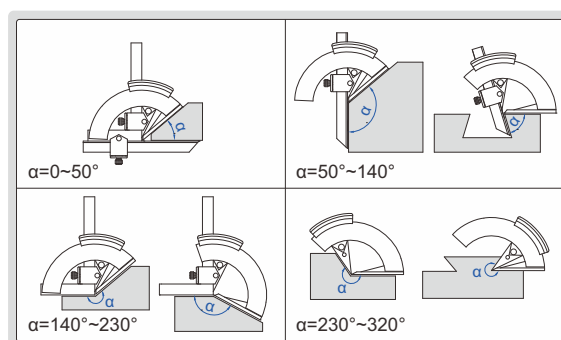
2374-320



2374-320D



- Made of stainless steel
- Satin chrome plated scale



application of 2374-320D

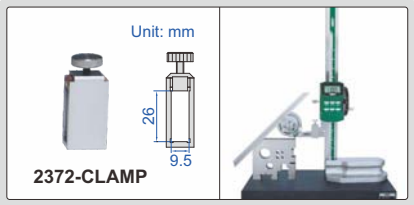


the positioning block can be moved down for positioning, and moved up when not in use

Code	Range	Graduation	Accuracy	Remark
2374-320	0-320°	2'	±2'	without positioning block
2374-320D	0-320°	2'	±2'	with positioning block

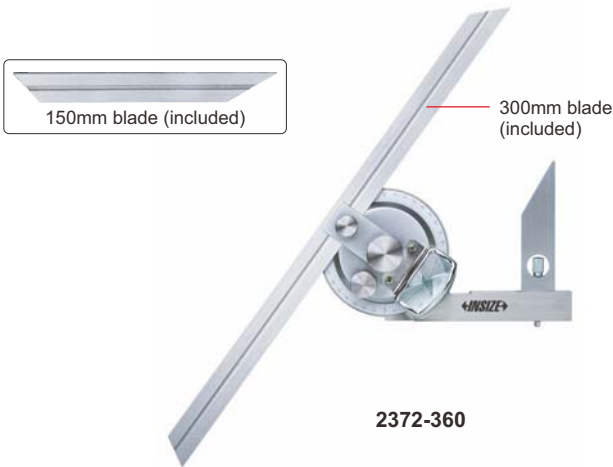
UNIVERSAL PROTRACTOR

clamp for height gages (optional)

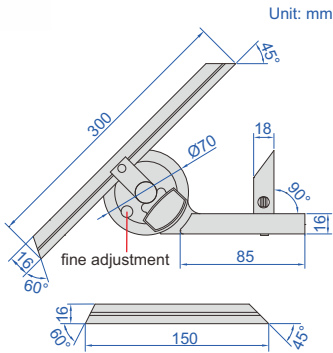


- Parallax-free reading
- Made of stainless steel
- Optional accessory: clamp (code **2372-CLAMP**), suitable for height gages **1156**, **1150-300**, **1351**, **1250** and **1151**

Code	Range	Graduation	Accuracy
2372-360	0-360°	5'	±5'

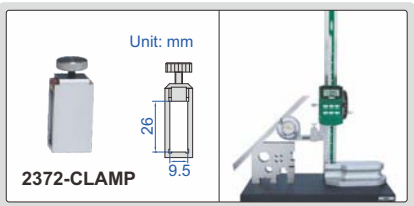


2372-360



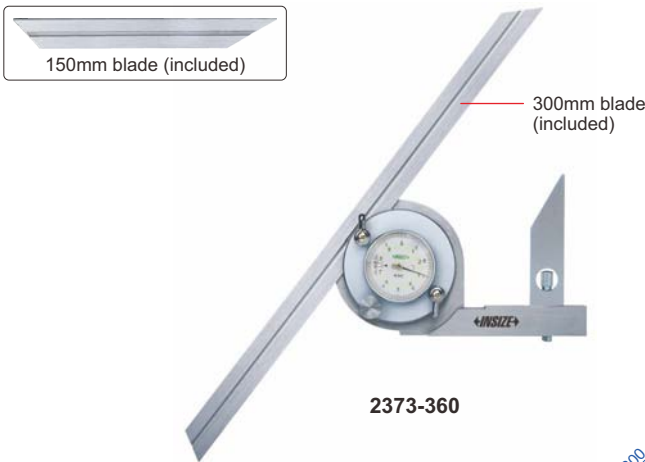
DIAL PROTRACTOR

clamp for height gages (optional)

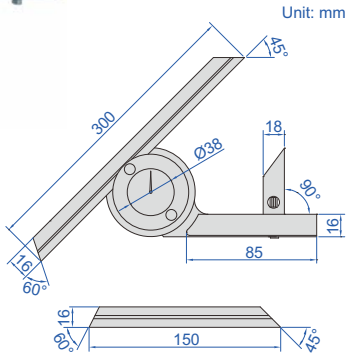


- Made of stainless steel
- Optional accessory: clamp (code **2372-CLAMP**), suitable for height gages **1156**, **1150-300**, **1351**, **1250** and **1151**

Code	Range	Graduation	Accuracy
2373-360	0-360°	5'	±5'



2373-360

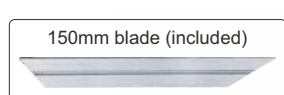


DATA
OUTPUT

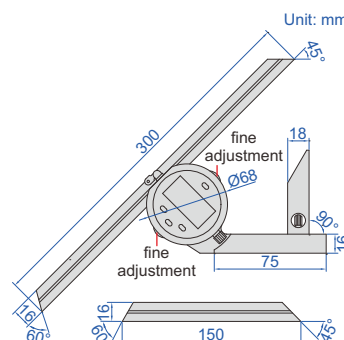
ABSOLUTE
ZERO

POPULAR
MODEL

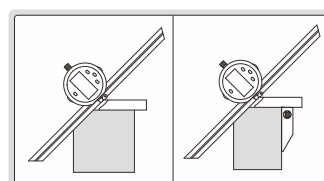
DIGITAL PROTRACTOR



2771-360



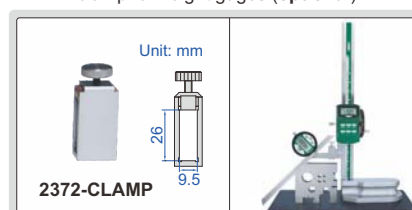
- Absolute zero, zero setting is not needed when batteries are replaced
- Button function: choose 0-90°, 0-180° or 0-360° display, change resolution, display flips over, data hold, zero, on/off supplementary angle measurement
- Battery CR2032, automatic power off, data output
- Made of stainless steel
- Optional square for zero setting
- Optional accessory: clamp (code **2372-CLAMP**), suitable for height gages **1156**, **1150-300**, **1351**, **1250** and **1151**, data output cable (code **7315-2771** need receiver page 6, **7302-50M** page 13)



square (optional)



clamp for height gages (optional)



Square
(for zero setting,
optional)

Code
2771-S90

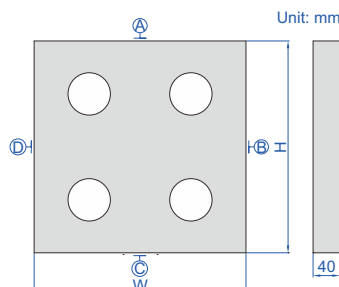
Code	Range	Resolution	Accuracy
2771-360	0-360°	1'/0.01°	±5'

GRANITE SQUARE

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



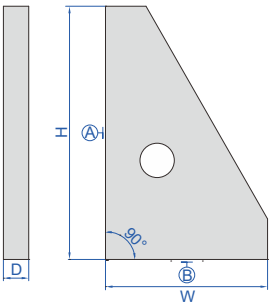
4144-315



Code	Size (HxW)	Flatness of A, B, C and D	Squareness and parallelism between A, B, C and D
4144-315	315x315mm	1.1µm	2.6µm

GRANITE SQUARES

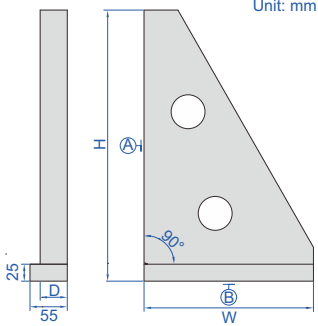
CUSTOM-MADE
SUPPLY SPECIAL SIZES ACCORDING
TO CUSTOMER'S REQUEST



type A



4141-250



type B

Unit: mm



4141-400B

Code	Size (HxW)	Type	Flatness of A	Flatness of B	Squareness of A to B	D
4141-250	250x160mm	A	1µm	1µm	2µm	25mm
4141-400	400x250mm	A	1.5µm	1µm	3µm	40mm
4141-630	630x400mm	A	2µm	1.5µm	4µm	63mm
4141-400B	400x250mm	B	1.5µm	1µm	3µm	40mm

CYLINDER SQUARES



15

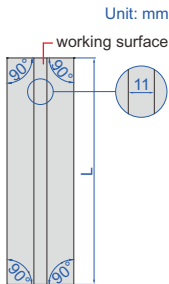
- Made of special alloy steel, hardness HRC58~60
- The handle can be removed



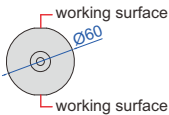
4710-200



working surface

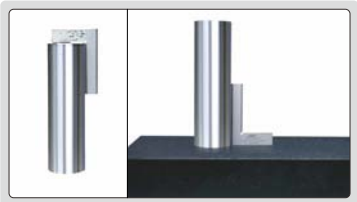


Unit: mm



working surface

inspect 90° internal and external angles



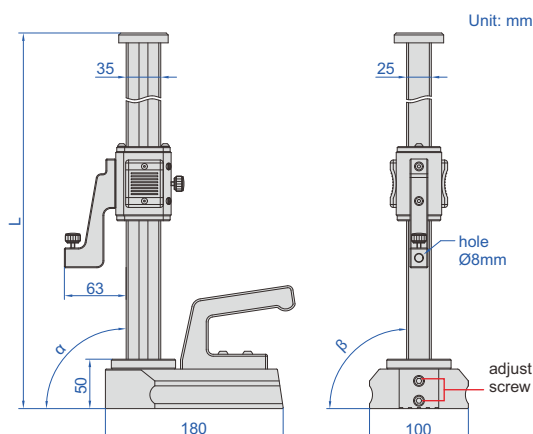
Code	Length (L)	Squareness
4710-200*	200mm	1µm
4710-300*	300mm	2µm

* Supplied with manufacturer inspection certificate

PERPENDICULARITY TESTERS



VIDEO



4770-300



- Optional accessory:
dial test indicators
(graduation: 1μm or 2μm)

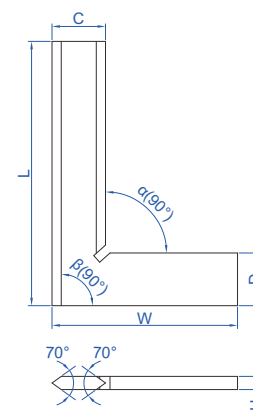
Code	Range (H)	Perpendicularity (α)	Side perpendicularity (β)	L
4770-300	0-300mm	3μm	10μm	460mm
4770-600	0-600mm	5μm	20μm	760mm

90° BEVELED EDGE SQUARES

- Satin chrome plating
- Beveled edges for inside and outside measurements
- Made of hardened stainless steel



4790-0100



DIN875 grade 00		(mm)				
Code	Size (LxW)	Squareness		C	D	H
		Inside (α)	Outside (β)			
4790-050	50x40mm	2.4μm	2.5μm	13	13	4
4790-075	75x50mm	2.6μm	2.8μm	15	15	4
4790-0100	100x70mm	2.8μm	3.0μm	20	20	5
4790-0150	150x100mm	3.2μm	3.5μm	30	30	6
4790-0200	200x130mm	3.7μm	4.0μm	34	34	7
4790-0250	250x165mm	4.2μm	4.5μm	35	35	7
4790-0300	300x200mm	4.6μm	5.0μm	40	40	8

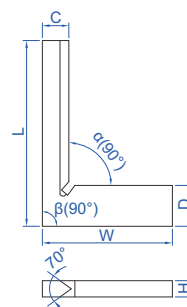
DIN875 grade 0		(mm)				
Code	Size (LxW)	Squareness		C	D	H
		Inside (α)	Outside (β)			
4790-500	50x40mm	6μm	6μm	13	13	4
4790-750	75x50mm	6μm	7μm	15	15	4
4790-1000	100x70mm	7μm	7μm	20	20	5
4790-1500	150x100mm	7μm	8μm	30	30	6
4790-2000	200x130mm	8μm	9μm	34	34	7
4790-2500	250x165mm	9μm	10μm	35	35	7
4790-3000	300x200mm	10μm	11μm	40	40	8

90° TOOL MAKER SQUARES

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



4794-040



Code	Size (LxW)	Squareness		C	D	H
		Inside (α)	Outside (β)			
4794-025	25x20mm	2.2μm	2.3μm	4	6.5	3.5
4794-040	40x28mm	2.3μm	2.4μm	5.5	8.5	3.5

90° FLAT EDGE SQUARES

- Made of hardened stainless steel

DIN875 grade 0 (mm)

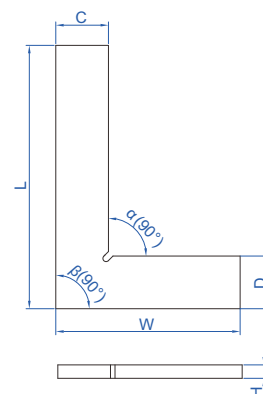
Code	Size (LxW)	Squareness		C	D	H
		Inside (α)	Outside (β)			
4791-50	50x40mm	6μm	6μm	15	15	4
4791-75	75x50mm	6μm	7μm	15	15	4
4791-100	100x70mm	7μm	7μm	20	20	5
4791-150	150x100mm	7μm	8μm	30	30	6
4791-200	200x130mm	8μm	9μm	30	30	7
4791-250	250x165mm	9μm	10μm	35	35	7
4791-300	300x200mm	10μm	11μm	40	40	8



4791-100

DIN875 grade 1 (mm)

Code	Size (LxW)	Squareness		C	D	H
		Inside (α)	Outside (β)			
4791-501	50x40mm	12μm	13μm	15	15	4
4791-751	75x50mm	13μm	14μm	15	15	4
4791-1001	100x70mm	14μm	15μm	20	20	5
4791-1501	150x100mm	16μm	18μm	30	30	6
4791-2001	200x130mm	19μm	20μm	30	30	7
4791-2501	250x165mm	21μm	23μm	35	35	7
4791-3001	300x200mm	23μm	25μm	40	40	8



DIN875 grade 2 (mm)

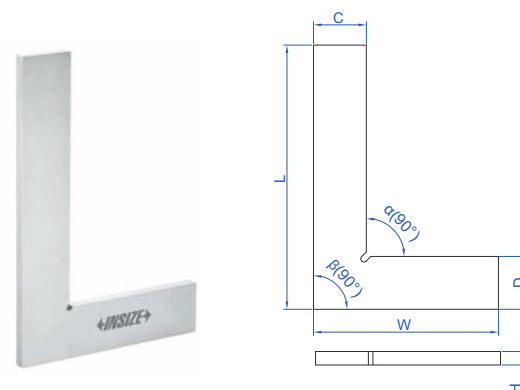
Code	Size (LxW)	Squareness		C	D	H
		Inside (α)	Outside (β)			
4791-502	50x40mm	24μm	25μm	15	15	4
4791-752	75x50mm	26μm	28μm	15	15	4
4791-1002	100x70mm	28μm	30μm	20	20	5
4791-1502	150x100mm	33μm	35μm	30	30	6
4791-2002	200x130mm	38μm	40μm	30	30	7
4791-2502	250x165mm	43μm	45μm	35	35	7
4791-3002	300x200mm	47μm	50μm	40	40	8

ATTENTION: NO ANTI-RUST
TREATMENT, NOT HARDEND

MACHINIST SQUARES (ECONOMIC TYPE)

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

Code	Size (LxW)	Squareness		C	D	H
		Inside (α)	Outside (β)			
4796-50	50x30mm	24 μ m	25 μ m	12	12	3
4796-75	75x50mm	26 μ m	28 μ m	16	16	3
4796-100	100x70mm	28 μ m	30 μ m	19	19	5
4796-125	125x80mm	30 μ m	33 μ m	22	22	5
4796-150	150x100mm	33 μ m	35 μ m	25	25	6
4796-200	200x130mm	38 μ m	40 μ m	25	25	6
4796-250	250x165mm	43 μ m	45 μ m	25	25	6
4796-300	300x200mm	47 μ m	50 μ m	30	30	6
4796-350	350x200mm	51 μ m	55 μ m	38	38	6
4796-400	400x200mm	56 μ m	60 μ m	38	38	9
4796-450	450x250mm	58 μ m	65 μ m	38	38	9
4796-500	500x300mm	69 μ m	70 μ m	38	38	9



4796-150

90° FLAT EDGE SQUARES WITH WIDE BASE

- Made of hardened stainless steel

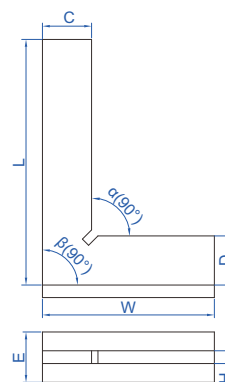
Code	Size (LxW)	Squareness		C	D	H	E
		Inside (α)	Outside (β)				
4793-50	50x40mm	6 μ m	6 μ m	15	15	4	13
4793-75	75x50mm	6 μ m	7 μ m	15	15	4	15
4793-100	100x70mm	7 μ m	7 μ m	20	20	5	20
4793-150	150x100mm	7 μ m	8 μ m	30	30	6	30
4793-200	200x130mm	8 μ m	9 μ m	30	30	7	30
4793-250	250x165mm	9 μ m	10 μ m	35	35	7	35
4793-300	300x200mm	10 μ m	11 μ m	40	40	8	40



4793-100

Code	Size (LxW)	Squareness		C	D	H	E
		Inside (α)	Outside (β)				
4793-501	50x40mm	12 μ m	13 μ m	15	15	4	13
4793-751	75x50mm	13 μ m	14 μ m	15	15	4	15
4793-1001	100x70mm	14 μ m	15 μ m	20	20	5	20
4793-1501	150x100mm	16 μ m	18 μ m	30	30	6	30
4793-2001	200x130mm	19 μ m	20 μ m	30	30	7	30
4793-2501	250x165mm	21 μ m	23 μ m	35	35	7	35
4793-3001	300x200mm	23 μ m	25 μ m	40	40	8	40

Code	Size (LxW)	Squareness		C	D	H	E
		Inside (α)	Outside (β)				
4793-502	50x40mm	24 μ m	25 μ m	15	15	4	13
4793-752	75x50mm	26 μ m	28 μ m	15	15	4	15
4793-1002	100x70mm	28 μ m	30 μ m	20	20	5	20
4793-1502	150x100mm	33 μ m	35 μ m	30	30	6	30
4793-2002	200x130mm	38 μ m	40 μ m	30	30	7	30
4793-2502	250x165mm	43 μ m	45 μ m	35	35	7	35
4793-3002	300x200mm	47 μ m	50 μ m	40	40	8	40

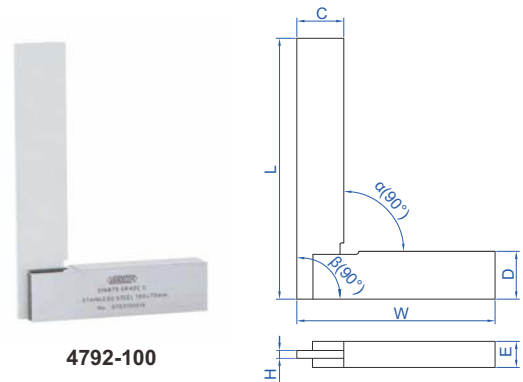


90° FLAT EDGE SQUARES WITH WIDE BASE

- DIN875 grade 0
- Made of hardened stainless steel

Code	Size (LxW)	Squareness		C	D	H	E
		Inside (α)	Outside (β)				
4792-50	50x40mm	6 μ m	6 μ m	12	12	3	10
4792-75	75x50mm	6 μ m	7 μ m	14	14	3	10
4792-100	100x70mm	7 μ m	7 μ m	18	18	3	10
4792-150	150x100mm	8 μ m	8 μ m	22	22	4	12
4792-200	200x130mm	9 μ m	9 μ m	25	25	4	12

(mm)



4792-100

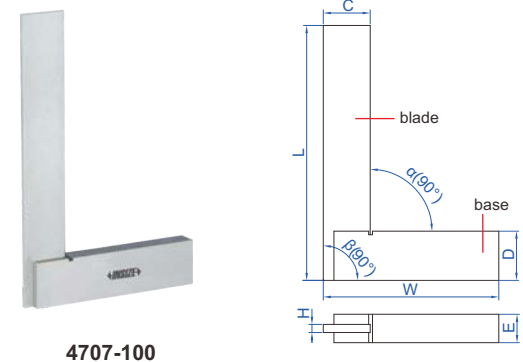
MACHINIST SQUARES WITH WIDE BASE (ECONOMIC TYPE)

ATTENTION: NO ANTI-RUST TREATMENT, NOT HARDEND

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

Code	Size (LxW)	Squareness		C	D	H	E
		Inside (α)	Outside (β)				
4707-50	50x40mm	24 μ m	25 μ m	16	12	3	9
4707-75	75x50mm	26 μ m	28 μ m	16	16	3	9
4707-100	100x70mm	28 μ m	30 μ m	19	19	3	12
4707-150	150x100mm	33 μ m	35 μ m	25	25	3	16
4707-200	200x130mm	37 μ m	40 μ m	30	32	4	16
4707-250	250x165mm	42 μ m	45 μ m	30	32	4	19
4707-300	300x200mm	47 μ m	50 μ m	32	32	4	19
4707-400	400x250mm	56 μ m	60 μ m	38	38	5	22
4707-500	500x300mm	65 μ m	70 μ m	45	50	6	25
4707-600	600x350mm	75 μ m	80 μ m	50	50	6	30
4707-750	750x400mm	90 μ m	95 μ m	55	55	6	50
4707-900	900x500mm	103 μ m	110 μ m	65	75	9	50
4707-1000	1000x550mm	113 μ m	120 μ m	65	75	9	50

(mm)



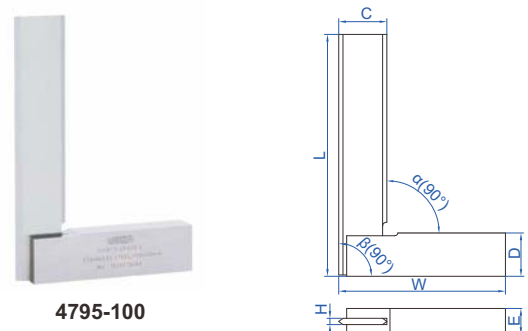
4707-100

90° BEVELED EDGE SQUARES WITH WIDE BASE

- DIN875 grade 0
- Beveled edges for inside and outside measurements
- Made of hardened stainless steel

Code	Size (LxW)	Squareness		C	D	H	E
		Inside (α)	Outside (β)				
4795-50	50x40mm	6 μ m	6 μ m	12	12	3	10
4795-75	75x50mm	6 μ m	7 μ m	14	14	3	10
4795-100	100x70mm	7 μ m	7 μ m	18	18	3	10
4795-150	150x100mm	8 μ m	8 μ m	22	22	4	12
4795-200	200x130mm	9 μ m	9 μ m	25	25	4	12

(mm)



4795-100

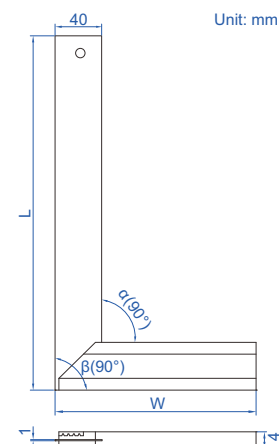
TRY SQUARE

- Graduation: 1mm
- Stainless steel blade, aluminum base

Code	Size (LxW)	Squareness	
		Inside (α)	Outside (β)
2275-300	300x170mm	0.5mm	0.5mm



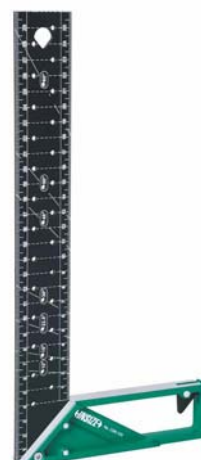
2275-300



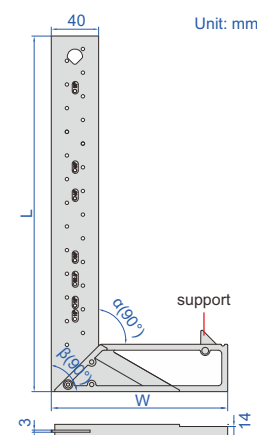
TRY SQUARE

- Graduation: 1mm
- Aluminum blade and base
- 4 milled surfaces
- Retractable metal ledge support
- Etchings and holes for beveling and framing: 10°, 15°, 22.5°, 30°, 45°, 50° and 60°
- Etchings and holes every cm for fluid pencil marking

Code	Size (LxW)	Squareness	
		Inside (α)	Outside (β)
2280-300	300x150mm	0.5mm	0.5mm

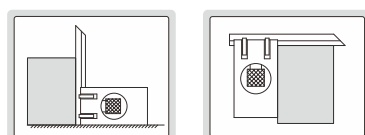


2280-300

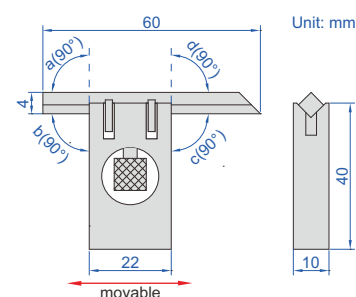


ADJUSTABLE SQUARE

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



4701-1



Code	Squareness (a, b, c, d)
4701-1	7μm

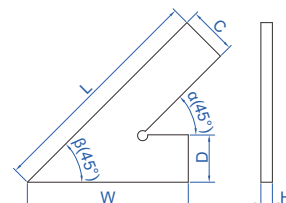
45° SQUARES

- Made of hardened stainless steel

Code	Size (LxW)	Accuracy		C	D	H
		Inside (α)	Outside (β)			
4745-1120	120x80mm	29 μ m	32 μ m	20	20	5
4745-1150	150x100mm	32 μ m	35 μ m	20	20	5
4745-1200	200x130mm	36 μ m	40 μ m	25	25	5



4745-1120



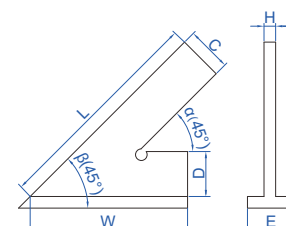
45° SQUARES WITH WIDE BASE

- Made of hardened stainless steel

Code	Size (LxW)	Accuracy		C	D	H	E
		Inside (α)	Outside (β)				
4747-120	120x80mm	29 μ m	33 μ m	20	20	5	20
4747-150	150x100mm	32 μ m	36 μ m	20	20	5	20
4747-200	200x130mm	36 μ m	41 μ m	25	25	5	25



4747-120



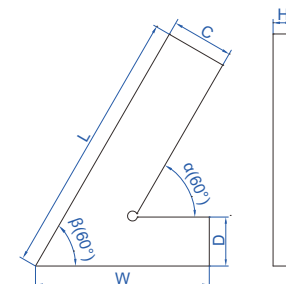
60° SQUARES

- Made of hardened stainless steel

Code	Size (LxW)	Accuracy		C	D	H
		Inside (α)	Outside (β)			
4760-1120	120x80mm	30 μ m	32 μ m	20	20	5
4760-1150	150x100mm	32 μ m	35 μ m	20	20	5
4760-1200	200x130mm	37 μ m	40 μ m	25	25	5



4760-1120



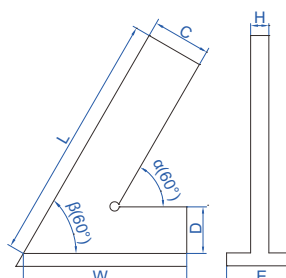
60° SQUARES WITH WIDE BASE

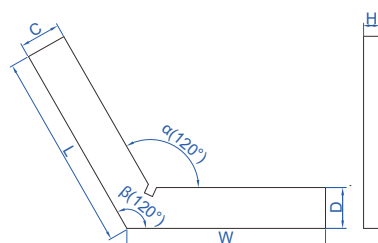
- Made of hardened stainless steel

Code	Size (LxW)	Accuracy		C	D	H	E
		Inside (α)	Outside (β)				
4762-120	120x80mm	30 μ m	33 μ m	20	20	5	20
4762-150	150x100mm	33 μ m	36 μ m	20	20	5	20
4762-200	200x130mm	37 μ m	41 μ m	25	25	5	25



4762-120





120° SQUARES

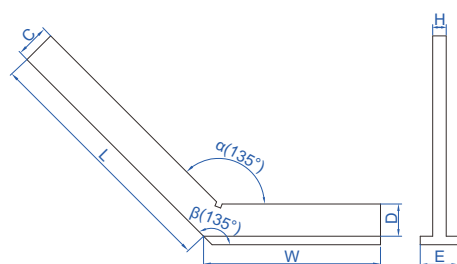
(mm)

Code	Size (LxW)	Accuracy		C	D	H
		Inside (α)	Outside (β)			
4706-150	50x50mm	24μm	25μm	15	15	5
4706-175	75x75mm	26μm	28μm	20	20	5
4706-1100	100x100mm	29μm	30μm	20	20	5
4706-1150	150x150mm	34μm	35μm	25	25	5
4706-1200	200x200mm	38μm	40μm	30	30	7



4706-1100

- Made of hardened stainless steel



135° SQUARES WITH WIDE BASE

(mm)

Code	Size (LxW)	Accuracy		C	D	H	E
		Inside (α)	Outside (β)				
4754-3120	120x80mm	31μm	33μm	20	20	5	20
4754-3150	150x100mm	34μm	36μm	20	20	5	20
4754-3200	200x130mm	39μm	41μm	30	30	7	30



4754-3120

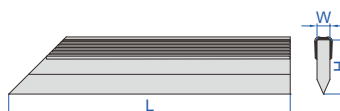
- Made of hardened stainless steel

Code	Size (L)	Straightness	W	H
4700-50	50mm	2.2μm	5mm	20mm
4700-75	75mm	2.3μm	5mm	25mm
4700-100	100mm	2.4μm	5mm	25mm
4700-125	125mm	2.5μm	6mm	30mm
4700-150	150mm	2.6μm	6mm	30mm
4700-200	200mm	2.8μm	6mm	30mm
4700-250	250mm	3.0μm	8mm	40mm
4700-300	300mm	3.2μm	8mm	40mm
4700-400	400mm	3.6μm	10mm	50mm
4700-500	500mm	4.0μm	10mm	50mm

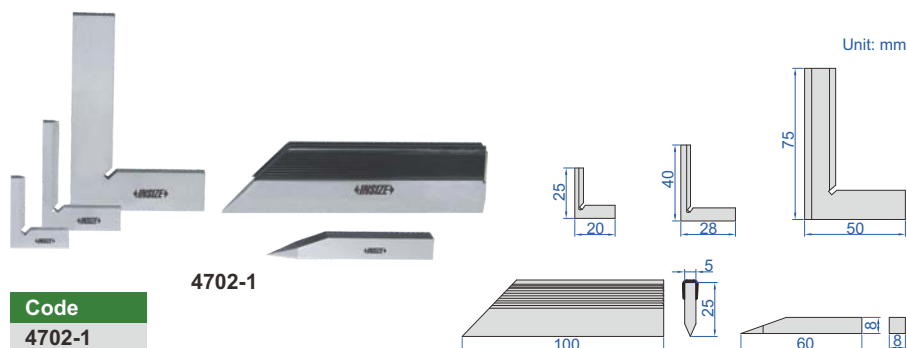
STRAIGHT EDGES



4700-100



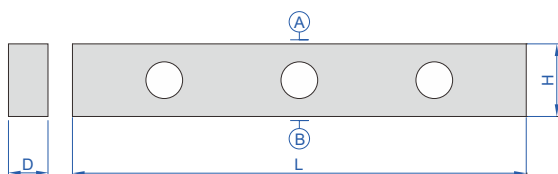
- DIN874
- Beveled edge
- Made of hardened stainless steel
- Satin chrome plating



SQUARE SET

- Includes:
 - 90° tool maker square 25x20mm DIN875 grade 00 (code **4794-025**)
 - 90° tool maker square 40x28mm DIN875 grade 00 (code **4794-040**)
 - 90° beveled edge square 75x50mm DIN875 grade 00 (code **4790-075**)
 - straight edge 100mm DIN874 (code **4700-100**)
 - scriber
- Made of hardened stainless steel

GRANITE STRAIGHT EDGES



4147-500A

Code	Length (L)	Flatness of A and B	Parallelism between A and B	D	H
4147-500A	500mm	2.1µm	3.2µm	50mm	80mm
4147-1000A	1000mm	3.0µm	4.5µm	60mm	120mm

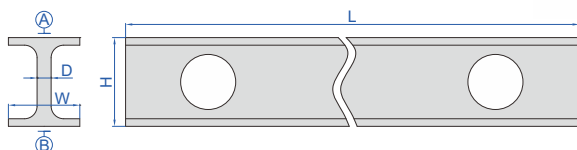
MAGNALIUM STRAIGHT EDGES

LIGHT WEIGHT

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



4180-1500



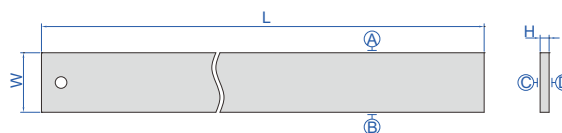
Code	Length (L)	Flatness of A and B	Parallelism between A and B	H	W	D	Weight
4180-500	500mm	3µm	4µm	60mm	30mm	5mm	1kg
4180-1000	1000mm	5µm	8µm	60mm	30mm	5mm	1.5kg
4180-1500	1500mm	15µm	22µm	100mm	40mm	7mm	4.5kg
4180-2000	2000mm	18µm	27µm	100mm	40mm	7mm	6kg
4180-2500	2500mm	22µm	33µm	100mm	40mm	7mm	7.5kg
4180-3000	3000mm	48µm	72µm	150mm	80mm	8mm	21kg

PRECISION STRAIGHT EDGES

15

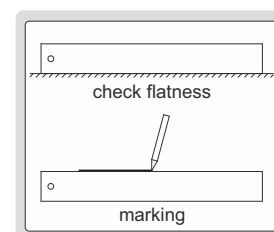


7117-300



- Check flatness and for marking
- Made of tool steel

Code	Range (L)	Flatness of A and B	Flatness of C and D	W	H
7117-300	305mm	0.005mm	0.05mm	41mm	6.3mm
7117-600	610mm	0.006mm	0.06mm	51mm	7.9mm
7117-900	914mm	0.007mm	0.06mm	64mm	9.5mm



PRECISION STRAIGHT EDGES WITH BEVELED EDGE

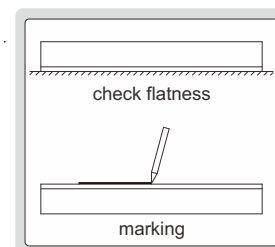


7118-300



- Check flatness and for marking
- Made of tool steel

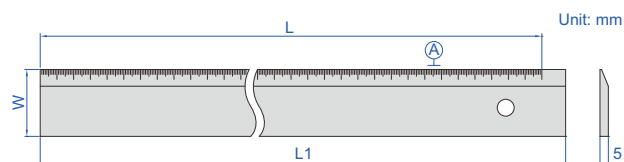
Code	Range (L)	Flatness of A and B	Flatness of C and D	W	H
7118-300	305mm	0.005mm	0.05mm	41mm	6.3mm
7118-600	610mm	0.006mm	0.06mm	51mm	7.9mm
7118-900	914mm	0.007mm	0.06mm	64mm	9.5mm



STRAIGHT EDGES

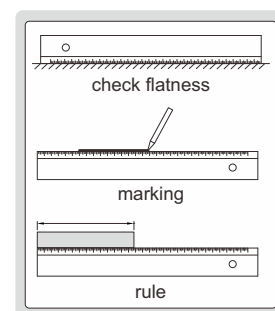


7111-300A



- Check flatness and straightness, as well as for marking
- Graduation on the beveled edge
- Made of hardened tool steel
- Chrome plated
- Graduation: 1mm

Code	Range (L)	Straightness of A	L1	W
7111-300A	300mm	0.02mm	310mm	40mm
7111-500A	500mm	0.03mm	510mm	40mm
7111-1000A	1000mm	0.04mm	1010mm	50mm



OPTICAL FLATS

- Check flatness
- Single working face, the arrow indicates the working face



4191-45B



Code	b	ØD	Flatness
4191-45A	12mm	45mm	0.03µm
4191-60A	15mm	60mm	0.03µm

Code	b	ØD	Flatness
4191-45B	12mm	45mm	0.1µm
4191-60B	15mm	60mm	0.1µm

STRAIGHTNESS/FLATNESS GAGE



GRANITE HOLDER CAN BE CUSTOMIZED
ACCORDING TO WORKPIECES

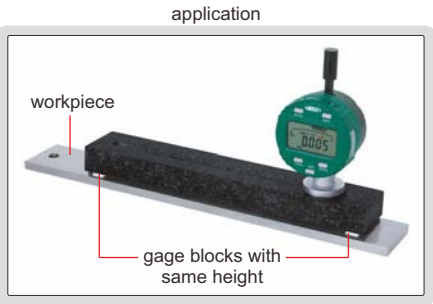
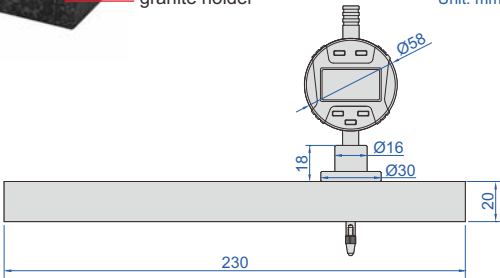
DATA
OUTPUT

- Optional accessory: data output cable
(code 7315-50M need receiver page 5,
7302-40M page 13)



2144-200

Unit: mm



Code	Range	Digital indicator resolution	Straightness measurement accuracy	Parallelism of top and bottom surfaces of granite holder	Flatness of top and bottom surfaces of granite holder
2144-200	200mm	0.001mm/0.00005"	3µm	2µm	1.5µm

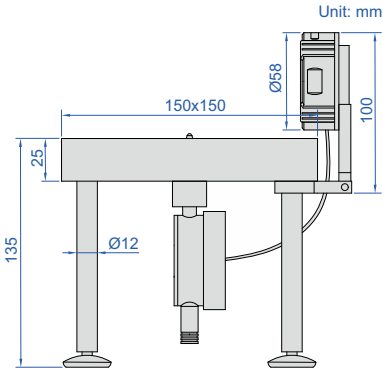
FLATNESS MEASUREMENT STAND

DATA
OUTPUT

GRANITE PLATE CAN BE CUSTOMIZED
ACCORDING TO WORKPIECES



6852-150

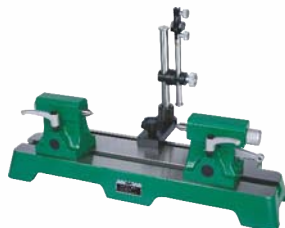


- Optional accessory: data output cable
(code 7315-50M need receiver page 5,
7302-40M page 13, 7305-40M page 9)

Code	Digital indicator resolution	Flatness measurement accuracy	Flatness of granite plate
6852-150	0.001mm/0.00005"	2µm	2µm



Concentricity Gages
Page 394-398

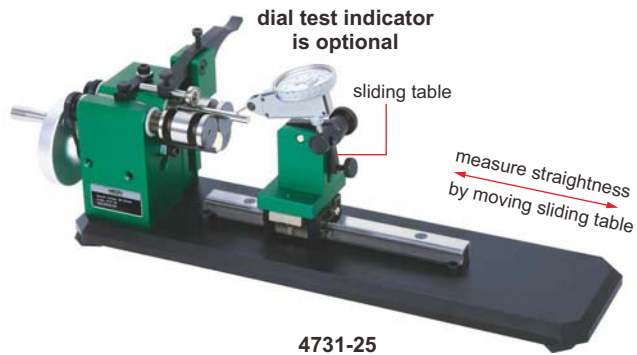


Bench Centers
Page 398-404



Shank Runout Testers
Page 405

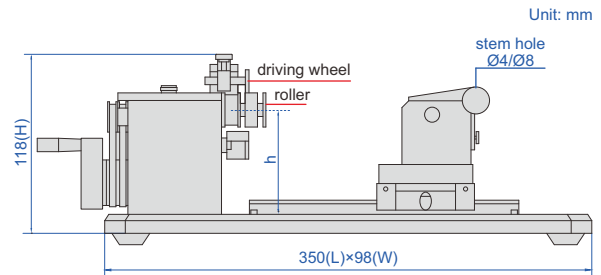
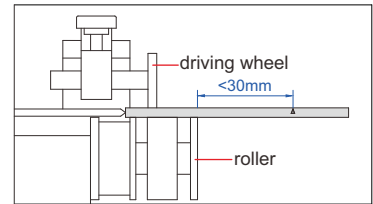
CONCENTRICITY GAGE WITH STRAIGHTNESS MEASUREMENT



- Maximum moving range of sliding table: 120mm
- Optional accessory: dial test indicator

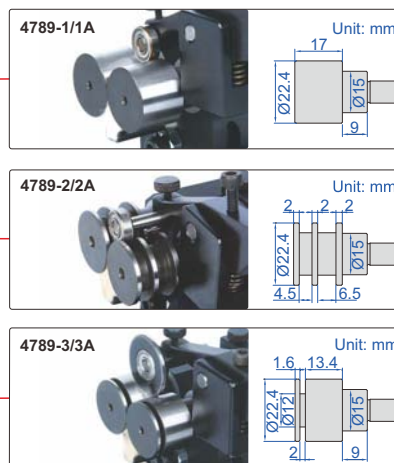


to ensure the accuracy 2μm, the distance between measuring point and roller should be <30mm

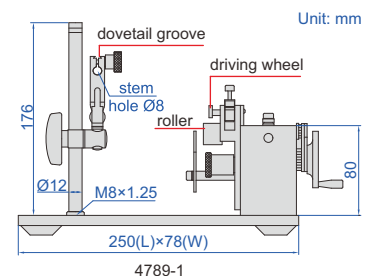
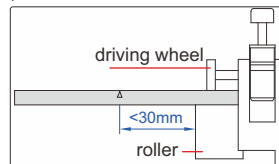


Code	Diameter range	Workpiece length	Roller concentricity accuracy	Straightness measurement accuracy	Center height (h)	L×W×H	Weight
4731-25	Ø1-25mm	15-80mm	2μm	0.01mm	70mm	350×98×118mm	5.3kg

CONCENTRICITY GAGES



to ensure the accuracy 2μm, the distance between measuring point and roller should be <30mm

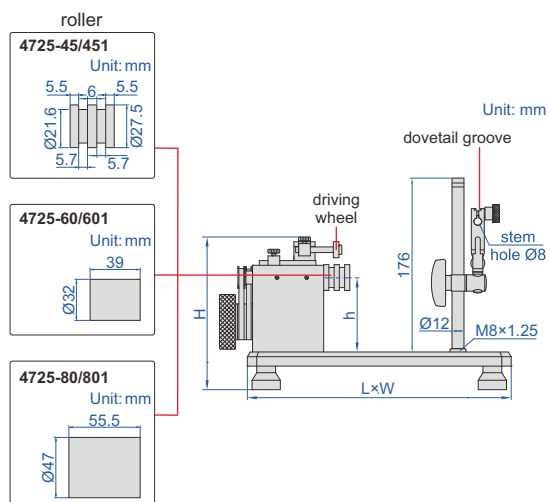
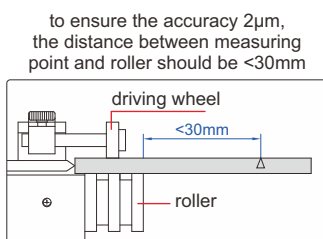
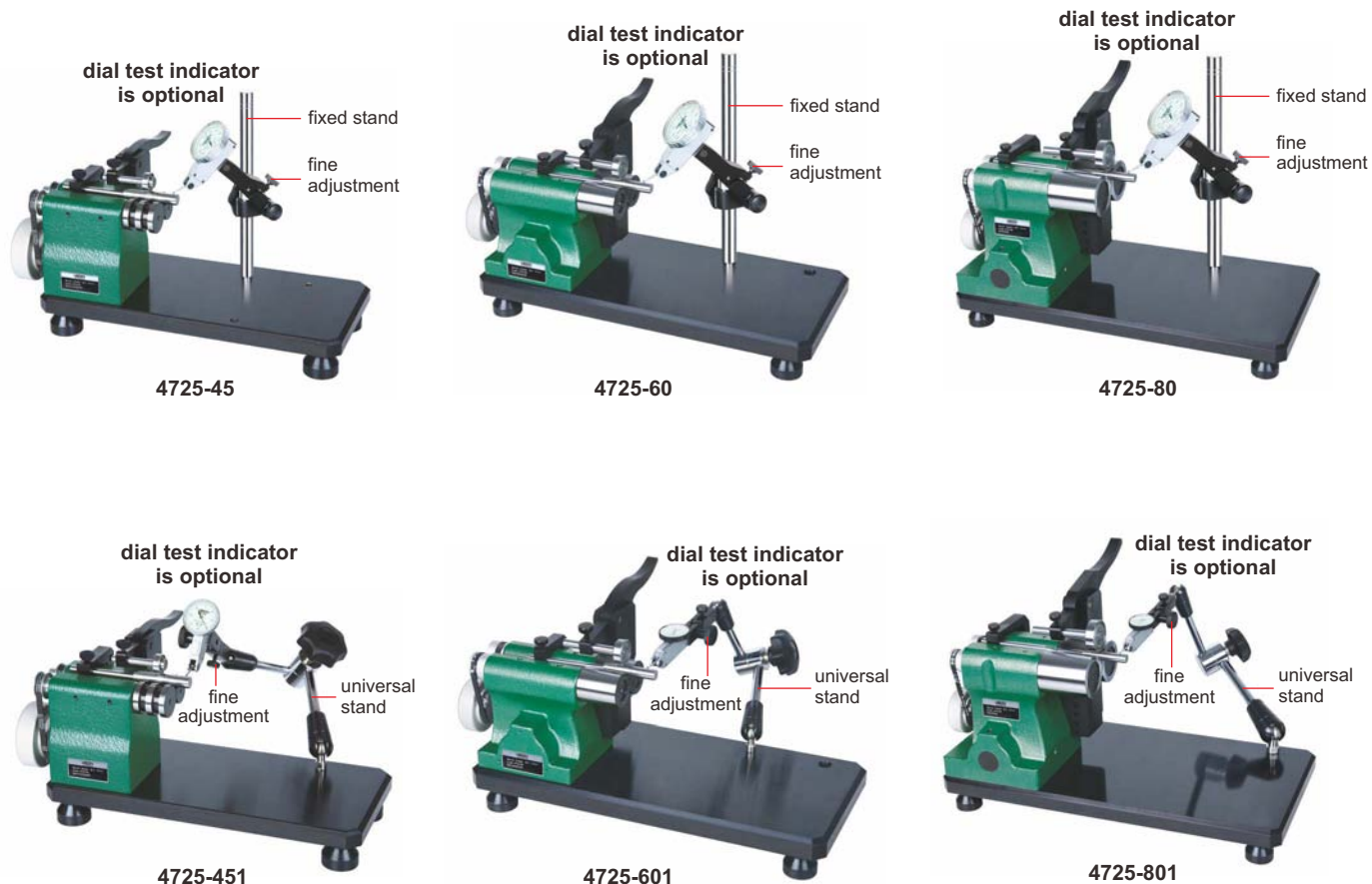


- Accuracy 2μm
- Optional accessory: dial test indicator

Code	Applicable diameter	Remark
4789-1	Ø3.5mm-25mm	fixed stand, high accuracy, inconvenient operation
4789-2	Ø1mm-25mm	fixed stand, high accuracy, inconvenient operation
4789-3	Ø1mm-25mm	fixed stand, high accuracy, inconvenient operation
4789-1A	Ø3.5mm-25mm	universal stand, low accuracy, convenient operation
4789-2A	Ø1mm-25mm	universal stand, low accuracy, convenient operation
4789-3A	Ø1mm-25mm	universal stand, low accuracy, convenient operation

HIGH STABILITY,
LONG WORKING LIFE

CONCENTRICITY GAGES

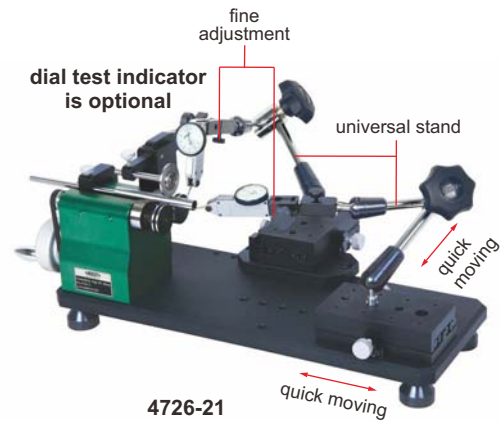
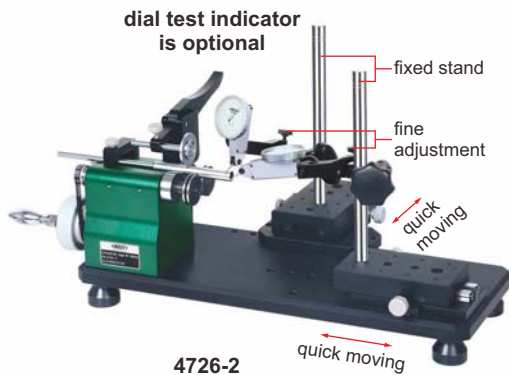


- With ball bearing, high stability, long working life
- Accuracy: 2μm
- Optional accessory: dial test indicator

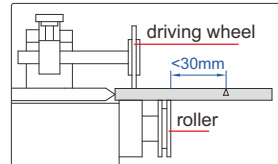
Code	Diameter range	Center height (h)	L×W×H	Weight	Remark
4725-45	Ø3-45mm	80mm	280×130×170mm	6kg	fixed stand, high accuracy, inconvenient operation
4725-60	Ø8-60mm	90mm	350×160×190mm	15.6kg	fixed stand, high accuracy, inconvenient operation
4725-80	Ø8-80mm	130mm	400×200×250mm	25kg	fixed stand, high accuracy, inconvenient operation
4725-451	Ø3-45mm	80mm	280×130×170mm	6kg	universal stand, low accuracy, convenient operation
4725-601	Ø8-60mm	90mm	350×160×190mm	15.6kg	universal stand, low accuracy, convenient operation
4725-801	Ø8-80mm	130mm	400×200×250mm	25kg	universal stand, low accuracy, convenient operation

CONCENTRICITY GAGES

QUICK-POSITIONING, SUITABLE FOR MASS MEASUREMENT

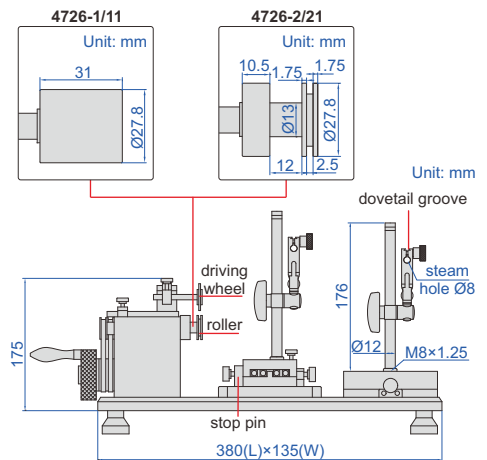


to ensure the accuracy $2\mu\text{m}$,
the distance between measuring
point and roller should be $<30\text{mm}$



- With ball bearing, high stability, long working life
- Accuracy: 2µm
- Optional accessory: dial test indicator

Code	Applicable diameter	Remark
4726-1	Ø4-40mm	fixed stand, high accuracy, inconvenient operation
4726-2	Ø2-40mm	fixed stand, high accuracy, inconvenient operation
4726-11	Ø4-40mm	universal stand, low accuracy, convenient operation
4726-21	Ø2-40mm	universal stand, low accuracy, convenient operation

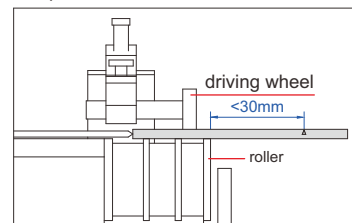


QUICK POSITIONING CONCENTRICITY GAGE

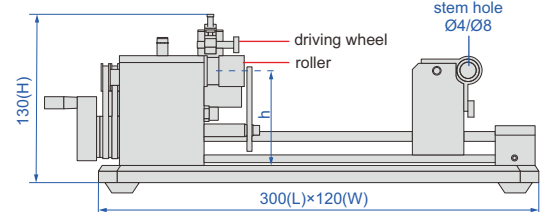
**QUICK-POSITIONING, SUITABLE
FOR MASS MEASUREMENT**



to ensure the accuracy $2\mu\text{m}$,
the distance between measuring
point and roller should be $<30\text{mm}$



Unit: mm

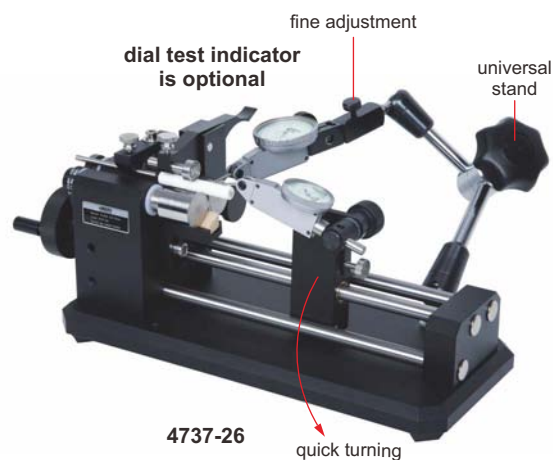
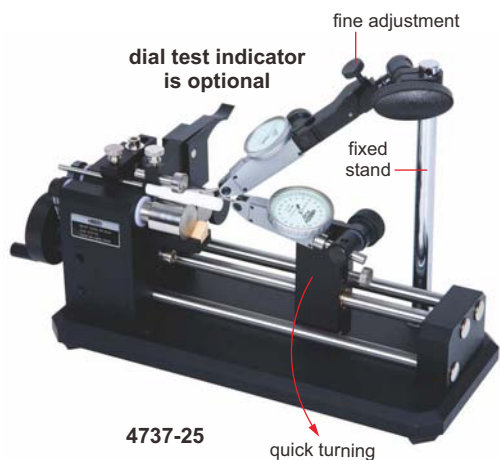


- Quick positioning, suitable for mass measurement
- Optional accessory: dial test indicators

Code	Diameter range	Workpiece length	Accuracy	Center height (h)	L×W×H	Weight
4734-25	Ø3-25mm	15-100mm	2μm	70mm	300×120×130mm	3kg

QUICK-POSITIONING, SUITABLE
FOR MASS MEASUREMENT

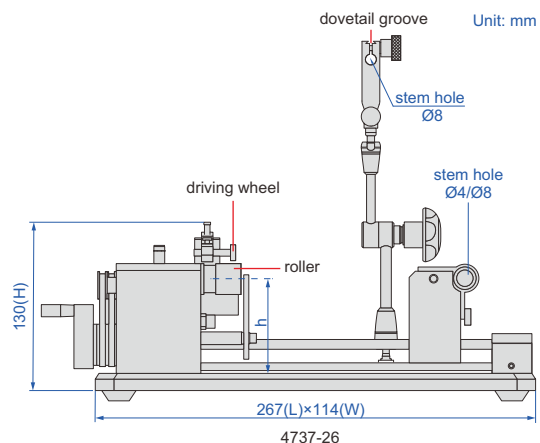
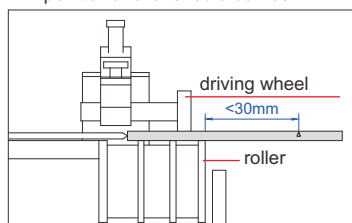
QUICK POSITIONING CONCENTRICITY GAGES



standard rod
(included)



to ensure the accuracy $2\mu\text{m}$,
the distance between measuring
point and roller should be $<30\text{mm}$



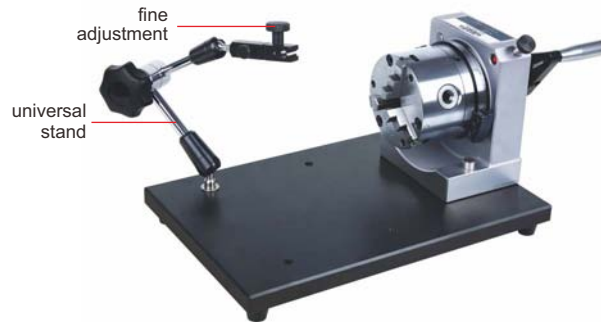
- Quick positioning, suitable for mass measurement
- Supplied with standard rod to verify accuracy
- Optional accessory: dial test indicators

Code	Diameter range	Workpiece length	Accuracy	Center height (h)	L×W×H	Weight	Remark
4737-25	Ø3-25mm	15-100mm	$2\mu\text{m}$	70mm	267×114×130mm	3kg	fixed stand, high accuracy, inconvenient operation
4737-26	Ø3-25mm	15-100mm	$2\mu\text{m}$	70mm	267×114×130mm	3kg	universal stand, low accuracy, convenient operation

CONCENTRICITY GAGES



4786-1



4786-2

- Accuracy: 3μm
- Ø50mm setting ring and Ø55mm calibration cylinder are included
- Optional accessory: dial test indicator

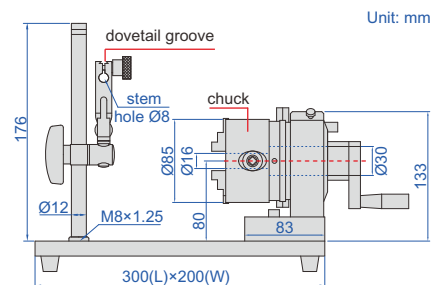
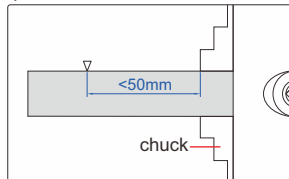
for cylinder



for tube



to ensure the accuracy 3μm, the distance between measuring point and roller should be <50mm



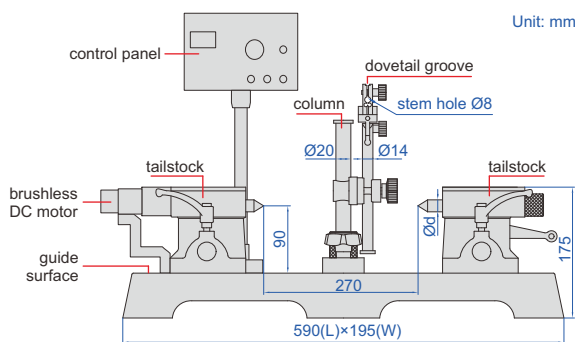
Unit: mm

Code	Applicable inside diameter	Applicable outside diameter	Remark
4786-1	Ø24-64mm	Ø2-70mm	fixed stand, high accuracy, inconvenient operation
4786-2	Ø24-64mm	Ø2-70mm	universal stand, low accuracy, convenient operation

MOTORIZED BENCH CENTER



VIDEO



Unit: mm



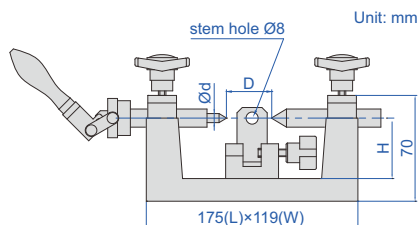
4735-270

- Moveable column
- Hardened cast-iron guide surface
- Motorized measurement is suitable for mass production inspection
- Power supply: AC220V/10A/(50/60)Hz
- Optional accessory: dial test indicators

Code	Parallelism*	Runout accuracy	Center height	Distance between two centers	Diameter of center (Ød)	Taper of center	Weight	Load
4735-270	0.010mm	2μm	90mm	270mm	18mm	MT2	40kg	25kg

*Parallelism of two centers to the guide surface

MINI BENCH CENTER



4721-75A

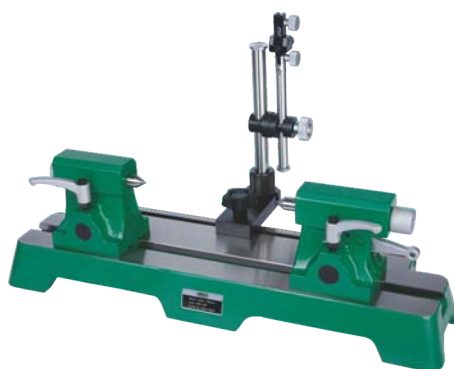
Code	Runout accuracy	Center height (H)	Distance between two centers (D)	Diameter of center (Ød)	Taper of center	Weight	Load
4721-75A	2µm	40mm	35-100mm	6mm	MT1	4.5kg	4kg

BENCH CENTERS

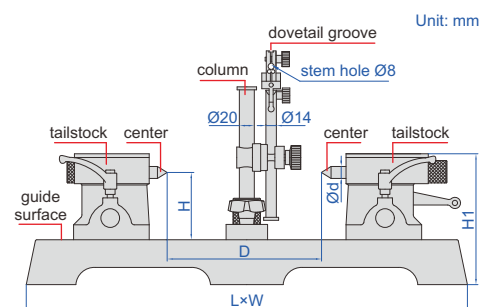
umbrella centers
(optional)



rotary centers
(optional)



4788-300



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

High accuracy

(mm)

Code	Parallelism*	Runout accuracy	Center height (H)	Distance between two centers (D)	L	W	H1	Diameter of center (Ød)	Taper of center	Weight	Load
4788-300	0.010mm	2µm	90	300	590	192	175	18.0	MT2	34kg	25kg
4788-400	0.010mm	2µm	130	400	770	206	241	24.1	MT3	66kg	60kg
4788-600	0.010mm	2µm	130	600	930	220	250	24.1	MT3	90kg	60kg
4788-600H2	0.010mm	2µm	200	600	930	220	325	24.1	MT3	105kg	60kg
4788-1000	0.010mm	3µm	130	1000	1330	220	262	24.1	MT3	112kg	60kg
4788-1000H2	0.010mm	3µm	200	1000	1330	220	337	24.1	MT3	125kg	85kg
4788-1000H3	0.010mm	3µm	300	1000	1330	220	442	31.6	MT4	165kg	85kg

Standard accuracy

(mm)

Code	Parallelism*	Runout accuracy	Center height (H)	Distance between two centers (D)	L	W	H1	Diameter of center (Ød)	Taper of center	Weight	Load
4788-D2	0.010mm	3µm	90	200	490	180	175	20.0	MT2	27kg	25kg
4788-D3	0.010mm	3µm	90	300	590	195	175	20.0	MT2	36kg	25kg
4788-D4	0.012mm	3µm	130	400	730	205	241	28.0	MT3	68kg	60kg
4788-D6	0.015mm	3µm	130	600	930	220	250	28.0	MT3	91kg	60kg
4788-D8	0.015mm	3µm	130	800	1130	220	250	28.0	MT3	99kg	60kg
4788-D10	0.015mm	3µm	130	1000	1330	220	262	28.0	MT3	116kg	60kg

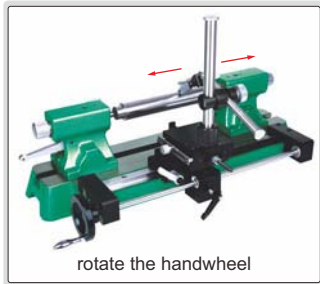
* Parallelism of two centers to the guide surface

BENCH CENTER WITH STRAIGHTNESS MEASUREMENT



VIDEO

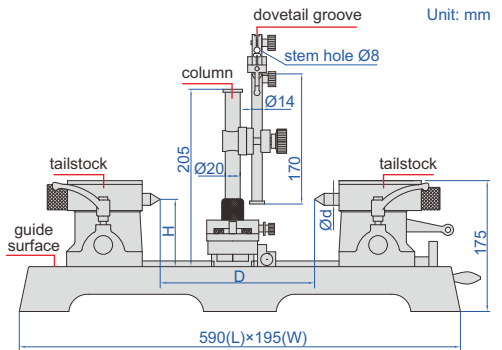
straightness measurement



rotate the handwheel



4723-300



Unit: mm

- Hardened cast-iron guide surface

Code	Parallelism*	Runout accuracy	Accuracy of straightness measurement	Center height (H)	Distance between two centers (D)	Diameter of center (Ød)	Taper of center	Weight	Load
4723-300	4µm	2µm	0.02mm	90mm	300mm	18mm	MT2	38kg	25kg

* Parallelism of two centers to the guide surface

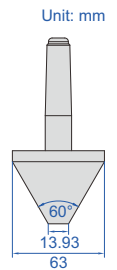
BULL NOSE CENTERS

- Supplied in pair
- Suitable for 4723 and 4788 series bench centers

application



6391-MT2



Unit: mm

Code	Taper of handle
6391-MT2	MT2
6391-MT3	MT3

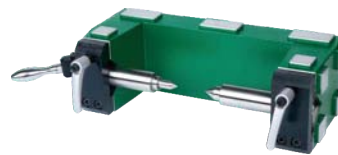
VERTICAL AND HORIZONTAL BENCH CENTER



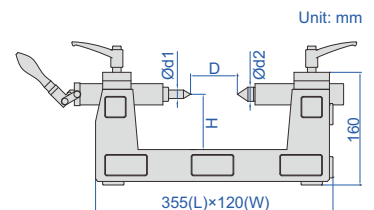
vertical use



horizontal use



side use

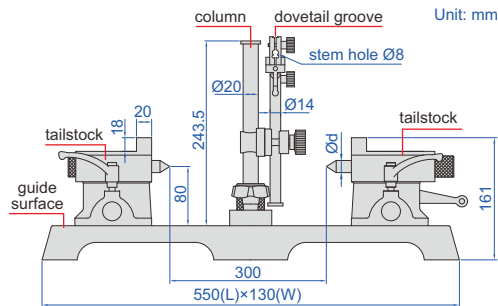


Unit: mm

- For vertical, side and horizontal use

Code	Runout accuracy	Center height (H)	Distance between two centers (D)	Diameter of center (Ød1/Ød2)	Weight	Load
4722-200	2µm	80mm	200mm	16mm/20.2mm	22kg	25kg

BENCH CENTER (BASIC TYPE)



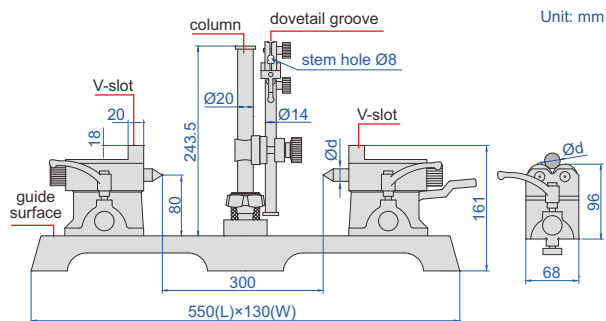
4782-300

- Hardened cast-iron guide surface
- Movable column
- V-slot for cylinder Ø4~Ø22mm

Code	Parallelism*	Runout accuracy	Center height	Distance between two centers	Diameter of center (Ød)	Load
4782-300	0.01mm	2µm	80mm	300mm	Ø16mm	25kg

*Parallelism of two centers to the guide surface

BENCH CENTER WITH ROLLER TAILSTOCKS



4720-300

roller tailstocks (included)

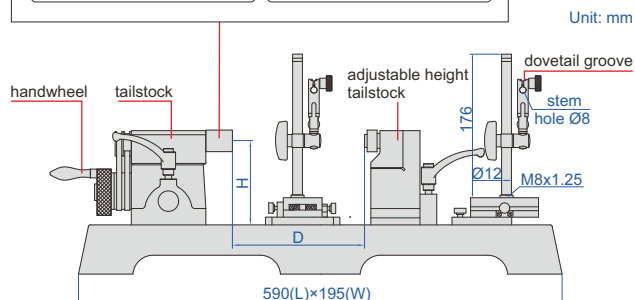
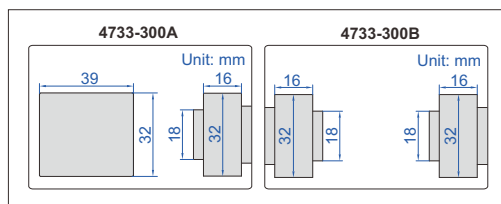


- Hardened cast-iron guide surface
- Supplied with V-slot/center tailstocks and roller tailstocks
- V-slot for cylinder Ø4~22mm
- Roller for cylinder Ø5~100mm

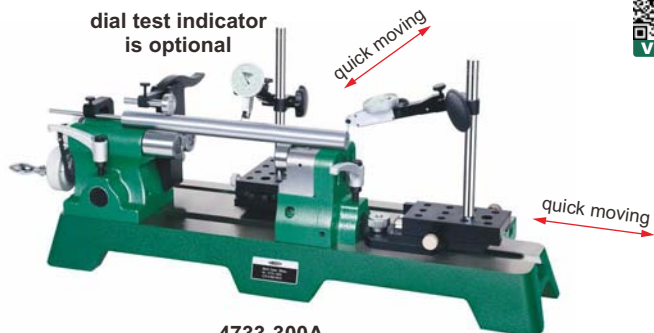
Code	Parallelism*	Runout accuracy	Center height	Distance between two centers	Diameter of center (Ød)	Taper of center	Load
4720-300	0.01mm	2µm	80mm	300mm	16mm	MT1	25kg (40kg for roller tailstocks)

*Parallelism of two centers to the guide surface

BENCH CENTERS



Unit: mm



4733-300A

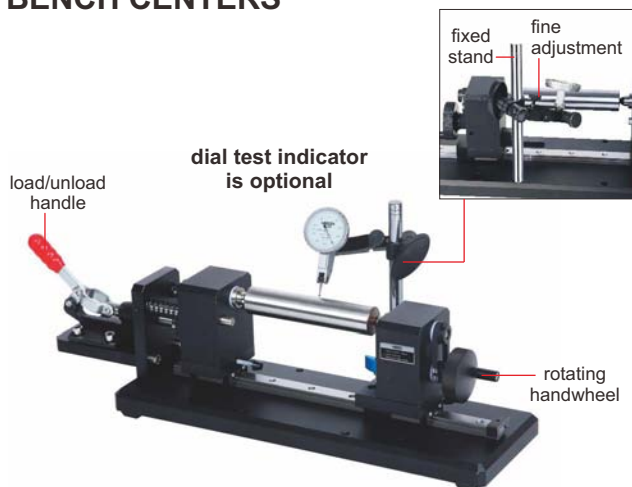
- Hardened cast-iron guide surface
- Quick moving is suitable for mass production inspection
- Adjustable height tailstock: 0-15mm, suitable for inspecting workpieces with different diameters
- Optional accessory: dial test indicator



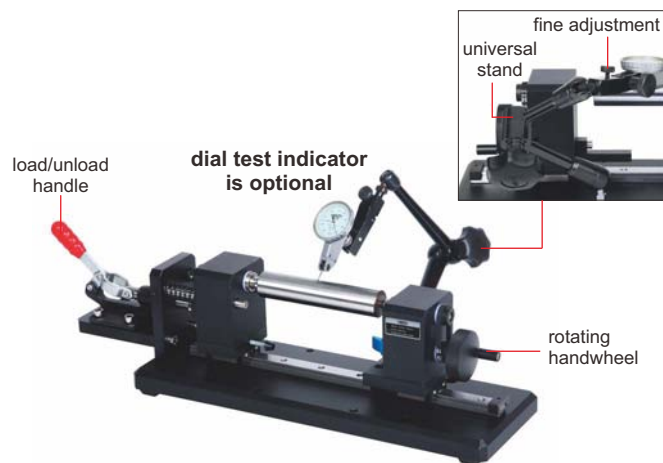
VIDEO

Code	Runout accuracy	Center height (H)	Distance between two centers (D)	Applicable diameter	Adjustable height	Remarks
4733-300A	2μm	90mm	300mm	Ø8-60mm	0-15mm	with handwheel
4733-300B	2μm	90mm	300mm	Ø8-60mm	0-15mm	without handwheel

BENCH CENTERS



4739-150

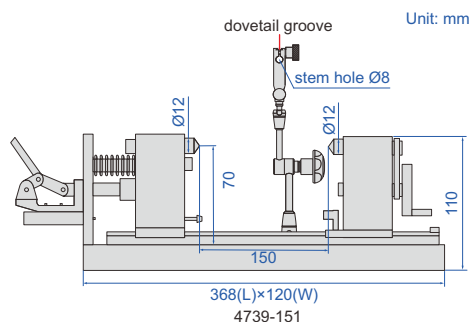


4739-151



POPULAR MODEL

standard rod (included)

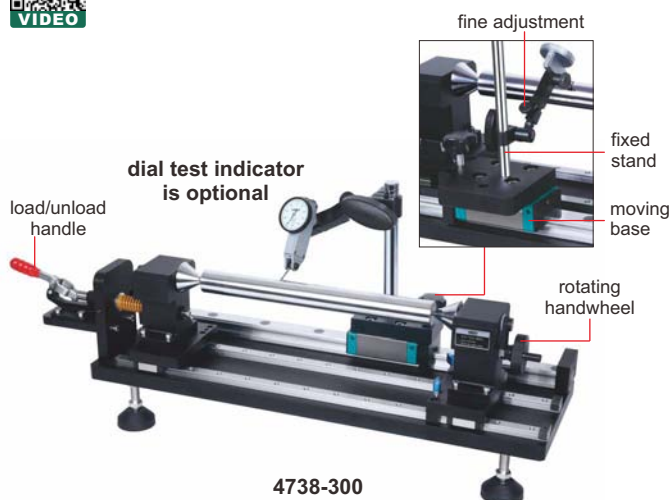


Unit: mm

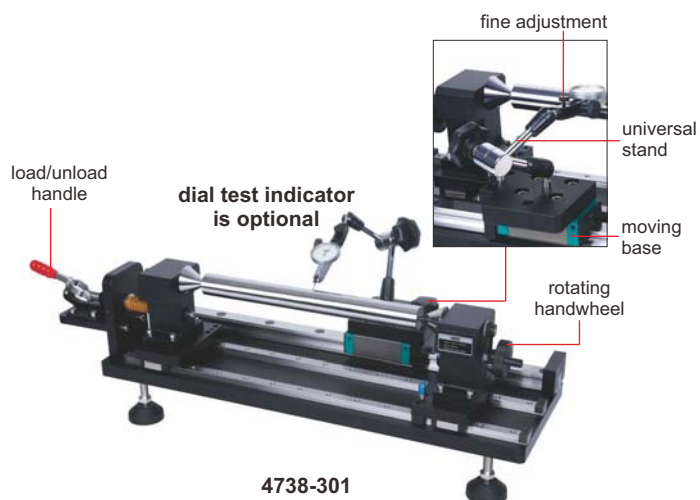
- Quick positioning, suitable for mass measurement
- Suitable for cylinders with outside diameter Ø3-140mm or inside diameter Ø1-12mm
- Supplied with standard rod to verify accuracy
- Optional accessory: dial test indicators

Code	Center height	Distance between two centers	Runout accuracy	Weight	Load	Remark
4739-150	70mm	150mm	2μm	6.5kg	15kg	fixed stand, high accuracy, inconvenient operation
4739-151	70mm	150mm	2μm	6.5kg	15kg	universal stand, low accuracy, convenient operation

BENCH CENTERS



4738-300

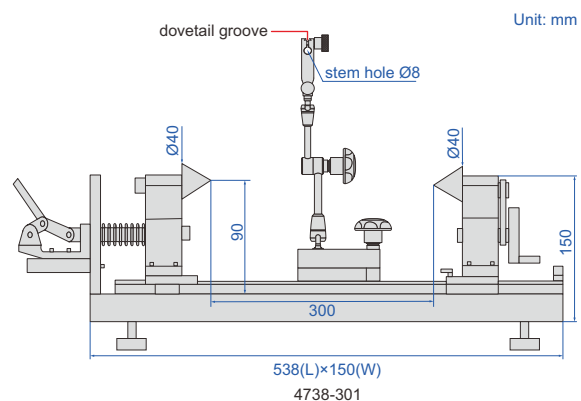


4738-301

dual base (optional)



standard rod (included)



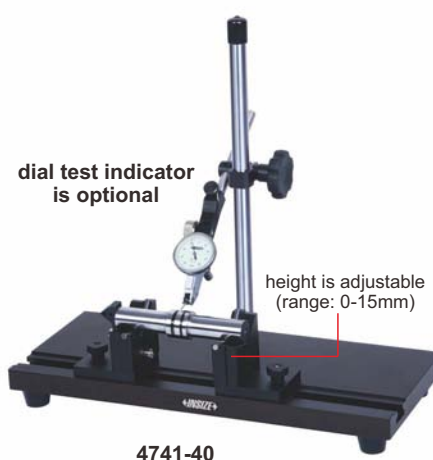
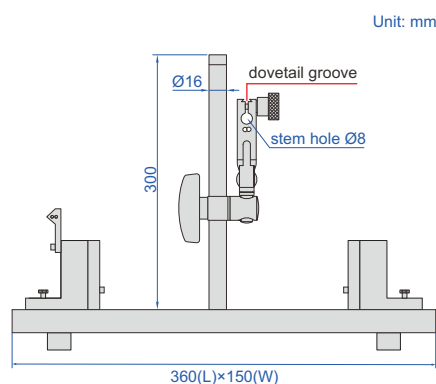
- Quick positioning, suitable for mass measurement
- Suitable for cylinders with outside diameter Ø3-180mm or inside diameter Ø1-40mm
- Supplied with standard rod to verify accuracy
- Optional accessory: dial test indicators

Code	Center height	Distance between two centers	Runout accuracy	Weight	Load	Remark
4738-300	90mm	300mm	2μm	15kg	20kg	fixed stand, high accuracy, inconvenient operation
4738-301	90mm	300mm	2μm	15kg	20kg	universal stand, low accuracy, convenient operation



BENCH CENTER

- Quick positioning, suitable for mass measurement
- Optional accessory: dial test indicators

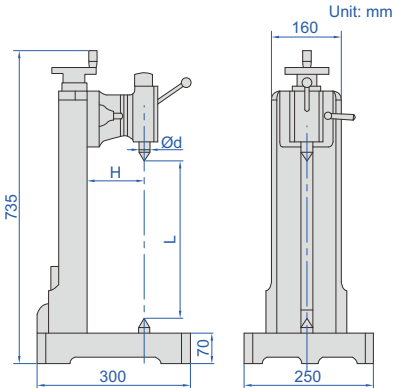
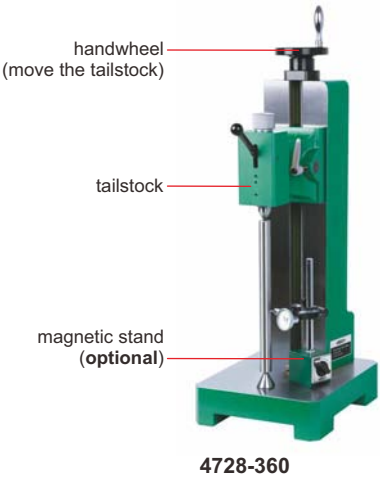


4741-40

Code	Diameter range	Workpiece length	Accuracy	Weight
4741-40	Ø3-40mm	15-300mm	2μm	3.8kg

VERTICAL BENCH CENTER

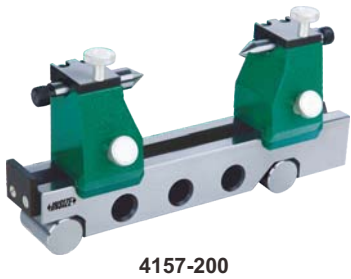
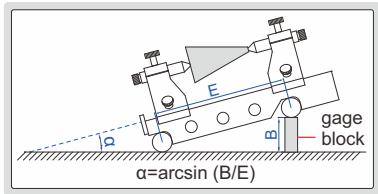
- Distance between two centers (L): 360mm
- Hardened cast-iron guide surface
- Use handwheel to move the tailstock
- Optional accessory: magnetic stands, dial test indicator



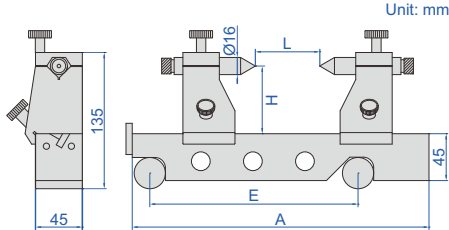
Code	Parallelism*	Runout accuracy	Center height (H)	Diameter of center (Ød)	Taper of center	Weight	Load
4728-360	0.01mm	2µm	130mm	24.1mm	MT3	85kg	80kg

* Parallelism of two centers to the guide surface

TAPER INSPECTION INSTRUMENTS



CAN BE CUSTOMIZED



- Check the taper angle of taper bar/taper plug gages /Morse taper/ISO taper etc. The run out can be checked as well

Code	Center height (H)	Center distance (L)	Sine bar accuracy (when α=30°)	E	A
4157-200	65mm	200mm	±5 seconds	200mm	285mm
4157-300	65mm	300mm	±8 seconds	300mm	385mm

MAGNETIC SQUARE WITH V GROOVE

REFER TO PAGE 459 FOR DETAILS



6539-100

REFER TO PAGE
452-458 FOR DETAILS

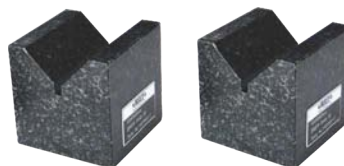
V-BLOCKS



6896-11



6887-3



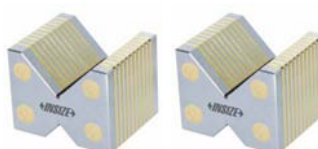
6897-1



6890-702



6888-1



6878-1



6891-1

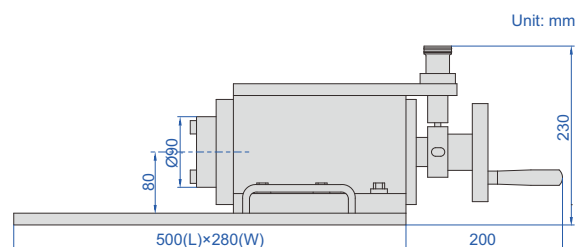


VIDEO

SHANK RUNOUT TESTERS



4771-30



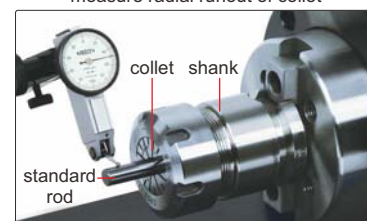
Unit: mm

- Measure the radial runout of shanks, collets and cutting tools
- Optional accessory: dial test indicator, magnetic stand

measure radial runout of shank



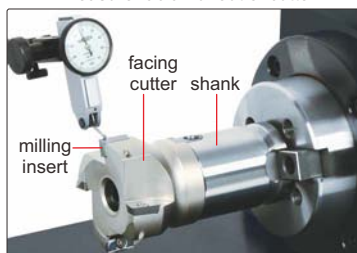
measure radial runout of collet



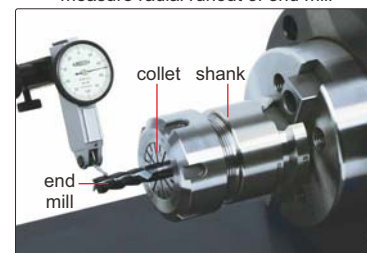
standard shank
(included)



measure radial runout of cutter



measure radial runout of end mill



Code	Taper	Accuracy
4771-30	BT30	1µm
4771-40	BT40	1µm
4771-50	BT50	1µm



Feeler Gages
Page 409-412



Pitch Gages
Page 413-414



Gear Tooth Pitch Gages
Page 414



Center Gages
Page 414



Thread Gages
Page 415



Angle Gages
Page 415



Radius Gages
Page 416



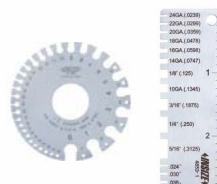
Drill Gages
Page 417



Angle Gages
Page 417



Wire Gages
Page 418



Thickness Gages
Page 418-419



Taper Slot Gages
Page 419-420



Taper Gages
Page 420



Taper Bore Gages
Page 421



Welding Gages
Page 421-422



Fillet Welding Gages
Page 422-423/426



Welding Gages
Page 423-426



Pipe Welding Gages
Page 427



Inside/Outside Calipers
Page 429



Dividers
Page 430



Length Tapes
Page 430



Measuring Tapes
Page 431-432



Long Measuring Tapes
Page 433



Measuring Wheels
Page 433



Digital Measuring Wheels
Page 434



Steel Rules
Page 434-436



Combination Squares
Page 437-438



Plastic Angle Squares
Page 439



T-bevels
Page 439



Marking Gages
Page 439-440



Center Marking Gages
Page 440



Locators
Page 440



Scribing Calipers
Page 441



Height Scribes
Page 442



Scribers
Page 442



Precision Screwdriver Sets
Page 442



LED Flashlights
Page 442



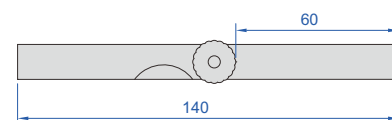
Measuring Tool Sets
Page 443-447

FEELER GAGE



4601-25

Unit: mm



- Made of hardened alloy steel
- Meet DIN2275/grade TC1
- Accuracy: $\pm(3+T/80) \mu\text{m}$,
'T' is the thickness of leaves in μm

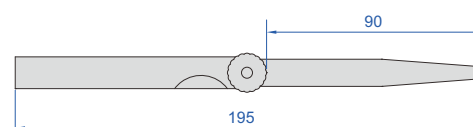
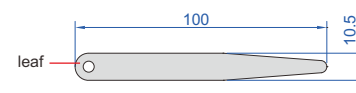
Code	Range	Thickness of leaves included (mm)	Quantity of leaves
4601-25	0.04-1.00mm	0.04, 0.05, 0.06, 0.07, 0.08, 0.09, 0.10, 0.15, 0.20, 0.25, 0.30, 0.35, 0.40, 0.45, 0.50, 0.55, 0.60, 0.65, 0.70, 0.75, 0.80, 0.85, 0.90, 0.95, 1.00	25

FEELER GAGES



4602-20

Unit: mm



- Made of hardened alloy steel
- Meet DIN2275/grade TC1
- Accuracy: $\pm(3+T/80) \mu\text{m}$,
'T' is the thickness of leaves in μm

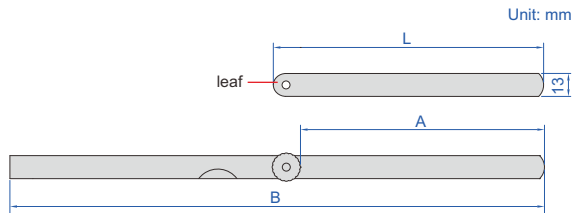
Code	Range	Thickness of leaves included (mm)	Quantity of leaves
4602-13A	0.03-0.50mm	0.03, 0.04, 0.05, 0.06, 0.07, 0.08, 0.09, 0.10, 0.15, 0.20, 0.30, 0.40, 0.50	13
4602-13	0.05-1.00mm	0.05, 0.10, 0.15, 0.20, 0.25, 0.30, 0.40, 0.50, 0.60, 0.70, 0.80, 0.90, 1.00	13
4602-17	0.02-1.00mm	0.02, 0.03, 0.04, 0.05, 0.06, 0.07, 0.08, 0.09, 0.10, 0.15, 0.20, 0.25, 0.30, 0.40, 0.50, 0.75, 1.00	17
4602-20	0.05-1.00mm	0.05, 0.10, 0.15, 0.20, 0.25, 0.30, 0.35, 0.40, 0.45, 0.50, 0.55, 0.60, 0.65, 0.70, 0.75, 0.80, 0.85, 0.90, 0.95, 1.00	20
4602-28	0.05-1.00mm	0.05, 0.06, 0.07, 0.08, 0.09, 0.10, 0.11, 0.12, 0.13, 0.14, 0.15, 0.20, 0.25, 0.30, 0.35, 0.40, 0.45, 0.50, 0.55, 0.60, 0.65, 0.70, 0.75, 0.80, 0.85, 0.90, 0.95, 1.00	28
4602-32	0.03-1.00mm	0.03, 0.04, 0.05, 0.06, 0.07, 0.08, 0.09, 0.10, 0.13, 0.15, 0.18, 0.20, 0.23, 0.25, 0.28, 0.30, 0.33, 0.35, 0.38, 0.40, 0.45, 0.50, 0.55, 0.60, 0.63, 0.65, 0.70, 0.75, 0.80, 0.85, 0.90, 1.00	32

LONG FEELER GAGES



4605-20

- Made of hardened alloy steel
- Meet DIN2275/grade TC1
- Accuracy: $\pm(3+T/80) \mu\text{m}$,
'T' is the thickness of leaves in μm



Code	Range	Thickness of leaves included (mm)	Quantity of leaves	L	A	B
4605-13	0.05-1.00mm	0.05, 0.10, 0.15, 0.20, 0.25, 0.30, 0.40, 0.50, 0.60, 0.70, 0.80, 0.90, 1.00	13	150mm	135mm	295mm
4605-131	0.05-1.00mm		13	200mm	185mm	395mm
4605-132	0.05-1.00mm		13	300mm	285mm	590mm
4605-20	0.05-1.00mm	0.05, 0.10, 0.15, 0.20, 0.25, 0.30, 0.35, 0.40, 0.45, 0.50, 0.55, 0.60, 0.65, 0.70, 0.75, 0.80, 0.85, 0.90, 0.95, 1.00	20	150mm	135mm	295mm
4605-201	0.05-1.00mm		20	200mm	185mm	395mm
4605-202	0.05-1.00mm		20	300mm	285mm	590mm

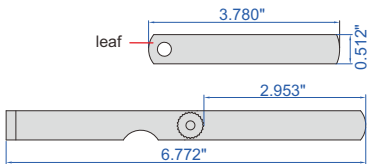
INCH FEELER GAGE

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



4608-31

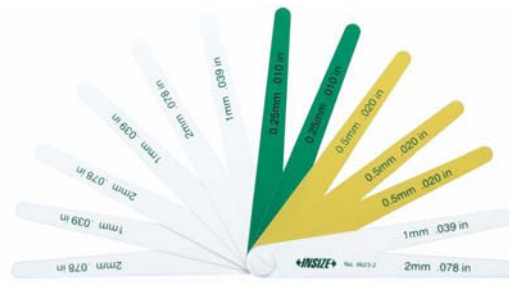
Code	Range	Quantity of Leaves
4608-31	0.0015"~0.035"	32



Thickness of leaves included	Accuracy
0.010" (brass)	$\pm 0.00039"$
0.0015", 0.002"	$\pm 0.0002"$
0.0025", 0.003", 0.004", 0.005", 0.006", 0.007"	$\pm 0.00028"$
0.008", 0.009"	$\pm 0.00035"$
0.010", 0.011"	$\pm 0.00039"$
0.012", 0.013"	$\pm 0.00047"$
0.014", 0.015"	$\pm 0.00051"$

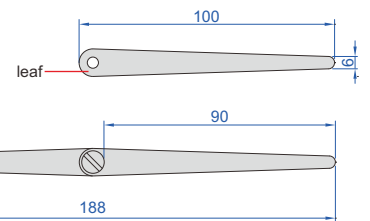
Thickness of leaves included	Accuracy
0.016", 0.017"	$\pm 0.00055"$
0.018", 0.019"	$\pm 0.00059"$
0.020", 0.021"	$\pm 0.00067"$
0.022", 0.023"	$\pm 0.00071"$
0.024", 0.025", 0.026"	$\pm 0.00075"$
0.028"	$\pm 0.00091"$
0.030"	$\pm 0.00094"$
0.032", 0.035"	$\pm 0.00102"$

PLASTIC FEELER GAGES



4623-2

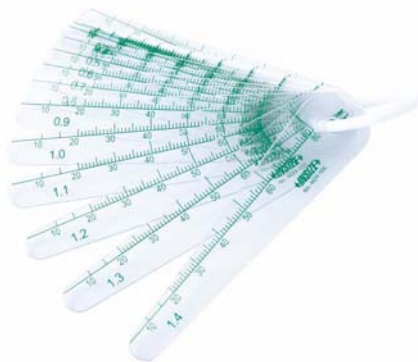
Unit: mm



- Accuracy: $\pm 0.04\text{mm}$ (thickness of leaves: 0.25mm)
 $\pm 0.05\text{mm}$ (thickness of leaves: 0.5mm)
 $\pm 0.08\text{mm}$ (thickness of leaves: $\geq 1\text{mm}$)

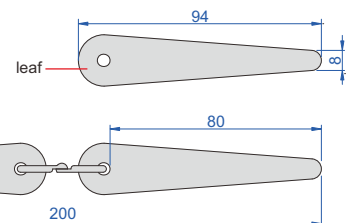
Code	Range	Thickness of leaves included	Quantity of leaves
4623-2	0.25-2.00mm	2.00mm (0.078"), 1.00mm (0.039"), 0.50mm (0.020"), 0.50mm (0.020"), 0.50mm (0.020"), 0.25mm (0.010"), 0.25mm (0.010"), 1.00mm (0.039"), 2.00mm (0.078"), 1.00mm (0.039"), 2.00mm (0.078"), 1.00mm (0.039"), 2.00mm (0.078")	13
4623-5	0.25-5.00mm	1.00mm (0.039"), 0.25mm (0.010"), 0.50mm (0.020"), 1.50mm (0.059"), 2.00mm (0.078"), 2.50mm (0.098"), 3.00mm (0.118"), 3.50mm (0.138"), 4.00mm (0.157"), 4.50mm (0.177"), 5.00mm (0.196")	11

PLASTIC FEELER GAGE



4624-1D5

Unit: mm



- Accuracy: $\pm 0.02\text{mm}$ (thickness of leaves: 0.05-0.1mm)
 $\pm 0.03\text{mm}$ (thickness of leaves: 0.15-0.6mm)
 $\pm 0.04\text{mm}$ (thickness of leaves: $\geq 0.7\text{mm}$)

Code	Range	Thickness of leaves included (mm)	Quantity of leaves
4624-1D5	0.05-1.5mm	0.05, 0.1, 0.15, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1.0, 1.1, 1.2, 1.3, 1.4, 1.5	17

FEELER GAGE STOCKS

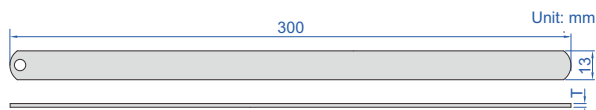
10 pcs per package



- Used as shims to accurately set spacing
- Made of hardened alloy steel
- Length 300mm
- Width 13mm
- 10 pcs per package



4622-10



Code	Thickness (T)	Accuracy
4622-02	0.02mm	±3μm
4622-03	0.03mm	±3μm
4622-04	0.04mm	±3μm
4622-05	0.05mm	±3μm
4622-06	0.06mm	±3μm
4622-07	0.07mm	±4μm
4622-08	0.08mm	±4μm
4622-09	0.09mm	±4μm
4622-10	0.10mm	±4μm
4622-12	0.12mm	±5μm

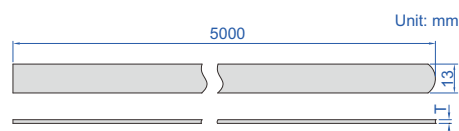
Code	Thickness (T)	Accuracy
4622-15	0.15mm	±5μm
4622-18	0.18mm	±6μm
4622-20	0.20mm	±6μm
4622-25	0.25mm	±6μm
4622-30	0.30mm	±7μm
4622-35	0.35mm	±7μm
4622-40	0.40mm	±8μm
4622-45	0.45mm	±8μm
4622-50	0.50mm	±9μm
4622-55	0.55mm	±9μm

Code	Thickness (T)	Accuracy
4622-60	0.60mm	±9μm
4622-65	0.65mm	±9μm
4622-70	0.70mm	±12μm
4622-75	0.75mm	±12μm
4622-80	0.80mm	±13μm
4622-85	0.85mm	±13μm
4622-90	0.90mm	±14μm
4622-95	0.95mm	±14μm
4622-100	1.00mm	±16μm

FEELER GAGE TAPES



4621-30



Code	Thickness (T)	Accuracy
4621-02	0.02mm	±4μm
4621-03	0.03mm	±4μm
4621-04	0.04mm	±4μm
4621-05	0.05mm	±4μm
4621-06	0.06mm	±4μm
4621-07	0.07mm	±5μm
4621-08	0.08mm	±5μm
4621-09	0.09mm	±5μm
4621-10	0.10mm	±5μm
4621-12	0.12mm	±5μm
4621-15	0.15mm	±6μm
4621-18	0.18mm	±7μm
4621-20	0.20mm	±8μm
4621-25	0.25mm	±9μm

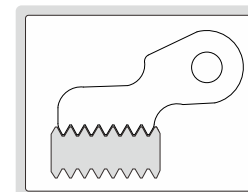
Code	Thickness (T)	Accuracy
4621-30	0.30mm	±9μm
4621-35	0.35mm	±11μm
4621-40	0.40mm	±12μm
4621-45	0.45mm	±12μm
4621-50	0.50mm	±14μm
4621-55	0.55mm	±14μm
4621-60	0.60mm	±14μm
4621-65	0.65mm	±14μm
4621-70	0.70mm	±17μm
4621-75	0.75mm	±17μm
4621-80	0.80mm	±19μm
4621-85	0.85mm	±19μm
4621-90	0.90mm	±22μm
4621-95	0.95mm	±22μm
4621-100	1.00mm	±24μm

- Used as shims to accurately set spacing
- Made of hardened alloy steel
- Length 5m
- Width 13mm

PITCH GAGES



4820-122



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

Metric 60° screw

Code	Range	Pitch of leaves included (mm)	Quantity of leaves
4820-122	0.4-7.0mm	0.4, 0.5, 0.6, 0.7, 0.75, 0.8, 0.9, 1, 1.25, 1.5, 1.75, 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7	22
4820-124	0.25-7.0mm	0.25, 0.3, 0.35, 0.4, 0.5, 0.7, 0.75, 0.8, 0.9, 1, 1.25, 1.5, 1.75, 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7	24
4820-1241	0.25-6.0mm	0.25, 0.3, 0.35, 0.4, 0.45, 0.5, 0.6, 0.7, 0.75, 0.8, 0.9, 1, 1.25, 1.5, 1.75, 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6	24

Unified 60° screw

Code	Range	Pitch of leaves included	Quantity of leaves
4820-230	4-42TPI	4, 4-1/2, 5, 5-1/2, 6, 7, 8, 9, 10, 11, 11-1/2, 12, 13, 14, 15, 16, 18, 20, 22, 24, 26, 27, 28, 30, 32, 34, 36, 38, 40, 42TPI	30

Whitworth 55° screw

Code	Range	Pitch of leaves included	Quantity of leaves
4820-330	4-42TPI	4, 4-1/2, 5, 5-1/2, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 22, 24, 26, 27, 28, 30, 32, 34, 36, 38, 40, 42TPI	30
4820-328	4-62TPI	4, 4-1/2, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 16, 18, 19, 20, 22, 24, 25, 26, 28, 30, 32, 36, 40, 48, 60, 62TPI	28

Metric 60° and Whitworth 55° screw

Code	Range	Pitch of leaves included	Quantity of leaves
4820-452	0.25-6.0mm	0.25, 0.3, 0.35, 0.4, 0.45, 0.5, 0.6, 0.7, 0.75, 0.8, 0.9, 1, 1.25, 1.5, 1.75, 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6mm	52
	4-62TPI	4, 4-1/2, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 16, 18, 19, 20, 22, 24, 25, 26, 28, 30, 32, 36, 40, 48, 60, 62TPI	
4820-450	0.4-7.0mm	0.4, 0.5, 0.6, 0.7, 0.75, 0.8, 0.9, 1, 1.25, 1.5, 1.75, 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7mm	50
	4-62TPI	4, 4-1/2, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 16, 18, 19, 20, 22, 24, 25, 26, 28, 30, 32, 36, 40, 48, 60, 62TPI	

Metric 60° and Unified 60° screw

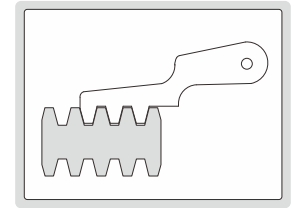
Code	Range	Pitch of leaves included	Quantity of leaves
4820-552	0.4-7.0mm	0.4, 0.5, 0.6, 0.7, 0.75, 0.8, 0.9, 1, 1.25, 1.5, 1.75, 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7mm	52
	4-42TPI	4, 4-1/2, 5, 5-1/2, 6, 7, 8, 9, 10, 11, 11-1/2, 12, 13, 14, 15, 16, 18, 20, 22, 24, 26, 27, 28, 30, 32, 34, 36, 38, 40, 42TPI	

PITCH GAGES

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



4824-12



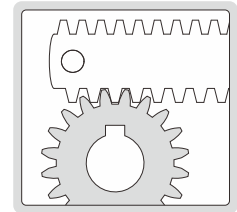
Code	Range	Thread type	Pitch of leaves included	Quantity of leaves
4824-12	2-20mm	Tr30°	2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 16, 20mm	12
4824-16	1-12TPI	ACME 29°	1, 1-1/3, 1-1/2, 1-3/4, 2, 2-1/2, 3, 3-1/2, 4, 5, 6, 7, 8, 9, 10, 12TPI	16

GEAR TOOTH PITCH GAGES

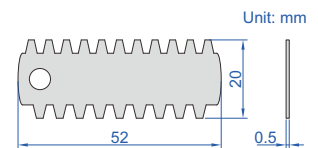
- Check the module pitch of gear tooth
- Accuracy: $\pm 0.05\text{mm}$
- Made of hardened stainless steel



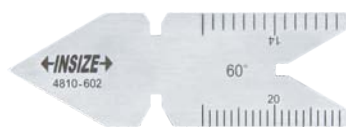
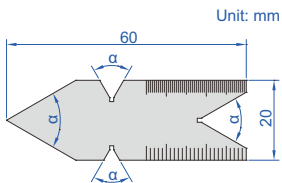
4860-245



Code	Range	Pressure angle	Quantity of leaves
4860-145	0.35-4.5mm	14.5°	15
4860-245	0.35-4.5mm	20°	15
4860-112	5-12mm	14.5°	8
4860-212	5-12mm	20°	8

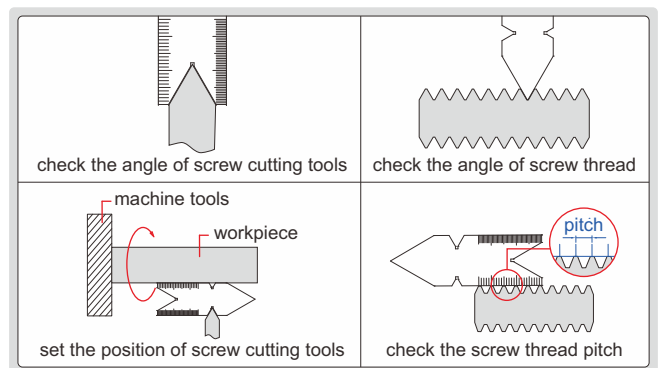


CENTER GAGES



4810-602

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



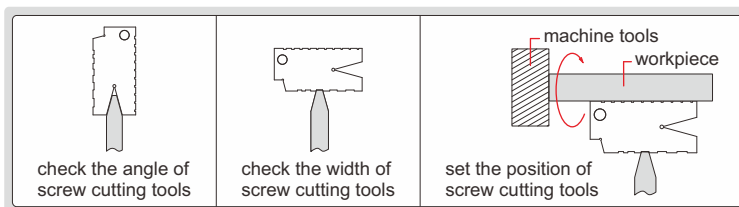
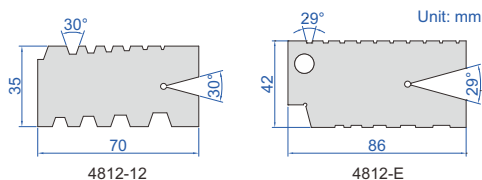
Code	Thread type	Angle (α)	Graduation
4810-601	METRIC 60°	60°	0.5mm and 1mm
4810-602	UNIFIED 60°	60°	14ths and 20ths on front side, 24ths and 32ths on back side
4810-55	WHITWORTH 55°	55°	14ths and 20ths on front side, 24ths and 32ths on back side

THREAD GAGES

- To check and set screw cutting tools
- Made of medium carbon steel



4812-E



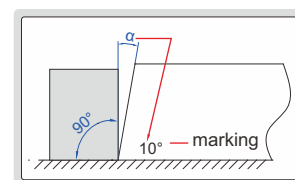
Code	Range	Thread type	Pitch
4812-12	2-12mm	Tr 30°	2, 3, 4, 5, 6, 7, 8, 9, 10, 12mm
4812-E	1-10TPI	ACME 29°	1, 1-1/3, 1-1/2, 1-3/4, 2, 2-1/2, 3, 4, 5, 6, 7, 8, 9, 10TPI

ANGLE GAGE

- To check complementary angles
- Made of stainless steel

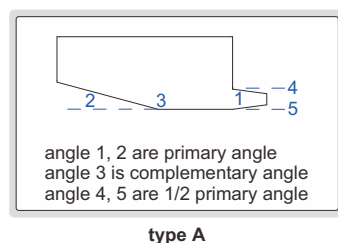


4806-20

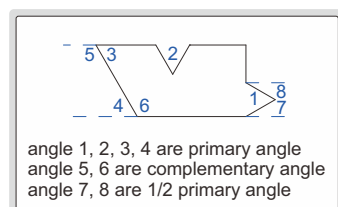


Code	Range (α)	Angle of leaves included	Quantity of leaves	Accuracy
4806-20	1°-45°	1°, 2°, 3°, 4°, 5°, 6°, 7°, 8°, 9°, 10°, 12°, 14°, 16°, 18°, 20°, 25°, 30°, 35°, 40°, 45°	20	±30'

ANGLE GAGE SET



type A



type B



4807

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

Code	Quantity of leaves	Accuracy
4807	18	±10'

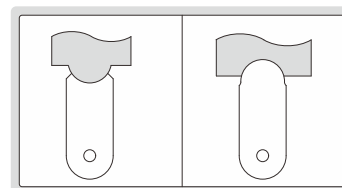
Primary angle	1/2 primary angle	Complementary angle	Type
5°	2°30'	175°	A
10°	5°	170°	A
15°	7°30'	165°	A
20°	10°	160°	B
25°	12°30'	155°	B
30°	15°	150°	B
35°	17°30'	145°	B
40°	20°	140°	B
45°	22°30'	135°	B
50°	25°	130°	B
55°	27°30'	125°	B
60°	30°	120°	B
65°	32°30'	115°	B
70°	35°	110°	B
75°	37°30'	105°	B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

RADIUS GAGES

- Made of medium carbon steel



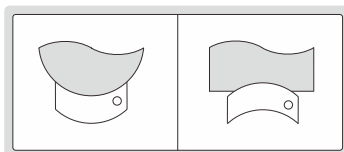
4801-17



Code	Range	Radius of leaves included (mm)	Quantity of leaves (internal + external)
4801-17	1-7mm	1, 1.25, 1.5, 1.75, 2, 2.25, 2.5, 2.75, 3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7	17+17
4801-16	7.5-15mm	7.5, 8, 8.5, 9, 9.5, 10, 10.5, 11, 11.5, 12, 12.5, 13, 13.5, 14, 14.5, 15	16+16
4801-15	15.5-25mm	15.5, 16, 16.5, 17, 17.5, 18, 18.5, 19, 19.5, 20, 21, 22, 23, 24, 25	15+15

RADIUS GAGE

- Made of stainless steel

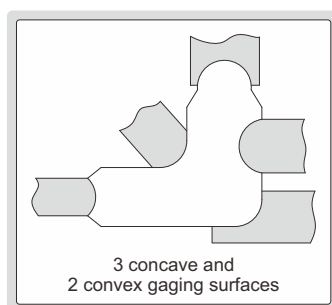


4802-31

Code	Range	Radius of leaves included (mm)	Quantity of leaves
4802-31	25-40mm	25, 25.5, 26, 26.5, 27, 27.5, 28, 28.5, 29, 29.5, 30, 30.5, 31, 31.5, 32, 32.5, 33, 33.5, 34, 34.5, 35, 35.5, 36, 36.5, 37, 37.5, 38, 38.5, 39, 39.5, 40	31

RADIUS GAGE SET

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



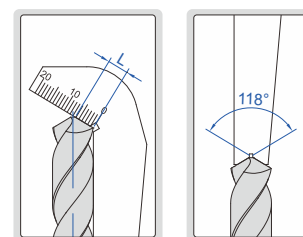
4804-26

Code	Range	Radius of leaves included (mm)	Quantity of leaves
4804-26	0.5-13mm	0.5, 1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7, 7.5, 8, 8.5, 9, 9.5, 10, 10.5, 11, 11.5, 12, 12.5, 13	26

DRILL POINT GAGE

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

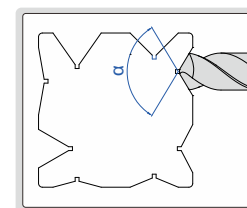
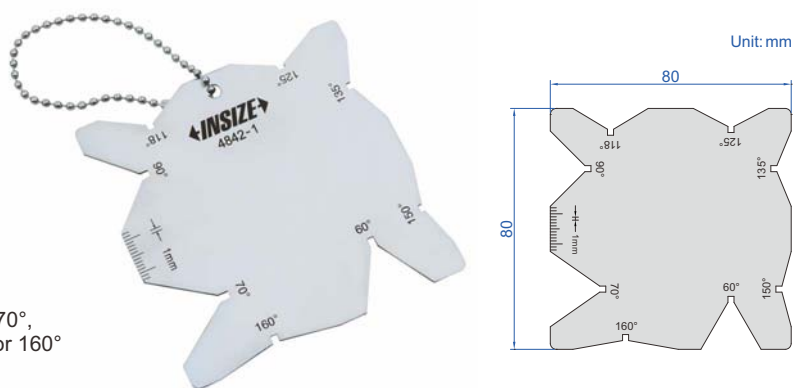
Code	Accuracy	
	Angle	Length
4843-1	±0.5°	±0.5mm



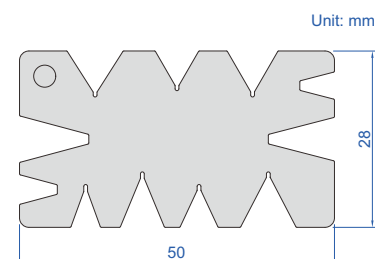
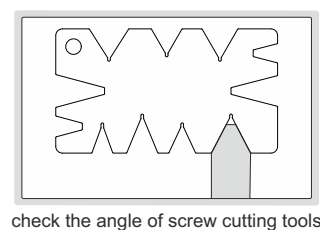
DRILL ANGLE GAGE

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

Code	Accuracy
4842-1	±0.5°



ANGLE GAGE



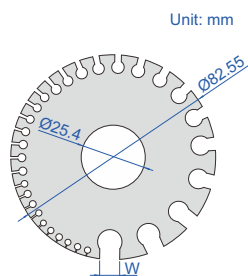
- Made of stainless steel

Code	Range	Accuracy
4854-1	29°, 30°, 40°, 45°, 50°, 55°, 60°	±10'

AMERICAN STANDARD WIRE GAGE



4808



Code	Range
4808	0-36 (8.250-0.127mm/0.3249-0.0050")

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

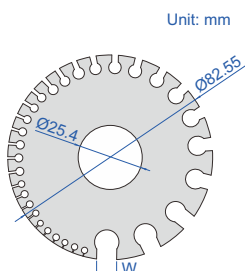
No.	W
0	8.250mm/0.3249"
1	7.350mm/0.2893"
2	6.540mm/0.2576"
3	5.830mm/0.2294"
4	5.190mm/0.2043"
5	4.620mm/0.1819"
6	4.110mm/0.1620"
7	3.670mm/0.1443"
8	3.260mm/0.1285"
9	2.910mm/0.1144"
10	2.590mm/0.1019"
11	2.300mm/0.0907"
12	2.050mm/0.0808"
13	1.820mm/0.0720"
14	1.630mm/0.0641"
15	1.450mm/0.0571"
16	1.290mm/0.0508"
17	1.150mm/0.0453"

No.	W
18	1.020mm/0.0403"
19	0.912mm/0.0359"
20	0.813mm/0.0320"
21	0.724mm/0.0285"
22	0.643mm/0.0253"
23	0.574mm/0.0226"
24	0.511mm/0.0201"
25	0.440mm/0.0179"
26	0.404mm/0.0159"
27	0.361mm/0.0142"
28	0.320mm/0.0126"
29	0.287mm/0.0113"
30	0.254mm/0.0100"
31	0.226mm/0.0089"
32	0.203mm/0.0080"
33	0.180mm/0.0071"
34	0.160mm/0.0063"
35	0.142mm/0.0056"
36	0.127mm/0.0050"

U.S. STANDARD SHEET METAL GAGE



4809



Code	Range
4809	0-36 (7.938-0.179mm/0.3125-0.0070")

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

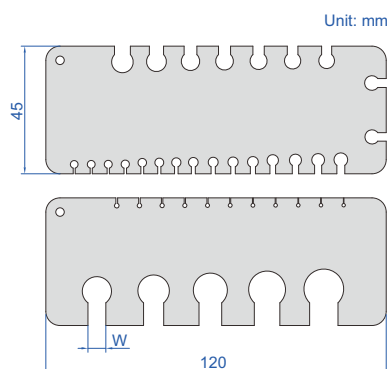
No.	W
0	7.938mm/0.3125"
1	7.144mm/0.2813"
2	6.747mm/0.2656"
3	6.350mm/0.2500"
4	5.953mm/0.2344"
5	5.556mm/0.2188"
6	5.159mm/0.2031"
7	4.763mm/0.1875"
8	4.366mm/0.1719"
9	3.969mm/0.1563"
10	3.572mm/0.1406"
11	3.175mm/0.1250"
12	2.778mm/0.1094"
13	2.381mm/0.0938"
14	1.984mm/0.0781"
15	1.786mm/0.0703"
16	1.588mm/0.0625"
17	1.429mm/0.0563"

No.	W
18	1.270mm/0.0500"
19	1.111mm/0.0438"
20	0.953mm/0.0375"
21	0.873mm/0.0344"
22	0.794mm/0.0313"
23	0.714mm/0.0281"
24	0.635mm/0.0250"
25	0.556mm/0.0219"
26	0.476mm/0.0188"
27	0.437mm/0.0172"
28	0.397mm/0.0156"
29	0.357mm/0.0141"
30	0.318mm/0.0125"
31	0.278mm/0.0109"
32	0.258mm/0.0102"
33	0.238mm/0.0094"
34	0.218mm/0.0086"
35	0.198mm/0.0078"
36	0.179mm/0.0070"

WIRE GAGE



4803-1



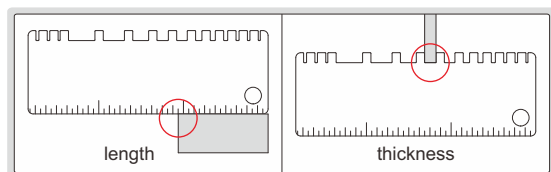
Code	Range
4803-1	0.2-10mm

- For gaging non-ferrous wire and metals such as copper, brass and aluminum
- Hardened to HRC51-53
- Including 2 pcs wire gages

Wire diameter (W)
0.200mm
0.224mm
0.250mm
0.280mm
0.315mm
0.355mm
0.400mm
0.450mm
0.500mm
0.560mm
0.630mm
0.710mm
0.750mm
0.800mm
0.900mm
1.000mm
1.120mm
1.250mm
1.400mm
1.500mm

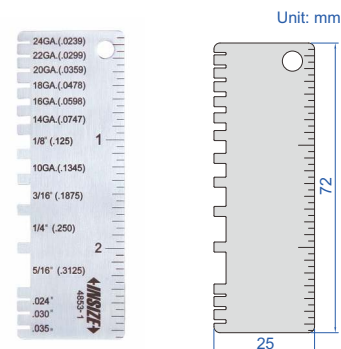
Wire diameter (W)
1.60mm
1.80mm
2.00mm
2.24mm
2.50mm
2.80mm
3.00mm
3.15mm
3.55mm
3.75mm
4.00mm
4.25mm
4.50mm
5.00mm
5.60mm
6.30mm
7.10mm
8.00mm
9.00mm
10.00mm

THICKNESS GAGE



- Made of stainless steel

Code	Measurement	Range	Graduation	Accuracy
4853-1	length	0-2 3/4"	1/16"	1/32"
	thickness	24GA. (0.0239"), 22GA. (0.0299"), 20GA. (0.0359")	—	±0.002"
		18GA. (0.0478"), 16GA. (0.0598") , 14GA. (0.0747"), 1/8" (0.125"), 10GA. (0.1345"), 3/16" (0.1875"), 1/4" (0.250"), 5/16" (0.3125")		±0.004"
		0.024", 0.030", 0.035"		±0.002"



4853-1

DATA
OUTPUT

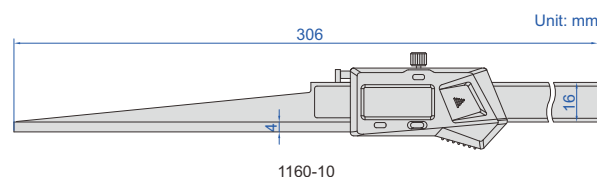
DIRECT READING,
CALCULATION IS NOT REQUIRED

DIGITAL TAPER SLOT GAGES

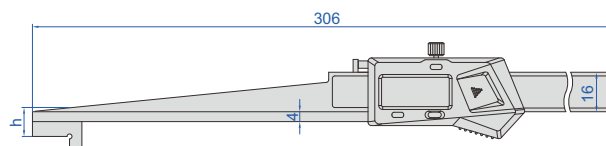


1160-10

- Non waterproof
- Measuring opening, slot width
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code 7315-1529 need receiver, 7302-1529)

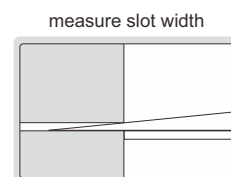


1160-10



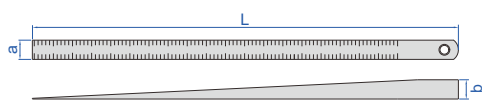
1160-20, 1160-30, 1160-40

Code	Range	Accuracy	h
1160-10	0.2-10mm/0.01-0.39"	±0.03mm	—
1160-20	10-20mm/0.39-0.79"	±0.05mm	10mm
1160-30	20-30mm/0.79-1.18"	±0.05mm	20mm
1160-40	30-40mm/1.18-1.58"	±0.05mm	30mm

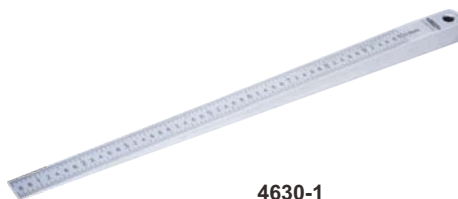


measure slot width

TAPER SLOT GAGES

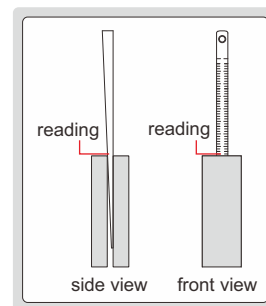


- For quick measurement of slot width
- Satin chrome plated reading surface
- Made of stainless steel



4630-1

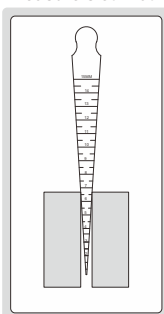
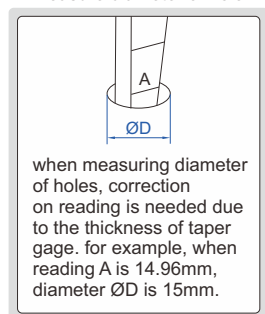
Code	Range	Graduation	Accuracy	L	a	b
4630-3	0.4-6mm	0.05mm	±0.04mm	164mm	12.5mm	6.5mm
4630-1	0.5-10mm	0.05mm	±0.07mm	220mm	10mm	10.5mm
4630-2	0.5-15mm	0.1mm	±0.08mm	184mm	12.5mm	16.5mm



TAPER GAGES

measure diameter of hole

measure slot width



- Measure opening, slot width, hole diameter, etc.
- Diameter correction table on the back (only for 4833-1, 4833-2)
- Made of stainless steel

Code	Range	Graduation	Accuracy	L	W
4833-1	0.8-15mm	0.1mm	±0.05mm	146mm	17mm
4833-2	15-30mm	0.1mm	±0.05mm	159mm	30.4mm
4833-3	30-45mm	0.1mm	±0.05mm	166mm	45.4mm
4833-4	45-60mm	0.1mm	±0.05mm	170mm	60.5mm



front



back

4833-2



TAPER GAGE SET



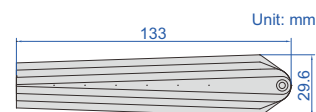
front

back

4837-1

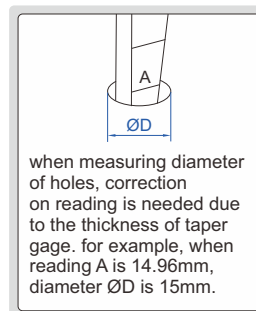
- Include 4 pcs (1~8mm, 8~15mm, 15~22mm, 22~29mm)
- Measure opening, slot width, hole diameter, etc.
- Diameter correction table on the back
- Made of stainless steel

Code	Range	Graduation	Accuracy
4837-1	1-29mm	0.05mm	±0.05mm

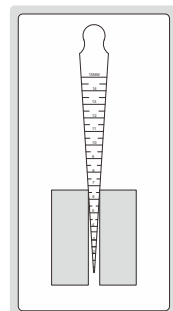


Unit: mm

measure diameter of hole



measure slot width



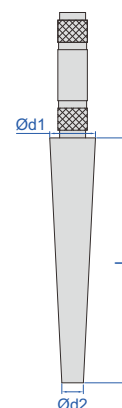
TAPER BORE GAGES

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

Code	Range	Graduation	Accuracy	L	Ød1	Ød2
4852-1	1-6.5mm	0.1mm	±0.05mm	62.5	7	0.8
4852-3	3-16mm	0.1mm	±0.05mm	143	17	2.8
4852-15	15-30mm	0.1mm	±0.05mm	165	31	14.7
4852-30	30-45mm	0.1mm	±0.05mm	165	46	29.6
4852-45	45-60mm	0.1mm	±0.05mm	167	61	44.3



4852-15



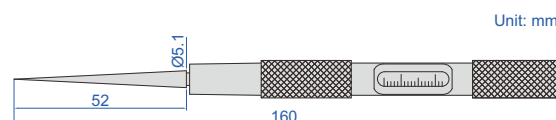
SMALL TAPER BORE GAGE



4855-5

- Quick measurement of small bore diameter
- Hardened working face
- Supplied with protection cap

Code	Range	Graduation	Accuracy
4855-5	0.1-5mm	0.01mm	±0.03mm



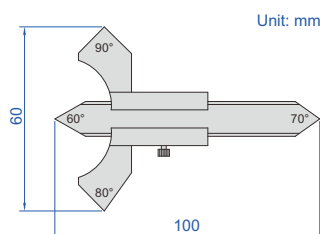
supplied with protection cap



WELDING GAGE

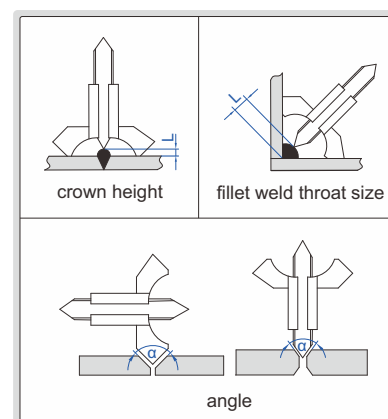


4830



- Made of stainless steel
- Satin chrome plated reading surface

Code	Measurement	Range	Graduation	Accuracy
4830	crown height	0-8mm	0.1mm	±0.1mm
	fillet weld throat size	0-20mm	0.1mm	±0.3mm
	angle	60°, 70°, 80°, 90°	—	±1°



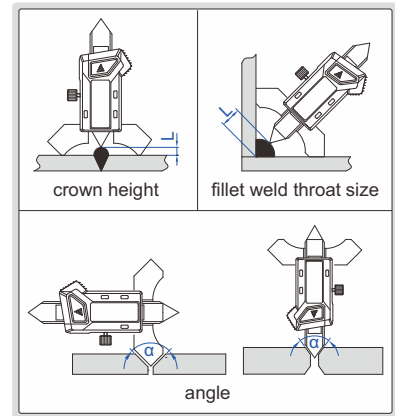
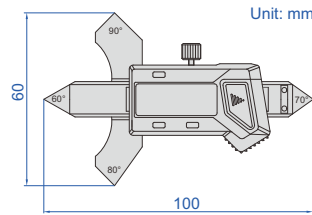
DIGITAL WELDING GAGE

ATTENTION:
NO DATA OUTPUT



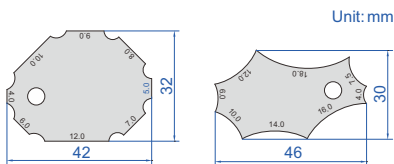
4831-20A

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



Code	Measurement	Range	Resolution	Accuracy
4831-20A	crown height	0-7mm	0.01mm/0.0005"	±0.03mm
	fillet weld throat size	0-20mm	0.01mm/0.0005"	±0.1mm
	angle	60°, 70°, 80°, 90°	—	±1°

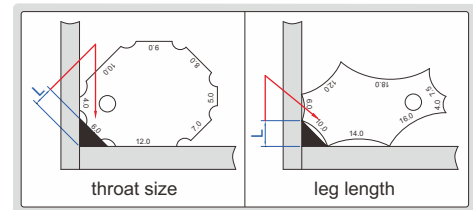
FILLET WELDING GAGE



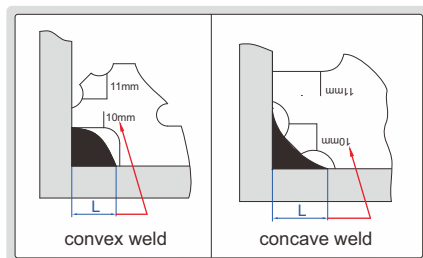
4832-1

- Made of stainless steel
- Sizes marked on both faces

Code	Throat size	Leg length	Accuracy
4832-1	4, 5, 6, 7, 8, 9, 10, 12mm	4, 6, 7.5, 10, 12, 14, 16, 18mm	±0.5mm



FILLET WELDING GAGES



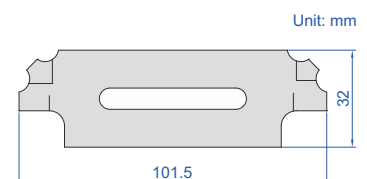
4836-1



4836-2

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

Code	Size	Accuracy
4836-1	3mm, 4mm, 5mm, 6mm, 8mm, 9mm, 10mm, 11mm, 12mm, 14mm, 16mm, 19mm, 22mm, 25mm	±0.5mm
4836-2	1/8" (3.2mm), 3/16" (4.8mm), 1/4" (6.4mm), 5/16" (7.9mm), 3/8" (9.5mm), 7/16" (11.1mm), 1/2" (12.7mm), 5/8" (15.9mm), 3/4" (19.1mm), 7/8" (22.2mm), 1" (25.4mm)	±0.02" (0.5mm)



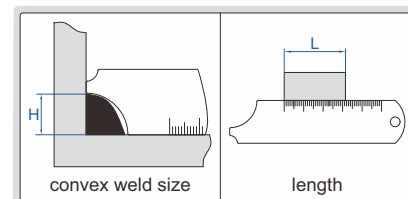
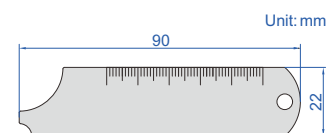
FILLET WELDING GAGE

- Measure convex weld sizes
- 3 blades are included
- Made of stainless steel

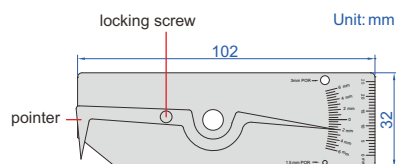


4847-1

Code	Measurement	Range	Graduation	Accuracy
4847-1	convex weld size	4, 6, 8, 10, 12, 14mm	—	±0.5mm
	length	0-50mm	1mm	±0.5mm



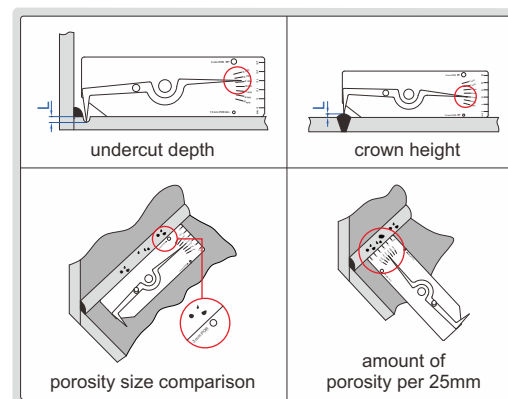
WELDING GAGE



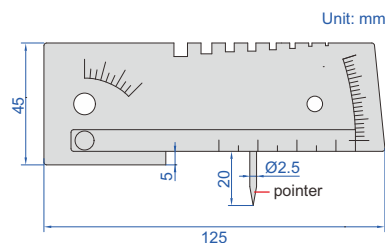
4834-1

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

Code	Measurement	Range	Graduation	Accuracy
4834-1	undercut depth	0-6mm	0.5mm	±0.5mm
	crown height	0-6mm	0.5mm	±0.5mm
	porosity size comparison	1.5mm, 3mm	—	±0.2mm
	amount of porosity per 25mm	25mm	1mm	—



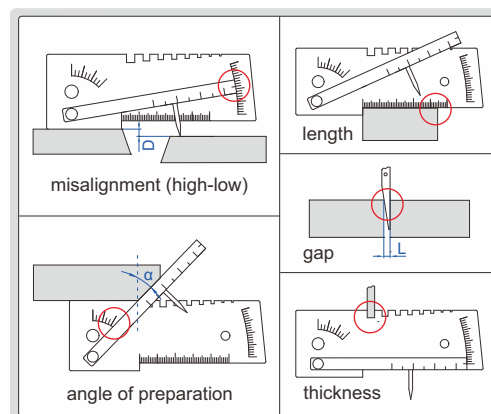
WELDING GAGE



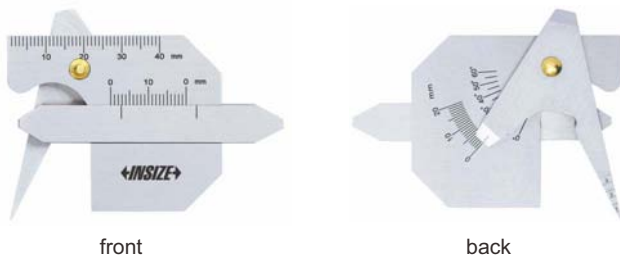
4848-1

- Made of stainless steel

Code	Measurement	Range	Graduation	Accuracy
4848-1	misalignment (high-low)	-5mm~+15mm	1mm	±0.5mm
	angle of preparation	0°-45°	5°	±2.5°
	length	0-50mm	1mm	±0.5mm
	gap	1-4mm	0.5mm	±0.25mm
	thickness	1, 1.2, 2.0, 2.5, 3.0, 3.25, 4.0, 5.0mm	—	±0.1mm



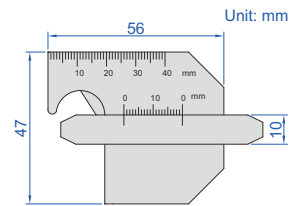
WELDING GAGE



front

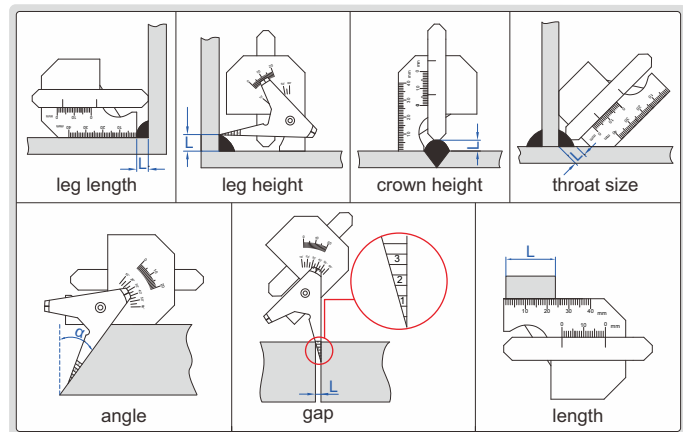
6832-1

back

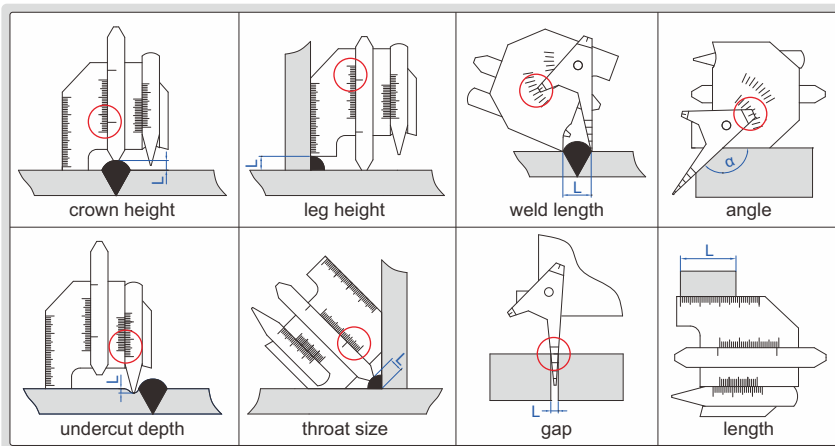


- Made of stainless steel
- Satin chrome plated surface

Code	Measurement	Range	Graduation	Accuracy
6832-1	leg length	0-20mm	1mm	±0.3mm
	leg height	0-20mm	1mm	±0.3mm
	crown height	0-20mm	1mm	±0.3mm
	throat size	0-10mm	1mm	±0.3mm
	angle	0°-60°	5°	±1°
	gap	1-3.5mm	0.5mm	±0.2mm
	length	0-40mm	1mm	±0.3mm

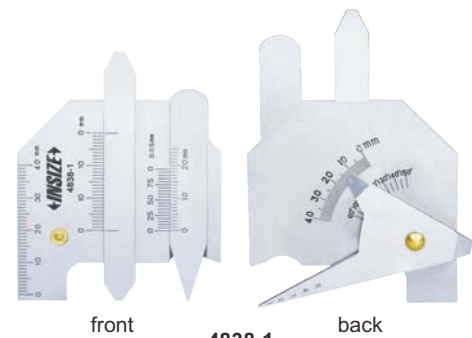


WELDING GAGES



- Made of stainless steel

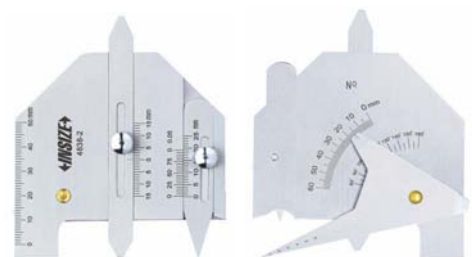
Measurement	Code 4838-1			Code 4838-2		
	Range	Graduation	Accuracy	Range	Graduation	Accuracy
crown height	0-10mm	1mm	±0.5mm	0-15mm	1mm	±0.5mm
leg height	0-14mm	1mm	±0.5mm	0-15mm	1mm	±0.5mm
undercut depth	0-5mm	0.05mm	±0.05mm	0-5mm	0.05mm	±0.05mm
throat size	0-13mm	1mm	±0.5mm	0-13mm	1mm	±0.5mm
weld length	0-40mm	1mm	±1mm	0-60mm	1mm	±1mm
angle	90°-150°	5°	±1°	80°-160°	5°	±1°
gap	0.5-5mm	1mm	±0.5mm	1-6mm	1mm	±0.5mm
length	0-40mm	1mm	±0.5mm	0-50mm	1mm	±0.5mm
LxW	62x77mm			99x84mm		



front

4838-1

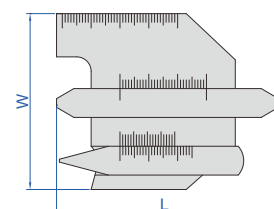
back



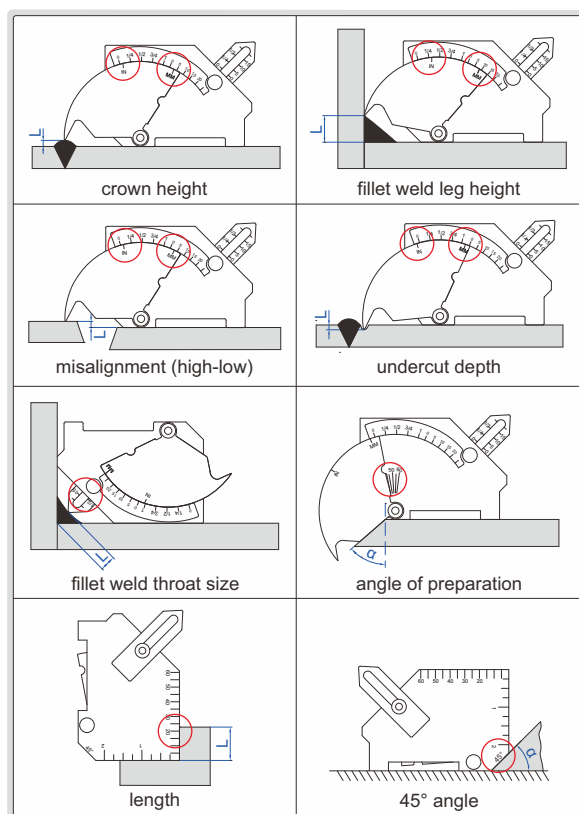
front

4838-2

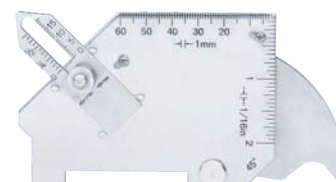
back



WELDING GAGE

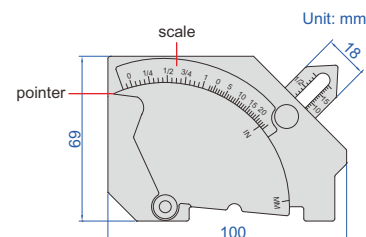


front



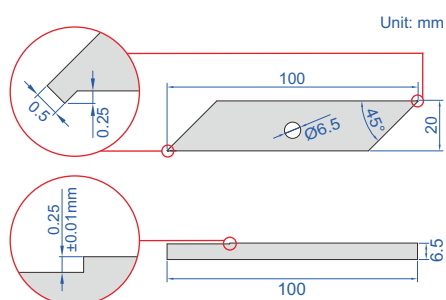
back

4835-1



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

Code	Measurement	Range	Graduation	Accuracy
4835-1	crown height	0-25mm (0-1")	1mm (1/16")	±0.5mm
	fillet weld leg height	0-25mm (0-1")	1mm (1/16")	±0.5mm
	misalignment (high-low)	0-25mm (0-1")	1mm (1/16")	±0.5mm
	undercut depth	0-2mm (0-1/8")	1mm (1/16")	±0.5mm
	fillet weld throat size	0-20mm (0-3/4")	1mm (1/16")	±0.5mm
	angle of preparation	0-60°	5°	±1°
	length	0-60mm (0-2")	1mm (1/16")	±0.5mm
	45° angle	—	—	±1°



Code
4849-1

- Measure undercut
- Calibration block is included
- Made of stainless steel

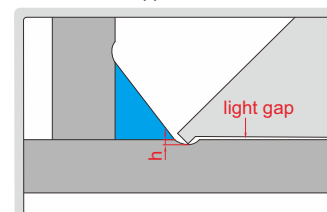


4849-1

calibration block (included)



application



when there is a light gap, $h < 0.25\text{mm}$;
when there is no light gap, $h \geq 0.25\text{mm}$

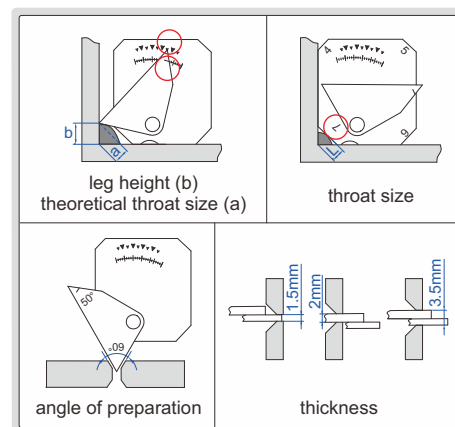
WELDING GAGE



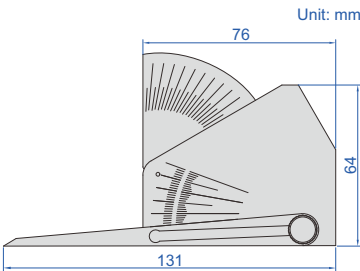
- Made of stainless steel

4850-1

Code	Measurement	Range	Graduation	Accuracy
4850-1	leg height (b)	0-18mm	1mm	±0.5mm
	theoretical throat size (a)	2-12mm	1mm	±0.5mm
	throat size	4, 5, 6, 7mm	—	±0.5mm
	angle of preparation	50°, 60°	—	±1°
	thickness	1.5, 2, 3.5mm	—	±0.2mm



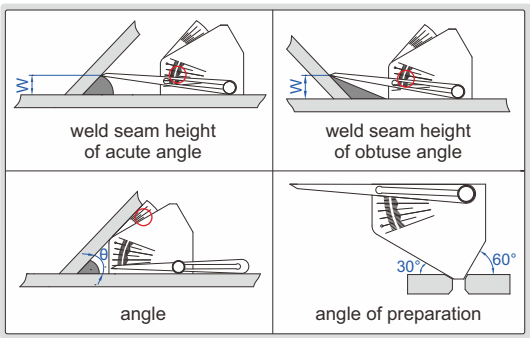
FILLET WELDING GAGE



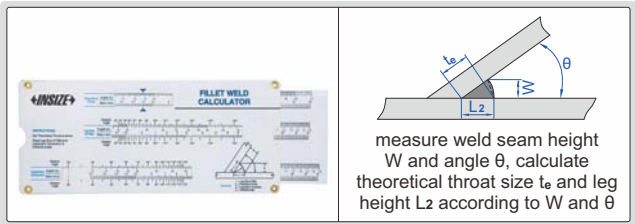
4846-1

- Calculating card is included
- Made of stainless steel

Code	Measurement	Range	Graduation	Accuracy
4846-1	weld seam height W	0-50mm/0-2"	2mm/0.05"	±1mm
	angle θ	30°-90°	2.5°	±1°
	60° angle	—	—	±0.5°



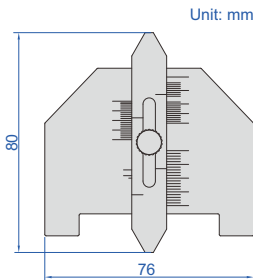
calculating card (included)



WELDING GAGE

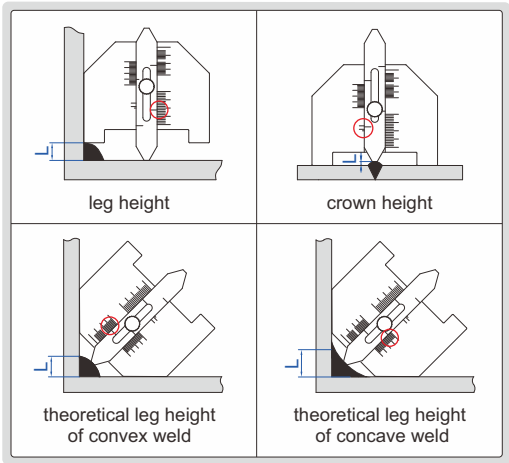


4851-1

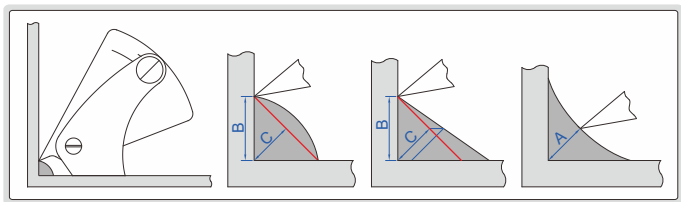


- Made of stainless steel

Code	Measurement	Range	Graduation	Accuracy
4851-1	leg height	0-20mm	1mm	±0.5mm
	crown height	0-3mm	—	±0.5mm
	theoretical leg height of convex weld	0-20mm	1mm	±0.5mm
	theoretical leg height of concave weld	0-20mm	1mm	±0.5mm

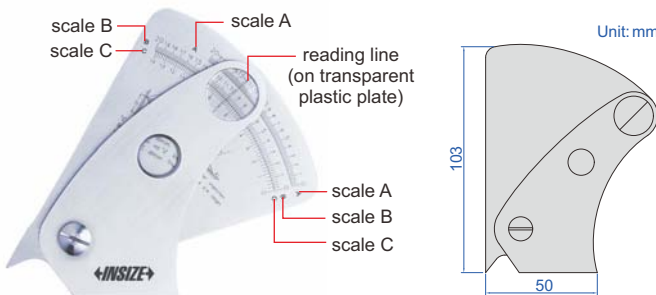


WELDING GAGE



Code	Graduation	Accuracy
4840-1	0.2mm	±0.3mm

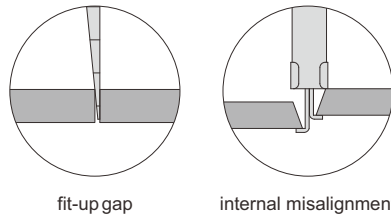
- Made of stainless steel



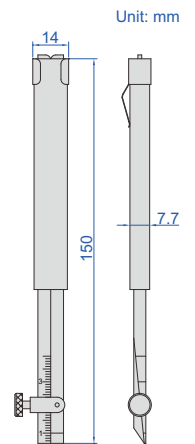
4840-1

PIPE WELDING GAGE

- Made of stainless steel

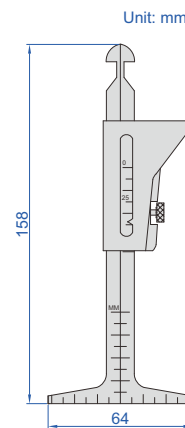
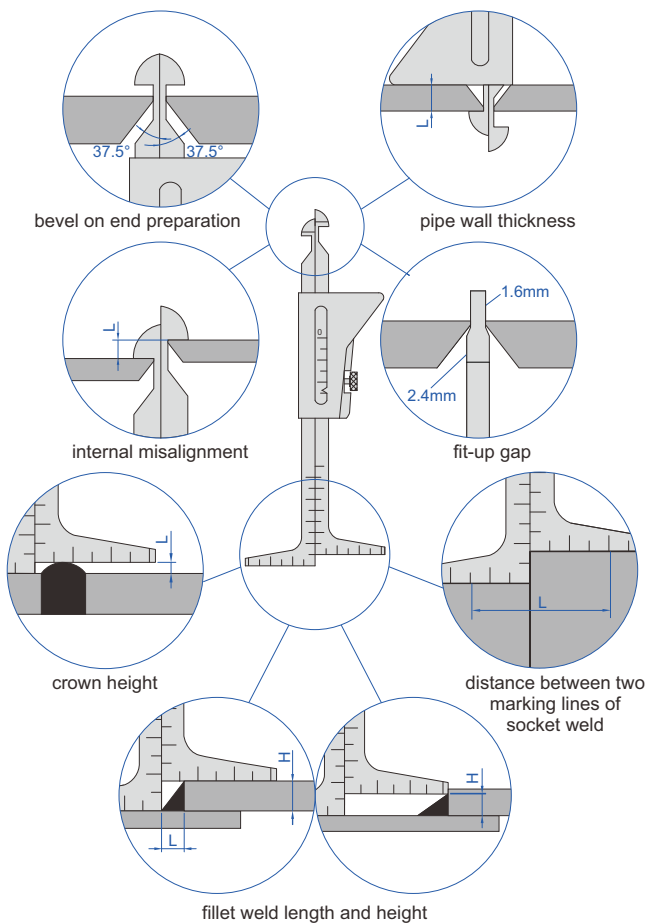


4841-1



Code	Measurement	Range	Graduation	Accuracy
4841-1	internal misalignment	0-30mm	1mm	±0.5mm
	fit-up gap	0.7-4mm	0.1mm	±0.1mm

PIPE WELDING GAGE



4839-1

Code	Measurement	Range	Graduation	Accuracy
4839-1	bevel on end preparation	37.5°	—	±1°
	pipe wall thickness	0-45mm (0~1-3/4")	1mm (1/16")	±0.5mm
	internal misalignment	0-35mm (0~1-3/8")	1mm (1/32")	±0.5mm
	fit-up gap	1.6mm, 2.4mm	—	±0.1mm
	crown height	0-35mm (0~1-3/8")	1mm (1/32")	±0.5mm
	distance between two marking lines of socket weld	0-60mm (0~2-3/8")	1mm (1/16")	±0.5mm
	fillet weld length	0-30mm (0~1-1/4")	1mm (1/16")	±0.5mm
	fillet weld height	0-35mm (0~1-3/8")	1mm (1/32")	±0.5mm

- Made of stainless steel

6-PIECE WELDING GAGE SET

■ Includes:

- 1) Welding gage (code **4834-1**)
- 2) Fillet welding gage, size 3~25mm, 7 blades (code **4836-1**)
- 3) Pipe welding gage (code **4841-1**)
- 4) Telescoping inspection mirror, size of mirror Ø32mm, length 178~505mm (code **7160-1**)
- 5) Pocket rule with sliding clip, range 150mm/6", graduation 1mm, 1/64" (code **7119-150**)
- 6) LED flashlight (code **ISGF-0501**)

Code

5064



5064

7-PIECE WELDING GAGE SET

■ Includes:

- 1) Welding gage (code **4834-1**)
- 2) Welding gage (code **4851-1**)
- 3) Pipe welding gage (code **4839-1**)
- 4) Outside micrometer, range 0-25mm, graduation 0.01mm (code **3203-25A**)
- 5) Telescoping inspection mirror, size of mirror Ø32mm, length 178~505mm (code **7160-1**)
- 6) Magnifier with illumination, magnification 4X (code **7513-4**)
- 7) Steel rule, range 150mm/6", graduation 0.5mm, 1mm, 1/64", 1/32", 1/16" (code **7110-150**)

Code

5071



5071

7-PIECE WELDING GAGE SET

■ Includes:

- 1) Welding gage (code **4834-1**)
- 2) Welding gage (code **4851-1**)
- 3) Fillet welding gage, size 3~25mm, 7 blades (code **4836-1**)
- 4) Outside micrometer, range 0-25mm, graduation 0.01mm (code **3203-25A**)
- 5) Digital caliper, range 0-150mm/0-6", resolution 0.01mm/0.005" (code **1108-150**)
- 6) Pocket rule with sliding clip, range 150mm/6", graduation 1mm, 1/64" (code **7119-150**)
- 7) Magnifier with illumination, magnification 4X (code **7513-4**)

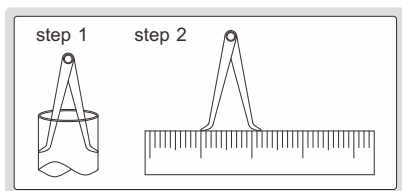
Code

5072



5072

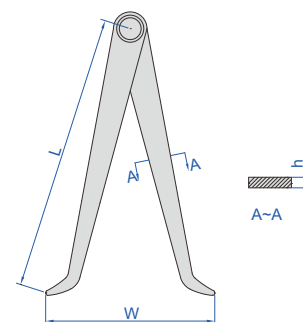
INSIDE CALIPERS



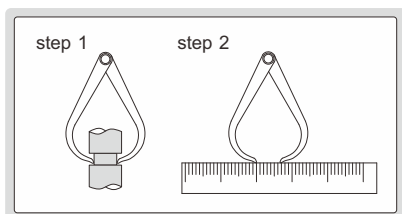
- Made of carbon steel

Code	Size (L)	Range (W)	h
7240-150	150mm	17-150mm	2mm
7240-200	200mm	17-200mm	3mm
7240-300	300mm	18-300mm	3mm

7240-150



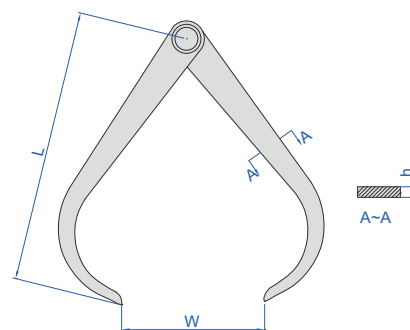
OUTSIDE CALIPERS



- Made of carbon steel

Code	Size (L)	Range (W)	h
7241-150	150mm	0-150mm	2mm
7241-200	200mm	0-200mm	3mm
7241-300	300mm	0-300mm	3mm

7241-150



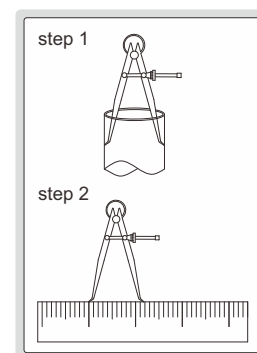
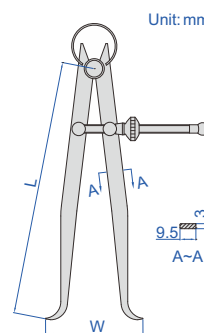
INSIDE SPRING CALIPERS

- Made of carbon steel



Code	Size (L)	Range (W)
7261-150	150mm	20-170mm
7261-200	200mm	22-220mm
7261-250	245mm	30-270mm
7261-300	300mm	30-320mm

7261-150



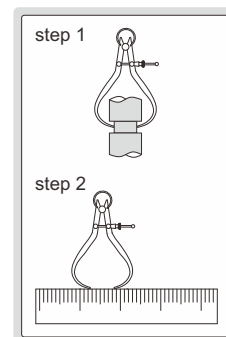
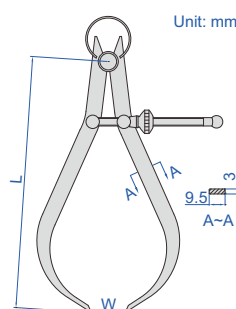
OUTSIDE SPRING CALIPERS

- Made of carbon steel



Code	Size (L)	Range (W)
7262-150	155mm	0-140mm
7262-200	210mm	0-210mm
7262-250	265mm	0-270mm
7262-300	310mm	0-320mm

7262-150



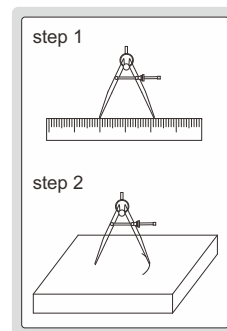
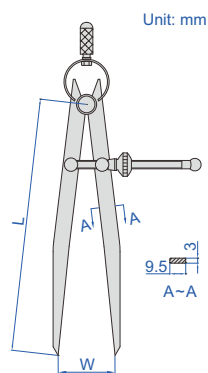
SPRING DIVIDERS

- Made of carbon steel
- Hardened points

Code	Size (L)	Range (W)
7260-150	150mm	0-150mm
7260-200	200mm	0-210mm
7260-250	245mm	0-260mm
7260-300	300mm	0-320mm



7260-150



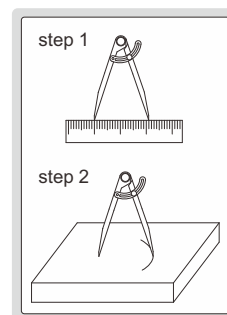
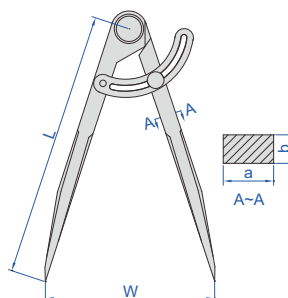
DIVIDERS

- Made of carbon steel
- Hardened points

Code	Size (L)	Range (W)	(mm)	
			a	b
7247-150	150mm	0-140mm	8.5	7
7247-200	200mm	0-190mm	10	7
7247-300	300mm	0-290mm	12	7



7247-150



LENGTH TAPES

INSIZE PLUS
MADE IN EUROPE

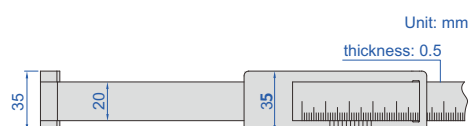


- Measure the distance between two parallel surfaces
- Laser engraved scale
- Made of stainless steel



7141-2200

Code	Range (L)	Graduation	Accuracy
7141-950	60-950mm	0.1mm	±0.15mm
7141-2200	900-2200mm	0.1mm	±0.20mm
7141-3460	2190-3460mm	0.1mm	±0.20mm
7141-4780	3400-4780mm	0.1mm	±0.25mm
7141-6000	4700-6000mm	0.1mm	±0.30mm





WIRELESS DIGITAL MEASURING TAPES + LASER DISTANCE METERS



digital measuring tape



laser distance meter

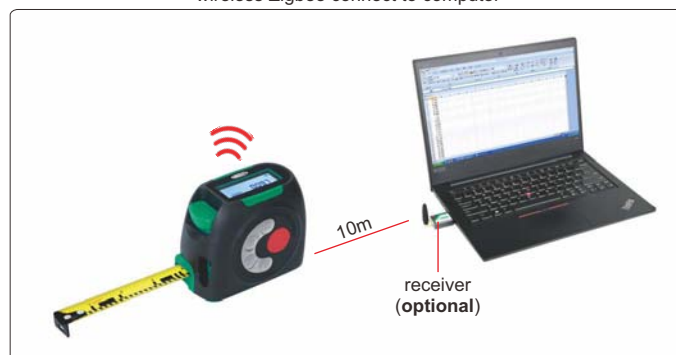


- Built-in bluetooth or wireless Zigbee transmission
- Display with backlight
- Automatic power off: laser 30s, main unit 180s
- Can work continuously for 5 hours
- Can store 50 groups of measurement data

bluetooth connect to phone (APP)



wireless Zigbee connect to computer



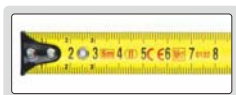
SPECIFICATION

Code		9563-C40	9563-C60	9563-WL40	9563-WL60
Output		bluetooth (data can be transmitted to APP)		wireless Zigbee (optional receiver required: code 7315-2/3/6/7/8/9) (data can be transmitted to excel, word, txt etc.)	
Digital measuring tape	range	5m			
	resolution	0.001m			
	accuracy	±1.5mm			
	blade width	19mm			
	horizontal stand-out	≥1.8m			
Laser distance meter	range	40m	60m	40m	60m
	resolution	0.001m			
	accuracy	±(3+D/20)mm, D: measured distance, unit: m			
	units	m, ft, in, ft+in			
	laser type	630~670nm, <1mW, class 2			
	measurement function	single, continuous, area, volume, pythagoras measurement			
Operation temperature		0~40°C			
Storage temperature		-10~60°C			
Power supply		built-in rechargeable lithium battery			
Dimension (L×W×H)		95×74×56mm			
Weight		313g			

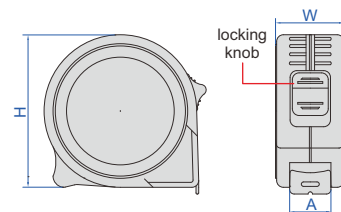
MEASURING TAPES

EG
II

graduation



7140-5



- Non-glare nylon surface for wear resistance
- Accuracy: $\pm(0.3+0.2L)\text{mm}$ (L is the measured length rounded up to the next whole meter), meet MI-008 of DIRECTIVE 2014/32/EU

Individual (1 pc per package)

Code	Range	Graduation	Width of tape A	W	H
7140-3	0-3m	1mm	16mm	28mm	62mm
7140-5	0-5m	1mm	19mm	30mm	68mm
7140-8	0-8m	1mm	25mm	38mm	78mm

Set (12 pcs per package)

Code	Range	Graduation	Width of tape A	W	H
7140-3A	0-3m	1mm	16mm	28mm	62mm
7140-5A	0-5m	1mm	19mm	30mm	68mm
7140-8A	0-8m	1mm	25mm	38mm	78mm

MEASURING TAPES (BASIC TYPE)

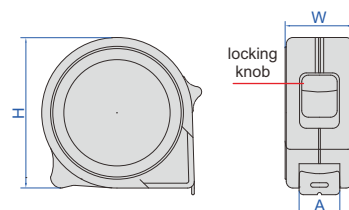
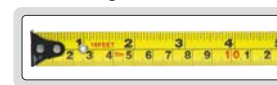
EG
II

- Non-glare nylon coating tape, wear resistance
- Accuracy: $\pm(0.3+0.2L)\text{mm}$ (L is the measured length rounded up to the next whole meter), meet MI-008 of DIRECTIVE 2014/32/EU



7142-5

graduation



Individual (1 pc per package)

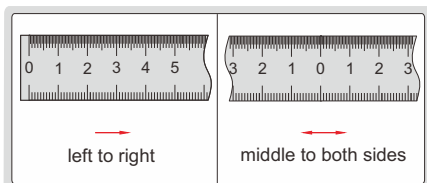
Code	Range	Graduation	Width of tape A	W	H
7142-5	0-5m/0-16ft	1mm, 1/16"	19mm	31mm	64mm

Set (12 pcs per package)

Code	Range	Graduation	Width of tape A	W	H
7142-5A	0-5m/0-16ft	1mm, 1/16"	19mm	31mm	64mm

SELF ADHESIVE MEASURING TAPES

type of reading



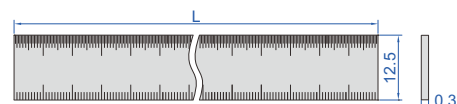
7139-50

self adhesive back



- Self adhesive back
- Steel tape, non-glare coating, wear resistance

Code	Range (L)	Graduation	Accuracy	Type of reading
7139-50	50-0-50cm	1mm	$\pm 0.2\text{mm}$	middle to both sides
7139-100	0-100cm	1mm	$\pm 0.4\text{mm}$	left to right

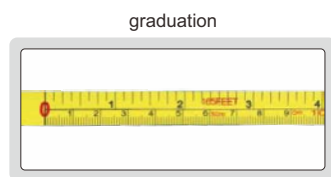


Unit: mm

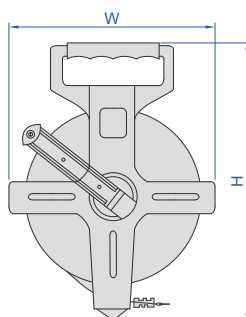
LONG MEASURING TAPE

EG II

7143-50



- High tensile strength fibreglass tape
- Nylon coating tape, wear resistance
- Accuracy: $\pm(0.3+0.2L)$ mm (L is the measured length rounded up to the next whole meter), meet MI-008 of DIRECTIVE 2014/32/EU



Code	Range	Graduation	Width of tape	W	H
7143-50	0-50m/0-165ft	1mm, 1/8"	13mm	220mm	320mm

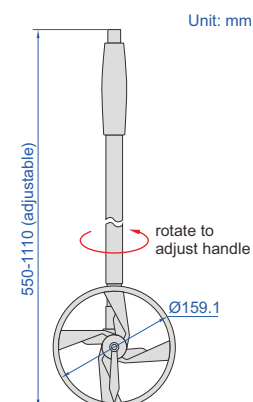
MEASURING WHEEL (BASIC TYPE)

- ABS plastic frame, wear-resistant PU tire
- Three-section adjustable handle

Code	Range	Resolution
7144-1	0.1-9999.9m	0.1m



7144-1



- ABS plastic frame, wear-resistant PU tire
- Two-section foldable handle



after folding



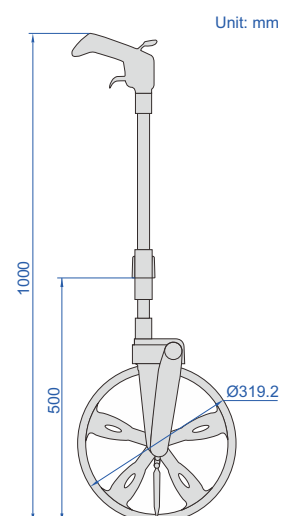
backpack (included)



7145-1

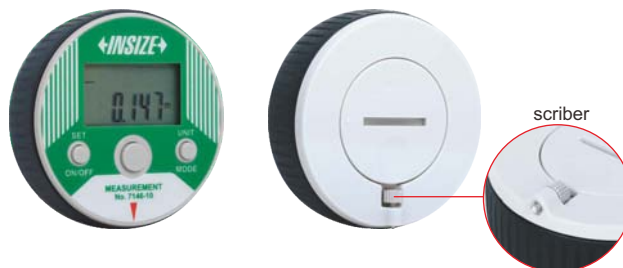
MEASURING WHEEL

Code	Range	Resolution
7145-1	0.1-9999.9m	0.1m



DIGITAL MEASURING WHEEL

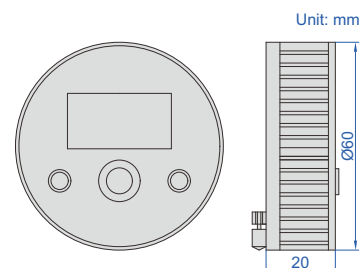
IP40
WATERPROOF



7146-10

- IP40 dust/waterproof
- Measuring length of curve
- Four measurement modes: length, rectangle area, diameter of circle, cube
- Resolution: 0.001m/0.01ft
- Button function: on/off, mm/inch, one or two sides set, measurement mode conversion, measurement
- Battery CR2032, automatic power off

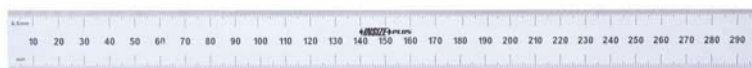
Code	Range	Accuracy
7146-10	0-10m/0-32.8ft	±0.3%L (L is the measured length)



RIGID RULES

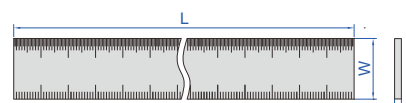
INSIZE PLUS
MADE IN USA

- Rigid rules
- Graduation on front and back sides
- Made of special steel
- Satin chrome plated



7122-300

Code	Range (L)	Graduation	Accuracy	W	T
7122-150	150mm	0.5mm/1mm	+0.10/-0.09mm	18.50mm	1mm
7122-300	300mm	0.5mm/1mm	+0.13/-0.09mm	24.50mm	1mm
7122-600	600mm	0.5mm/1mm	+0.18/-0.09mm	29.50mm	1mm



RIGID RULE



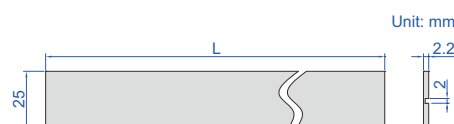
7113-300A

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



groove on the back

Code	Range	Graduation		Accuracy	L
		front	back		
7113-300A	300mm/12"	0.5mm and 1/32"	1mm and 1/64"	±0.15mm	300mm



Unit: mm

FLEXIBLE RULES

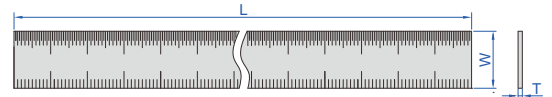
INSIZE PLUS
MADE IN USA



7121-150

- Can be used in the way of bending
- Graduation on front and back sides
- Made of special steel
- Satin chrome plated

Code	Range (L)	Graduation	Accuracy	W	T
7121-150	150mm	0.5mm/1mm	+0.10/-0.09mm	12.50mm	0.40mm
7121-300	300mm	0.5mm/1mm	+0.13/-0.09mm	12.50mm	0.40mm
7121-600	600mm	0.5mm/1mm	+0.18/-0.09mm	19.50mm	0.50mm



can be used in the way of bending



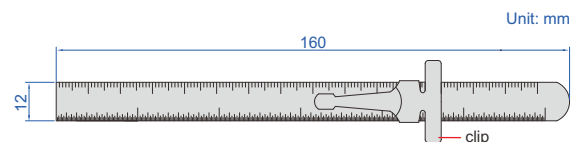
POCKET RULE WITH SLIDING CLIP

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



7119-150

Code	Range	Graduation	Accuracy
7119-150	150mm/6"	1mm, 1/64"	±0.3mm



TAPER GAGE AND STEEL RULER SET

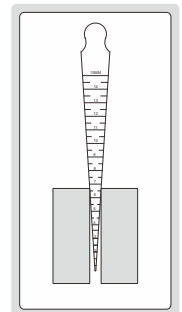


front

4829-1

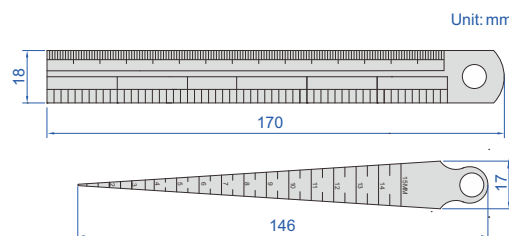
back

use the taper gage to measure slot width



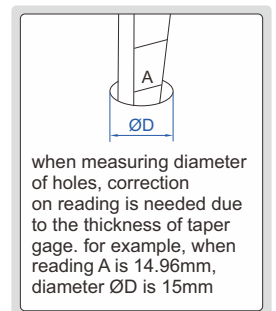
- Diameter correction table on the taper gage back
- Made of stainless steel

Code	Tool	Range	Graduation	Accuracy
4829-1	taper gage	0.8-15mm	0.1mm	±0.05mm
	steel ruler	150mm/6"	1.0mm	±0.18mm



Unit: mm

use the taper gage to measure diameter of hole



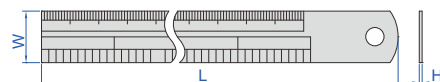
STEEL RULES

POPULAR
MODEL



7110-300

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



Individual (1 pc per package)

(mm)

Code	Range	Accuracy	L	W	H	Remark
7110-150	150mm/6"	±0.18mm	170	18	1.0	graduation on front and back
7110-200	200mm/8"	±0.18mm	220	18	1.0	graduation on front and back
7110-300	300mm/12"	±0.27mm	330	25	1.0	graduation on front and back
7110-3001	300mm/12"	±0.27mm	325	30	1.0	graduation on front and back
7110-500	500mm/20"	±0.40mm	530	30	1.2	graduation on front and back
7110-600	600mm/24"	±0.50mm	630	30	1.2	graduation on front and back
7110-1000	1000mm/40"	±0.50mm	1040	32	1.5	graduation on front and back
7110-1200	1200mm/48"	±0.80mm	1240	35	1.8	graduation on front
7110-1500	1500mm/60"	±1.00mm	1550	38	1.8	graduation on front
7110-2000	2000mm/80"	±1.00mm	2065	40	2.0	graduation on front

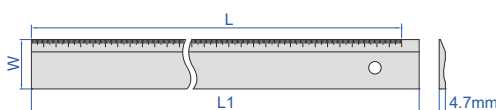
Set

(mm)

Code	Range	Accuracy	L	W	H	Remark	Quantity per package
7110-150A	150mm/6"	±0.18mm	170	18	1.0	graduation on front and back	10 pcs
7110-200A	200mm/8"	±0.18mm	220	18	1.0	graduation on front and back	10 pcs
7110-300A	300mm/12"	±0.27mm	330	25	1.0	graduation on front and back	5 pcs
7110-3001A	300mm/12"	±0.27mm	325	30	1.0	graduation on front and back	5 pcs
7110-500A	500mm/20"	±0.40mm	530	30	1.2	graduation on front and back	5 pcs
7110-600A	600mm/24"	±0.50mm	630	30	1.2	graduation on front and back	5 pcs
7110-1000A	1000mm/40"	±0.50mm	1040	32	1.5	graduation on front and back	5 pcs
7110-1200A	1200mm/48"	±0.80mm	1240	35	1.8	graduation on front	5 pcs
7110-1500A	1500mm/60"	±1.00mm	1550	38	1.8	graduation on front	5 pcs
7110-2000A	2000mm/80"	±1.00mm	2065	40	2.0	graduation on front	5 pcs

ALUMINUM RULES

- Made of aluminum, oxidized surface



7123-300

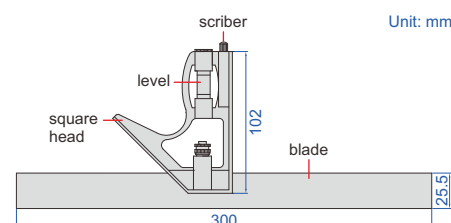
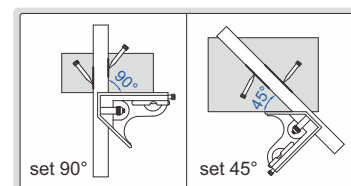
Code	Range (L)	Graduation	Accuracy	L1	W
7123-300	300mm	1mm	±0.5mm	321mm	50mm
7123-600	600mm	1mm	±0.9mm	624mm	50mm
7123-1000	1000mm	1mm	±0.9mm	1024mm	50mm

COMBINATION SQUARE (ECONOMIC TYPE)

- Square head (made of zinc): set the blade at 90° or 45° to an edge of a workpiece accuracy: $\pm 0.5^\circ$
- Blade (made of stainless steel): range: 300mm/12", graduation: 1mm and 1/32" on front face, 1mm and 1/16" on back face



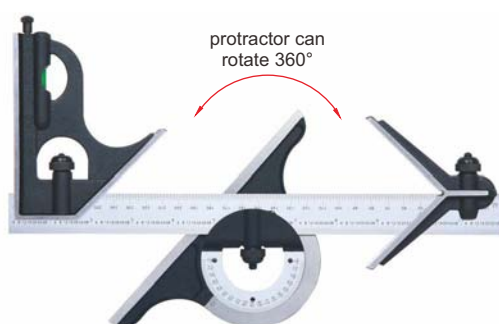
2276-300



Code

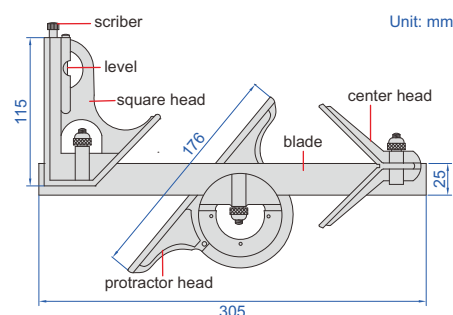
2276-300

COMBINATION SQUARE SET (OPEN TYPE PROTRACTOR)

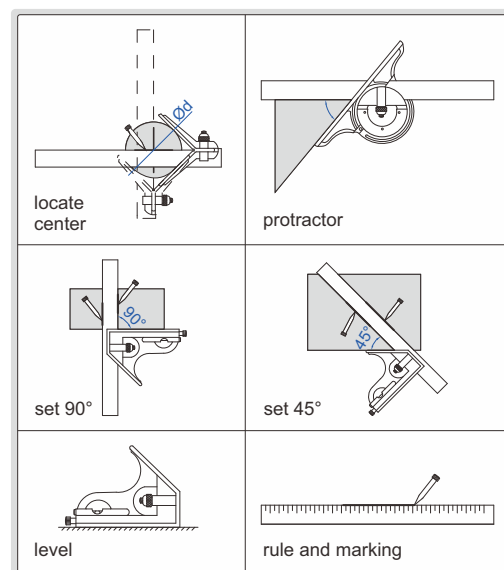


2274-4

protractor can rotate 360°



- Center head (made of cast iron): to locate center of cylinders with diameter ($\varnothing$ d): 30-100mm accuracy: $\pm 0.15\text{mm}$
- Protractor head (made of cast iron): set the blade at desired angle to an edge of a workpiece, and can be used to measure angles range: 0-180° accuracy: $\pm 20\text{min}$
- Square head (made of cast iron): set the blade at 90° or 45° to an edge of a workpiece accuracy: $\pm 8\text{min}$ for 90° square, $\pm 10\text{min}$ for 45° square
- Blade (made of stainless steel): range: 300mm/12", graduation: 0.5mm and 1/32" on front face, 1mm and 1/64" on back face
- Optional accessory: rigid rule (code 7113)



Code

2274-4

Remark

4-piece set

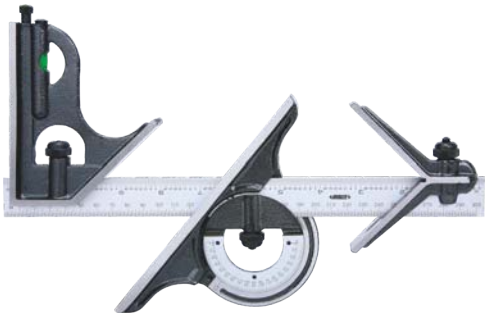
COMBINATION SQUARE SETS (CLOSE TYPE PROTRACTOR)



2278-2

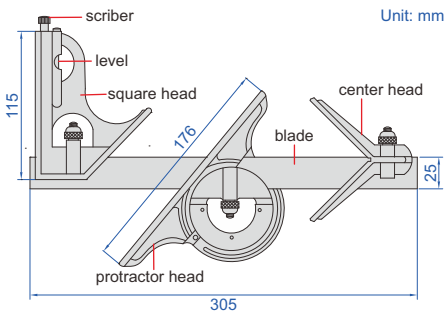


2278-3



2278-180

- Center head (made of cast iron):
to locate center of cylinders with diameter (Ød): 30-100mm
accuracy: $\pm 0.15\text{mm}$
- Protractor head (made of cast iron):
set the blade at desired angle to an edge of a workpiece,
and can be used to measure angles
range: 0-180°
accuracy: $\pm 20\text{min}$.
- Square head (made of cast iron):
set the blade at 90° or 45° to an edge of a workpiece
accuracy: $\pm 8\text{min}$ for 90° square,
 $\pm 10\text{min}$ for 45° square
- Blade (made of stainless steel):
range: 300mm/12",
graduation: 0.5mm and 1/32" on front face,
1mm and 1/64" on back face
- Optional accessory: rigid rule (code 7113)



locate center	protractor	set 90°
set 45°	rule and marking	level

Code	Remark
2278-2	2-piece set
2278-3	3-piece set
2278-180	4-piece set

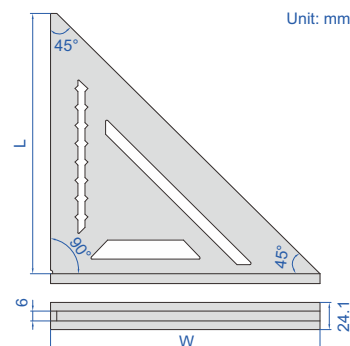
PLASTIC ANGLE SQUARE

- Length range: 0-7", graduation: 1/8"
- Angel range: 0-90°, graduation: 1°

Code	Size (L×W)	Accuracy of angle
2282-180	180×185mm	±0.3°

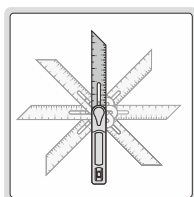


2282-180



T-BEVEL

blade can rotate 360°

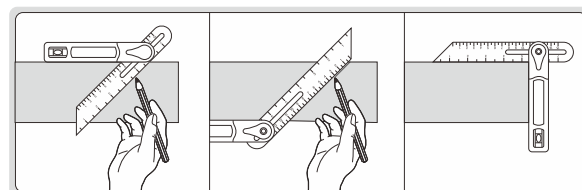
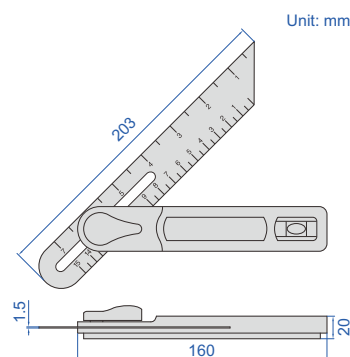


- Easy-to-read vial
- The blade can move and can be locked by the clamping screw
- Stainless steel blade
- Tough rubber handle
- Centimeter/inch graduations

Code	Angle mark	Accuracy of angle
2281-360	15°, 30°, 45°, 60°, 90°	±1°



2281-360



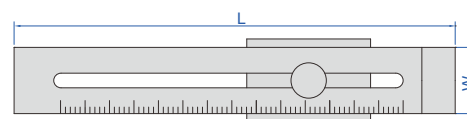
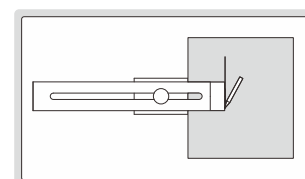
MARKING GAGES

- Made of carbon steel
- Satin chrome plated

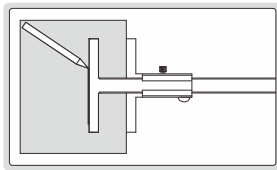
Code	Range	Graduation	Accuracy	L	W
7120-200A	0-200mm	0.1mm	±0.1mm	250mm	40mm
7120-250A	0-250mm	0.1mm	±0.1mm	300mm	40mm
7120-300A	0-300mm	0.1mm	±0.1mm	350mm	40mm



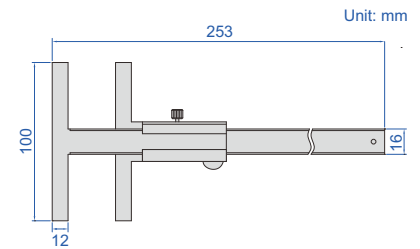
7120-200A



T-SHAPE MARKING GAGE



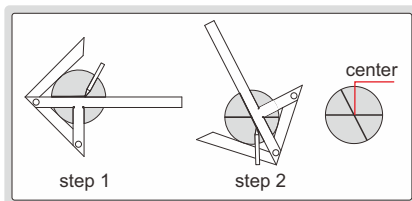
1275-150B



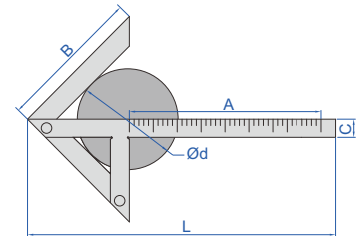
- Made of stainless steel
- Satin chrome plated reading surface

Code	Range	Graduation	Accuracy
1275-150B	0-150mm	0.02mm	±0.04mm

CENTER MARKING GAGES



7205-100

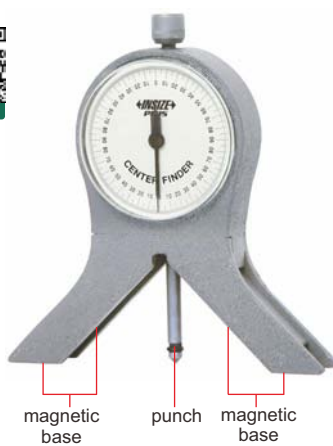


Code	Size (AxB)	Diameter of shafts (Ød)	Accuracy	C	L
7205-100	100x70mm	4-90mm	±0.15mm	12mm	153mm
7205-150	150x130mm	4-190mm	±0.15mm	15mm	245mm
7205-200	200x150mm	6-220mm	±0.15mm	15mm	310mm
7205-300	300x180mm	6-270mm	±0.15mm	20mm	435mm

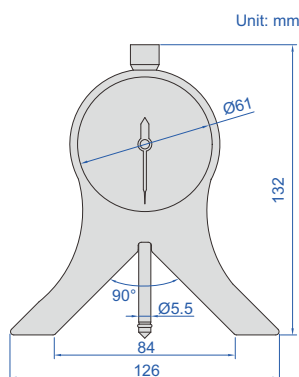
- Marking the center of round plates and shafts
- Made of stainless steel
- Satin chrome plated

LOCATOR

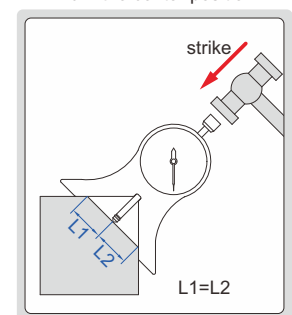
INSIZE PLUS
MADE IN USA



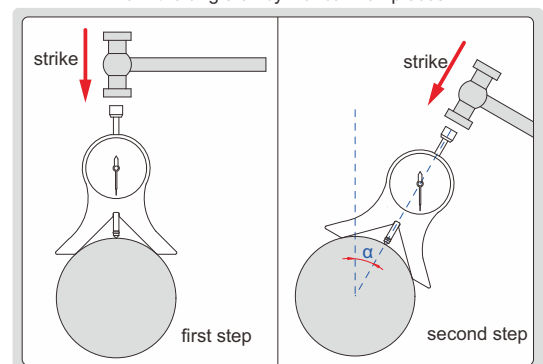
2849-90



mark the center position



mark the angle on cylindrical workpieces



- Mark the position when drilling, milling or welding, suitable for cylindrical and rectangular workpieces
- The punch hardness is HRC59-63
- Optional accessory: punch (code 2849-P1)

Code	Range	Graduation	Accuracy	Dial reading
2849-90	4x90°	1°	±1°	0-90-0-90-0

SCRIBING CALIPER

- Made of stainless steel
- Satin chrome plated reading surface
- Carbide scriber tip
- Optional accessory: carbide scriber tip (code **SP-SCRIBER-7202**)

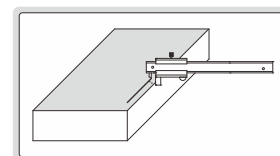
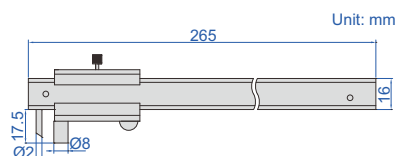
the position of scriber tip can be adjusted



Code	Range	Graduation	Accuracy
7202-200A	0-200mm/0-8"	0.1mm, 1/128"	±0.1mm



7202-200A



DIGITAL SCRIBING CALIPERS

- Non waterproof
- The carbide-tipped jaws facilitate scribing on workpieces
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel

With data interface (data output cable code **7315-21** need receiver page 4, **7302-21** page 12, optional)

Code	Range	Accuracy
1166-150A	0-150mm/0-6"	±0.03mm

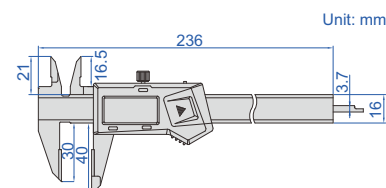
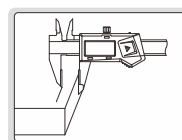
Built-in wireless (receiver code **7315-2/3/6/7/8/9** is required)

Code	Range	Accuracy
1166-150AWL	0-150mm/0-6"	±0.03mm

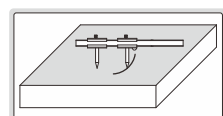


1166-150A

DATA OUTPUT



SCRIBING CALIPER

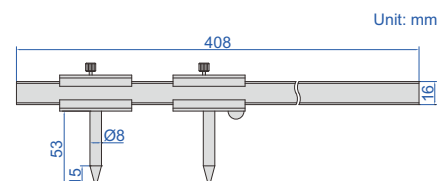


- Made of stainless steel
- Satin chrome plated reading surface
- Hardened scriber tips

Code	Range	Graduation	Accuracy
7203-300A	51-300mm	0.1mm	±0.1mm



7203-300A



Unit: mm

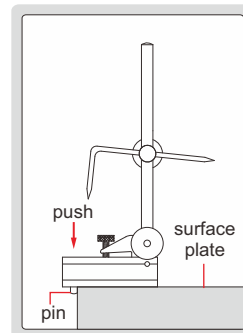
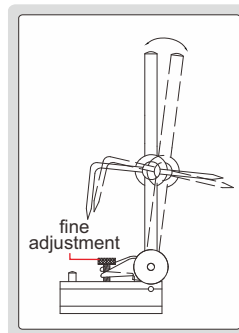
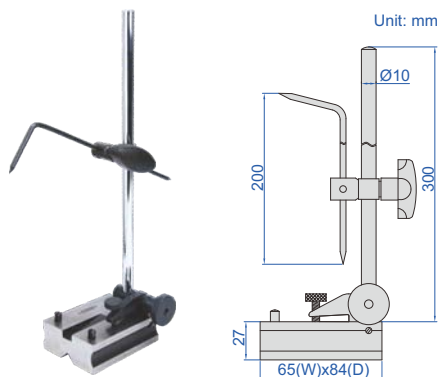
HEIGHT SCRIBER

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

Code

6990-300A

6990-300A



SCRIBERS

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

Code

Tip

7230

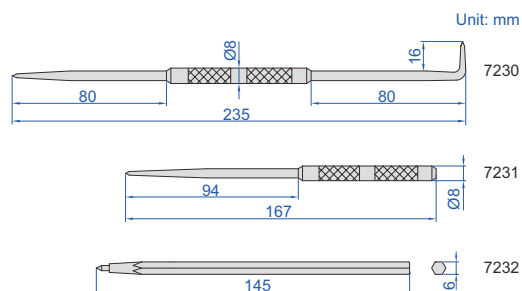
hardened tips

7231

hardened tip

7232

carbide tip



PRECISION SCREWDRIVER SET CODE ISGF-0901

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



ISGF-0901

packaging



LED FLASHLIGHT CODE ISGF-0501

- Toshiba high performance LED
- Powered by 3x AAA batteries (batteries are not included)
- Max output: 120 lumens
- Battery life: 4 hours
- Beam distance: 70 meters
- IP54 dust/waterproof



ISGF-0501

packaging



MEASURING TOOLS REPAIR TOOL SET

- For repairing of calipers, micrometers and indicators
- Including:
 - 1) Slotted screwdriver, 1.4×20mm
 - 2) Slotted screwdriver, 2.0×20mm
 - 3) Slotted screwdriver, 2.4×25mm
 - 4) Slotted screwdriver, 3.0×25mm
 - 5) Cross screwdriver, 0#×25mm
 - 6) Cross screwdriver, 1#×25mm
 - 7) Magnetizer and demagnetizer
 - 8) Pointed tweezer, 125mm
 - 9) Mini needle-nose pliers, 5"
 - 10) Extended flat head allen wrench, 1.5×80mm
 - 11) Extended flat head allen wrench, 2.5×94mm
 - 12) Extended flat head allen wrench, 3×92mm
 - 13) Needle puller, 3 pcs
 - 14) Copper hammer, 126g
 - 15) Copper rod, Ø10×60mm
 - 16) Dial face suction cup, Ø30mm
 - 17) Oil stone, 100×20×10mm
 - 18) Cleaning brush
 - 19) Micrometer wrench
 - 20) Three point inside micrometer rod wrench, 2 pcs
 - 21) Anti rust oil, 30ml
 - 22) Special anti rust oil for micrometers, 30ml
 - 23) Dust free cloth, 5 pcs



7338-1

Code

7338-1

2-PIECE MEASURING TOOL SETS

- Includes:
 - 1) Vernier caliper, range 0-150mm/0-6", graduation 0.05mm/1/128" (code **1205-150S**) for **5021**, graduation 0.02mm/0.001" (code **1205-1502S**) for **5021-2**
 - 2) Outside micrometer, range 0-25mm, graduation 0.01mm (code **3202-25A**)

Code	Remark
5021	vernier caliper, graduation 0.05mm/1/128" (code 1205-150S)
5021-2	vernier caliper, graduation 0.02mm/0.001" (code 1205-1502S)



5021

2-PIECE MEASURING TOOL SET

- Includes:
 - 1) Digital caliper, range 0-150mm/0-6", resolution 0.01mm/0.0005" (code **1108-150**)
 - 2) Digital outside micrometer, range 0-25mm/0-1", resolution 0.001mm/0.00005" (code **3109-25A**)

Code

5022



5022

2-PIECE MEASURING TOOL SET

■ Includes:

- 1) Dial test indicator, range 0.8mm, graduation 0.01mm (code **2380-08**)
- 2) Magnetic stand

Code

5023



5023

2-PIECE MEASURING TOOL SET

■ Includes:

- 1) Dial indicator, range 10mm, graduation 0.01mm (code **2308-10A**)
- 2) Magnetic stand (code **6201-60**)

Code

5024



5024

3-PIECE MEASURING TOOL SET

■ Includes:

- 1) Digital indicator, range 12.7mm/0.5", resolution 0.01mm/0.0005" (code **2112-10**)
- 2) Flex arm
- 3) Locking pliers, adjustable jaw opening from 0 to 25mm



Code

5031



5031

3-PIECE MEASURING TOOL SET

■ Includes:

- 1) Vernier caliper, range 0-150mm graduation 0.02mm (code **1205-1501S**)
- 2) Outside micrometer, range 0-25mm, graduation 0.01mm (code **3203-25A**)
- 3) Steel rule, range 150mm/6", graduation 0.5mm, 1mm, 1/64", 1/32", 1/16" (code **7110-150**)
- 4) Dust free gloves and dust free cloth

dust free gloves and
dust free cloth



Code

5032



5032



5041

4-PIECE MEASURING TOOL SETS

- Includes:
 - 1) Vernier caliper, range 0-150mm/0-6", graduation 0.05mm/1/128" (code **1205-150S**) for **5041**, graduation 0.02mm/0.001" (code **1205-1502S**) for **5041-2**
 - 2) Outside micrometer, range 0-25mm, graduation 0.01mm (code **3202-25A**)
 - 3) 90° beveled edge square, 100x70mm, grade 0 (code **4790-1000**)
 - 4) Steel rule, 150mm/6" (code **7110-150**)

Code	Remark
5041	vernier caliper, graduation 0.05mm/1/128" (code 1205-150S)
5041-2	vernier caliper, graduation 0.02mm/0.001" (code 1205-1502S)



5042

4-PIECE MEASURING TOOL SET

- Includes:
 - 1) Digital caliper, range 0-150mm/0-6", resolution 0.01mm/0.0005" (code **1108-150**)
 - 2) Outside micrometer, range 0-25mm, graduation 0.01mm, (code **3202-25A**)
 - 3) 90° beveled edge square, 100x70mm, grade 0 (code **4790-1000**)
 - 4) Steel rule, 150mm/6" (code **7110-150**)

Code
5042



5051

5-PIECE MEASURING TOOL SET

- Includes:
 - 1) Digital caliper, range 0-150mm/0-6", resolution 0.01mm/0.0005", (code **1108-150**)
 - 2) Outside micrometer, range 0-25mm, graduation 0.01mm (code **3203-25A**)
 - 3) Dial indicator, range 10mm, graduation 0.01mm (code **2308-10A**)
 - 4) Magnetic stand (code **6201-60**)
 - 5) Micrometer stand (code **6300**)

Code
5051



5052

5-PIECE MEASURING TOOL SET

- Includes:
 - 1) Digital caliper, range 0-150mm/0-6", resolution 0.01mm/0.0005" (code **1108-150**)
 - 2) Digital outside micrometer, range 0-25mm/0-1", resolution 0.001mm/0.00005" (code **3109-25A**)
 - 3) Digital indicator, range 12.7mm/0.5", resolution 0.01mm/0.0005" (code **2112-10**)
 - 4) Magnetic stand (code **6201-60**)
 - 5) Micrometer stand (code **6300**)

Code
5052

6-PIECE MEASURING TOOL SET

- Includes:
 - 1) Digital caliper, range 0-150mm/0-6", resolution 0.01mm/0.0005" (code **1108-150**)
 - 2) Outside micrometer, range 0-25mm, graduation 0.01mm (code **3202-25A**)
 - 3) Dial indicator, range 10mm, graduation 0.01mm (code **2308-10FA**)
 - 4) 90° beveled edge square, 100x70mm, grade 0 (code **4790-1000**)
 - 5) Scriber (code **7230**)
 - 6) Steel rule, 150mm/6" (code **7110-150**)

Code
5061



5061

6-PIECE MEASURING TOOL SET

- Includes:
 - 1) Digital caliper, range 0-150mm/0-6" resolution 0.01mm/0.0005" (code **1108-150**)
 - 2) Outside micrometer, range 0-25mm graduation 0.01mm (code **3202-25A**)
 - 3) 90° beveled edge square, 100x70mm grade 00 (code **4790-0100**)
 - 4) Straight edge, 100mm (code **4700-100**)
 - 5) Spring divider, 150mm (code **7260-150**)
 - 6) Steel rule, 200mm/8" (code **7110-200**)

Code
5062



5062

6-PIECE MEASURING TOOL SETS

- Includes:
 - 1) Vernier caliper, range 0-150mm/0-6", graduation 0.05mm/1/128" (code **1205-150S**) for **5063**, graduation 0.02mm/0.001" (code **1205-1502S**) for **5063-2**
 - 2) Outside micrometer, range 0-25mm graduation 0.01mm (code **3202-25A**)
 - 3) 90° beveled edge square, 100x70mm grade 00 (code **4790-0100**)
 - 4) Straight edge, 100mm (code **4700-100**)
 - 5) Spring divider, 150mm (code **7260-150**)
 - 6) Steel rule, 200mm/8" (code **7110-200**)

Code	Remark
5063	vernier caliper, graduation 0.05mm/1/128" (code 1205-150S)
5063-2	vernier caliper, graduation 0.02mm/0.001" (code 1205-1502S)



5063

8-PIECE MEASURING TOOL SET

- Includes:
 - 1) Digital caliper, range 0-150mm/0-6", resolution 0.01mm/0.0005" (code **1108-150**)
 - 2) Digital outside micrometer, range 0-25mm/0-1", graduation 0.001mm/0.00005" (code **3109-25A**)
 - 3) Dial test indicator, range 0.8mm, graduation 0.01mm (code **2380-08**)
 - 4) Magnetic stand (code **6201-60**)
 - 5) Parallel/square set, 75x50x25mm (code **6531-25**)
 - 6) Steel rule, 150mm/6" (code **7110-150**)
 - 7) Depth base attachment (code **6140**)
 - 8) Zero setting bar for depth base attachment

Code
5081



5081

9-PIECE MEASURING TOOL SET

- Includes:
 - 1) Digital caliper, range 0-150mm/0-6", resolution 0.01mm/0.0005" (code **1108-150**)
 - 2) Outside micrometer, range 0-25mm, graduation 0.01mm (code **3202-25A**)
 - 3) Protractor, range 0-180°, graduation 1° (code **4799-180**)
 - 4) Pitch gauge, range 0.25-7mm, 24 pcs, metric 60° thread (code **4820-124**)
 - 5) Radius gauge, range 1-7mm (code **4801-17**)
 - 6) Feeler gauge, range 0.05-1.00mm, 20 pcs (code **4602-20**)
 - 7) 90° beveled edge square, 100x70mm, grade 0 (code **4790-1000**)
 - 8) Scriber (code **7230**)
 - 9) Steel rule, 150mm/6" (code **7110-150**)

Code
5091



5091

13-PIECE MEASURING TOOL SET

- Includes:
 - 1) Digital caliper, range 0-150mm/0-6", resolution 0.01mm/0.0005" (code **1108-150**)
 - 2) Outside micrometer, range 0-25mm, graduation 0.01mm (code **3202-25A**)
 - 3) Dial indicator, range 10mm, graduation 0.01mm (code **2308-10A**)
 - 4) Magnetic stand (code **6201-60**)
 - 5) Protractor, range 0-180°, graduation 1° (code **4799-180**)
 - 6) Pitch gauge, range 0.25-7mm, 24 pcs, metric 60° thread (code **4820-124**)
 - 7) Radius gauge, range 1-7mm (code **4801-17**)
 - 8) Feeler gauge, range 0.05-1.00mm, 20 pcs (code **4602-20**)
 - 9) 90° beveled edge square, 100x70mm, grade 0 (code **4790-1000**)
 - 10) Scriber (code **7230**)
 - 11) Steel rule, 150mm/6" (code **7110-150**)
 - 12) Depth base attachment (code **6140**)
 - 13) Zero setting bar for depth base attachment

Code
5013



5013



Granite Surface Plates
Page 450



Jack Sets For Granite
Surface Plates
Page 451



Stands For Granite Surface
Plates
Page 451



Magnetic Rectangular
Blocks
Page 452



V-blocks
Page 452-456



Magnetic V-blocks
Page 456-458



Magnetic Induction
V-blocks
Page 458



Squares With V Groove
Page 459



Permanent Magnetic
Chucks
Page 459



Parallels
Page 460-462



Parallel/Square Sets
Page 462



Magnetic Induction Parallel
Sets
Page 463



Angle Plate Sets
Page 463



Adjustable Angle Blocks
Page 464



Right Angle Plates
Page 464-465



Sine Bars
Page 465



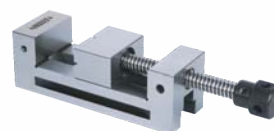
Sine Tables
Page 466



Precision Sine Vises
Page 467-468



Precision Universal Vises
Page 468



Precision Vises
Page 469



Anvil Vises
Page 469



Stages
Page 470-473

GRANITE SURFACE PLATES



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

- Made of Indian granite, high hardness, free from deterioration or dimensional change over time, minimal changes in dimension due to temperature changes
- Meet DIN876, grade 00 is for inspection room or lab, grade 0 is for workshop
- Optional accessory:
stand for granite surface plate (code **6902**),
jack for granite surface plate (code **6903**)



6900-132

Grade 00

Code	Size (L×W×H)	Flatness	Weight	Max. load
6900-132*	300×200×60mm	2.7μm	11kg	30kg
6900-142*	400×250×60mm	2.9μm	18kg	50kg
6900-144*	400×400×60mm	3.1μm	29kg	60kg
6900-153*	500×315×70mm	3.2μm	33kg	60kg
6900-164*	630×400×80mm	3.5μm	60kg	65kg
6900-166*	630×630×100mm	3.8μm	119kg	75kg
6900-185*	800×500×100mm	3.9μm	120kg	100kg
6900-1106*	1000×630×140mm	4.4μm	265kg	200kg
6900-1107*	1000×750×150mm	4.5μm	337kg	300kg
6900-1101*	1000×1000×150mm	4.8μm	450kg	400kg
6900-1128*	1200×800×160mm	4.9μm	461kg	500kg
6900-1161*	1600×1000×180mm	5.8μm	864kg	600kg
6900-1201*	2000×1000×220mm	6.5μm	1320kg	650kg
6900-1202*	2000×1500×250mm	7.0μm	2250kg	750kg



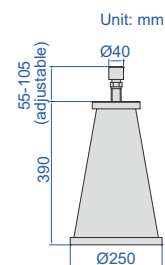
Grade 0

Code	Size (L×W×H)	Flatness	Weight	Max. load
6900-032*	300×200×60mm	5.4μm	11kg	60kg
6900-042*	400×250×60mm	5.9μm	18kg	100kg
6900-044*	400×400×60mm	6.3μm	29kg	120kg
6900-053*	500×315×70mm	6.4μm	33kg	120kg
6900-064*	630×400×80mm	7.0μm	60kg	130kg
6900-066*	630×630×100mm	7.6μm	119kg	150kg
6900-085*	800×500×100mm	7.8μm	120kg	200kg
6900-0106*	1000×630×140mm	8.7μm	265kg	400kg
6900-0107*	1000×750×150mm	9.0μm	337kg	600kg
6900-0101*	1000×1000×150mm	9.7μm	450kg	800kg
6900-0128*	1200×800×160mm	9.8μm	461kg	1000kg
6900-0161*	1600×1000×180mm	11.5μm	864kg	1200kg
6900-0201*	2000×1000×220mm	12.9μm	1320kg	1300kg
6900-0202*	2000×1500×250mm	14.0μm	2250kg	1500kg

* Supplied with manufacturer inspection certificate

JACK SET FOR GRANITE SURFACE PLATES

- 5 jacks per set
- Adjustable height
- For large granite surface plates:
2000×1000×220mm
(code **6900-0201** and **6900-1201**)
2000×1500×250mm
(code **6900-0202** and **6900-1202**)

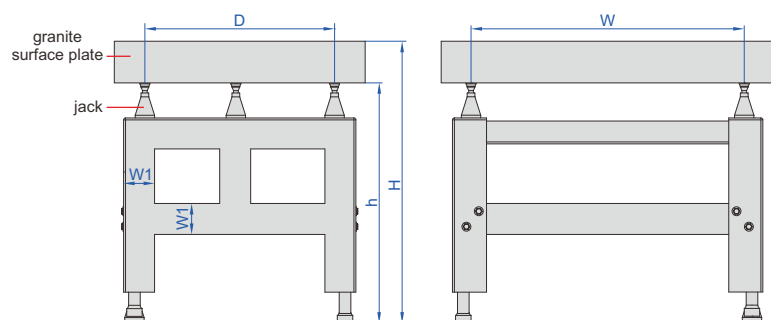


6903-B

Code

6903-B

STANDS FOR GRANITE SURFACE PLATES



6902-64A

- For medium size granite surface plates
- 5 jacks are included
- Adjusting range of jacks: 25mm
- One foot on the bottom is adjustable

Low stands

Code	For granite surface plate	W	D	H (with granite surface plate)	h (without granite surface plate)	W1
6902-64A	630×400×80mm (code 6900-064 and 6900-164)	352	224	775-800	695-720	80
6902-66A	630×630×100mm (code 6900-066 and 6900-166)	352	352	775-800	675-700	80
6902-85A	800×500×100mm (code 6900-085 and 6900-185)	448	280	775-800	675-700	80
6902-106A	1000×630×140mm (code 6900-0106 and 6900-1106)	560	352	755-780	615-640	80
6902-107A	1000×750×150mm (code 6900-0107 and 6900-1107)	560	420	755-780	605-630	80
6902-101A	1000×1000×150mm (code 6900-0101 and 6900-1101)	560	560	755-780	605-630	80
6902-128A	1200×800×160mm (code 6900-0128 and 6900-1128)	672	448	755-780	595-620	80
6902-161A	1600×1000×180mm (code 6900-0161 and 6900-1161)	896	560	755-780	575-600	100
6902-201A	2000×1000×220mm (code 6900-0201 and 6900-1201)	1120	560	755-780	535-560	100
6902-202A	2000×1500×250mm (code 6900-0202 and 6900-1202)	1120	840	755-780	505-530	100

High stands

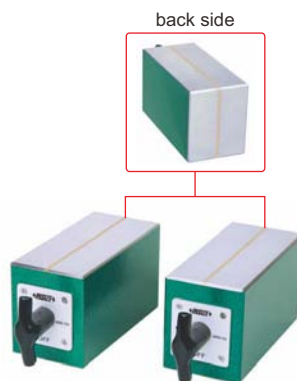
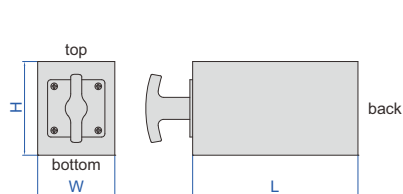
Code	For granite surface plate	W	D	H (with granite surface plate)	h (without granite surface plate)	W1
6902-64H	630×400×80mm (code 6900-064 and 6900-164)	352	224	1000-1025	920-945	80
6902-66H	630×630×100mm (code 6900-066 and 6900-166)	352	352	1000-1025	900-925	80
6902-85H	800×500×100mm (code 6900-085 and 6900-185)	448	280	1000-1025	900-925	80
6902-106H	1000×630×140mm (code 6900-0106 and 6900-1106)	560	352	1000-1025	860-885	80
6902-107H	1000×750×150mm (code 6900-0107 and 6900-1107)	560	420	1000-1025	850-875	80
6902-101H	1000×1000×150mm (code 6900-0101 and 6900-1101)	560	560	1000-1025	850-875	80
6902-128H	1200×800×160mm (code 6900-0128 and 6900-1128)	672	448	1000-1025	840-865	80
6902-161H	1600×1000×180mm (code 6900-0161 and 6900-1161)	896	560	1000-1025	820-845	100
6902-201H	2000×1000×220mm (code 6900-0201 and 6900-1201)	1120	560	1000-1025	780-805	100
6902-202H	2000×1500×250mm (code 6900-0202 and 6900-1202)	1120	840	1000-1025	750-775	100

MAGNETIC RECTANGULAR BLOCKS

HARDENED
SURFACES

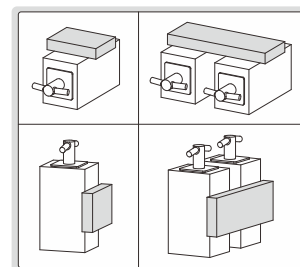
HIGH
PRECISION

STRONG
MAGNETIC FORCE



6898-150

- For grinding, light milling, drilling and inspection of round and square jobs
- Hardened, high accuracy, strong magnetic force
- Working surfaces are hardened to HRC58-62
- Magnetic force on top, bottom and back sides
- Supplied in matched pair



Code	Size (L×W×H)	Magnetic force	Parallelism of top to bottom side	Squareness of top and bottom to back side	Height difference of a matched pair
6898-100	100×70×70mm	100kgf	5μm	5μm	5μm
6898-150	150×70×85mm	125kgf	5μm	5μm	5μm

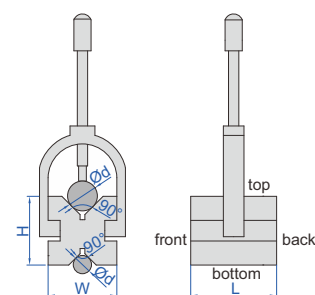
V-BLOCK SETS



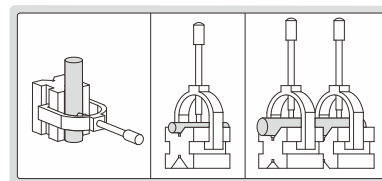
6896-10



6896-11



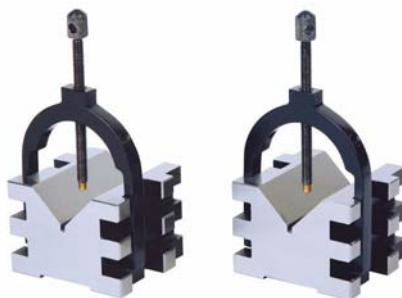
- Hold cylindrical workpieces for inspection and machining
- Two V-blocks per set
- Made of alloy steel
- Hardened to HRC60±2
- V groove on the top for large shafts
- V groove on the bottom for small shafts (except 6896-10)



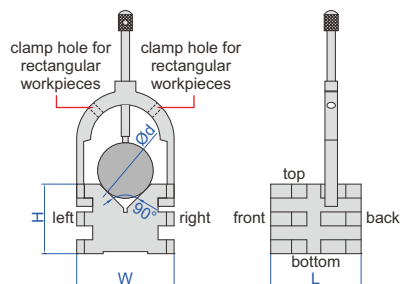
Code	Size (L×W×H)	Range of shafts (Ød)	Parallelism of both V grooves to top and bottom sides	Squareness of both V grooves to front and back sides	Height difference of a matched pair
6896-10	25×20×20mm	3-20mm	3μm	3μm	3μm
6896-11	50×40×40mm	5-30mm	5μm	5μm	5μm
6896-12	80×63×63mm	7-63mm	5μm	5μm	5μm
6896-13	100×80×80mm	7-80mm	5μm	5μm	5μm
6896-14	70×140×140mm	9-140mm	5μm	5μm	5μm

SIDE LIE-DOWN
USE IS POSSIBLE

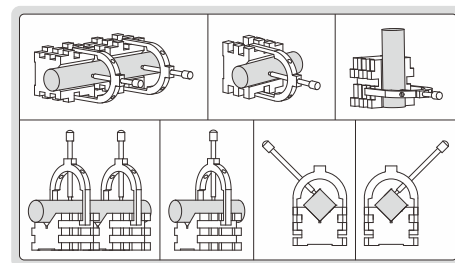
V-BLOCK SET



6802-1



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



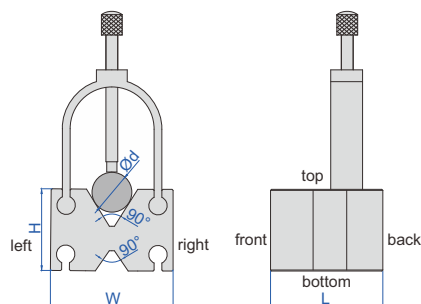
Code	Size (L×W×H)	Parallelism of V groove to top, bottom, left, right sides	Squareness of V groove to front and back sides	Height difference of a matched pair
6802-1	65×70×50mm	5µm	5µm	5µm

SIDE LIE-DOWN
USE IS POSSIBLE

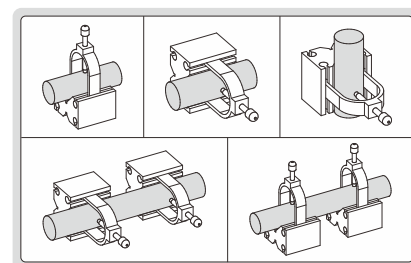
V-BLOCK SETS



6803-1



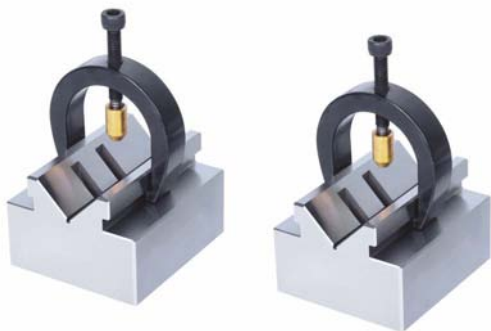
- Hold cylindrical workpieces for inspection and machining
- Two V-blocks per set
- Made of alloy steel
- Hardened to HRC60±2
- V groove on the top for large shafts
- V groove on the bottom for small shafts



Code	Size (L×W×H)	Range of shafts (Ød)	Parallelism of both V grooves to top, bottom, left, right sides	Squareness of both V grooves to front and back sides	Height difference of a matched pair
6803-1	55×60×40mm	4-35mm	5µm	5µm	5µm
6803-2	65×70×45mm	4-47mm	5µm	5µm	5µm

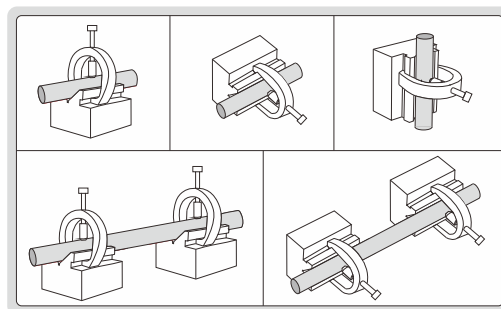
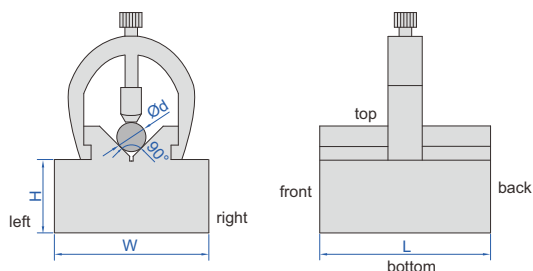
V-BLOCK SET

SIDE LIE-DOWN
USE IS POSSIBLE



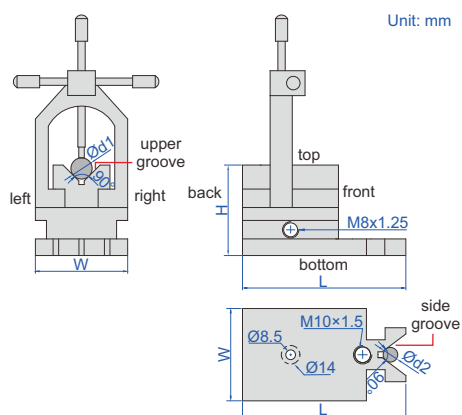
6806-20

- Hold cylindrical workpieces for inspection and machining
- Two V-blocks per set
- Made of alloy steel
- Hardened to HRC60±2
- Applicable for cylinder with diameter (Ød): 2-20mm



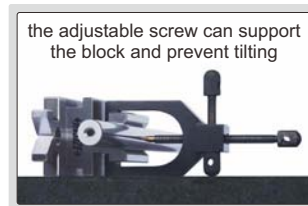
Code	Size (L×W×H)	Parallelism of V groove to bottom, left, right sides	Squareness of V groove to front and back sides	Height difference of a matched pair
6806-20	70×63×46mm	5µm	5µm	5µm

V-BLOCK



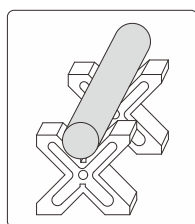
6804-M2

- Hold cylindrical workpieces for inspection and machining
- Made of alloy steel
- Hardened to HRC60±2

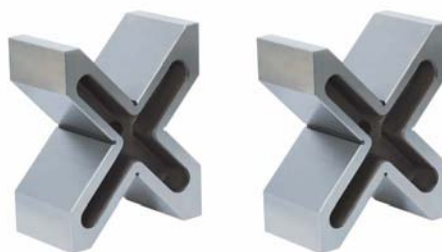


Code	Size (L×W×H)	Range of shafts (Ød1 and Ød2)	Parallelism of upper groove to bottom, left and right sides	Squareness of upper groove to back side	Parallelism of side groove to back side
6804-M2	90×48×48mm	5-33mm	5µm	5µm	5µm

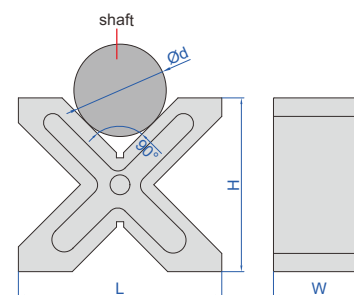
V-BLOCK SETS



- For positioning cylindrical workpieces
- Two V-blocks per set
- Each V-block has four 90° V-grooves
- Cast iron, hardness HB170-240

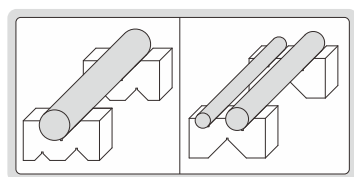


6805-2



Code	Size (L×H×W)	Range of shafts (Ød)	Parallelism of four V grooves to all sides	Height difference of a matched pair
6805-1	150×130×75mm	8-120mm	15µm	20µm
6805-2	200×170×90mm	12-180mm	15µm	20µm

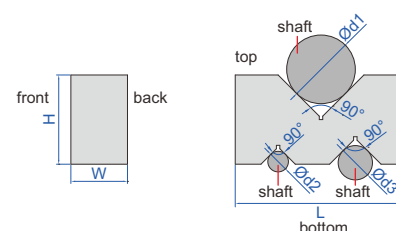
V-BLOCK SETS



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



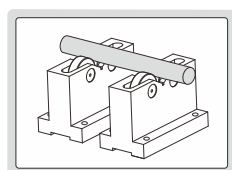
6887-3



Code	Size (L×W×H)	Range of shafts (Ød1)	Range of shafts (Ød2)	Range of shafts (Ød3)
6887-1	50×19×24mm	3-32mm	3-16mm	3-22mm
6887-2	75×24×35mm	3-50mm	3-20mm	3-32mm
6887-3	100×33×52mm	3-68mm	3-26mm	3-40mm
6887-4	125×44×69mm	3-87mm	3-34mm	3-50mm

Code	Parallelism of three V grooves to top and bottom sides	Height difference of a matched pair
6887-1	5µm	5µm
6887-2	5µm	5µm
6887-3	5µm	5µm
6887-4	5µm	5µm

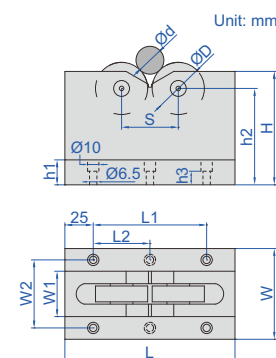
ROLLER BEARING V-BLOCK SETS



- Runout accuracy: 5µm
- Parallelism of bearings to bottom: 12µm
- Two V-blocks per set
- Workpieces don't get damaged due to bearings
- Suitable for heavy workpieces



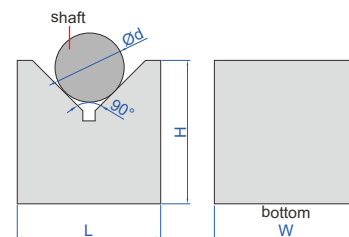
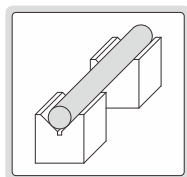
6888-1



Code	Size (L×W×H)	Code of bearings	Diameter of bearings (ØD)	Range of shafts (Ød)	Load capacity
6888-1	150×60×100mm	16004 ZZ	42mm	25-70mm	500kg
6888-2	150×80×100mm	6303 ZZ	47mm	5-55mm	1000kg
6888-3	230×100×150mm	6306 ZZ	72mm	70-200mm	1000kg

Code	W1	W2	h1	h2	h3	L1	L2	S
6888-1	22	44	20	85	12	100	-	60
6888-2	40	60	22	85	12	100	-	50
6888-3	60	80	30	124	20	180	90	120

GRANITE V-BLOCK SETS



- Two V-blocks per set

6897-1

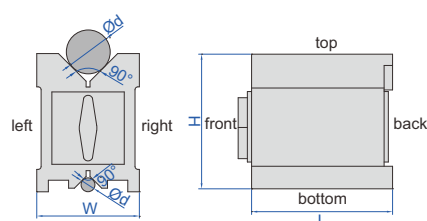
Code	Size (L×W×H)	Range of shafts (Ød)	Parallelism of V groove to bottom	Height difference of a matchet pair
6897-1	70×50×70mm	6-70mm	4µm	5µm
6897-2	100×50×70mm	6-84mm	4µm	5µm

MAGNETIC V-BLOCKS (PROFESSIONAL TYPE)

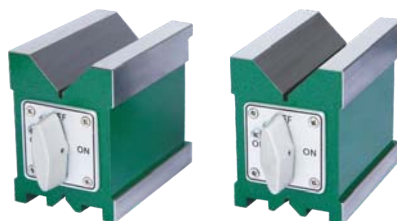
HARDENED
SURFACES

HIGH
PRECISION

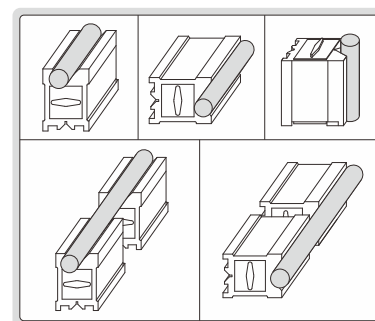
STRONG
MAGNETIC FORCE



6889-11



6889-1



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

Individual

Code	Size (L×W×H)	Range of shafts (Ød)	Magnetic force	Parallelism of V grooves to top, bottom, left, right sides	Squareness of V grooves to back side
6889-11	75×56×75mm	5-40mm	85kgf	5µm	5µm
6889-22	100×70×95mm	5-65mm	150kgf	5µm	5µm
6889-33	150×75×100mm	5-70mm	190kgf	6µm	6µm
6889-55	160×125×130mm	5-140mm	220kgf	12µm	12µm
6889-44	200×125×150mm	10-140mm	400kgf	12µm	12µm

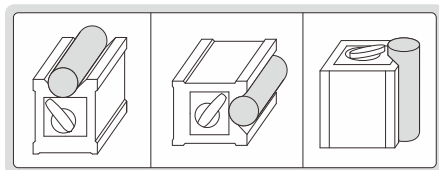
Matched pair

Code	Size (L×W×H)	Range of shafts (Ød)	Magnetic force	Parallelism of V grooves to top, bottom, left, right sides	Squareness of V grooves to back side	Height difference of a matched pair
6889-1	75×56×75mm	5-40mm	85kgf	5µm	5µm	5µm
6889-2	100×70×95mm	5-65mm	150kgf	5µm	5µm	5µm
6889-3	150×75×100mm	5-70mm	190kgf	6µm	6µm	6µm
6889-5	160×125×130mm	5-140mm	220kgf	12µm	12µm	12µm
6889-4	200×125×150mm	10-140mm	400kgf	12µm	12µm	12µm

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

ATTENTION:
NOT HARDENED

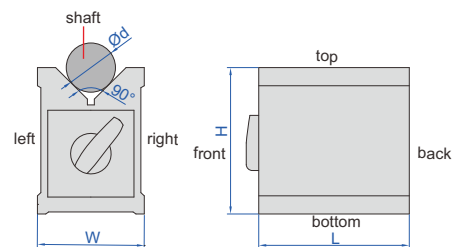
MAGNETIC V-BLOCK (ECONOMIC TYPE)



- Hold cylindrical workpieces for inspection and machining
- Supplied in single piece
- Not hardened
- Not suitable for steel or iron surfaces, otherwise the magnetic force will be reduced



6890-702

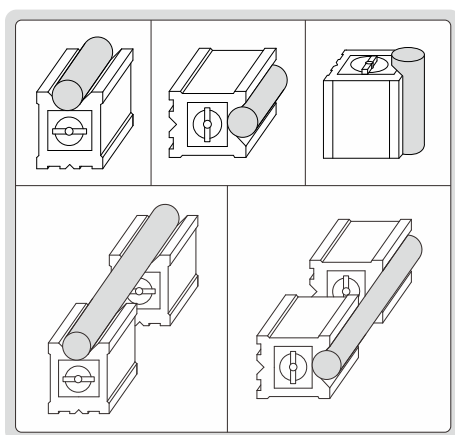


Code	Size (L×W×H)	Range of shafts (Ød)	Magnetic force	Parallelism of V groove to top, bottom, left and right sides	Squareness of V groove to back side
6890-702	70×60×73mm	6-44mm	56kgf	10µm	10µm

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

ATTENTION:
NOT HARDENED

MAGNETIC V-BLOCKS (ECONOMIC TYPE)



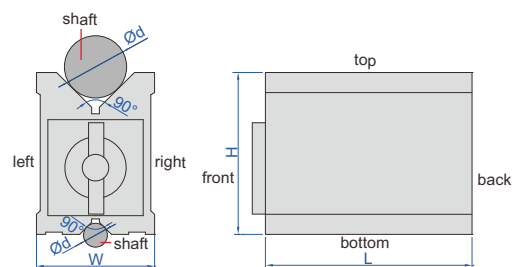
- Hold cylindrical workpieces for inspection and machining
- Not hardened
- V groove on the top for large shafts
- V groove on the bottom for small shafts
- Not suitable for steel or iron surfaces, otherwise the magnetic force will be reduced



6801-1201



6801-1



Individual

Code	Size (L×W×H)	Range of shafts (Ød)	Magnetic force	Parallelism of V grooves to top, bottom, left, right side	Squareness of V grooves to back side
6801-1201	80×70×95mm	6-67mm	64kgf	10µm	10µm
6801-1202	100×70×95mm	6-67mm	80kgf	10µm	10µm
6801-1203	120×70×95mm	6-67mm	96kgf	10µm	10µm

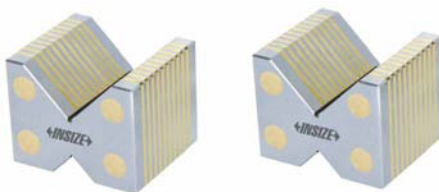
Matched pair

Code	Size (L×W×H)	Range of shafts (Ød)	Magnetic force	Parallelism of V grooves to top, bottom, left, right side	Squareness of V grooves to back side	Height difference of a matched pair
6801-1	80×70×95mm	6-67mm	64kgf	10µm	10µm	10µm
6801-2	100×70×95mm	6-67mm	80kgf	10µm	10µm	10µm
6801-3	120×70×95mm	6-67mm	96kgf	10µm	10µm	10µm

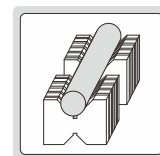
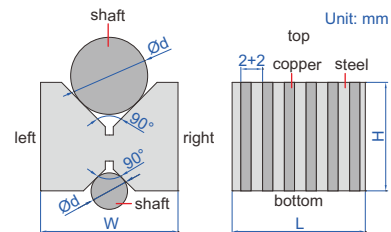
MAGNETIC INDUCTION V-BLOCK SET

ATTENTION: NOT HARDENED, DO NOT ROTATE WORKPIECES ON V-BLOCKS

- Hold cylindrical workpieces for inspection and machining
- To be used on magnetic chucks
- Two V-blocks per set
- V groove on the top for large shafts
- V groove on the bottom for small shafts
- Hardness HRB70
- Copper magnetic strips



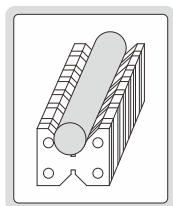
6878-1



Code	Size (L×W×H)	Range of shafts (Ød)	Pole pitch	Parallelism of both V grooves to top and bottom sides	Height difference of a matched pair
6878-1	49×58×46mm	5-56mm	2+2mm	10µm	10µm

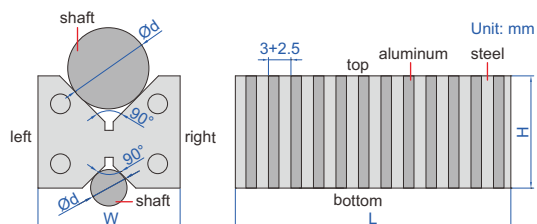
MAGNETIC INDUCTION V-BLOCK

ATTENTION: NOT HARDENED, DO NOT ROTATE WORKPIECES ON V-BLOCKS



6892-1

- Hold cylindrical workpieces for inspection and machining
- To be used on magnetic chucks
- Supplied in single piece
- V groove on the top for large shafts
- V groove on the bottom for small shafts
- Hardness HRB70



Code	Size (L×W×H)	Range of shafts (Ød)	Pole pitch	Parallelism of both V grooves to top and bottom sides
6892-1	110×60×48mm	6-50mm	3+2.5mm	10µm

MAGNETIC V-BLOCK SETS

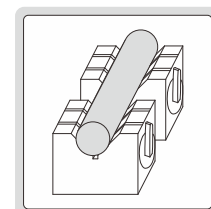
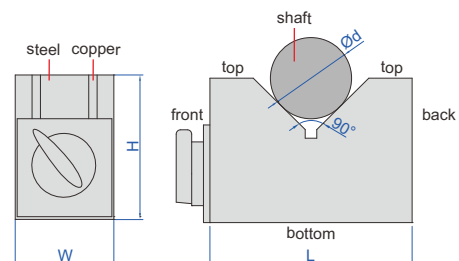
ATTENTION: NOT HARDENED, DO NOT ROTATE WORKPIECES ON V-BLOCKS

ATTENTION: LOW MAGNETIC FORCE

- Hold cylindrical workpieces for inspection, not suitable for machining due to low magnetic force
- Two V-blocks per set
- Hardness HRB70



6891-1



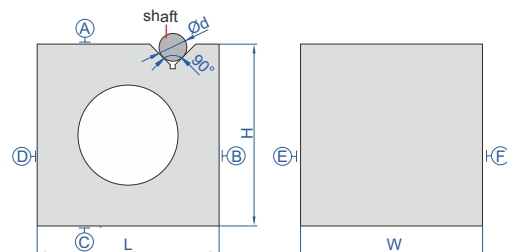
Code	Size (L×W×H)	Range of shafts (Ød)	Magnetic force	Parallelism of V groove to bottom and back sides	Height difference of a matched pair
6891-1	70×40×50mm	6-46mm	15kgf	10µm	10µm
6891-3	150×50×100mm	6-125mm	21kgf	10µm	10µm

GRANITE SQUARE WITH V GROOVE



4142-200

- Parallelism and squareness of A, B, C, D, E and F: 6μm
- Parallelism and squareness of V groove to A, B, C, D, E and F: 6μm



Code	Size (L×W×H)	Range of shaft (Ød)
4142-200	200×200×200mm	9~70mm

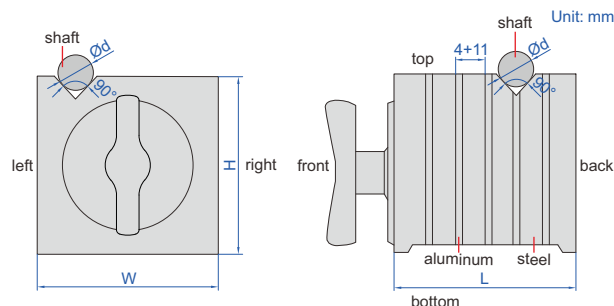
ATTENTION: NOT HARDENED, DO NOT ROTATE WORKPIECES ON V-BLOCKS

MAGNETIC SQUARE WITH V GROOVE



6539-100

- Hold flat and cylindrical workpieces for inspection and machining
- Magnetic force on top, left, right and V grooves
- Parallelism and squareness of top, bottom, left, right and back: 20μm
- Parallelism and squareness of V grooves to top, bottom, left, right and back: 20μm



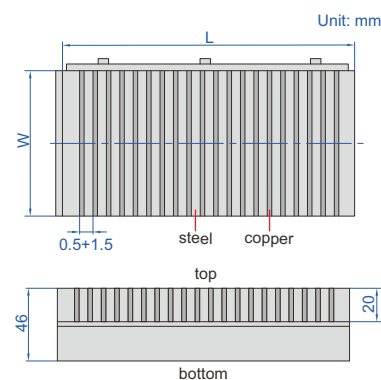
Code	Size (L×W×H)	Magnetic force of V grooves		Magnetic force of top, left and right sides		Range of shafts (Ød)
		on granite surface plate	on cast iron plate	on granite surface plate	on cast iron plate	
6539-100	100×100×100mm	30kgf	25kgf	50kgf	30kgf	5-30mm

ATTENTION: NOT HARDENED

PERMANENT MAGNETIC CHUCK



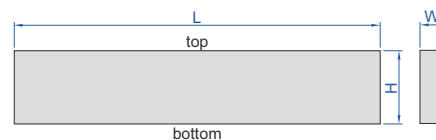
6537-400



Code	Table size (L×W)	Magnetic force	Pole pitch	Parallelism of top to bottom
6537-400	400×200mm	8kgf/cm ²	0.5+1.5mm	0.02mm/300mm

PARALLELS

- Made of alloy tool steel
- Hardened to HRC55-60
- Supplied in pair



6512-2210A

L=125mm	L=150mm	L=200mm			
Code	Code	Code	H×W	Parallelism between top and bottom	Height difference of a matched pair
6512-118	6512-1181	6512-1182	11×8mm	5μm	5μm
6512-168	6512-1681	6512-1682	16×8mm	5μm	5μm
6512-218	6512-2181	6512-2182	21×8mm	5μm	5μm
6512-268	6512-2681	6512-2682	26×8mm	5μm	5μm
6512-318	6512-3181	6512-3182	31×8mm	5μm	5μm
6512-368	6512-3681	6512-3682	36×8mm	5μm	5μm
6512-1310	6512-13101	6512-13102	13×10mm	5μm	5μm
6512-1810	6512-18101	6512-18102	18×10mm	5μm	5μm
6512-2310	6512-23101	6512-23102	23×10mm	5μm	5μm
6512-2810	6512-28101	6512-28102	28×10mm	5μm	5μm
6512-3310	6512-33101	6512-33102	33×10mm	5μm	5μm
6512-3810	6512-38101	6512-38102	38×10mm	5μm	5μm
6512-1512	6512-15121	6512-15122	15×12mm	5μm	5μm
6512-2012	6512-20121	6512-20122	20×12mm	5μm	5μm
6512-2512	6512-25121	6512-25122	25×12mm	5μm	5μm
6512-3012	6512-30121	6512-30122	30×12mm	5μm	5μm
6512-3512	6512-35121	6512-35122	35×12mm	5μm	5μm
6512-4012	6512-40121	6512-40122	40×12mm	5μm	5μm
6512-1714	6512-17141	6512-17142	17×14mm	5μm	5μm
6512-2214	6512-22141	6512-22142	22×14mm	5μm	5μm
6512-2714	6512-27141	6512-27142	27×14mm	5μm	5μm
6512-3214	6512-32141	6512-32142	32×14mm	5μm	5μm
6512-3714	6512-37141	6512-37142	37×14mm	5μm	5μm
6512-4214	6512-42141	6512-42142	42×14mm	5μm	5μm

L=100mm

Code	H×W	Parallelism between top and bottom	Height difference of a matched pair
6512-52	5×2mm	7μm	7μm
6512-102	10×2mm	5μm	5μm
6512-152	15×2mm	5μm	5μm
6512-202	20×2mm	5μm	5μm
6512-63	6×3mm	7μm	7μm
6512-113	11×3mm	5μm	5μm
6512-163	16×3mm	5μm	5μm
6512-213	21×3mm	5μm	5μm
6512-74	7×4mm	7μm	7μm
6512-124	12×4mm	5μm	5μm
6512-174	17×4mm	5μm	5μm
6512-224	22×4mm	5μm	5μm
6512-85	8×5mm	7μm	7μm
6512-135	13×5mm	5μm	5μm
6512-185	18×5mm	5μm	5μm
6512-235	23×5mm	5μm	5μm
6512-96	9×6mm	7μm	7μm
6512-146	14×6mm	5μm	5μm
6512-196	19×6mm	5μm	5μm
6512-246	24×6mm	5μm	5μm

L=150mm

Code	H×W	Parallelism between top and bottom	Height difference of a matched pair
6512-1410A	14×10mm	5μm	5μm
6512-1610A	16×10mm	5μm	5μm
6512-1810A	18×10mm	5μm	5μm
6512-2010A	20×10mm	5μm	5μm
6512-2210A	22×10mm	5μm	5μm
6512-2410A	24×10mm	5μm	5μm
6512-2610A	26×10mm	5μm	5μm
6512-2810A	28×10mm	5μm	5μm
6512-3010A	30×10mm	5μm	5μm
6512-3210A	32×10mm	5μm	5μm
6512-3510A	35×10mm	5μm	5μm
6512-4010A	40×10mm	5μm	5μm
6512-4510A	45×10mm	5μm	5μm
6512-5010A	50×10mm	5μm	5μm

To be continued

Continued from previous page

L=160mm

Code	H×W	Parallelism between top and bottom	Height difference of a matched pair
6512-104A	10×4mm	5μm	5μm
6512-144A	14×4mm	5μm	5μm
6512-184A	18×4mm	5μm	5μm
6512-224A	22×4mm	5μm	5μm
6512-264A	26×4mm	5μm	5μm
6512-304A	30×4mm	5μm	5μm
6512-344A	34×4mm	5μm	5μm
6512-384A	38×4mm	5μm	5μm
6512-424A	42×4mm	5μm	5μm
6512-128A	12×8mm	5μm	5μm
6512-178A	17×8mm	5μm	5μm
6512-228A	22×8mm	5μm	5μm
6512-258A	25×8mm	5μm	5μm
6512-288A	28×8mm	5μm	5μm
6512-328A	32×8mm	5μm	5μm
6512-368A	36×8mm	5μm	5μm
6512-388A	38×8mm	5μm	5μm

L=200mm

Code	H×W	Parallelism between top and bottom	Height difference of a matched pair
6512-178B	17×8mm	5μm	5μm
6512-228B	22×8mm	5μm	5μm
6512-268B	26×8mm	5μm	5μm
6512-288B	28×8mm	5μm	5μm
6512-328B	32×8mm	5μm	5μm
6512-368B	36×8mm	5μm	5μm
6512-388B	38×8mm	5μm	5μm
6512-428B	42×8mm	5μm	5μm

PARALLEL SETS

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



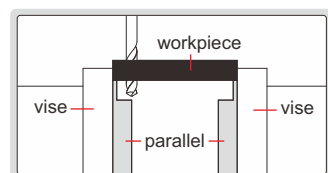
6533-144



Code	Parallels per set	Length (L)	Thickness (W)	Height (H)
6533-6	6 pairs	200mm	9.5mm	35, 40, 45, 50, 55, 58mm
6533-8	8 pairs	160mm	8mm	12*, 17, 22, 25, 28, 32, 36, 38mm
6533-81	8 pairs	200mm	8mm	17, 22, 26, 28, 32, 36, 38, 42mm
6533-9	9 pairs	160mm	4mm	10*, 14*, 18, 22, 26, 30, 34, 38, 42mm
6533-10	10 pairs	150mm	3mm	13, 16, 19, 22, 25, 28, 31, 35, 38, 41mm
6533-144	14 pairs	150mm	10mm	14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 35, 40, 45, 50mm

* Parallelism between top and bottom and height difference of a matched pair of 12mm in **6533-8**, 10mm, 14mm in **6533-9** is 7μm

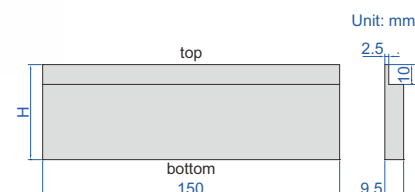
PARALLEL SET



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



6534-6



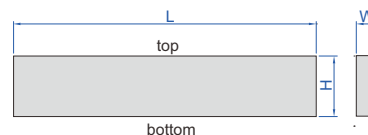
Code	Parallels per set	Height (H)
6534-6	6 pairs	25, 30, 35, 40, 45, 48mm

PARALLEL SETS

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



6511-20



Code	Parallels per set	Length (L)	Height (H)×Thickness (W)
6511-20	20 pairs	100mm	5×2*, 10×2, 15×2, 20×2, 6×3*, 11×3, 16×3, 21×3, 7×4*, 12×4, 17×4, 22×4, 8×5*, 13×5, 18×5, 23×5, 9×6*, 14×6, 19×6, 24×6mm
6511-24	24 pairs	125mm	11×8, 16×8, 21×8, 26×8, 31×8, 36×8, 13×10, 18×10, 23×10, 28×10, 33×10, 38×10, 15×12, 20×12, 25×12, 30×12, 35×12, 40×12, 17×14, 22×14, 27×14, 32×14, 37×14, 42×14mm
6511-241	24 pairs	150mm	11×8, 16×8, 21×8, 26×8, 31×8, 36×8, 13×10, 18×10, 23×10, 28×10, 33×10, 38×10, 15×12, 20×12, 25×12, 30×12, 35×12, 40×12, 17×14, 22×14, 27×14, 32×14, 37×14, 42×14mm

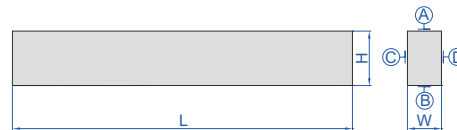
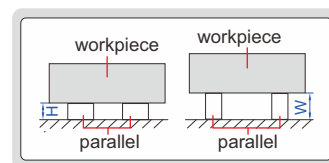
* Parallelism between top and bottom and height difference of a matched pair of 5×2mm, 6×3mm, 7×4mm, 8×5mm and 9×6mm in 6511-20 is 7µm

GRANITE PARALLEL SET

- Made of granite, hard and no rusty, no dimensional change over time or temperature change
- Two parallels per set



4143-250



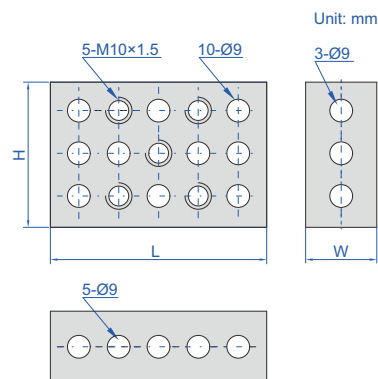
Code	Size (L×W×H)	Parallelism between A and B	Parallelism between C and D	Height difference of a matched pair
4143-250	250×25×40mm	3µm	3µm	3µm

PARALLEL/SQUARE SET

screws and wrench are included



6531-25



- Pairs of matched blocks for positioning and set-up
- Screws and wrench are included
- Hardness HRC 55-62

Code	Size (L×H×W)	Size accuracy	Squareness	Parallelism	Height difference of a matched pair
6531-25	75×50×25mm	10µm	7µm/25mm	10µm	10µm

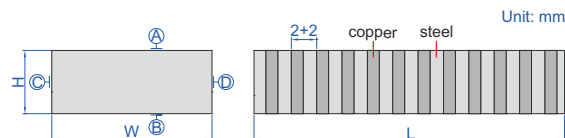
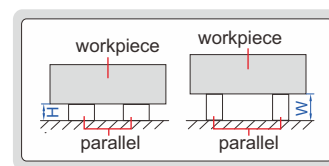
ATTENTION:
NOT HARDENED

MAGNETIC INDUCTION PARALLEL SET



6879-1

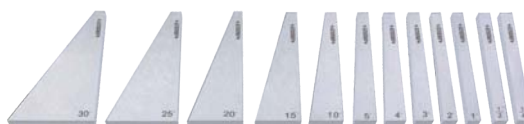
- To be used on magnetic chucks
- Two parallels per set
- Hardness HRB70
- Copper magnetic strips



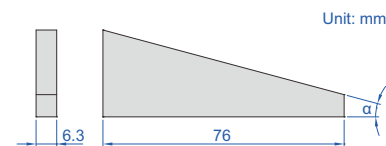
Code	Size (L×W×H)	Pole pitch	Parallelism between A and B	Parallelism between C and D	Height difference of a matched pair
6879-1	100×50×25mm	2+2mm	10μm	10μm	10μm

ANGLE PLATE SETS

- For angle set-up in tooling, production and inspection
- Hardness HRC52



4006-12



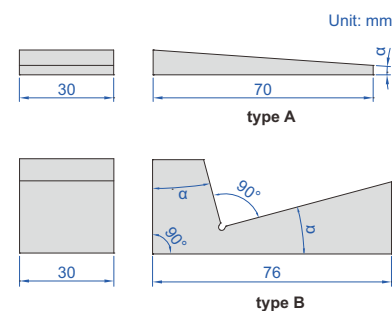
Code	Angle plates included	Angle α	Accuracy
4006-10	10 pcs	1°, 2°, 3°, 4°, 5°, 10°, 15°, 20°, 25°, 30°	±20 seconds
4006-12	12 pcs	1/4°, 1/2°, 1°, 2°, 3°, 4°, 5°, 10°, 15°, 20°, 25°, 30°	±20 seconds

ANGLE PLATE SET

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



4004-9



Code	Angle plates included	Angle α	Type	Accuracy
4004-9	9 pcs	1/2°, 1°, 2°, 3°, 4°, 5°	type A	±30 seconds
		10°, 15°, 30°	type B	±50 seconds

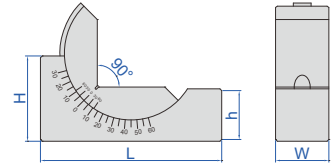
ADJUSTABLE ANGLE BLOCKS



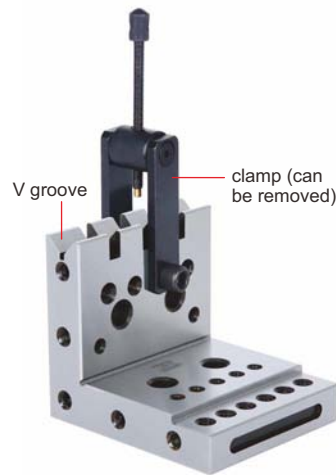
6535-30

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

Code	Size (L×W×H)	h	Adjustable angle	Graduation of angle
6535-25	75×25×36mm	25mm	30°~0°~60°	10 minutes
6535-30	102×30×49mm	30mm	30°~0°~60°	10 minutes



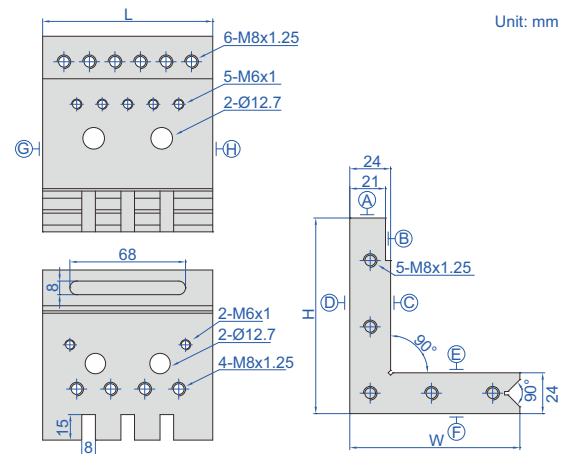
RIGHT ANGLE PLATE



6547-1

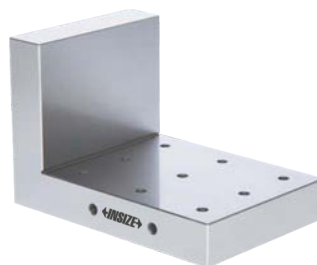
- Made of alloy steel
- Hardened to HRC60±2
- V groove for cylinders
- Parallelism and squareness between A, B, C, D, E, F, G and H: 10μm
- Parallelism and squareness of V groove to A, B, C, D, E, F, G and H: 10μm

Code	Size (L×W×H)
6547-1	100×100×115mm

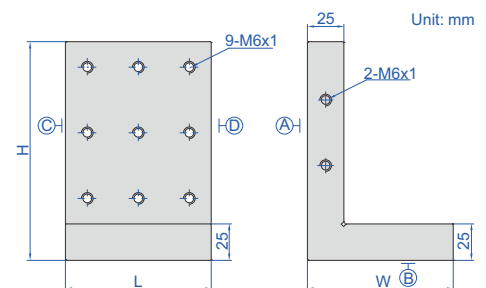


RIGHT ANGLE PLATE

- Made of tool steel
- Hardened to HRC60±2
- Squareness or parallelism between A, B, C and D: 5μm



6548-1



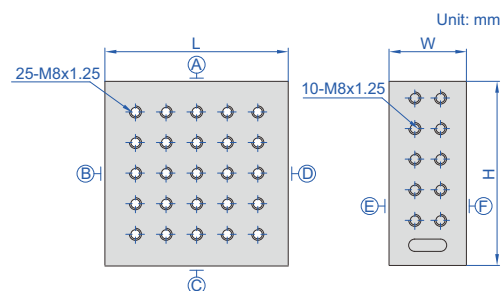
Code	Size (L×W×H)
6548-1	100×100×150mm

RIGHT ANGLE PLATE

- Made of tool steel
- Hardened to HRC56-58
- Parallelism between A, B, C, D, E and F: 3μm
- Squareness between A, B, C, D, E and F: 5μm



6549-1



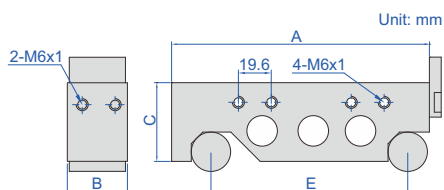
Code	Size (L×W×H)
6549-1	150×63×150mm

CAN BE
CUSTOMIZED

SINE BARS

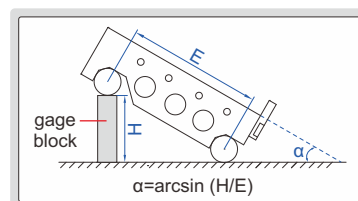


4155-100

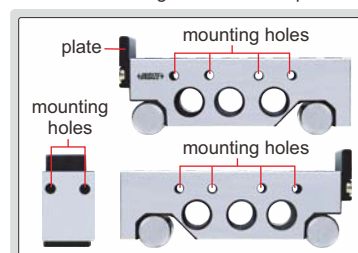


- Made of alloy tool steel

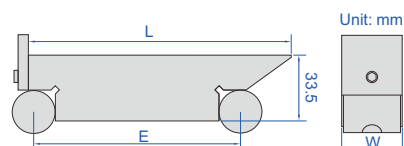
Code	Roller distance (E)	Table size (A×B)	C	Accuracy of α at 30°
4155-100	100mm	130×30mm	40mm	±5 seconds
4155-200	200mm	230×30mm	40mm	±5 seconds
4155-300	300mm	345×40mm	50mm	±8 seconds



the front and back ends and two sides have mounting holes to install plate



SINE BAR

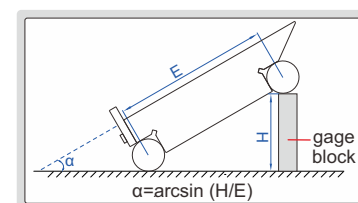


- Made of alloy tool steel



4158-100

Code	Roller distance (E)	Table size (L×W)	Accuracy of α at 30°
4158-100	100mm	130×30mm	±5 seconds



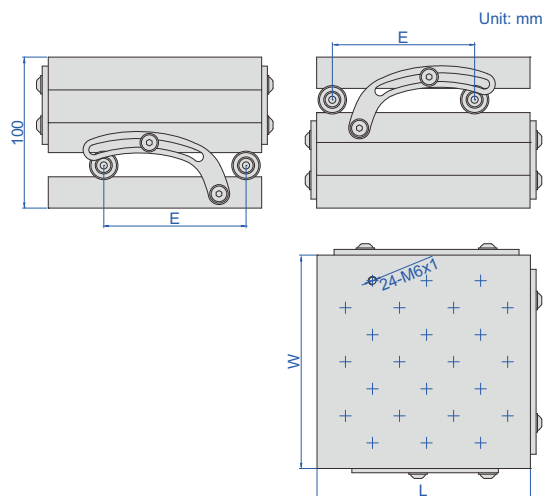
COMPOUND SINE TABLE



6536-100

- Accuracy of angle: ± 15 seconds
- Made of alloy tool steel
- Hardness HRC58-60

Code	Roller distance (E)	Table size (L×W)	Adjustable angle
6536-100	100mm	150×150mm	0-60°



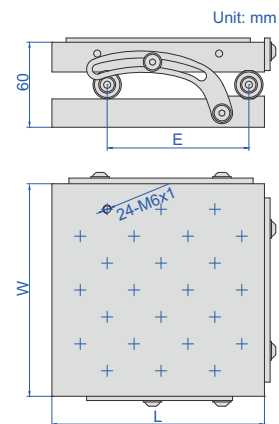
SINE TABLE



6527-100

- Accuracy of angle: ± 15 seconds
- Made of alloy tool steel
- Hardness HRC58-60

Code	Roller distance (E)	Table size (L×W)	Adjustable angle
6527-100	100mm	150×150mm	0-60°

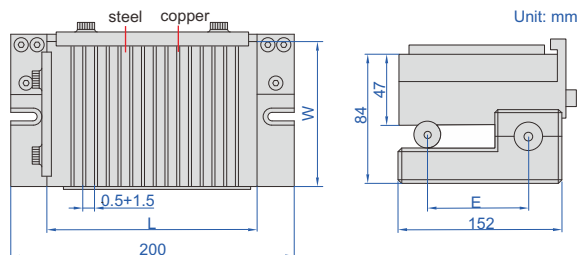


MAGNETIC SINE TABLE



6538-100

ATTENTION:
NOT HARDENED



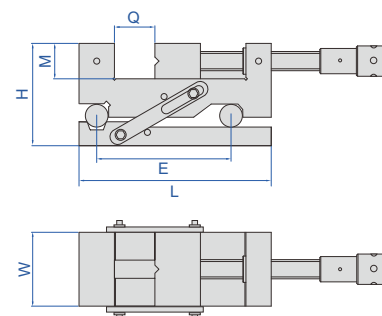
Code	Table size (L×W)	Roller distance (E)	Adjustable angle	Accuracy of angle
6538-100	150×150mm	100mm	0-60°	± 15 seconds

PRECISION SINE VISES



6513-85

- Parallelism: 5µm/100mm
- Squareness: 5µm/100mm
- Accuracy of angle: ±20 seconds
- Made of alloy steel
- Hardness HRC58-60



(mm)						
Code	Jaw opening (Q)	Jaw width (W)	Roller distance (E)	L	H	M
6513-65	0-65	50	100	150	85	25
6513-85	0-85	63	100	185	91.5	32
6513-100	0-100	73	150	205	105	35
6513-1001	0-100	80	150	215	108	40
6513-125	0-125	88	150	245	108	40
6513-1251	0-125	100	200	255	116	45
6513-160	0-160	125	200	295	125	50
6513-175	0-175	150	200	315	125	50

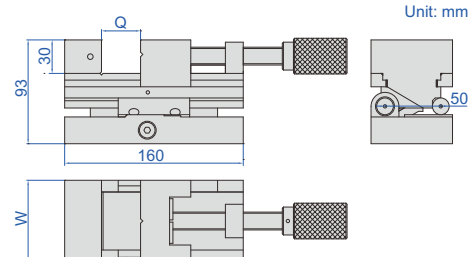
PRECISION SINE VISE

there is a 1mm step (accuracy $\pm 0.002\text{mm}$). gage blocks smaller than 0.5mm are not available. if small gage blocks are needed (for example, 0.25mm), a gage block 1.25mm can be used in order to make $1.25\text{mm} - 1\text{mm} = 0.25\text{mm}$



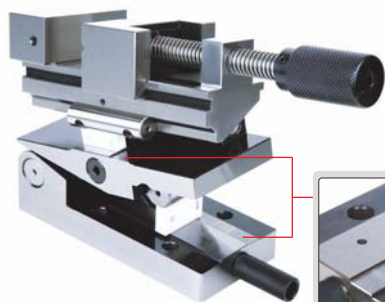
6523-80

- Parallelism: 3µm/100mm
- Squareness: 5µm/100mm
- Accuracy of angle: ±15 seconds
- Made of SKS tool steel, subzero treatment
- Hardness HRC58-60



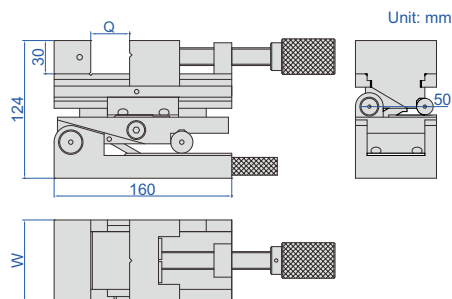
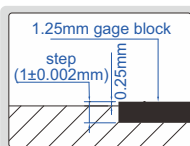
Code	Jaw opening (Q)	Jaw width (W)	Adjustable angle
6523-80	0-80mm	73mm	0-46°

PRECISION COMPOUND SINE VISE



6524-80

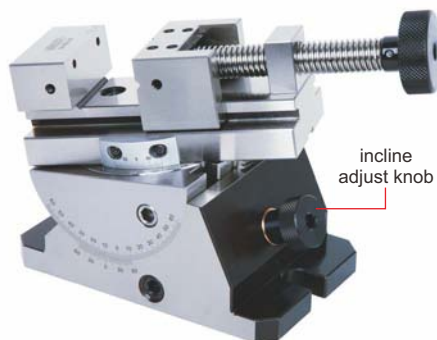
there is a 1mm step (accuracy $\pm 0.002\text{mm}$). gage blocks smaller than 0.5mm are not available. if small gage blocks are needed (for example, 0.25mm), a gage block 1.25mm can be used in order to make $1.25\text{mm} - 1\text{mm} = 0.25\text{mm}$



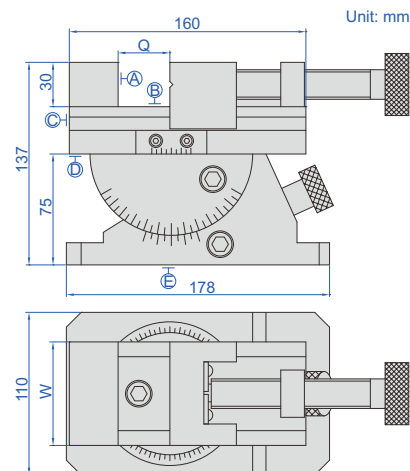
- Parallelism: $3\mu\text{m}/100\text{mm}$
- Squareness: $5\mu\text{m}/100\text{mm}$
- Accuracy of angle: ± 15 seconds
- Made of SKS tool steel, subzero treatment
- Hardness HRC58-60

PRECISION UNIVERSAL VISE

- Horizontal rotary: range 360° , graduation 0.05°
- Vertical incline: range 45° , graduation 0.05°
- With incline adjust knob
- Parallelism and squareness between A, B, C and D: $5\mu\text{m}/100\text{mm}$, parallelism between D and E at 0° : $10\mu\text{m}/100\text{mm}$
- Made of tool steel
- Hardness HRC56-58



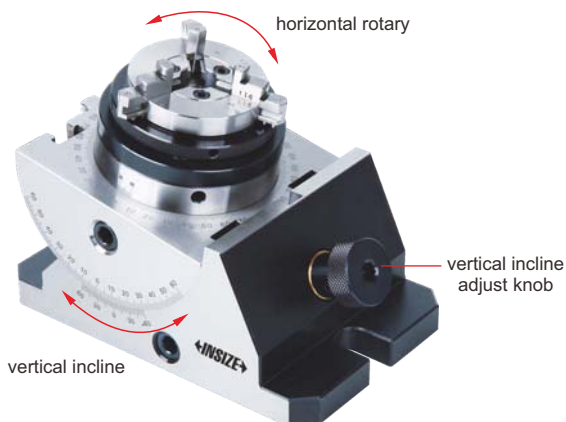
6521-80



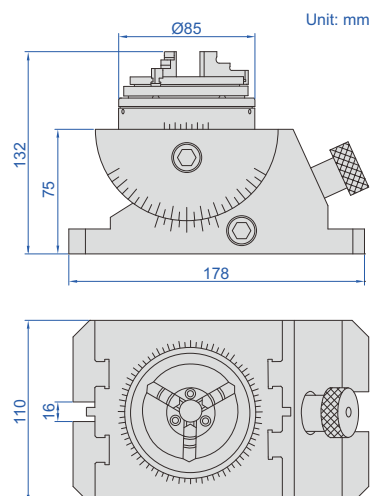
Code	Jaw opening (Q)	Jaw width (W)
6521-80	0-80mm	70mm

PRECISION UNIVERSAL VISE WITH CHUCK

- Horizontal rotary: range 360° , graduation 0.05°
- Vertical incline: range 45° , graduation 0.05°
- With vertical incline adjust knob
- Runout of chuck is less than 0.05mm (test position is at less than 50mm from clamping jaws)
- The clamping jaws of chuck are reversible
- Made of tool steel
- Hardness HRC56-58



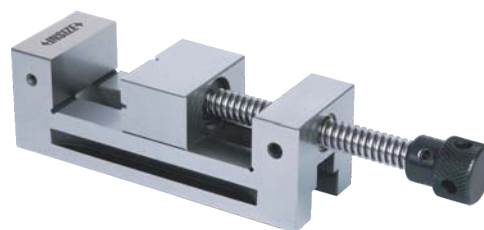
6528-85



Code	Range of external clamping	Range of internal clamping
6528-85	$\varnothing 0.8 \sim \varnothing 63\text{mm}$	$\varnothing 23 \sim \varnothing 58\text{mm}$

PRECISION VISES

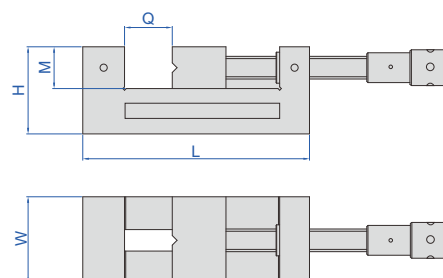
- Parallelism: 5µm/100mm
- Squareness: 5µm/100mm
- Made of alloy steel
- Hardness HRC58-60



(mm)

Code	Jaw opening (Q)	Jaw width (W)	L	H	M
6520-36	0-36	38	115	48	25
6520-67	0-67	50	150	50	25
6520-87	0-87	63	185	63	32
6520-102	0-102	73	205	70	35
6520-1021	0-102	80	215	80	40
6520-127	0-127	88	245	80	40
6520-1271	0-127	100	255	90	45
6520-162	0-162	125	295	100	50
6520-175	0-175	150	315	100	50
6520-200	0-200	200	350	110	55

6520-87



QUICK MOVING PRECISION VISES

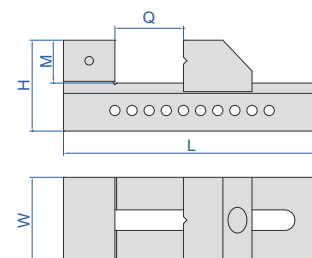
(mm)

Code	Jaw opening (Q)	Jaw width (W)	L	H	M
6526-20	0-20	25	65	29	9.3
6526-40	0-40	38	100	48	23
6526-65	0-65	50	135	50	25
6526-85	0-85	63	170	63	32
6526-100	0-100	73	185	70	35
6526-1001	0-100	80	195	80	40
6526-125	0-125	88	230	80	40
6526-1251	0-125	100	240	90	45
6526-160	0-160	125	280	100	50
6526-175	0-175	150	300	100	50
6526-208	0-208	200	350	110	55

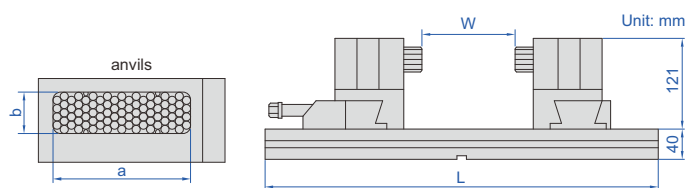


6526-85

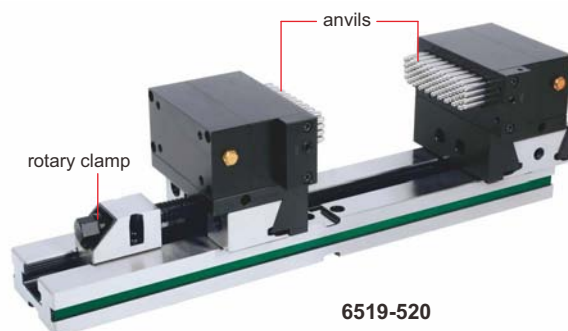
- Parallelism: 5µm/100mm
- Squareness: 5µm/100mm
- Made of alloy steel
- Hardness HRC58-60



ANVIL VISES



- The vise is used to fix workpieces during machining. The anvils are formed according the shape of workpieces to be fixed, so the vise can fix workpieces quickly.
- The anvils are made of stainless steel (HRC20), can be customized to carbon steel (HRC40-45)
- Diameter of anvil: 6mm, stroke of anvil: 24mm
- Movement range of rotary clamp: 0-50mm



6519-520

application



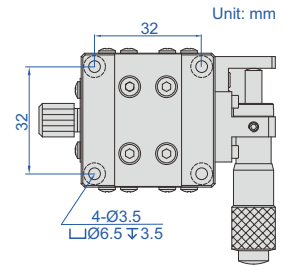
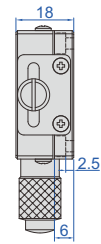
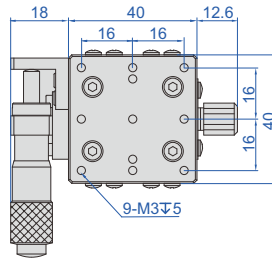
Code	Guide length (L)	Clamp range (W)	Clamp force*	Weight	a	b
6519-520	520mm	0-190mm	6500N	22.5kg	100mm	30mm
6519-680	680mm	0-320mm	8000N	39.5kg	120mm	36mm

* When all anvils contact the workpieces

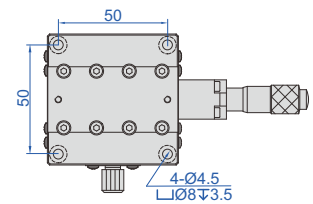
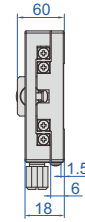
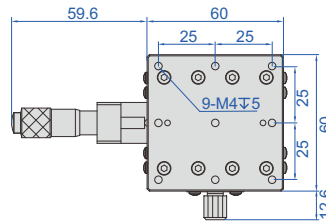
X-AXIS STAGES



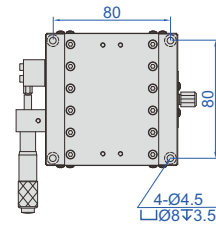
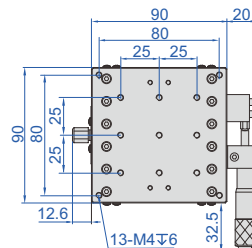
6582-401



6582-602



6582-903



- Cross roller guides, achieve high precision and smooth movement
- Stages made of aluminum alloy

SPECIFICATION (micrometer on the left)

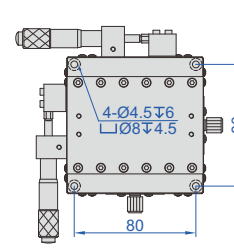
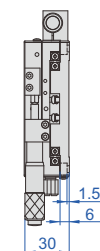
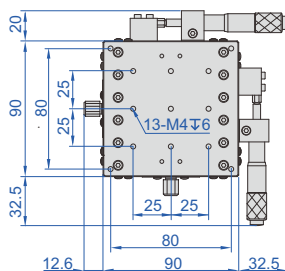
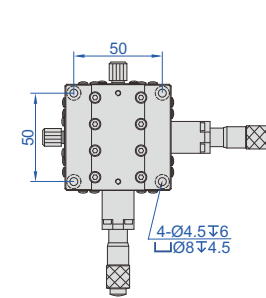
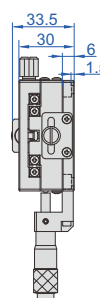
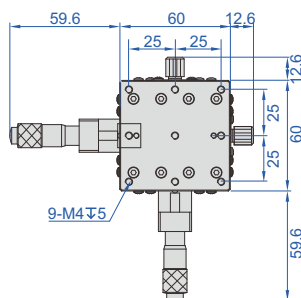
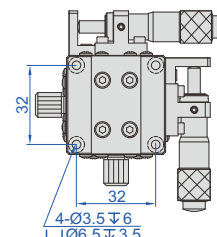
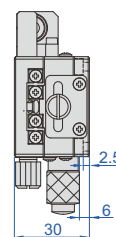
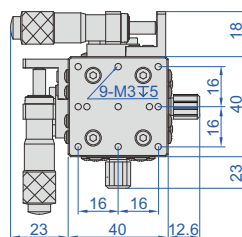
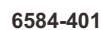
Code	X-axis displacement	Parallelism of top to bottom surface	Micrometer graduation	Micrometer accuracy	Maximum load	Micrometer location	Stage size	Weight
6582-401	±6.5mm	0.02mm	0.01mm	0.01mm	29.4N (3kgf)	left	40x40mm	0.14kg
6582-601	±6.5mm	0.03mm	0.01mm	0.01mm	49N (5kgf)	left	60x60mm	0.24kg
6582-901	±12.5mm	0.03mm	0.01mm	0.02mm	93.1N (9.5kgf)	left	90x90mm	0.47kg
6582-1251	±12.5mm	0.04mm	0.01mm	0.02mm	180N (18.4kgf)	left	125x125mm	1.40kg

SPECIFICATION (micrometer in the middle)

Code	X-axis displacement	Parallelism of top to bottom surface	Micrometer graduation	Micrometer accuracy	Maximum load	Micrometer location	Stage size	Weight
6582-402	±6.5mm	0.02mm	0.01mm	0.01mm	29.4N (3kgf)	middle	40x40mm	0.14kg
6582-602	±6.5mm	0.03mm	0.01mm	0.01mm	49N (5kgf)	middle	60x60mm	0.24kg
6582-902	±12.5mm	0.03mm	0.01mm	0.02mm	93.1N (9.5kgf)	middle	90x90mm	0.47kg
6582-1252	±12.5mm	0.04mm	0.01mm	0.02mm	180N (18.4kgf)	middle	125x125mm	1.40kg

SPECIFICATION (micrometer on the right)

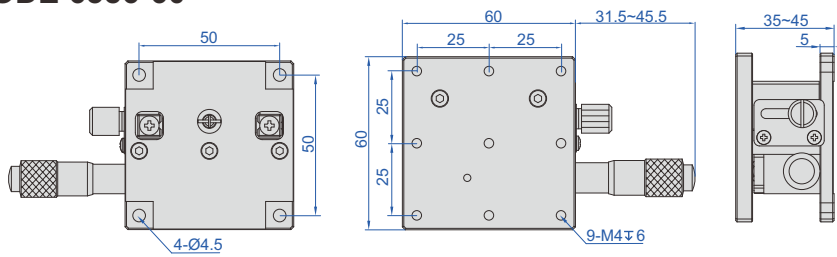
Code	X-axis displacement	Parallelism of top to bottom surface	Micrometer graduation	Micrometer accuracy	Maximum load	Micrometer location	Stage size	Weight
6582-403	±6.5mm	0.02mm	0.01mm	0.01mm	29.4N (3kgf)	right	40x40mm	0.14kg
6582-603	±6.5mm	0.03mm	0.01mm	0.01mm	49N (5kgf)	right	60x60mm	0.24kg
6582-903	±12.5mm	0.03mm	0.01mm	0.02mm	93.1N (9.5kgf)	right	90x90mm	0.47kg
6582-1253	±12.5mm	0.04mm	0.01mm	0.02mm	180N (18.4kgf)	right	125x125mm	1.40kg



- 471

Z-AXIS STAGE CODE 6586-60

Unit: mm



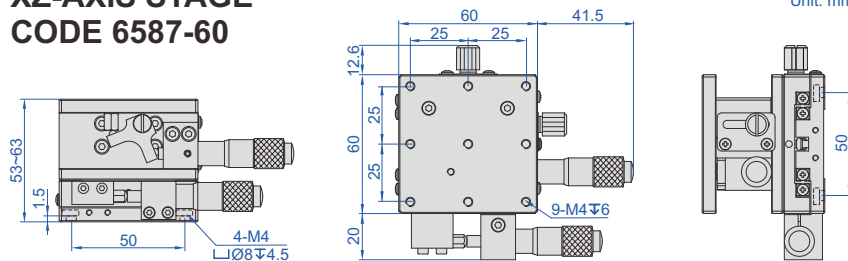
- Cross roller guides, achieve high precision and smooth movement
- Stage made of aluminum alloy

SPECIFICATION

Code	Z-axis displacement	Parallelism of top to bottom surface	Micrometer graduation	Micrometer accuracy	Maximum load	Stage size	Weight
6586-60	10mm	0.05mm	0.01mm	0.02mm	20.4N (3kgf)	60x60mm	0.27kg

XZ-AXIS STAGE CODE 6587-60

Unit: mm



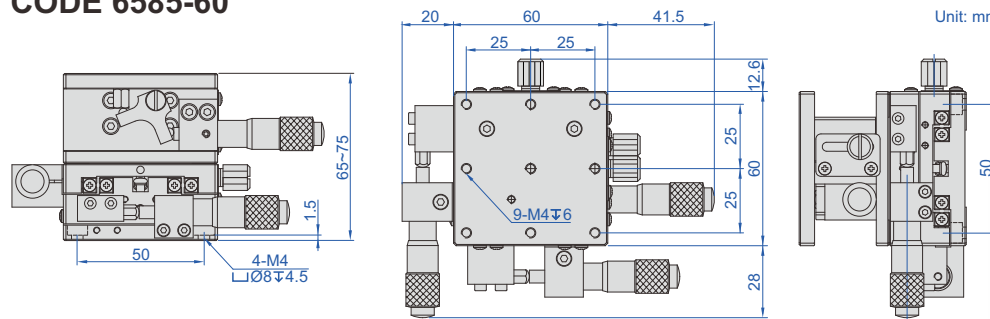
- Cross roller guides, achieve high precision and smooth movement
- Stage made of aluminum alloy

SPECIFICATION

Code	X-axis displacement	Z-axis displacement	Micrometer graduation	Maximum load	Stage size	Weight
6587-60	±6.5mm	10mm	0.01mm	29.4N (3kgf)	60x60mm	0.51kg

XYZ-AXIS STAGE CODE 6585-60

Unit: mm



- Cross roller guides, achieve high precision and smooth movement
- Stage made of aluminum alloy

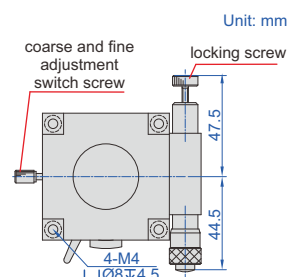
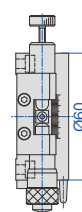
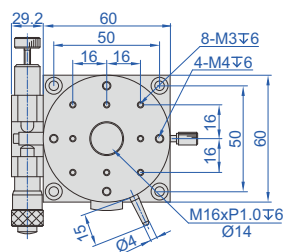
SPECIFICATION

Code	XY-axis displacement	Z-axis displacement	Micrometer graduation	Maximum load	Stage size	Weight
6585-60	±6.5mm	10mm	0.01mm	29.4N (3kgf)	60x60mm	0.75kg

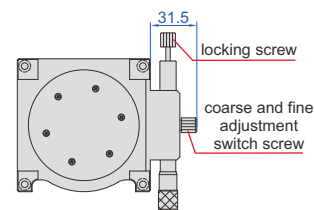
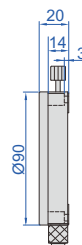
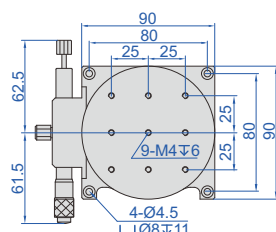
ROTARY STAGES



6583-60H



6583-90

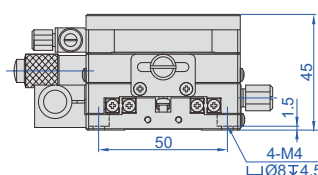
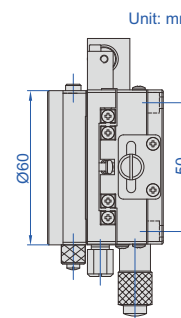
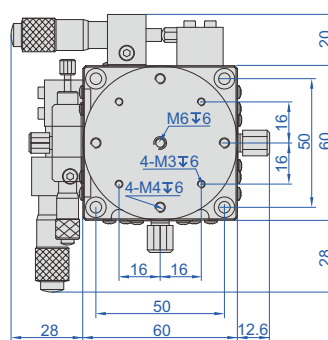


- Precise angle adjustment
- Coarse and fine adjustments
- Stages made of aluminum alloy

SPECIFICATION

Code	Range	Parallelism of top to bottom surface	Concentricity	Rotation accuracy	Maximum load	Stage size	Weight
6583-60H	360° coarse, ±5° fine	0.03mm	0.03mm	12 seconds	29.4N (3kgf)	Ø60mm	0.30kg
6583-90	360° coarse, ±5° fine	0.04mm	0.03mm	5 seconds	29.4N (3kgf)	Ø90mm	0.50kg

XY-AXIS ROTARY STAGE CODE 6588-60



- Cross roller guides, achieve high precision and smooth movement
- Coarse and fine adjustments
- Precise angle adjustment
- Stage made of aluminum alloy

SPECIFICATION

Code	XY-axis displacement	Rotation range	Micrometer graduation	Rotation accuracy	Maximum load	Stage size	Weight
6588-60	±6.5mm	360° coarse, ±5° fine	0.01mm	10 seconds	29.4N (3kgf)	60x60mm	0.64kg



**Video Measuring Instrument For
Machine Tools**
Page 475-476



Centering Indicators
Page 477-478



Edge Finders
Page 478-480



Edge Finders For EDM
Page 481



3D Testers
Page 482-483



Trigger-Type 3D Probes
Page 484



**Infrared Transmission Probes For
CNC Machine Tools**
Page 485-488



Zero Setters With Cable
Page 489-491



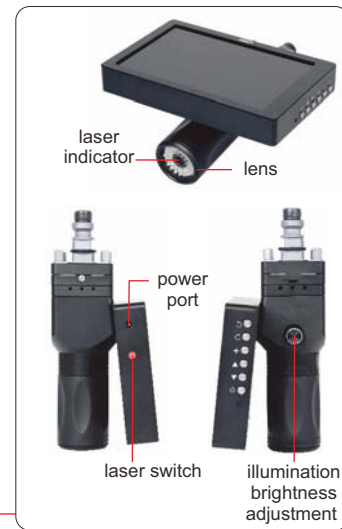
Zero Setters
Page 492



Zero Setters
Page 493-494



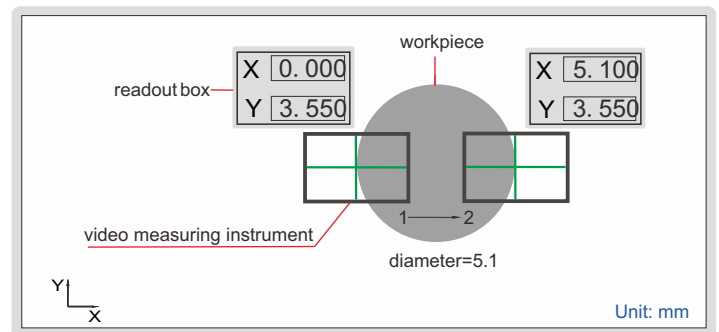
VIDEO MEASURING INSTRUMENT FOR MACHINE TOOLS



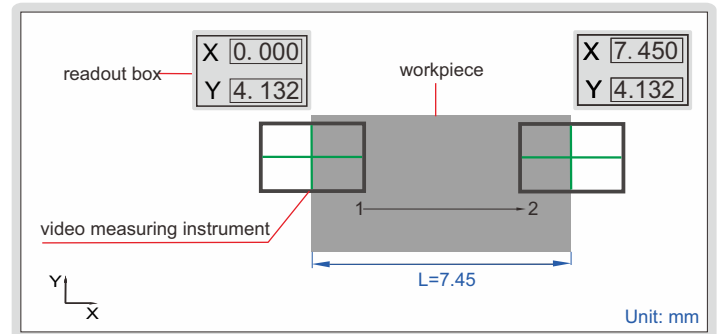
application



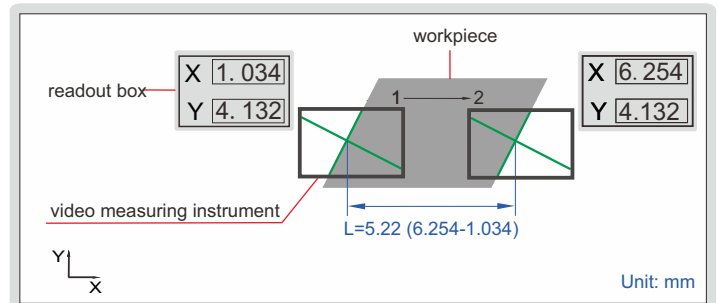
measure diameter



measure length



measure distance



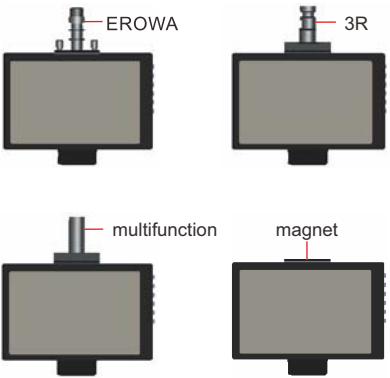
- Used in machine tools such as EDM and CNC
- Working together with linear scale and readout box of machine tools to make 2D measurement, especially suitable for small or thin parts
- Can rotate crosshair and change its color
- With laser indicator to locate position

To be continued

Continued from previous page

SPECIFICATION

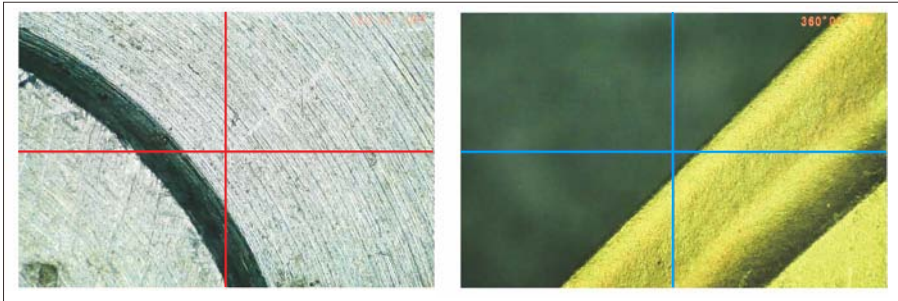
Code	5314-R31	5314-R32	5314-R33	5314-R34
Adapter	EROWA	3R	multifunction	magnet
Screen size/pixel	7"/1080P			
Visual accuracy	±0.003mm			
Magnification	50X			
Angle resolution	15'			
Automatic edge-find	after finding the edge, the crosshair changes to green color and prompts			
Color of crosshair	red, blue			
Rotation of crosshair	manual			
Focus distance	50mm			
Light source	LED (adjustable brightness)			
Lithium battery	4800mA (for 4 hours working)			
Power supply	power adapter			
Dimension (LxWxH)	178x90x215mm			
Weight	2kg			



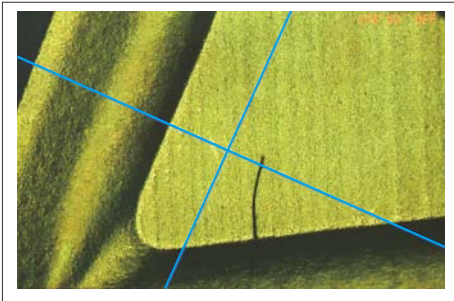
STANDARD DELIVERY

Main unit	1 pc
Power adapter	1 pc

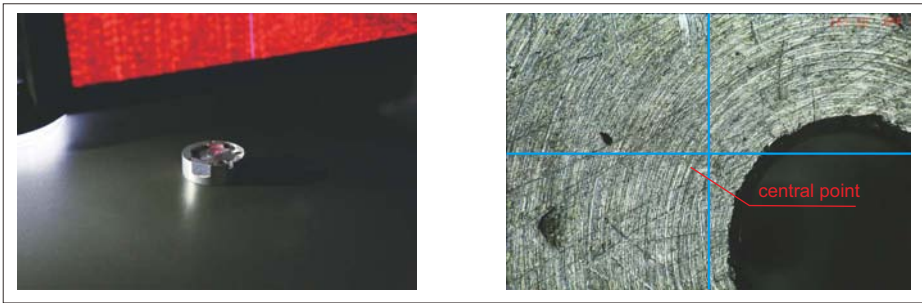
select crosshair color



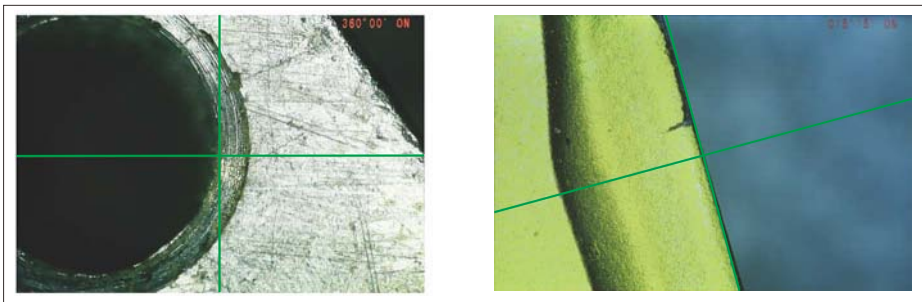
rotate crosshair



laser indicator locates the central point



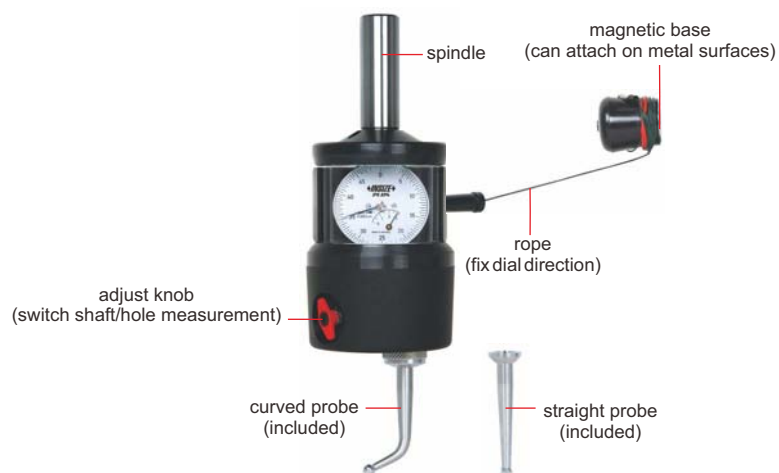
after finding the edge, the crosshair changes to green color and prompts



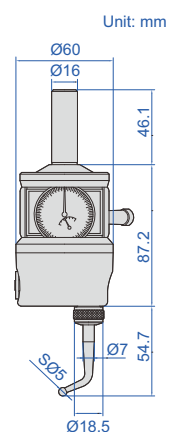
READING SHOWS MOVEMENT VALUE OF PROBE

CENTERING INDICATOR

INSIZE PLUS
MADE IN EUROPE

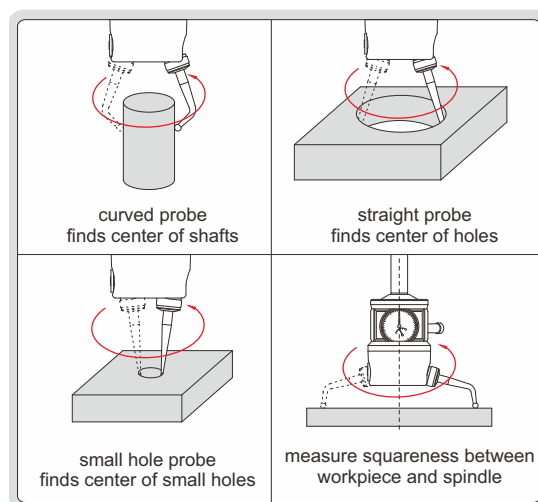


2847-3



- Provides quick and accurate shaft/hole centering in boring and milling set-up, can also measure squareness between workpiece and spindle
- Dial indicator can rotate 360°
- Reading show movement value of probe, for example, if probe moves 0.01mm, reading changes 0.01mm (2 graduations)
- Optional accessory: probes

application



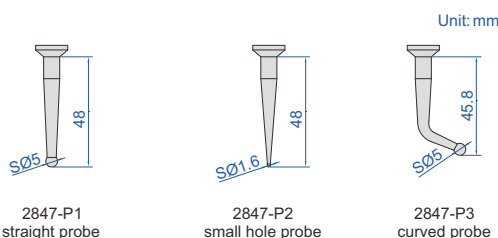
Code	Graduation	Travel
2847-3	0.005mm	2.5mm

SPECIFICATION OF PROBE

Description	Measurement type	Diameter measurement	Depth measurement	Accuracy
straight probe (included)	hole center	Ø6-125mm	55mm	0.005mm
	squareness	Ø120-160mm	40mm	
small hole probe (optional)	small hole center	Ø2-125mm	55mm	0.005mm
	squareness	Ø120-160mm	40mm	
curved probe (included)	shaft center	Ø0-125mm	55mm	0.005mm
	squareness	Ø120-160mm	40mm	

PROBE (optional)

Code	Description
2847-P1	straight probe
2847-P2	small hole probe
2847-P3	curved probe



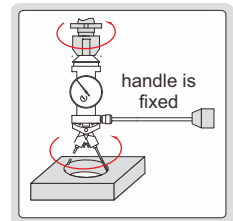
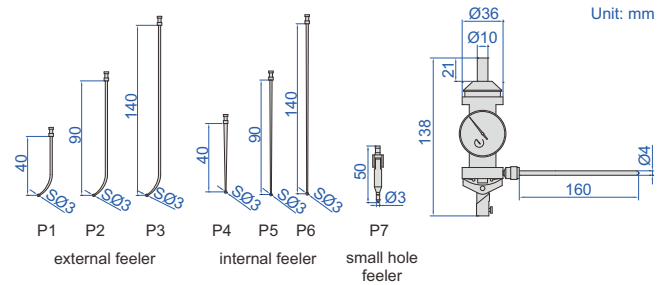
CENTERING INDICATOR



POPULAR
MODEL



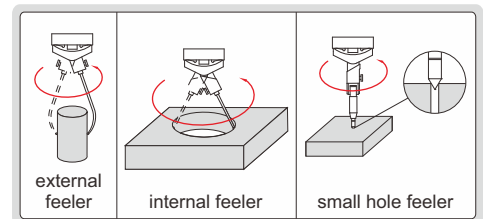
2385-3



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

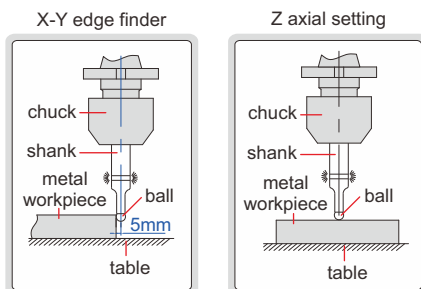
Code
2385-3

Feeler	Measuring diameter	Accuracy
P1	Ø0-60mm	0.015mm
P2	Ø0-160mm	0.02mm
P3	Ø0-250mm	0.03mm
P4	Ø3.2-80mm	0.015mm
P5	Ø3.2-180mm	0.02mm
P6	Ø3.2-280mm	0.03mm
P7	Ø0-2.8mm	0.015mm



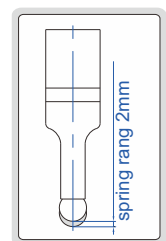
3D ELECTRONIC EDGE FINDERS

INSIZE PLUS
MADE IN EUROPE



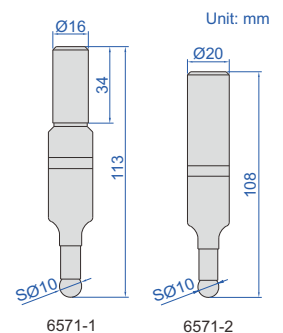
6571-1

6571-2



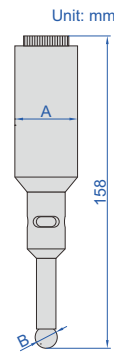
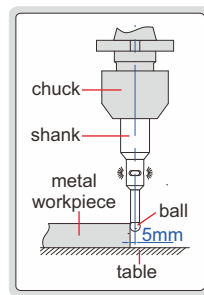
- The shank is electrically conducted to the metal workpiece through the chuck and table. The LED lights up, when the ball touches the workpiece
- Not suitable for rotary use
- Hardened contact ball

Code	Shank	Contact ball	Accuracy	Battery
6571-1	Ø16mm	SØ10mm	10µm	23A, 12Vx1 pc
6571-2	Ø20mm	SØ10mm	10µm	23A, 12Vx1 pc



LARGE SHANK ELECTRONIC EDGE FINDERS

- The shank is electrically conducted to the metal workpiece through the chuck and table. The LED lights up and the beeper sounds (only for **6572-2**), when the ball touches the workpiece
- Not suitable for rotary use
- Hardened shank and contact ball



6572-1

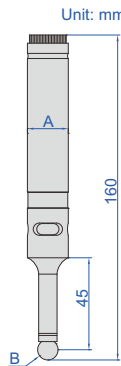
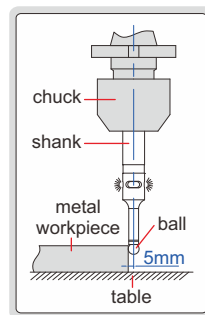


6572-2

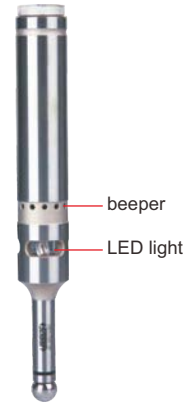
Code	Shank (A)	Contact ball (B)	Accuracy	Beeper	Battery
6572-1	Ø32mm	SØ10mm	5µm	without	23A, 12V×1 pc
6572-2	Ø32mm	SØ10mm	5µm	with	23A, 12V×1 pc

ELECTRONIC EDGE FINDERS

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



6566-2

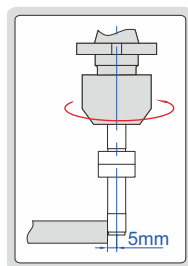


6566-3

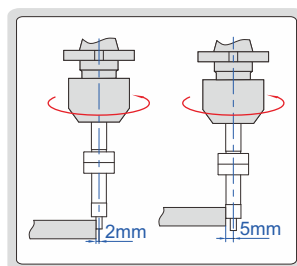
Code	Shank (A)	Contact ball (B)	Accuracy	Beeper	Battery
6566-2	Ø20mm	SØ10mm	5µm	without	23A, 12V×1 pc
6566-3	Ø20mm	SØ10mm	5µm	with	23A, 12V×1 pc

NON-MAGNETIC EDGE FINDERS

- TiAlN coating, non-magnetic, hardness HV2500, extremely wear resistance
- Suitable for machine speed 400~600rpm



6573-1



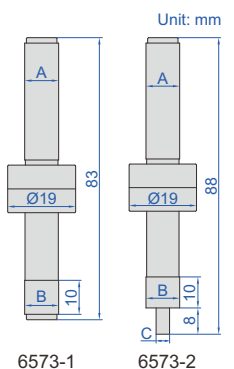
6573-2



6573-1



6573-2

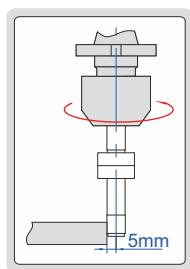


6573-1

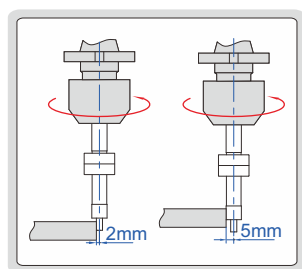
6573-2

Code	Shank (A)	Contact point (B)	Contact point (C)	Accuracy
6573-1	Ø10mm	Ø10mm	—	5µm
6573-2	Ø10mm	Ø10mm	Ø4mm	5µm

EDGE FINDERS



6562-3



6562-4

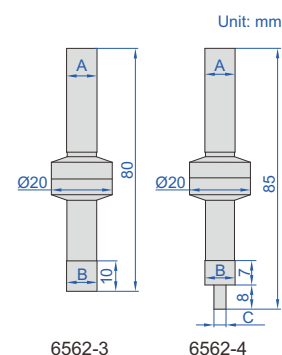
- Hardened shank and contact point
- Suitable for machine speed 400~600rpm



6562-3

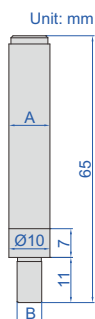
6562-4

Code	Shank (A)	Contact point (B)	Contact point (C)	Accuracy
6562-3	Ø10mm	Ø10mm	—	5µm
6562-4	Ø10mm	Ø10mm	Ø4mm	5µm



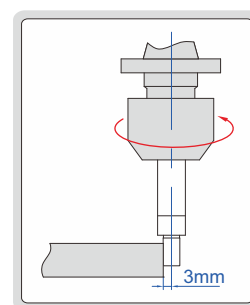
EDGE FINDER

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



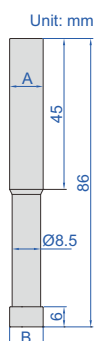
6567-1

Code	Shank (A)	Contact point (B)	Accuracy
6567-1	Ø10mm	Ø6mm	8µm



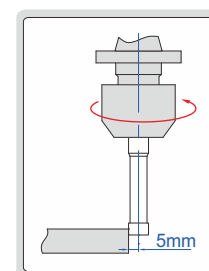
CERAMIC EDGE FINDER

- Ceramic contact point, non magnetic
- Suitable for machine speed 400~600rpm



6568-1

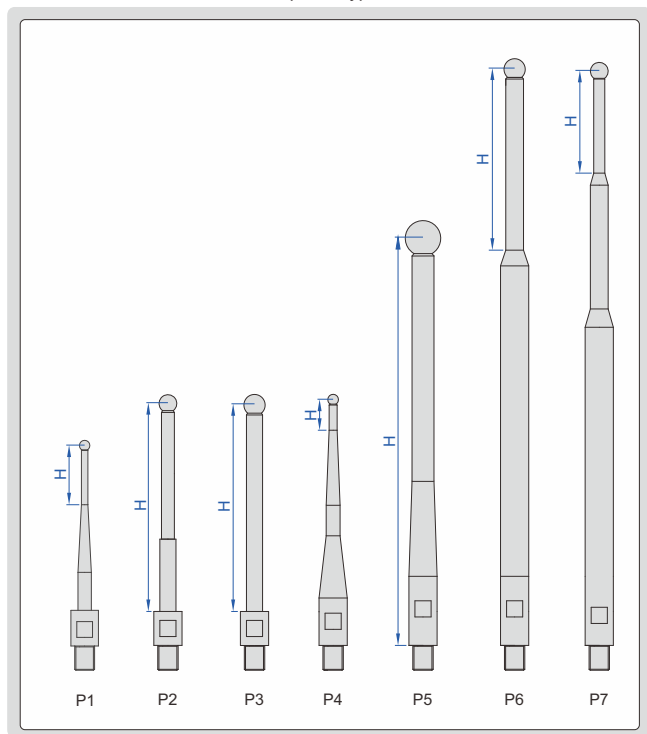
Code	Shank (A)	Contact point (B)	Accuracy
6568-1	Ø10mm	Ø10mm	8µm



EDGE FINDERS FOR EDM

CAN BE
CUSTOM-MADE

spindle type

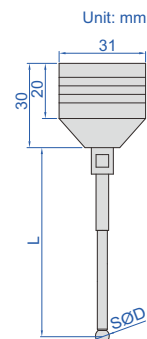


6558-52

- To locate workpieces
- Buzzer in EDM sounds when the ball touches the workpiece
- Tungsten steel ball, diameter accuracy: $\pm 0.003\text{mm}$
- Non magnetic stainless steel spindle
- Magnetic base

(mm)

Code	Ball dia. (SØD)	Spindle length (L)	Measuring depth (H)	Spindle type
6558-11	SØ1	69	5	P4
6558-21	SØ2	49	6	P1
6558-22	SØ2	69	6	P4
6558-23	SØ2	119	8	P4
6558-31	SØ3	48	6	P1
6558-32	SØ3	68	7	P4
6558-33	SØ3	118	10	P4
6558-41	SØ4	48	37	P3
6558-42	SØ4	68	57	P2
6558-43	SØ4	118	16	P4
6558-44	SØ4	168	28	P7
6558-51	SØ5	47	36	P3
6558-52	SØ5	67	56	P2
6558-53	SØ5	117	106	P2
6558-54	SØ5	167	46	P6
6558-61	SØ6	47	35	P3
6558-62	SØ6	67	56	P3
6558-63	SØ6	87	76	P3
6558-64	SØ6	117	107	P2
6558-65	SØ6	167	51	P6
6558-81	SØ8	46	46	P5
6558-82	SØ8	66	54	P3
6558-83	SØ8	116	105	P3
6558-84	SØ8	166	51	P6
6558-101	SØ10	45	34	P3
6558-102	SØ10	65	53	P3
6558-103	SØ10	115	114	P5
6558-104	SØ10	165	53	P6



DIGITAL 3D TESTER

INSIZE PLUS
MADE IN EUROPE

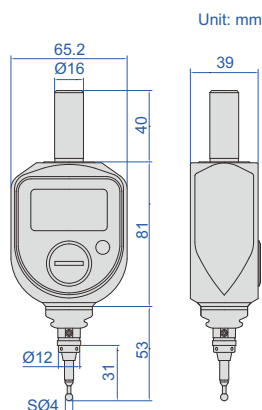
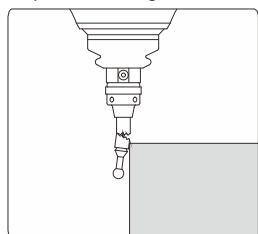
IP65
WATERPROOF

SHOCK
PROOF



2846-3D

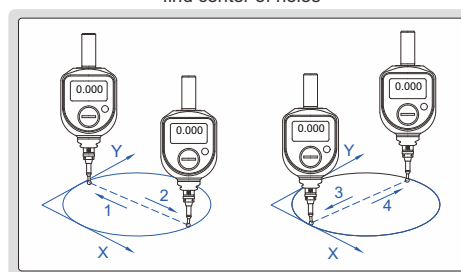
if the probe is pressed too much,
the probe breaks at the breaking point,
in order to prevent damage of the main body



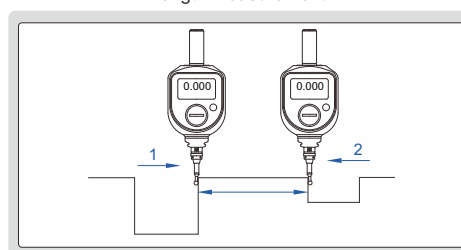
- Shockproof, IP65 dust/waterproof
- Mainly used for milling machines and CNC machine tools
 1. determine coordinate point on workpieces
 2. find center of holes
 3. adjust and position workpieces
- Can be used to measure length and depth
- Reading shows movement value of probe.
for example, if probe moves 0.01mm, reading changes 0.01mm
- Large working range on three axes (X, Y, Z),
which avoids damage of probes due to collision by mistake
- Optional accessory: probe (code **2840-N1**)

Code	Range	Resolution	Repeatability at zero (one direction)	X, Y, Z range
2846-3D	±2mm	0.005mm	±0.005mm	6mm

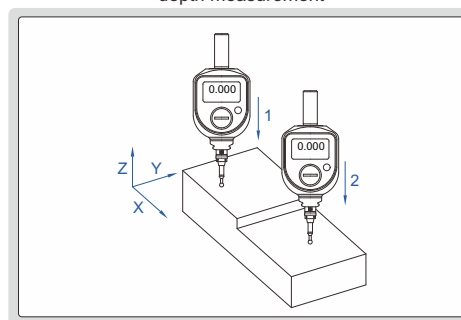
find center of holes



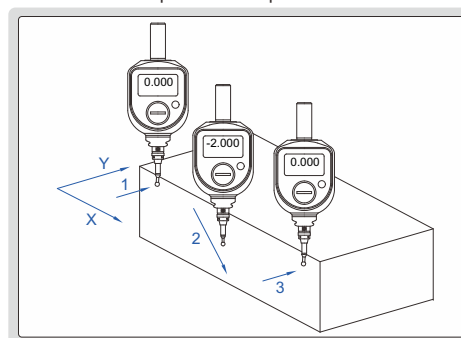
length measurement



depth measurement



position workpieces

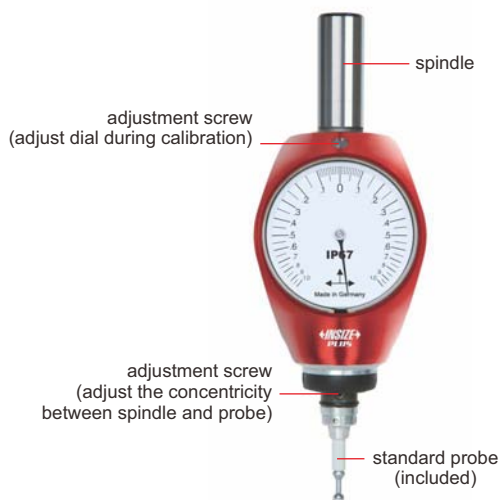


**ATTENTION: WHEN USING STANDARD PROBE, READING SHOWS MOVEMENT VALUE OF PROBE.
WHEN USING EXTENDED PROBE, READING DOES NOT SHOW MOVEMENT VALUE OF PROBE**

IP67
WATERPROOF

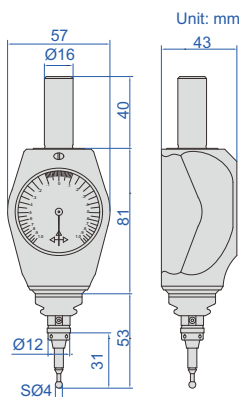
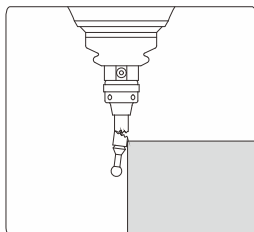
SHOCK
PROOF

3D TESTER
INSIZE PLUS
MADE IN EUROPE

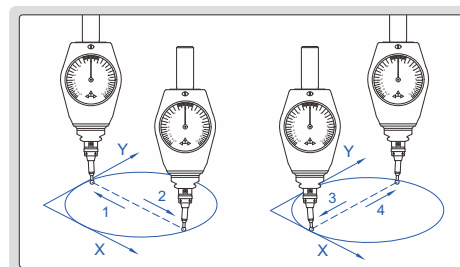


2840-3D

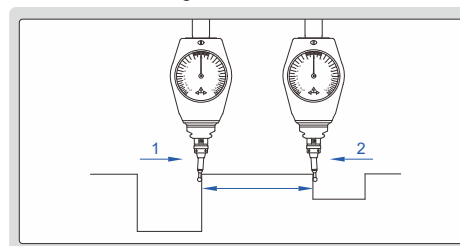
if the probe is pressed too much,
the probe breaks at the breaking point,
in order to prevent damage of the main body



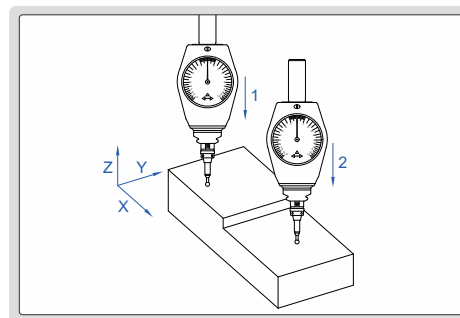
find center of holes



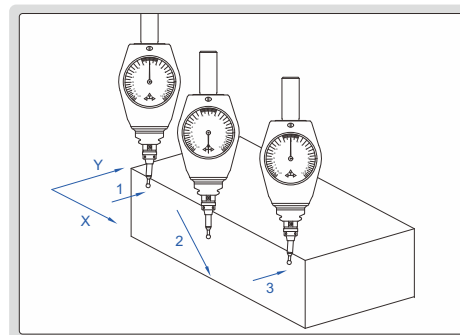
length measurement



depth measurement



position workpieces

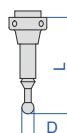


- Shockproof, IP67 dust/waterproof
- Mainly used for milling machines and CNC machine tools
 - determine coordinate point on workpieces
 - find center of holes
 - adjust and position workpieces
- Can be used to measure length and depth
- When using standard probe, reading shows movement value of probe, for example, if probe moves 0.05mm, reading changes 0.05mm (5 graduations). When using extended probe, reading does not show movement value of probe
- Large working range on three axes (X, Y, Z), which avoids damage of probes due to collision by mistake

Code	Range	Graduation	Repeatability at zero (one direction)	X, Y, Z range
2840-3D	±1.0mm	0.01mm	±0.01mm	6mm

PROBE (optional)

Code	Description	L	D
2840-N1	standard probe	31mm	SØ4mm
2840-N2	extended probe	56.6mm	SØ6mm



standard probe



extended probe

TRIGGER-TYPE 3D PROBE (AUDIBLE AND VISUAL ALARM) CODE 9410

IP67
WATERPROOF

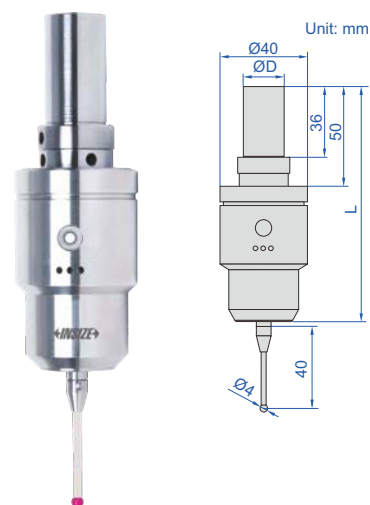
type-C charging
cable (included)



signal extension
cord (included)



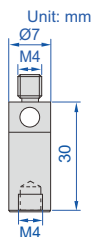
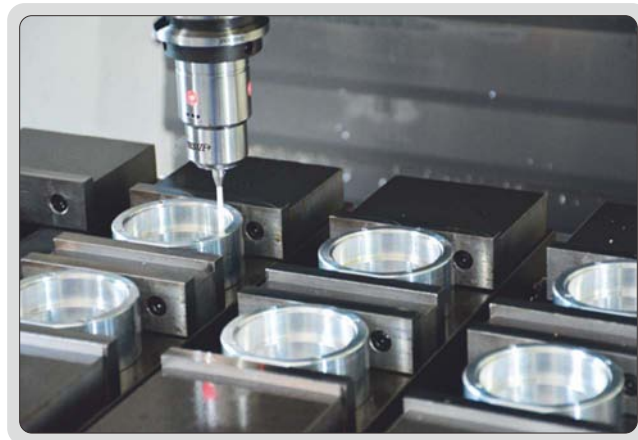
- Suitable for all kinds of machining centers, CNC boring machines, milling machines, drilling and tapping centers
- Suitable for workpiece detection of various solid materials
- Manually set the workpiece coordinates and machining reference points before CNC machining process
- In the process of CNC machining, manually detect and control key dimensions and position coordinates and their accuracy
- Detect the accuracy of the key size, shape and position of the workpiece after completion of CNC machining
- Standard Ø20mm shank diameter, held by CNC
- LED indicator and buzzer indicate the trigger state of the probe
- Using lithium battery charging technology, no need to replace the battery
- The battery (5% utilization rate per shift) can be used continuously for 90 days
- Type-C interface
- Optional accessory: styli and extension bar



SPECIFICATION

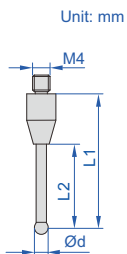
Probe length (L)	115.5mm
Shank diameter (ØD)	20mm
Trigger direction	±X, ±Y, +Z
Directional trigger protection stroke	X-Y: ±12°, Z: +5mm
Arbitrary one-way repeated trigger accuracy	≤1µm
Trigger force in X-Y direction (with standard styli)	0.3-0.6N
Trigger force in Z direction	4N
Dust/waterproof	IP67
Type-C charging cable	1.5m
Signal extension cord (provide signals to CNC)	1m

application



EXTENSION ROD (OPTIONAL)

Code	Material
9410-R1	ceramic



STYLI (OPTIONAL)

(mm)

Code	L1	L2	Ød	Material of rod *	Material of ball
9410-P1	18	13	4	stainless steel	ruby
9410-P2	18	13.5	5	stainless steel	ruby
9410-P3	18.5	13	3	stainless steel	ruby
9410-P4	19	8	2	carbide	ruby
9410-P5	19.5	4	1	carbide	ruby
9410-P6	50	40	2	carbide	ruby
9410-P7	50	34	5	ceramic	ruby
9410-P8	100	86	6	ceramic	ruby
9410-P9	40	30	4	ceramic	ruby
9410-P10	50	36	6	ceramic	ruby

* For stainless steel or carbide rods, it is recommended to use extension rods to protect spindles in case of break

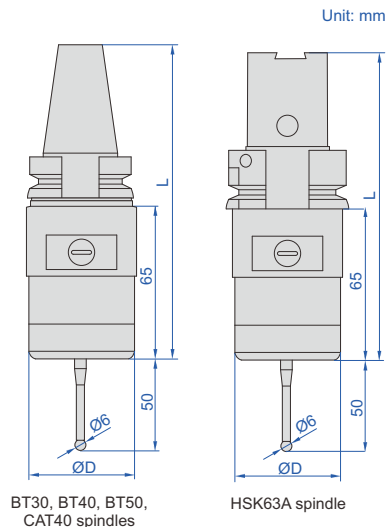


INFRARED TRANSMISSION PROBES FOR CNC MACHINE TOOLS

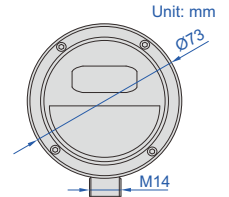
IP68
WATERPROOF



9413-1



9413-A



- On-machine measurement of all kinds of small and medium-sized machining centers, CNC boring, milling machines and five-axis CNC machine tools
- Automatically set the workpiece coordinate and machining reference point before CNC machining process
- Automatically measure dimension and position coordinate during CNC machining
- Measure dimension, shape and position after CNC machining is completed
- Four kinds of SSR signals such as probe status, error, low voltage and pulse are transmitted to CNC machine tools
- M code is used to control on or off of probes
- Infrared transmission, strong anti-interference
- Infrared transmission/reception range: 5m
- Supplied with automatic measurement software
- Optional accessory: styli

PROBE SPECIFICATION

Code	9413-1	9413-2	9413-3	9413-4	9413-5
Probe length (L)	140mm	166mm	216mm	168mm	136mm
Probe diameter (ØD)	48mm	48mm	48mm	48mm	48mm
Applicable spindle *	BT30	BT40	BT50	CAT40	HSK63A
Trigger accuracy of styli in any direction	1µm				
Protection stroke triggered by styli in all directions	X and Y axis stroke: ±12.5°, Z axis stroke: 5mm				
Trigger force of styli in all directions	X and Y axis: 1-1.6N, Z axis: 5-10N				
Dust/waterproof	IP68				
Power supply	2×LS14250 lithium battery				

* SK and ISO spindle probes also can be customized

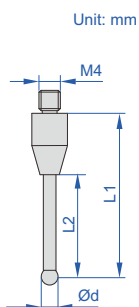
RECEIVER SPECIFICATION

Code	9413-A
Protection function	low battery voltage or probe transmitting signal all the time**
Applicable probe	code 9413-1, 9413-2, 9413-3, 9413-4, 9413-5
Cable length	8m
Dust/waterproof	IP68
Power supply	input voltage: 24V±10% (DC), load current: 50mA

** When battery voltage is low or probe is in wrong state, receiver sends a signal to CNC machine to stop working

To be continued

Continued from previous page

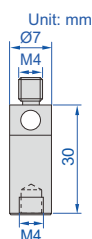


STYLI (OPTIONAL)

(mm)

Code	L1	L2	Ød	Material of rod ***	Material of ball
9410-P1	18	13	4	stainless steel	ruby
9410-P2	18	13.5	5	stainless steel	ruby
9410-P3	18.5	13	3	stainless steel	ruby
9410-P4	19	8	2	carbide	ruby
9410-P5	19.5	4	1	carbide	ruby
9410-P6	50	40	2	carbide	ruby
9410-P7	50	34	5	ceramic	ruby
9410-P8	100	86	6	ceramic	ruby
9410-P9	40	30	4	ceramic	ruby
9410-P10	50	36	6	ceramic	ruby

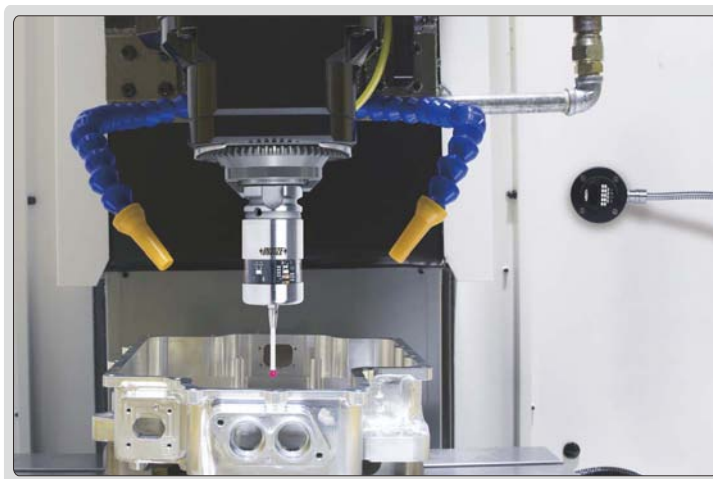
*** For stainless steel or carbide rods, it is recommended to use extension rods to protect spindles in case of break



EXTENSION ROD (OPTIONAL)

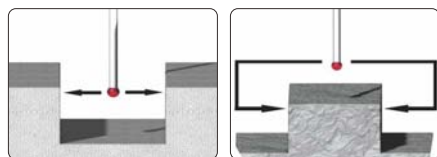
Code	Material
9410-R1	ceramic

application



AUTOMATIC MEASUREMENT SOFTWARE (INCLUDED)

1. Stylus automatic calibration
2. Protection of stylus during probe movement (avoid collision)
3. Groove and boss measurement



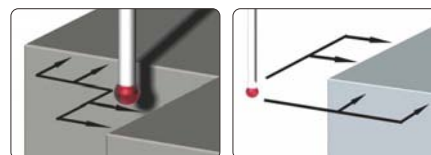
4. Bore and axis measurement



5. X or Y single-surface measurement

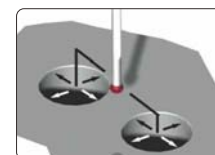


6. Internal and external corner measurement



7. 4th axis measurement
8. Angle on X and Y plane measurement
9. Three points measurement of arc

10. Measure the distance between two holes

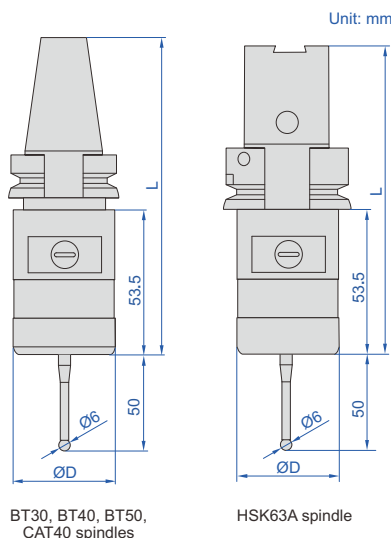


INFRARED TRANSMISSION PROBES FOR CNC MACHINE TOOLS (CAN BE USED IN COMBINATION WITH ZERO SETTER WITH INFRARED TRANSMISSION)

IP68
WATERPROOF



9414-1

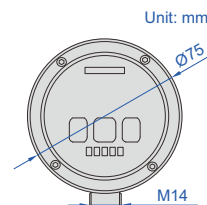


BT30, BT40, BT50,
CAT40 spindles

HSK63A spindle



9414-A



VIDEO

- On-machine measurement of all kinds of small and medium-sized machining centers, CNC boring, milling machines and five-axis CNC machine tools
- Automatically set the workpiece coordinate and machining reference point before CNC machining process
- Automatically measure dimension and position coordinate during CNC machining
- Measure dimension, shape and position after CNC machining is completed
- Four kinds of SSR signals such as probe status, error, low voltage and pulse are transmitted to CNC machine tools
- Working status can be displayed on receiver LED indicator
- Signal transmitting range of probe can be set
- Infrared transmission, fast response, high reliability
- The battery (5% utilization rate per shift) can be used continuously for 90 days
- Supplied with measurement software package
- Can be used in combination with zero setter with infrared transmission (code 9415-1, 9415-2)
- Optional accessory: styli



PROBE SPECIFICATION

Code	9414-1	9414-2	9414-3	9414-4	9414-5
Probe length (L)	130mm	151.5mm	208.3mm	156mm	126.5mm
Probe diameter (ØD)	40mm	40mm	40mm	40mm	40mm
Applicable spindle *	BT30	BT40	BT50	CAT40	HSK63A
Trigger accuracy of styli in any direction	1µm				
Protection stroke triggered by styli in all directions	X and Y axis stroke: ±12°, Z axis stroke: 5mm				
Trigger force of styli in all directions	X and Y axis: 0.5-1N, Z axis: 7.5N				
Dust/waterproof	IP68				
Power supply	2xLS14250 lithium battery				

* SK and ISO spindle probes also can be customized

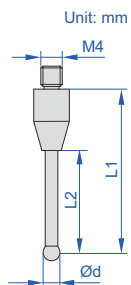
RECEIVER SPECIFICATION

Code	9414-A
Protection function	low battery voltage, overstroke and signal interrupt protection**
Applicable	probe code 9414-1, 9414-2, 9414-3, 9414-4, 9414-5; zero setter code 9415-1, 9415-2
Infrared transmission/reception range	3m
Cable length	8m
Dust/waterproof	IP68
Power supply	input voltage: 24V±10% (DC), load current (max): 50mA

** When battery voltage is low or zero setter is in wrong state, receiver sends a signal to CNC machine to stop working

To be continued

Continued from previous page

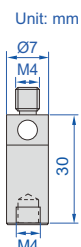


STYLI (OPTIONAL)

(mm)

Code	L1	L2	Ød	Material of rod ***	Material of ball
9410-P1	18	13	4	stainless steel	ruby
9410-P2	18	13.5	5	stainless steel	ruby
9410-P3	18.5	13	3	stainless steel	ruby
9410-P4	19	8	2	carbide	ruby
9410-P5	19.5	4	1	carbide	ruby
9410-P6	50	40	2	carbide	ruby
9410-P7	50	34	5	ceramic	ruby
9410-P8	100	86	6	ceramic	ruby
9410-P9	40	30	4	ceramic	ruby
9410-P10	50	36	6	ceramic	ruby

*** For stainless steel or carbide rods, it is recommended to use extension rods to protect spindles in case of break



EXTENSION ROD (OPTIONAL)

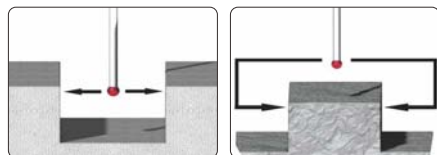
Code	Material
9410-R1	ceramic

application



AUTOMATIC MEASUREMENT SOFTWARE (INCLUDED)

1. Stylus automatic calibration
2. Protection of stylus during probe movement (avoid collision)
3. Groove and boss measurement



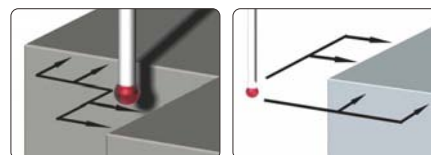
4. Bore and axis measurement



5. X or Y single-surface measurement

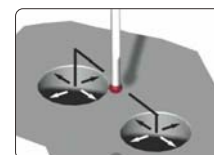


6. Internal and external corner measurement



7. 4th axis measurement
8. Angle on X and Y plane measurement
9. Three points measurement of arc

10. Measure the distance between two holes



IP68
WATERPROOF

ZERO SETTER WITH INFRARED TRANSMISSION (FIVE-SIDE)

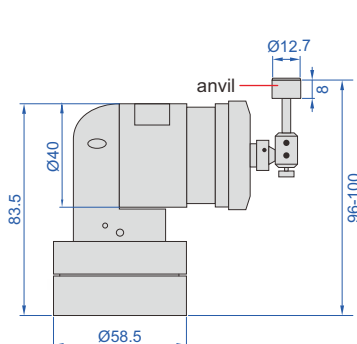


9415-1

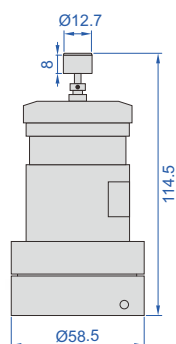


9414-A

Unit: mm

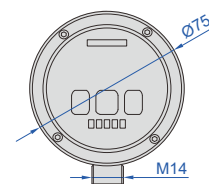


9415-1



9415-2

Unit: mm



- Suitable for all kinds of small and medium-sized machining centers, CNC boring, milling machines and five-axis CNC machine tools, etc.
- Automatically set the tool length parameters before CNC machining process
- Automatic detection of tool wear or damage during CNC machining
- Automatic detection of tool wear or damage after CNC machining is completed
- The working surface of anvil is ceramic and has chamfer, which can greatly improve the service life
- Infrared transmission, fast response, high reliability
- The battery (5% utilization rate per shift) can be used continuously for 90 days
- Supplied with automatic zero setter software package
- Can be used in combination with infrared transmission probes for CNC machine tools (code 9414-1, 9414-2, 9414-3, 9414-4, 9414-5)
- Optional accessory: square anvil (code 9412-B1)

ZERO SETTER SPECIFICATION

Code	9415-1	9415-2
Height (factory setting)	96-100mm	114.5mm
Diameter of zero setter	Ø12.7mm	
Trigger direction	±X, ±Y, +Z	
Trigger protection stroke	X-Y: ±5mm, Z: 8mm	
Trigger force of zero setter all directions	X and Y axis: 0.5-1N, Z axis: 1.5N	X and Y axis: 0.5-1N, Z axis: 5N
Repeated trigger accuracy	≤1μm	
Start/stop mode	M code control *	
Hardness of the zero setter	HM8.5	
Dust/waterproof	IP68	
Power supply	2xLS14250 lithium battery	

* Before purchasing, please confirm whether CNC still has enough M code to be used

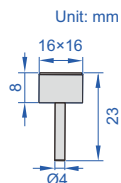
To be continued

Continued from previous page

RECEIVER SPECIFICATION

Code	9414-A
Protection function	low battery voltage, overstroke and signal interrupt protection**
Applicable	probe code 9414-1, 9414-2, 9414-3, 9414-4, 9414-5; zero setter code 9415-1, 9415-2
Infrared transmission/reception range	3m
Cable length	8m
Dust/waterproof	IP68
Power supply	input voltage: 24V±10% (DC), load current (max): 50mA

** When battery voltage is low or zero setter is in wrong state, receiver sends a signal to CNC machine to stop working



SQUARE ANVIL (OPTIONAL)

Code	Shape	Dimension	Material
9412-B1	square	16×16mm	ceramic

application



Automatic zero setter software (included)

1. Automatic calibration of the center position of the anvil
2. Standard knife length setting
3. Semi-automatic and fully automatic tool setting for tool length



4. Semi-automatic and fully automatic tool diameter settings



5. Automatic detection of tool wear and breakage



IP68
WATERPROOF

ZERO SETTER WITH CABLE (FIVE-SIDE) CODE 9412

- Suitable for various machining centers, CNC boring and milling machines, etc.
- Automatically set the tool length parameters before CNC machining process
- Automatic detection of tool wear or damage during CNC machining
- Automatic detection of tool wear or damage after CNC machining is completed
- The working surface adopts ceramic material and chamfering process, which can greatly improve the service life
- The plug, cable part and output signal of the host are protected, so that the zero setter can work in the splash environment for a long time
- Signal transmission through the cable, the reverse connection of the power line can change the state of the signal output
- The working status is displayed by the indicator light
- Supplied with automatic zero setter software package
- Optional accessory: square feeler block (code **9412-B1**)

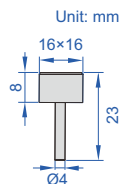
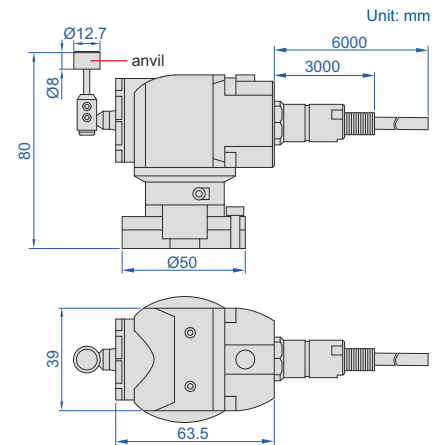


SPECIFICATION

Height (factory setting)	80±0.5mm
Diameter of zero setter	Ø12.7mm
Trigger direction	±X, ±Y, +Z
Trigger protection stroke	X-Y: ±5mm, Z: 8mm
Axial reset force	3.4N-3.6N
Repeated trigger accuracy	≤1μm
Hardness of the zero setter	HM8.5
Class of protection	IP68
Cable length *	6m (stainless steel sheath 3m)
Input voltage	24V±10% (DC)
Load current	max: 50mA
Signal type and logic **	SSR (NC/NO)

* The length of the cable can be customized

** Before purchasing, it is necessary to confirm whether the working logic of the tool setter output signal matches CNC control system



SQUARE ANVIL (OPTIONAL)

Code	Shape	Dimension	Material
9412-B1	square	16×16mm	ceramic

application



Automatic zero setter software (included)

1. Automatic calibration of the center position of the anvil
2. Standard knife length setting
3. Semi-automatic and fully automatic tool setting for tool length



4. Semi-automatic and fully automatic tool diameter settings



5. Automatic detection of tool wear and breakage



ZERO SETTER (WITH CABLE) CODE 9411

IP68
WATERPROOF

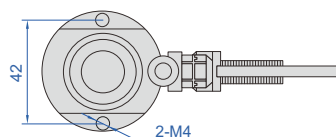
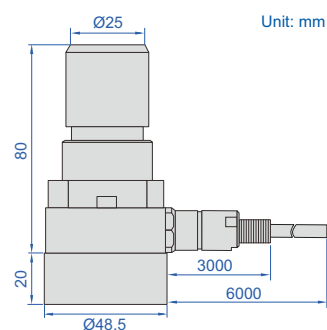
- Suitable for various machining centers, CNC boring and milling machines, etc.
- Automatically set the tool length parameters before CNC machining process
- Automatic detection of tool wear or damage during CNC machining
- Automatic detection of tool wear or damage after CNC machining is completed
- The working surface is made of hard alloy material, which can greatly improve the scratch resistance
- Signal transmission through the cable, the reverse connection of the power line can change the state of the signal output
- The working status is displayed by the indicator light
- Supplied with 20mm mounting base
- Supplied with automatic zero setter software package
- Optional accessory: blow-cleaning device (code **9411-C1**)

SPECIFICATION

Height	80mm (the height is 100mm after adding the mounting base)
Diameter of zero setter	Ø25mm
Downward travel	5mm
Axial reset force	6N±0.3N
Repeated trigger accuracy	≤1μm
Hardness of the zero setter	HRA90-93
Class of protection	IP68
Cable length *	6m (stainless steel sheath 3m)
Input voltage	24V±10% (DC)
Load current	max: 50mA
Signal type and logic **	SSR (NC/NO)

*The length of the cable can be customized

**Before purchasing, it is necessary to confirm whether the working logic of the tool setter output signal matches CNC control system



BLOW-CLEANING DEVICE (OPTIONAL)

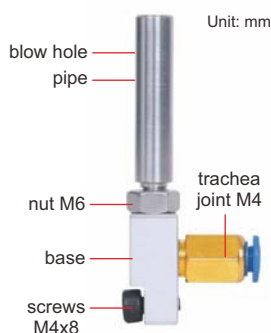
Code	Material
9411-C1	stainless steel

Before purchasing a blow-cleaning device, it is necessary to confirm whether CNC machine has the M-code to control the cleaning

application



blow-cleaning device (optional)



install blow-cleaning device

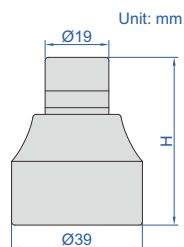
Automatic zero setter software package (included)

1. Automatic calibration of the center position of the cutter block
2. Standard knife length setting
3. Semi-automatic and fully automatic tool setting for tool length
4. Automatic detection of tool wear and breakage



LOW TEST FORCE

- The base is electrically conducted to the cutting tools through the table and chuck. The LED lights up when the cutting tool touches the anvil
- Magnetic base
- Two batteries LR44



Unit: mm

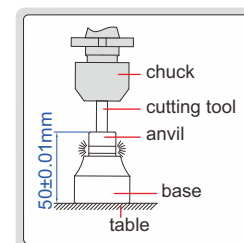


LED light

6553-50



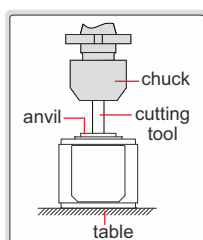
spring range 2mm



ELECTRONIC ZERO SETTER

INSIZE PLUS
MADE IN EUROPE

IP65 WATERPROOF



6557-50

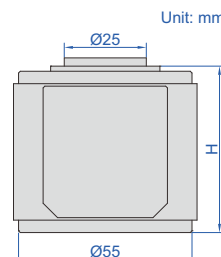


set zero

setting rod (included)



automatic backlight at zero



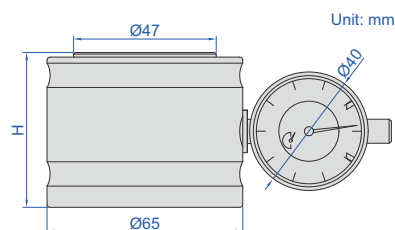
Unit: mm

DIGITAL ZERO SETTER

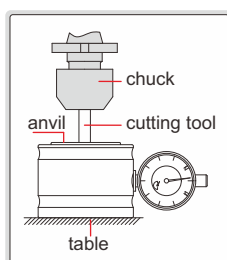
Code	Height (H)	Anvil stroke	Accuracy *	Test force	Repeatability
6557-50	50mm	2.5mm	±10µm/0.0004"	10N (at 50mm)	2µm

* The accuracy is ensured within Ø10mm of the center

- Resolution: 0.001mm/0.00005"
- IP65 dust/waterproof
- Buttons: on/off, mm/inch, zero
- CR2032 battery
- Automatic power off
- Magnetic base
- Automatic backlight at zero



Unit: mm

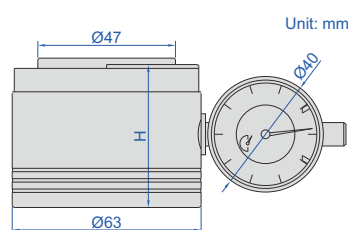


6554-50

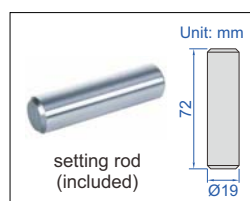
ZERO SETTER

INSIZE PLUS
MADE IN EUROPE

Code	Height (H)	Graduation	Accuracy	Test force
6554-50	50mm	0.01mm	±0.02mm	9N (at 50mm)



Unit: mm



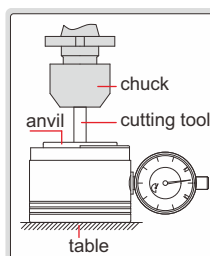
Unit: mm

setting rod (included)



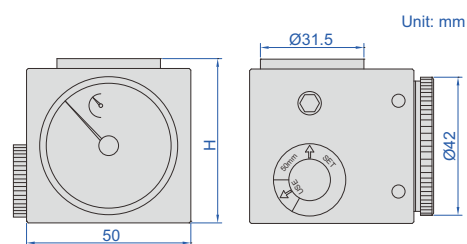
6556-50

ZERO SETTER



Code	Height (H)	Graduation	Accuracy	Test force
6556-50	50mm	0.01mm	±0.01mm	10N (at 50mm)

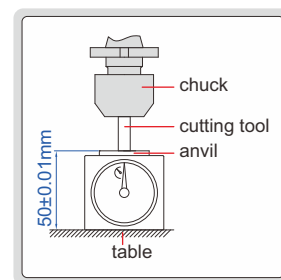
ZERO SETTER



- Magnetic base

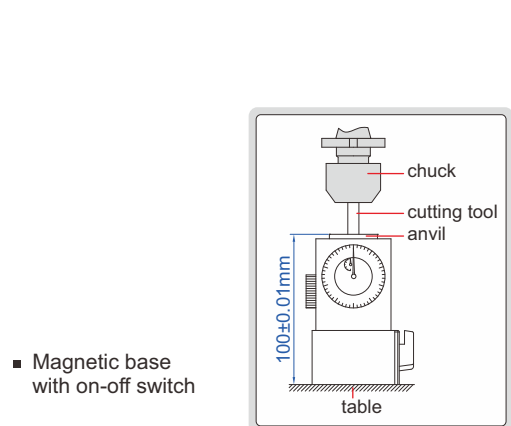


2397-502A



Code	Height (H)	Graduation	Accuracy	Test force
2397-502A	50mm	0.01mm	±0.01mm	9N (at 50mm)

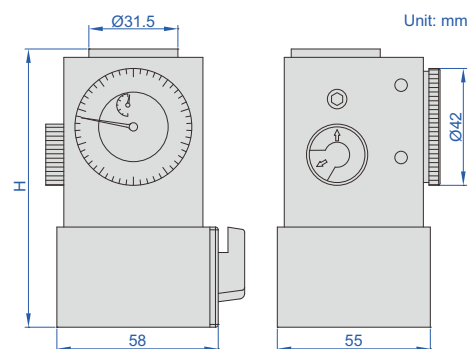
ZERO SETTER



- Magnetic base with on-off switch



2394-100A

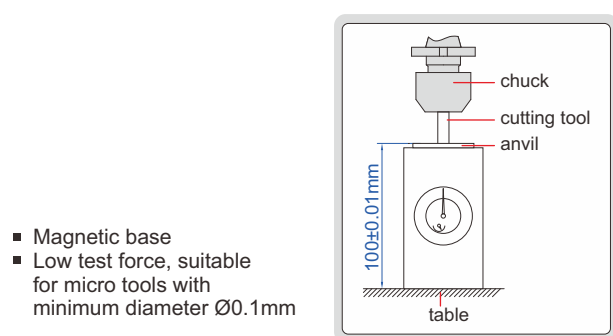


Code	Height (H)	Graduation	Accuracy	Test force
2394-100A	100mm	0.01mm	±0.01mm	9N (at 100mm)

LOW TEST FORCE ZERO SETTER

INSIZE PLUS
MADE IN EUROPE

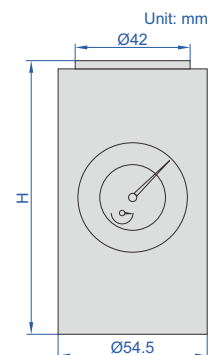
LOW TEST
FORCE



- Magnetic base
- Low test force, suitable for micro tools with minimum diameter Ø0.1mm



6555-100B



Code	Height (H)	Graduation	Accuracy	Test force
6555-100B	100mm	0.01mm	±0.01mm	1N (at 100mm)



Electronic Levels
Page 496



Digital Levels And Slope Meters
Page 497-500



Frame Levels
Page 501



Block Levels
Page 502



Levels
Page 503-506



Cross-Line Laser Levels
Page 507



Self-Leveling Rotary Lasers
Page 508

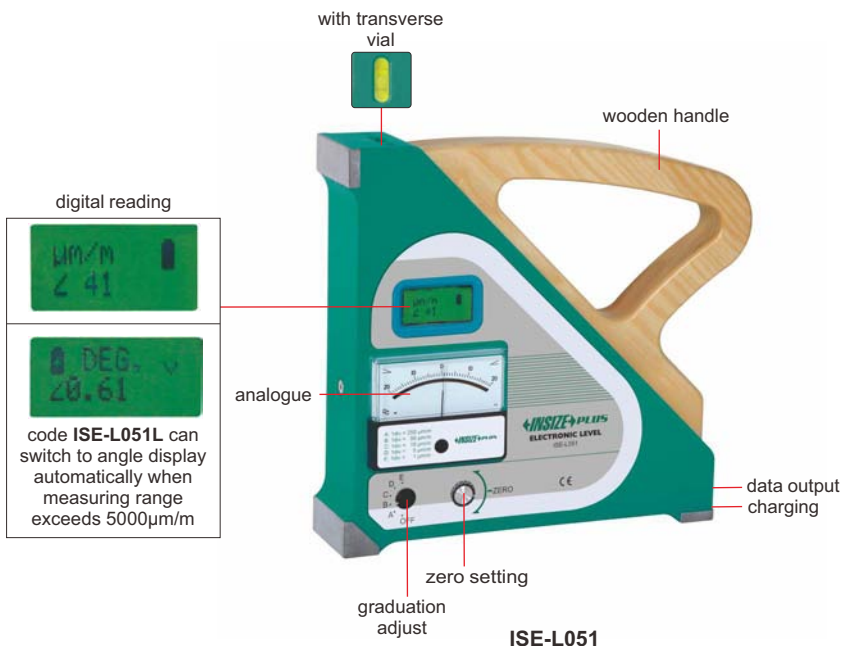
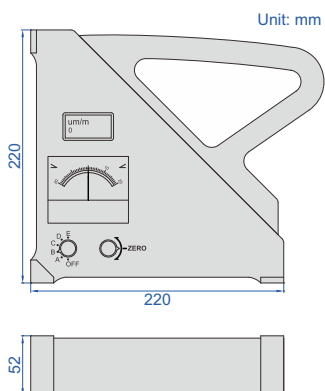
ELECTRONIC LEVELS

INSIZE PLUS
MADE IN EUROPE

INSPECTION
CERTIFICATE

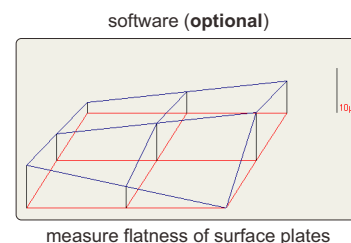
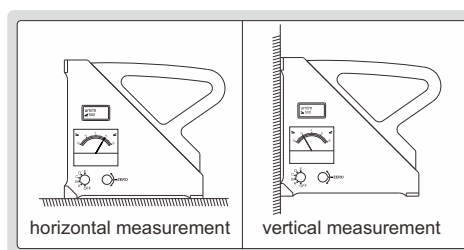
DATA
OUTPUT

SHOCK
PROOF



ISE-L051

- Shockproof
- Analogue and digital reading modes



SPECIFICATION

Code	ISE-L051			ISE-L051L	
Analogue graduation (adjustable)	250µm/m (=0.014°)	50µm/m (=10")	10µm/m (=2")	5µm/m (=1")	1µm/m (=0.2")
Analogue range	±5000µm/m	±1000µm/m	±200µm/m	±100µm/m	±20µm/m
Digital reading resolution	horizontal: 1µm/m (=0.2")			horizontal: 1µm/m (=0.2"), angle: 0.01°	
Digital reading range	horizontal: 5000µm/m			horizontal: 5000µm/m, angle: 0.3~85°	
Accuracy	horizontal: ±1%			horizontal: ±1%, angle: ±0.7%	
Zero setting range	±1500µm/m				
Response time	<3s				
Data output	RS232				
Power supply	rechargeable Li-ion battery, provides power for 10h continuous working				
Dimension	220×220×52mm				
Weight	4.4kg				

STANDARD DELIVERY

Main unit	1 pc
AC/DC adapter	1 pc

OPTIONAL ACCESSORY

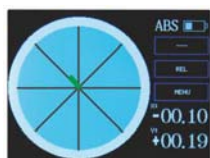
Software and data output cable	ISE-L050-SOFTWARE
--------------------------------	-------------------

DATA
OUTPUT

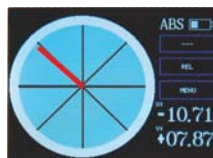
DIGITAL LEVEL CODE ISE-2DT



- Color LCD, touch panel
- X-Y axis measurement
- Set the tolerance and the display is shown in different colors

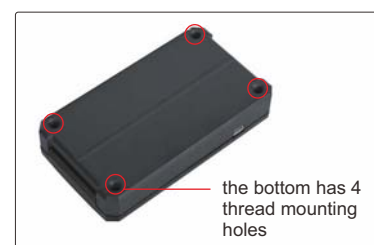
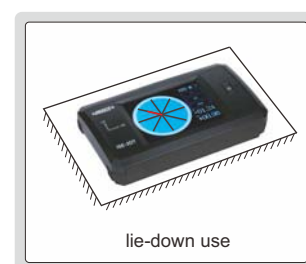


within the tolerance (green)



out of the tolerance (red)

- To show the incline with line or bubble



SPECIFICATION

Measuring range	±30°
Resolution	0.1°, 0.01°, 0.1mm/m
Accuracy	±0.03° (range 0~3°) ±0.05° (range >3°)
Power supply	rechargeable battery
Dimension	115×66×25mm
Weight	224g

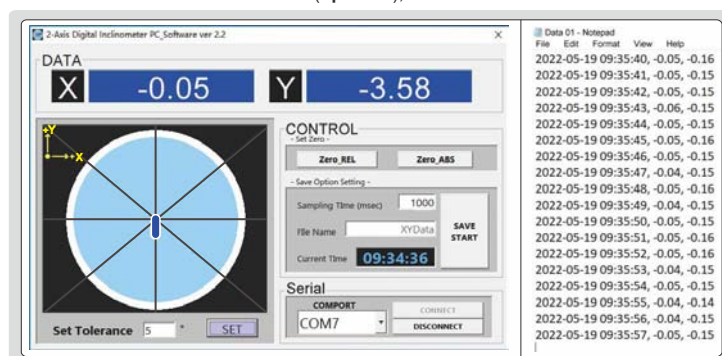
STANDARD DELIVERY

Main unit	1 pc
USB cable	1 pc

OPTIONAL ACCESSORY

Software	ISE-2DT-SOFTWARE
----------	------------------

PC software (optional), send data to txt



DUAL AXIS DIGITAL LEVEL AND GYRO ANGLE METER



DATA
OUTPUT

DISPLAY FLIPS OVER WHEN
THE BOTTOM FACES UP

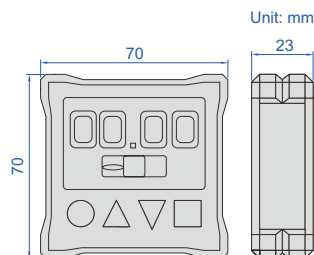
AUDIBLE ALARM
WHEN OUT OF LIMIT

BACKLIGHT

ATTENTION: HARD
PLASTIC CASE



2199-1



dual axis mode



bubble

single axis mode



bubble

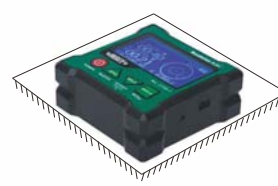
M4 threaded holes
on the back for fixing



horizontal use



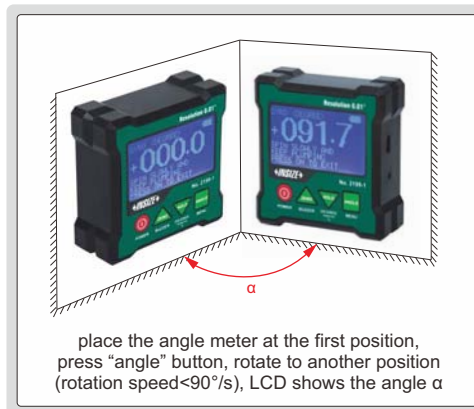
vertical use



lie-down use

- Single axis/double axis level and slope meter, gyro technique can measure the angle between two planes in any direction
- Hard plastic case, with V-shaped grooves, four magnetic sides
- Display flips over when the bottom faces up
- Audible alarm when out of limit
- Buttons: POWER, ZERO, HOLD, display unit ($^{\circ}$, mm/m, %), MENU
- Rechargeable Li-ion battery 3.7V, operation time is 40 hours
- Automatic power off in 30 minutes
- Data output
- Optional accessory: wired data transmission (code **2199-A01**), bluetooth (code **2199-A02**), transmission distance is 10 meters (under the condition of no obstruction and no electromagnetic interference)

measurement of angle between two
planes in any direction (gyro technique)



Code	Range	Resolution	Accuracy
2199-1	single axis level: 4x90° dual axis level: $\pm 40^{\circ}$	0.01°	at 0° and 20°: $\pm 0.08^{\circ}$ at 20° and 70°: $\pm 0.15^{\circ}$ at 70° and 90°: $\pm 0.08^{\circ}$
	gyro angle meter: 360°	0.1°	$\pm 0.5^{\circ}$



connect to computer via wired data transmission



connect to mobile phone via bluetooth



bluetooth (optional)



wired data transmission (optional)

ABSOLUTE
LEVEL

BACKLIGHT

BUZZER ALARM
AT 0° AND 90°

WORKING TEMPERATURE
-5°C~50°C

IP67
WATERPROOF

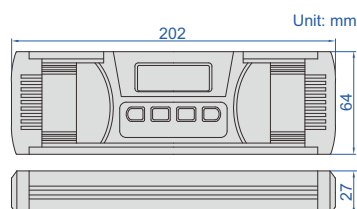


2175-360

DIGITAL LEVEL AND SLOPE METER

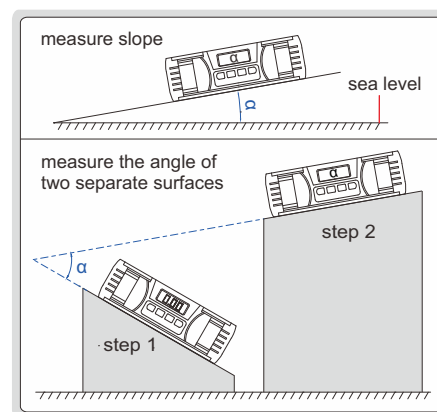


VIDEO



- IP67 dust/waterproof
- Used as level and slope meter
- Aluminum frame, shock absorbing rubber end caps
- Magnetic bottom with V-groove for shafts
- The sea level is permanently set inside the chip, zero setting is not needed when batteries are replaced
- Buttons: ON/OFF, backlight/buzzer alarm, absolute and incremental measurement, unit (mm/m, %, °), HOLD (keep the reading)
- Three AAA batteries, automatic power off

Code	Range	Resolution	Accuracy
2175-360	0-360° (90°x4)	0.05° (=0.873mm/m)	at 0°: ±0.05°; at others: ±0.1°



ABSOLUTE
LEVEL

BACKLIGHT

BUZZER ALARM
AT 0° AND 90°

WORKING TEMPERATURE
-5°C~50°C

IP54
WATERPROOF

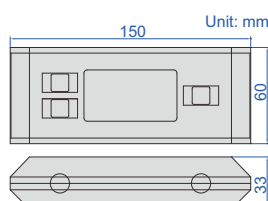


2179-360

DIGITAL LEVEL AND SLOPE METER

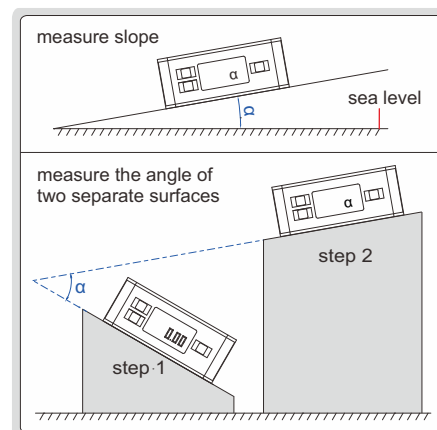


VIDEO



- IP54 dust/waterproof
- Used as level and slope meter
- Aluminum frame
- Magnetic bottom with V-groove for shafts
- The sea level is permanently set inside the chip, zero setting is not needed when battery is replaced
- Buttons: ON/OFF, absolute and incremental measurement, keep the reading, buzzer alarm, unit (mm/m, %, in/ft), conversion, backlight
- Two AAA batteries, automatic power off

Code	Range	Resolution	Accuracy
2179-360	0-360° (90°x4)	0.05° (=0.873mm/m)	at 0° and 90°: ±0.1°; at others: ±0.2°



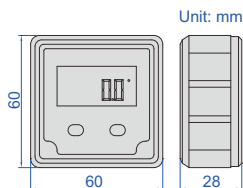
DIGITAL LEVEL AND SLOPE METER

POPULAR
MODEL

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



2170-1



Unit: mm

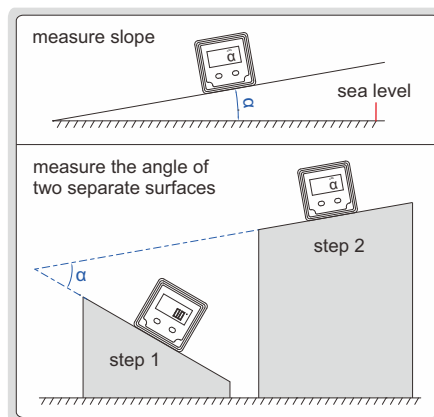
MAGNETIC
BOTTOM

WORKING TEMPERATURE
-5°C~50°C

BACKLIGHT

DISPLAY FLIPS OVER WHEN
THE BOTTOM FACES UP

ABSOLUTE
LEVEL



Code	Range	Resolution	Accuracy
2170-1	4x90°	0.1° (=1.745mm/m)	at 0° and 90°: ±0.1°; at others: ±0.2°



BLUETOOTH DIGITAL LEVEL AND SLOPE METER

- Used as level and slope meter
- Aluminum frame
- Magnetic bottom
- The display flips over when the bottom faces up
- The backlight is on automatically when in use, and automatically off in 15 seconds after use
- The sea level is permanently set inside the chip, zero setting is not needed when battery is replaced
- Buttons: ON/OFF, ZERO, HOLD, absolute and incremental measurement
- Built-in bluetooth, transmission distance is 15 meters (under the condition of no obstruction and no electromagnetic interference). Android and iPhone APP are included
- One AAA battery, automatic power off in 5 minutes



2198-2

BACKLIGHT

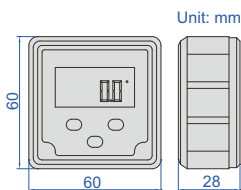
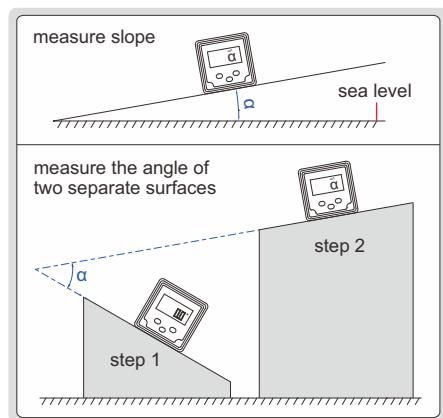
MAGNETIC
BOTTOM

DISPLAY FLIPS OVER WHEN
THE BOTTOM FACES UP

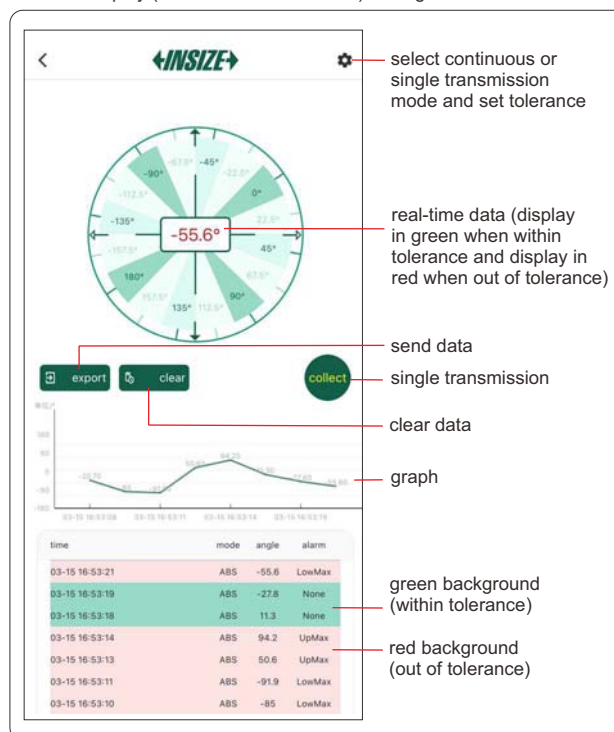
WORKING TEMPERATURE
-5°C~50°C

ABSOLUTE
LEVEL

Android and iPhone APP (included), can choose real-time display (continuous transmission) or single transmission



Unit: mm



Code	Range	Resolution	Accuracy
2198-2	4x90°	0.1° (=1.745mm/m)	at 0° and 90°: ±0.1°; at others: ±0.2°

NO NEED TO SET
ZERO BEFORE USE

FRAME LEVELS

INSIZE PLUS
MADE IN EUROPE



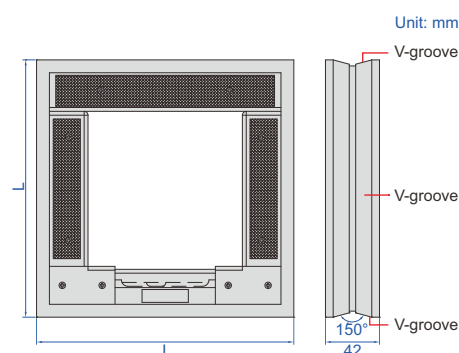
4906-150

magnet on the left side



4906-150M

- No need to set zero before use
- Three V-grooves for shafts (shafts dia. 19.3~115.9mm)
- With longitudinal vial

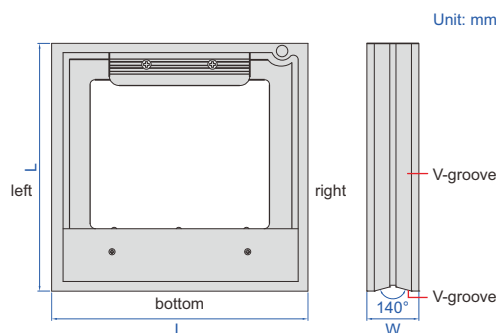


Code		Size (LxL)	Remark
Sensitivity 0.02mm/m (=0.001°)	Sensitivity 0.1mm/m (=0.0057°)		
4906-150	4906-B150	150x150mm	—
4906-200	4906-B200	200x200mm	—
4906-300	4906-B300	300x300mm	—
4906-150M	4906-B150M	150x150mm	with magnet
4906-200M	4906-B200M	200x200mm	with magnet
4906-300M	4906-B300M	300x300mm	with magnet



VIDEO

- V-groove on bottom and left for shafts (shafts dia. 15~68mm)
- With transverse vial



FRAME LEVELS



4902-200

Code		Size (LxL)	W
Sensitivity 0.02mm/m (=0.001°)	Sensitivity 0.05mm/m (=0.0029°)		
4902-150	4902-C150	150x150mm	40mm
4902-200	4902-C200	200x200mm	40mm
4902-300	4902-C300	300x300mm	45mm

BLOCK LEVELS

INSIZE PLUS
MADE IN EUROPE

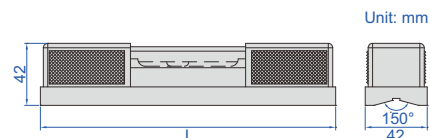
- No need to set zero before use
- V-groove on bottom for shafts (shafts dia. 19.3~115.9mm)
- With longitudinal vial



4905-200

NO NEED TO SET
ZERO BEFORE USE

Code		Size (L)
Sensitivity 0.02mm/m (=0.001°)	Sensitivity 0.1mm/m (=0.0057°)	
4905-160	4905-B160	160mm
4905-200	4905-B200	200mm
4905-300	4905-B300	300mm
4905-500	4905-B500	500mm

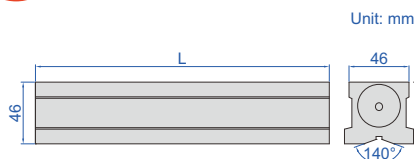


BLOCK LEVELS

POPULAR
MODEL



- V-groove on bottom for shafts (shafts dia. 15~68mm)
- With transverse vial



4903-200A

Code		Length (L)
Sensitivity 0.02mm/m (=0.001°)	Sensitivity 0.05mm/m (=0.0029°)	
4903-150A	4903-C150	150mm
4903-200A	4903-C200	200mm
4903-300A	4903-C300	300mm

SHORT LEVEL

INSIZE PLUS
MADE IN EUROPE

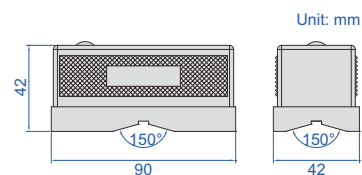
- No need to set zero before use
- Suitable for small spaces like crankshaft
- Longitudinal and transverse V-grooves on bottom for shafts (shafts dia. 19.3~115.9mm)
- With transverse vial



4907-90

NO NEED TO SET
ZERO BEFORE USE

Code	Length	Sensitivity
4907-90	90mm	0.1mm/m (=0.0057°)



MINI LEVEL

INSIZE PLUS
MADE IN EUROPE

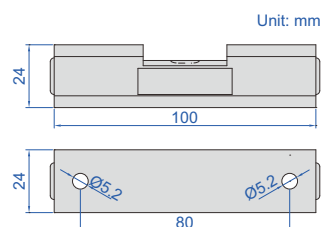
- No need to set zero before use
- With mounting holes (for M5 screws)



4908-100

NO NEED TO SET
ZERO BEFORE USE

Code	Length	Sensitivity
4908-100	100mm	0.1mm/m (=0.0057°)



ABSOLUTE
LEVEL

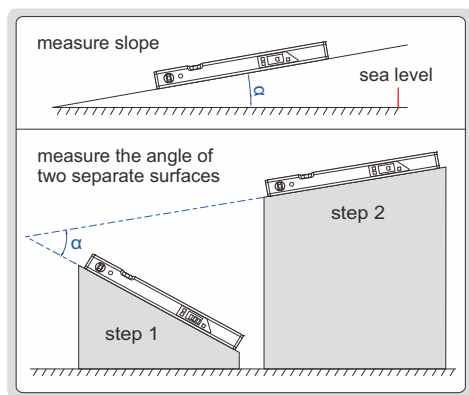
BACKLIGHT

WORKING TEMPERATURE
0°C~50°C

DIGITAL LEVELS AND SLOPE METERS



VIDEO

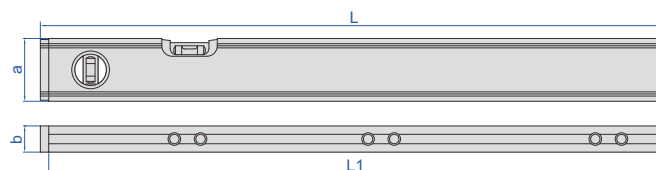


4910-400



4910-600

- With transverse and longitudinal vials
- Used as level and slope meter
- Aluminum frame, magnetic bottom
- The sea level is permanently set inside the chip, zero setting is not needed when batteries are replaced
- Buttons: ON/OFF, absolute and incremental measurement, keep the reading, buzzer alarm (not for **4910-400**), unit (mm/m, %, in/ft), conversion (not for **4910-400**), backlight
- The display flips over when the bottom faces up
- Two AAA batteries
- Automatic power off



(mm)

Code	Range	Resolution	Accuracy	Remark	L	L1	a	b
4910-400	0~360° (90°×4)	angle: 0.1°; slope: 1mm/m	±0.2°	both angle and slope are displayed	416	400	50	21
4910-600	0~360° (90°×4)	at 0° and 90°: 0.05° (=0.8725mm/m); at others: 0.1° (=1.745mm/m)	at 0° and 90°: ±0.1°; at others: ±0.2°	at 0° and 90° buzzer alarms	600	585	60	25

LIFETIME
WARRANTY VIALS

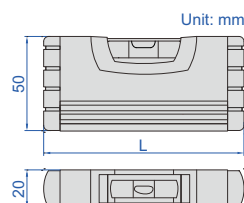
MAGNETIC BASE

HANDY LEVEL

- Shockproof vials
- Magnetic base
- Shock absorbing rubber end caps
- Working temperature: -15°C~55°C



4912-100



magnetic base surface



packaging

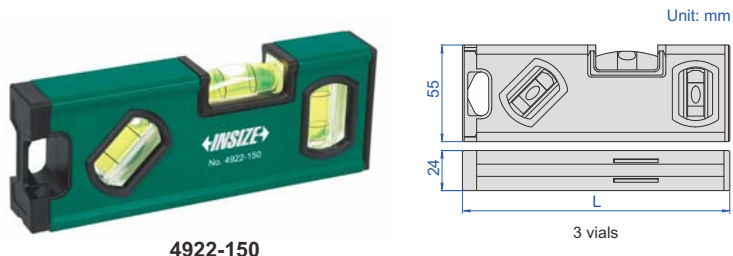
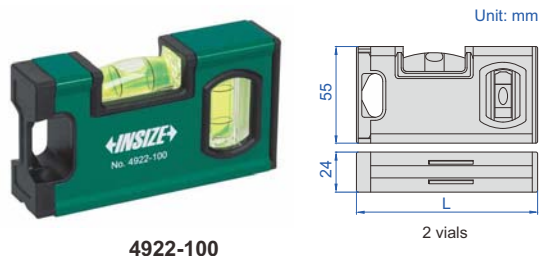


Code	Size (L)	Accuracy
4912-100	100mm	0.5mm/m

HANDY LEVELS

MAGNETIC BASE

LIFETIME
WARRANTY VIALS



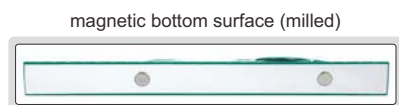
Code	Size (L)	Accuracy	Number of vials
4922-100	100mm	0.5mm/m	2
4922-150	150mm	0.5mm/m	3
4922-200	200mm	0.5mm/m	3

- Shockproof horizontal and vertical vials
- Magnetic base
- Shock absorbing rubber end caps
- Working temperature: -15°C~55°C

CASTING ALUMINUM LEVEL

MAGNETIC BASE

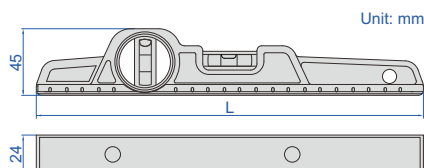
LIFETIME
WARRANTY VIALS



4913-250

- Shockproof horizontal and vertical vials
- Magnetic base
- Working temperature: -15°C~55°C
- Casting aluminum body

Code	Size (L)	Accuracy
4913-250	250mm	0.5mm/m



packaging



ALUMINUM LEVEL

MAGNETIC BASE

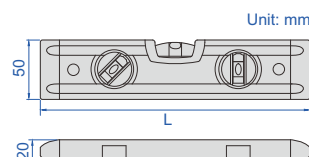
LIFETIME
WARRANTY VIALS

- Shockproof horizontal and vertical vials
- Magnetic base
- Shock absorbing rubber end caps
- Working temperature: -15°C~55°C



4921-230

Code	Size (L)	Accuracy
4921-230	230mm	0.5mm/m



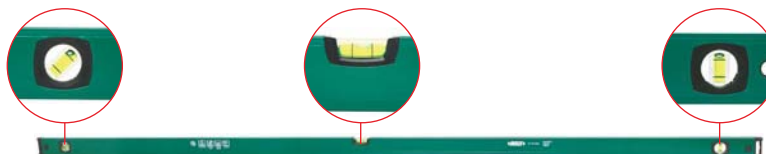
LIFETIME
WARRANTY VIALS

MAGNETIC BASE

ALUMINUM LEVELS



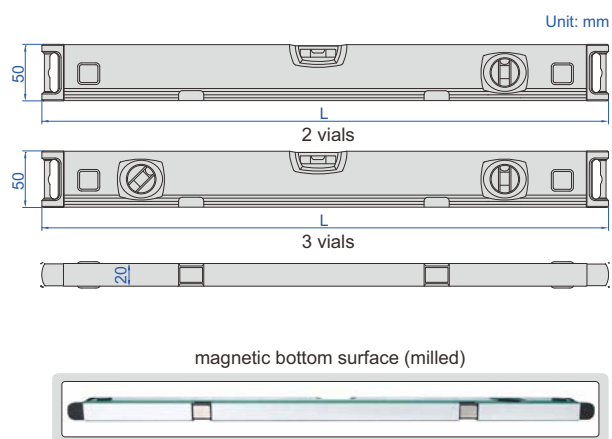
4914-600



4914-2000

- Shockproof horizontal and vertical vials
- Magnetic base
- Shock absorbing rubber end caps
- Working temperature: -15°C~55°C

Code	Size (L)	Accuracy	Number of vials
4914-300	300mm	0.5mm/m	2
4914-600	600mm	0.5mm/m	2
4914-800	800mm	0.5mm/m	2
4914-1000	1000mm	0.5mm/m	2
4914-1200	1200mm	0.5mm/m	2
4914-2000	2000mm	0.5mm/m	3



LIFETIME
WARRANTY VIALS

ALUMINUM LEVELS

- Top and bottom working surfaces
- Shock-proof and UV-proof vials
- Die casting aluminum alloy frame
- Zero position of horizontal vial can be set
- One graduation of horizontal vial is 2% slope
- Working temperature: -15°C~55°C

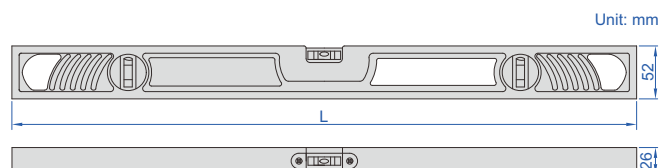


4911-600

bottom surface (non-magnetic, milled)



Code	Size (L)	Accuracy
4911-600	600mm	0.5mm/m
4911-800	800mm	0.5mm/m



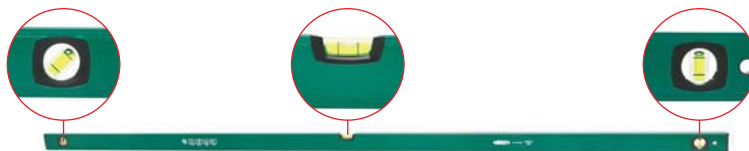
ALUMINUM LEVELS (BASIC TYPE)

MAGNETIC BASE

LIFETIME
WARRANTY VIALS



4918-300

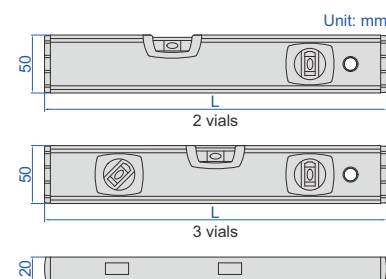
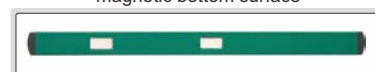


4918-2000

- Shock-proof and UV-proof vials
- Magnetic base
- Shock absorbing rubber end caps
- Working temperature: -15°C~55°C

Code	Size (L)	Accuracy	Number of vials
4918-300	300mm	1mm/m	2
4918-600	600mm	1mm/m	2
4918-800	800mm	1mm/m	2
4918-1000	1000mm	1mm/m	2
4918-1200	1200mm	1mm/m	2
4918-2000	2000mm	1mm/m	3

magnetic bottom surface



ALUMINUM LEVEL WITH RULER

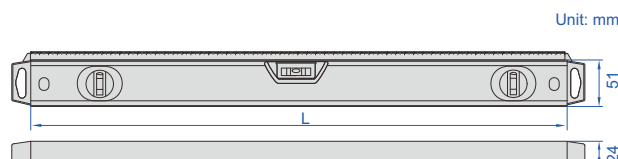
LIFETIME
WARRANTY VIALS



4923-600

- Shockproof horizontal and vertical vials
- Non-magnetic milled base
- Shock absorbing rubber end caps
- Range of ruler: 0-60cm, graduation: 1mm
- Working temperature: -15°C~55°C

Code	Size (L)	Accuracy
4923-600	600mm	0.5mm/m



IP54
WATERPROOF

AUDIBLE AND VISUAL
ALARM WHEN OUT OF $\pm 3^\circ$

CROSS-LINE LASER LEVEL CODE 4917-30



VIDEO

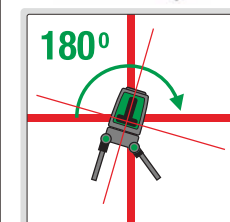
- Red horizontal and vertical cross laser lines
- Self-leveling within $\pm 3^\circ$, self-leveling time within 4s, audible and visual alarm when out of $\pm 3^\circ$
- Folding legs for angle and height adjustment
- Outdoor use with the detector (code: **4917-DETECTOR**)



application examples



folding legs for angle
and height adjustment



SPECIFICATION

Laser line width	2 $\pm$ 0.5mm (within 5m)
Laser type	630~660nm, class II, <1mW
Beam angle	120 $\pm$ 0.5°
Self-leveling range	$\pm 3^\circ$
Working distance	indoor: 30m, outdoor: 50m with detector (optional)
Accuracy	0.2mm/m
Operation temperature	-10~40°C
Power supply	3×AA batteries, for 3 hours working
Dimension	100×82×104mm
Weight	620g

OUTDOOR DETECTOR (OPTIONAL)

Detecting distance	horizontal 1~50m, vertical 1~30m
Detecting accuracy *	high accuracy ± 1.5 mm, low accuracy ± 2.5 mm
Power supply	9V battery
Dimension	168×58×30mm
Weight	140g (battery included)

* Use high accuracy detection mode within 15m,
use low accuracy detection mode over 15m



stand
(included with outdoor detector)



outdoor detector (**optional**)

STANDARD DELIVERY

Main unit	1 pc
1/4" to 5/8" tripod adaptor	1 pc
Battery (AA)	3 pcs

OPTIONAL ACCESSORY

Outdoor detector	4917-DETECTOR
------------------	---------------

SELF-LEVELING ROTARY LASER CODE GRL-L340

INDICATOR FLASHING
WHEN OUT OF $\pm 5^\circ$

IP65
WATERPROOF



VIDEO



detector (included)



remote controller (included)



bracket for C battery (included)



beam finder glasses (included)



tripod (included)

- Applicable fields: construction, decoration, pipeline and equipment installation
- Green laser beam rotates 360° horizontally or vertically
- Self-leveling range $\pm 5^\circ$ on both X and Y planes
- Alarm when inclination is out of $\pm 5^\circ$
- $\pm 5^\circ$ leveling range for manual mode on both X and Y planes
- 5 variable speeds 0-600rpm
- 6 scan modes
- Plumb up and plumb down dots
- Remote control for long distance
- Power supply: AC or DC

application examples



horizontal leveling

vertical leveling

working with detector

SPECIFICATION

Working range		indoor 50m, outdoor 300m (with detector)
Self leveling range		$\pm 5^\circ$
Horizontal/vertical beam accuracy		$\pm 0.1\text{mm/m}$
Main laser type		520~540nm, class 2, <1mW
Auxiliary laser type		645~655nm, class 2, <1mW
Rotating speed		0/60/120/300/600rpm
Scanning range		0/10/45/90/180/360°
Setting slope		X axis: $\pm 5^\circ$, Y axis: $\pm 5^\circ$
Operation temperature		-20~50°C
Maximum remote control distance		20m
Power supply	remote controller	2×1.5V AAA batteries
	main unit	NI-MH batteries or 4×1.5V C batteries
	detector	1x9V battery
Dimension		210×210×213mm
Weight		2.5kg

STANDARD DELIVERY

Main unit (including NI-MH batteries)	1 pc
C battery and bracket	1 set
Detector	1 pc
Remote controller	1 pc
Beam finder glasses	1 pc
Laser target	1 pc
Power adapter	1 pc
AAA battery	2 pcs
9V battery	1 pc
Tripod	1 pc



Linear Scales
Page 510-512/515



Digital Readouts
Page 513-515



Scales
Page 516-517



Air Gages And Displays
Page 517-518



Air Leakage Testers
Page 519



Laser Scan Micrometers
Page 520-521



Spectrometers
Page 522-526



Tool Presetters
Page 527-529

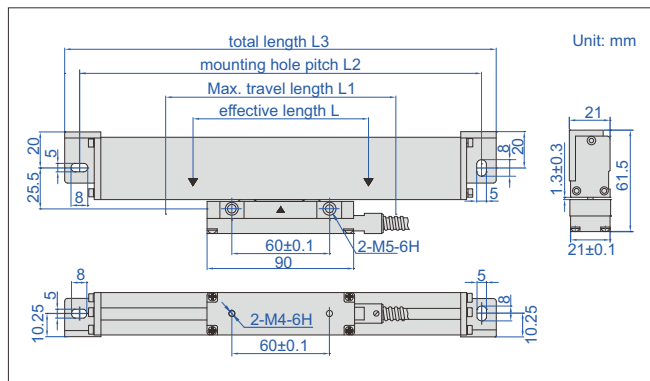
LINEAR SCALES (TTL SIGNAL)



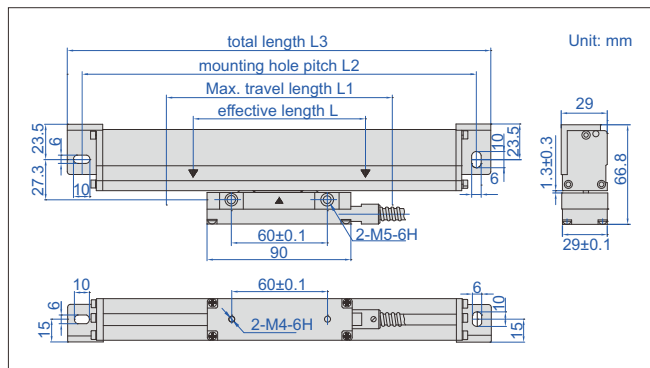
ISL-A1-300

- Optical TTL (Through-The-Lens) detection. These optical TTL linear scales use a transistor logic to transmit and record high-resolution distance measurements. They are the most accurate type of encoder and are paired with **ISL-DR2/DR3** and **ISL-LCD7** (digital readout)

Series ISL-A1 and ISL-A5



Series ISL-B5

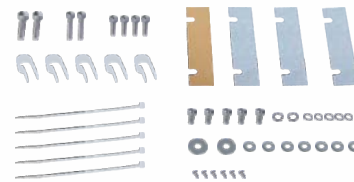


STANDARD DELIVERY

Main unit	1 pc
'L' shape support	1 pc
Anti-dust cover	1 pc
Plain base	1 pc (for L≥1500mm)
Mounting accessories	1 package



'L' shape support (included)



mounting accessories (included)

To be continued

Continued from previous page



anti-dust cover (included)



plain base (included, for $L \geq 1500\text{mm}$)

SPECIFICATION

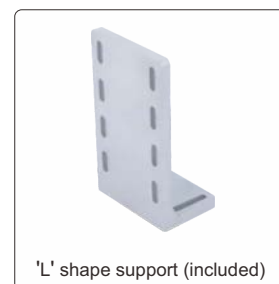
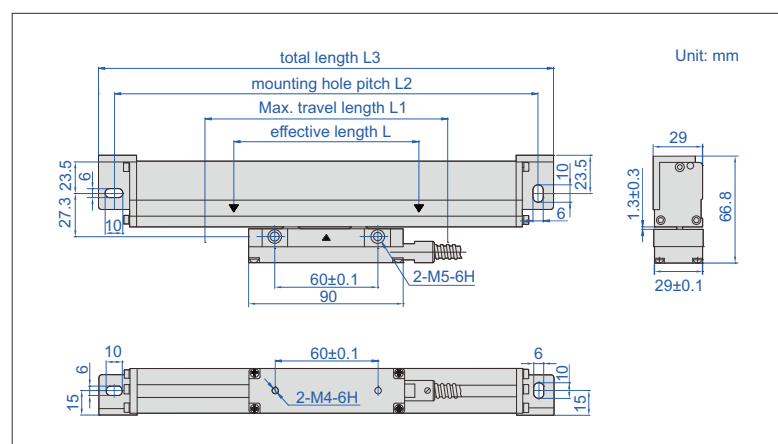
Code	Series ISL-A1		Series ISL-A5		Series ISL-B5	
L1 (mm)	L+30 (L≤900)	L+50 (L>900)	L+30 (L≤900)	L+50 (L>900)	L+30 (L≤900)	L+50 (L>900)
L2 (mm)	L+132 (L≤900)	L+152 (L>900)	L+132 (L≤900)	L+152 (L>900)	L+136 (L≤900)	L+156 (L>900)
L3 (mm)	L+148 (L≤900)	L+168 (L>900)	L+148 (L≤900)	L+168 (L>900)	L+154 (L≤900)	L+174 (L>900)
Resolution	1μm		5μm		5μm	
Max. response speed	50m/min		90m/min		60m/min	
Scale grating pitch	20μm					
Scale reference point pitch	50mm					
Accuracy	±(5+5L/1000)μm L is the effective length in mm					
Cable length	3.5m (L: 50-950mm), 5m (L: 1000-1500mm), 10m (L: 1600-3200mm)					
Output signal	TTL					
Socket	9PD					
Power supply	5±0.5V					

LINEAR SCALES (RS422 SIGNAL)

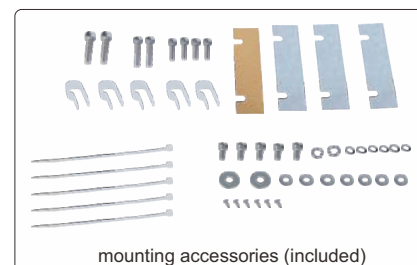


ISL-B5-450A

- Connected to digital display box or PLC



'L' shape support (included)



mounting accessories (included)

To be continued

Continued from previous page



Effective length (L)	Code	
	Series ISL-B1	Series ISL-B5
50mm	ISL-B1-50A	ISL-B5-50A
100mm	ISL-B1-100A	ISL-B5-100A
150mm	ISL-B1-150A	ISL-B5-150A
200mm	ISL-B1-200A	ISL-B5-200A
250mm	ISL-B1-250A	ISL-B5-250A
300mm	ISL-B1-300A	ISL-B5-300A
350mm	ISL-B1-350A	ISL-B5-350A
400mm	ISL-B1-400A	ISL-B5-400A
450mm	ISL-B1-450A	ISL-B5-450A
500mm	ISL-B1-500A	ISL-B5-500A
550mm	ISL-B1-550A	ISL-B5-550A
600mm	ISL-B1-600A	ISL-B5-600A
650mm	ISL-B1-650A	ISL-B5-650A
700mm	ISL-B1-700A	ISL-B5-700A
750mm	ISL-B1-750A	ISL-B5-750A
800mm	ISL-B1-800A	ISL-B5-800A
850mm	ISL-B1-850A	ISL-B5-850A
900mm	ISL-B1-900A	ISL-B5-900A
950mm	ISL-B1-950A	ISL-B5-950A
1000mm	ISL-B1-1000A	ISL-B5-1000A

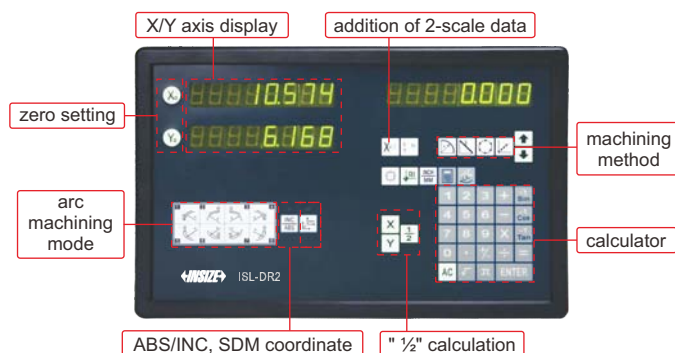
Effective length (L)	Code	
	Series ISL-B1	Series ISL-B5
1100mm	ISL-B1-1100A	ISL-B5-1100A
1200mm	ISL-B1-1200A	ISL-B5-1200A
1300mm	ISL-B1-1300A	ISL-B5-1300A
1400mm	ISL-B1-1400A	ISL-B5-1400A
1500mm	ISL-B1-1500A	ISL-B5-1500A
1600mm	ISL-B1-1600A	ISL-B5-1600A
1700mm	ISL-B1-1700A	ISL-B5-1700A
1800mm	ISL-B1-1800A	ISL-B5-1800A
1900mm	ISL-B1-1900A	ISL-B5-1900A
2000mm	ISL-B1-2000A	ISL-B5-2000A
2100mm	ISL-B1-2100A	ISL-B5-2100A
2200mm	ISL-B1-2200A	ISL-B5-2200A
2300mm	ISL-B1-2300A	ISL-B5-2300A
2400mm	ISL-B1-2400A	ISL-B5-2400A
2500mm	ISL-B1-2500A	ISL-B5-2500A
2600mm	ISL-B1-2600A	ISL-B5-2600A
2700mm	ISL-B1-2700A	ISL-B5-2700A
2800mm	ISL-B1-2800A	ISL-B5-2800A
2900mm	ISL-B1-2900A	ISL-B5-2900A
3000mm	ISL-B1-3000A	ISL-B5-3000A

SPECIFICATION

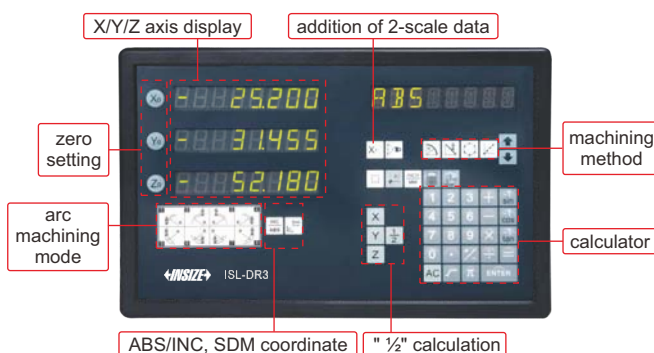
Code	Series ISL-B1	Series ISL-B5
L1 (mm)	L+30 (L≤900), L+50 (L>900)	L+30 (L≤900), L+50 (L>900)
L2 (mm)	L+136 (L≤900), L+156 (L>900)	L+136 (L≤900), L+156 (L>900)
L3 (mm)	L+154 (L≤900), L+174 (L>900)	L+154 (L≤900), L+174 (L>900)
Resolution	1μm	5μm
Thickness	29mm	
Max. response speed	60m/min	
Scale grating pitch	20μm	
Scale reference point pitch	50mm	
Accuracy	±(5+5L/1000)μm, L is the effective length in mm	
Cable length	3.5m (L: 50-950mm), 5m (L: 1000-1900mm), 10m (L: 2000-3000mm)	
Output signal	RS422	
Socket	9 PD	
Power supply	5±0.25V	

STANDARD DELIVERY

Main unit	1 pc
'L' shape support	1 pc
Anti-dust cover	1 pc
Plain base	1 pc (for L≥1500mm)
Mounting accessories	1 package



ISL-DR2



ISL-DR3



software flash disk (included)

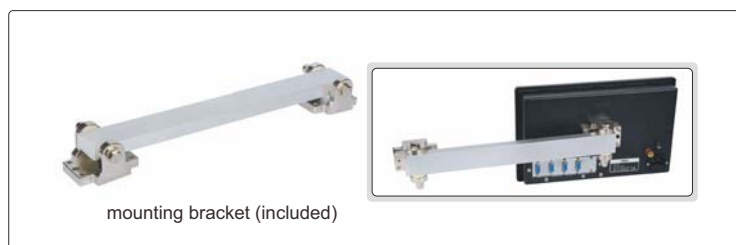
- For ISL-A1, ISL-A5, ISL-B1, ISL-B5 series linear scales

SPECIFICATION

Code	ISL-DR2	ISL-DR3
Application	two-axis	three-axis
Scale input ports	2	3
Resolution	0.05μm, 0.1μm, 0.2μm, 0.5μm, 1μm, 2μm, 5μm, 10μm, 20μm, 50μm	
Functions	addition of 2-scale data, linearity error compensation, smoothing, RS232C interface unit, BCD code out, zero setting, preset, resolution setting, counting direction setting, inch/mm conversion, ABS/INC conversion, expansion/contraction coefficient setting, "1/2" calculation, detecting R1, bolt-hole circle machining, ramp circle machining	
Power supply	110/220V, 50/60Hz	
Dimension	295×185×45mm	
Weight	1.45kg	

STANDARD DELIVERY

Main unit	1 pc
Mounting bracket	1 pc
Ground cable	1 pc
RS232C cable	1 pc
Software flash disk for RS232C	1 pc



DIGITAL READOUTS CODE ISL-LCD7



VIDEO



- 7.57 inch LCD display
- Language: English, Simplified Chinese, Traditional Chinese
- Can be connected with ISL-A1, ISL-A5, ISL-B1, ISL-B5 series linear scales



SPECIFICATION

Application	three-axis: X/Y/Z
Scale input ports	3
Resolution	0.05μm, 0.1μm, 0.2μm, 0.5μm, 1μm, 2μm, 5μm, 10μm, 20μm, 50μm
Function	X/Y/Z addition of 3-scale data, linearity error compensation, smoothing, RS232C interface unit, BCD code out, zero setting, preset, resolution setting, counting direction setting, inch/mm conversion, ABS/INC conversion, expansion/contraction coefficient setting, "1/2" calculation, detecting RI, bolt-hole circle machining, ramp circle machining, circular arc machining, oblique surface machining, automatic edge finding, discharge machining
Dimension	200×88×260mm
Weight	1.26kg

21

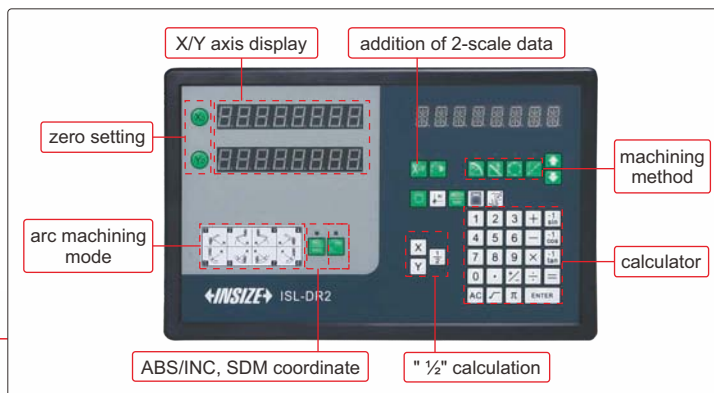
STANDARD DELIVERY

Main unit	1 pc
Mounting bracket	1 pc
Ground cable	1 pc
RS232C cable	1 pc
Software flash disk for RS232C	1 pc

LINEAR SCALE AND READOUT SET FOR LATHE CODE ISL-SET1



software flash disk
(included)



- Optical TTL (Through-The-Lens) detection. These optical TTL linear scales use an transistor logic to transmit and record high-resolution distance measurements



mounting bracket for readout (included)



'L' shape support for
linear scale (included)



anti-dust cover for linear scale (included)

READOUT SPECIFICATION

Application	two-axis
Scale input ports	2
Resolution	1μm
Functions	addition of 2-scale data, linearity error compensation, smoothing, RS232C interface unit, BCD code out, zero setting, preset, resolution setting, counting direction setting, inch/mm conversion, ABS/INC conversion, expansion/contraction coefficient setting, "1/2" calculation, detecting RI, bolt-hole circle machining, ramp circle machining
Power supply	110/220V, 50/60Hz
Dimension	295×185×45mm
Weight	1.45kg

LINEAR SCALE SPECIFICATION

X-axis	200mm
Y-axis	1000mm
Max. response speed	50m/min
Scale grating pitch	20μm
Scale reference point pitch	50mm
Accuracy	±(5+5L/1000)μm L is the effective length in mm
Cable length	200mm scale: 3.5m, 1000mm scale: 5m

STANDARD DELIVERY

Readout box	1 pc
200mm linear scale	1 pc
1000mm linear scale	1 pc
Mounting bracket for readout	1 pc
Ground cable for readout	1 pc
RS232C cable for readout	1 pc
Software flash disk for RS232C of readout	1 pc
'L' shape support for linear scale	1 pc
Anti-dust cover for linear scale	1 pc
Mounting accessories for linear scale	1 package

DIGITAL HORIZONTAL SCALES

DATA
OUTPUT



7101-300A



7101-400A

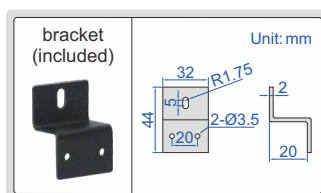
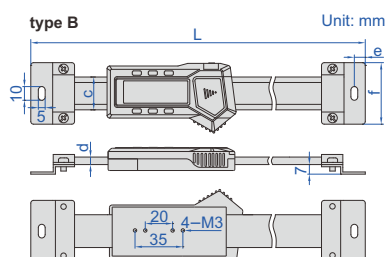
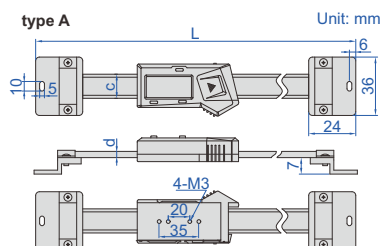
- Non waterproof
- Resolution: 0.01mm/0.0005"
- Buttons type A: on/off, zero, mm/inch,
type B: on/off, zero, mm/inch, ABS, data preset
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Supplied with bracket to be mounted on the back

With data interface
(data output cable code 7315-21 need receiver page 4,
7302-21 page 12, 7305-21 page 8, optional)

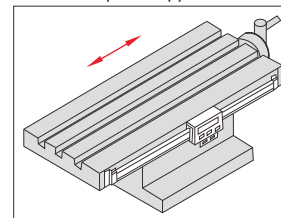
Code	Range	Type	Accuracy	L	c	d
7101-100A	100mm	A	±0.02mm	215	16	4
7101-150A	150mm	A	±0.03mm	265	16	4
7101-200A	200mm	A	±0.03mm	315	16	4
7101-300A	300mm	A	±0.04mm	445	16	4

With data interface
(data output cable code 7315-22 need receiver page 4,
7302-22 page 12, 7305-22 page 8, optional)

Code	Range	Type	Accuracy	L	c	d	e	f
7101-400A	400mm	B	±0.05mm	590	24	5.5	8	45
7101-500A	500mm	B	±0.05mm	690	24	5.5	8	45
7101-600A	600mm	B	±0.08mm	790	24	5.5	8	45
7101-800A	800mm	B	±0.10mm	990	24	5.5	8	45
7101-1000A	1000mm	B	±0.10mm	1240	31	10.5	10	60



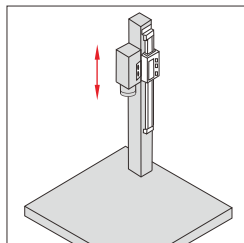
example of application



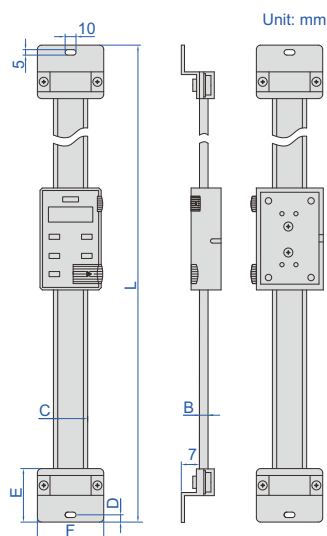
DIGITAL VERTICAL SCALES

DATA
OUTPUT

example of application



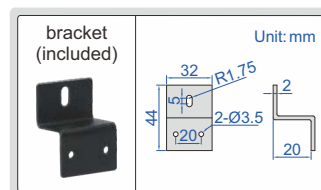
- Non waterproof
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch, ABS/INC, data hold, TOL, set
- Battery LR44, data output
- Made of stainless steel
- Supplied with bracket to be mounted on the back
- Optional accessory: wireless data transmission (transmitter code **7315-1150** need receiver page 6), data output cable (code **7302-SPC7** page 13, keyboard format), data output cable (code **7305-1150** page 9, serial port format)



7102-300

(mm)

Code	Range	Accuracy	B	C	D	E	F	L
7102-100	100mm/4"	±0.02mm	4	20	6	24	40	245
7102-150	150mm/6"	±0.03mm	4	20	6	24	40	296
7102-200	200mm/8"	±0.03mm	4	20	6	24	40	345
7102-300	300mm/12"	±0.04mm	4	20	6	24	40	445
7102-400	400mm/16"	±0.05mm	4	20	6	24	40	545
7102-500	500mm/20"	±0.05mm	5.5	24	8	32	45	685
7102-600	600mm/24"	±0.08mm	5.5	24	8	32	45	785
7102-800	800mm/32"	±0.10mm	5.5	24	8	32	45	985
7102-1000	1000mm/40"	±0.10mm	10.5	31	9.5	40	60	1245



CUSTOM-MADE

AIR GAGES CODE 9401-PB

air plug gage and
standard rings



measure diameter of hole,
range: Ø4~230mm

air ring gage and
standard plain plug gages



measure diameter of shaft,
range: Ø4~160mm

air snap gage and
standard column gages



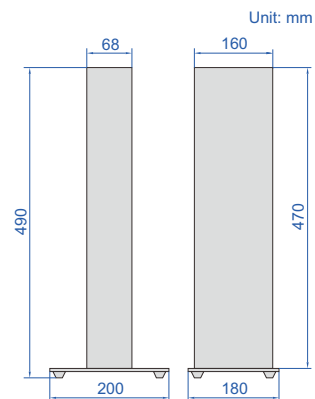
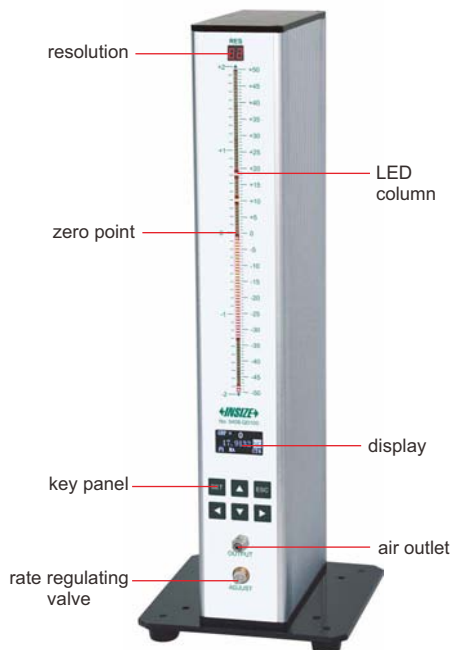
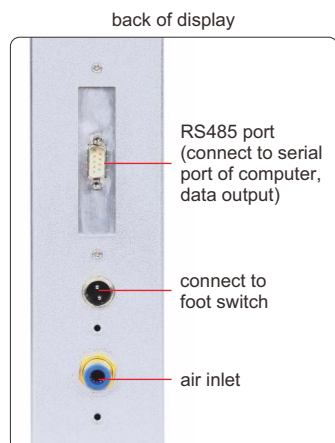
measure diameter of shaft,
range: Ø15~160mm

air taper gage and
standard gages



AIR GAGE DISPLAY CODE 9408-QD100

DATA
OUTPUT



- Can store 10 measuring programs, and the program can be switched quickly
- Data storage function, support manual and automatic storing, 1500 groups data can be stored

SPECIFICATION

LED quantity	101 pcs			
LED color	red, orange, green			
LED height	254mm			
Range, resolution and accuracy	range	resolution		accuracy
		LED	display	
	10μm	0.1μm	0.1μm	0.2μm
	20μm	0.2μm	0.1μm	0.4μm
	50μm	0.5μm	0.1μm	1μm
	100μm	1μm	0.1μm	2μm
Unit	mm, μm			
Air supply	dry and clean, 0.4~0.8MPa			
Data interface	RS485			
Operation temperature	-20~45°C			
Power supply	110~220V, 50/60Hz			
Dimension (L×W×H)	200×180×490mm			
Weight	4.5kg			



foot switch (optional)



RS485 cable (optional)



pressure regulating valve (optional)



air filter (optional)

STANDARD DELIVERY

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

OPTIONAL ACCESSORY

Air filter	9401-FILTER-A
Pressure regulating valve	9404-PRV
RS485 cable	9408-CB
Foot switch	9408-FS
Data output cable (keyboard format)	7302-9408

DATA
OUTPUTAIR LEAKAGE TESTER
CODE ALT-P150

pressure adjustment



gas inlet

gas pressure
regulator

test port

- Smart operation system with touch screen, operation UI based on testing procedure
- High sensitivity pressure sensor and adjustment unit with software algorithm ensure high accuracy and stability
- Test pressure range: -100~1000kPa, positive and negative pressure mode with 8 basic test mode
- Up to 100 groups of subprogram, each can be edited separately, for individual or combination testing
- Built-in communication interface, MODBUS and TCP/IP communication protocol supported
- Pressure curve screenshot and history data can export to flash disk
- Accessories such as testing tooling and fixture, inflatable bypass, fast connector, standard leak can be customized for different products; optional electronic regulator enables multiple sets of pressure sequence testing
- Language: English, Chinese



standard leak (optional)



quick connector (optional)



scanner (optional)



tooling and fixture (optional)

SPECIFICATION

Device type	direct pressure
Channel	single-channel (customizable dual-channel)
Pressure mode	positive and negative pressure
Range	-60~150kPa
Resolution	0.1Pa
Accuracy	±0.2%FS
Pressure unit	kPa, Pa, kgf/cm ² , psi, mmH ₂ O, bar, mbar, mmHg
Flow unit	SCCM
Test medium	compressed air or specified gas, 0.4~0.8MPa
Tube caliber	gas inlet: 8mm, test port: 4mm
Pressure regulation	mechanical pressure regulator
Interface	USB, RS232, 25 PIN I/O interface, RJ45 (optional)
Operation environment	temperature: 0°C~50°C, humidity: ≤95%RH, no condensation
Power supply	AC 220V (±15%), 50Hz
Dimension (L×W×H)	340×225×187mm
Weight	7.3kg

* Available range -80~0kPa, -80~600kPa, 0~200kPa, 10~700kPa; other ranges customizable

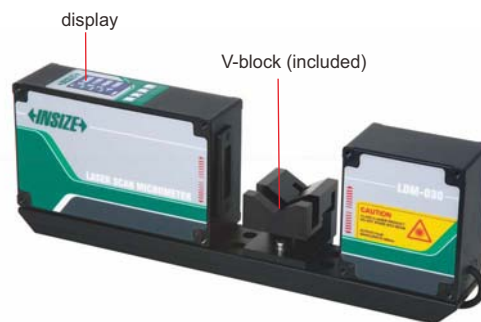
STANDARD DELIVERY

Main unit	1 pc
Gas pressure regulator	1 pc

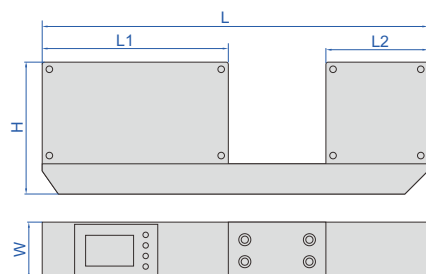
OPTIONAL ACCESSORY

Tooling and fixture	customizable according to specific products
Software	ALT-P150-SW
Standard leak	ALT-P150-LK
Quick connector	ALT-P150-CO
Scanner (with scan software)	ALT-P150-SC

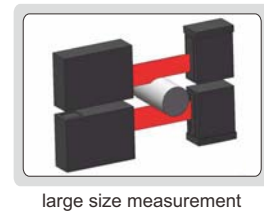
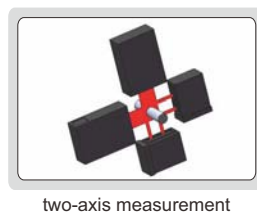
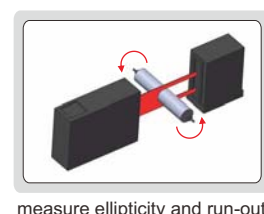
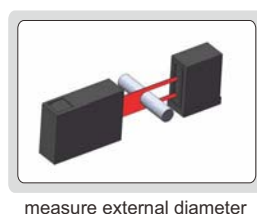
LASER SCAN MICROMETERS



- Measure outer diameter, ellipticity, run-out, maximum diameter of tools, etc.
- Can be used for transparent or non transparent workpieces
- Tolerance measurement
- Online or offline measurement
- Connected with computer, PLC, control box



Dimension	(mm)	
Code	LDM-030	LDM-065
L	351	469
W	52	52
H	120	146
L1	170	203
L2	95	131



SPECIFICATION

Code	LDM-030	LDM-065
Measuring range	0.1~30mm	0.5~65mm
Resolution	0.01/0.1/1/10/100μm selectable	
25°C accuracy	±(0.5+10%D)μm, D is measuring diameter in mm	
Repeatability	±(0.3+5%D)μm, D is measuring diameter in mm	
Laser wave length	650nm	
Measuring speed	800~3200times/s (adjustable)	
Operation temperature	0~50°C	
Operation humidity	35~85RH without condensation	
Output	dual channel RS485	
Alarm output	24V, 1A	
Power supply	DC24V, 2A	
Dimension (L×W×H)	351×52×120mm	469×52×146mm
Weight	5kg	8kg

STANDARD DELIVERY

Main unit	1 pc
V-block	1 pc
AC/DC adapter	1 pc
RS485 cable	1 pc

OPTIONAL ACCESSORY

Calibration gage	custom made
Control box	custom made

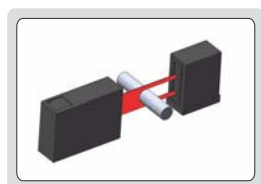


LASER SCAN MICROMETER CODE LDM-D090

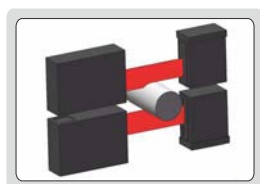


calibration
gage (optional)

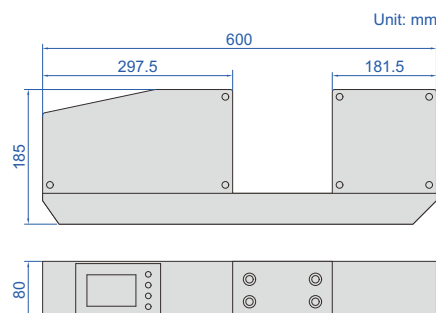
- Can measure the width and thickness of flat cables and tapes
- Can measure the outer diameter of cables, pipes and wires
- Laser scanning technology, large measurement range, high accuracy, high repeatability
- Connected with PLC and PC with RS485 interface
- Use high-precision F (θ) mirror, the swing of the measured object does not affect the measurement



measure external diameter



large size measurement



SPECIFICATION

Measuring range	0.5~90mm
Resolution	1μm
25°C accuracy	±(5+20%D)μm, D is measuring diameter in mm
Repeatability	±(3+20%D)μm, D is measuring diameter in mm
Laser wave length	650nm
Measuring speed	600 times/s
Operation temperature	5~45°C
Operation humidity	≤80%RH without condensation
Output	RS485/MODBUS protocol
Alarm output	24V, 1A
Power supply	AC85V~220V (50~60Hz)
Dimension (L×W×H)	600×80×185mm
Weight	6.5kg

STANDARD DELIVERY

Main unit	1 pc
V-block	1 pc
AC/DC adapter	1 pc
RS485 cable	1 pc

OPTIONAL ACCESSORY

Calibration gage	custom made
------------------	-------------

SPECTROMETER CODE OES-T350



CUSTOMIZE
CAN CUSTOMIZE OTHER METAL MATRIX DETECTION,
SUCH AS: Fe (004~009), Al, Cu, Zn, Ti, Ni, Pb, etc



printer (included)



filter element (included)



electrode brush (included)



single-phase AC voltage
regulator (included)



pressure valve (included)



calibration sample (included)



gray iron control sample
(optional)



15# carbon steel control
sample (optional)

- The standard machine can do analysis Fe 001~003
- The full-spectrum technology covers the full range of element analysis, which can determine trace amounts of carbon (C), phosphorus (P), sulfur (S) and other elements
- The analysis speed is fast, and the element composition of all channels is measured within 20 seconds
- Paschen-Runge structure with full wavelength coverage, the most concise and stable optical system structure
- Perfect aberration correction, so that the spectrometer has excellent resolution, minimize the cross interference of different elements
- Argon-filled optical chamber, effectively reducing the attenuation of P and S rays in the far ultraviolet region
- The software has automatic spectrum correction technology, can store database, trace historical data, output and print reports
- Report format can be customized, data can be sent out

To be continued

Continued from previous page

SPECIFICATION

Optical system	optical structure	paschen-runge structure
	rowland circle of diameter	350mm
	wavelength range	160~510nm
	detector	multi high resolution CCD detectors
	pixel resolution	20pm
	full spectrum	cover the full range of element analysis
	light room temperature	34±0.5°C (be controlled automatically)
Spark source	type	digital arc and spark source/new plasma generator
	spark frequency	100~1000Hz
	plasma current	1~80A
	Ignition voltage	>7000V
Spark stand		spray discharge electrode technology reduces argon consumption and improves argon use efficiency
		good heat dissipation, continuous excitation for 100 times, the temperature of the excitation table does not rise more than 5°C
Others	measurable elements	Fe base, Al base, Cu base, Zn base, etc
	operation temperature	10~30°C, 23±2°C is recommended
	operation humidity	20%~80%RH
	power	AC220V/50Hz
	power consumption	excitation: 300W, stand by: 40W
	argon quality	99.999% high purity argon, argon pressure≥4MPa
	argon consumption	5L/min during spark mode
	dimension (LxWxH)	700x660x340mm
	weight	30kg

STANDARD DELIVERY

Main unit	1 pc
Computer	1 pc
Software	1 pc
Printer	1 pc
Calibration sample	1 pc
Electrode brush	2 pcs
Filter element	2 pcs
Single-phase AC voltage regulator	1 pc
Pressure valve	1 pc

OPTIONAL ACCESSORY

Control sample	custom specifications
Argon cylinder	OES-T350-ARGON
Grinding prototype	code: OES-T350-GRIND for ferrous metal sample preparation
Small lathe	code: OES-T350-LATHE for non-ferrous metal sample preparation
Argon purifier	OES-T350-PURIFIER

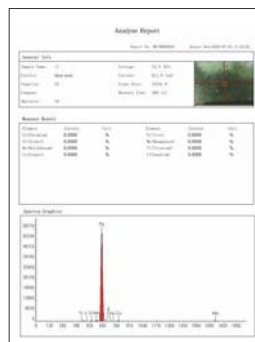
X RAY FLUORESCENCE SPECTROMETER (RoHS DETECTOR/ALLOY COMPOSITION ANALYZER/COATING THICKNESS GAGE) CODE XRF-B210



CALIBRATION CURVE CAN BE CUSTOMIZED
ACCORDING TO CUSTOMER REQUIREMENTS



alloy composition analysis software (included)



alloy composition analysis
report (included)



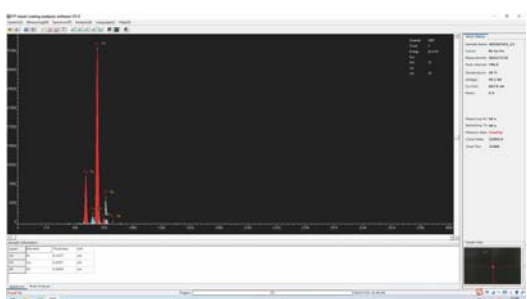
RoHS test report (included)



RoHS test software (included)



coating thickness test
report (included)



coating thickness detection software (included)

To be continued

Continued from previous page

- Used for RoHS detection, alloy element analysis, coating thickness measurement
- Using SI-PIN detector with electric cooling, small size, accurate data analysis and low maintenance cost
- Seven optical path correction and collimation system, automatically switch according to different samples
- Multiple radiation leakage prevention design
- The temperature monitoring technology ensures the safe and reliable operation of the X-ray source
- Dedicated software, standard window design, friendly interface, easy to operate
- Can display multiple spectrograms at the same time and print multiple report forms
- USB3.0 interface to ensure accurate, high-speed and efficient data transmission

SPECIFICATION

Detector	type	Si-PIN electrical refrigeration semiconductor detector
	resolution	149±5 EV
	amplifier circuit module	detect the sample characteristic X-ray, further enlarge the information collected by detection
X ray excitation device	maximum output current	1mA
	power	50W, air cooling
High and low voltage power	maximum output voltage	50KV, built-in voltage overload protection
	minimum output voltage	5KV
Multi-channel pulse amplitude analyzer		maximum channel number: 4096
Optical path filter module		reduce interference light path in the process of sending x-rays, guarantee the accuracy of the detector signal
		Integrate the collimator with the filter
Collimator automatic switching module		7 kinds, Ø0.5~Ø8mm
Filter automatic switching module		5 kinds (free to choose and switch)
RoHS analysis software	elemental analysis range	S~U
	harmful element analysis	Cd, Pb, Hg, Br, Cr, Cl, As, Sb
	test time	60~200s
	detection limit	2PPM
	content analysis range	2PPM~99.9%
Alloy analysis software	elemental analysis range	Ti~U
	detection limit	100PPM
	content analysis range	100PPM~99.9%
	repeatability	0.1%
	stability	0.1%
Metal coating analysis software	elemental analysis range	Ti~U
	detection limit	0.01µm
	analysis thickness	single layer thickness 0.01~30µm
		3 layer thickness≤10µm
	repeatability	0.1µm (for outside coating less than 1µm)
	stability	0.1µm (for outside coating less than 1µm)
	light spot	within 0.2mm
Operation temperature		10~30°C
Relative humidity		10%~90%
Power		AC 220V±5V
Dimension (L×W×H)		700×460×370mm
Weight		49kg

STANDARD DELIVERY

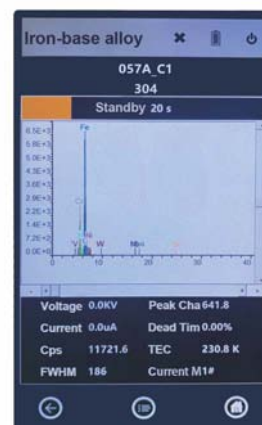
Main unit	1 pc
Standard sample	1 pc
Silver calibration	1 pc
Sample cup	2 pcs
Test film	50 pcs
Computer	1 pc
Printer	1 pc
Collimator (built-in)	7 pcs
Software	RoHS test software, alloy composition analysis software, coating thickness detection software

HAND-HELD SPECTROMETER CODE HSM-A310

IP54
WATERPROOF



test



analysis

- Fast and non-destructive test to identify alloy grade and composition
- For all kinds of high and low temperature alloy steel, stainless steel, tool steel, chromium/molybdenum steel, nickel alloy, cobalt alloy, nickel/cobalt heat resistant alloy, titanium alloy
- Multiple tests, it can automatically calculate maximum value, minimum value and standard deviation
- IP54 dust/waterproof



VIDEO

SPECIFICATION

Excitation source	50KV/200μA; Ag target, integrated end window, micro X-ray tube and high voltage power supply, matching power ≥4W
Detector	Si-PIN, window area 25mm ²
Elemental analysis range	Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, Se, Zr, Nb, Mo, Rh, Pd, Ag, Cd, Sn, Sb, Hf, Ta, W, Re, Pb, Bi
Alloy analysis mode	1. automatically identify alloy grade 2. alloy material qualified test mode
Collimator filter	7 groups
Display	5-inch LCD touch screen
CPU	quad-core processor, 1.4GHz, 4G memory
Memory	built-in 64G, storage data, >500000 groups
Data transmission	built-in WIFI, U disk, bluetooth (support bluetooth printer)
Data export format	EXCEL, BMP, PDF, CSV
Battery	6800mAh lithium battery, for 8 hours working time
Air pressure compensation	built-in pressure measurement module for system compensation and correction
System	Win-IOT operation system
Work environment	temperature: 0~40°C, relative humidity: 10%~90%
Dimension	250x320x80mm
Weight	1.9kg

STANDARD DELIVERY

Main unit	1 pc
Charger	1 pc
Battery	2 pcs
Test film	50 pcs
Sample cup	1 pc
Standard sample	1 pc
Protection support (including calibration silver)	1 pc
USB and cable	1 pc



standard sample (included)



protection support (included)



TOOL PRESETTER (PROJECTOR TYPE) CODE TLP-P340



- 99 data can be saved and printed



standard rod (included)



BT50/BT40 converter (optional)



BT50/BT30 converter (optional)

SPECIFICATION

Maximum tool diameter (X axis)		Ø300mm
Height measuring range (Z axis)		30~400mm
Accuracy	X axis	±6μm
	Z axis	±13μm
Resolution		0.5μm
Diameter of projection screen		Ø120mm
Lens	magnification	20X
	view filed	Ø6mm
Illumination		24V/20W
Spindle holder		BT50
Power supply		220V, 50/60HZ
Dimension (L×W×H)		940×520×870mm
Weight		90kg

STANDARD DELIVERY

Main unit	1 pc
BT50 spindle holder	1 pc
Standard rod	1 pc
Foot-switch	1 pc
Anti-dust cover	1 pc

OPTIONAL ACCESSORY

BT50/BT30 converter	TLP-P340-C1
BT30 rod	TLP-P340-R1
BT50/BT40 converter	TLP-P340-C2
BT40 rod	TLP-P340-R2

TOOL PRESETTER CODE TLP-400E



VIDEO



rotate the handwheel to rotate tools



standard rod (included)



BT50/BT40 converter (optional)



BT50/BT30 converter (optional)

- Absolute linear scales, zero setting is not needed after power on and off

SPECIFICATION

Maximum tool diameter (X axis)	Ø300mm
Height measuring range	60~400mm
Repeatability	0.005mm
Measuring accuracy	0.01mm
Linear scale resolution	0.001mm
Dial indicator graduation	0.001mm
Spindle holder	BT50
Power supply	110/220V, 50/60HZ
Dimension (L×W×H)	720x480x930mm
Weight	150kg

STANDARD DELIVERY

Main unit	1 pc
BT50 spindle holder	1 pc
Standard rod	1 pc
Dial indicator	2 pcs
Wrench	1 set
Anti-dust cover	1 pc

OPTIONAL ACCESSORY

BT50/BT30 converter	TLP-300H-C1
BT50/BT40 converter	TLP-300H-C2



TOOL PRESETTER (BASIC TYPE) CODE TLP-300H



standard rod (included)



BT50/BT40 converter (optional)



BT50/BT30 converter (optional)

- Absolute linear scales, zero setting is not needed after power on and off

SPECIFICATION

Maximum tool diameter (X axis)	Ø300mm
Height measuring range	60~300mm
Repeatability	0.005mm
Measuring accuracy	0.02mm
Linear scale resolution	0.005mm
Dial indicator graduation	0.01mm
Spindle holder	BT50
Power supply	110/220V, 50/60HZ
Dimension (L×W×H)	600x365x690mm
Weight	68kg

STANDARD DELIVERY

Main unit	1 pc
BT50 spindle holder	1 pc
Standard rod	1 pc
Dial indicator	2 pcs
Wrench	1 set
Anti-dust cover	1 pc

OPTIONAL ACCESSORY

BT50/BT30 converter	TLP-300H-C1
BT50/BT40 converter	TLP-300H-C2



Digital Ultrasonic Flaw Detectors
Page 531-532



Portable Magnetic Powder Flaw Detectors
Page 533



UV Flaw Detection Lights
Page 534



Penetration Standard Test Blocks
Page 534-535



Black And White Densitometers
Page 535



DIGITAL ULTRASONIC FLAW DETECTOR CODE UFD-T680

- The all-aluminum metal shell is strong and durable, and the electromagnetic shielding performance is very good
- Tempered glass panel, extremely hard, wear-resistant and scratch-resistant
- Full-digital multi-color high resolution (640×480 pixels) TFT LCD display
- 4 operation interface styles can be selected according to the environment
- Real-time screenshots of all pages and flaw detection reports, and save them as BMP pictures to U disk
- Export the flaw detection report as a PDF file
- Unique Fn multifunction key design
- There is no limit of the number and duration of video recording through U disk
- Memory of 500 channel files to store calibration setups and probe parameter
- Memory of 1000 wave report files to store A-Scan wave and settings
- Two fully independent gates offer a range of measurement options for signal height or distance using peak triggering
- Can choose to set the incoming wave alarm or lost wave alarm, accompanied by LED light display
- Selectable frequency ranges (automatically set by the instrument) to match probe for optimum performance
- The unique automatic gain adjustment and gain scanning function make flaw detection fast and accurate



straight-beam probe
(included)



angle-beam probe
(included)



USB disk
(included)



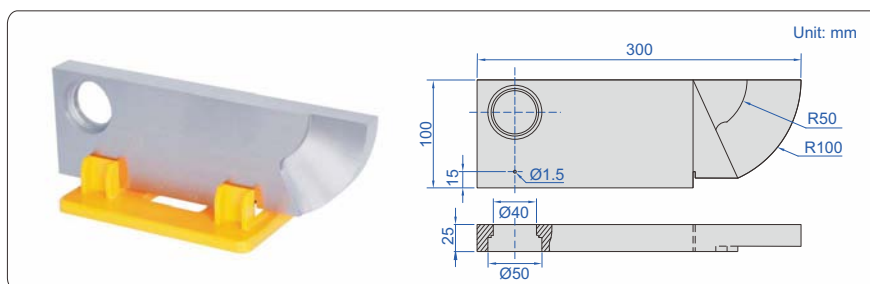
couplant (included)

FUNCTIONS

Flaw detection standard	built-in common flaw detection standards, direct call, convenient and fast
Auto calibration	automatic calibration of probe zero offset, probe angle (K value) and material velocity
Peak hold	compare frozen peak waveforms to live A-Scans to easily interpret test result
Flaw locating	live display sound-path, projection (surface distance), depth, amplitude
Flaw discrimination	automatic flaw sizing using AVG or DAC, speeds reporting of defect acceptance or rejection
Flaw sizing	the equivalent dB value of defects or equivalent size of defects are displayed in real time
Curved surface correction	used for flaw detection of curved workpiece, it can display the circumferential position of defects in real time
DAC/AVG	the curve is automatically generated, and the sampling points can be compensated and corrected. The curve automatically floats with the gain, automatically expands with the detection distance, and automatically moves with the delay time. It can display the AVG curve of any aperture
AWS D1.1	choosing this standard can reduce manual calculations and improve detection efficiency
Weld diagram	support V type, T type, L type and other weld types, acoustic path navigation real-time display, weld and defect location real-time display, scaling, easy to locate defects
Automatic rating	select different AWS standards, automatically calculate the rating of defects and display
Crack height	the crack height is measured and calculated automatically by the diffracted wave at the end
Gate magnify	spreading of the gate range over the entire screen width
Continuous record	video recording and playback
Echo coding	display 1~9 echo display area in different colors, used to analyze the defect position
Scan freeze	display freeze holds waveform and test distance data
Peak mark	capture and mark the peak in real time
B scan	intuitively display the defect shape of the workpiece and the detection result is more intuitive

To be continued

Continued from previous page



calibration block (optional)

SPECIFICATION

Measuring range	0~15000mm
Working frequency	0.2~20MHz
Material velocity	100~20000m/s
Repetition frequency	20~2000Hz
Dynamic range	≥36dB
Vertical linearity	≤1.5%
Horizontal linearity	≤0.1%
Resolving power	>42dB
Sensitivity leavings	>65dB
Suppression	0~80%
Noise	≤10%
Probe selection	single crystal probe, dual crystal probe, penetrating probe, climbing probe
Pulse energy	100V, 200V, 250V, 300V, 350V, 400V, 450V, 500V (selectable)
Pulse width	30ns-510ns
Probe damping	50Ω, 150Ω, 250Ω, 500Ω (selectable)
Rectification	positive half wave, negative half wave, full wave, RF
Gates	two independent gates controllable over entire sweep range
Interface	USB 2.0
Operation temperature	-10~50°C
Relative humidity	20~95%RH
Power	build-in rechargeable battery
Size	263×170×61mm
Weight	1.92kg

STANDARD DELIVERY

Main unit	1 pc
Single-element straight probe UFD-T60	1 pc
Single-element angle probe UFD-T61	1 pc
USB cable	1 pc
Couplant	1 bottle
Probe connecting cable	1 pc
USB disk	1 pc
Power adapter	1 pc

OPTIONAL ACCESSORY

Calibration block	UFD-CSK1
-------------------	----------

SPECIFICATION OF PROBE

Code	Frequency	Size	Probe type	Transducer sensor angle
UFD-T60 (included)	2.5MHz	Ø20mm	single-element straight probe	90°
UFD-T61 (included)	4.0MHz	8x9mm	single-element angle probe	60°
UFD-T62 (optional)	5.0MHz	Ø10mm	dual-element straight probe	90°
UFD-T63 (optional)	5.0MHz	Ø10mm	single-element straight probe	90°
UFD-T64 (optional)	4.0MHz	8x9mm	single-element angle probe	45°
UFD-T65 (optional)	4.0MHz	8x9mm	single-element angle probe	70°

Note: Other types of the probes are available



PORTABLE MAGNETIC POWDER FLAW DETECTORS

- Conformity to standards JB/T7411-2012 ASTM E1444-05 ASTM E709 EN10228-1:1999 ISO 9934 ASTM E3024
- Multiple power supply modes available



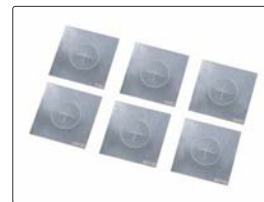
MPI-P110



DC battery pack 4400mAh
(optional)



AC battery pack 6600mAh
(optional)



A1 standard sensitivity test piece
(optional)



45N lifting force test block
(optional)



177N lifting force test block
(optional)



magnetic pole slope angle A
(optional)



magnetic pole slope angle B
(optional)



bag (optional)

SPECIFICATION

Code		MPI-P110	MPI-P220	MPI-P330
Magnetic field strength		>2KA/m		
Sensitivity		15/50 engraved groove clearly displayed on A1 standard sensitivity test piece		
Illumination		—	white light ≥2320Lux	UV lamp ≥5220μW/cm²
Duty cycle		>50% maximum excitation time 90 seconds		>30%
Lifting power	AC	≥4.5kg (44N)		
	DC	≥18.1kg (177N)		
Magnetic pole spacing		0-230mm		
Magnetic pole size		22×22mm		
Power supply		AC220V, 50Hz (DC battery pack or AC battery pack are optional)		
Operation temperature		-10~40℃		
Relative humidity		<80% (no condensation)		
Dimension (L×W×H)		235×50×195mm		
Weight		2.3kg		

STANDARD DELIVERY

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

OPTIONAL ACCESSORY

DC battery pack 4400mAh	MPI-PDC440
AC battery pack 6600mAh	MPI-PAC660
A1 standard sensitivity test piece	MPI-PA1
45N lifting force test block	MPI-P45N
177N lifting force test block	MPI-P177N
Magnetic pole slope angle A	MPI-PMA
Magnetic pole slope angle B	MPI-PMB
Bag	MPI-PBG

RECHARGEABLE UV FLAW DETECTION LIGHT CODE MPI-HF360

- UV-B content is 0
- Without preheating, instant start, instant on/off, no need to wait
- Supplied with glass filter
- External surface temperature increase <8K (8°C) for continuous working

goggles (included)



SPECIFICATION

UV (light) Lux	about 6000μW/cm ²
UV light power	UV LED-12VA
Covering area	diameter approximately 300mm (calibrated at 381mm distance)
FLUX error	±10% (at 0°C~40°C)
White light content	≤20LUX
Lighting characteristics	center lighting
Wavelength	room temperature 25°C, 365nm±3nm (UVA)
Power supply	12V rechargeable lithium battery
Battery capacity	3500mAh
Charging time	3~4h
Battery life	UV LED 5~6h
Dimension	175×75×170mm
Weight	750g (including battery)

STANDARD DELIVERY

Main unit	1 pc
Battery	2 pcs
Charger	1 pc
Goggles	1 pc

UV FLAW DETECTION LIGHT CODE MPI-HD130



STANDARD DELIVERY

Main unit	1 pc
Battery	2 pcs
Charger	1 pc

SPECIFICATION

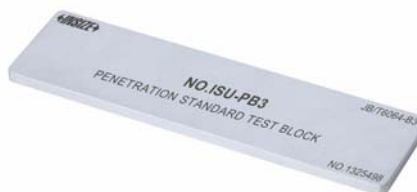
UV (light) Lux	6000~11000μW/cm ²
UV light power	UV LED-3W
FLUX error	±10% (at 0°C~40°C)
Lighting characteristics	center lighting
Wavelength	room temperature 25°C, 365nm±3nm (UVA)
Power supply	3.7V rechargeable lithium battery
Battery capacity	2600mAh
Charging time	2h~3h
Battery life	UV LED 3h~4h
Dimension	180×47mm
Weight	260g (including battery)



- UV-B content is 0
- No need to wait, instantly reaches 100% power
- Supplied with glass filter
- External surface temperature increase <5K (5°C) for continuous working

PENETRATION STANDARD TEST BLOCK CODE ISU-PB3

- Comply with ASME standard requirements
- The test block shows the number and clarity of lines of radiating cracks to determine the sensitivity level
- Suitable for verifying the sensitivity and operational accuracy of penetrants, as well as for testing the corrosion of stainless steel materials by penetrants

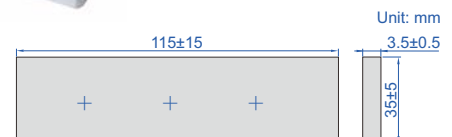


SPECIFICATION

Type	JB/T6064 B3 type
Surface treatment	chrome plating
Material	stainless steel

STANDARD DELIVERY

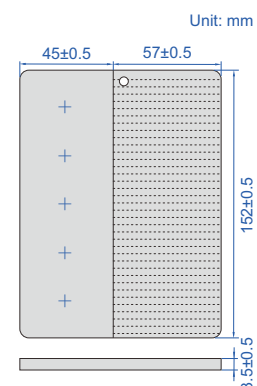
B3 test block	1 pc
B3 test block display image	1 pc





PENETRATION STANDARD TEST BLOCK CODE ISU-PB5

- Meets NB/47013.5 and ASME standards
- This test block is a means of verifying the sensitivity and operational accuracy of the penetrant, and has a rough surface in the sandblasting area to verify the cleaning performance of the penetrant and the accuracy of the cleaning method. Its sensitivity is determined by the number of defects displayed and the diameter of each point in the radial domain. It is a functional standard test block



SPECIFICATION

Type	JB/T6064 B5 type
Surface treatment	chrome plating
Material	stainless steel

STANDARD DELIVERY

B5 test block	1 pc
B5 test block display image	1 pc

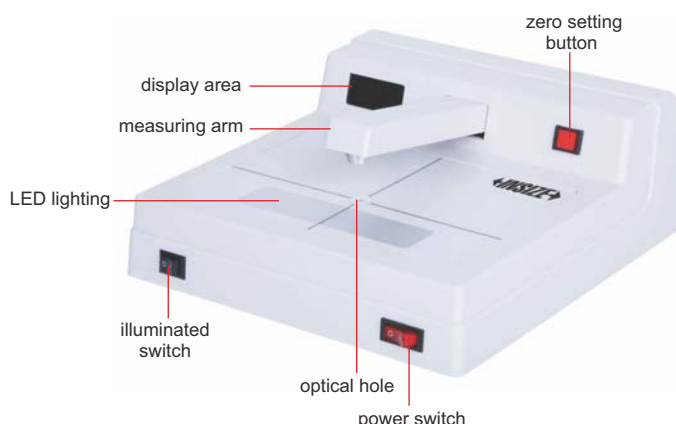
BLACK AND WHITE DENSITOMETER CODE RXT-BM301



black and white density film
(0.0~5.0, included)



- With accurate reading, good stability, easy to operate
- Small size, light weight, 27 LED lighting source, good shock resistance
- Comes with calibration software and standard black and white density film, allowing self calibration of instruments
- Suitable for industries such as non-destructive testing, photosensitive materials, printing, etc



SPECIFICATION

Blackness range	D=0.00~5.00
Reading stability	±0.02
Accuracy	±0.02 (0.0<D≤2.0) ±1% (2.0<D≤4.0) ±0.05 (4.0<D≤5.0)
Optical aperture	Ø2mm
Sampling time	0.8s
Display form	three-digit display
Interface	RS232 (optional accessory USB cable)
Operation environment	0°C~40°C, relative humidity≤85%
Power supply	220V, 50/60Hz
Dimension	260×265×110mm
Weight	2.1kg

STANDARD DELIVERY

Main unit	1 pc
Black and white density film (0.0~5.0)	1 pc
USB flash disk	1 pc
RS232 cable	1 pc

OPTIONAL ACCESSORY

USB cable	RXT-BM301-CA
-----------	--------------



CMM
Page 537-542



Measuring Arms
Page 543-544



Styli For CMM
Page 545-549



CMM Check Masters
Page 549



Gage Block Stands For CMM
Page 550



Ceramic Ball Gages
Page 550



Jigs For CMM
Page 551-557

Can be used in shop floor, with the following features:

- Temperature compensation system, suitable for wide temperature range
- Water and oil resistance
- Compact design, small size
- Three sides open, easy to load and unload workpieces
- Without compress air
- Easy installation

ATTENTION: ROTATION OF PROBE HEAD IS MANUAL

ATTENTION: MEASUREMENT ON THE LEFT SIDE OF WORKPIECES IS LIMITED

MINI CNC CMM (SHOP FLOOR TYPE) CODE CMM-MN432



CMM-MN432

FEATURES

- Integrated control system, safe, reliable and easy to operate
- High precision linear guide rail and ball screw for three axes
- 4 temperature sensors for X, Y, Z three axes and workpiece, suitable for wide temperature range

CONTROL SYSTEM

- Double computer control systems
- Driven by DC servo motor
- The control system supports communication with machine tools
- The control system has 12 buttons for customize

NET-DMIS SOFTWARE

- Can measure point, straight line, curve, circle, ellipse, plane, groove, cylinder, sphere, cone, ring, edge point, corner point, polygon, straightness, flatness, circularity, cylindricity, profile of a line, profile of a surface, perpendicularity, parallelism, angularity, coaxiality, concentricity, symmetry, position, composite position, circular runout and total runout
- Modular software structure, can support: temperature compensation, turning table, I/O interface
- Can program in offline mode and do virtual measurement based on CAD model, can extract the element features of CAD for programming
- Support dynamic point measurement and import DMO theoretical point coordinates for vector point measurement
- Can import and convert CAD model (SAT, IGES, STEP)
- Can select multi language, metric and inch, polar and straight coordinate system
- Have multiple export ways: export measured data (SAT, IGES, STEP), report windows (PDF, HTML, MHT, RTF, EXCEL, CSV, txt, images, WORD, etc.), custom EXCEL template
- Support uploading the measuring result to server

To be continued

Continued from previous page

SPECIFICATION

Code	CMM-MN432
Measuring range (X×Y×Z)	400×200×300mm
Resolution	0.1μm
Repeatability	1μm
Accuracy (L is measuring range in mm)	±(4.5+L/200)μm (15°C~30°C, variation≤2°C/h) ±(5.5+L/200)μm (10°C~15°C, 30°C~40°C, variation≤2°C/h)
Probe error	±5μm
Temperature	10°C~40°C, variation≤2°C/h
Humidity	40~60%
Power	220V±10%, 50Hz
Max. load	50kg
Dimension (L×W×H)	1270×1110×1630mm
Weight	280kg

STANDARD DELIVERY

Main unit		1 pc
Probe system	probe head *	1 pc
	probe *	1 pc
	styli **	1 set
Calibration system	datum sphere (Ø25mm)	1 pc
	pivot pillar	1 pc
Computer system	computer	1 pc
	printer	1 pc
Temperature compensation system		1 pc
Software		1 pc

* The probe head and probe are Renishaw brand

** The styli system includes styli and extensions

PROBE (included) SPECIFICATION

Probe head	angular movement with horizontal axis	0°~90° in 15 steps
	angular movement with vertical axis	±180° in 15 steps
	control mode	manual
	number of positions	168
	probe mounting	M8
Probe	weight	210g
	detect direction	±X, ±Y, +Z
	styli mounting	M2
	rating life	>1000,000 times
	weight	22g

23

EXTENSION (included) SPECIFICATION

Code	Material	Stem diameter	Length	Quantity
SE4	stainless steel	Ø3mm	10mm	1 pc
SE5			20mm	1 pc

STYLUS (included) SPECIFICATION

Code	Material	Ball diameter	Length	Stem diameter	Effective working length	Quantity
PS2R	ruby ball / stainless steel stem	SØ2mm	20mm	Ø1.4mm	14mm	1 pc
PS17R		SØ4mm		Ø1.5mm	20mm	1 pc



COORDINATE MEASURING MACHINES

FEATURES

- X&Z axis beam are made of aviation aluminum
- RENISHAW steel scale
- High precision, rigid, pre-loaded air bearings on all axis

RENISHAW UCC CONTROL SYSTEM

- High speed measurement & servo control system

RATIONAL-DMIS SOFTWARE

- Unique operation interface, complete drag-and-drop operation
- Instructional programming allows users to replace text
- Intelligent recognition of the construction, calculation and output of relevant geometric elements
- Seamless link with CAD data

RENISHAW PROBE BODY

- The TP20 is a touch trigger probe
- The TP200B is a touch triggered probe of electronic strain sensing technology, with high measurement accuracy and operate life
- The SP25M is high performance scanning and touch trigger probe



CMM-ST564A

SPECIFICATION

Code	Range (X×Y×Z)	Probe body	MPEE	MPEP	Max. dimension of workpiece	Max. weight of workpiece	Overall dimension	Weight
	mm		μm	μm	mm	kg	mm	kg
CMM-ST454A	400×500×400	TP20	±(2.1+3.3L/1000)	±2.2	525×995×600	500	1000×1240×2240	570
CMM-ST454B		TP200B	±(1.8+3.3L/1000)	±1.9				
CMM-ST454C		SP25M						
CMM-ST564A	500×600×400	TP20	±(2.1+3.3L/1000)	±2.2	625×1095×600	500	1100×1340×2240	700
CMM-ST564B		TP200B	±(1.8+3.3L/1000)	±1.9				
CMM-ST564C		SP25M						
CMM-ST686A	600×800×600	TP20	±(2.2+3.3L/1000)	±2.3	730×1400×800	700	1200×1650×2660	960
CMM-ST686B		TP200B	±(1.9+3.3L/1000)	±2.0				
CMM-ST686C		SP25M						
CMM-ST8106A	800×1000×600	TP20	±(2.2+3.3L/1000)	±2.3	930×1600×800	1000	1400×1850×2660	1270
CMM-ST8106B		TP200B	±(1.9+3.3L/1000)	±2.0				
CMM-ST8106C		SP25M						
CMM-ST10128A	1000×1200×800	TP20	±(2.7+3.3L/1000)	±2.7	1190×1814×1040	1800	1690×2370×3150	2460
CMM-ST10128B		TP200B	±(2.4+3.3L/1000)	±2.4				
CMM-ST10128C		SP25M						
CMM-ST10158A	1000×1500×800	TP20	±(2.7+3.3L/1000)	±2.7	1190×2114×1040	1800	1690×2670×3150	2820
CMM-ST10158B		TP200B	±(2.4+3.3L/1000)	±2.4				
CMM-ST10158C		SP25M						
CMM-ST10208A	1000×2000×800	TP20	±(2.7+3.3L/1000)	±2.7	1190×2614×1040	1800	1690×3270×3150	3410
CMM-ST10208B		TP200B	±(2.4+3.3L/1000)	±2.4				
CMM-ST10208C		SP25M						
CMM-ST121510A	1200×1500×1000	TP20	±(3.0+3.3L/1000)	±3.0	1390×2200×1200	2000	1890×2750×3330	3330
CMM-ST121510B		TP200B	±(2.7+3.3L/1000)	±2.7				
CMM-ST121510C		SP25M						
CMM-ST122010A	1200×2000×1000	TP20	±(3.0+3.3L/1000)	±3.0	1390×2700×1200	2000	1890×3350×3330	3910
CMM-ST122010B		TP200B	±(2.7+3.3L/1000)	±2.7				
CMM-ST122010C		SP25M						

To be continued

Continued from previous page

SPECIFICATION

Code	Range (X×Y×Z)	Probe body	MPEE	MPEP	Max. dimension of workpiece	Max. weight of workpiece	Overall dimension	Weight
	mm		μm	μm	mm	kg	mm	kg
CMM-ST152010A	1500×2000×1000	TP20	±(3.3+3.3L/1000)	±3.3	1690×2700×1200	3000	2190×3350×3370	5220
CMM-ST152010B		TP200B	±(3.0+3.3L/1000)	±3.0				
CMM-ST152010C		SP25M						
CMM-ST152510A	1500×2500×1000	TP20	±(3.3+3.3L/1000)	±3.3	1690×3200×1200	3000	2190×3850×3400	6680
CMM-ST152510B		TP200B	±(3.0+3.3L/1000)	±3.0				
CMM-ST152510C		SP25M						
CMM-ST153010A	1500×3000×1000	TP20	±(3.5+4L/1000)	±3.5	1690×3700×1200	3000	2260×3910×3420	8120
CMM-ST153010B		TP200B	±(3.2+4L/1000)	±3.2				
CMM-ST153010C		SP25M						
CMM-ST152512A	1500×2500×1200	TP20	±(3.5+4L/1000)	±3.5	1690×3200×1400	3000	2190×3850×3870	6730
CMM-ST152512B		TP200B	±(3.2+4L/1000)	±3.2				
CMM-ST152512C		SP25M						
CMM-ST152515A	1500×2500×1500	TP20	±(3.8+4L/1000)	±3.8	1680×3330×1700	3000	2190×3980×4500	6950
CMM-ST152515B		TP200B	±(3.5+4L/1000)	±3.5				
CMM-ST152515C		SP25M						
CMM-ST153015A	1500×3000×1500	TP20	±(4.0+4L/1000)	±4.0	1680×3830×1700	3000	2260×4040×4520	8440
CMM-ST153015B		TP200B	±(3.7+4L/1000)	±3.7				
CMM-ST153015C		SP25M						
CMM-ST163515A	1600×3500×1500	TP20	±(4.0+4L/1000)	±4.0	1780×4330×1700	3000	2360×4540×4520	9960
CMM-ST163515B		TP200B	±(3.7+4L/1000)	±3.7				
CMM-ST163515C		SP25M						
CMM-ST203015A	2000×3000×1500	TP20	±(4.5+4L/1000)	±4.5	2180×3930×1700	6000	2760×4240×4520	11200
CMM-ST203015B		TP200B	±(4.0+4L/1000)	±4.0				
CMM-ST203015C		SP25M						
CMM-ST203018A	2000×3000×1800	TP20	±(4.5+4L/1000)	±4.5	2180×3930×2000	6000	2760×4240×5120	11200
CMM-ST203018B		TP200B	±(4.0+4L/1000)	±4.0				
CMM-ST203018C		SP25M						

STANDARD DELIVERY

Main unit		1 pc
Probe system	probe head (Renishaw)	1 pc
	probe body (Renishaw)	1 pc
	styli (Renishaw)	1 set
Calibration sphere	Ø19mm	1 pc
Computer		1 pc
Printer		1 pc
Software		1 pc

OPERATION ENVIRONMENT

Air pressure	0.5~1.0MPa
Air supply	0.3~0.45m³/min
Temperature	20±2°C
Humidity	55%~65%
Power	220V±10%, 50/60Hz

STYLI INCLUDED IN SP25M

Material	Ball diameter	Length	Quantity
ruby ball/ stainless steel stem	SØ2mm	21mm	2 pcs
	SØ3mm	21mm	2 pcs
	SØ4mm	21mm	2 pcs
	SØ2mm	30mm	2 pcs
	SØ3mm	40mm	2 pcs
	SØ4mm	50mm	2 pcs
	SØ6mm	75mm	2 pcs
stainless steel stem	—	20mm	1 pc

PROBE HEAD SPECIFICATION

Probe head (PH10T)	angular movement with horizontal axis	0°~105° in 7.5 steps
	angular movement with vertical axis	±180° in 7.5 steps
	number of positions	720
	probe mounting	M8
	max. output torque	0.45N.m
	max. extension length	300mm
	weight	645g
Probe body	detect direction	±X, ±Y, +Z
	styli mounting	M2
	rating life	>1000,000 times

STYLI INCLUDED IN TP20 AND TP200B

Material	Ball diameter	Length	Quantity
ruby ball/ stainless steel stem	SØ1mm	10mm	1 pc
	SØ2mm	20mm	1 pc
	SØ3mm	20mm	1 pc
	SØ3mm	30mm	1 pc
	SØ4mm	10mm	1 pc
	SØ4mm	30mm	1 pc
	SØ4mm	40mm	1 pc
	SØ5mm	20mm	1 pc
stainless steel stem	SØ5mm	50mm	1 pc
	—	10mm	1 pc
	—	20mm	1 pc
	—	30mm	1 pc



COORDINATE MEASURING MACHINES

FEATURES

- Classic bridge structure, integrated workbench
- High precision air bearing
- Unique Z-axis anti torque design to reduce rotation error

RENISHAW SYSTEMS

- Precision grating system, including grating and data acquisition device
- UCC control system, including control box and manual operator
- Probe system, including probe head, probe body and styli

VISUAL DMIS CNC CAD+SOFTWARE

- The software is designed and developed based on the DMIS standard, with excellent compatibility and versatility
- Geometric element measurement, evaluation of shape and position
- Bidirectional data transfer with mainstream CAD systems, complete graphical display
- Optional specialized modules, such as gear module, worm module, pipeline module, blade module, SPC data analysis module, etc.



CMM-LM564A

SPECIFICATION

Code	Range (X×Y×Z)	Probe system		Accuracy		Max. weight of workpiece	Overall dimension (mm)	Weight (kg)
		head	body	MPEE (μm)	MPEP			
CMM-LM564A	500×600×400mm	MH20i	TP20	±(2.3+L/250)	2.4μm	500kg	1420×1135×2350	900
CMM-LM564B		PH10T						
CMM-LM686A	600×800×600mm	MH20i	TP20	±(2.6+L/250)	2.7μm	800kg	1740×1420×2760	1300
CMM-LM686B		PH10T						
CMM-LM686C		PH10M						
CMM-LM8106A	800×1000×600mm	MH20i	TP20	±(2.7+L/250)	2.8μm	1000kg	1940×1620×2760	1700
CMM-LM8106B		PH10T						
CMM-LM8106C		PH10M						
CMM-LM8126A	800×1200×600mm	MH20i	TP20	±(2.7+L/250)	2.8μm		2140×1620×2760	1900
CMM-LM8126B		PH10T						
CMM-LM8126C		PH10M						
CMM-LM8156A	800×1500×600mm	MH20i	TP20	±(2.7+L/250)	2.8μm		2440×1620×2760	2200
CMM-LM8156B		PH10T						
CMM-LM8156C		PH10M						

To be continued

Continued from previous page

OPERATION ENVIRONMENT

Air pressure	0.6-0.8MPa
Air supply	200L/min
Temperature	20°C±2°C; <0.5°C/h, <1°C/24h
Humidity	30%~70%
Max. power	1000W
Power supply	220V±5%, 50HZ

STANDARD DELIVERY

Main unit		1 pc
Probe system	probe head	1 pc
	probe body	1 pc
	styli	1 set
Control system		1 set
Calibration sphere		1 pc
Universal sphere seat		1 pc
Computer		1 pc
Printer		1 pc
Software		1 set
Table and chair		1 set

PH10T AND PH10M SPECIFICATION

Angular movement with horizontal axis	0°~105° in 7.5 steps
Angular movement with vertical axis	±180° in 7.5 steps
Number of positions	720
Steering mode	motorized
Max. output torque	0.45N.m
Max. extension length	300mm
Weight	649g

MH20i SPECIFICATION

Angular movement with horizontal axis	0°~105° in 15 steps
Angular movement with vertical axis	±180° in 15 steps
Number of positions	168
Steering mode	manual
Max. extension length	75mm
Weight	210g

STYLI SET INCLUDED IN TP20

Name	Material	Ball diameter	Length	Stem diameter	Effective working length	Quantity
Styli	ruby ball/ stainless steel stem	SØ2.5mm	20mm	SØ1.4mm	14mm	4 pcs
		SØ4mm			20mm	
		SØ3mm	10mm	SØ1.5mm	7.5mm	1 pc

Name	Material	Diameter	Length	Quantity
Extension	stainless steel	Ø3mm	20mm	1 pc
			30mm	
Center base		Ø7mm	7.5mm	

STYLI SET INCLUDED IN SP25M

Name	Material	Ball diameter	Length	Stem diameter	Effective working length	Quantity
Styli	ruby ball/ stainless steel stem	SØ1.5mm	21mm	Ø1mm	14mm	1 pc
		SØ2mm		Ø1.4mm	8mm	1 pc
		SØ3mm		Ø1.5mm	12mm	4 pcs
		SØ4mm	31mm	Ø2.5mm	27mm	1 pc
	ruby ball/ carbon fiber stem	SØ5mm	50mm	Ø3mm	42.5mm	1 pc
		SØ6mm	75mm	Ø4mm	75mm	1 pc

Name	Material	Diameter	Length	Quantity
Extension	stainless steel	Ø5mm	10mm	1 pc
		Ø4mm	20mm	
Center base		Ø10mm	13mm	



MEASURING ARMS

- In accordance with ISO 10360-12
- Internal balance
- Dual high performance batteries
- Equivalent-arm design
- High-speed WiFi performance
- Aerospace grade carbon-fiber material
- Automatic power off
- U-shaped anti-collision design of the base



CMM-CM30

HIGH PRECISION, CM SERIES, 6-AXIS

(mm)

Code	Measuring range	Maximum permissible error				
		SPAT	E _{UNI}	P _{SIZE}	P _{FORM}	L _{DIA}
CMM-CM15	1500	0.018	0.025	0.009	0.016	0.026
CMM-CM20	2000	0.020	0.028	0.010	0.018	0.032
CMM-CM25	2500	0.023	0.030	0.012	0.022	0.038
CMM-CM30	3000	0.034	0.042	0.016	0.032	0.052
CMM-CM35	3500	0.043	0.056	0.020	0.038	0.066
CMM-CM40	4000	0.052	0.066	0.024	0.044	0.083
CMM-CM45	4500	0.061	0.089	0.038	0.078	0.108

HIGH PRECISION, CM SERIES, 7-AXIS

(mm)

Code	Measuring range	Maximum permissible error				
		SPAT	E _{UNI}	P _{SIZE}	P _{FORM}	L _{DIA}
CMM-CM20S	2000	0.022	0.030	0.012	0.022	0.040
CMM-CM25S	2500	0.027	0.032	0.013	0.025	0.048
CMM-CM30S	3000	0.042	0.053	0.020	0.035	0.078
CMM-CM35S	3500	0.055	0.066	0.024	0.043	0.092
CMM-CM40S	4000	0.065	0.082	0.029	0.048	0.102
CMM-CM45S	4500	0.073	0.099	0.043	0.082	0.132

STANDARD PRECISION, BE SERIES, 6-AXIS

(mm)

Code	Measuring range	Maximum permissible error				
		SPAT	E _{UNI}	P _{SIZE}	P _{FORM}	L _{DIA}
CMM-BE15	1500	0.028	0.036	0.015	0.029	0.038
CMM-BE20	2000	0.030	0.040	0.018	0.035	0.041
CMM-BE25	2500	0.035	0.045	0.020	0.038	0.050
CMM-BE30	3000	0.055	0.065	0.028	0.045	0.080
CMM-BE35	3500	0.075	0.080	0.035	0.058	0.098
CMM-BE40	4000	0.090	0.100	0.044	0.068	0.116
CMM-BE45	4500	0.112	0.120	0.048	0.086	0.128

To be continued

Continued from previous page



Single-point articulation test



Distance measurement error between two points



Sphere form measurement error



Sphere size measurement error



Sphere diameter obtained from performing the articulated location test (diameter of the spherical zone containing the centers of a sphere measured from multiple orientations)

SPECIFICATION

Temperature rate	3°C/5min
Battery life	5h for one battery; 10h for two batteries
Output	USB, WIFI
Operation temperature	5°C~45°C
Operation humidity	0~95%, non-condensing
Power	100~240VAC, 50/60HZ
Weight	8.8kg~10.6kg



3mm zircon ball probe (included)



6mm zircon ball probe (included)



calibration cone (included)

STANDARD DELIVERY

Main unit	1 pc
3mm zircon ball probe	1 pc
6mm zircon ball probe	1 pc
Calibration cone	1 pc
Lithium batteries	2 pcs
USB cable	1 pc
Power adapter	1 pc
Dust cover	1 pc



magnetic base (optional)



electric vacuum base (optional)



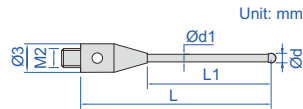
DELL laptop (optional)

OPTIONAL ACCESSORY

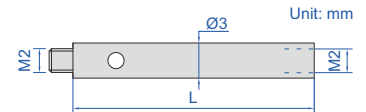
DELL laptop	CMM-CEM-PCE
Polyworks software	CMM-CEM-PW
Adjustable tripod	CMM-CEM-FAT
Electric vacuum base	CMM-CEM-EVCP
Magnetic base	CMM-CEM-IMM
Magnetic cones	CMM-CEM-MC
Magnetic spheres	CMM-CEM-MS
Point probe	CMM-CEM-PP
2mm ruby ball probe	CMM-CEM-RP2
5mm zircon ball probe	CMM-CEM-ZP5
10mm zircon ball probe	CMM-CEM-ZP10
3" straight probe extension	CMM-CEM-SPE3
4" straight probe extension	CMM-CEM-SPE4
60° probe adapter	CMM-CEM-DP60
90° probe adapter	CMM-CEM-DP90
3mm extended ball probe	CMM-CEM-EPB3
6mm extended ball probe	CMM-CEM-EPB6
Probe adapter	CMM-CEM-PA



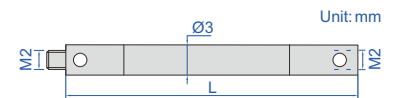
adjustable tripod (optional)


ISQ-01-2010-020STR

ISQ-02-2030-040ST
M2 styli (stainless steel base) (mm)

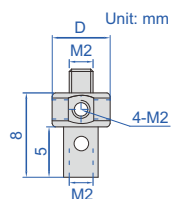
Code	Ød	Ød1	L	L1	Material of rod	Material of tip
ISQ-01-2010-010STR	1	0.8	10	4	carbide	ruby
ISQ-01-2010-020LTR	1	0.8	20	7		
ISQ-01-2010-020STR	1	0.8	20	13		
ISQ-01-2010-028STR	1	0.8	27.5	20.5		
ISQ-01-2015-020STR	1.5	1	20	13		
ISQ-01-2015-030STR	1.5	1	30	23		
ISQ-01-2020-020STR	2	1	20	13		
ISQ-01-2020-030STR	2	1.5	30	23		
ISQ-01-2020-040STR	2	1.5	40	33		
ISQ-01-2025-020STR	2.5	1.5	20	13		
ISQ-01-2025-030STR	2.5	2	30	23		
ISQ-01-2025-040STR	2.5	2	40	33		
ISQ-01-2030-020STR	3	1.5	20	13		
ISQ-01-2030-030STR	3	2	30	23		
ISQ-01-2030-040STR	3	2	40	33		
ISQ-01-2030-050STR	3	2	50	43		
ISQ-01-2040-022STR	4	2	22	15		
ISQ-01-2040-030STR	4	2	30	23		
ISQ-01-2040-040STR	4	2	40	33		
ISQ-01-2040-050STR	4	2	50	43		
ISQ-01-2020-020SSR	2	1.5	20	13	stainless steel	
ISQ-01-2030-020SSR	3	1.5	20	13		
ISQ-01-2040-020SSR	4	1.5	20	13	ceramic	
ISQ-01-2030-050SCE	3	2	50	43		


M2 extension rods of styli (mm)

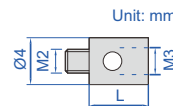
Code	L	Material
ISQ-02-2030-005ST	5	stainless steel
ISQ-02-2030-010ST	10	
ISQ-02-2030-020ST	20	
ISQ-02-2030-030ST	30	
ISQ-02-2030-040ST	40	


M2 extension rods of styli (mm)

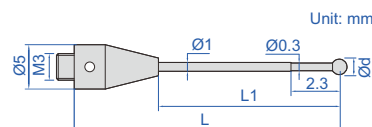
Code	L	Material
ISQ-02-2035-030SCF	30	carbon fibre
ISQ-02-2035-040SCF	40	
ISQ-02-2035-050SCF	50	
ISQ-02-2035-060SCF	60	
ISQ-02-2035-070SCF	70	


M2 multi way bases of styli (mm)

Code	D	Remark	Material
ISQ-03-2075-008ST	7.5	4-way	stainless steel
ISQ-03-2070-008ST	7	5-way	


M2 thread converters (mm)

Code	L	Material
ISQ-05-2040-005M3	5	stainless steel
ISQ-05-2040-007M3	7	


ISQ-01-3005-020TTR2

M3 styli with step (stainless steel base) (mm)

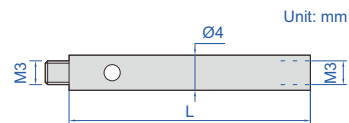
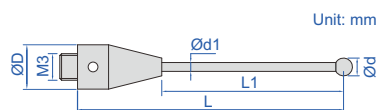
Code	Ød	L	L1	Material of rod	Material of tip
ISQ-01-3005-018TTR2	0.5	18	9	carbide	ruby
ISQ-01-3005-020TTR2	0.5	20	11		

To be continued

Continued from previous page



ISQ-01-3020-030STR



M3 styli (stainless steel base)

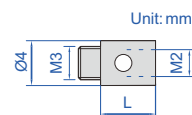
(mm)

Code	Ød	Ød1	L	L1	ØD	Material of rod	Material of tip
ISQ-01-3010-020TTR	1	0.8	20	11	5	carbide	ruby
ISQ-01-3010-040TTR	1	0.8	40	31	5		
ISQ-01-3015-020TTR	1.5	1	20	11	5		
ISQ-01-3015-030TTR	1.5	1	30	21	5		
ISQ-01-3015-040TTR	1.5	1	40	31	5		
ISQ-01-3020-014TTR	2	1	14	5	5		
ISQ-01-3020-040TTR	2	1.5	40	31	5		
ISQ-01-3020-050TTR	2	1.5	50	41	5		
ISQ-01-3030-050TTR	3	2	50	41	5		
ISQ-01-3040-030TTR	4	2	30	21	5		
ISQ-01-3040-040TTR	4	2	40	31	5		
ISQ-01-3040-050TTR	4	2	50	41	5		
ISQ-01-3020-030STR	2	1.5	30	22.5	4	carbon fibre	ruby
ISQ-01-3030-030STR	3	1.5	30	22.5	4		
ISQ-01-3030-050TCR	3	2	50	41	5		
ISQ-01-3030-075TCR	3	2	75	66	5		

M3 extension rods of styli

(mm)

Code	L	Material
ISQ-02-3040-010ST	10	stainless steel
ISQ-02-3040-020ST	20	
ISQ-02-3040-030ST	30	
ISQ-02-3040-040ST	40	
ISQ-02-3040-050ST	50	



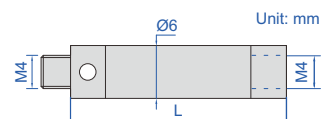
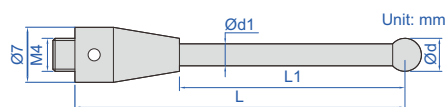
M3 thread converters

(mm)

Code	L	Material
ISQ-05-3040-005M2	5	stainless steel
ISQ-05-3040-010M2	10	
ISQ-05-3040-020M2	20	



ISQ-01-4060-100SCE



M4 styli (stainless steel base)

(mm)

Code	Ød	Ød1	L	L1	Material of rod	Material of tip
ISQ-01-4010-020STR	1	0.8	20	10	carbide	ruby
ISQ-01-4020-020STR	2	1.5	20	10		
ISQ-01-4020-050STR	2	1.5	50	40		
ISQ-01-4040-050SCE	4	3	50	33.5	ceramic	
ISQ-01-4060-100SCE	6	4.5	100	83.5		

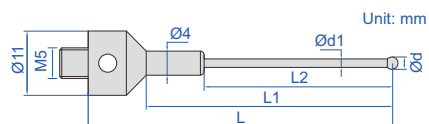
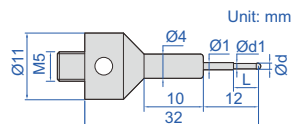
M4 extension rods of styli

(mm)

Code	L	Material
ISQ-02-4070-030SCT	30	ceramic
ISQ-02-4070-050SCT	50	
ISQ-02-4070-100SCT	100	
ISQ-02-4070-200SCT	200	



ISQ-01-5010-032STR



M5 styli with step (stainless steel base)

(mm)

Code	Ød	Ød1	L	Material of rod	Material of tip
ISQ-01-5005-032STR	0.5	0.3	2.5	carbide	ruby
ISQ-01-5008-032STR	0.8	0.6	4.8		
ISQ-01-5010-032STR	1	0.8	5		

M5 styli with step (stainless steel base)

(mm)

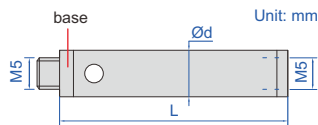
Code	Ød	Ød1	L	L1	L2	Material of rod	Material of tip
ISQ-01-5015-044STR	1.5	1	44	34	19	carbide	ruby
ISQ-01-5020-044STR	2	1.5	44	34	19		
ISQ-01-5020-058STR	2	1.5	58	48	33		

To be continued

Continued from previous page



ISQ-01-5030-034STR



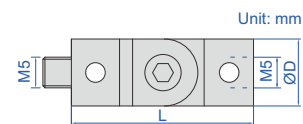
M5 styli (stainless steel base)

(mm)

Code	Ød	Ød1	L	L1	Material of rod	Material of tip
ISQ-01-5015-033STR	1.5	1	33	23	carbide	ruby
ISQ-01-5015-040STR	1.5	1	40	30		
ISQ-01-5020-034STR	2	1.5	33.5	23.5		
ISQ-01-5020-040STR	2	1.5	40	30		
ISQ-01-5030-034STR	3	2	33.5	23.5		
ISQ-01-5030-050STR	3	2	50	40		
ISQ-01-5030-058STR	3	2	58	48		
ISQ-01-5030-075STR	3	2	75	65		
ISQ-01-5050-050STR	5	2.5	50	40		
ISQ-01-5050-075STR	5	2.5	75	65		
ISQ-01-5060-054STR	6	3	54	44	carbon fibre	ruby
ISQ-01-5080-115STR	8	4	114.5	101.5		
ISQ-01-5030-058SCR	3	2	58	48		
ISQ-01-5050-100SCR	5	3.5	100	90	carbon fibre	ruby
ISQ-01-5080-100SCR	8	6	100	87		



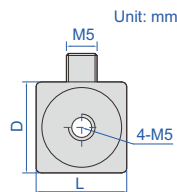
ISQ-03-5110-030TI



M5 extension rods of styli

(mm)

Code	Ød	L	Material	Material of base
ISQ-02-5110-040SAL	11	40	aluminium	stainless steel
ISQ-02-5110-060SAL	11	60		
ISQ-02-5110-080SAL	11	80		
ISQ-02-5110-100SAL	11	100		
ISQ-02-5110-020ST	11	20	stainless steel	titanium
ISQ-02-5110-040TCF	11	40	carbon fibre	
ISQ-02-5110-050TCF	11	50		
ISQ-02-5110-060TCF	11	60		
ISQ-02-5110-100TCF	11	100		



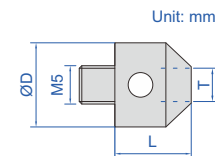
M5 rotating joints

(mm)

Code	L	ØD	Material
ISQ-03-5110-030TI	30	11	titanium
ISQ-03-5180-036TI	36	18	



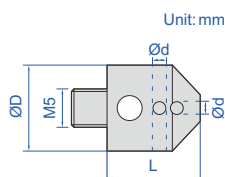
ISQ-05-5110-090M3



M5 4-way cubes of styli

(mm)

Code	D	L	Material
ISQ-03-5150-150TI	15	15	titanium
ISQ-03-5200-200TI	20	20	



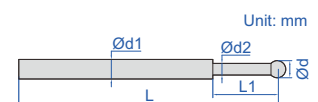
M5 thread converters

(mm)

Code	L	ØD	Thread (T)	Material
ISQ-05-5110-090M2	10	11	M2	stainless steel
ISQ-05-5110-090M3	10	11	M3	



ISQ-01-0008-016TR



Holders for pin styli

(mm)

Code	L	Ød	ØD	Material
ISQ-03-5110-012H1	12	1	11	stainless steel
ISQ-03-5110-012H1D5	12	1.5	11	
ISQ-03-5110-012H2	12	2	11	

Pin styli

(mm)

Code	L	Ød	L1	Ød1	Ød2	Material of rod	Material of tip
ISQ-01-0008-016TR	15.8	0.8	4.8	1	0.6	carbide	ruby
ISQ-01-0020-027TR	27	2	—	1.5	—		
ISQ-01-0030-038TR	38	3	—	2	—		

STYLI FOR CMM

▪ Roundness: 0.25µm



ISQ-20-071

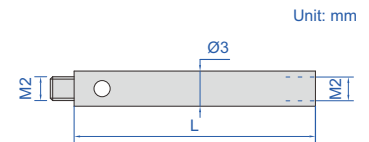
M2 styli (mm)

Code	Ød	Ød1	L	L1 [*]	Material of rod	Material of tip
ISQ-20-002	1	0.7	10	4.5	stainless steel	ruby
ISQ-20-006	2	1	10	6		
ISQ-20-010	3	1.5	10	10		
ISQ-20-021	2	1.4	20	14		
ISQ-20-025	3	1.5	20	17.5		
ISQ-20-027	4	2	20	20	carbide	
ISQ-20-052	0.5	0.3	10	3		
ISQ-20-071	1	0.7	20	12.5		
ISQ-20-105	2	1.5	30	22.5	ceramic	
ISQ-20-120	3	2	30	27.5	carbon fibre	
ISQ-20-201	4	3	50	50		

* L1 is the effective working length, which is the distance from the center of the tip to the section of the stem with the same diameter as the tip



ISQ-25-125

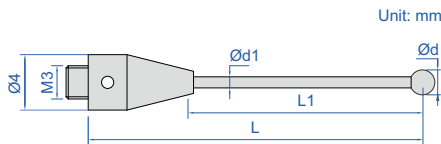


M2 extension rods of styli (mm)

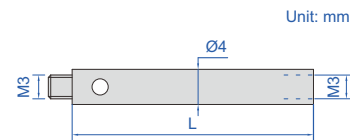
Code	L	Material
ISQ-25-105	10	stainless steel
ISQ-25-110	20	
ISQ-25-125	30	ceramic



ISQ-30-066



ISQ-35-110



M3 styli (mm)

Code	Ød	Ød1	L	L1 [•]	Material of rod	Material of tip
ISQ-30-001	1	0.7	21	4	carbide	ruby
ISQ-30-003	2	1.4	21	8		
ISQ-30-005	3	1.5	21	12		
ISQ-30-031	2	1.5	30	22.5		
ISQ-30-066	3	2	50	42.5	ceramic	
ISQ-30-080	6	4	75	75	carbon fibre	

* L1 is the effective working length, which is the distance from the center of the tip to the section of the stem with the same diameter as the tip

M3 extension rods of styli (mm)

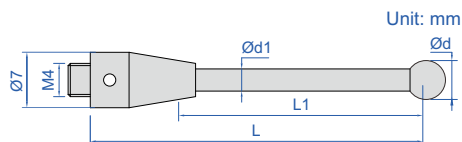
Code	L	Material
ISQ-35-101	10	stainless steel
ISQ-35-105	20	
ISQ-35-110	35	
ISQ-35-115	50	ceramic

To be continued

Continued from previous page



ISQ-40-195



M4 styli

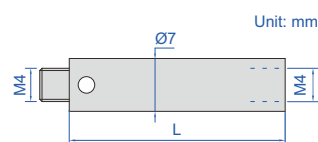
(mm)

Code	Ød	Ød1	L	L1*	Material of rod	Material of tip
ISQ-40-113	3	2	18.5	13	stainless steel	ruby
ISQ-40-208	6	4	50	36		
ISQ-40-106	1	0.7	19.5	4	carbide	
ISQ-40-109	2	1.4	19	8		
ISQ-40-141	1	0.7	20	10		
ISQ-40-195	2	1.5	50	40		
ISQ-40-202	4	2	50	38		
ISQ-40-173	5	4	50	34	ceramic	
ISQ-40-179	6	4	50	36		
ISQ-40-222	6	4	75	63		
ISQ-40-240	5	4	100	84		
ISQ-40-245	6	4	100	86		

* L1 is the effective working length, which is the distance from the center of the tip to the section of the stem with the same diameter as the tip



ISQ-45-025

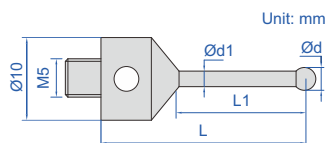


M4 extension rods of styli (mm)

Code	L	Material
ISQ-45-025	30	ceramic
ISQ-45-028	50	



ISQ-50-059

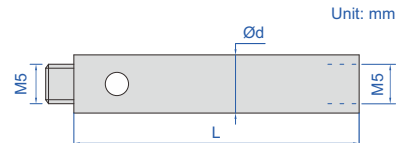


M5 styli

(mm)

Code	Ød	Ød1	L	L1*	Material of rod	Material of tip
ISQ-50-051	1	0.7	20	5	carbide	ruby
ISQ-50-059	2	1.5	20	11		
ISQ-50-067	3	2	20	11		
ISQ-50-071	4	2	20	11		
ISQ-50-075	5	3	20	11		

* L1 is the effective working length, which is the distance from the center of the tip to the section of the stem with the same diameter as the tip



M5 extension rods of styli (mm)

Code	L	Ød	Material
ISQ-55-012	20	10	stainless steel
ISQ-55-014	30	10	
ISQ-55-016	50	10	
ISQ-55-018	100	10	
ISQ-55-031	50	20	aluminum
ISQ-55-035	100	20	
ISQ-55-039	200	20	

REFER TO PAGE 330~331
FOR DETAILS

CMM CHECK MASTERS

23



6882-600



6874-1000

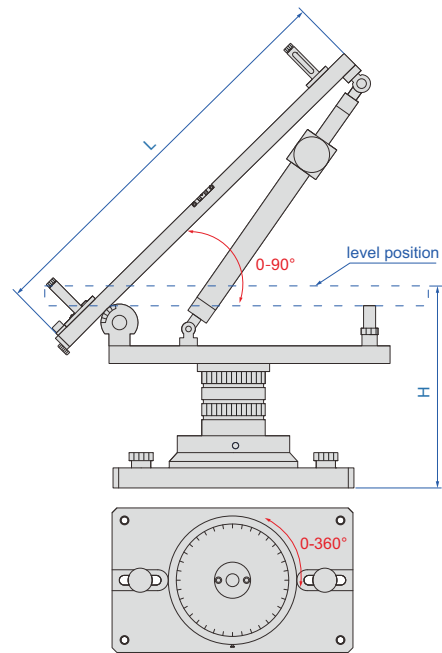
GAGE BLOCK STAND FOR CMM



6885-1000

- Made of aluminum
- Used with gage blocks to calibrate CMM
- Optional accessory: gage blocks (4101, 4103 and 4104 series)

Code	Length (L)	Height (H)
6885-1000	500, 600, 650, 700, 750, 800, 850, 900, 1000	235, 355, 475



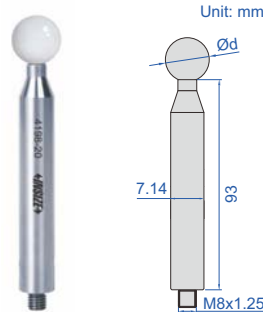
height column
(included, 2 pcs)



extension plate (included, 4 pcs)

CERAMIC BALL GAGES

- To calibrate CMM probes
- Zirconia material, high strength and hardness, extremely wear resistance and corrosion resistance
- good insulation, antistatic and magnetic resistance
- Mirror surface, with pole
- Supplied with manufacturer inspection certificate



4198-20



High accuracy

Code	Diameter (Ød)	Accuracy	Roundness
4198-8	8mm	±5µm	0.5µm
4198-10	10mm	±5µm	0.5µm
4198-12D7	12.7mm	±5µm	0.5µm
4198-13	13mm	±5µm	0.5µm
4198-14	14mm	±5µm	0.5µm
4198-15	15mm	±5µm	0.5µm
4198-16	16mm	±5µm	0.5µm
4198-17	17mm	±5µm	0.5µm
4198-20	20mm	±5µm	0.5µm
4198-25D4	25.4mm	±5µm	0.5µm

Standard accuracy

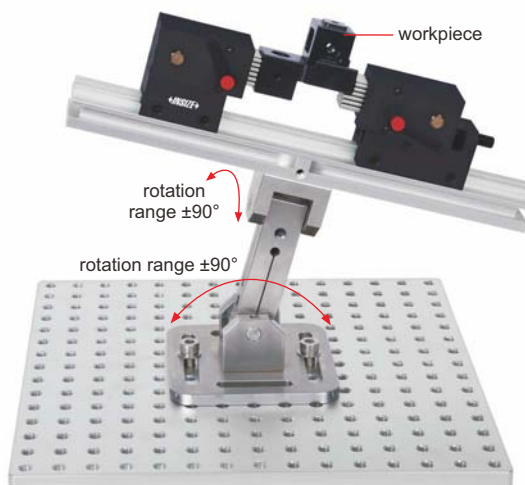
Code	Diameter (Ød)	Accuracy	Roundness
4198-8A	8mm	±5µm	1µm
4198-10A	10mm	±5µm	1µm
4198-12D7A	12.7mm	±5µm	1µm
4198-13A	13mm	±5µm	1µm
4198-14A	14mm	±5µm	1µm
4198-15A	15mm	±5µm	1µm
4198-16A	16mm	±5µm	1µm
4198-17A	17mm	±5µm	1µm
4198-20A	20mm	±5µm	1µm
4198-25D4A	25.4mm	±5µm	1µm

CAN BE
CUSTOMIZED



VIDEO

JIGS FOR CMM (ANVIL Ø2.5mm)



ISY-200



ISY-200-1



ISY-200-2



ISY-200-3



ISY-200-4



ISY-200-5



ISY-200-6

Code	Product	Remark
ISY-200	jig set	including 1 pc ISY-200-1, 1 pc ISY-200-2, 1 pc ISY-200-3, 1 pc ISY-200-4, 1 pc ISY-200-5 and 2 pcs ISY-200-6

Code	Product	Size	Anvil area	Anvil stroke
ISY-200-1	spring anvil	60×40×57	20.5×23	14
ISY-200-2	adjustable spring anvil (range 0-20mm)	70×40×57	20.5×23	14

Code	Product	Size	Hole size
ISY-200-3	base plate	300×300×12mm	M8

Code	Product	Size
ISY-200-4	guide	300×40×27
ISY-200-5	two-way adjustable stand	110×110×142
ISY-200-6	clamp handle	—

JIGS FOR CMM (ANVIL Ø6mm)



CAN BE
CUSTOMIZED



ISY-500



ISY-500-1



ISY-500-2



ISY-500-3



ISY-500-4



ISY-500-5



ISY-500-6



ISY-500-7

23

Code	Product	Remark
ISY-500	jig set	including 1 pc ISY-500-1, 1 pc ISY-500-2, 2 pcs ISY-500-3, 10 pcs ISY-500-4, 2 pcs ISY-500-5, 1 pc ISY-500-6, 2 pcs ISY-500-7

Code	Product	Size	Anvil area	Anvil stroke
ISY-500-1	spring anvil	134×90×90	36×100	24
ISY-500-2	adjustable spring anvil (range 0-40mm)	134×120×130	36×100	24

(mm)

Code	Product	Size
ISY-500-3	base plate	300×240×20
ISY-500-4	block	120×90×20
ISY-500-5	connecting plate	170×90×15
ISY-500-6	connecting block of base plate	80×50×10
ISY-500-7	clamp handle	—

(mm)

CAN BE
CUSTOMIZED



JIGS FOR CMM (ANVIL Ø2.5mm)



ISY-300-1



ISY-300



ISY-300-2



ISY-300-3



ISY-300-4



ISY-300-5



ISY-300-6



ISY-300-7



ISY-300-8



ISY-300-9



ISY-300-10



ISY-300-11



ISY-300-12



ISY-300-13

Code	Product	Remark
ISY-300	jig set	including 1 pc ISY-300-1, 2 pcs ISY-300-2, 1 pc ISY-300-3, 2 pcs ISY-300-4, 14 pcs ISY-300-5, 2 pcs ISY-300-6, 8 pcs ISY-300-7, 6 pcs ISY-300-8, 2 pcs ISY-300-9, 2 pcs ISY-300-10, 2 pcs ISY-300-11, 2 pcs ISY-300-12, 2 pcs ISY-300-13

Code	Product	Size	Hole size
ISY-300-1	base plate	300×300×12mm	M8

(mm)

Code	Product	Size	Anvil area	Anvil stroke
ISY-300-2	spring anvil	60×40×75	20.5×23	14
ISY-300-3	spring anvil	Ø26×73	3.1cm ² (hexagon)	14

Code	Product	Size (mm)
ISY-300-4	block	50×50×50
ISY-300-5	block	50×50×20
ISY-300-6	connecting plate	110×50×10
ISY-300-7	block	Ø26×20
ISY-300-8	block	Ø26×30
ISY-300-9	connecting plate	150×26×10
ISY-300-10	clip	65×11
ISY-300-11	clip	100×11
ISY-300-12	connecting block of clip stand	Ø26×20
ISY-300-13	clip stand	Ø8×75

JIGS FOR CMM (ANVIL Ø6mm)



CAN BE
CUSTOMIZED



ISY-400



ISY-400-1



ISY-400-2



ISY-400-3



ISY-400-4



ISY-400-5



ISY-400-6

Code	Product	Remark
ISY-400	jig set	including 3 pcs ISY-400-1, 9 pcs ISY-400-2, 9 pcs ISY-400-3, 1 pc ISY-400-4, 3 pcs ISY-400-5, 3 pcs ISY-400-6

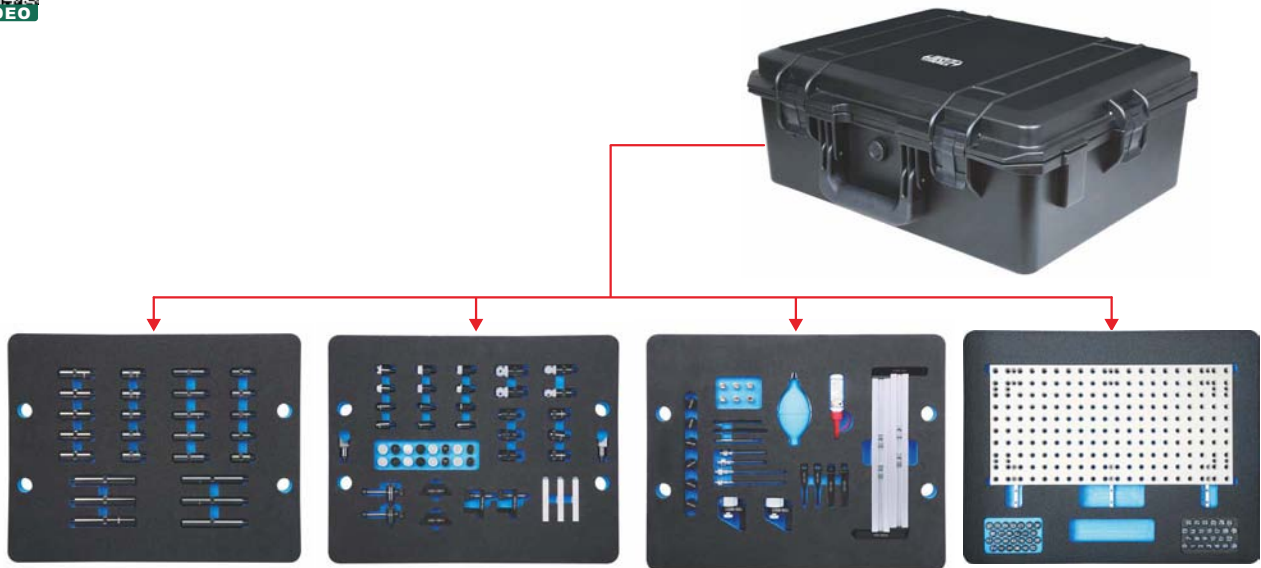
Code	Product	Size	Anvil area	Anvil stroke
ISY-400-1	spring anvil	135×60×90	36×100	24

(mm)

Code	Product	Size
ISY-400-2	block	120×60×20
ISY-400-3	block	120×60×30
ISY-400-4	base plate	500×500×12
ISY-400-5	connecting plate	130×120×12
ISY-400-6	clamp handle	—

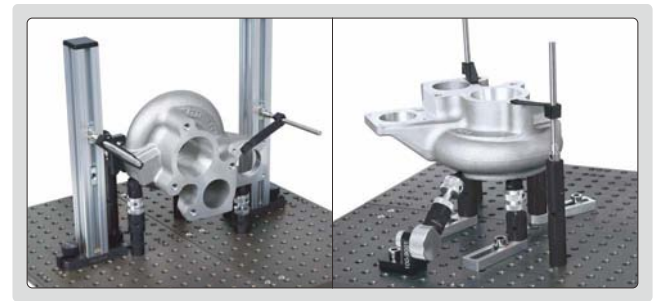


JIG SET FOR CMM CODE ISY-100



ISY-100

application examples

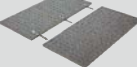
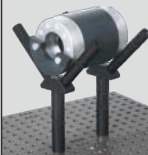


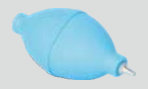
Product	Code	Size (mm)	Quantity	Application
	ISY-100-1001	Ø16×30	5	
	ISY-100-1002	Ø16×50	5	
	ISY-100-1003	Ø16×100	3	
	ISY-100-1004	Ø20×30	5	
	ISY-100-1005	Ø20×50	5	
	ISY-100-1006	Ø20×100	3	
stand with fine adjustment 	ISY-100-2001	Ø16×45~60	2	
stand with fine adjustment 	ISY-100-2003	Ø20×45~60	2	
horizontal spring stand 	ISY-100-4001	—	2	

Product	Code	Size (mm)	Quantity	Application
horizontal screw stand 	ISY-100-5001	—	2	
magnetic stand (magnetic top surface) 	ISY-100-7001	Ø20×25	3	
stand for slice parts 	ISY-100-8001	Ø20×25	2	ISY-100-8001 and ISY-100-8002 use cooperatively 
clamping stand for slice parts 	ISY-100-8002		1	

To be continued

Continued from previous page

Product	Code	Size (mm)	Quantity	Application
clip 	ISY-100-1201	—	2	
clip 	ISY-100-1301	—	2	
clip stand 	ISY-100-1401	Ø6×60	2	
	ISY-100-1402	Ø6×100	2	
vertical square column 	ISY-100-3003	30×30×250	2	
sliding support plate 	ISY-100-1801	78×20×10	3	
clamping screw 	ISY-100-2301	Ø8×20	6	
screw 	ISY-100-2302	Ø8×20	6	
base plate 	ISY-600-400200	400×400×12 hole size: M8×1.25 hole center distance: 20	2 pieces	—
wrench 	ISY-100-3701	Ø3.8×70	1	—
wrench 	ISY-100-3801	M2.5	1	—
	ISY-100-3802	M5	1	—
	ISY-100-3803	M6	1	—
45° stand 	ISY-100-9001	—	2	
V shaped support 	ISY-100-1901	—	2	

Product	Code	Quantity	Application
V shaped support 	ISY-100-1902	2	
marker 	ISY-6100-1501	52*	
dust cleaner 	ISY-100-3501	1	—
lubricating oil 	ISY-100-3601	1	—

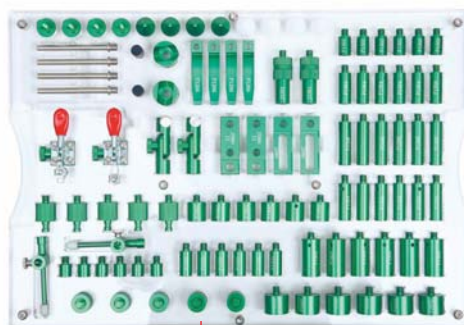
* Letter A~Z, number 0~25

Product	Code	Quantity	Material	Application
support head 	ISY-100-27016	2	aluminum	
	ISY-100-27018	2	nylon	
support head 	ISY-100-27026	2	aluminum	
	ISY-100-27028	2	nylon	
support head 	ISY-100-27036	2	aluminum	
	ISY-100-27038	2	nylon	
support head 	ISY-100-27046	2	aluminum	
	ISY-100-27048	2	nylon	
support head 	ISY-100-27056	2	aluminum	
	ISY-100-27058	2	nylon	
support head 	ISY-100-27066	2	aluminum	
	ISY-100-27068	2	nylon	
support head 	ISY-100-27076	2	aluminum	
	ISY-100-27078	2	nylon	

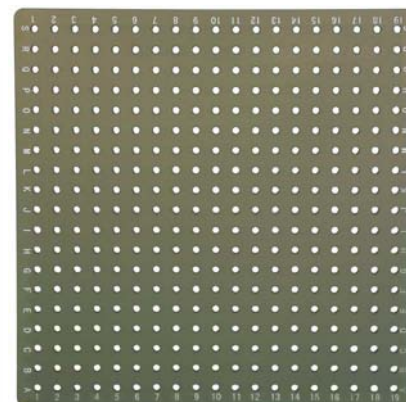


JIG SET FOR CMM CODE ISY-600

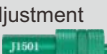
application example



acrylic tray (included)



ISY-600

Product	Code	Size (mm)	Quantity
stand 	ISY-600-P1301	Ø13×13	6
	ISY-600-P1302	Ø13×20	6
	ISY-600-P1303	Ø13×26	6
stand 	ISY-600-P1304	Ø13×32	6
	ISY-600-P1305	Ø13×40	6
	ISY-600-P1306	Ø13×45	6
stand 	ISY-600-P1902	Ø20×20	6
	ISY-600-P1905	Ø20×38	6
	ISY-600-P2602	Ø26×20	6
spring stand 	ISY-600-P1522	—	2
universal support 	ISY-600-J1560	—	2
stand with fine adjustment 	ISY-600-J1501	48~60	2
magnetic stand (magnetic top surface) 	ISY-600-J2020	Ø20×20	4
adaptor 	ISY-600-J2021	Ø20×19	2
V shaped support 	ISY-600-J2520	Ø25×20	2
clamping screw 	ISY-600-P2003	M8x1.25	4

Product	Code	Size (mm)	Quantity
sliding support plate 	ISY-600-J2060	60×20×10	2
sliding support plate 	ISY-600-J2060	60×20×10	2
clip 	ISY-600-P1266	12×66	4
chuck support 	ISY-600-JS201	—	2
clip stand 	ISY-600-P0684	Ø6×74	4
aluminum support head 	ISY-600-P2002	—	4
nylon support head 	ISY-600-P2001	—	4
base plate 	ISY-600-400	400×400×18 hole size: M8X1.25	1



Profile Projectors
Page 559-568



Quick Measurement Systems
Page 569-574



Horizontal Vision Measuring Systems
Page 578-579



Vision Measuring Systems
Page 575-589



Vision Measuring Softwares
Page 590-591



Jig Sets For Vision Measuring Systems
Page 592



Standard Glass Scales
Page 593



ISP-Z3015



ISP-A1000E

digital readout of ISP-A1000E



- touch buttons
- USB data output to Excel and CAD
- show diagram



software flash disk
(included, only for
ISP-A1000E)

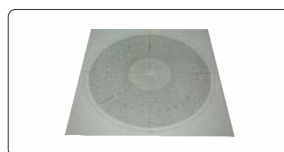
OPTIONAL ACCESSORY



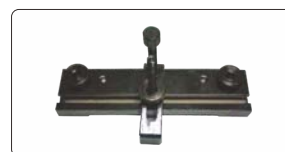
lens



rotary table
(glass plate diameter 100mm)



overlay chart (protractor with 1°
graduation, radius with 1mm increment)



holder with clamp



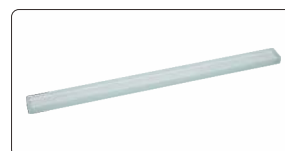
swivel center support



V-block with clamp



50mm reading scale
(check magnification accuracy)



300mm calibration scale (check
magnification accuracy together
with 50mm reading scale or
calibrate measuring accuracy)



blue filter



demo sample



printer (only for ISP-A1000E)

To be continued

Continued from previous page

SPECIFICATION

Code		ISP-Z3015		ISP-A1000E		
Edge detector		not included		included		
Lens	magnification	10X (included)	20X (optional)	50X (optional)	100X (optional)	
	view field	Ø30mm	Ø15mm	Ø6mm	Ø3mm	
	working distance	77.7mm	44.3mm	38.4mm	25.3mm	
Max. workpiece height		90mm	90mm	90mm	90mm	
Magnification accuracy		±0.08%				
Image		erect image				
Projector screen		diameter: Ø300mm				
		rotation range: 0°~360°, resolution: 1" or 0.01°				
		reference lines: cross-hairs				
Stage	metal stage size	340×152mm				
	glass stage size	196×96mm				
	X-Y stage travel	range: 150×50mm				
		resolution: 0.5µm				
		accuracy: (4+L/25)µm L is the measuring length in mm				
	Z (focus) travel range	90mm				
max. load capacity	4kg					
Illumination		contour illumination: 24V/150W halogen lamp, brightness is adjustable				
		surface illumination: 24V/150W halogen lamp				
Data processing unit	display	X-Y stage travel, screen rotation				
	output	RS232C		RS232C, USB (data output to Excel and CAD)		
	function		measure coordinate of point			measure coordinate of point
			measure coordinate of line			measure coordinate of line
			measure center coordinate, radius of circle with three points			measure center coordinate, radius of circle with three points
			measure distance between two objects			measure distance between two objects
			measure angle with four points or two lines			measure angle with four points or two lines
			set origin of coordinate			coordinate transform
			coordinate transform			choose measurement object automatically according to the selective point and display the result
			set midpoint of coordinate			
advanced function	—		programming for batch measurements			
Power supply		110/220V, 50/60Hz				
Dimension (L×W×H)		550×770×1100mm				
Weight		135kg				

24

STANDARD DELIVERY

Main unit	1 pc
10X lens with half-reflection mirror and oblique illuminator mirror	1 pc
Overlay chart clip	4 pcs
Foot-switch	1 pc
Anti-dust cover	1 pc
Software (only for ISP-A1000E) and USB cable	1 pc

OPTIONAL ACCESSORY

20X lens with half-reflection mirror and oblique illuminator mirror	ISP-Z3015-LENS20X
50X lens with half-reflection mirror	ISP-Z3015-LENS50X
100X lens with half-reflection mirror	ISP-Z3015-LENS100X
Rotary table	ISP-Z3015-TABLE
Overlay chart	ISP-Z3015-CHART
Holder with clamp	ISP-Z3015-HOLDER

Swivel center support	ISP-Z3015-SUPPORT
V-block with clamp	ISP-Z3015-VBLOCK
50mm reading scale	ISP-Z3015-SCALE50
300mm calibration scale	ISP-Z3015-RULE
Blue filter	ISP-Z3015-FILTER
Demo sample	ISP-Z3015-DEMO
Printer (only for ISP-A1000E)	ISP-A1000-PRINTER

THE STAGE DOESN'T
MOVE UP AND DOWN

INSPECTION
CERTIFICATE

PROFILE PROJECTORS



ISP-AZ3020



ISP-A5000E

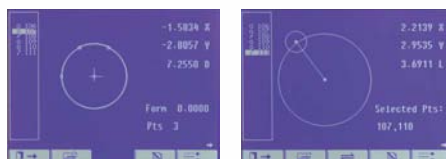


VIDEO

digital readout of ISP-A5000E

- Adjust the focus by ascending and descending the projector head, the stage doesn't move up and down
- Maximum workpiece weight 50kg

- touch buttons
- USB data output to Excel and CAD
- show diagram



software flash disk
(included, only for
ISP-A5000E)

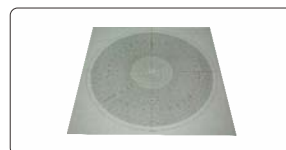
OPTIONAL ACCESSORY



lens



rotary table
(glass plate diameter 100mm)



overlay chart (protractor with 1°
graduation, radius with 1mm increment)



holder with clamp



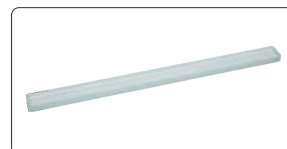
swivel center support



V-block with clamp



50mm reading scale
(check magnification accuracy)



300mm calibration scale (check
magnification accuracy together
with 50mm reading scale or
calibrate measuring accuracy)



demo sample



printer (only for ISP-A5000E)

To be continued

Continued from previous page

SPECIFICATION

Code		ISP-AZ3020		ISP-A5000E	
Edge detector		not included		included	
Lens	magnification	10X (included)	20X (optional)	50X (optional)	100X (optional)
	view field	Ø30mm	Ø15mm	Ø6mm	Ø3mm
	working distance	77.7mm	44.3mm	38.4mm	25.3mm
Max. workpiece height		100mm	100mm	100mm	100mm
Magnification accuracy		±0.08%			
Image		erect image			
Projector screen		diameter: Ø300mm			
		rotation range: 0°~360°, resolution: 1" or 0.01°			
		reference lines: cross-hairs			
Stage	metal stage size	404×228mm			
	glass stage size	260×160mm			
	X-Y stage travel	range: 200×100mm			
		resolution: 0.5µm			
		accuracy: (3+L/75)µm L is the measuring length in mm			
	Z (focus) travel range	100mm			
max. load capacity		50kg			
Illumination		contour illumination: 24V/150W halogen lamp, brightness is adjustable			
		surface illumination: 24V/150W halogen lamp			
Data processing unit	display	X-Y stage travel, screen rotation			
	output	RS232C		RS232C, USB (data output to Excel and CAD)	
	function	 measure coordinate of point	 measure coordinate of point		
		 measure coordinate of line	 measure coordinate of line		
		 measure center coordinate, radius of circle with three points	 measure center coordinate, radius of circle with three points		
		 measure distance between two objects	 measure distance between two objects		
		 measure angle with four points or two lines	 measure angle with four points or two lines		
		 set origin of coordinate	 coordinate transform		
		 coordinate transform	 choose measurement object automatically according to the selective point and display the result		
		 set midpoint of coordinate			
advanced function		—		programming for batch measurements	
Power supply		110/220V, 50/60Hz			
Dimension (L×W×H)		780×780×1100mm			
Weight		160kg			

STANDARD DELIVERY

Main unit	1 pc
10X lens with half-reflection mirror and oblique illuminator mirror	1 pc
Overlay chart clip	4 pcs
Foot-switch	1 pc
Blue filter	1 pc
Anti-dust cover	1 pc
Software (only for ISP-A5000E) and USB cable	1 pc

OPTIONAL ACCESSORY

20X lens with half-reflection mirror and oblique illuminator mirror	ISP-A5000-LENS20X
50X lens with half-reflection mirror	ISP-A5000-LENS50X
100X lens with half-reflection mirror	ISP-A5000-LENS100X
Rotary table	ISP-A5000-TABLE
Overlay chart	ISP-A5000-CHART
Holder with clamp	ISP-A5000-HOLDER
Swivel center support	ISP-A5000-SUPPORT
V-block with clamp	ISP-A5000-VBLOCK
50mm reading scale	ISP-A5000-SCALE50
300mm calibration scale	ISP-A5000-RULE
Demo sample	ISP-A5000-DEMO
Printer (only for ISP-A5000E)	ISP-A5000-PRINTER

HORIZONTAL PROFILE PROJECTORS



ISP-W3020

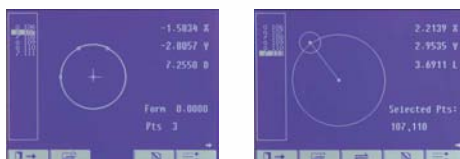


ISP-A3000E

digital readout of **ISP-A3000E**



- touch buttons
- USB data output to Excel and CAD
- show diagram

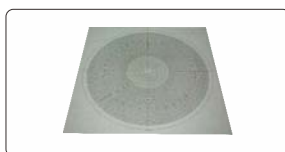


software flash disk
(included, only for
ISP-A3000E)

OPTIONAL ACCESSORY



lens



overlay chart (protractor with 1°
graduation, radius with 1mm increment)



50mm reading scale
(check magnification accuracy)



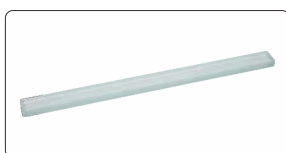
demo sample



vise



rotary table



300mm calibration scale (check
magnification accuracy together
with 50mm reading scale or
calibrate measuring accuracy)



printer (only for **ISP-A3000E**)

To be continued

Continued from previous page

SPECIFICATION

Code		ISP-W3020		ISP-A3000E		
Edge detector		not included		included		
Lens	magnification	10X (included)	20X (optional)	50X (optional)	100X (optional)	
	view field	Ø30mm	Ø15mm	Ø6mm	Ø3mm	
	working distance	77.7mm	44.3mm	38.4mm	25.3mm	
Magnification accuracy		±0.08%				
Projector screen		diameter: Ø300mm				
		rotation range: 0°~360°, resolution: 1' or 0.01°				
		reference lines: cross-hairs				
Stage	metal stage size	400×150mm				
	turning range	±15°				
	X-Z stage travel	range: 200×100mm				
		resolution: 0.5µm				
		accuracy: (4+L/25)µm L is the measuring length in mm				
	Y (focus) travel range	75mm				
max. load capacity	50kg					
Illumination		contour illumination: 24V/150W halogen lamp, brightness is adjustable				
		surface illumination: 12V/150W halogen lamp (with 2 fibers), position is adjustable				
Data processing unit	display	X-Z stage travel, screen rotation				
	output	RS232C		RS232C, USB (data output to Excel and CAD)		
	function		measure coordinate of point			measure coordinate of point
			measure coordinate of line			measure coordinate of line
			measure center coordinate, radius of circle with three points			measure center coordinate, radius of circle with three points
			measure distance between two objects			measure distance between two objects
			measure angle with four points or two lines			measure angle with four points or two lines
			set origin of coordinate			coordinate transform
			coordinate transform			choose measurement object automatically according to the selective point and display the result
			set midpoint of coordinate			
advanced function	—		programming for batch measurements			
Power supply		110/220V, 50/60Hz				
Dimension (L×W×H)		830×1090×1010mm				
Weight		160kg				

24

STANDARD DELIVERY

Main unit	1 pc
10X lens	1 pc
Overlay chart clip	4 pcs
Foot-switch	1 pc
Anti-dust cover	1 pc
Software (only for ISP-A3000E) and USB cable	1 pc

OPTIONAL ACCESSORY

20X lens	ISP-A3000-LENS20X
50X lens	ISP-A3000-LENS50X
100X lens	ISP-A3000-LENS100X
Overlay chart	ISP-A3000-CHART
50mm reading scale	ISP-A3000-SCALE50
300mm calibration scale	ISP-A3000-RULE

Demo sample	ISP-A3000-DEMO
V-block with clamp	ISP-A3000-VBLOCK
Rotary table	ISP-A3000-RTABLE
Vise	ISP-A3000-VISE
Printer (only for ISP-A3000E)	ISP-A3000-PRINTER

HORIZONTAL PROFILE PROJECTORS



ISP-W4025



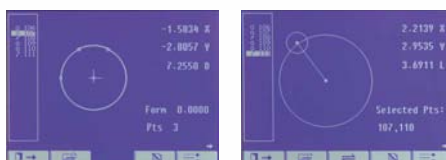
ISP-A7000E

digital readout of ISP-A7000E



VIDEO

- touch buttons
- USB data output to Excel and CAD
- show diagram



software flash disk
(included, only for
ISP-A7000E)

OPTIONAL ACCESSORY



lens



vise



rotary table



demo sample (need rotary table)



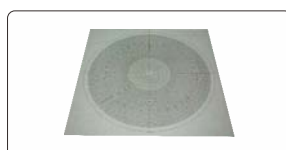
printer (only for ISP-A7000E)



50mm reading scale
(check magnification accuracy)



300mm calibration scale (check
magnification accuracy together
with 50mm reading scale or
calibrate measuring accuracy)



Ø300mm overlay chart
(protractor with 1° graduation,
radius with 1mm increment)

To be continued

Continued from previous page

SPECIFICATION

Code		ISP-W4025			ISP-A7000E		
Edge detector		not included			included		
Lens	magnification	5X (optional)	10X (standard)	20X (optional)	50X (optional)	100X (optional)	
	view field	Ø80mm	Ø40mm	Ø20mm	Ø8mm	Ø4mm	
	working distance	93.7mm	103.9mm	95.1mm	65.7mm	35mm	
Magnification accuracy		±0.08%					
Image		erect image					
Projector screen		diameter: Ø400mm					
		rotation range: 0°~360°, resolution: 1' or 0.01°					
		reference lines: cross-hairs					
Stage	metal stage size	450×200mm					
	turning range	±15°					
	X-Z stage travel	range: 250×150mm					
		resolution: 0.5µm					
		accuracy: (4+L/25)µm L is the measuring length in mm					
	Y (focus) travel range	100mm					
max. load capacity	50kg						
Illumination		contour illumination: 24V/150W halogen lamp, brightness is adjustable					
		surface illumination: 12V/150W halogen lamp (with 2 fibers), position is adjustable					
Data processing unit	display	X-Z stage travel, screen rotation					
	output	RS232C			RS232C, USB (data output to Excel and CAD)		
	function		measure coordinate of point				measure coordinate of point
			measure coordinate of line				measure coordinate of line
			measure center coordinate, radius of circle with three points				measure center coordinate, radius of circle with three points
			measure distance between two objects				measure distance between two objects
			measure angle with four points or two lines				measure angle with four points or two lines
			set origin of coordinate				coordinate transform
		coordinate transform				choose measurement object automatically according to the selective point and display the result	
	set midpoint of coordinate						
advanced function		—			programming for batch measurements		
Power supply		110/220V, 50/60Hz					
Dimension (L×W×H)		646×1215×1210mm					
Weight		240kg					

24

STANDARD DELIVERY

Main unit	1 pc
10X lens	1 pc
Overlay chart clip	4 pcs
Foot-switch	1 pc
Anti-dust cover	1 pc
Software (only for ISP-A7000E) and USB cable	1 pc

OPTIONAL ACCESSORY

5X lens	ISP-W4025-LENS5X
20X lens	ISP-W4025-LENS20X
50X lens	ISP-W4025-LENS50X
100X lens	ISP-W4025-LENS100X
Ø300mm overlay chart	ISP-A3000-CHART
50mm reading scale	ISP-A3000-SCALE50

300mm calibration scale	ISP-A3000-RULE
Demo sample	ISP-A3000-DEMO
V-block with clamp	ISP-A3000-VBLOCK
Rotary table	ISP-A3000-RTABLE
Vise	ISP-A3000-VISE
Printer (only for ISP-A7000E)	ISP-A3000-PRINTER



ISP-A6000 (without edge detector)



edge detector (for ISP-A6000E)

digital readout

- touch buttons
- USB data output to Excel and CAD
- show diagram



software flash disk (included)

OPTIONAL ACCESSORY



lens



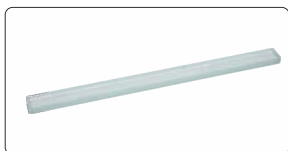
rotary table
(glass plate diameter 100mm)



holder with clamp



printer



300mm calibration scale (check magnification accuracy together with 50mm reading scale or calibrate measuring accuracy)



50mm reading scale
(check magnification accuracy)



demo sample

To be continued

Continued from previous page

SPECIFICATION

Code		ISP-A6000			ISP-A6000E	
Edge detector		not included			included	
Projector screen		diameter: Ø600mm				
		rotation range: 0°~360°, resolution: 1' or 0.01°				
		reference lines: cross-hairs				
Lens	magnification	5X (optional)	10X (included)	20X (optional)	50X (optional)	100X (optional)
	view field	Ø120mm	Ø60mm	Ø30mm	Ø12mm	Ø6mm
	working distance	242.8mm	143.2mm	85.5mm	92mm	48.5mm
Magnification accuracy		±0.08%				
Image		erect image				
Stage	metal stage size	404×265mm				
	glass stage size	207×170mm				
	X-Y stage travel	range: 200×100mm				
		resolution: 0.5µm				
		accuracy: (3+L/50)µm L is the measuring length in mm				
	Z (focus) travel range	50mm				
max. load capacity	5kg					
Illumination		contour illumination: 24V/150W halogen lamp, brightness is adjustable				
		surface illumination: 12V/150W halogen lamp (with 2 fibers), position is adjustable				
Data processing unit	display	X-Y stage travel, screen rotation				
	output	RS232C, USB (data output to Excel and CAD)				
	function		measure coordinate of point			
			measure coordinate of line			
			measure center coordinate, radius of circle with three points			
			measure distance between two objects			
			measure angle with four points or two lines			
			coordinate transform			
			choose measurement object automatically according to the selective point and display the result			
advanced function	programming for batch measurements					
Power supply		110/220V, 50/60Hz				
Dimension (L×W×H)		1200×1140×1940mm				
Weight		360kg				

24

STANDARD DELIVERY

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

OPTIONAL ACCESSORY

5X lens	ISP-A6000-LENS5X
20X lens	ISP-A6000-LENS20X
50X lens	ISP-A6000-LENS50X
100X lens	ISP-A6000-LENS100X
Holder with clamp	ISP-A6000-HOLDER

300mm calibration scale	ISP-A6000-RULE
50mm reading scale	ISP-A6000-SCALE50
Rotary table	ISP-A6000-TABLE
Demo sample	ISP-A6000-DEMO
Printer	ISP-A6000-PRINTER



LARGE SIZE QUICK MEASUREMENT SYSTEM CODE QMS-A450



SPECIFICATION

Optical lens		dual-field dual-telecentric low-distortion lens	
Measurement range		wide view field	small view field
		500×400mm	430×350mm
Measurement Accuracy	without stitching	±3μm ^①	±1μm ^②
	with stitching	±(5+0.02L)μm ^③	±(3+0.02L)μm ^④
Repeatability	without stitching	±1μm	±0.5μm
	with stitching	±2μm	±1.5μm
Illumination system	transmission light	telecentric illuminator, green light	
	surface light	vertical illuminator, high angle ring white light vertical illuminator, 4-zone low and medium angle ring white light (electric) vertical illuminator, circular (directional) green light (electric)	
	coaxial light (optional)	vertical illuminator, white light	
Max. weight of workpiece		25kg	
Measurement time		<2s	
Measurement data		2D measurement	
Environmental requirement		temperature: 20°C±2°C, relative humidity: 30%~80%, vibration: <0.002g, less than 15Hz	
Power supply		220V, 50Hz, 1200W	
Dimension (L×W×H)		1060×860×1890mm	
Weight		650kg	

* The optimum temperature is 20°C±1°C

① Within 73×49mm, on focal position and environment temperature at 20°C±1°C

② Within 16×12mm, on focal position and environment temperature at 20°C±1°C

③ Within 450×360mm, on focal position and environment temperature at 20°C±1°C

④ Within 387×315mm, on focal position and environment temperature at 20°C±1°C

To be continued

Continued from previous page

- One or more workpieces can be measured by one step operation
- Place workpieces at any position
- Focus and measure automatically
- Measurement of 999+dimensions and 200+workpieces
- Suitable for parts with high precision requirements for large, medium, and small sizes

STANDARD DELIVERY

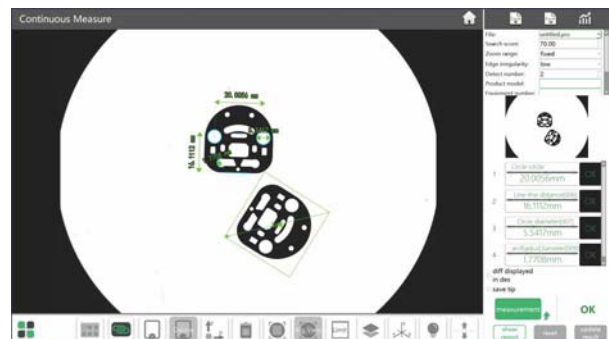
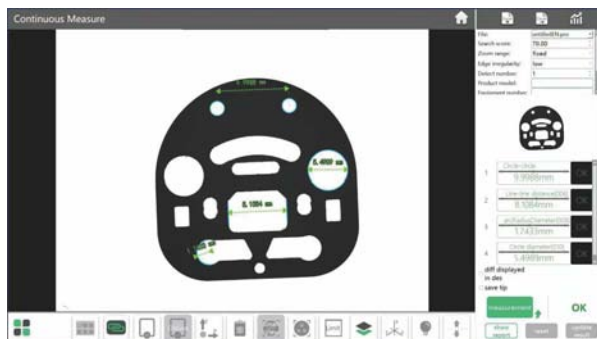
Main unit	1 pc
Computer	1 pc
Software	1 pc

OPTIONAL ACCESSORY

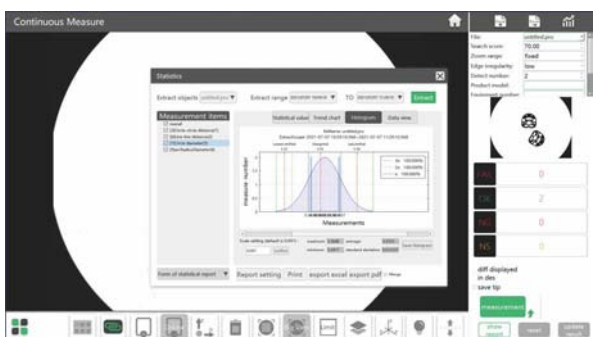
Coaxial light illumination	QMS-43-A1
Data transmission function of software	QMS-23-D1
CAD import function of software	QMS-23-C1
Laser sensor	QMS-43-SJ1
Foot-switch	QMS-43-FS1

Software (included)

- Automatically measure widths, holes, rings, angles at the same time, simple and efficient



- Measuring result can be stored automatically. OK items and NG items can be counted automatically

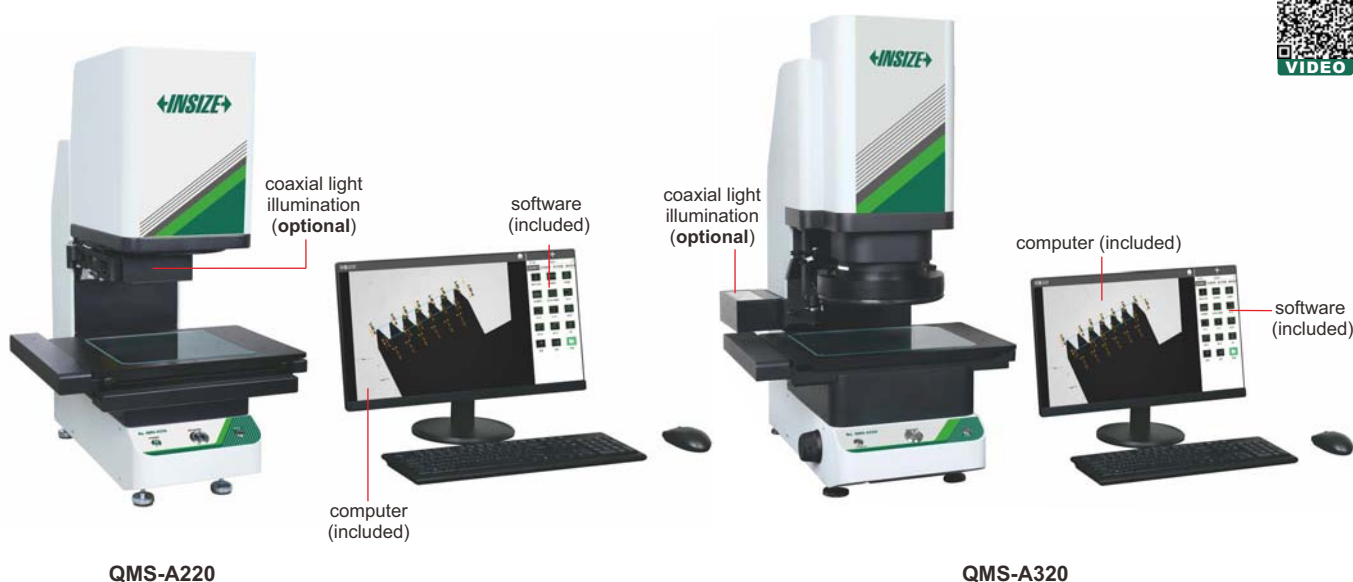


NOTE: NOT SUITABLE FOR SMALL SIZES SUCH AS THREADS, CHAMFERS, ETC

QUICK MEASUREMENT SYSTEMS (WITH STITCHING)



VIDEO



SPECIFICATION

Code		QMS-A220		QMS-A315		QMS-A320	
Optical lens		dual-field dual-telecentric low-distortion lens					
		wide view field: Ø100mm small view field: Ø25mm		wide view field: Ø100mm small view field: Ø25mm		wide view field: Ø150mm small view field: Ø50mm	
View field range		wide view field	small view field	wide view field	small view field	wide view field	small view field
		93×62mm	20×16mm	100×80mm	25×20mm	150×110mm	50×35mm
Measurement range		200×200mm	130×130mm	300×200mm	230×130mm	300×210mm	200×135mm
Measurement accuracy *	without stitching	±3μm ^①	±1μm ^②	±3μm ^①	±1μm ^②	±5μm ^③	±2μm ^④
	with stitching	±(5+0.02L)μm ^⑤	±(3+0.02L)μm ^⑥	±(5+0.02L)μm ^⑦	±(3+0.02L)μm ^⑧	±(7+0.02L)μm ^⑨	±(4+0.02L)μm ^⑩
Repeatability	without stitching	±1μm	±0.5μm	±1μm	±0.5μm	±1μm	±0.5μm
	with stitching	±2μm	±1.5μm	±2μm	±1.5μm	±2μm	±1.5μm
Max. weight of workpiece		5kg					
Measurement time		<2s					
Measurement data		2D measurement					
Power supply		220V, 50Hz, 600W					
Illumination system	back light	telecentric illuminator, green light					
	ring light	4-zone circular white high light circular (directional) low-angle green light (electric)					
	coaxial light (optional)	vertical illuminator, white light					
Environmental requirement		temperature: 20°C±2°C, relative humidity: 30%~80%, vibration: <0.002g, less than 15Hz					
Dimension (L×W×H)		532×480×766mm		532×497×766mm		669×510×883mm	
Weight		50kg		60kg		68kg	

* The optimum temperature is 20°C±1°C

① Within 80×64mm, on focal position and environment temperature at 20°C±1°C

② Within 20×16mm, on focal position and environment temperature at 20°C±1°C

③ Within 120×88mm, on focal position and environment temperature at 20°C±1°C

④ Within 40×28mm, on focal position and environment temperature at 20°C±1°C

⑤ Within 180×180mm, on focal position, environment temperature at 20°C±1°C, and workpiece is less than 2kg, L is the travel of stage

⑥ Within 117×117mm, on focal position, environment temperature at 20°C±1°C, and workpiece is less than 2kg, L is the travel of stage

⑦ Within 270×180mm, on focal position, environment temperature at 20°C±1°C, and workpiece is less than 2kg, L is the travel of stage

⑧ Within 207×117mm, on focal position, environment temperature at 20°C±1°C, and workpiece is less than 2kg, L is the travel of stage

⑨ Within 270×189mm, on focal position, environment temperature at 20°C±1°C, and workpiece is less than 2kg, L is the travel of stage

⑩ Within 180×121mm, on focal position, environment temperature at 20°C±1°C, and workpiece is less than 2kg, L is the travel of stage

To be continued

Continued from previous page

- One or more workpieces can be measured by one step operation
- Place workpieces at any position
- Focus and measure automatically
- Measurement of 999+dimensions and 200+workpieces
- **QMS-A220** and **QMS-A315** are suitable for small and medium-size parts with high precision requirements
- **QMS-A320** is suitable for medium-size parts with low accuracy requirements and fast efficiency requirements



11.6" LCD (optional)

STANDARD DELIVERY

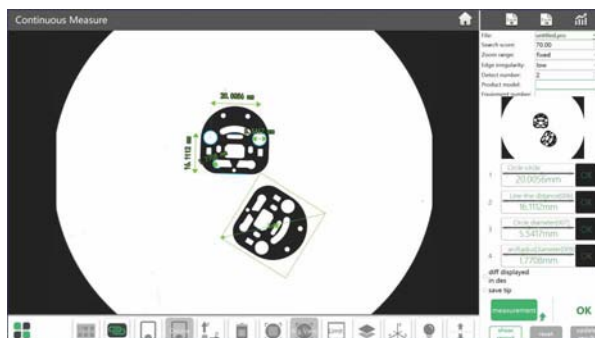
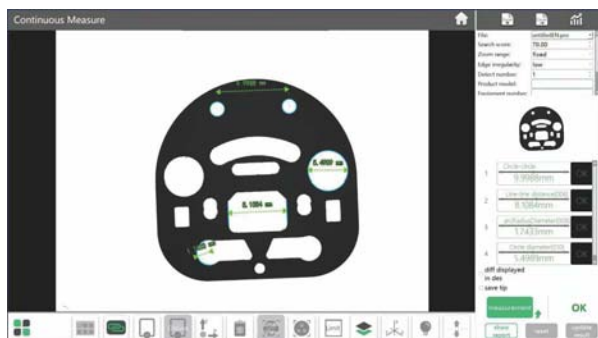
Main unit	1 pc
Computer	1 pc
Software	1 pc

OPTIONAL ACCESSORY

Coaxial light illumination	QMS-23-A3 (for QMS-A220, QMS-A315)
	QMS-23-A4 (for QMS-A320)
Data transmission function of software	QMS-23-D1
CAD import function of software	QMS-23-C1
Laser sensor	QMS-43-SJ1 (for QMS-A315)
Foot-switch	QMS-43-FS1
11.6" LCD	QMS-23-B1 (must be installed in factory)

Software (included)

- Automatically measure widths, holes, rings, angles at the same time, simple and efficient

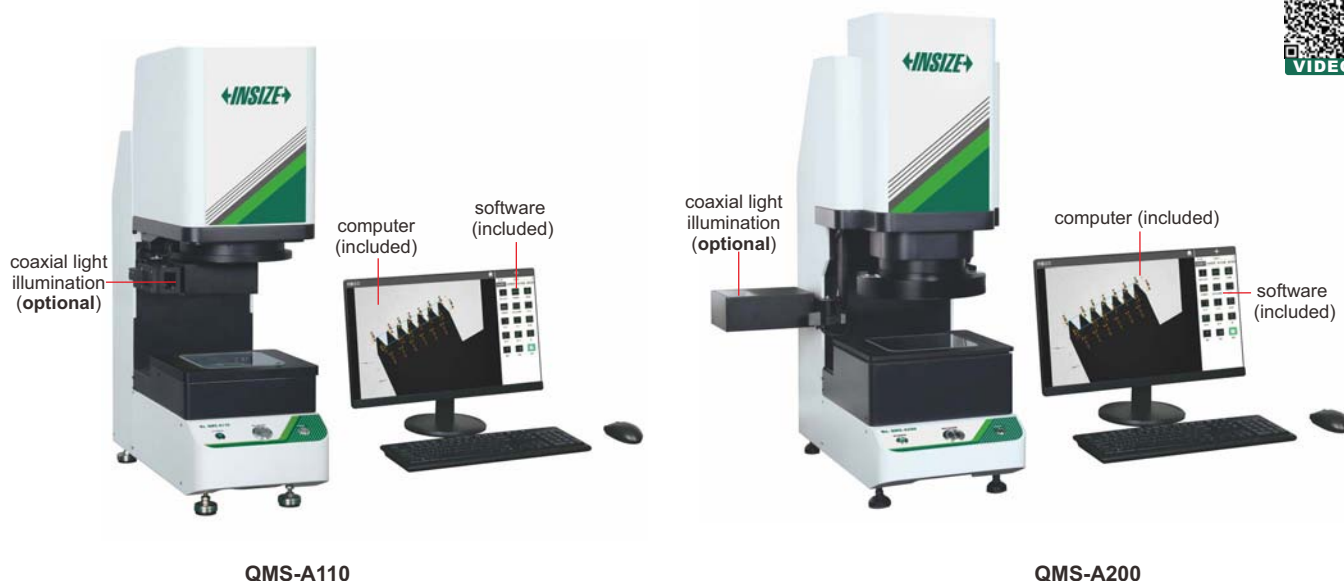


- Measuring result can be stored automatically. OK items and NG items can be counted automatically



NOTE: NOT SUITABLE FOR SMALL SIZES SUCH AS THREADS, CHAMFERS, ETC

QUICK MEASUREMENT SYSTEMS (WITHOUT STITCHING)



SPECIFICATION

Code		QMS-A110	QMS-A200	
Optical lens		low-distortion lens, single-field telecentric Ø100mm	dual-field dual-telecentric low-distortion lens wide view field: Ø150mm small view field: Ø50mm	
View field range		100×80mm	wide view field	small view field
Measurement range (X×Y)		98×78mm	150×110mm	50×35mm
Measurement accuracy *		±3µm ①	±5µm ②	±2µm ③
Repeatability		±1µm	±1µm	±0.5µm
Max. weight of workpiece		5kg		
Measurement time		<2s		
Measurement data		2D measurement		
Power supply		220V, 50Hz, 600W		
Illumination system	back light	telecentric illuminator, green light		
	ring light	4-zone circular white high light circular (directional) low-angle green light (electric)		
	coaxial light (optional)	vertical illuminator, white light		
Environmental requirement		temperature: 20°C±2°C, relative humidity: 30%~80%, vibration: <0.002g, less than 15Hz		
Dimension (L×W×H)		580×235×790mm	638×336×885mm	
Weight		40kg	60kg	

* The optimum temperature is 20°C±1°C

① Within 80×64mm, on focal position and environment temperature at 20°C±1°C

② Within 120×88mm, on focal position and environment temperature at 20°C±1°C

③ Within 40×28mm, on focal position and environment temperature at 20°C±1°C

To be continued

Continued from previous page

- One or more workpieces can be measured by one step operation
- Place workpieces at any position
- Focus and measure automatically
- Measurement of 999+dimensions and 200+workpieces
- **QMS-A110** is suitable for measuring small flat parts
- **QMS-A200** is suitable for measuring flat parts with low precision requirements and small surface sizes

STANDARD DELIVERY

Main unit	1 pc
Computer	1 pc
Software	1 pc



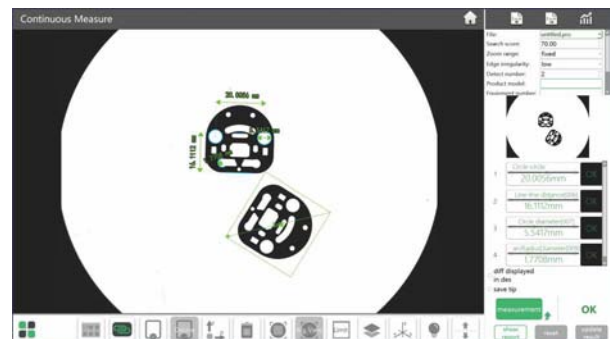
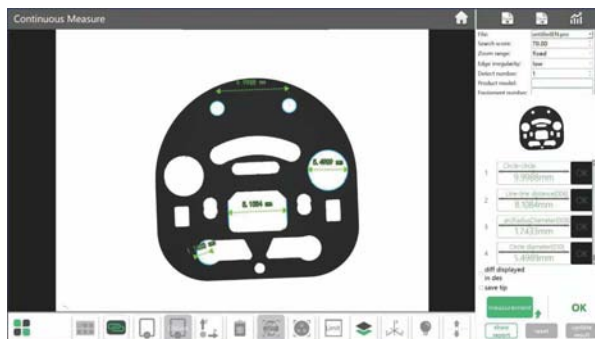
11.6" LCD (optional)

OPTIONAL ACCESSORY

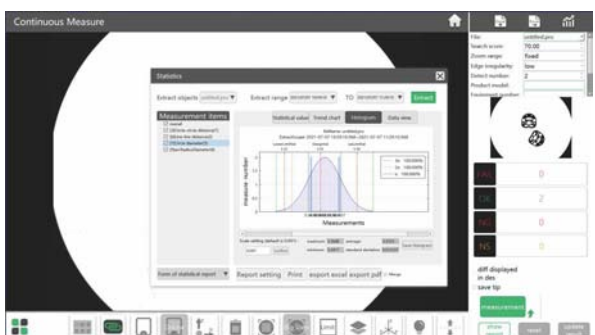
Coaxial light illumination	QMS-23-A3 (for QMS-A110) QMS-23-A4 (for QMS-A200)
Data transmission function of software	QMS-23-D1
CAD import function of software	QMS-23-C1
Foot-switch	QMS-43-FS1
11.6" LCD	QMS-23-B1 (must be installed in factory)

Software (included)

- Automatically measure widths, holes, rings, angles at the same time, simple and efficient



- Measuring result can be stored automatically. OK items and NG items can be counted automatically





AUTOMATIC CNC VISION MEASURING SYSTEM (PROFESSIONAL TYPE) CODE ISD-F432



- Stable and high-precision measurement under high-speed, silent and stable mode
- Accurately detect the edge of surface size



six-ring eight-zone ring light (included)



vertical light (included)

SPECIFICATION

Camera		giga-bit network camera
Measuring range (X×Y×Z)		400×300×200mm (650TVL)
Granite stage size		827×480mm
Glass stage size		450×350mm
Resolution of X/Y/Z axis		0.5μm
Accuracy of X/Y axis		≤(2+L/250)μm (L is the measuring length in mm)
Accuracy of Z axis		≤(3+L/150)μm (L is the measuring length in mm)
Objective		0.7X~5X (zoom)
Working distance		68mm
Magnification		28X~155X (on 23.5" monitor)
Illumination	surface	six-ring eight-zone ring light and vertical light
	contour	bottom horizontal light
Max. height of workpiece		200mm
Max. weight of workpiece		30kg
Operation system		Windows 10
Power supply		220V±10% (AC), 50Hz
Environment requirement		temperature: 18~24°C, relative humidity: 30~75%
Dimension (L×W×H)		1270×910×1750mm
Weight		360kg

To be continued

Continued from previous page

STANDARD DELIVERY

Main unit	1 pc
Computer	1 pc
Computer table	1 pc
Calibration glass chart	1 pc
Software	1 pc



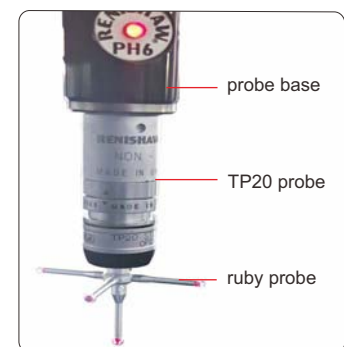
laser probe (optional)



plate clamp (optional)

OPTIONAL ACCESSORY

Advanced probe	probe base*	code ISD-F-BASE1 (must be installed before shipment)
	probe*	code ISD-F-TP20 (must be installed before shipment)
	ruby probe	optional M2 probe series with ISQ-01 , refer to page 545
Standard probe	probe base*	code ISD-F-BASE2 (must be installed before shipment)
	ruby probe	code ISD-F-P2 code ISD-F-P3
Laser probe** (can measure glass thickness, step height, flatness, height etc.)		code ISD-F-PB (must be installed before shipment)
Special lens for large field navigation		code ISD-F-LENS (must be installed before shipment)
PLC full-angle intelligent programmable lighting system		code ISD-F-LIGHT (must be installed before shipment)
Plate fixture (manual self-locking tempered glass)		code ISD-F-HOLDER glass size: 450×350mm can be customized
Protector		code ISD-F-PROTECTOR (must be installed before shipment)
Contour comparison module		code ISD-F-PROFILE
Office software		code 7313-OFFICE

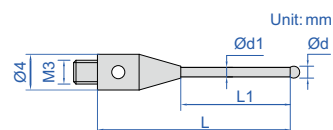


advanced probe (optional)



standard probe (optional)

- * The probe head and probe are Renishaw brand
 ** Laser probe is KEYENCE brand



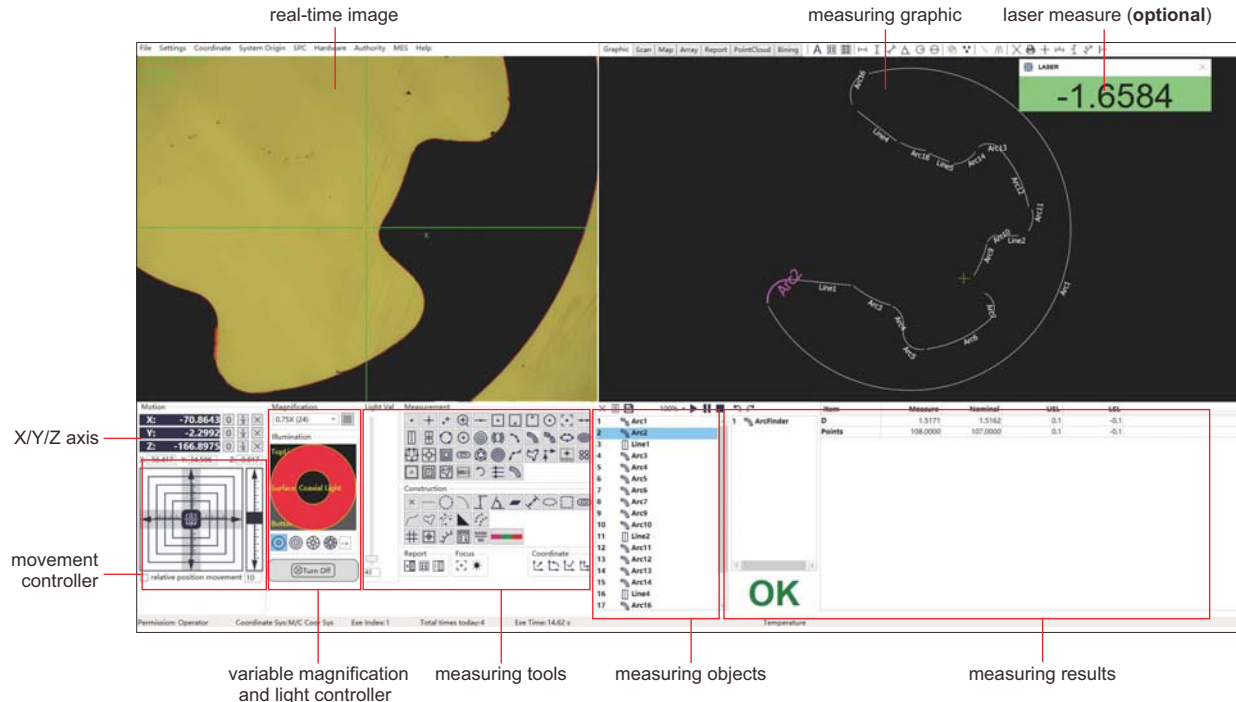
STYLUS (INCLUDED) SPECIFICATION

Code	Material	Ød	Ød1	L	L1	Quantity
ISD-F-P2	ruby ball/stainles steel stem	Ø2mm	Ø1.4mm	21mm	8mm	1 pc
ISD-F-P3		Ø3mm	Ø1.5mm		12mm	1 pc

To be continued

Continued from previous page

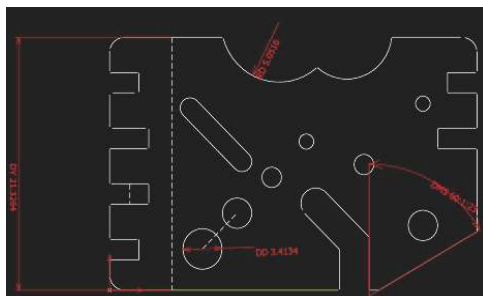
MEASURING SOFTWARE (INCLUDED)



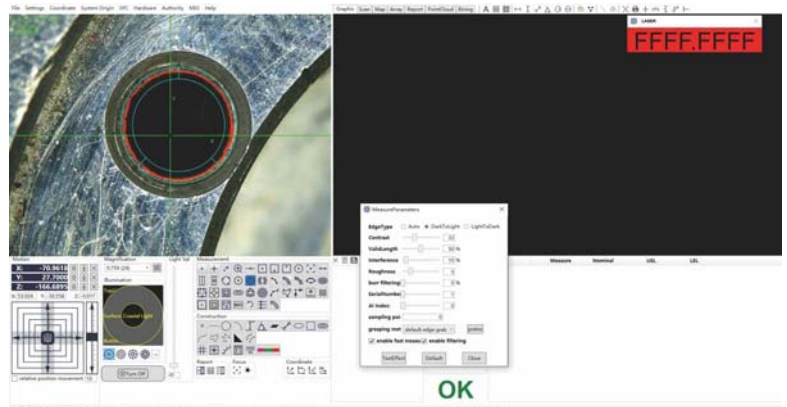
- Operation system: Windows 10
- Language: English
- Image measuring methods: crosshair point, manual point, auto point, zoom in point, line point, center point, lowest point, highest point, closest point, focus point
- Constructable elements: point, line circle, arc, height, angle, plane, distance, ellipse, rectangle, construction ring/groove, spline, closed spline, profile, geometric tolerance
- Geometric tolerance: concentricity, parallelism, verticality, angularity, symmetry, circular, arc profile
- Measurement elements can be translated and rotated
- Measuring data can export to Excel, DXF and other format files. The image area can save BMP image format
- The software includes CAD drawing import module
- The software includes SPC analysis module. The measurement software is seamlessly linked with the SPC module. After the measurement is completed, the measurement software automatically imports the data into the SPC database, allowing simple data analysis
- Dimension measuring tools:



Element annotations



Accurately detect the edge of the surface size



HORIZONTAL VISION MEASURING SYSTEM CODE ISD-W3150



table (optional)

SPECIFICATION

OF LITHOGRAPHY		
Measuring range (X×Z)		300×150mm
Accuracy		≤(4+L/25)μm L is the measuring length in mm
Resolution		0.5μm
Y travel range (focus)		125mm
Stage	metal stage size	455×126mm
	turning range	±15°
	max. load capacity	30kg
Objective		0.7X~4.5X (zoom)
Working distance		96mm
View field (diagonal length)		1.3~8.2mm
Magnification		34X~213X
Display		19"
Camera		1/3" CMOS, 0.8M pixel
Illumination		surface and contour with adjustable LED
Operation system		Windows 10
Drive method		manual
Power supply		220V, 50Hz
Dimension (L×W×H)		1164×634×1048mm
Weight		200kg



demo sample (optional)



vise (optional)

STANDARD DELIVERY

Main unit (including computer)	1 pc
Software	1 pc
Calibration glass chart	1 pc
Clay	1 pc
Anti-dust cover	1 pc

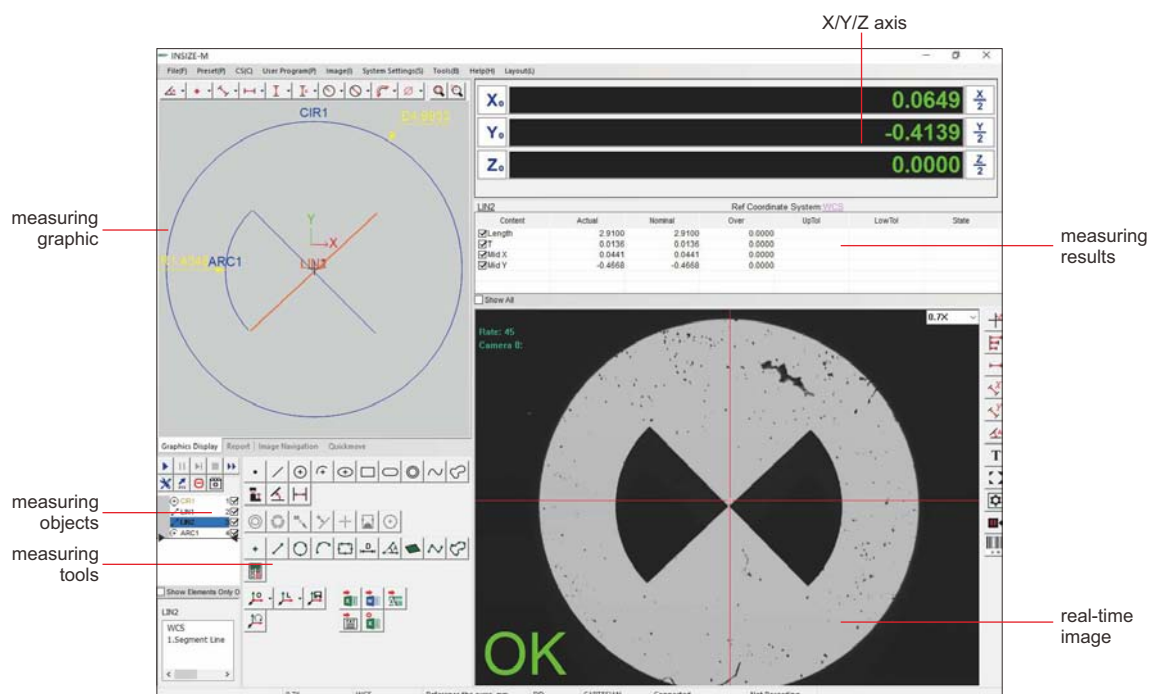
OPTIONAL ACCESSORY

0.5X auxiliary objective	code: ISD-W-OB05X working distance: 175mm magnification: 17~106.5X
2X auxiliary objective	code: ISD-W-OB2X working distance: 32mm magnification: 68~426X
Office software	code: 7313-OFFICE
Table	code: ISD-W-TABLE
Vise	code: ISP-A3000-VISE
Demo sample	code: ISP-A3000-DEMO

To be continued

Continued from previous page

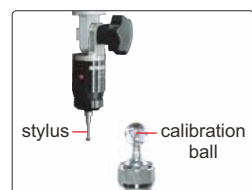
MEASURING SOFTWARE (INCLUDED)



HIGH-DEFINITION VISION MEASURING SYSTEMS (MANUAL TYPE)

- High-definition image
- Large view field
- Electronic magnification feedback lens: when the objective lens magnification is changed manually, the software automatically selects the corresponding pre-calibration data and calibration is not needed

INSPECTION
CERTIFICATE



probe (optional), includes Ø2mm and Ø3mm styli, Ø25mm calibration ball, measuring accuracy is 10µm



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



ISD-H210

computer is included

STANDARD DELIVERY

Main unit	1 pc
Computer	1 pc
Calibration glass chart	1 pc
Clay	1 pc
Foot switch	1 pc
Anti-dust cover	1 pc

To be continued

Continued from previous page

SPECIFICATION

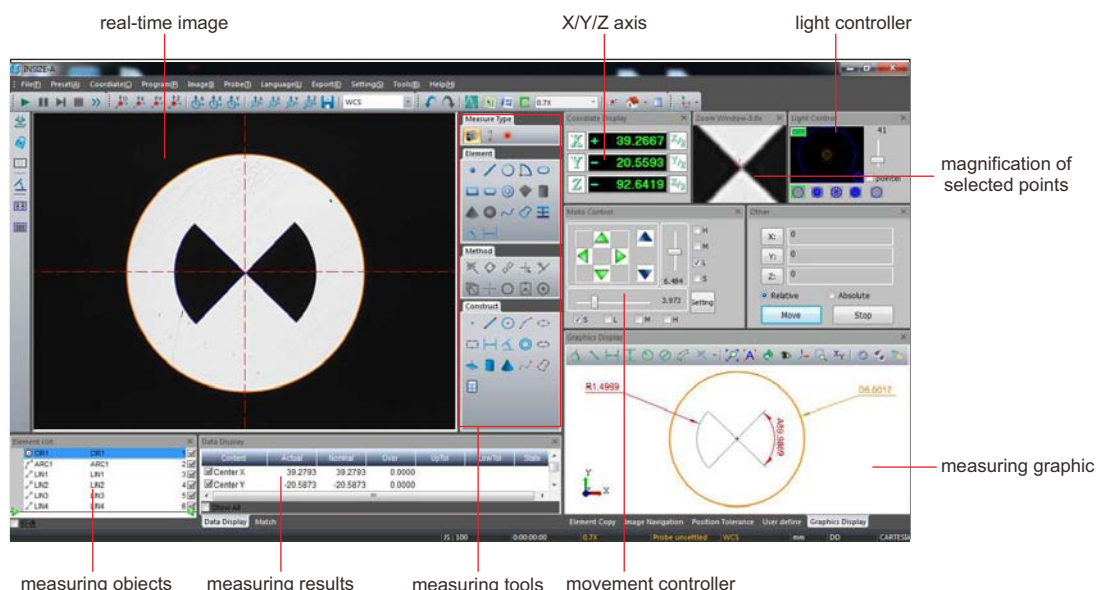
Code	ISD-H210	ISD-H320	ISD-H430
Measuring range (X×Y×Z)	200×100×150mm	300×200×150mm	400×300×150mm
Stage size	404×228mm	500×330mm	606×466mm
Glass stage size	260×160mm	350×250mm	450×350mm
Resolution of X/Y/Z axis	0.5μm		
Accuracy of X/Y axis	≤(3.5+L/100)μm (L is the measuring length in mm)		
Repeatability of X/Y axis	2μm		
Objective	0.58X~7.5X (zoom)		
View field (diagonal length)	1.4mm~14mm		
Working distance	82mm		
Magnification	27.4X~351X (on 24" monitor)		
Camera	giga-bit network camera		
Illumination	surface and contour with adjustable LED		
Max. height of workpiece	150mm		
Max. weight of workpiece	20kg		
Operation system	Windows 7/8/10		
Drive method	manual		
Power supply	110~240V, 50/60Hz		
Dimension (L×W×H)	540×560×850mm	760×600×900mm	970×670×940mm
Weight	110kg	140kg	240kg

OPTIONAL ACCESSORY

0.5X auxiliary objective	code: ISD-H-OB05X working distance: 155mm magnification: 13.7~175.5X (on 24" monitor)
2X auxiliary objective	code: ISD-H-OB2X working distance: 34.5mm magnification: 54.8~702X (on 24" monitor)
Probe	code: ISD-V-PROBE includes Ø2mm and Ø3mm styli, Ø25mm calibration ball
Vision measuring system with coaxial light lens	code: ISD-H210CL, ISD-H320CL, ISD-H430CL
Office software	code: 7313-OFFICE

SOFTWARE (INCLUDED)

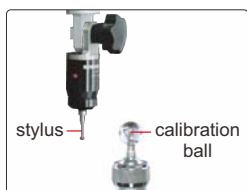
- Refer to page 590~591 for details



VISION MEASURING SYSTEMS (MANUAL TYPE)



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



probe (optional), includes Ø2mm and Ø3mm styli, Ø25mm calibration ball, measuring accuracy is 10µm



ISD-V250A

computer is included

SPECIFICATION

Code	ISD-V150A	ISD-V250A	ISD-V300A	ISD-V400A
Measuring range (X×Y×Z)	150×100×150mm	250×150×150mm	300×200×150mm	400×300×150mm
Stage size	354×228mm	450×280mm	500×330mm	606×466mm
Glass stage size	210×160mm	306×196mm	350×250mm	450×350mm
Resolution of X/Y/Z axis	0.5µm			
Accuracy of X/Y axis	≤(3.5+L/100)µm (L is the measuring length in mm)			
Repeatability of X/Y axis	2µm			
Objective	0.7X~4.5X (zoom)			
Working distance	92mm			
Magnification	33X~195X (on 19" monitor)			
Camera	1/3" color CCD, 0.3M pixel			
Illumination	surface and contour with adjustable LED			
Max. height of workpiece	150mm			
Max. weight of workpiece	20kg			
Operation system	Windows 7/8/10			
Drive method	manual			
Power supply	110/220V, 50/60Hz			
Dimension (L×W×H)	560×540×850mm	760×600×900mm	760×600×900mm	970×670×940mm
Weight	100kg	120kg	140kg	240kg

STANDARD DELIVERY

Main unit	1 pc
Computer	1 pc
Calibration glass chart	1 pc
Clay	1 pc
Foot switch	1 pc
Anti-dust cover	1 pc

OPTIONAL ACCESSORY

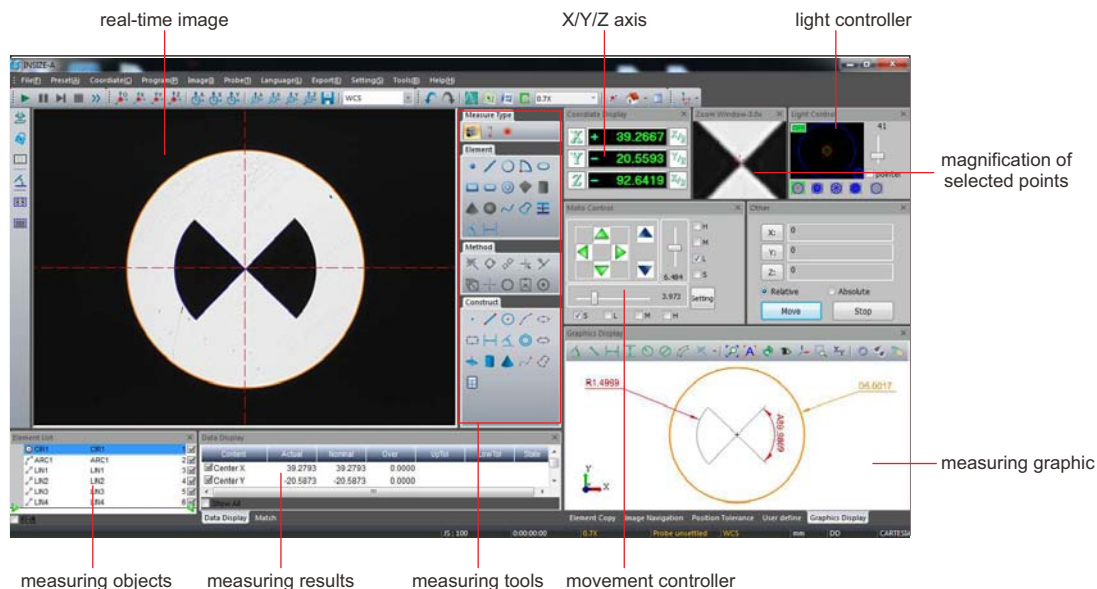
0.5X auxiliary objective	code: ISD-V-OB05X working distance: 175mm magnification: 16.5~97.5X (on 19" monitor)
2X auxiliary objective	code: ISD-V-OB2X working distance: 36mm magnification: 66~390X (on 19" monitor)
Probe	code: ISD-V-PROBE includes Ø2mm and Ø3mm styli, Ø25mm calibration ball
Vision measuring system with coaxial light lens (with computer)	code: ISD-V150ACL, ISD-V250ACL, ISD-V300ACL, ISD-V400ACL
Office software	code: 7313-OFFICE

To be continued

Continued from previous page

SOFTWARE (INCLUDED)

- Refer to page 590~591 for details



CNC VISION MEASURING SYSTEMS (WITH STAND)

MOTORIZED ZOOM
OBJECTIVE IS OPTIONAL



lens with coaxial
light (included)



programmable segmented
ring light (included)



software flash disk
(included)

- Automatic edge-detection, focus, measuring, contour scanning, calibration, etc.
- Servo motors for X, Y, Z axis
- Granite body, more stable
- SPC function for large quantity measurement
- Measuring software is included (page 590~591)

STANDARD DELIVERY

Main unit	1 pc
Dongle	1 pc
Software	1 pc
Computer	1 pc
Display	1 pc
Lens with coaxial light	1 pc
Controller	1 pc
Calibration glass chart	1 pc
Laser positioner	1 pc
Clay	1 pc
Anti-dust cover	1 pc



ISD-E320



To be continued

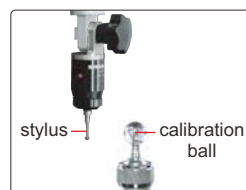
Continued from previous page

SPECIFICATION

Code		ISD-E320	ISD-E430
Measuring range (X×Y×Z)		300×200×200mm	400×300×200mm
Stage size		556×406mm	561×556mm
Glass stage size		350×250mm	450×350mm
Resolution of X/Y/Z axis		0.5μm	
Accuracy of X/Y axis		≤(2.5+L/200)μm (L is measuring length in mm)	≤(3.5+L/200)μm (L is measuring length in mm)
Repeatability of X/Y axis		2μm	
Objective (manual zoom)		0.7X~4.5X (zoom)	
Working distance		92mm	
View field (diagonal length)		1.7~11.1mm	
Magnification		33X~208.6X (on 24" monitor)	
Camera		giga-bit network camera	
Illumination	surface	coaxial light, programmable segmented ring light	
	contour	adjustable LED light	
Max. height of workpieces		200mm	
Max. weight of workpieces		30kg	
Operation system		Windows 7/8/10	
Drive method		automatic	
Power supply		220V, 50/60Hz	
Dimension (L×W×H)		1420×915×1830mm	1650×1170×1900mm
Weight		500kg	700kg

OPTIONAL ACCESSORY

0.5X auxiliary objective	code: ISD-V-OB05X working distance: 175mm magnification: 16.5~104.3X (on 24" monitor)
2X auxiliary objective	code: ISD-V-OB2X working distance: 36mm magnification: 66~417.2X (on 24" monitor)
Probe	code: ISD-V-PROBE includes Ø2mm and Ø3mm styli, Ø25mm calibration ball
Office software	code: 7313-OFFICE
Laser probe	code: ISD-V-LASER



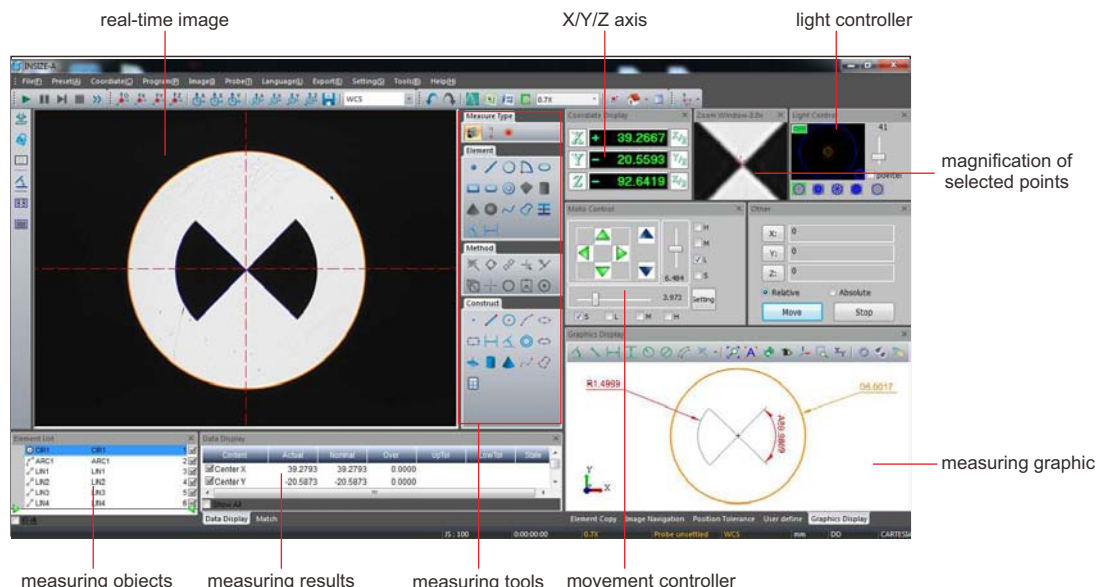
probe (optional), includes Ø2mm and Ø3mm styli, Ø25mm calibration ball, measuring accuracy is 10μm



laser probe (optional)
measuring accuracy is 5μm

SOFTWARE (INCLUDED)

- Refer to page 590~591 for details



CNC VISION MEASURING SYSTEMS



ISD-V220CNCA

- Automatic edge-detection, focus, measuring, contour scanning, calibration, etc.
- Servo motors for X, Y, Z axis
- SPC function for large quantity measurement
- Measuring software is included (page 590~591)

SPECIFICATION

Code	motorized zoom lens	ISD-V220ZA	ISD-V220ZHN	ISD-V270ZA	ISD-V270ZHN	ISD-V370ZA	ISD-V370ZHN
	manual zoom lens	ISD-V220CNCA	ISD-V220HN	ISD-V270CNCA	ISD-V270HN	ISD-V370CNCA	ISD-V370HN
Measuring range (X×Y×Z)		220×120 ×150mm	220×120 ×300mm	270×170 ×150mm	270×170 ×300mm	370×270 ×150mm	370×270 ×300mm
Stage size		450×280mm	450×280mm	500×330mm	500×330mm	606×466mm	606×466mm
Glass stage size		306×196mm	306×196mm	350×250mm	350×250mm	450×350mm	450×350mm
Resolution of X/Y/Z axis		0.5μm					
Accuracy of X/Y axis		≤(2.5+L/100)μm (L is the measuring length in mm)				≤(3.5+L/100)μm (L is the measuring length in mm)	
Repeatability of X/Y axis		2μm					
Objective		0.7X~4.5X (zoom)					
Working distance		92mm					
Magnification		33.0X~208.6X (with manual zoom lens, on 24" monitor)					
		31.9X~188.7X (with motorized zoom lens, on 24" monitor)					
Camera		giga-bit network camera					
Illumination	surface	coaxial light, programmable segmented ring light					
	contour	adjustable LED light					
View field (diagonal length)		1.5~10.8mm					
Max. height of workpiece		150mm	300mm	150mm	300mm	150mm	300mm
Max. weight of workpiece		30kg					
Operation system		Windows 7/8/10					
Drive method		automatic					
Power supply		220V, 50/60Hz					
Dimension (L×W×H)		760×600 ×900mm	760×600 ×1050mm	760×600 ×900mm	760×600 ×1050mm	970×670 ×940mm	970×670 ×1090mm
Weight		146kg	156kg	168kg	178kg	266kg	276kg

To be continued

Continued from previous page



software flash disk
(included)

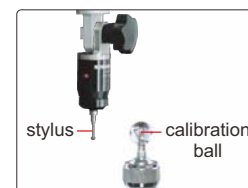
STANDARD DELIVERY

Main unit	1 pc
Software	1 pc
Computer	1 pc
24" display	1 pc
Len with coaxial light	1 pc
Controller	1 pc
Calibration glass chart	1 pc
Laser positioner	1 pc
Clay	1 pc
Anti-dust cover	1 pc

desk (optional)



laser probe (optional)
measuring accuracy is 5μm



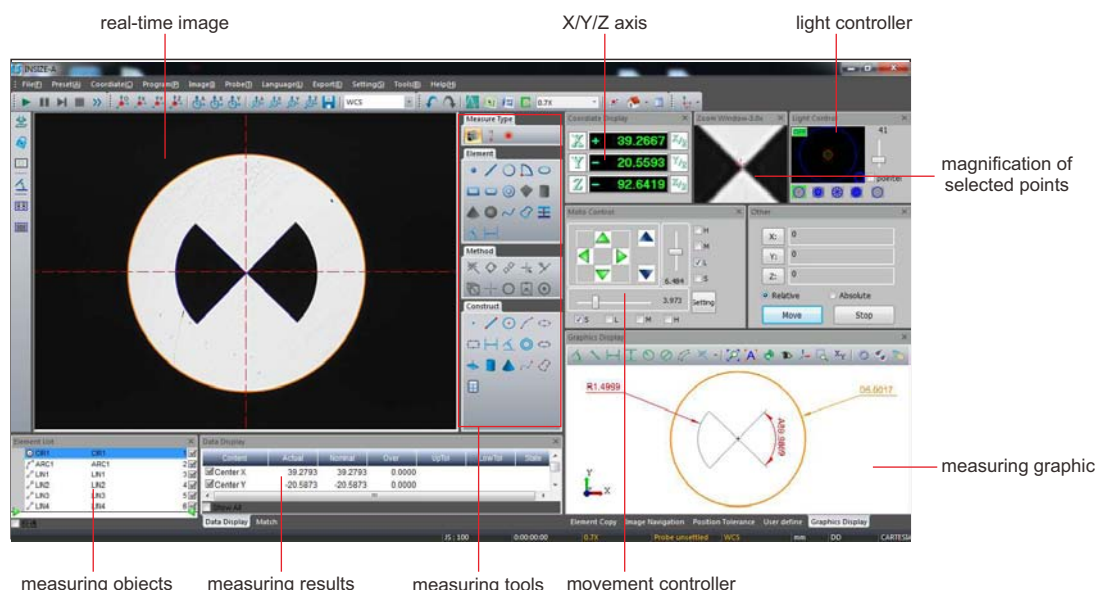
probe (optional), includes
Ø2mm and Ø3mm styli,
Ø25mm calibration ball,
measuring accuracy is 10μm

OPTIONAL ACCESSORY

0.5X auxiliary objective	code: ISD-V-OB05X , working distance: 175mm magnification: 16.5~104.3X (with manual zoom lens, on 24" monitor), 16.0~94.4X (with motorized zoom lens, on 24" monitor)
2X auxiliary objective	code: ISD-V-OB2X , working distance: 36mm magnification: 66~417.2X (with manual zoom lens, on 24" monitor), 63.8~377.4X (with motorized zoom lens, on 24" monitor)
Probe	code: ISD-V-PROBE , includes Ø2mm and Ø3mm styli, Ø25mm calibration ball
Laser probe	code: ISD-V-LASER
Office software	code: 7313-OFFICE
Desk	code: ISD-V-DESK

SOFTWARE (INCLUDED)

- Refer to page 590~591 for details



CNC VISION MEASURING SYSTEMS



VIDEO



ISD-V500N



computer is included

- Automatic edge-detection, focus, measuring, contour scanning, calibration, etc.
- Servo motors for X, Y, Z axis
- SPC function for large quantity measurement

SPECIFICATION

Code		ISD-V500N	ISD-V501N	ISD-V500HN	ISD-V501HN
Measuring range (X×Y×Z)		470×370×200mm	500×400×200mm	470×370×400mm	500×400×400mm
Stage size		786×636mm	846×696mm	786×636mm	846×696mm
Glass stage size		570×470mm			
Resolution of X/Y/Z axis		0.5μm			
Accuracy of X/Y axis		≤(2.5+L/200)μm (L is measuring length in mm)			
Repeatability of X/Y axis		2μm			
Objective		0.7X~4.5X (zoom)			
Working distance		92mm			
View field (diagonal length)		1.5~10.8mm			
Magnification		33.0X~208.6X (on 24" monitor)			
Camera		giga-bit network camera			
Illumination	surface	coaxial light, programmable segmented ring light			
	contour	adjustable LED light			
Max. height of workpieces		200mm		400mm	
Max. weight of workpieces		30kg			
Operation system		Windows 7/10			
Drive method		automatic			
Power supply		220V, 50/60Hz			
Dimension (L×W×H)		1270×1200×1870mm	1405×1260×1870mm	1270×1200×2070mm	1405×1260×2070mm
Weight		870kg	1000kg	900kg	1030kg

To be continued

Continued from previous page

STANDARD DELIVERY

Main unit	1 pc
Video card with dongle	1 pc
Software disc	1 pc
Lens with coaxial light	1 pc
Controller	1 pc
Computer	1 pc
Calibration glass chart	1 pc
Laser positioner	1 pc
Clay	1 pc
Anti-dust cover	1 pc



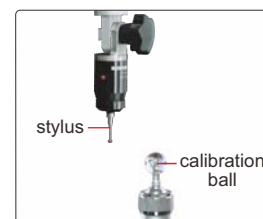
lens with coaxial light (included)



programmable segmented ring light (included)

OPTIONAL ACCESSORY

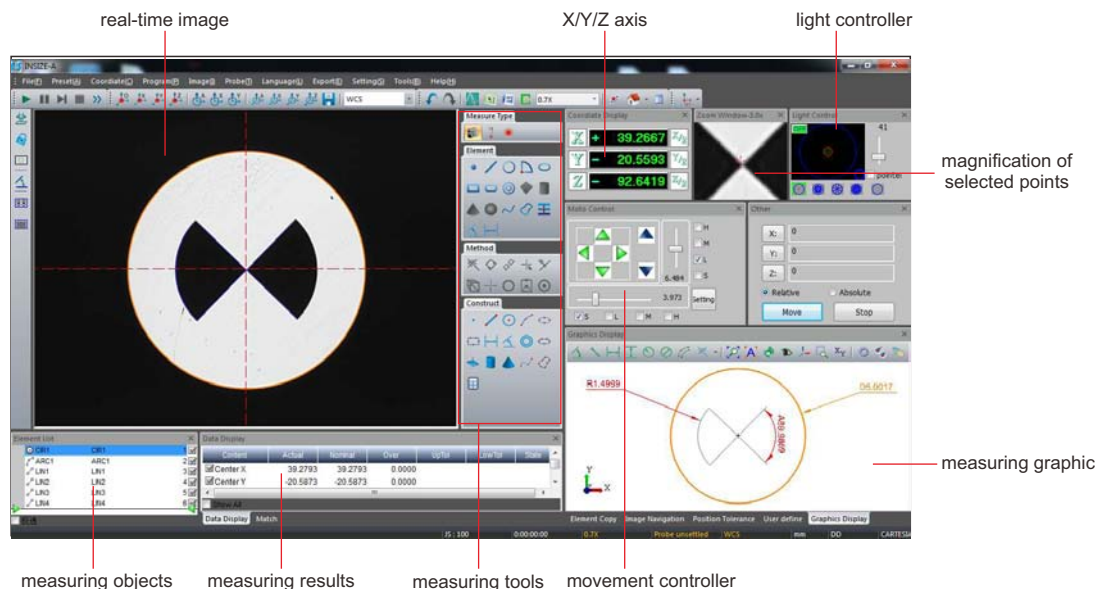
0.5X auxiliary objective	code: ISD-V-OB05X working distance: 175mm magnification: 16.5~104.3X (on 24" monitor)
2X auxiliary objective	code: ISD-V-OB2X working distance: 36mm magnification: 66~417.2X (on 24" monitor)
Probe	code: ISD-V-PROBE includes Ø2mm and Ø3mm styli, Ø25mm calibration ball
Office software	code: 7313-OFFICE



probe (**optional**), includes Ø2mm and Ø3mm styli, Ø25mm calibration ball, measuring accuracy is 10µm

SOFTWARE (INCLUDED)

- Refer to page 590~591 for details



CNC VISION MEASURING SYSTEMS

MOTORIZED ZOOM
OBJECTIVE IS OPTIONAL



VMM-L1001CN

- Automatic edge-detection, focus, measuring, contour scanning, calibration, etc.
- Servo motors for X, Y, Z axis, X, Y axis adopt linear guide rail structure, without air supply
- Fixed glass table and granite platform base, good stability
- SPC function for large quantity measurement
- Measuring software is included (page 590~591)

SPECIFICATION

Code		VMM-L600CN	VMM-L601CN	VMM-L800CN
Measuring range (X×Y×Z)		600×600×200mm	600×900×200mm	800×1000×200mm
Glass stage size		765×1238mm	702×1543mm	902×1643mm
Resolution of X/Y/Z axis		0.5μm		
Accuracy of X/Y axis		≤(3.5+L/200)μm (L is measuring length in mm)		
Repeatability of X/Y axis		2μm		
Objective (manual zoom)		0.7X~4.5X (zoom)		
Working distance		92mm		
View field (diagonal length)		1.7~11.1mm		
Magnification		33.0X~208.6X (on 24" monitor)		
Camera		giga-bit network camera		
Illumination	surface	coaxial light, programmable segmented ring light		
	contour	adjustable LED light		
Max. height of workpiece		200mm		
Max. weight of workpiece		35kg		
Operation system		Windows 7/8/10		
Drive method		automatic		
Power supply		AC 220V, 50/60Hz		
Dimension (L×W×H)		1445×1185×1560mm	1745×1220×1720mm	1850×1420×1720mm
Weight		1000kg	1400kg	2200kg

To be continued

Continued from previous page

SPECIFICATION

Code		VMM-L1000CN	VMM-L1001CN	VMM-L1200CN
Measuring range (X×Y×Z)		1000×1200×200mm	1000×1500×200mm	1200×1500×200mm
Glass stage size		1100×1831mm	1100×2113mm	1300×2113mm
Resolution of X/Y/Z axis		0.5μm		
Accuracy of X/Y axis		≤(3.5+L/200)μm (L is measuring length in mm)		
Repeatability of X/Y axis		2μm		
Objective(manual zoom)		0.7X~4.5X (zoom)		
Working distance		92mm		
View field (diagonal length)		1.7~11.1mm		
Magnification		33.0X~208.6X (on 24" monitor)		
Camera		giga-bit network camera		
Illumination	surface	coaxial light, programmable segmented ring light		
	contour	adjustable LED light		
Max. height of workpiece		200mm		
Max. weight of workpiece		30kg		
Operation system		Windows 7/8/10		
Drive method		automatic		
Power supply		AC 220V, 50/60Hz		
Dimension (L×W×H)		2035×1590×1720mm	2315×1590×1720mm	2315×1790×1720mm
Weight		2900kg	3200kg	4000kg



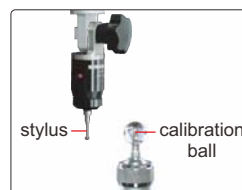
programmable
segmented ring
light (included)



lens with coaxial
light (included)

STANDARD DELIVERY

Main unit	1 pc
Dongle	1 pc
Computer	1 pc
Software	1 pc
Display	1 pc
Lens with coaxial light	1 pc
Controller	1 pc
Calibration glass chart	1 pc
Laser positioner	1 pc
Clay	1 pc
Anti-dust cover	1 pc



probe (**optional**), includes
Ø2mm and Ø3mm styli,
Ø25mm calibration ball,
measuring accuracy is 10μm



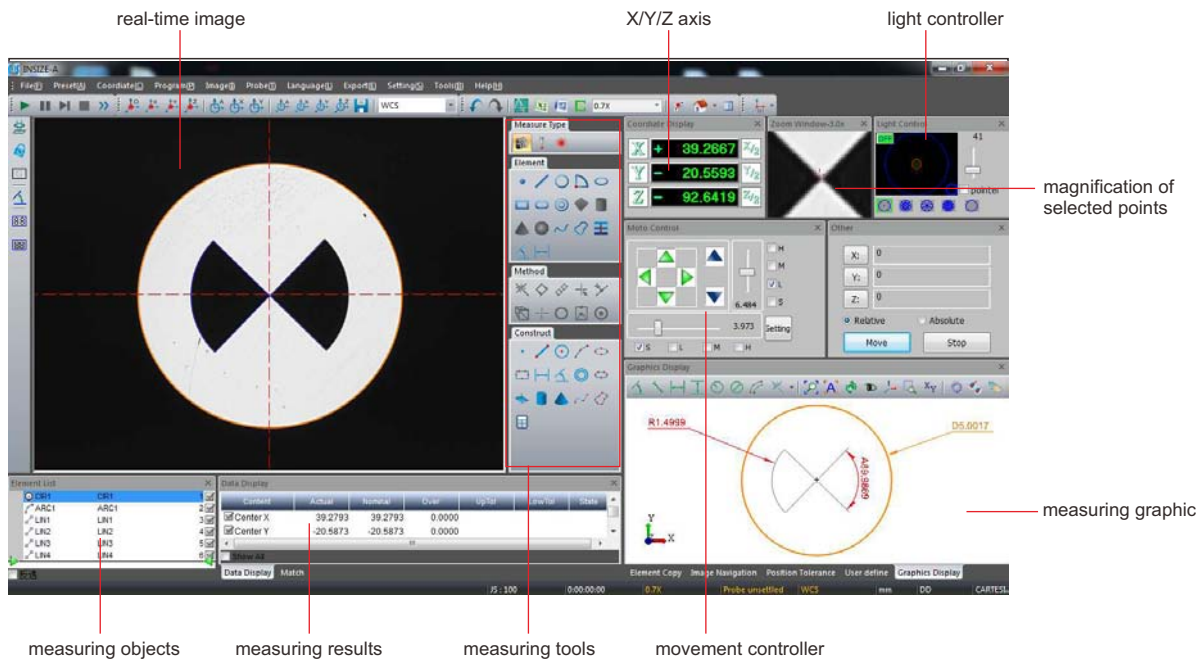
laser probe (**optional**)
measuring accuracy is 5μm

OPTIONAL ACCESSORY

0.5X auxiliary objective	code: ISD-V-OB05X working distance: 175mm magnification: 16.5~104.3X (on 24" monitor)
2X auxiliary objective	code: ISD-V-OB2X working distance: 36mm magnification: 66~417.2X (on 24" monitor)
Probe	code: ISD-V-PROBE includes Ø2mm and Ø3mm styli, Ø25mm calibration ball
Laser probe	code: ISD-V-LASER
Office software	code: 7313-OFFICE

VISION MEASURING SOFTWARE

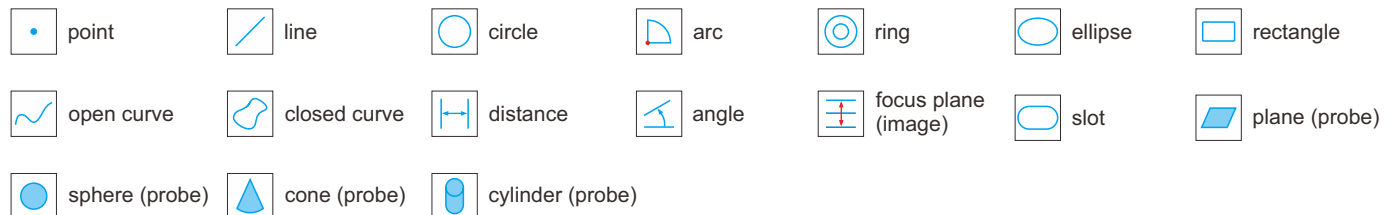
SOFTWARE FOR VISION MEASURING SYSTEMS
ISD-V SERIES, ISD-H SERIES, ISD-VMM SERIES,
ISD-E SERIES AND VMM-L SERIES



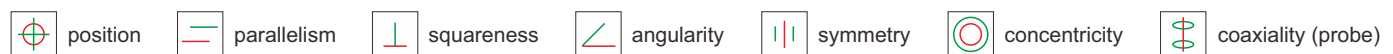
- Operation system: Windows 7/10
- Language: English
- Control features: assistant focus (manual machines), auto focus (CNC machines), auxiliary light control, motion controlled by mouse (CNC machines), auto zoom lens (CNC machines)
- Image measuring methods: intelligent automatic edge detect, select points of an area, select points from multiple parts, select points via mouse, select adjacent points, select points via cross line, magnify to select points, comparatively select points, select points via probe, edge point, contour point
- Constructable elements: point, line, circle, arc, ellipse, rectangle, distance, angle, ring, slot, plane, cone, open curve, closed curve
- Support fixture (CNC machines), scanning, image navigation, user define, pixel calibration
- Measuring by image and probe, image and probe can be synchronized
- Measuring data can be sent to Excel, Word, SPC, measuring elements can be sent to dxf

24

Dimension measuring tools:



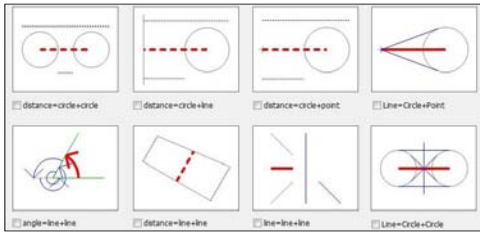
Geometric measuring tools:



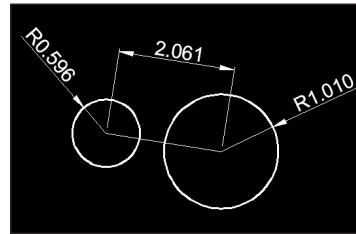
To be continued

Continued from previous page

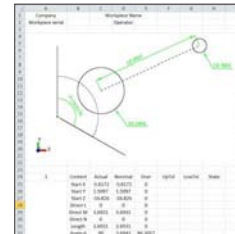
■ Measuring and element construct methods:



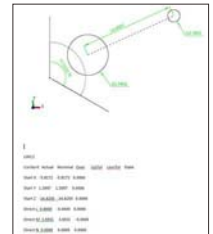
■ Sent to CAD, EXCEL, WORD



CAD



EXCEL



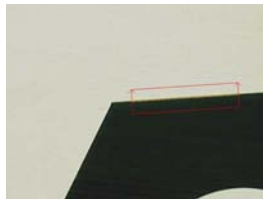
WORD

■ Edge-detection:

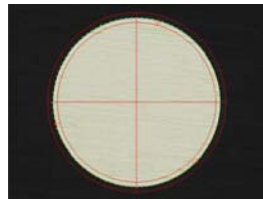
point tool



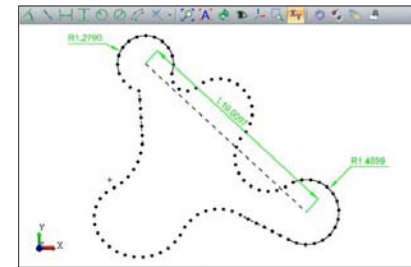
box tool



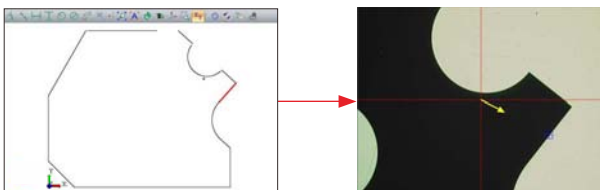
circle tool



■ Contour scanning:

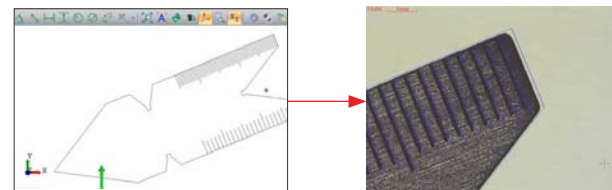


■ CAD measuring:



import CAD drawing, set the datum, establish coordinate system, then the software will automatically measure

■ CAD comparison:

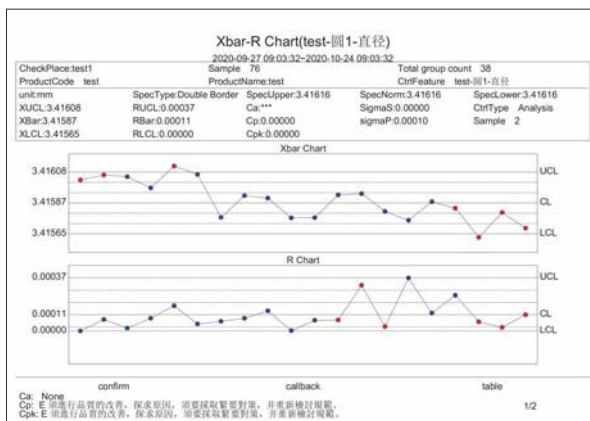


import CAD drawing, then compare with real-time image

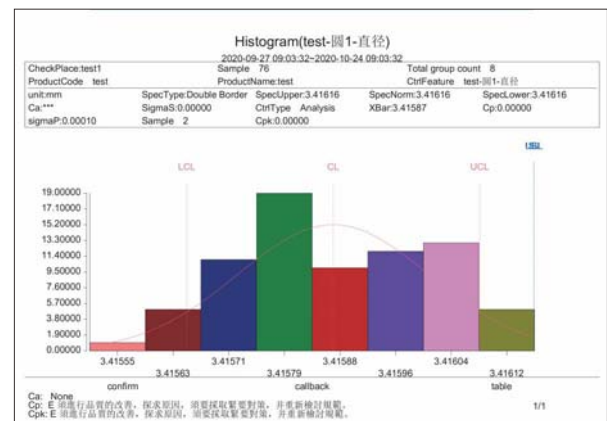
■ Profile scanning:



■ SPC analysis, import the measuring data to SPC module, generate Xbar-R chart, Xbar-S chart, Mid-R chart, X-Rs chart, Histogram, Sigma A and Sigma S chart, Cpk process chart, Process state analyse chart, Single process advice analyse chart

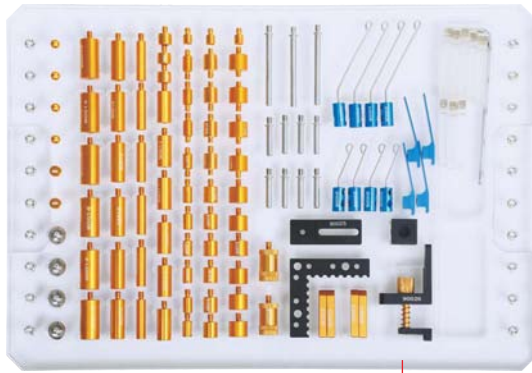


Xbar-R chart

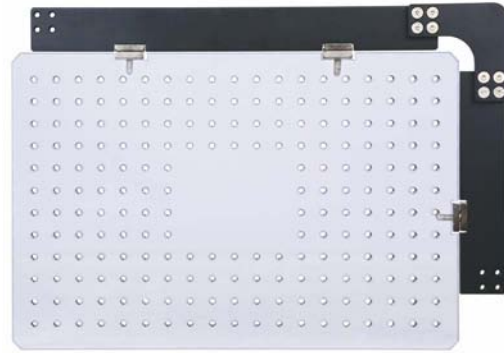


Histogram

JIG SET FOR VISION MEASURING SYSTEMS CODE ISY-700

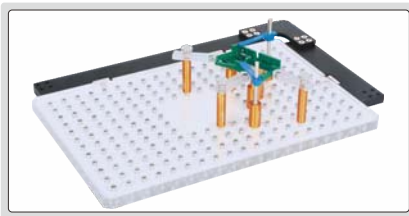


acrylic tray (included)



ISY-700

application example



Product	Code	Size (mm)	Quantity
clip	ISY-700-90001	7×34	4
clip	ISY-700-90002	Ø1.5×24	4
	ISY-700-90003	Ø1.5×50	4
clip stand	ISY-700-90004	Ø4×20	8
	ISY-700-90005	Ø4×46	3
spherical support head	ISY-700-90006	—	4
stand	ISY-700-90007	Ø6×10	6
	ISY-700-90008	Ø6×25	6
	ISY-700-90019	Ø6×6	3
stand	ISY-700-90009	Ø9×7	3
	ISY-700-90010	Ø9×10	6
	ISY-700-90011	Ø9×20	6
	ISY-700-90012	Ø9×25	6
stand	ISY-700-90013	Ø12×10	6
	ISY-700-90014	Ø12×25	6
stand for slice parts	ISY-700-90015	Ø6×10	4
	ISY-700-90016	Ø9×10	4
	ISY-700-90017	Ø12×10	4
stand with fine adjustment	ISY-700-90018	Ø12×20~25	2

Product	Code	Size (mm)	Quantity
adapter for square support	ISY-700-90020	—	2
clamping screw	ISY-700-90021	—	4
L-shaped positioning plate	ISY-700-90022	50×50×6	1
sliding support plate	ISY-700-90023	30×12×5	4
square support	ISY-700-90024	20×16×16	1
base for square support	ISY-700-90025	45×16×6	1
spring stand	ISY-700-90026	—	1
acrylic sliding support plate	ISY-700-90028	45×12×5	8
wrench	ISY-700-90029	M3	1
acrylic base plate	ISY-700-90030	300×200×12 Hole size: M4X0.7	1