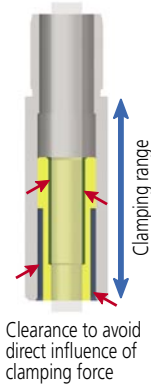


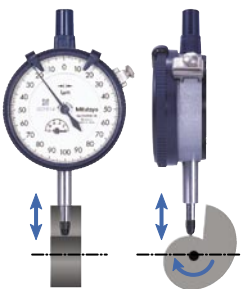
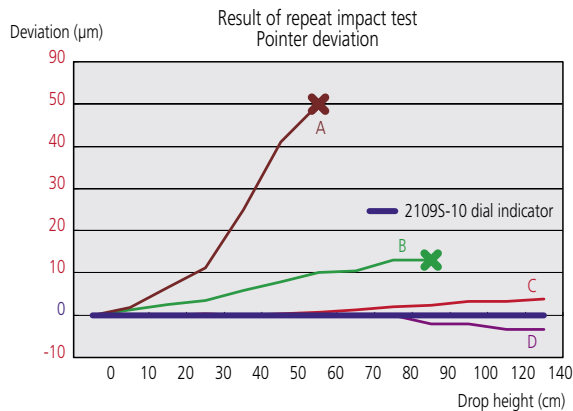
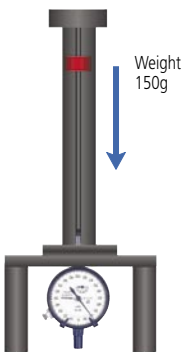
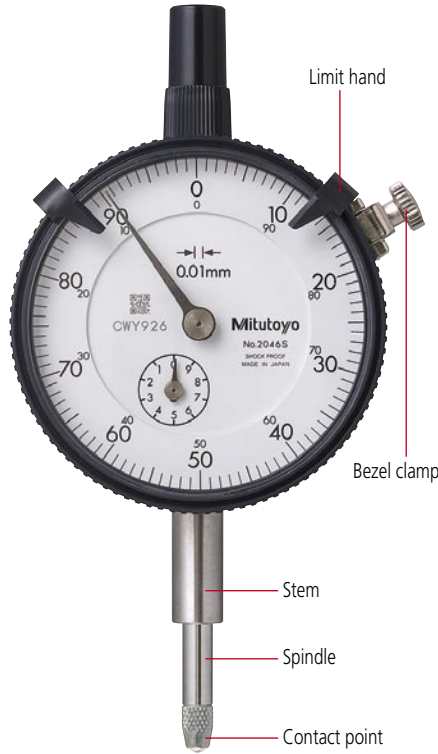
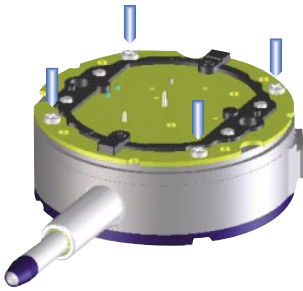
Dial Indicator

FEATURES: S Series

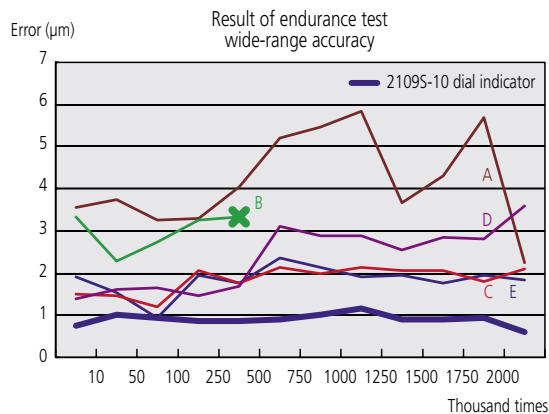
- Revolutionary stem-bush design for trouble free stem clamping (longer clamping range).
- No through screw-hole on the frame for high dust-resistance.



- Involute curved lifting lever for smooth movement of spindle and dovetail joint for tool-less connection.
- Grater rigidity in the bearing plate for reducing the retracing error (20%) and 4-screw mounting for increasing impact resistance.



Endurance testing with cam
Rotation speed: 120rpm



Description of Icon

Icon	Description
	Reverse reading type suitable for depth and step measurement.
	One revolution type for easy and error-free reading
	Double scale spacing type, easy-on-the-eyes
	Shockproof type
	Waterproof type
	With damper at lowest rest point
	Jeweled bearing type
	Peak retaining type
	Long stem type
	Dustproof type
	With coaxial revolution counter
	Back plunger type
	Adjustable hand type
	Double-face type

Dial Indicator

SERIES 1 — Compact One Revolution Type for Error-free Reading



(Refer to the page 9 for details.)



One revolution type



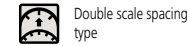
1929S
1929S-60
1929S-62



1900S-10
1900S-70
1900S-72



1929S



Double scale spacing type



Jeweled bearing type



Shockproof type



Dustproof type



Waterproof type

SPECIFICATIONS

Graduation	Order No.		Range (range/rev)	Accuracy	Dial reading	Measuring force	ISO/JIS type						
	w/ lug	Flat-back					Double scale spacing type	Jeweled bearing type	Shockproof type	Dustproof type	Waterproof type	—	
0.01mm	1929S	1929SB	1mm / 1.4mm	±11μm	50-0-50	1.4N or less	—	—	—	—	—	—	—
0.01mm	1929S-60	1929SB-60	1mm / 1.4mm	±11μm	50-0-50	1.4N or less	—	—	—	—	—	—	—
0.01mm	1929S-62	1929SB-62	1mm / 1.4mm	±11μm	50-0-50	1.4N or less	—	—	—	—	—	—	—
0.001mm	1900S-10	1900SB-10	0.1mm / 0.14mm	±6μm	50-0-50	1.5N or less	—	—	—	—	—	—	—
0.001mm	1900S-70	1900SB-70	0.1mm / 0.14mm	±6μm	50-0-50	1.5N or less	—	—	—	—	—	—	—
0.001mm	1900S-72	1900SB-72	0.1mm / 0.14mm	±6μm	50-0-50	1.5N or less	—	—	—	—	—	—	—

Graduation	Order No.		Range (range/rev)	Accuracy	Dial reading	Measuring force	ANSI/AGD type						
	w/ lug	Flat-back					Double scale spacing type	Jeweled bearing type	Shockproof type	Dustproof type	Waterproof type	—	
.0005"	1909S-62	1909SB-62	.04" / .055"	±.0005"	20-0-20	1.4N or less	—	—	—	—	—	—	—
.0001"	1910S-72	1910SB-72	.006" / .0079"	±.0001"	3-0-3	1.4N or less	—	—	—	—	—	—	—

Optional Accessory

- : Backs (See page 266.)
- : Contact points (See page 264.)

DIMENSION

ISO/JIS Type

Unit: mm

Note 1: Dimensions of the inch (ANSI/AGD Type) dial indicator partly differ from those of the metric (ISO/JIS Type) indicator.
 Note 2: Inch (ANSI/AGD Type) dial indicator is provided with a stem of 3/8" dia. and #4-48UNF thread mount for the contact point.

Order No.	A	B	C
1929S	47.5	13.8	13.7
1929S-60	55.5	12.2	23.3
1929S-62	47.5	13.8	13.7
1900S-10	53.5	16.8	16.7
1900S-70	54.5	12.2	22.3
1900S-72	53.5	16.8	16.7

Dial Indicator

SERIES 1 — Compact Type

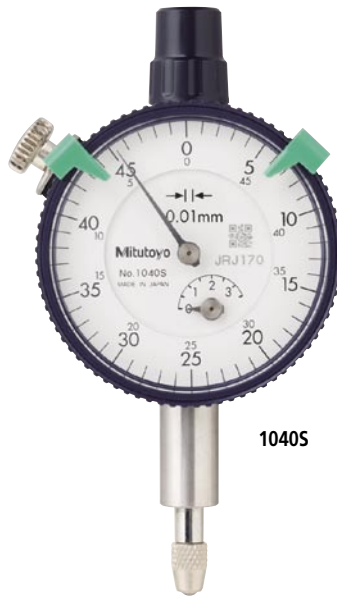
Mitutoyo's Series 1 dial indicators offer the accuracy and durability for shop applications demanding highly accurate measurements where space is limited. The spindle is made of hardened stainless steel for durability, while the rack gear is machine ground for a tighter fit and increased accuracy.



1911



1003



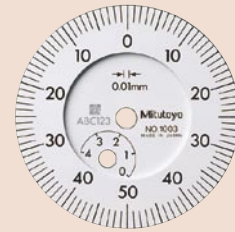
1040S



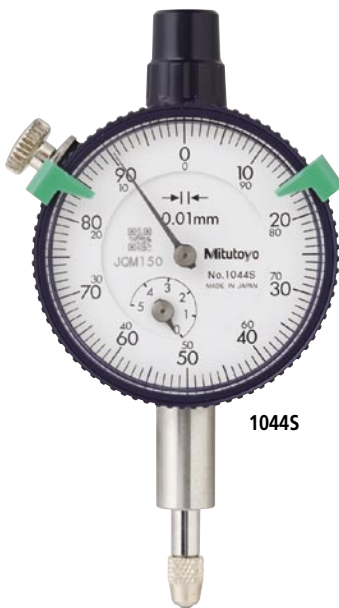
1911



1913-10



1003



1044S



1109S-10



(Refer to the page 9 for details.)

Optional Accessory

- : Backs (See page 266.)
- : Contact points (See page 264.)



Double scale spacing type



Jeweled bearing type



Waterproof type



Shockproof type



Dustproof type

SPECIFICATIONS

Metric

ISO/JIS type

Graduation	Order No.		Range (range/rev)	Accuracy	Dial reading	Measuring force						—
	w/ lug	Flat-back										
0.01mm	1911	1911B	2.5mm (1mm)	±12μm	0-50-0	1.8N or less	—	—	—	—	—	—
0.002mm	1913-10	1913B-10	0.5mm (0.2mm)	±8μm	0-100-0	1.5N or less	—	✓	—	—	—	—
0.01mm	1003	1003B	4mm (1mm)	±13μm	0-50-0	1.4N or less	—	—	—	—	—	—
0.01mm	1044S	1044SB	5mm (1mm)	±13μm	0-100	1.4N or less	—	—	—	—	—	—
0.01mm	1045S	1045SB	5mm (1mm)	±13μm	0-50-0	1.4N or less	—	—	—	—	—	—
0.01mm	1044S-10	1044SB-10	5mm (1mm)	±13μm	0-100	0.4N or less*	—	✓	—	—	—	—
0.01mm	1044S-60	1044SB-60	5mm (1mm)	±13μm	0-100	2.0N or less	—	—	✓	—	—	—
0.01mm	1040S	1040SB	3.5mm (0.5mm)	±13μm	0-50	1.4N or less	✓	—	—	—	—	—
0.01mm	1041S	1041SB	3.5mm (0.5mm)	±13μm	0-25-0	1.4N or less	✓	—	—	—	—	—
0.005mm	1124S	1124SB	3.5mm (0.5mm)	±13μm	0-50	1.4N or less	—	✓	—	—	—	—
0.001mm	1109S-10	1109SB-10	1mm (0.2mm)	±7μm	0-100-0	1.5N or less	—	✓	—	—	—	—
0.002mm	1013S-10	1013SB-10	1mm (0.2mm)	±10μm	0-100-0	1.5N or less	—	✓	—	—	—	—

*Use in a vertical position only (contact point downward).

Inch

ANSI/AGD type

Graduation	Order No.		Range (range/rev)	Accuracy	Dial reading	Measuring force						—
	w/ lug	Flat-back										
.001"	1921	1921B	.1" (.04")	±.001"	0-20-0	1.8N or less	—	—	—	—	—	—
.0005"	1923	1923B	.05" (.02")	±.0005"	0-10-0	1.8N or less	—	✓	—	—	—	—
.0001"	1927-10	1927B-10	.01" (.004")	±.0002"	0-2-0	1.8N or less	—	✓	—	—	—	—
.0001"	1925-10	1925B-10	.025" (.01")	±.0002"	0-5-0	1.8N or less	—	✓	—	—	—	—
.001"	1410S	1410SB	.25" (.1")	±.001"	0-100	1.4N or less	—	—	—	—	—	—
.001"	1411S	1411SB	.25" (.1")	±.001"	0-50-0	1.4N or less	—	—	—	—	—	—
.001"	1410S-10	1410SB-10	.25" (.1")	±.001"	0-100	1.4N or less	—	✓	—	—	—	—
.001"	1780S	1780SB	.125" (.05")	±.001"	0-50	1.4N or less	—	—	—	—	—	—
.001"	1781S	1781SB	.125" (.05")	±.001"	0-25-0	1.4N or less	—	—	—	—	—	—
.0005"	1506S	1506SB	.125" (.05")	±.0005"	0-50	1.4N or less	—	—	—	—	—	—
.0005"	1507S	1507SB	.125" (.05")	±.0005"	0-25-0	1.4N or less	—	—	—	—	—	—
.0005"	1670S	1670SB	.1" (.04")	±.0005"	0-40	1.4N or less	—	—	—	—	—	—
.0005"	1671S	1671SB	.1" (.04")	±.0005"	0-20-0	1.4N or less	—	—	—	—	—	—
.0005"	1570S	1570SB	.075" (.03")	±.0005"	0-30	1.4N or less	—	✓	—	—	—	—
.0005"	1571S	1571SB	.075" (.03")	±.0005"	0-15-0	1.4N or less	—	✓	—	—	—	—
.00025"	1470S	1470SB	.05" (.02")	±.00025"	0-20	1.4N or less	—	—	—	—	—	—
.00025"	1471S	1471SB	.05" (.02")	±.00025"	0-10-0	1.4N or less	—	—	—	—	—	—
.0001"	1802S-10	1802SB-10	.025" (.01")	±.0001"	0-10	1.4N or less	—	✓	—	—	—	—
.0001"	1803S-10	1803SB-10	.025" (.01")	±.0001"	0-5-0	1.4N or less	—	✓	—	—	—	—



1040S



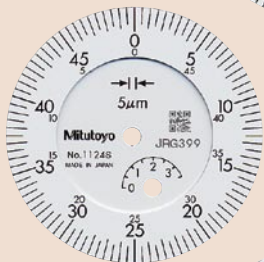
1041S



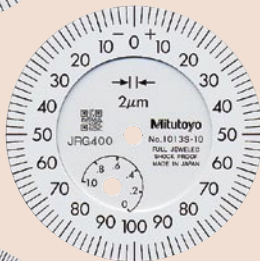
1044S
1044S-10
1044S-60



1045S



1124S

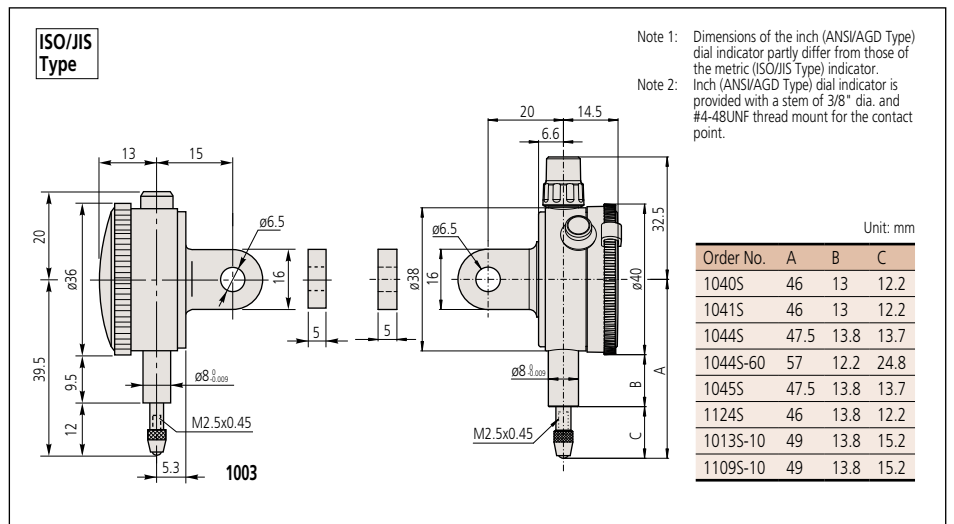


1013S-10



1109S-10

DIMENSION



Dial Indicator

SERIES 2 — Standard Type, 0.01mm Resolution

Series 2 dial indicators are Mitutoyo's most popular, and have the widest application.

FEATURES

- Standard 0.01mm graduation dial gauges having an outer frame with an outside diameter of 57mm. All types come with limit pins and an outer frame clamp as standard.
- The outer clamp and lifting lever (optional) can be attached to either the right or left side. These parts can be easily installed and removed without tools.
- Secured adhesion between the outer frame and crystal as well as the use of an O-ring ensure countermeasures against water and oil permeation via the front face.
- The stem spindle is made of high-strength quench-hardened stainless steel which resists strenuous use.
- A carbide contact point is used.
- The grand gear uses stainless steel that is resistant to wear and deformation.
- Application of a hard coating on the surface of the crystal makes the gauge highly scratch- and chemical-resistant.



(Refer to the page 9 for details.)



2046S



2046S-60



2046S
 2046SH
 2046S-09
 2046S-15
 2046S-80
 2046SLB



2046SY



2046S-60
 2046S-69



2047S



Shockproof type



Waterproof type



Long stem type



Jeweled bearing type



w/coaxial revolution counter



Reverse reading type

SPECIFICATIONS

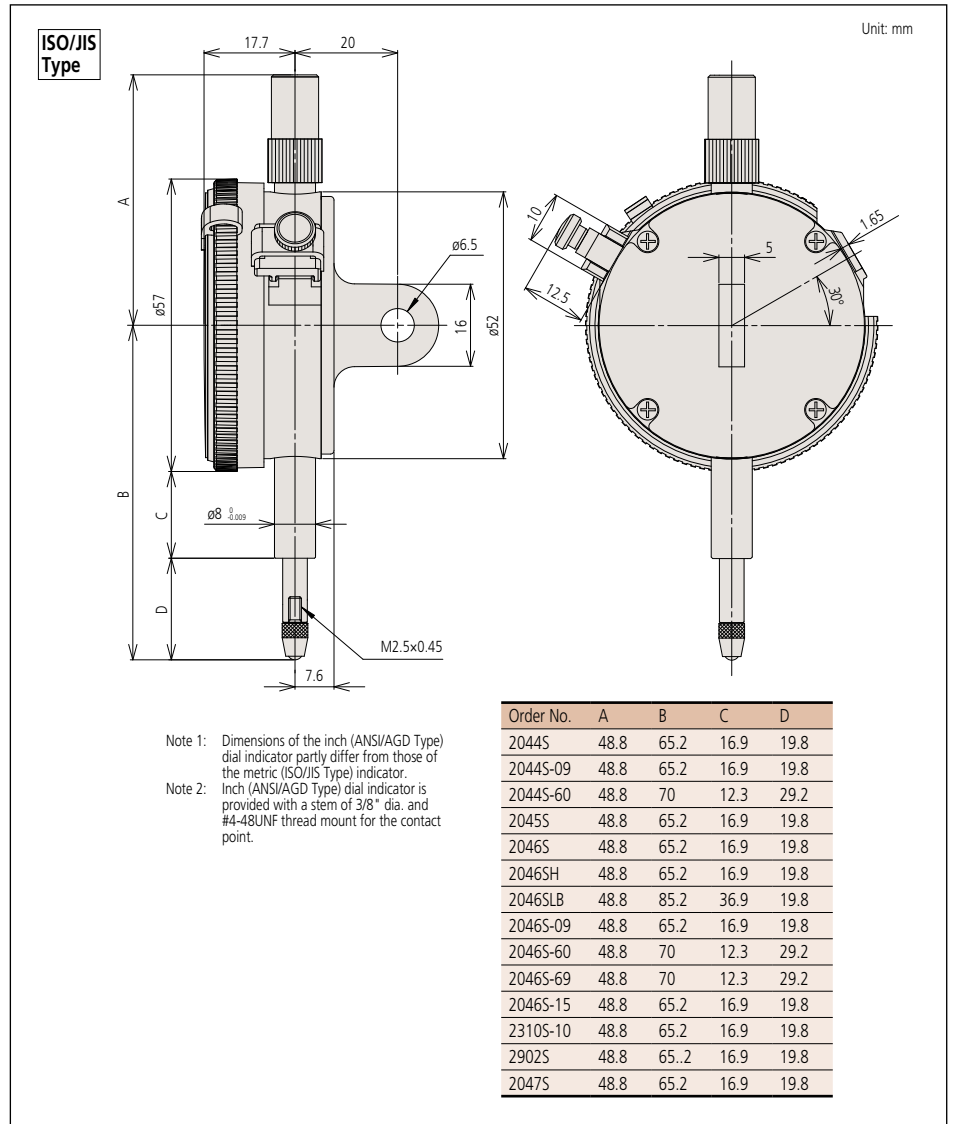
Metric

ISO/JIS type

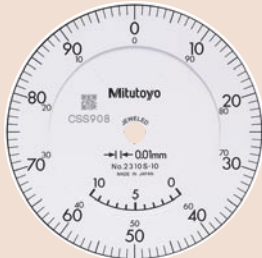
Graduation	Order No.		Range (range/rev)	Accuracy	Dial reading	Measuring force						
	w/ lug	Flat-back										
0.01mm	2044S	2044SB	5mm (1mm)	±12μm	0-100	1.4N or less	—	—	—	—	—	—
0.01mm	2044S-09	2044SB-09	5mm (1mm)	±13μm	0-100	1.4N or less	✓	—	—	—	—	—
0.01mm	2044S-60	2044SB-60	5mm (1mm)	±12μm	0-100	2.5N or less	—	✓	—	—	—	—
0.01mm	2045S	2045SB	5mm (1mm)	±12μm	0-50-0	1.4N or less	—	—	—	—	—	—
0.01mm	2046S	2046SB	10mm (1mm)	±13μm	0-100	1.4N or less	—	—	—	—	—	—
0.01mm	2046SY	2046SYB	10mm (1mm)	±13μm	0-100	1.4N or less	—	—	—	—	—	—
0.01mm	2046SH	2046SHB	10mm (1mm)	±8μm	0-100	1.4N or less	—	—	—	—	—	—
0.01mm	—	2046SLB	10mm (1mm)	±13μm	0-100	1.4N or less	—	—	✓	—	—	—
0.01mm	2046S-09	2046SB-09	10mm (1mm)	±15μm	0-100	1.4N or less	✓	—	—	—	—	—
0.01mm	2046S-60	2046SB-60	10mm (1mm)	±13μm	0-100	2.5N or less	—	✓	—	—	—	—
0.01mm	2046S-69	2046SB-69	10mm (1mm)	±15μm	0-100	2.5N or less	✓	✓	—	—	—	—
0.01mm	2046S-15	2046SB-15	10mm (1mm)	±13μm	0-100	0.8N or less*	—	—	—	✓	—	—
0.01mm	2310S-10	2310SB-10	10mm (1mm)	±15μm	0-100	1.4N or less	—	—	—	✓	✓	—
0.01mm	2902S	2902SB	10mm (1mm)	±13μm	100-0	1.4N or less	—	—	—	—	—	✓
0.01mm	2047S	2047SB	10mm (1mm)	±13μm	0-50-0	1.4N or less	—	—	—	—	—	—

*Use in a vertical position only (contact point downward).

DIMENSION



2902S



2310S-10

2044S
2044S-60
2044S-09

2045S

Optional Accessory

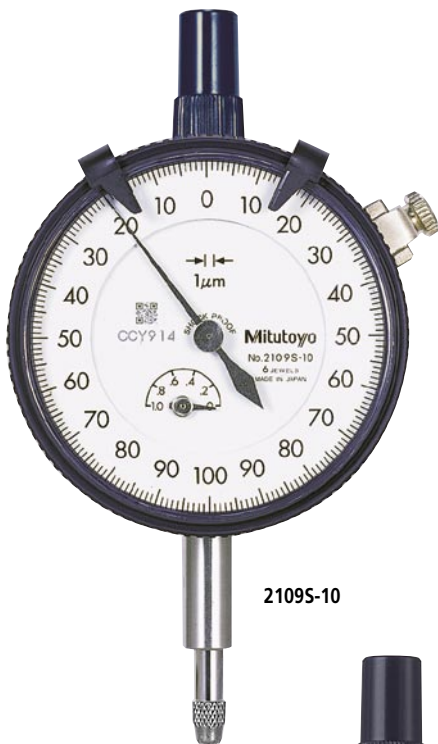
- : Backs (See page 266.)
- : Contact points (See page 264.)

Dial Indicator

SERIES 2 — Standard Type, 0.001mm Resolution

FEATURES

- Standard 0.01mm graduation dial gauges having an outer frame with an outside diameter of $\varnothing 57\text{mm}$. All types come with limit pins and an outer frame clamp.
- The outer clamp and lifting lever (optional) can be attached to either the right or left side. These parts can be easily installed and removed without tools.
- Secured adhesion between the outer frame and crystal as well as the use of an O-ring ensure countermeasures against water and oil permeation via the front face.
- The stem spindle is made of high-strength quench-hardened stainless steel which resists strenuous use.
- A carbide contact point is used.
- The grand gear uses stainless steel that is resistant to wear and deformation.
- Application of a hard coating on the surface of the crystal makes the gauge highly scratch- and chemical-resistant.
- A special alloy is used for the sector gears to provide improved wear resistance.
- The bearing part uses jeweled bearings, providing excellent indication sensitivity and durability.



2109S-10



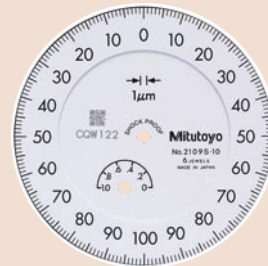
2110S-10



2119S-10



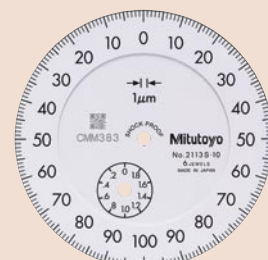
(Refer to the page 9 for details.)



2109S-10
2109SH-10
2109S-70
2109SLB-10



2110S-10
2110S-70







2113S-10

Dial Indicator

SERIES 2 — Standard Type, Inch Reading

SPECIFICATIONS

Graduation	Order No.		Range (range/rev)	Accuracy	Dial reading	Measuring force	ANSI/AGD type					
	w/ lug	Flat-back									—	—
.001"	2780S	2780SB	.125" (.05")	±.001"	0-50	1.8N or less	—	—	—	—	—	—
.001"	2781S	2781SB	.125" (.05")	±.001"	0-25-0	1.8N or less	—	—	—	—	—	—
.001"	2410S	2410SB	.25" (.1")	±.001"	0-100	1.8N or less	—	—	—	—	—	—
.001"	2410S-10	2410SB-10	.25" (.1")	±.001"	0-100	1.8N or less	—	—	—	✓	—	—
.001"	2410S-60	2410SB-60	.25" (.1")	±.001"	0-100	2.5N or less	—	✓	—	—	—	—
.001"	2411S	2411SB	.25" (.1")	±.001"	0-50-0	1.8N or less	—	—	—	—	—	—
.001"	2411S-10	2411SB-10	.25" (.1")	±.001"	0-50-0	1.8N or less	—	—	—	✓	—	—
.001"	2414S	2414SB	.5" (.1")	±.001"	0-100	1.8N or less	—	—	—	—	—	—
.001"	2414S-10	2414SB-10	.5" (.1")	±.001"	0-100	1.8N or less	—	—	—	✓	—	—
.001"	2414S-60	2414SB-60	.5" (.1")	±.001"	0-100	2.5N or less	—	✓	—	—	—	—
.001"	2415S	2415SB	.5" (.1")	±.001"	0-50-0	1.8N or less	—	—	—	—	—	—
.001"	2415S-10	2415SB-10	.5" (.1")	±.001"	0-50-0	1.8N or less	—	—	—	✓	—	—
.001"	2415S-60	2415SB-60	.5" (.1")	±.001"	0-50-0	2.5N or less	—	✓	—	—	—	—
.001"	2914S	2914SB	.5" (.1")	±.001"	100-0	1.8N or less	—	—	✓	—	—	—
.0005"	2506S	2506SB	.125" (.05")	±.0005"	0-50	1.8N or less	—	—	—	—	—	—
.0005"	2507S	2507SB	.125" (.05")	±.0005"	0-25-0	1.8N or less	—	—	—	—	—	—
.0005"	2514S	2514SB	.5" (.05")	±.0015"	0-50	1.8N or less	—	—	—	—	—	—
.0005"	2514S-60	2514SB-60	.5" (.05")	±.0015"	0-50	2.5N or less	—	✓	—	—	—	—
.0005"	2570S-10	2570SB-10	.075" (.03")	±.0005"	0-30	1.8N or less	—	—	—	✓	—	—
.0005"	2571S-10	2571SB-10	.075" (.03")	±.0005"	0-15-0	1.8N or less	—	—	—	✓	—	—
.0005"	2576S-70	2576SB-70	.3" (.03")	±.001"	0-30	2.5N or less	—	✓	—	✓	—	—
.0005"	2670S	2670SB	.1" (.04")	±.0005"	0-40	1.8N or less	—	—	—	—	—	—
.0005"	2671S	2671SB	.1" (.04")	±.0005"	0-20-0	1.8N or less	—	—	—	—	—	—
.0005"	2675S	2675SB	.4" (.04")	±.0015"	0-20-0	1.8N or less	—	—	—	—	—	—
.0005"	2922S	2922SB	.125" (.05")	±.0005"	0-25-0	1.8N or less	—	—	—	—	—	—
.00025"	2470S-10	2470SB-10	.05" (.02")	±.00025"	0-20	1.8N or less	—	—	—	✓	—	—
.00025"	2471S-10	2471SB-10	.05" (.02")	±.0005"	0-10-0	1.8N or less	—	—	—	✓	—	—
.00025"	2476S-70	2476SB-70	.2" (.02")	±.0005"	0-20	2.5N or less	—	✓	—	✓	—	—
.0001"	2356S-10	2356SB-10	.25" (.01")	±.0008"	0-10	2.0N or less	—	—	—	✓	—	—
.0001"	2358S-10	2358SB-10	.5" (.01")	±.0002"	0-10	2.0N or less	—	—	—	✓	—	—
.0001"	2802S-10	2802SB-10	.025" (.01")	±.0001"	0-10	2.0N or less	✓	—	—	✓	—	—
.0001"	2802S-70	2802SB-70	.025" (.01")	±.0001"	0-10	2.5N or less	✓	✓	—	✓	—	—
.0001"	2803S-10	2803SB-10	.025" (.01")	±.0001"	0-5-0	2.0N or less	✓	—	—	✓	—	—
.0001"	2803S-70	2803SB-70	.025" (.01")	±.0001"	0-5-0	2.5N or less	✓	✓	—	✓	—	—
.0001"	2804S-10	2804SB-10	.05" (.01")	±.0002"	0-10	2.0N or less	✓	—	—	✓	—	—
.0001"	2805S-10	2805SB-10	.05" (.01")	±.0002"	0-5-0	2.0N or less	✓	—	—	✓	—	—
.0001"	2806S-10	2806SB-10	.1" (.01")	±.0003"	0-10	2.0N or less	✓	—	—	✓	—	—
.0001"	2806S-70	2806SB-70	.1" (.01")	±.0003"	0-10	2.5N or less	✓	✓	—	✓	—	—
.0001"	2905S-10	2905SB-10	.05" (.01")	±.0002"	10-0	2.0N or less	✓	—	✓	✓	—	—
.0001"	2923S-10	2923SB-10	.05" (.01")	±.0002"	0-5-0	2.0N or less	✓	—	—	✓	—	—
.0001"	2937S-10	2937SB-10	.02" (.008")	±.0001"	0-4-0	2.0N or less	✓	—	—	✓	—	—
.0001"	2938S-10	2938SB-10	.02" (.008")	±.0001"	0-8	2.0N or less	✓	—	—	✓	—	—



(Refer to the page 9 for details.)

Optional Accessory

- : Backs (See page 266.)
- : Contact points (See page 264.)



Shockproof type



Waterproof type



Reverse reading type



Jeweled bearing type

Special Dial Indicator

SERIES 2



(Refer to the page 9 for details.)



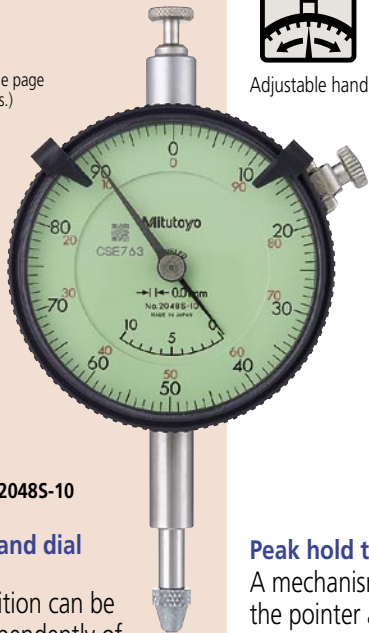
Adjustable hand



Peak hold



Double-face type



20485-10

Adjustable hand dial gauge

The hand position can be adjusted independently of the vertical movement of the spindle by rotating the top knob.



20465-80

Peak hold type dial gauge

A mechanism that stops the pointer and the spindle at the depressed position where the spindle is depressed makes the pointer stop and display the maximum value.



29405

Double-face type dial gauge

The displacement of the spindle can be read from either the front or rear face.

Optional Accessory

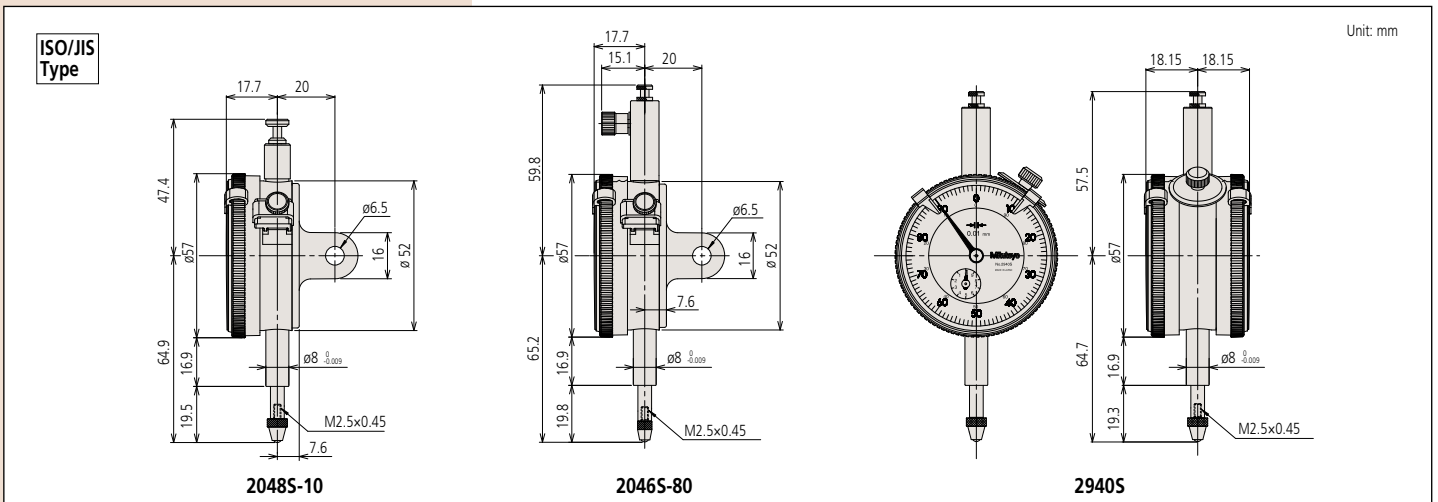
- : Backs (See page 266.)
- : Contact points (See page 264.)

SPECIFICATIONS

Metric				ISO/JIS type				ANSI/AGD type			
Graduation	Order No.		Range (range/rev)	Accuracy	Dial reading	Measuring force	Measuring force	ISO/JIS type		ANSI/AGD type	
	w/ lug	Flat-back									
0.01mm	20485-10	20485B-10	10mm (1mm)	±15µm	0-100	1.4N or less	Adjustable hand				
0.01mm	20485-11	20485B-11	10mm (1mm)	±13µm	0-100	1.4N or less	Adjustable hand				
0.01mm	20465-80	20465B-80	10mm (1mm)	±15µm	0-100	5.0N or less	Peak hold				
0.01mm	29405	—	10mm (1mm)	±15µm	0-100	3.0N or less	Double-face				

Inch				ANSI/AGD type							
Graduation	Order No.		Range (range/rev)	Accuracy	Dial reading	Measuring force	Remarks	ISO/JIS type		ANSI/AGD type	
	w/ lug	Flat-back									
.001"	29155-10	29155B-10	.5" (.1")	±.001"	0-100	1.8N or less	Jeweled bearing, adjustable hand				
.001"	29185-10	29185B-10	.5" (.1")	±.001"	0-50-0	1.8N or less	Jeweled bearing, adjustable hand				

DIMENSION



Dial Indicator

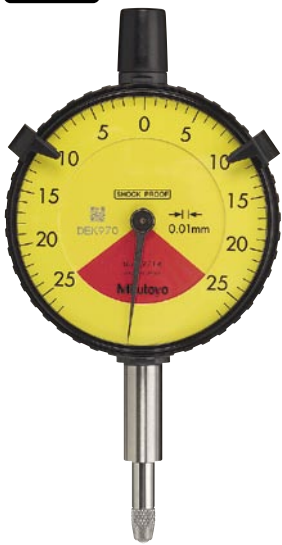
SERIES 2 — Standard One Revolution Type for Error-free Reading

Unlike many other dial indicators, the one-revolution dial indicator literally shows the entire spindle travel or range as one sweep of the hand, eliminating the possibility of reading errors due to miscounting the multiple revolutions. With one-revolution dial indicators, "within tolerance" and "out-of-tolerance" can never be misinterpreted.

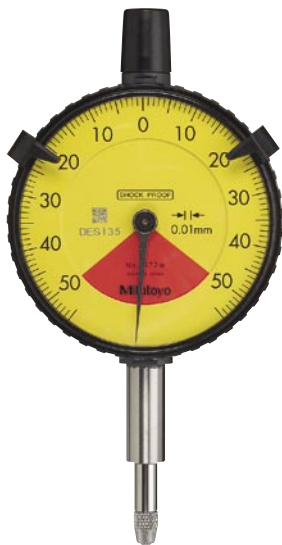
FEATURES

- An unique shock-proof mechanism is incorporated, providing improved immunity to shock due to sudden spindle retraction caused by high impact.

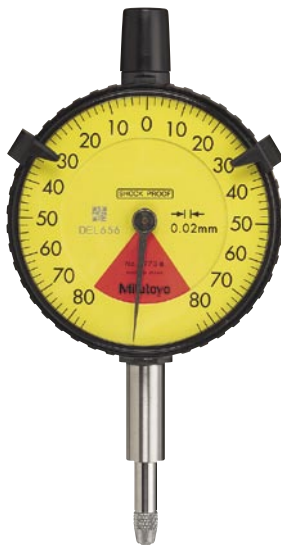
- The crystal is hard coated for durability and scratch resistance.
- Approximately 40% lighter than the conventional dial indicator.
- Provided with an improved resistance to shop floor contaminants such as water and dust.
- Due to the spindle bushing being offset from the stem, spindle movement will not be hindered or jammed when clamping along the stem.
- A pair of limit hands are provided for quick and easy tolerance judgment (GO/±NG).



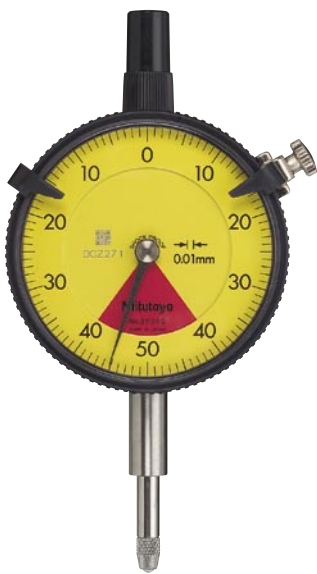
2971



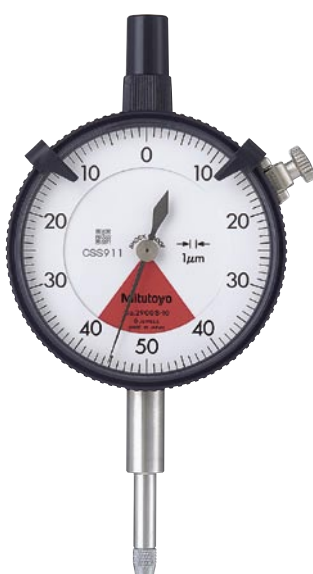
2972



2973



29295



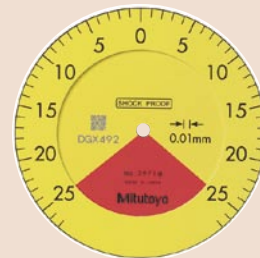
29005-10



2990



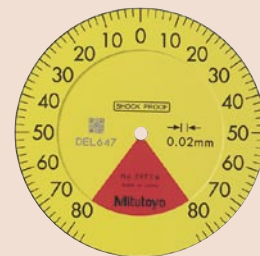
(Refer to the page 9 for details.)



2971



2972



2973



29285



Shockproof type



Waterproof type



Dustproof type



Jeweled bearing type

SPECIFICATIONS

Metric

ISO/JIS type

Graduation	Order No.		Range (range/full stroke)	Accuracy	Dial reading	Measuring force					—
	w/ lug	Flat-back									
0.1mm	2928S	2928SB	4mm / 10mm	±40µm	2-0-2	1.4N or less	✓	—	—	—	—
0.01mm	2929S	2929SB	0.8mm / 1mm	±9µm	40-0-40	1.4N or less	✓	—	—	—	—
0.01mm	2929S-60	2929SB-60	0.8mm / 1mm	±9µm	40-0-40	2.0N or less	✓	✓	—	—	—
0.01mm	2929S-62	2929SB-62	0.8mm / 1mm	±9µm	40-0-40	2.0N or less	✓	—	✓	—	—
0.01mm	2959S	2959SB	1.6mm / 2mm	±13µm	80-0-80	1.4N or less	✓	—	—	—	—
0.001mm	2900S-10	2900SB-10	0.08mm / 0.1mm	±3µm	40-0-40	1.4N or less	✓	—	—	✓	—
0.001mm	2900S-70	2900SB-70	0.08mm / 0.1mm	±3µm	40-0-40	2.0N or less	✓	✓	—	✓	—
0.001mm	2900S-72	2900SB-72	0.08mm / 0.1mm	±3µm	40-0-40	2.0N or less	✓	—	✓	✓	—
0.001mm	2901S-10	2901SB-10	0.16mm / 0.2mm	±4µm	80-0-80	1.4N or less	✓	—	—	✓	—
0.02mm	—	2973	1.6mm / 2mm	±16µm	80-0-80	1.4N or less	✓	—	✓	—	—
0.01mm	—	2971	0.5mm / 0.7mm	±10µm	25-0-25	1.4N or less	✓	—	✓	—	—
0.01mm	—	2972	1mm / 1.4mm	±12µm	50-0-50	1.4N or less	✓	—	✓	—	—
0.01mm	2990*	—	0.1mm / 0.14mm	±6.5µm	50-0-50	1.5N or less	✓	—	—	✓	—
0.001mm	—	2960F*	1mm / 1.27mm	±14µm	50-0-50	1.4N or less	✓	—	—	—	—

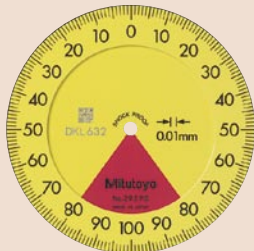
*Back plunger type (see page 262.)

Inch

ANSI/ASD type

Graduation	Order No.		Range (range/full stroke)	Accuracy	Dial reading	Measuring force					—
	w/ lug	Flat-back									
.001"	2908S	2908SB	.08" / .1"	±.001"	40-0-40	1.8N or less	✓	—	—	—	—
.001"	2908S-62	2908SB-62	.08" / .1"	±.001"	40-0-40	2.5N or less	✓	✓	—	—	—
.0005"	2909S-62	2909SB-62	.04" / .05"	±.0005"	20-0--20	2.5N or less	✓	✓	—	—	—
.0001"	2910S-10	2910SB-10	.008" / .01"	±.0001"	4-0-4	1.8N or less	✓	—	✓	—	—
.0001"	2910S-72	2910SB-72	.008" / .01"	±.0001"	4-0-4	2.5N or less	✓	—	✓	—	—
.001"	—	2978	.06" / .079"	±.001"	30-0-30	1.4N or less	✓	✓	—	—	—
.0005"	—	2976	.02" / .028"	±.0005"	10-0-10	1.4N or less	✓	✓	—	—	—
.0005"	—	2977	.04" / .055"	±.0005"	20-0-20	1.4N or less	✓	✓	—	—	—
.0001"	—	2991*	.008" / .01"	±.0002"	4-0-4	1.5N or less	✓	—	✓	—	—

*Back plunger type (see page 262.)

2929S
2929S-60
2929S-62

2959S

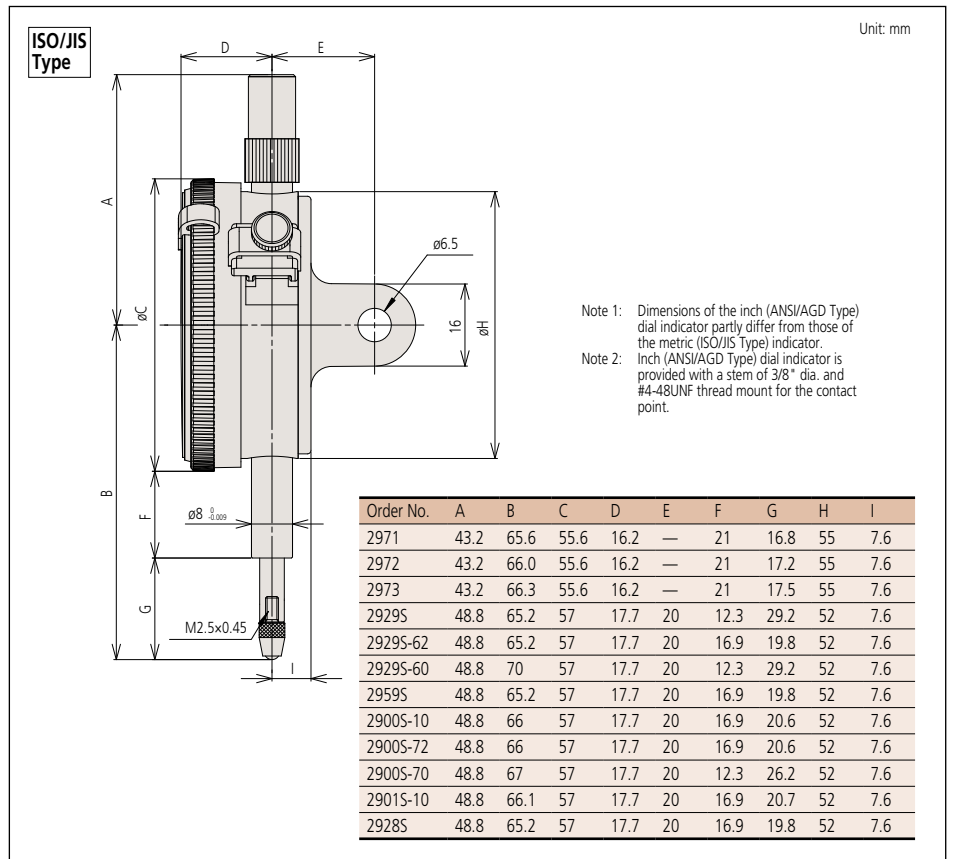
2900S-10
2900S-70
2900S-72

2901S-10

Optional Accessory

- : Backs (See page 266.)
- : Contact points (See page 264.)

DIMENSION



Dial Indicator

SERIES 2 — Long Stroke Type



2050S



2052S



2330S-10



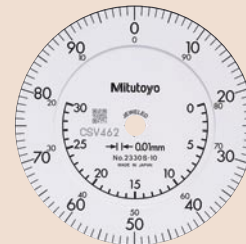
(Refer to the page 9 for details.)



2050S-60
2050S
2050S-19



2052S
2052S-19



2330S-10



2320S-10



2952S



Shockproof type



Waterproof type



w/ damper at lowest rest point



Jeweled bearing type



w/ coaxial revolution counter



Reverse reading type

SPECIFICATIONS

Metric

ISO/JIS type

Graduation	Order No.		Range (range/rev)	Accuracy	Dial reading	Measuring force						
	w/ lug	Flat-back										
0.01mm	2050S	2050SB	20mm (1mm)	±20μm	0-100	2.0N or less	—	—	✓	—	—	—
0.01mm	2050S-60	2050SB-60	20mm (1mm)	±20μm	0-100	2.5N or less	—	✓	—	—	—	—
0.01mm	2050S-19	2050SB-19	20mm (1mm)	±20μm	0-100	2.0N or less	✓	—	✓	✓	—	—
0.01mm	2320S-10	2320SB-10	20mm (1mm)	±20μm	0-100	2.0N or less	—	—	✓	✓	✓	—
0.01mm	2052S	2052SB	30mm (1mm)	±25μm	0-100	2.5N or less	—	—	✓	—	—	—
0.01mm	2052S-19	2052SB-19	30mm (1mm)	±25μm	0-100	2.5N or less	✓	—	✓	✓	—	—
0.01mm	2330S-10	2330SB-10	30mm (1mm)	±25μm	0-100	2.5N or less	—	—	✓	✓	✓	—
0.01mm	2952S	2952SB	30mm (1mm)	±25μm	100-0	2.5N or less	—	—	✓	—	—	✓

Inch

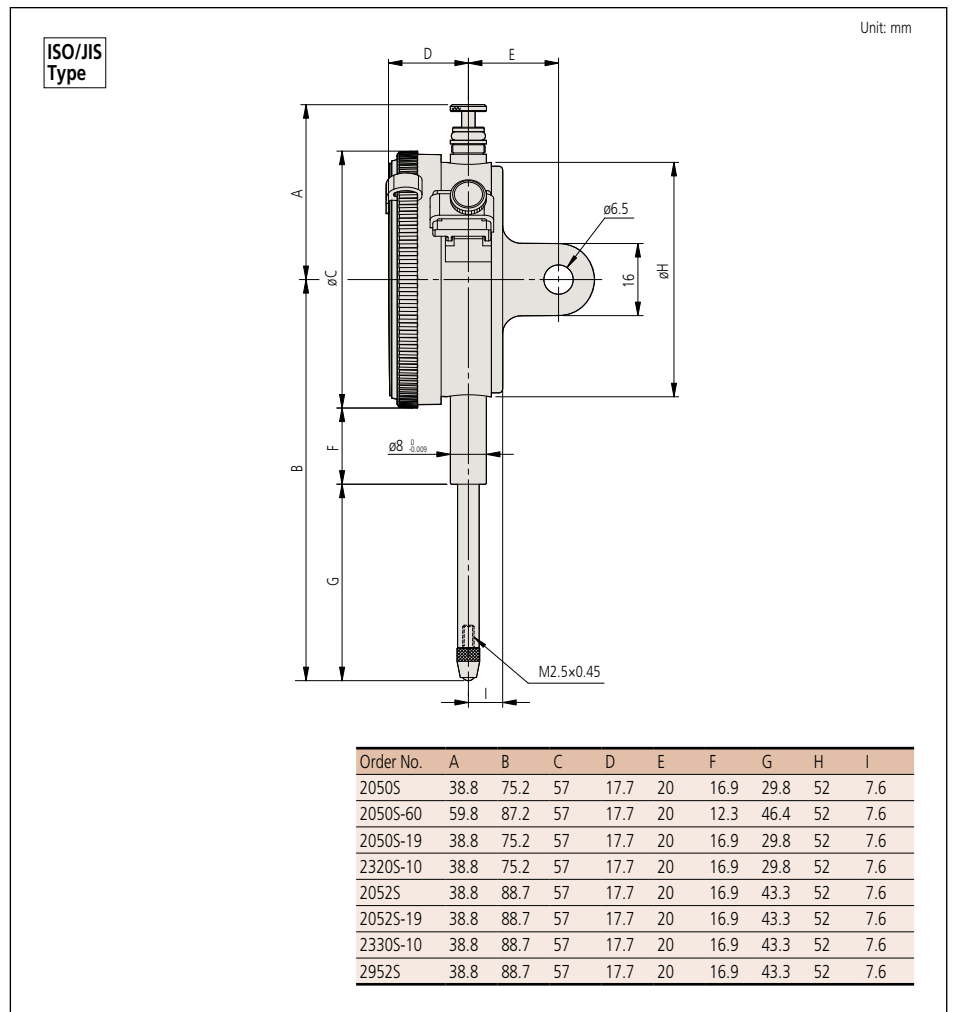
ANSI/AGD type

Graduation	Order No.		Range (range/rev)	Accuracy	Dial reading	Measuring force						
	w/ lug	Flat-back										
.01"	2204S	2204SB	1" (1")	±.005"	0-1000	1.8N or less	—	—	—	—	—	—
.001"	2416S	2416SB	1" (.1")	±.001"	0-100	1.8N or less	—	—	—	—	—	—
.001"	2416S-06	2416SB-06	1" (.1")	±.001"	0-100	1.8N or less	—	—	—	—	—	—
.001"	2416S-10	2416SB-10	1" (.1")	±.001"	0-100	1.8N or less	—	—	—	✓	—	—
.001"	2416S-60	2416SB-60	1" (.1")	±.001"	0-100	2.5N or less	—	✓	—	—	—	—
.001"	2417S	2417SB	1" (.1")	±.001"	0-50-0	1.8N or less	—	—	—	—	—	—
.001"	2424S-19	2424SB-19	2" (.1")	±.003"	0-100	2.5N or less	✓	—	—	✓	—	✓
.0005"	2776S	2776SB	1" (.05")	±.002"	0-50	1.8N or less	—	—	—	—	—	—
.0005"	2776S-60	2776SB-60	1" (.05")	±.002"	0-50	2.5N or less	—	✓	—	—	—	—
.001"	2904S	2904SB	1" (.1")	±.002"	100-0	2.0N or less	—	—	✓	—	—	—

Optional Accessory

- : Backs (See page 266.)
- : Contact points (See page 264.)

DIMENSION



Dial Indicator

SERIES 3, 4 — Large Dial Face and Long Stroke Type

- Dial gauges with a large-diameter graduation face to ease reading.
- All types come with limit pins and an outer frame clamp as standard.



3109S-10

3058S-19

4046S



(Refer to the page 9 for details.)



3046S



3047S

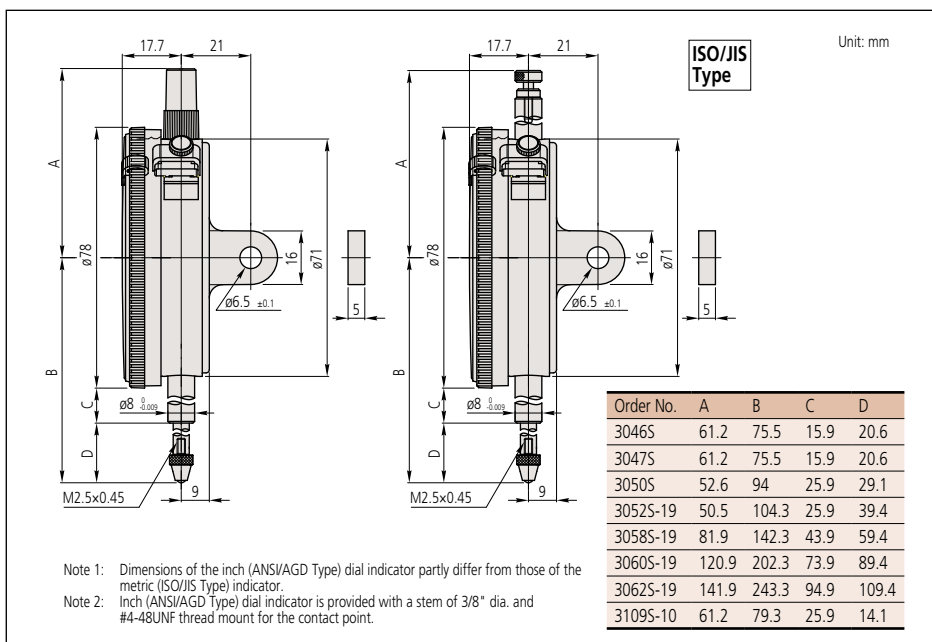


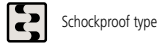
3050S



3052S-19

DIMENSION





Schockproof type



w/ damper at lowest rest point



Jeweled bearing type



w/ coaxial revolution counter

SPECIFICATIONS

Metric

ISO/JIS type ANSI/AGD type

Graduation	Order No.		Range (range/rev)	Accuracy	Dial reading	Measuring force					—	—
	w/ lug	Flat-back										
0.01mm	3046S	3046SB	10mm (1mm)	±15µm	0-100	1.4N or less	—	—	—	—	—	—
0.01mm	3047S	3047SB	10mm (1mm)	±15µm	0-50-0	1.4N or less	—	—	—	—	—	—
0.01mm	3050S	3050SB	20mm (1mm)	±20µm	0-100	2.0N or less	—	✓	—	—	—	—
0.01mm	3052S-19	3052SB-19	30mm (1mm)	±25µm	0-100	2.5N or less	✓	—	✓	✓	—	—
0.01mm	3052S-11	3052SB-11	30mm (1mm)	±30µm	0-100	2.5N or less	—	—	✓	✓	—	—
0.01mm	3058S-19	3058SB-19	50mm (1mm)	±30µm	0-100	3.0N or less	✓	—	✓	✓	—	—
0.01mm	3058S-11	3058SB-11	50mm (1mm)	±40µm	0-100	3.0N or less	—	—	✓	✓	—	—
0.01mm	3060S-19*	3060SB-19*	80mm (1mm)	±45µm	0-100	3.0N or less	✓	—	✓	✓	—	—
0.01mm	3062S-19*	3062SB-19*	100mm (1mm)	±50µm	0-100	3.2N or less	✓	—	✓	✓	—	—
0.001mm	3109S-10	3109SB-10	1mm (0.2mm)	±6µm	0-100-0	1.5N or less	✓	—	✓	—	—	—
0.01mm	4046S	4046SB	10mm (1mm)	±15µm	0-100	1.4N or less	—	—	—	—	—	—

*Use in a vertical position only.

Inch

ANSI/AGD type

Graduation	Order No.		Range (range/rev)	Accuracy	Dial reading	Measuring force				—	—	—
	w/ lug	Flat-back										
.001"	3414S	3414SB	.5" (.1")	±.001"	0-100	1.8N or less	—	—	—	—	—	—
.001"	3415S	3415SB	.5" (.1")	±.001"	0-50-0	1.8N or less	—	—	—	—	—	—
.001"	3416S	3416SB	1" (.1")	±.002"	0-100	1.8N or less	—	—	—	—	—	—
.001"	3417S	3417SB	1" (.1")	±.002"	0-50-0	1.8N or less	—	—	—	—	—	—
.001"	3424S-19	3424SB-19	2" (.1")	±.003"	0-100	3.0N or less	✓	✓	✓	—	—	—
.001"	3426S-19	3426SB-19	3" (.1")	±.005"	0-100	3.0N or less	✓	✓	✓	—	—	—
.001"	3428S-19	3428SB-19	4" (.1")	±.005"	0-100	3.2N or less	✓	✓	✓	—	—	—
.0005"	3570S-10	3570SB-10	.075" (.03")	±.0005"	0-30	1.8N or less	—	✓	—	—	—	—
.0005"	3571S-10	3571SB-10	.075" (.03")	±.0005"	0-15-0	1.8N or less	—	✓	—	—	—	—
.0001"	3802S-10	3802SB-10	.025" (.01")	±.0001"	0-10	2.0N or less	✓	✓	—	—	—	—
.0001"	3803S-10	3803SB-10	.025" (.01")	±.0001"	0-5-0	2.0N or less	✓	✓	—	—	—	—
.001"	4410S	4410SB	.25" (.1")	±.001"	0-100	1.8N or less	—	—	—	—	—	—
.001"	4887S-19	4887SB-19	3" (.1")	±.005"	0-100	3.0N or less	✓	✓	✓	—	—	—
.0005"	4570S-10	4570SB-10	.075" (.03")	±.0005"	0-30	1.8N or less	—	✓	—	—	—	—
.0001"	4802S-10	4802SB-10	.025" (.01")	±.0001"	0-10	2.0N or less	✓	✓	—	—	—	—
.0001"	4803S-10	4803SB-10	.025" (.01")	±.0001"	0-5-0	2.0N or less	✓	✓	—	—	—	—



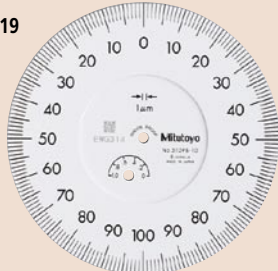
3058S-19



3060S-19



3062S-19

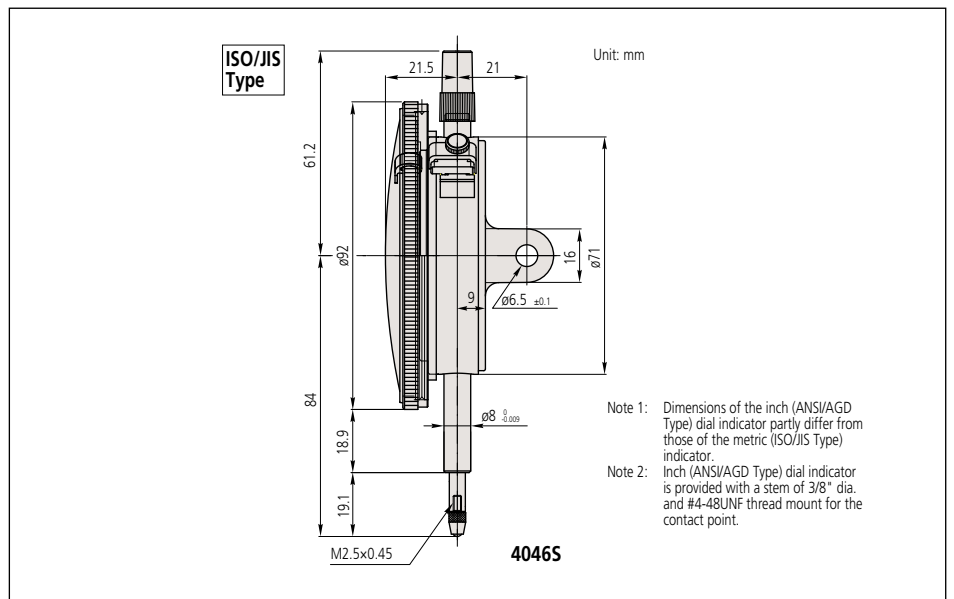


3109S-10



4046S

DIMENSION



Optional Accessory

—: Contact points (See page 262.)

ANSI/AGD Type Metric Dial Indicator

with 3/8" DIA. Stem and #4-48UNF-Thread Contact Point Compatible Type

SPECIFICATIONS

Metric Series 1 ANSI/AGD type

Graduation	Order No.		Range (range/rev)	Accuracy	Dial reading	Measuring force							
	w/ lug	Flat-back											
0.01mm	1230S-01	1230SB-01	2.5mm (1mm)	±10µm	0-100	1.5N or less	—	—	—	—	—	—	—
0.01mm	1231S-01	1231SB-01	2.5mm (1mm)	±10µm	0-50-0	1.5N or less	—	—	—	—	—	—	—
0.01mm	1044S-01	1044SB-01	5mm (1mm)	±10µm	0-100	1.4N or less	—	—	—	—	—	—	—
0.01mm	1045S-01	1045SB-01	5mm (1mm)	±10µm	0-50-0	1.4N or less	—	—	—	—	—	—	—
0.002mm	1010S-11	1010SB-11	0.5mm (0.2mm)	±2µm	0-20	1.5N or less	—	✓	—	—	—	—	—
0.002mm	1011S-11	1011SB-11	0.5mm (0.2mm)	±2µm	0-10-0	1.5N or less	—	✓	—	—	—	—	—



(Refer to the page 9 for details.)

Metric Series 2 ANSI/AGD type

Graduation	Order No.		Range (range/rev)	Accuracy	Dial reading	Measuring force							
	w/ lug	Flat-back											
0.01mm	2230S-01	2230SB-01	2.5mm (1mm)	±10µm	0-100	1.4N or less	—	—	—	—	—	—	—
0.01mm	2231S-01	2231SB-01	2.5mm (1mm)	±10µm	0-100	1.4N or less	—	—	—	—	—	—	—
0.01mm	2231S-11	2231SB-11	2.5mm (1mm)	±10µm	0-50-0	1.4N or less	—	✓	—	—	—	—	—
0.01mm	2046S-01	2046SB-01	10mm (1mm)	±13µm	0-100	1.4N or less	—	—	—	—	—	—	—
0.01mm	2046S-11	2046SB-11	10mm (1mm)	±13µm	0-100	1.4N or less	—	✓	—	—	—	—	—
0.01mm	2046S-61	2046SB-61	10mm (1mm)	±13µm	0-100	2.5N or less	✓	—	—	—	—	—	—
0.01mm	2048S-11	2048SB-11	10mm (1mm)	±13µm	0-100	1.4N or less	—	✓	✓	✓	—	—	—
0.01mm	2047S-01	2047SB-01	10mm (1mm)	±13µm	0-50-0	1.4N or less	—	—	—	—	—	—	—
0.01mm	2047S-11	2047SB-11	10mm (1mm)	±13µm	0-50-0	1.4N or less	—	✓	—	—	—	—	—
0.01mm	2902S-01	2902SB-01	10mm (1mm)	±13µm	100-0	1.4N or less	—	—	—	—	—	—	—
0.01mm	2050S-01	2050SB-01	20mm (1mm)	±20µm	0-100	2.0N or less	—	—	—	—	—	—	—
0.01mm	2050S-11	2050SB-11	20mm (1mm)	±20µm	0-100	2.0N or less	—	✓	—	—	—	—	—
0.01mm	2056S-01	2056SB-01	25mm (1mm)	±25µm	0-100	2.5N or less	—	—	—	—	—	—	—
0.002mm	2010S-11	2010SB-11	0.5mm (0.2mm)	±3µm	0-20	1.5N or less	—	✓	—	—	✓	—	—
0.002mm	2010S-71	2010SB-71	0.5mm (0.2mm)	±3µm	0-20	2.5N or less	✓	✓	—	—	—	—	—
0.002mm	2011S-11	2011SB-11	0.5mm (0.2mm)	±3µm	0-10-0	1.5N or less	—	✓	—	—	✓	—	—
0.001mm	2900S-73*	2900SB-73*	0.08mm (0.1mm)	±2µm	40-0-40	1.4N or less	—	✓	—	—	✓	✓	—
0.001mm	2109S-11	2109SB-11	1mm (0.2mm)	±4µm	0-10-0	1.5N or less	—	✓	—	—	✓	—	—
0.001mm	2119S-11	2119SB-11	5mm (0.2mm)	±10µm	0-10-0	1.5N or less	—	✓	—	—	—	—	—

*One revolution type

Metric Series 3 ANSI/AGD type

Graduation	Order No.		Range (range/rev)	Accuracy	Dial reading	Measuring force							
	w/ lug	Flat-back											
0.01mm	3052S-11	3052SB-11	30mm (1mm)	±30µm	0-100	2.5N or less	✓	✓	✓	—	—	—	—
0.01mm	3058S-11	3058SB-11	50mm (1mm)	±40µm	0-100	3.0N or less	✓	✓	✓	—	—	—	—



Waterproof type



Jeweled bearing type



Adjustable hand type



w/ coaxial revolution counter



Schockproof type



Dustproof type



Double scale spacing type

Hicator, Signal Hicator

SERIES 524 — High Accuracy One-Revolution Dial Indicator

FEATURES

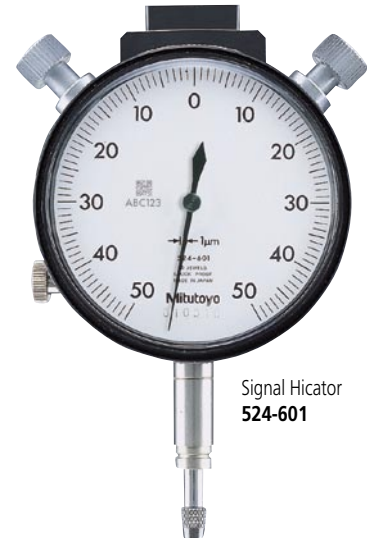
The Hicator is Mitutoyo's ultra-sensitive, one-revolution dial indicator. The spindle is made of highly durable stainless steel, and this device features jeweled bearings for extreme sensitivity as well as a shock-proof and dust-proof structure.

- The maximum, minimum, or runout value can be displayed during measurement.

- The Hicator is capable of probing measurements up to 0.0005mm.
- Connected to an optional Signal Box, the Signal Hicator can output limit signals to perform GO/±NO-GO judgment.
- Splash-proof structure.
- Lug-on-center back is optional.



Hicator
524-501



Signal Hicator
524-601

Optional Accessory

- 524-001: Signal box (100V AC)
- 524-001A: Signal box (120V AC)
- : Backs (See page 266.)
- : Contact points (See page 264.)

ABSOLUTE Digimatic Indicator ID-C

SERIES 543 — with Green/Red LED and GO/NG Signal Output Function



FEATURES (See page 237.)

- With the max./min. value holding function, the signal ID-C can output the signal of the GO/±NG judgment result against the peak values set. Substitute for the mechanical/electrical contact, the judgment is carried out by calculating the measurement data obtained. This provides high reliability with no deterioration of the contact point and volume adjustment.

SPECIFICATIONS

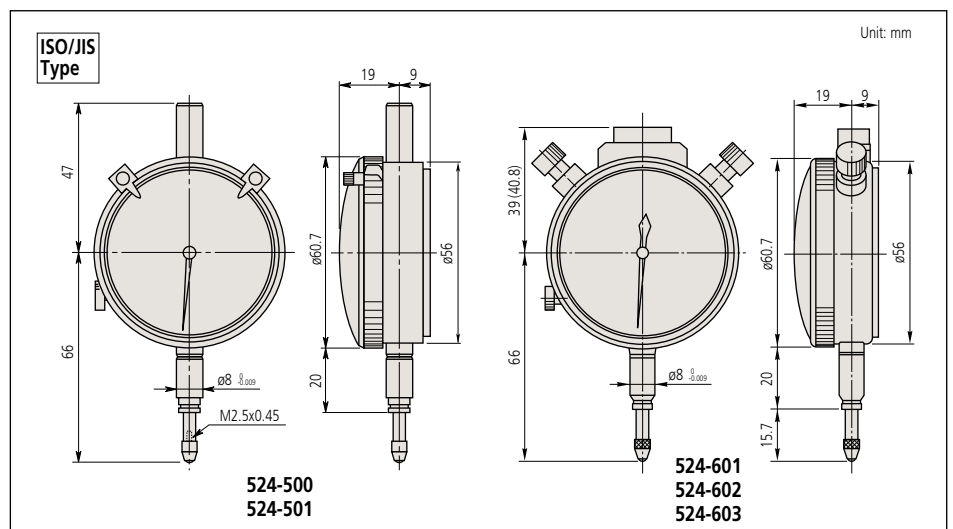
Metric		Hicator						ISO/JIS type
Graduation	Order No.*	Range	Dial reading	Spindle travel	Accuracy	Measuring force	Remarks	
0.001mm	524-501	±0.05mm	50-0-50	3mm	±1μm	1.2N or less	w/ spindle lifting cable	
0.0005mm	524-500	±0.03mm	30-0-30	3mm	±0.5μm	1.2N or less	w/ spindle lifting cable	

*Flat back

Metric		Signal Hicator						ISO/JIS type
Graduation	Order No.*	Range	Dial reading	Spindle stroke	Accuracy	Measuring force	Remarks	
0.01mm	524-603	±0.5mm	50-0-50	3mm	±5μm	1.2N or less	w/ 2m signal cable	
0.002mm	524-602	±0.1mm	100-0-100	3mm	±1.5μm	1.2N or less	w/ 2m signal cable	
0.001mm	524-601	±0.05mm	50-0-50	3mm	±1μm	1.2N or less	w/ 2m signal cable	

*Flat back

DIMENSION



Back Plunger Type Dial Indicator

SERIES 1 and 2

Mitutoyo's back plunger type dial indicators are built with the measuring spindles on the back of the units. This type of indicator offers the same precision and durability as all other Mitutoyo dial indicators, and operates very effectively with optional holding bars.

- Back plunger type dial gauges are suitable for mounting onto leveling machine tool tables or inspection jigs, and for use in small spaces where the graduations of standard dial gauges are difficult to see.
- Model No. 1960, which uses Mitutoyo's proprietary shock-proofing mechanism, has excellent durability and shock resistance.
- Model No. 2990 is back plunger type and allows 0.001mm readings.



(Refer to the page 9 for details.)



1160



1960



1180-6

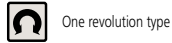
Holding bar (optional)



2960F



2990



One revolution type



Shockproof type



Jeweled bearing type

SPECIFICATIONS

Metric		Series 1		ISO/JIS type							
Graduation	Order No.	Range (range/rev)	Accuracy	Dial reading	Measuring force						
0.01mm	1960	1mm / 1.27mm*	±14μm	50-0-50	1.4N or less	✓	✓	—	—	—	—
0.01mm	1160	5mm (1mm)	±16μm	0-100	1.4N or less	—	—	—	—	—	—
0.01mm	1162	5mm (1mm)	±16μm	100-0	1.4N or less	—	—	✓	—	—	—
0.01mm	1180-6	5mm (1mm)	±16μm	0-100	1.5N or less	—	—	—	—	—	—
0.01mm	1180-7	5mm (1mm)	±16μm	0-100	1.5N or less	—	—	—	—	—	—
0.01mm	1180-8	5mm (1mm)	±16μm	0-100	1.5N or less	—	—	—	—	—	—

Inch		Series 1		ANSI/AGD type							
Graduation	Order No.	Range (range/rev)	Accuracy	Dial reading	Measuring force						
.001"	1961	.04" / .05"*	±.001"	20-0-20	1.4N or less	✓	✓	—	—	—	—
.001"	1156	.1" (.1")	±.001"	0-100	2.1N or less	—	—	—	—	—	—
.001"	1157	.1" (.1")	±.001"	0-50-0	2.1N or less	—	—	—	—	—	—
.001"	1166	.2" (.05")	±.001"	0-50	1.4N or less	—	—	—	—	—	—
.001"	1167	.2" (.05")	±.001"	0-25-0	1.4N or less	—	—	—	—	—	—
.001"	1168	.2" (.05")	±.001"	50-0	1.4N or less	—	—	✓	—	—	—

*Full stroke

Metric		Series 2		ISO/JIS type							
Graduation	Order No.	Range (range/full stroke)	Accuracy	Dial reading	Measuring force						
0.01mm	2960F	1mm / 1.27"	±14μm	50-0-50	1.4N or less	✓	✓	—	—	—	—
0.001mm	2990	0.1mm / 0.14"	±6.5μm	50-0-50	1.5N or less	✓	✓	✓	—	—	—

Inch		Series 2		ANSI/AGD type							
Graduation	Order No.	Range (range/full stroke)	Accuracy	Dial reading	Measuring force						
.0005"	2961	.04" / .05"	±.0005"	20-0-20	1.8N or less	✓	✓	—	—	—	—
.0001"	2991	.008" / .01"	±.0002"	4-0-4	1.5N or less	✓	✓	✓	—	—	—

Optional Accessory

- 136567: Holding bar (ø6mm, L=81mm)
- 21AAA166: Holding bar (ø6mm, L=42mm)
- 136568: Holding bar (ø8mm, L=81mm)
- 21AAA168: Holding bar (ø8mm, L=42mm)
- 124625: Holding bar (.25" DIA, L=3.19")
- 21AAA167: Holding bar (.25" DIA, L=1.65")
- : Backs (See page 266.)
- : Contact points (See page 264.)

DIMENSION

