

Dial Indicator

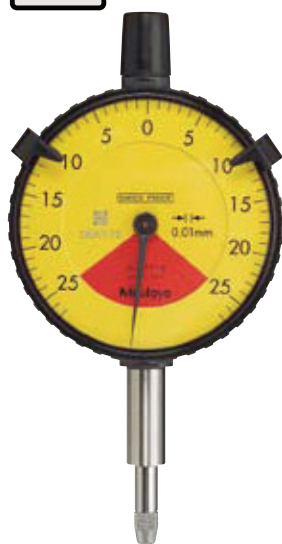
SERIES 2 — Standard One Revolution Type for Error-free Reading

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 multiple revolutions. With one-revolution dial indicators, "within tolerance" and "out-of-tolerance" can never be misinterpreted.

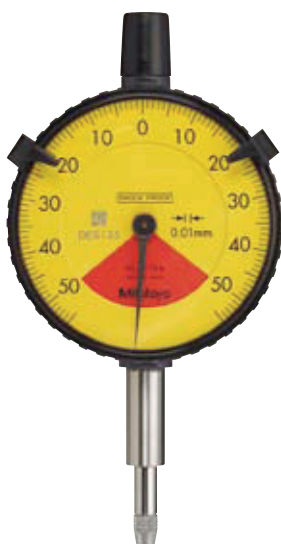
FEATURES

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

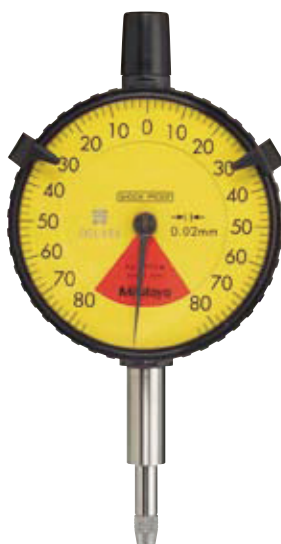
- The crystal is hard coated for durability and scratch resistance.
- Approximately 40% lighter than the conventional dial indicator.
- Provided with an improved resistance to shop floor contaminants such as water and dust.
- Due to the spindle bushing being offset from the stem, spindle movement will 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).



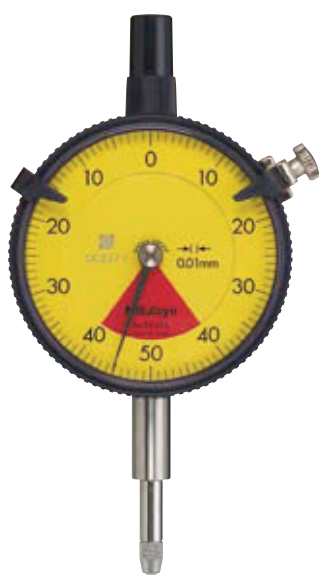
2971



2972



2973



29295



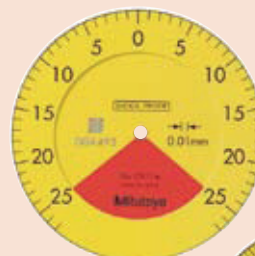
29005-10



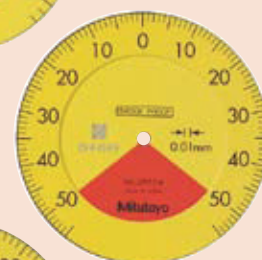
2990



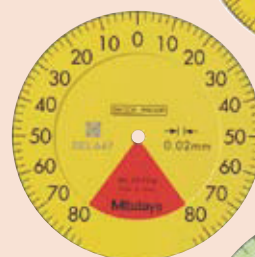
(Refer to page VIII for details.)



2971



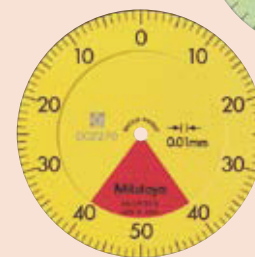
2972



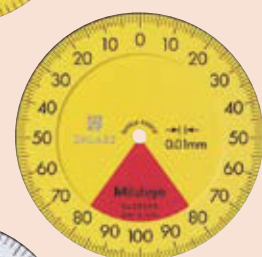
2973



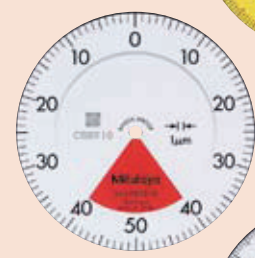
29285



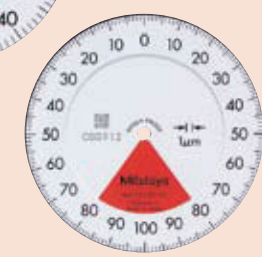
29295
29295-60
29295-62



29595



29005-10
29005-70
29005-72



29015-10



Shockproof type



Waterproof type



Dustproof type



Jeweled bearing type

FEATURES

Metric

Order No.						
w/ lug	Flat-back					
2928S	2928SB	—	—	—	—	—
2929S	2929SB	—	—	—	—	—
2929S-60	2929SB-60	—	✓	—	—	—
2929S-62	2929SB-62	—	—	✓	—	—
2959S	2959SB	—	—	—	—	—
2900S-10	2900SB-10	—	—	—	✓	—
2900S-70	2900SB-70	—	✓	—	✓	—
2900S-72	2900SB-72	✓	—	✓	✓	—
2901S-10	2901SB-10	✓	—	—	✓	—
—	2973	—	—	—	—	—
—	2971	—	—	—	—	—
—	2972	—	—	—	—	—
2990*	—	—	—	—	—	—
—	2960F*	—	—	—	—	—

Inch

Order No.						
w/ lug	Flat-back					
2909S-62	2909SB-62	—	—	✓	—	—
2910S-10	2910SB-10	✓	—	✓	✓	—
2910S-72	2910SB-72	✓	✓	—	✓	—
—	2978	—	—	—	—	—
—	2976	—	—	✓	—	—
—	2977	—	—	—	—	—
—	2991*	—	—	✓	—	—

Optional Accessories

- : Backs (See page F-40.)
 —: Contact points (See page F-36.)

SPECIFICATIONS

Metric

ISO/JIS type

Graduation	Order No.		Range (range/rev)	Accuracy				Repeat- ability	Dial reading	Measuring force
	w/ lug	Flat-back		Overall	Retrace	1/10 Rev	1 Rev			
0.1mm	2928S	2928SB	4mm (5mm)	±40µm	20µm	20µm	—	20µm	2-0-2	1.4N or less
0.01mm	2929S	2929SB	0.8mm (1mm)	±9µm	5µm	6µm	—	5µm	40-0-40	1.4N or less
0.01mm	2929S-60	2929SB-60	0.8mm (1mm)	±9µm	5µm	6µm	—	5µm	40-0-40	2.0N or less
0.01mm	2929S-62	2929SB-62	0.8mm (1mm)	±9µm	5µm	6µm	—	5µm	40-0-40	2.0N or less
0.01mm	2959S	2959SB	1.6mm (2mm)	±13µm	6µm	8µm	—	5µm	80-0-80	1.4N or less
0.001mm	2900S-10	2900SB-10	0.08mm (0.1mm)	±3µm	2.5µm	2.5µm	—	0.5µm	40-0-40	1.4N or less
0.001mm	2900S-70	2900SB-70	0.08mm (0.1mm)	±3µm	2.5µm	2.5µm	—	0.5µm	40-0-40	2.0N or less
0.001mm	2900S-72	2900SB-72	0.08mm (0.1mm)	±3µm	2.5µm	2.5µm	—	0.5µm	40-0-40	2.0N or less
0.001mm	2901S-10	2901SB-10	0.16mm (0.2mm)	±4µm	3µm	3µm	—	0.5µm	80-0-80	1.4N or less
0.02mm	2973	—	1.6mm (2mm)	±16µm	6µm	8µm	—	5µm	80-0-80	1.4N or less
0.01mm	2971	—	0.5mm (0.7mm)	±10µm	5µm	7µm	—	5µm	25-0-25	1.4N or less
0.01mm	2972	—	1mm (1.4mm)	±12µm	5µm	7µm	—	5µm	50-0-50	1.4N or less
0.01mm	2990*	—	0.1mm (0.14mm)	±6.5µm	4µm	4µm	—	1µm	50-0-50	1.5N or less
0.001mm	2960F*	—	1mm (1.27mm)	±14µm	7µm	10µm	—	5µm	50-0-50	1.4N or less

*Back plunger type (see page F-34.)

Inch

ANSI/AGD type

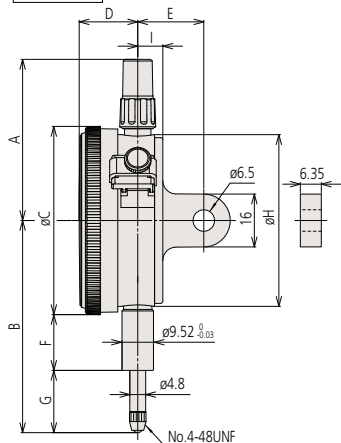
Graduation	Order No.		Range (range/rev)	Accuracy		Repeat- ability	Dial reading	Measuring force
	w/ lug	Flat-back		First 1 Rev / 2.5 Rev / 10 Rev	Retrace			
.0005"	2909S-62	2909SB-62	.04" / .05"	±.0005" / — / —	.00016"	±.0001"	20-0-20	2.5N or less
.0001"	2910S-10	2910SB-10	.008" / .01"	±.0001" / — / —	.0001"	±.00003"	4-0-4	1.8N or less
.0001"	2910S-72	2910SB-72	.008" / .01"	±.0001" / — / —	.0001"	±.00003"	4-0-4	2.5N or less
.001"	2978	—	.06" / .079"	±.001" / — / —	.0002"	±.0002"	30-0-30	1.4N or less
.0005"	2976	—	.02" / .028"	±.0005" / — / —	.00016"	±.0001"	10-0-10	1.4N or less
.0005"	2977	—	.04" / .055"	±.0005" / — / —	.00016"	±.0001"	20-0-20	1.4N or less
.0001"	2991*	—	.008" / .01"	±.0002" / — / —	.0001"	±.00005"	4-0-4	1.5N or less

*Back plunger type (see page 262.)

DIMENSIONS

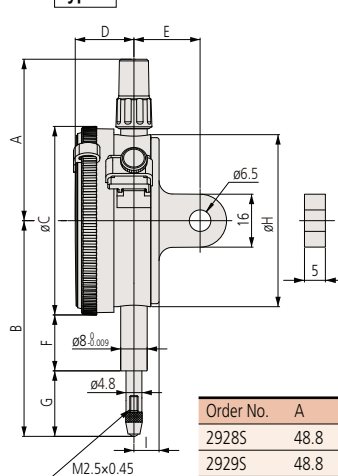
Unit: mm

ANSI/AGD Type



Order No.	A	B	C	D	E	F	G	H	I
2909S-62	48.8	51.9	57	17.7	19	13.6	9.8	52	7.6
2910S-10	48.8	51.2	57	17.7	19	13.6	9.1	52	7.6
2910S-72	48.8	51.2	57	17.7	19	13.6	9.1	52	7.6
2978	43.2	65.3	55.6	16.2	—	21	16.5	55	7.6
2976	43.2	64.7	55.6	16.2	—	21	15.9	55	7.6
2977	43.2	65	55.6	16.2	—	21	16.2	55	7.6

ISO/JIS Type



- 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	D	E	F	G	H	I
2928S	48.8	65.2	57	17.7	20	16.9	19.8	52	7.6
2929S	48.8	65.2	57	17.7	20	16.9	19.8	52	7.6
2929S-60	48.8	70	57	17.7	20	12.3	29.2	52	7.6
2929S-62	48.8	65.2	57	17.7	20	16.9	19.8	52	7.6
2959S	48.8	65.2	57	17.7	20	16.9	19.8	52	7.6
2900S-10	48.8	66	57	17.7	20	16.9	20.6	52	7.6
2900S-70	48.8	67	57	17.7	20	12.3	26.2	52	7.6
2900S-72	48.8	66	57	17.7	20	16.9	20.6	52	7.6
2901S-10	48.8	66.1	57	17.7	20	16.9	20.7	52	7.6
2973	43.2	66.3	55.6	16.2	—	21	17.5	55	7.6
2971	43.2	65.6	55.6	16.2	—	21	16.8	55	7.6
2972	43.2	66.0	55.6	16.2	—	21	17.2	55	7.6