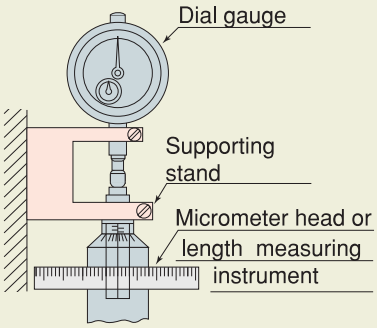
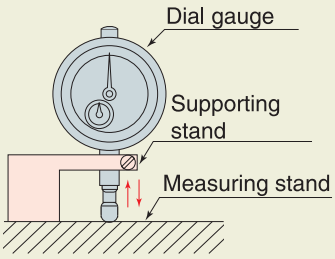
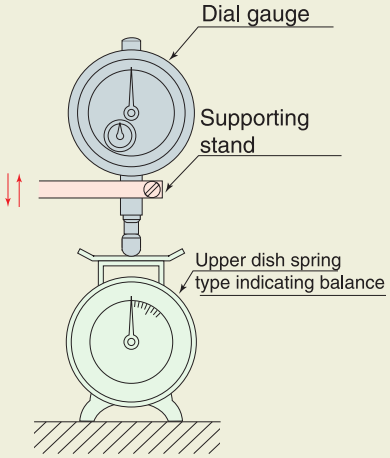
Technical Data

Dial Indicators JIS B 7503: 1997 (Japan Industrial Standards)

Methods of measuring of performance

No.	Item	Measuring method	Illustration	Measuring instrument
1	Indication error	Holding the plunger of the dial gauge vertically and downward, carry out the following procedure setting the reading of dial gauge at the zero point. Press in the plunger 1／10 by 1／10 revolution up to two revolutions from the zero point, 1／2 by 1／2 revolution up to five revolutions and 1 by 1revolution up to the end point of the measuring range after exceeding five revolutions and, returning back the plunger in the same state, read the same measuring points as in the pressing in direction. Obtain the error from the error diagram made as a result of the reading in both directions(see Attached Fig.1).		Micrometer head or lengh measuring instrument of 0.5μm or under in scale interval and instrumental error of ±1μm and supporting stand for the dial gauge of 0.001mm and 0.002mm in scale interval and 2mm or under in measuring range. For other dial gauges from the above, micrometer head or length measuring instruments of 1μm or under in scale interval and ±1μm in instrumental error and measuring stand.
2	Adjacent error			
3	Retrace error			
4	Repeatability	Applying the contact point vertically on the upper surface of the measuring stand, obtain the maximum difference between the indications at every times when the plunger is operated rapidly and slowly five times at an arbitrary position in the measuring range.		Measuring stand. Supporting stand.
5	Measuring Force	Hold the dial gauge whose plunger is placed vertically and downward, transfer the plunger up-and-downward continuously and slowly to measure the measuring forces at the zero point, center and end point of the measuring range.		Supporting stand. Upper dish spring type indicating balance (2g or under in scale interval) or force meter (0.02 N or under in sensitivity).

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Maximum allowable error of indication

(unit: μm)

		Scale interval and measuring range					
		0.01mm	0.002mm		0.001mm		
Measuring range		10mm max.	2mm max.	Over 2mm, and less than 10mm	1mm max.	Over 1mm, and less than 2mm	Over 2mm, and less than 5mm
Retrace Error		5	3	4	3	3	4
Repeatability		5	0.5	1	0.5	0.5	1
Indication error	1／10 revolution (1)	8	4	5	2.5	4	5
	1／2 revolution	±9	±5	±6	±3	±5	±6
	One revolution	±10	±6	±7	±4	±6	±7
	Two revolutions	±15	±6	±8	±4	±6	±8
	Whole measuring range	±15	±7	±12	±5	±7	±10

Note: (1) Adjacent error.

Remark: The value in this table shall be at 20℃.

Indication error diagram