

# Dial Indicators

Comparison measuring instruments which ensure high quality, high accuracy and reliability.

## Back Plunger Type Dial Indicators SERIES 2

- Back Plunger type dial indicators are suitable for mounting onto leveling machine tool tables or inspection jigs, and for use in small spaces where the graduations of standard dial indicators are difficult to see.
- Mitutoyo's proprietary shock-proofing mechanism provides excellent durability and shock resistance.
- Model **2990A-10** provides 0.001 mm graduation.



An inspection certificate is supplied as standard. Refer to page U-9 for details.



Holding bar

### Holding bar (optional)

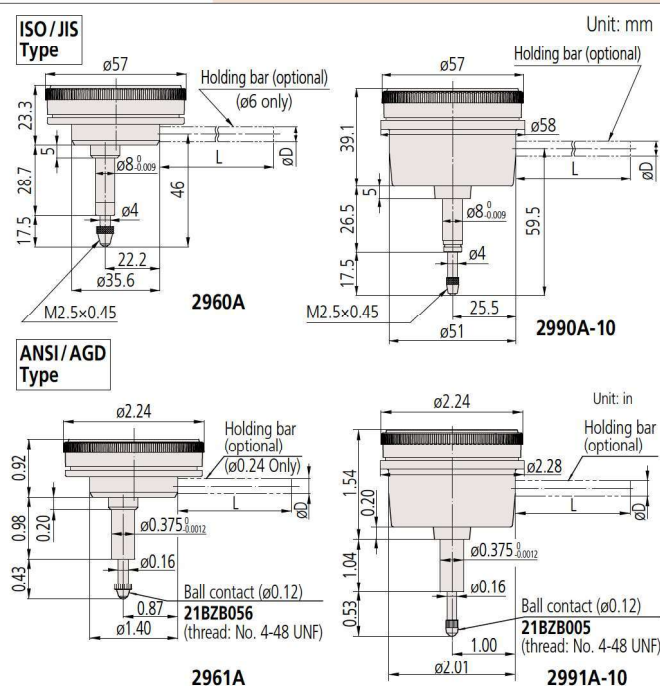
Order No.	øD (mm)	L (mm)
21AAA166	ø6	42
136567	ø6	81
124625	ø6.35	81
21AAA167	ø6.35	42
21AAA168	ø8	42
136568	ø8	81

Note: øD and L: detail shown in drawing below.

### Optional Accessory

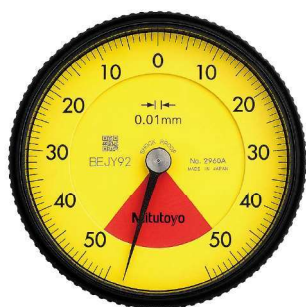
- Limit hand (2 pcs.): **21AZB195**

## DIMENSIONS

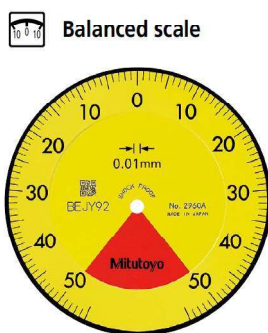


Note 1: The shoulder on a contact point (standard accessory) for **2960A** and **2961A** acts as a stop to prevent spindle overrun that may otherwise damage the indicator. For this reason, if you need to install an optional contact point with an outside diameter smaller than 7 mm, use a washer (with outside diameter of at least 7 mm, inside diameter of 3 mm, and thickness of approx. 0.5 mm) placed between the contact point and the spindle.

Note 2: Refer to pages F-57 to F-60 for details of contact points.



2960A

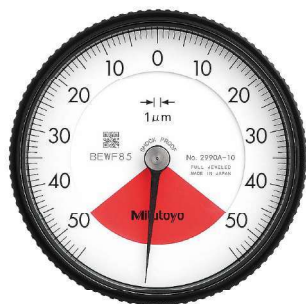


Balanced scale

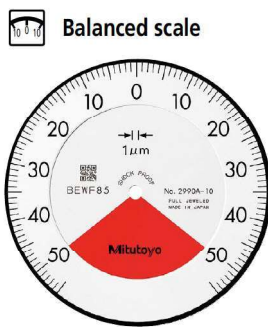
Graduation: 0.01 mm,  
Measuring range: 1 mm

2960A

- One revolution
- Shockproof
- Back Plunger



2990A-10



Balanced scale

Graduation: 0.01 mm,  
Measuring range: 1 mm

2990A-10

- One revolution
- Shockproof
- Back Plunger
- Jeweled bearing

Metric		ISO/JIS type								
Order No.	Graduation (mm)	Range (range/rev) (mm)	Maximum permissible error (MPE) (μm)						Dial reading	Measuring force (N)
			Indication error			Hysteresis	Repeat-ability			
			1/10 Rev	1/2 Rev	1 Rev			Measuring range		
2960A	0.01	1 (1.27)	8	—	—	14	4	3	50-0-50	1.4 or less
2990A-10	0.001	0.1 (0.14)	2.5	—	—	5	2	1	50-0-50	1.5 or less

Note 1: Completed products inspection is performed in the vertical orientation (contact point downward) and the stated accuracy is guaranteed.

Note 2: The bezel clamp cannot be used.

Inch		ANSI/AGD type								
Order No.	Graduation (in)	Range (range/rev) (in)	Accuracy (in)			Repeat-ability (in)	Dial reading	Measuring force (N)		
			First 1 Rev/2.5 Rev/10 Rev		Retrace					
2961A	0.0005	0.04/0.05	±0.0005/—/—		0.00016	±0.0001	20-0-20	1.4 or less		
2991A-10	0.0001	0.008/0.01	±0.0002/—/—		0.0001	±0.00005	4-0-4	1.5 or less		

Note 1: Completed products inspection is performed in the vertical orientation (contact point downward) and the stated accuracy is guaranteed.

Note 2: The bezel clamp cannot be used.

**Mitutoyo**