



SERIES 3, 4 — Long Stroke Type, Large Diameter

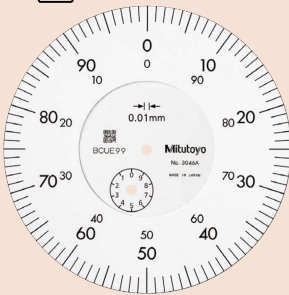
Optional Accessories

- Limit hand (2 pcs.): **21AZB195**
- Bezel clamp: **21AZB148** (for metric type)
21RZA065 (for inch type)

- Dial indicators with a large-diameter dial face for easy reading.
- Models with longer measuring ranges are also available.
- All types are supplied with limit markers and a bezel clamp as standard.
- The stem and spindle are made of high-strength quench-hardened stainless steel suitable for heavy-duty use.
- A carbide contact point is used.
- The bezel 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.

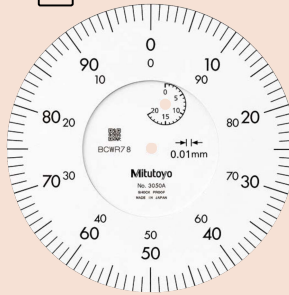
* Can be attached only to **3046A, 3047A, 3050A, 3109A-10** and **4046A**.

Continuous scale



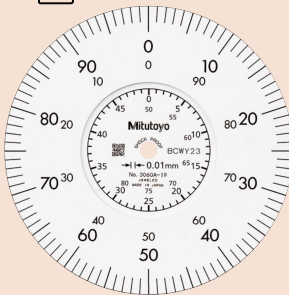
Graduation: 0.01 mm, **3046A**
Measuring range: 10 mm

Continuous scale



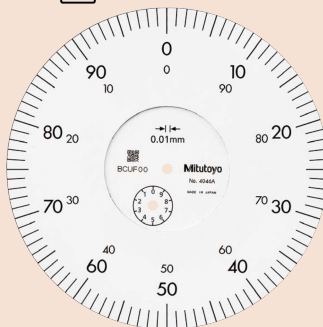
Graduation: 0.01 mm, **3050A**

Continuous scale



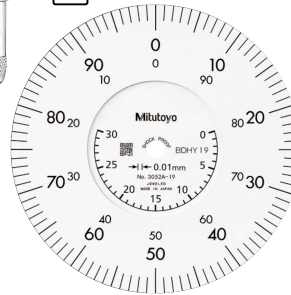
Graduation: 0.01 mm, **3060A-19**

Continuous scale



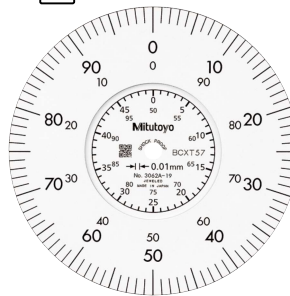
Graduation: 0.01 mm, **4046A**
Measuring range: 10 mm

Continuous scale



Graduation: 0.01 mm, **3052A-19**

Continuous scale



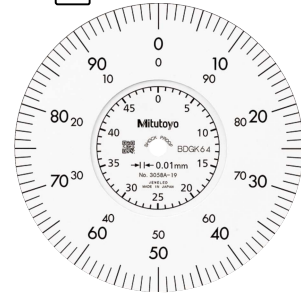
Graduation: 0.01 mm, **3062A-19**

Balanced scale



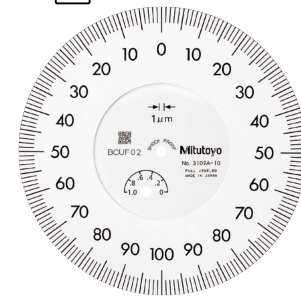
Graduation: 0.01 mm, **3047A**
Measuring range: 10 mm

Continuous scale

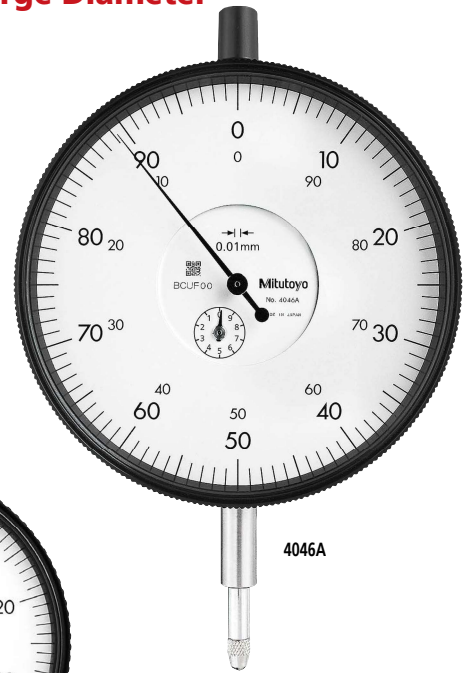


Graduation: 0.01 mm, **3058A-19**

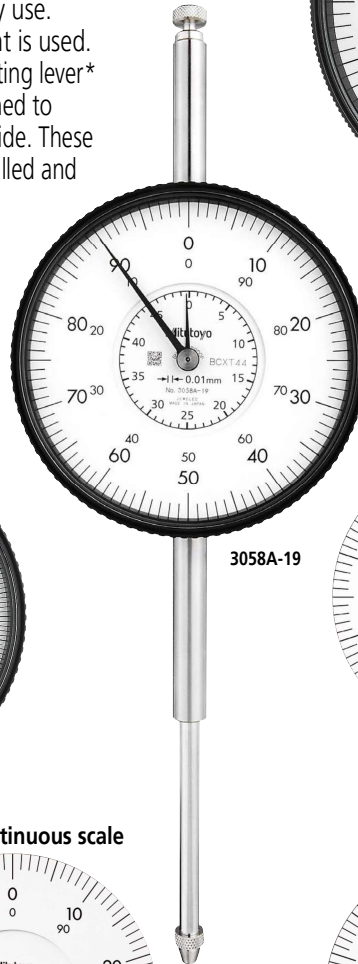
Balanced scale



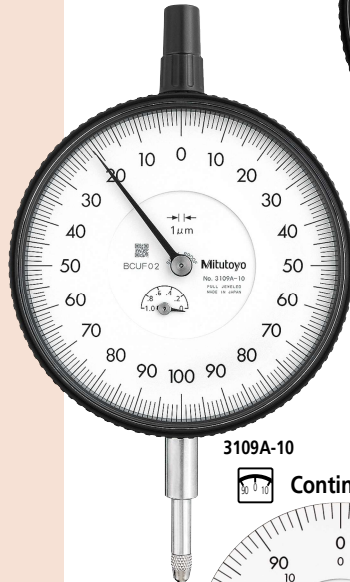
Graduation: 0.001 mm, **3109A-10**



4046A



3058A-19



3109A-10

Dial Indicators

DIMENSIONS

ISO /JIS Type

Unit: mm

Order No.	A	B	C	D	E	F	G	H	I
3046A	59.6	75.5	78	17.6	21	15.9	20.6	71	9
3047A	59.6	75.5	78	17.6	21	15.9	20.6	71	9
3050A	52.6	94	78	17.6	21	25.9	29.1	71	9
3052A-19*	72.9	104.3	78	17.6	21	25.9	39.4	71	9
3058A-19*	81.9	142.3	78	17.6	21	43.9	59.4	71	9
3060A-19*	120.9	202.3	78	17.6	21	73.9	89.4	71	9
3062A-19*	141.9	243.3	78	17.6	21	94.9	109.4	71	9
3109A-10	59.6	79	78	17.6	21	15.9	14.1	71	9
4046A	59.6	84	92	21.5	21	18.9	19.1	71	9

* The shoulder on a contact point (standard accessory) 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: Refer to pages F-57 to F-60 for details of contact points.

Unit: mm

ANSI /AGD Type

Unit: in

Order No.	A	B	C	D	E	F	G	H	I
3414A	2.07	2.89	3.07	0.70	3/4	0.50	0.86	2.80	0.35
3415A	2.07	2.89	3.07	0.70	3/4	0.50	0.86	2.80	0.35
3416A	2.07	3.39	3.07	0.70	3/4	0.50	1.36	2.80	0.35
3417A	2.07	3.39	3.07	0.70	3/4	0.50	1.36	2.80	0.35
3424A-19*	3.31	5.88	3.07	0.70	3/4	1.99	2.35	2.80	0.35
3426A-19*	4.84	7.80	3.07	0.70	3/4	2.91	3.35	2.80	0.35
3428A-19*	5.67	9.63	3.07	0.70	3/4	3.74	4.35	2.80	0.35
3802A-10	2.41	2.35	3.07	0.70	3/4	0.50	0.32	2.80	0.35
3803A-10	2.41	2.35	3.07	0.70	3/4	0.50	0.32	2.80	0.35
4887A-19*	4.84	7.80	3.62	0.85	3/4	2.63	3.35	2.80	0.35

Unit: in

**3414A
3415A
3416A
3417A**

**3802A-10
3803A-10**

**3424A-19
3426A-19
3428A-19**

4887A-19

FEATURES

Metric							
Order No.	w/lug	Flat-back	30°	15°	3	4	5
3046A	3046AB	✓	✓				
3047A	3047AB		✓				
3050A	3050AB	✓			✓		
3052A-19	3052AB-19	✓			✓		✓
3058A-19	3058AB-19	✓			✓		✓
3060A-19	3060AB-19	✓			✓		✓
3062A-19	3062AB-19	✓			✓		✓
3109A-10	3109AB-10		✓		✓		✓
4046A	4046AB	✓					

Inch							
Order No.	w/lug	Flat-back	30°	15°	3	4	5
3414A	3414AB	✓					
3415A	3415AB		✓				
3416A	3416AB	✓					
3417A	3417AB		✓				
3424A-19	3424AB-19	✓			✓		✓
3426A-19	3426AB-19	✓			✓		✓
3428A-19	3428AB-19	✓			✓		✓
3802A-10	3802AB-10	✓			✓		✓
3803A-10	3803AB-10		✓		✓		✓
4887A-19	4887AB-19	✓			✓		✓

SPECIFICATIONS

Metric		ISO /JIS type										
Order No.	w/lug	Flat-back	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							
3046A	3046AB		0.01	10 (1)	5	9	10	15	3	3	±0-100	1.4 or less
3047A	3047AB		0.01	10 (1)	5	9	10	15	3	3	0-50-0	1.4 or less
3050A	3050AB		0.01	20 (1)	8	10	15	20	5	4	±0-100	2.0 or less
3052A-19	3052AB-19		0.01	30 (1)	10	12	15	25	7	5	±0-100	2.5 or less
3058A-19	3058AB-19		0.01	50 (1)	10	12	15	30	8	5	±0-100	3.0 or less
3060A-19 ^{*1}	3060AB-19 ^{*1}		0.01	80 (1)	12	17	20	45	9	5	±0-100	3.0 or less
3062A-19 ^{*1}	3062AB-19 ^{*1}		0.01	100 (1)	12	17	20	50	9	5	±0-100	3.5 or less
3109A-10	3109AB-10		0.001	1 (0.2)	2	3.5	4	5	2	0.5	0-100-0	1.5 or less
4046A	4046AB		0.01	10 (1)	5	9	10	15	3	3	±0-100	1.4 or less

*1 Use in a vertical orientation (contact point downward) for the long stroke model.
*2 Completed products inspection is performed in the vertical orientation (contact point downward) and the stated accuracy is guaranteed.

Inch		ANSI /AGD type									
Order No.	w/lug	Flat-back	Graduation (in)	Range (range/rev) (in)	Accuracy ^{*2} (in)			Repeat-ability (in)	Dial reading	Measuring force (N)	
					First 1 Rev	2.5 Rev/10 Rev	Retrace				
3414A	3414AB		0.001	0.5 (0.1)	±0.001/±0.001/±0.001	0.0002	±0.0002	±0-100	1.8 or less		
3415A	3415AB		0.001	0.5 (0.1)	±0.001/±0.001/±0.001	0.0002	±0.0002	0-50-0	1.8 or less		
3416A	3416AB		0.001	1 (0.1)	±0.001/±0.001/±0.002	0.0002	±0.0002	±0-100	1.8 or less		
3417A	3417AB		0.001	1 (0.1)	±0.001/±0.001/±0.002	0.0002	±0.0002	0-50-0	1.8 or less		
3424A-19	3424AB-19		0.001	2 (0.1)	±0.001/±0.001/±0.002 /±0.003 (20 Rev)	0.00033	±0.0002	±0-100	3.0 or less		
3426A-19 ^{*1}	3426AB-19 ^{*1}		0.001	3 (0.1)	±0.001/±0.001/±0.002/±0.003 (20 Rev)/±0.005 (Over 20 Rev)	0.00033	±0.0002	±0-100	3.0 or less		
3428A-19 ^{*1}	3428AB-19 ^{*1}		0.001	4 (0.1)	±0.001/±0.001/±0.002/±0.003 (20 Rev)/±0.005 (Over 20 Rev)	0.00033	±0.0002	±0-100	3.5 or less		
3802A-10	3802AB-10		0.0001	0.025 (0.01)	±0.0001/±0.0001/—	0.0001	±0.00003	0-10	2.0 or less		
3803A-10	3803AB-10		0.0001	0.025 (0.01)	±0.0001/±0.0001/—	0.0001	0±0.00003	0-5-0	2.0 or less		
4887A-19 ^{*1}	4887AB-19 ^{*1}		0.001	3 (0.1)	±0.001/±0.001/±0.002/±0.003 (20 Rev)/±0.005 (Over 20 Rev)	0.00033	±0.0002	±0-100	3.0 or less		

*1 Use in a vertical orientation (contact point downward) for the long stroke model.
*2 Completed products inspection is performed in the vertical orientation (contact point downward) and the stated accuracy is guaranteed.



ANSI/AGD Type Metric Dial Indicators with ø3/8 inch Stem and #4-48UNF-Thread Contact Point Compatible Type

SPECIFICATIONS

Metric		SERIES 1		ANSI/AGD type					
Order No.		Graduation (mm)	Range (range/rev) (mm)	Accuracy (µm)		Repeat-ability (µm)	Dial reading	Measuring force (N)	
w/lug	Flat-back			First 1 Rev/2.5 Rev/10 Rev	Retrace				
1230A-01	1230AB-01	0.01	2.5 (1)	±10/±10/—		3	±2	0-100	1.4 or less
1231A-01	1231AB-01	0.01	2.5 (1)	±10/±10/—		3	±2	0-50-0	1.4 or less
1044A-01	1044AB-01	0.01	5 (1)	±10/±10/±13		3	±3	±0-100	1.4 or less
1045A-01	1045AB-01	0.01	5 (1)	±10/±10/±13		3	±3	0-50-0	1.4 or less
1010A-11	1010AB-11	0.002	0.5 (0.2)	±2/±2/—		2	±1	0-20	1.5 or less
1011A-11	1011AB-11	0.002	0.5 (0.2)	±2/±2/—		2	±1	0-10-0	1.5 or less

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

Metric		SERIES 2		ANSI/AGD type					
Order No.		Graduation (mm)	Range (range/rev) (mm)	Accuracy (µm)		Repeat-ability (µm)	Dial reading	Measuring force (N)	
w/lug	Flat-back			First 1 Rev/2.5 Rev/10 Rev	Retrace				
2231A-01	2231AB-01	0.01	2.5 (1)	±10/±10/—		3	±3	0-50-0	1.4 or less
2046A-01	2046AB-01	0.01	10 (1)	±10/±10/±13		3	±3	±0-100	1.4 or less
2046A-11	2046AB-11	0.01	10 (1)	±10/±10/±13		3	±3	±0-100	1.4 or less
2047A-01	2047AB-01	0.01	10 (1)	±10/±10/±13		3	±3	0-50-0	1.4 or less
2047A-11	2047AB-11	0.01	10 (1)	±10/±10/±13		3	±3	0-50-0	1.4 or less
2902A-01	2902AB-01	0.01	10 (1)	±10/±10/±13		3	±3	100-0	1.4 or less
2050A-01	2050AB-01	0.01	20 (1)	±10/±10/±15/±20 (20 Rev)		4	±3	±0-100	2.0 or less
2056A-01	2056AB-01	0.01	25 (1)	±10/±10/±15/±20 (20 Rev)/ ±25 (Over 20 Rev)		4	±3	±0-100	2.5 or less
2109A-11	2109AB-11	0.001	1 (0.2)	±3/±3/±4		2	±0.3	0-10-0	1.5 or less
2119A-11	2119AB-11	0.001	5 (0.2)	±7/±7/±8/±10 (20 Rev)/ ±10 (Over 20 Rev)		2.5	±0.3	0-10-0	1.5 or less

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

FEATURES

Metric								
Order No.		w/lug	Flat-back					
1230A-01	1230AB-01							
1231A-01	1231AB-01							
1044A-01	1044AB-01							
1045A-01	1045AB-01							
1010A-11	1010AB-11					✓		✓
1011A-11	1011AB-11					✓		✓

Metric											
Order No.		w/lug	Flat-back								
2231A-01	2231AB-01										
2046A-01	2046AB-01										
2046A-11	2046AB-11					✓					
2047A-01	2047AB-01										
2047A-11	2047AB-11					✓					
2902A-01	2902AB-01									✓	
2050A-01	2050AB-01										
2056A-01	2056AB-01										
2109A-11	2109AB-11					✓			✓		
2119A-11	2119AB-11					✓					

Optional Accessories

- Backs (See page F-61)
- Contact points (See pages F-57 to F-60)