



Digimatic Indicator



Dial Indicator



Dial Test Indicator



**Dial Indicator
Application and
Stand**

New Products



ID-H



20465



2109S-10



ID-N / ID-B



Caliper gage

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Digimatic Indicator

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Dial Test Indicators

Pocket Type Dial Test Indicator

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Dial Indicator Application

i-Checker

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Calibration Tester

Thickness Gages

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Quick-Mini

Digi-Derm

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Bench Gages

Upright Gages

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Snap Gages

Female Screw Thread Comparator

Dial Indicator & Magnetic Stand Set

Stand

Magnetic Stand

Dial Gage Stand

Transfer Stand

Precision Granite Stands

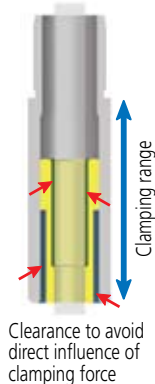
Comparator Stand

Heavy Duty Comparator Stand

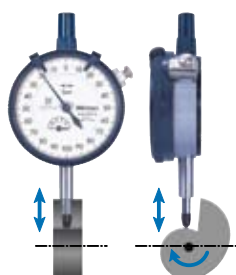
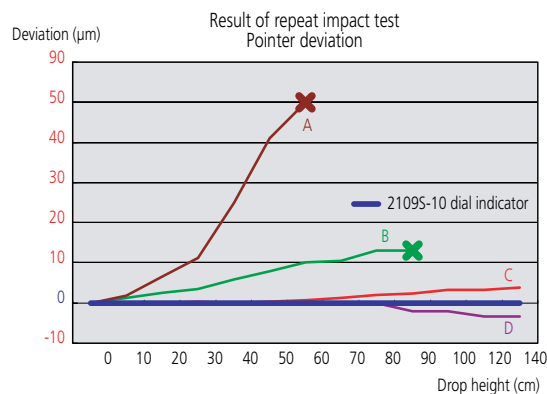
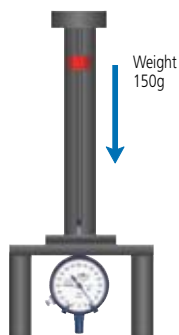
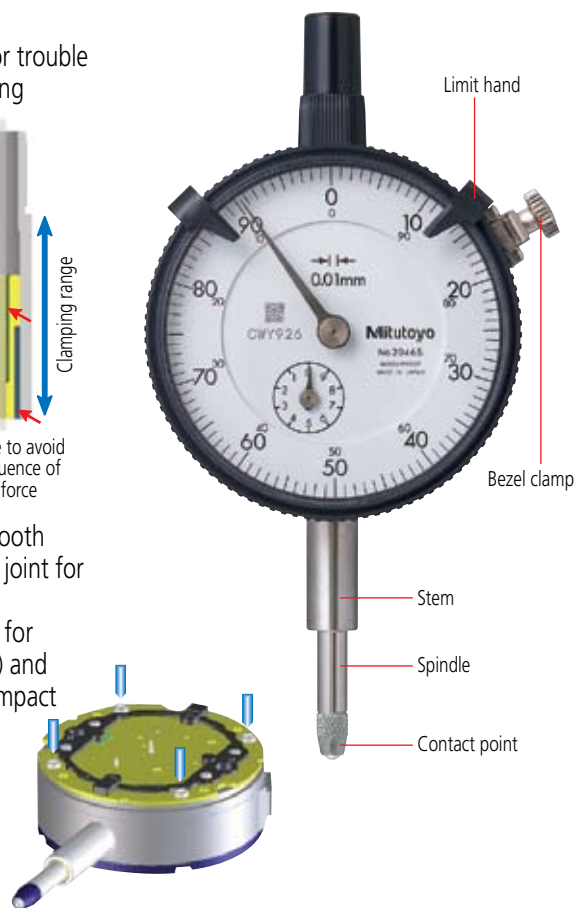
Dial Indicators

FEATURES: S Series

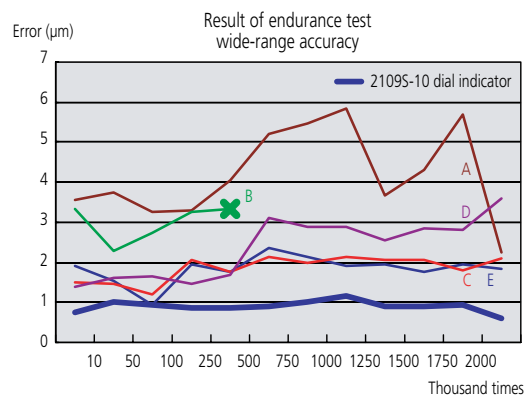
- Revolutionary stem-bush design for trouble free stem clamping (longer clamping range).
- No through screw-hole on the frame for high dust-resistance.



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



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 Indicators

SERIES 0 - Compact type



1911



1923

SPECIFICATIONS

Inch		Stem dia. 3/8", #4-48 UNF Thread				ANSI/AGD type			
Graduation	Range	Range/rev	Dial reading	Order No.		Accuracy		Measuring force	
				w/ lug	Flat-back	First 2.5 Rev	Overall Accuracy		
.0001"	.01"	.004"	0-2-0	1927-10	1927B-10	±.0002"	±.0002"	1.4N or less	✓
.0001"	.025"	.01"	0-5-0	1925-10	1925B-10	±.0002"	±.0002"	1.4N or less	✓
.0005"	.05"	.02"	0-10-0	1923	1923B	±.0005"	±.0005"	1.4N or less	—
.001"	.1"	.04"	0-20-0	1921	1921B	±.001"	±.001"	1.4N or less	—

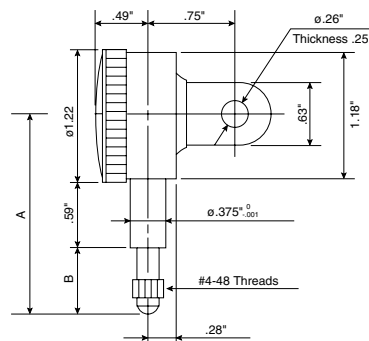
Metric		Stem ø 8mm, M2.5 x 0.45 Thread				ISO/JIS type			
Graduation	Range	Range/Rev	Dial reading	Order No.		Accuracy		Measuring force	
				w/ lug	Flat-back	First 2.5 Rev	Overall Accuracy		
0.002mm	0.5mm	0.2mm	0-100-0	1913-10	1913B-10	±0.011mm	±0.011mm	1.4N or less	✓
0.01mm	2.5mm	1mm	0-50-0	1911	1911B	±0.011mm	±0.011mm	1.4N or less	—

 Jeweled bearing type

DIMENSIONS

Inch Model

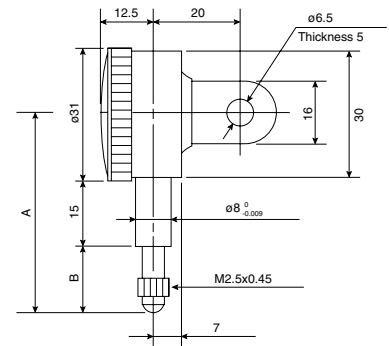
Unit: Inch



Order Number	A	B
1927-10	1.46"	.26"
1925-10	1.48"	.28"
1923	1.51"	.31"
1921	1.58"	.37"

Metric Model

Unit: mm



Order Number	A	B
1911	42	11.5
1913-10	39.5	9

Dial Indicators

SERIES 1

SPECIFICATIONS

Inch Stem dia. 3/8" #4-48 UNF Thread ANSI/AGD type

Graduation	Range	Range / Rev	Dial reading	Order No.		Accuracy		Measuring force		
				(W/Lug)	(Flat-back)	First 2.5 Rev	Overall Accuracy			
.0001"	.025"	.01"	0-10	1802F-10	1802FB-10	±.0001"	±.0001"	1.4N or less	✓	✓
.0001"	.025"	.01"	0-5-0	1803F-10	1803FB-10	±.0001"	±.0001"	1.4N or less	✓	✓
.00025"	.05"	.02"	0-20	1470F	1470FB	±.00025"	±.00025"	1.4N or less		
.00025"	.05"	.02"	0-10-0	1471F	1471FB	±.00025"	±.00025"	1.4N or less		
.0005"	.075"	.03"	0-30	1570F-10	1570FB-10	±.0005"	±.0005"	1.4N or less		✓
.0005"	.075"	.03"	0-15-0	1571F-10	1571FB-10	±.0005"	±.0005"	1.4N or less		✓
.0005"	.1"	.04"	0-40	1670F	1670FB	±.0005"	±.0005"	1.4N or less		
.0005"	.1"	.04"	0-20-0	1671F	1671FB	±.0005"	±.0005"	1.4N or less		
.0005"	.125"	.05"	0-50	1506F	1506FB	±.0005"	±.0005"	1.4N or less		
.0005"	.125"	.05"	0-25-0	1507F	1507FB	±.0005"	±.0005"	1.4N or less		
.001"	.125"	.05"	0-50	1780F	1780FB	±.001"	±.001"	1.4N or less		
.001"	.125"	.025"	0-25-0	1781F	1781FB	±.001"	±.001"	1.4N or less		
.001"	.25"	.1"	0-100	1410F	1410FB	±.001"	±.001"	1.4N or less		
.001"	.25"	.1"	0-100	1410F-10	1410FB-10	±.001"	±.001"	1.4N or less		✓
.001"	.25"	.1"	0-50-0	1411F	1411FB	±.001"	±.001"	1.4N or less		

Metric Metric - ANSI Standard Stem dia. 3/8" #4-48 UNF Thread yellow dial face ANSI/AGD type

Graduation	Range	Range / Rev	Dial reading	Order No.		Accuracy		Measuring force		
				(W/Lug)	(Flat-back)	First 2.5 Rev	Overall Accuracy			
0.002mm	0.5mm	0.2mm	0-20	1010F-11	1010FB-11	±0.002mm	-	1.4N or less	✓	✓
0.002mm	0.5mm	0.2mm	0-10-0	1011F-11	1011FB-11	±0.003mm	-	1.4N or less	✓	✓
0.01mm	2.5mm	1mm	0-100	1230F-01	1230FB-01	±0.01mm	-	1.4N or less		
0.01mm	2.5mm	1mm	0-50-0	1231F-01	1231FB-01	±0.01mm	-	1.4N or less		
0.01mm	5mm	1mm	0-100	1044F-01	1044FB-01	±0.01mm	±0.013mm	1.4N or less		
0.01mm	5mm	1mm	0-50-0	1045F-01	1045FB-01	±0.01mm	±0.013mm	1.4N or less		



Shockproof type



Jeweled bearing type



1411F

DIMENSIONS

Unit: mm			
Order No.	A	B	C
1802F(B)-10	28.1	43.4	9.6
1803F(B)-10	28.1	43.4	9.6
1470F(B)	28.1	42.7	8.9
1471F(B)	28.1	42.7	8.9
1570F(B)-10	28.1	43.4	9.6
1571F(B)-10	28.1	43.4	9.6
1670F(B)	28.1	44.2	10.4
1671F(B)	28.1	44.2	10.4
1506F(B)	28.1	45.2	11.4
1507F(B)	28.1	45.2	11.4
1780F(B)	28.1	45.2	11.4
1781F(B)	28.1	45.2	11.4
1410F(B)	33.2	48.7	14.9
1410F(B)-10	33.2	48.7	14.9
1411F(B)	33.2	48.7	14.9
1010F(B)-11	28.1	43.4	9.6
1011F(B)-11	28.1	43.4	9.6
1230F(B)-01	28.1	44.2	10.4
1231F(B)-01	28.1	44.2	10.4
1044F(B)-01	33.2	46.7	12.9
1045F(B)-01	33.2	46.7	12.9

Dial Indicators

SERIES 1



1040F



1013F



1045F



1003

Metric

Stem $\varnothing$ 8mm M2.5 X 0.45 Thread

ISO/JIS type

Graduation	Range	Range / Rev	Dial reading	Order No.		Accuracy		Measuring force			
				(W/Lug)	(Flat-back)	First 2.5 Rev	Overall Accuracy				
0.001mm	1mm	0.2mm	0-100-0	1109F	1109FB	± 0.001 mm	± 0.007 mm	1.5N or less	✓		✓
0.002mm	1mm	0.2mm	0-100-0	1013F	1013FB	± 0.002 mm	± 0.01 mm	1.5N or less	✓		✓
0.005mm	3.5mm	0.5mm	0-50	1124F	1124FB	± 0.005 mm	± 0.013 mm	1.4N or less			✓
0.01mm	3.5mm	0.5mm	0-50	1040F	1040FB	± 0.01 mm	± 0.013 mm	1.5N or less			
0.01mm	3.5mm	0.5mm	0-25-0	1041F	1041FB	± 0.01 mm	± 0.013 mm	1.5N or less			
0.01mm	4mm	1mm	0-50-0	1003B	1003B	± 0.01 mm	± 0.013 mm	1.5N or less			
0.01mm	5mm	1mm	0-100	1044F	1044FB	± 0.01 mm	± 0.013 mm	1.5N or less			
0.01mm	5mm	1mm	0-100	1044F-60	1044FB-60	± 0.01 mm	± 0.013 mm	2N or less		✓	
0.01mm	5mm	1mm	0-100	1044F-10	1044FB-10	± 0.01 mm	± 0.013 mm	1.4N or less	✓		
0.01mm	5mm	1mm	0-50	1045F	1045FB	± 0.01 mm	± 0.013 mm	1.4N or less			



Shockproof type

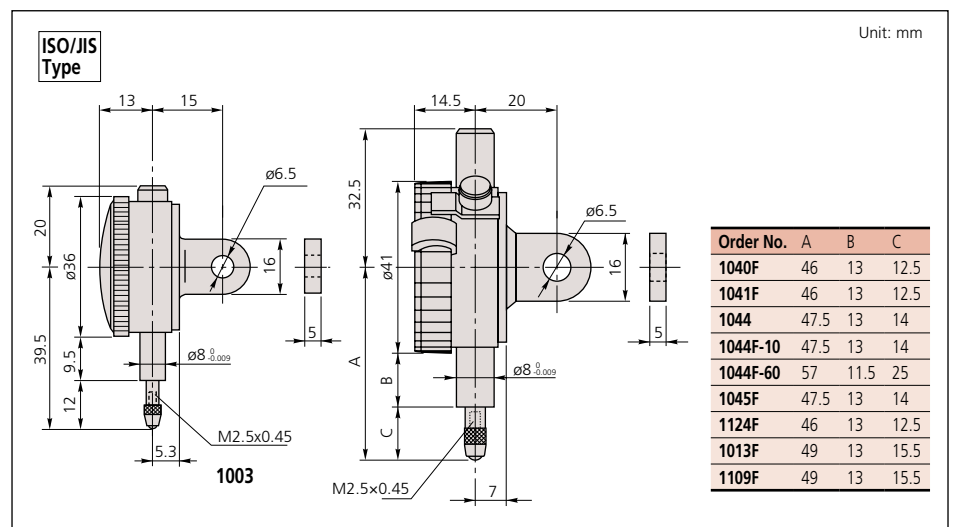


Waterproof type



Jeweled bearing type

DIMENSIONS



Dial Indicators

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



One revolution type



1929F-62

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



Shockproof type



Dustproof type



Waterproof type



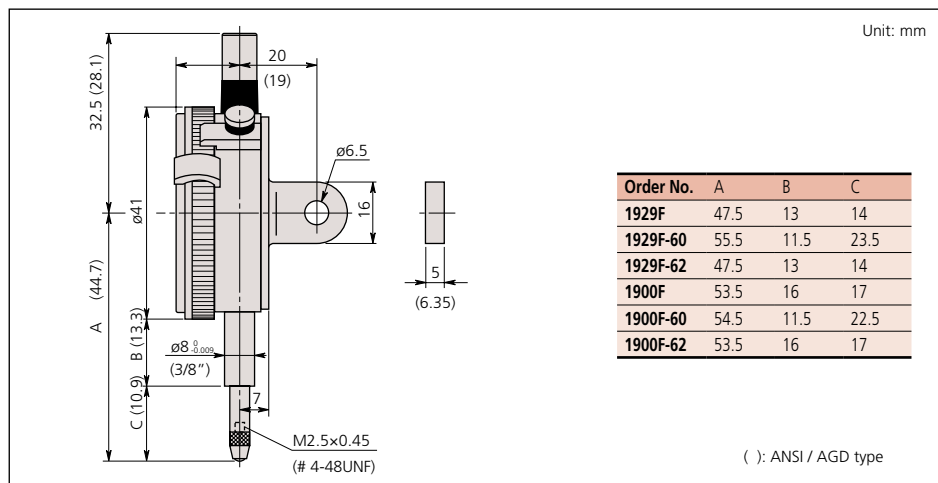
Jeweled bearing type

SPECIFICATIONS

Inch		Stem dia. 3/8", #4-48 UNF Thread				ANSI/AGD type			
Graduation	Range (range/full stroke)	Dial reading	Order No.		Accuracy	Measuring force	Shockproof	Dustproof	Waterproof
.0001"	.006" / .0079"	3-0-3	1910F-72	1910FB-72	±.0001"	1.4N or less	✓	✓	—
.0005"	.04" / .055"	20-0-20	1909F-62	1909FB-62	±.0005"	1.4N or less	✓	✓	—

Metric		Stem ø 8mm, M2.5 x 0.45 Thread				ISO/JIS type			
Graduation	Range (range/full stroke)	Dial reading	Order No.		Accuracy	Measuring force	Shockproof	Dustproof	Waterproof
0.001mm	0.1mm / 0.14mm	50-0-50	1900F	1900FB	±0.005mm	1.5N or less	✓	—	—
0.001mm	0.1mm / 0.14mm	50-0-50	1900F-60	1900FB-60	±0.006mm	1.5N or less	✓	—	✓
0.001mm	0.1mm / 0.14mm	50-0-50	1900F-62	1900FB-62	±0.006mm	1.5N or less	✓	✓	✓
0.01mm	1mm / 1.4mm	50-0-50	1929F	1929FB	±0.011mm	1.4N or less	✓	—	—
0.01mm	1mm / 1.4mm	50-0-50	1929F-60	1929FB-60	±0.011mm	1.4N or less	✓	—	✓
0.01mm	1mm / 1.4mm	50-0-50	1929F-62	1929FB-62	±0.011mm	1.4N or less	✓	✓	—

DIMENSIONS



1929F
1929F-60
1929F-62



1900F
1900F-60
1900F-62

Optional Accessories

- Backs (See page F-33.)
- Contact points (See page F-34.)

Dial Indicators

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



One revolution type.



Shockproof type



Waterproof type



Dustproof type



Jeweled bearing type

SPECIFICATIONS

Metric

Stem $\varnothing$ 8mm, M2.5 x 0.45 Thread

ISO/JIS type

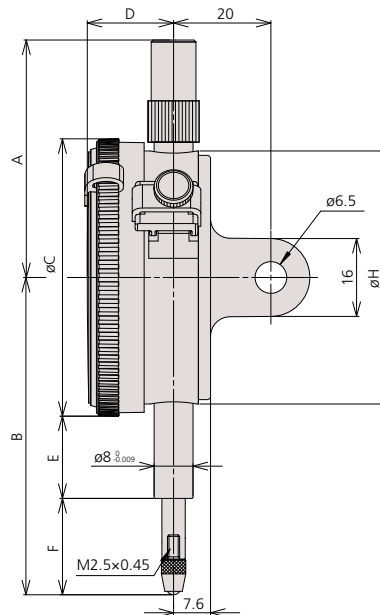
Graduation	Range (range/full stroke)	Dial reading	Order No.		Accuracy	Measuring force				
			w/ lug	Flat-back						
0.001mm	0.08mm / 0.1mm	40-0-40	2900S-10	2900SB-10	± 0.003 mm	1.4N or less	✓	—	—	✓
0.001mm	0.08mm / 0.1mm	40-0-40	2900S-70	2900SB-70	± 0.003 mm	2.0N or less	✓	✓	—	✓
0.001mm	0.08mm / 0.1mm	40-0-40	2900S-72	2900SB-72	± 0.003 mm	2.0N or less	✓	—	✓	✓
0.001mm	0.16mm / 0.2mm	80-0-80	2901S-10	2901SB-10	± 0.004 mm	1.4N or less	✓	—	—	✓
0.01mm	0.8mm / 1mm	40-0-40	2929S	2929SB	± 0.009 mm	2.0N or less	✓	—	—	—
0.01mm	0.8mm / 1mm	40-0-40	2929S-60	2929SB-60	± 0.009 mm	2.0N or less	✓	✓	—	—
0.01mm	0.8mm / 1mm	40-0-40	2929S-62	2929SB-62	± 0.009 mm	2.0N or less	✓	—	✓	—
0.01mm	1.6mm / 2mm	80-0-80	2959S	2959SB	± 0.013 mm	1.4N or less	✓	—	—	—
0.01mm	0.5mm / 0.7mm	25-0-25	—	2971*	± 0.010 mm	1.4N or less	✓	—	✓	—
0.01mm	1mm / 1.4mm	50-0-50	—	2972*	± 0.012 mm	1.4N or less	✓	—	✓	—
0.02mm	1.6mm / 2mm	80-0-80	—	2973*	± 0.016 mm	1.4N or less	✓	—	✓	—
0.1mm	4mm / 10mm	2-0-2	2928S	2928SB	± 0.040 mm	1.4N or less	✓	—	—	—

* Flat back type only. (Lug-on-center back is not available.)

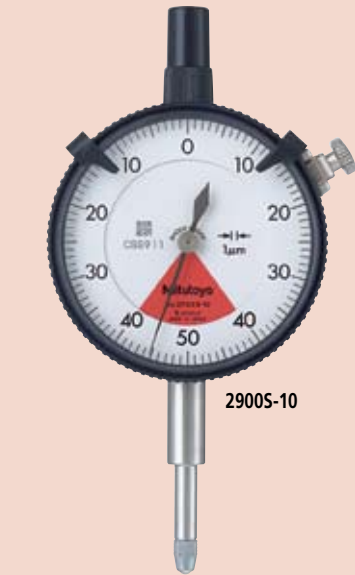
DIMENSIONS

ISO/JIS Type

Unit: mm



Order No.	A	B	C	D	E	F	H
2971	43.2	65.6	55.6	16.2	21	16.8	55
2972	43.2	66.0	55.6	16.2	21	17.2	55
2973	43.2	66.3	55.6	16.2	21	17.5	55
2929S	48.8	65.2	57	17.7	12.3	29.2	52
2929S-62	48.8	65.2	57	17.7	16.9	19.8	52
2929S-60	48.8	70	57	17.7	12.3	29.2	52
2959S	48.8	65.2	57	17.7	16.9	19.8	52
2900S-10	48.8	66	57	17.7	16.9	20.6	52
2900S-72	48.8	66	57	17.7	16.9	20.6	52
2900S-70	48.8	67	57	17.7	12.3	26.2	52
2901S-10	48.8	66.1	57	17.7	16.9	20.7	52
2928S	48.8	65.2	57	17.7	16.9	19.8	52



2900S-10



2929S
2929S-60
2929S-62



2959S



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



2901S-10

Optional Accessories

- : Backs (See page F-33.)
- : Contact points (See page F-34.)

Dial Indicators

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

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).



One revolution type.

SPECIFICATIONS

Inch Stem 3/8" dia. , #4-48 UNF Thread

ANSI/AGD type

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

*Flat back type only. (Lug-on-center back is not available.)

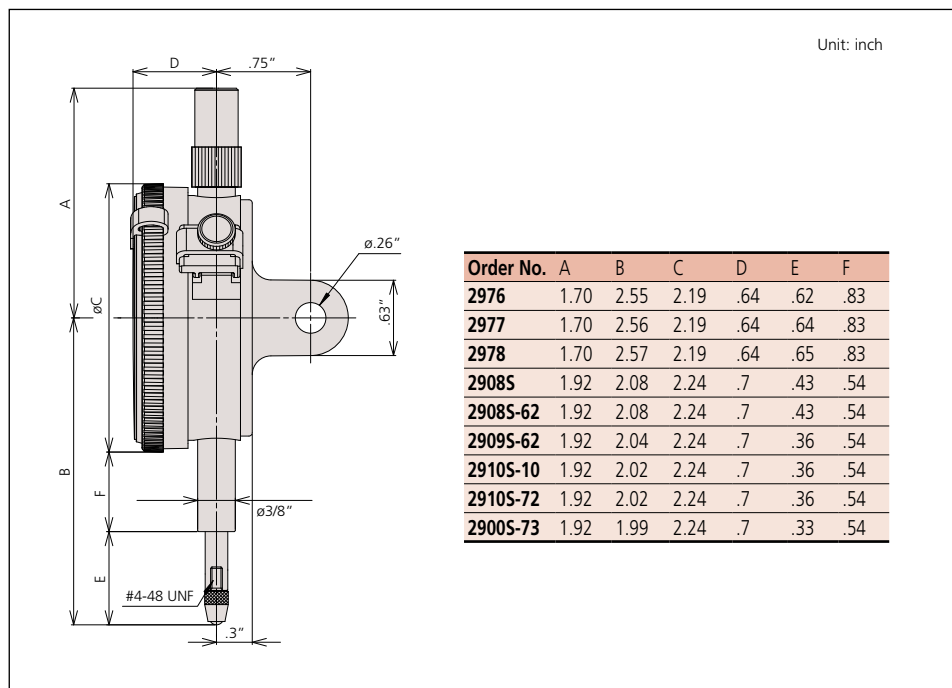
Metric Stem 3/8" dia. , #4-48 UNF Thread Yellow Dial Face

ANSI/AGD type

Graduation	Range	Range/full stroke	Dial reading	Order No.		Accuracy	Measuring force	Shock proof	Water proof	Hard coated
				w/ lug	Flat-back					
0.001mm	0.08mm	0.1mm	40-0-40	2900S-73	2900SB-73	±0.003mm	2.0N or less	✓	✓	✓

*Flat back type only. (Lug-on-center back is not available.)

DIMENSIONS



2908S



2909S-62



2978

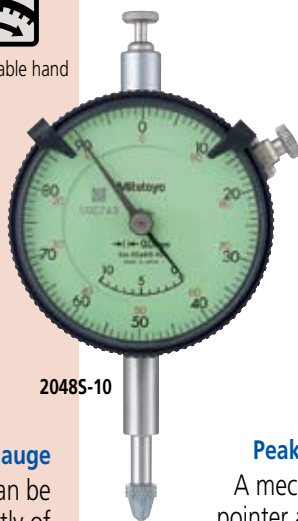


Special Dial Indicators

SERIES 2



Adjustable hand



2048S-10

Adjustable hand dial gauge

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



Peak hold



2046S-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.



Double-face type



2940S

Double-face type dial gauge

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

SPECIFICATIONS

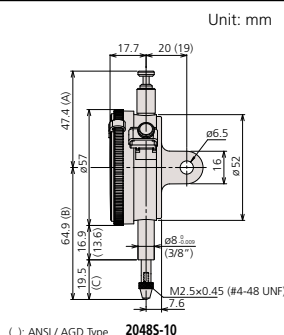
Inch Stem dia. 3/8" #4-48 UNF Thread										ANSI/AGD type		
Graduation	Range	Range / rev	Dial reading	Order No.		Accuracy		Measuring force	Diamond	Flat-back	Adjustable hand	Peak hold
				w/ lug	Flat-back	First 2.5 Rev	Overall Accuracy					
.001"	.25"	.1"	0-100	2919S-10	2919SB-10	±.001"	±.001"	1.8N or less	✓	✓		
.001"	.25"	.1"	0-50-0	2920S-10	2920SB-10	±.001"	±.001"	1.8N or less	✓	✓		
.001"	.5"	.1"	0-100	2915S-10	2915SB-10	±.001"	±.001"	1.8N or less	✓	✓	✓	
.001"	.5"	.1"	0-50-0	2918S-10	2918SB-10	±.001"	±.001"	1.8N or less	✓	✓	✓	

Metric Stem dia. 3/8" #4-48 UNF Thread, Yellow Dial Face										ANSI/AGD type		
Graduation	Range	Range / rev	Dial reading	Order No.		Accuracy		Measuring force	Diamond	Flat-back	Adjustable hand	Peak hold
				w/ lug	Flat-back	First 2.5 Rev	Overall					
0.01mm	10mm	1mm	0-100	2048S-11	2048SB-11	±13μm	±0.013mm	1.4N or less	✓	✓	✓	

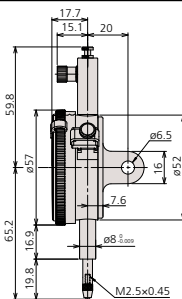
Metric Stem ø 8mm, M2.5 x 0.45 Thread										ISO/JIS type		
Graduation	Range	Range / Rev	Dial reading	Order No.		Accuracy		Measuring force	Diamond	Flat-back	Adjustable hand	Peak hold
				w/ lug	Flat-back	First 2.5 Rev	Overall					
0.01mm	10mm	1mm	0-100	2048S-10	2048SB-10	±0.015mm	1.4N or less		✓	✓	✓	
0.01mm	10mm	1mm	0-100	2046S-80	2046SB-80	±0.015mm	5.0N or less					✓
0.01mm	10mm	1mm	0-100	2940S	—	±0.015mm	3.0N or less					✓

DIMENSIONS

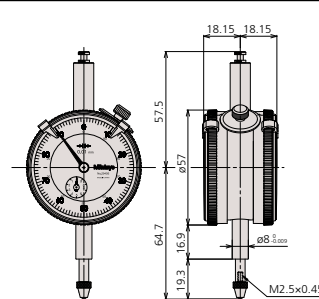
Order No.	A	B	C
2915S-10, 2918S-10	52.2	64.1	22
2919S-10, 2920S-10	52.2	57.7	15.6
2048S-11	47.7	59.5	17.4



() : ANSI / AGD Type 2048S-10



2046S-80



2940S

Dial Indicators

SERIES 2 — Standard Type, Inch Reading

SPECIFICATIONS

Inch Stem 3/8" dia. ø8mm #4-48 UNF Thread ANSI/AGD type

Graduation	Range	Range / Rev	Dial Reading	Order No.		Accuracy		Measuring force				
				w/ lug	Flat-back	First 2.5 Rev	Overall					
.0001"	.02"	.008"	0-4-0	2937S-10	2937SB-10	±.0001"	±.0001"	2.0N or less	✓			✓
.0001"	.02"	.008"	0-8	2938S-10	2938SB-10	±.0001"	±.0001"	2.0N or less	✓			✓
.0001"	.025"	.01"	0-10	2802S-10	2802SB-10	±.0001"	±.0001"	2.5N or less	✓			✓
.0001"	.025"	.01"	0-10	2802S-70	2802SB-70	±.0001"	±.0001"	2.0N or less	✓	✓		
.0001"	.025"	.01"	0-5-0	2803S-10	2803SB-10	±.0001"	±.0001"	2.5N or less	✓			✓
.0001"	.025"	.01"	0-5-0	2803S-70	2803SB-70	±.0001"	±.0001"	2.0N or less	✓	✓		
.0001"	.05"	.01"	0-10	2804S-10	2804SB-10	±.0001"	±.0002"	2.0N or less	✓			✓
.0001"	.05"	.01"	0-5-0	2805S-10	2805SB-10	±.0001"	±.0002"	2.0N or less	✓			✓
.0001"	.05"	.01"	10-0	2905S-10	2905SB-10	±.0001"	±.0002"	2.0N or less	✓		✓	✓
.0001"	.05"	.01"	0-5-0	2923S-10	2923SB-10	±.0001"	±.0002"	2.0N or less	✓			✓
.0001"	.1"	.01"	0-10	2806S-10	2806SB-10	±.0001"	±.0003"	2.0N or less	✓			✓
.0001"	.1"	.01"	0-10	2806S-70	2806SB-70	±.0001"	±.0003"	2.5N or less	✓	✓		
.0001"	.25"	.01"	0-10	2356S-10	2356SB-10	±.0001"	±.0005"	2.0N or less				✓
.0001"	.5"	.01"	0-10	2358S-10	2358SB-10	±.0001"	±.0008"	2.0N or less				✓
.00025"	.05"	.02"	0-20	2470S-10	2470SB-10	±.00025"	±.00025"	1.8N or less				✓
.00025"	.05"	.02"	0-10-0	2471S-10	2471SB-10	±.00025"	±.00025"	1.8N or less				✓
.0005"	.1"	.04"	0-40	2670S	2670SB	±.0005"	±.0005"	1.8N or less				
.0005"	.1"	.04"	0-20-0	2671S	2671SB	±.0005"	±.0005"	1.8N or less				
.0005"	.125"	.05"	0-50	2506S	2506SB	±.0005"	±.0005"	1.8N or less				
.0005"	.125"	.05"	0-25-0	2507S	2507SB	±.0005"	±.0005"	1.8N or less				
.0005"	.125"	.05"	0-25-0	2922S	2922SB	±.0005"	±.0005"	1.8N or less				
.0005"	.4"	.04"	0-20-0	2675S	2675SB	±.0005"	±.0015"	1.8N or less				
.0005"	.5"	.05"	0-50	2514S	2514SB	±.0005"	±.0015"	1.8N or less				
.0005"	.5"	.05"	0-50	2514S-60	2514SB-60	±.0005"	±.0015"	2.5N or less		✓		
.0005"	1"	.05"	0-50	2776S	2776SB	±.0005"	±.002"	1.8N or less				
.0005"	1"	.05"	0-50	2776S-60	2776SB-60	±.0005"	±.002"	2.5N or less		✓		
.001"	.125"	.05"	0-50	2780S	2780SB	±.001"	±.001"	1.8N or less				
.001"	.125"	.05"	0-25-0	2781S	2781SB	±.001"	±.001"	1.8N or less				
.001"	.25"	.1"	0-100	2410S	2410SB	±.001"	±.001"	1.8N or less				✓
.001"	.25"	.1"	0-100	2410S-10	2410SB-10	±.001"	±.001"	1.8N or less				✓
.001"	.25"	.1"	0-100	2410S-60	2410SB-60	±.001"	±.001"	2.5N or less		✓		
.001"	.25"	.1"	0-50-0	2411S	2411SB	±.001"	±.001"	1.8N or less				
.001"	.25"	.1"	0-50-0	2411S-10	2411SB-10	±.001"	±.001"	1.8N or less				✓
.001"	.25"	.1"	0-100	2919S-10	2919SB-10	±.001"	±.001"	1.8N or less				✓
.001"	.25"	.1"	0-50-0	2920S-10	2920SB-10	±.001"	±.001"	1.8N or less				✓
.001"	.5"	.1"	0-100	2414S	2414SB	±.001"	±.001"	1.8N or less				
.001"	.5"	.1"	0-100	2414S-10	2414SB-10	±.001"	±.001"	1.8N or less				✓
.001"	.5"	.1"	0-100	2414S-60	2414SB-60	±.001"	±.001"	2.5N or less		✓		
.001"	.5"	.1"	0-50-0	2415S	2415SB	±.001"	±.001"	1.8N or less				
.001"	.5"	.1"	0-50-0	2415S-10	2415SB-10	±.001"	±.001"	1.8N or less				✓
.001"	1"	.1"	0-100	2416S	2416SB	±.001"	±.002"	1.8N or less				
.001"	1"	.1"	0-100	2416S-06*	2416SB-06*	±.001"	±.002"	1.8N or less				
.001"	1"	.1"	0-100	2416S-10	2416SB-10	±.001"	±.002"	1.8N or less				✓
.001"	1"	.1"	0-100	2416S-60	2416SB-60	±.001"	±.002"	2.5N or less		✓		
.001"	1"	.1"	0-50-0	2417S	2417SB	±.001"	±.002"	1.8N or less				
.001"	1"	.1"	100-0	2904S	2904SB	±.001"	±.002"	1.8N or less			✓	
.001"	2"	1"	0-100	2424S-19	2424SB-19	±.001"	±.003"	2.5N or less	✓			✓
.01"	1"	1"	0-1000	2204S	2204SB	±.005"	±.005"	1.8N or less				

* Black Face



Shockproof type



Waterproof type



Reverse reading type



Jeweled bearing type



2416S



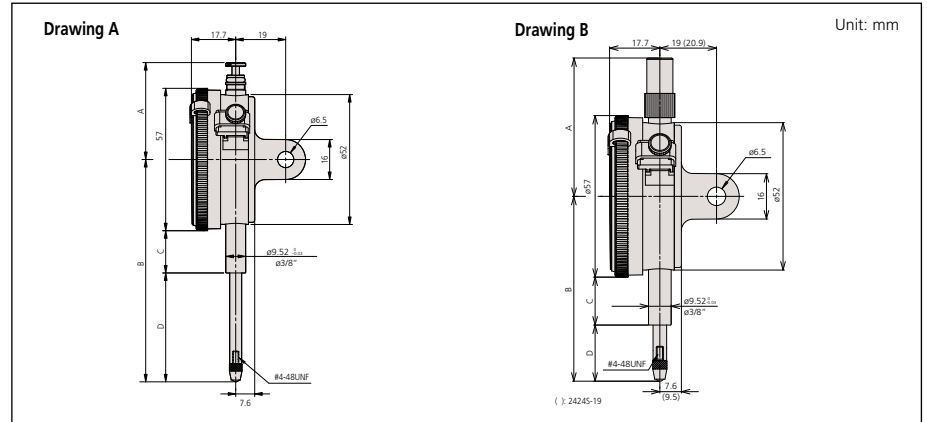
2803S-10

Optional Accessories

- : Backs (See page F-33.)
- : Contact points (See page F-34.)

SERIES 2 — Standard Type, Inch Reading

DIMENSIONS



2 Group Inch

Order No.	A	B	C	D	Drawing
22045(B)	38.9	76.8	13.6	34.7	A
23565(B)-10	48.8	57.2	13.6	15.1	B
23585(B)-10	38.9	63.6	13.6	21.5	A
24105(B)	48.8	57.8	13.6	15.7	B
24105(B)-10	48.8	57.8	13.6	15.7	B
24105(B)-60	48.8	62.7	10.6	23.6	B
24115(B)	48.8	57.8	13.6	15.7	B
24115(B)-10	48.8	57.8	13.6	15.7	B
24145(B)	38.9	64.1	13.6	22	A
24145(B)-10	38.9	64.1	13.6	22	A
24145(B)-60	48.8	66	10.6	26.9	B
24155(B)	38.9	64.1	13.6	22	A
24155(B)-10	38.9	64.1	13.6	22	A
24155(B)-60	48.8	66	10.6	26.9	B
24165(B)	38.9	76.8	13.6	34.7	A
24165(B)-06	38.9	76.8	13.6	34.7	A
24165(B)-10	38.9	76.8	13.6	34.7	A
24165(B)-60	66.8	87.2	10.6	48.1	B
24175(B)	38.9	76.8	13.6	34.7	A
24245(B)-19	118.5	142.5	54.3	59.7	B
24705(B)-10	48.8	52.2	13.6	10.1	B
24715(B)-10	48.8	52.2	13.6	10.1	B
25065(B)	48.8	54.3	13.6	12.2	B
25075(B)	48.8	54.3	13.6	12.2	B
25145(B)	38.9	64.1	13.6	22	A
25145(B)-60	48.8	66	10.6	26.9	B
25705(B)-10	48.8	52.9	13.6	10.8	B
25715(B)-10	48.8	52.9	13.6	10.8	B

Order No.	A	B	C	D	Drawing
25765(B)-70	48.8	63.5	10.6	24.4	B
26705(B)	48.8	53.6	13.6	11.5	B
26715(B)	48.8	53.6	13.6	11.5	B
26755(B)	48.8	61.2	13.6	19.1	B
27765(B)	38.9	76.8	13.6	34.7	A
27765(B)-60	66.8	87.2	10.6	48.1	B
27805(B)	48.8	54.3	13.6	12.2	B
27815(B)	48.8	54.3	13.6	12.2	B
28025(B)-10	48.8	51.4	13.6	9.3	B
28025(B)-70	48.8	56.3	10.6	17.2	B
28035(B)-10	48.8	51.4	13.6	9.3	B
28035(B)-70	48.8	56.3	10.6	17.2	B
28045(B)-10	48.8	51.7	13.6	9.6	B
28055(B)-10	48.8	51.7	13.6	9.6	B
28065(B)-10	48.8	53.4	13.6	11.3	B
28065(B)-70	48.8	58.3	10.6	19.2	B
29045(B)	38.9	76.8	13.6	34.7	A
29055(B)-10	48.8	51.7	13.6	9.6	B
29145(B)	38.9	64.1	13.6	22	A
29155(B)-10	52.2	63.3	13.6	21.2	A
29185(B)-10	52.2	63.3	13.6	21.2	A
29195(B)-10	47.7	57.7	13.6	15.6	A
29205(B)-10	47.7	57.7	13.6	15.6	A
29225(B)	48.8	54.3	13.6	12.2	B
29235(B)-10	48.8	51.7	13.6	9.6	B
29375(B)-10	48.8	51.3	13.6	9.2	B
29385(B)-10	48.8	51.3	13.6	9.2	B

Dial Indicators

SERIES 2 — Metric Standard Type

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.



Shockproof type



Waterproof type



Long stem type



Jeweled bearing type



Double scale spacing type



w/ coaxial revolution counter



Reverse reading type



w/ damper at lowest rest point

SPECIFICATIONS

Metric Stem dia. ø8mm M2.5 x 0.45 Thread ISO/JIS type

Graduation	Range	Range / Rev	Dial reading	Order No.		Accuracy	Measuring force								
				w/ lug	Flat-back			Shockproof	Waterproof	Long stem	Jeweled bearing	Double scale	Coaxial counter	Reverse reading	Damper
0.001mm	1mm	(0.1mm)	0-100	2110S-10	2110SB-10	±0.005mm	1.5N or less	✓			✓	✓			
0.001mm	1mm	(0.1mm)	0-100	2110S-70	2110SB-70	±0.005mm	2.0N or less	✓	✓		✓	✓			
0.001mm	1mm	(0.2mm)	0-100-0	2109S-10	2109SB-10	±0.005mm	1.5N or less	✓			✓	✓			
0.001mm	1mm	(0.2mm)	0-100-0	2109SH-10	2109SHB-10	±0.003mm	1.5N or less	✓			✓	✓			
0.001mm	1mm	(0.2mm)	0-100-0	—	2109SLB-10	±0.005mm	1.5N or less	✓		✓	✓	✓			
0.001mm	1mm	(0.2mm)	0-100-0	2109S-70	2109SB-70	±0.005mm	2.0N or less	✓	✓		✓	✓			
0.001mm	2mm	(0.2mm)	0-100-0	2113S-10	2113SB-10	±0.007mm	1.5N or less	✓			✓	✓			
0.001mm	5mm	(0.2mm)	0-100-100	2118S-10	2118SB-10	±0.010mm	1.5N or less				✓	✓			
0.001mm	5mm	(0.2mm)	0-100-0	2119S-10	2119SB-10	±0.010mm	1.5N or less				✓	✓			
0.005mm	5mm	(0.5mm)	0-50	2124S-10	2124SB-10	±0.012mm	1.5N or less				✓	✓			
0.01mm	5mm	(1mm)	0-100	2044S	2044SB	±0.012mm	1.4N or less								
0.01mm	5mm	(1mm)	0-100	2044S-09	2044SB-09	±0.013mm	1.4N or less	✓							
0.01mm	5mm	(1mm)	0-100	2044S-60	2044SB-60	±0.012mm	2.5N or less		✓						
0.01mm	5mm	(1mm)	0-50-0	2045S	2045SB	±0.012mm	1.4N or less							✓	
0.01mm	10mm	(1mm)	0-100	2046S	2046SB	±0.013mm	1.4N or less								
0.01mm	10mm	(1mm)	0-100	2046SY	2046SYB	±0.013mm	1.4N or less								
0.01mm	10mm	(1mm)	0-100	2046SH	2046SHB	±0.08mm	1.4N or less								
0.01mm	10mm	(1mm)	0-100	—	2046SLB	±0.013mm	1.4N or less				✓				
0.01mm	10mm	(1mm)	0-100	2046S-09	2046SB-09	±0.015mm	1.4N or less	✓							
0.01mm	10mm	(1mm)	0-100	2046S-60	2046SB-60	±0.013mm	2.5N or less		✓						
0.01mm	10mm	(1mm)	0-100	2046S-69	2046SB-69	±0.015mm	2.5N or less	✓	✓						
0.01mm	10mm	(1mm)	0-100	2046S-15	2046SB-15	±0.013mm	0.8N or less*				✓				
0.01mm	10mm	(1mm)	0-100	2310S-10	2310SB-10	±0.015mm	1.4N or less				✓		✓		
0.01mm	10mm	(1mm)	100-0	2902S	2902SB	±0.013mm	1.4N or less							✓	
0.01mm	10mm	(1mm)	0-50-0	2047S	2047SB	±0.013mm	1.4N or less								
0.01mm	20mm	(1mm)	0-100	2050S	2050SB	±0.020mm	2.0N or less								✓
0.01mm	20mm	(1mm)	0-100	2050S-60	2050SB-60	±0.020mm	2.5N or less		✓						
0.01mm	20mm	(1mm)	0-100	2050S-19	2050SB-19	±0.020mm	2.0N or less	✓			✓				✓
0.01mm	20mm	(1mm)	0-100	2320S-10	2320SB-10	±0.020mm	2.0N or less				✓		✓		✓
0.01mm	30mm	(1mm)	0-100	2052S	2052SB	±0.025mm	2.5N or less							✓	✓
0.01mm	30mm	(1mm)	0-100	2052S-19	2052SB-19	±0.025mm	2.5N or less	✓			✓				✓
0.01mm	30mm	(1mm)	0-100	2330S-10	2330SB-10	±0.025mm	2.5N or less				✓		✓		✓
0.01mm	30mm	(1mm)	100-0	2952S	2952SB	±0.025mm	2.5N or less							✓	✓

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



2046S



2046S-60



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



2046SY



2046S-60
2046S-69



2047S



Dial Indicators

SERIES 2 — Metric Standard Type

DIMENSIONS

ISO/JIS
Type

Unit: mm



2902S



2310S-10



2044S

2044S-60

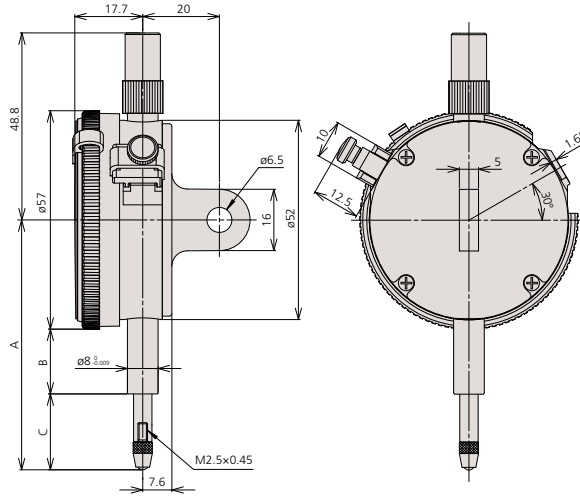
2044S-09



2045S

Optional Accessories

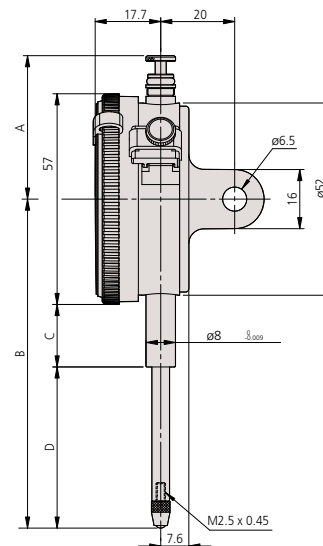
- : Backs (See page F-33.)
- : Contact points (See page F-34.)



Order No.	A	B	C
2124S-10	60.3	16.9	14.9
2110S-10	66.5	16.9	21.1
2110S-70	67.5	12.3	26.7
2109S-10	60.5	16.9	15.1
2109SH-10	60.5	16.9	15.1
2109SLB-10	80.5	36.9	15.1
2109S-70	65.3	12.3	24.5
2113S-10	61	16.9	15.6
2118S-10	60.3	16.9	14.9
2119S-10	60.3	16.9	14.9
2044S	65.2	16.9	19.8
2044S-09	65.2	16.9	19.8
2044S-60	70	12.3	29.2
2045S	65.2	16.9	19.8
2046S	65.2	16.9	19.8
2046SH	65.2	16.9	19.8
2046SLB	85.2	36.9	19.8
2046S-09	65.2	16.9	19.8
2046S-60	70	12.3	29.2
2046S-69	70	12.3	29.2
2046S-15	65.2	16.9	19.8
2310S-10	65.2	16.9	19.8
2902S	65.2	16.9	19.8
2047S	65.2	16.9	19.8

ISO/JIS
Type

Unit: mm



Order No.	A	B	C	D
2050S	38.8	75.2	16.9	29.8
2050S-60	59.8	87.2	12.3	46.4
2050S-19	38.8	75.2	16.9	29.8
2320S-10	38.8	75.2	16.9	29.8
2052S	38.8	88.7	16.9	43.3
2052S-19	38.8	88.7	16.9	43.3
2330S-10	38.8	88.7	16.9	43.3
2952S	38.8	88.7	16.9	43.3

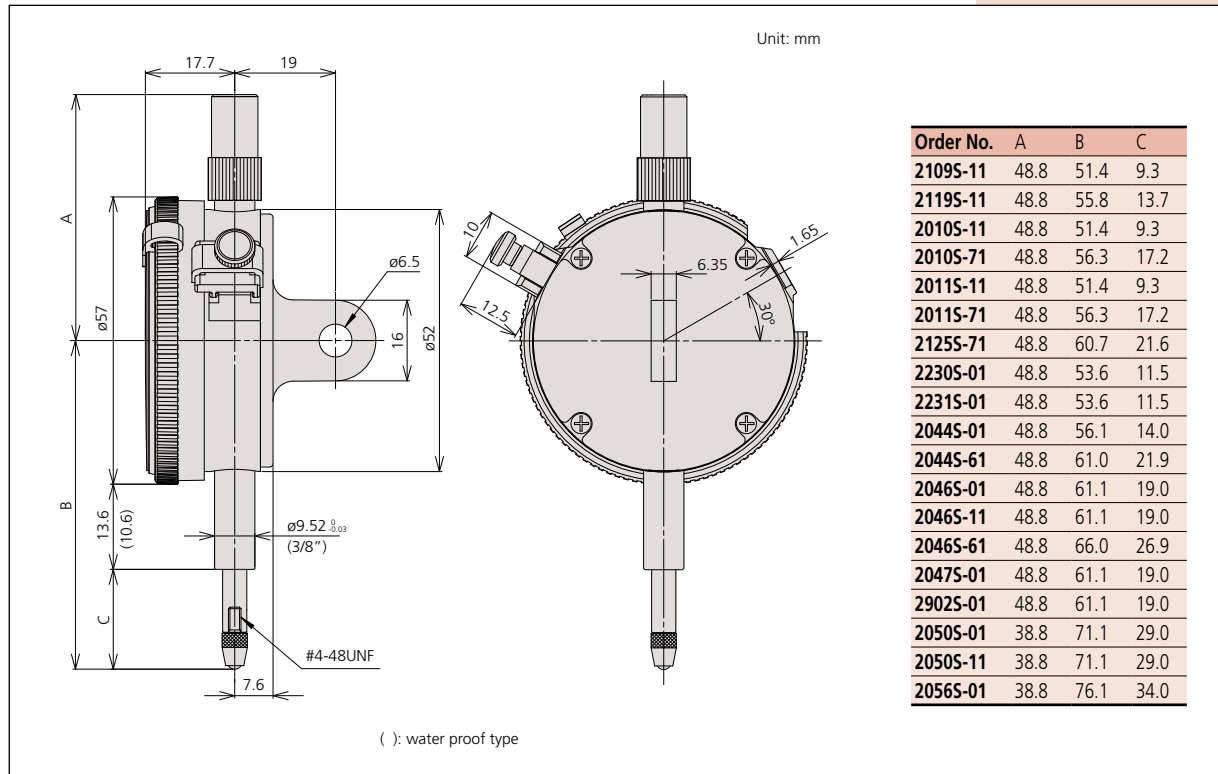
Dial Indicators

SERIES 2 — ANSI / AGD Type Metric Dial Indicator

SPECIFICATIONS

Metric		Stem dia. 3/8", #4-48 UNF Thread Yellow Dial Face				ANSI/AGD type					
Graduation	Range	Range / Rev	Dial reading	Order No.		Accuracy		Measuring force			
0.001mm	1mm	0.2mm	0-10-0	2109S-11	2109SB-11	±0.003mm	±0.004mm	1.5N or less		✓	✓
0.001mm	5mm	0.2mm	0-10-0	2119S-11	2119SB-11	±0.007mm	±0.01mm	1.5N or less		✓	
0.002mm	0.5mm	0.2mm	0-20	2010S-11	2010SB-11	±0.003mm	±0.003mm	1.5N or less		✓	✓
0.002mm	0.5mm	0.2mm	0-20	2010S-71	2010SB-71	±0.003mm	±0.003mm	2.5N or less	✓		
0.002mm	0.5mm	0.2mm	0-10-0	2011S-11	2011SB-11	±0.003mm	±0.003mm	1.5N or less		✓	✓
0.002mm	0.5mm	0.2mm	0-10-0	2011S-71	2011SB-71	±0.003mm	±0.003mm	2.5N or less	✓	✓	
0.005mm	5mm	0.5mm	0-25-0	2125S-71	2125SB-71	±0.01mm	±0.012mm	2.5N or less	✓	✓	
0.01mm	2.5mm	1mm	0-100	2230S-01	2230SB-01	±0.01mm	±0.01mm	1.4N or less			
0.01mm	2.5mm	1mm	0-100	2231S-01	2231SB-01	±0.01mm	±0.01mm	1.4N or less			
0.01mm	5mm	1mm	0-100	2044S-01	2044SB-01	±0.01mm	±0.01mm	1.4N or less			
0.01mm	5mm	1mm	0-100	2044S-61	2044SB-61	±0.01mm	±0.01mm	2.5N or less	✓		
0.01mm	10mm	1mm	0-100	2046S-01	2046SB-01	±0.01mm	±0.013mm	1.4N or less			
0.01mm	10mm	1mm	0-100	2046S-11	2046SB-11	±0.01mm	±0.013mm	1.4N or less		✓	
0.01mm	10mm	1mm	0-100	2046S-61	2046SB-61	±0.01mm	±0.013mm	2.5N or less	✓		
0.01mm	10mm	1mm	0-50-0	2047S-01	2047SB-01	±0.01mm	±0.013mm	1.4N or less			
0.01mm	10mm	1mm	100-0	2902S-01	2902SB-01	±0.01mm	±0.013mm	1.4N or less			
0.01mm	20mm	1mm	0-100	2050S-01	2050SB-01	±0.01mm	±0.02mm	2.0N or less			
0.01mm	20mm	1mm	0-100	2050S-11	2050SB-11	±0.01mm	±0.02mm	2.0N or less		✓	
0.01mm	25mm	1mm	0-100	2056S-01	2056SB-01	±0.01mm	±0.025mm	2.5N or less			

DIMENSIONS





Dial Indicators

SERIES 3 — Large Dial Face and Long Stroke Type

- Dial gages with a large-diameter (78mm / 3.07") graduation face to ease reading.
- All types come with limit pins and an outer frame clamp as standard.



3046S



3047S



3050S



3052S-19



3109S-10



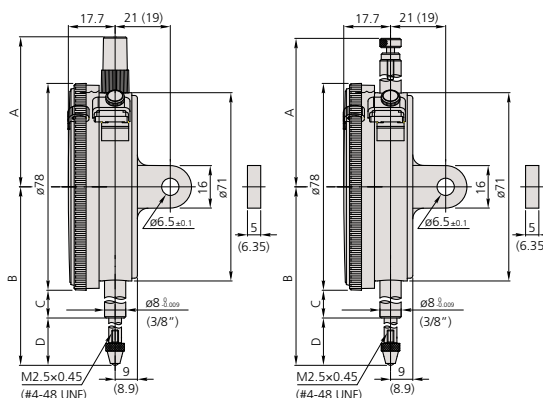
3416S



3058S-19

DIMENSIONS

Unit: mm



Order No.	A	B	C	D
3052S(B)-11	72.9	102.4	25.9	37.5
3058S(B)-11	81.9	147.1	50.6	57.5
3414S(B)	51.3	73.4	12.6	21.8
3415S(B)	51.3	73.4	12.6	21.8
3416S(B)	51.3	86.1	12.6	34.5
3417S(B)	51.3	86.1	12.6	34.5
3424S(B)-19	84	149.3	50.6	59.7
3426S(B)-19	120.9	198.1	73.9	85.2
3428S(B)-19	141.9	243.9	94.9	110.0
3570S(B)-10	61.2	62.1	12.6	10.5
3571S(B)-10	61.2	62.1	12.6	10.5
3780S(B)	61.2	63.9	12.6	12.3
3781S(B)	61.2	63.9	12.6	12.3
3802S(B)-10	61.2	59.7	12.6	8.1
3803S(B)-10	61.2	59.7	12.6	8.1
3046S(B)	61.2	75.5	15.9	20.6
3047S(B)	61.2	75.5	15.9	20.6
3050S(B)	52.6	94.0	25.9	29.1
3060S(B)-19	120.9	202.3	73.9	89.4
3062S(B)-19	141.9	243.3	94.9	109.4
3109S(B)-10	61.2	79.3	25.9	14.1

(): ANSI / AGD Type

Dial Indicators

SERIES 3 — Large Dial Face

SPECIFICATIONS

Inch										Stem 3/8" DIA. #4-48 UNF Thread				ANSI/AGD type			
Graduation	Range	Range /rev	Dial reading	Order No.		Accuracy		Measuring force									
				W/ lug	Flat-back	First 2.5 Rev	Overall accuracy										
.0001"	.025"	.01"	0-10	3802S-10	3802SB-10	±.0001"	±.0001"	2.0N or less	✓	✓							
.0001"	.025"	.01"	0-5-0	3803S-10	3803SB-10	±.0001"	±.0001"	2.0N or less	✓	✓							
.0005"	.075"	.03"	0-30	3570S-10	3570SB-10	±.0005"	±.0005"	1.8N or less		✓							
.0005"	.075"	.03"	0-15-0	3571S-10	3571SB-10	±.0005"	±.0005"	1.8N or less		✓							
.001"	.125"	.05"	0-50	3780S	3780SB	±.001"	±.001"	1.8N or less									
.001"	.125"	.05"	0-25-0	3781S	3781SB	±.001"	±.001"	1.8N or less									
.001"	.5"	.1"	±0-100	3414S	3414SB	±.001"	±.001"	1.8N or less									
.001"	.5"	.1"	0-50-0	3415S	3415SB	±.001"	±.001"	1.8N or less									
.001"	1"	.1"	±0-100	3416S	3416SB	±.001"	±.002"	1.8N or less									
.001"	1"	.1"	0-50-0	3417S	3417SB	±.001"	±.002"	1.8N or less									
.001"	2"	.1"	±0-100	3424S-19	3424SB-19	±.001"	±.003"	3.0N or less	✓	✓	✓						
.001"	3"	.1"	±0-100	3426S-19	3426SB-19	±.001"	±.005"	3.0N or less	✓	✓	✓						
.001"	4"	.1"	±0-100	3428S-19	3428SB-19	±.001"	±.005"	3.2N or less	✓	✓	✓						

Metric										Stem 3/8" DIA. #4-48 UNF Thread, Yellow dial face				ANSI/AGD type			
Graduation	Range	Range /rev	Dial reading	Order No.		Accuracy		Measuring Force									
				W/ lug	Flat-back	First 2.5 Rev	Overall accuracy										
0.01mm	30mm	1mm	±0-100	3052S-11	3052SB-11	±0.01mm	±0.03mm	2.5N or less	✓	✓	✓						
0.01mm	50mm	1mm	±0-100	3058S-11	3058SB-11	±0.01mm	±0.04mm	3.0N or less	✓	✓	✓						

Metric										Stem ø 8mm M2.5x0.45 Thread				ISO/JIS type			
Graduation	Range	Range /rev	Dial reading	Order No.		Accuracy	Measuring Force										
				W/ lug	Flat-back												
0.001mm	1mm	0.2mm	0-10-0	3109S-10	3109SB-10	±0.004mm	1.5N or less	✓	✓								
0.01mm	10mm	1mm	0-100	3046S	3046SB	±0.015mm	1.4N or less										
0.01mm	10mm	1mm	0-50-0	3047S	3047SB	±0.015mm	1.4N or less										
0.01mm	20mm	1mm	0-100	3050S	3050SB	±0.020mm	2.0N or less						✓				
0.01mm	30mm	1mm	0-100	3052S-19	3052SB-19	±0.025mm	2.5N or less	✓	✓	✓							
0.01mm	50mm	1mm	0-100	3058S-19	3058SB-19	±0.035mm	3.0N or less	✓	✓	✓							
0.01mm	80mm	1mm	0-100	3060S-19*	3060SB-19*	±0.045mm	3.0N or less	✓	✓	✓							
0.01mm	100mm	1mm	0-100	3062S-19*	3062SB-19*	±0.050mm	3.2N or less	✓	✓	✓							

*use in a vertical position only



Shockproof type



w/ coaxial revolution counter



w/ damper at lowest rest point



Jeweled bearing type

Dial Indicators

SERIES 4 — Large Dial Face

- Dial gauges with a large-diameter (92mm / 3.62") graduation face to ease reading.
- All types come with limit pins and an outer frame clamp as standard.



48875-19

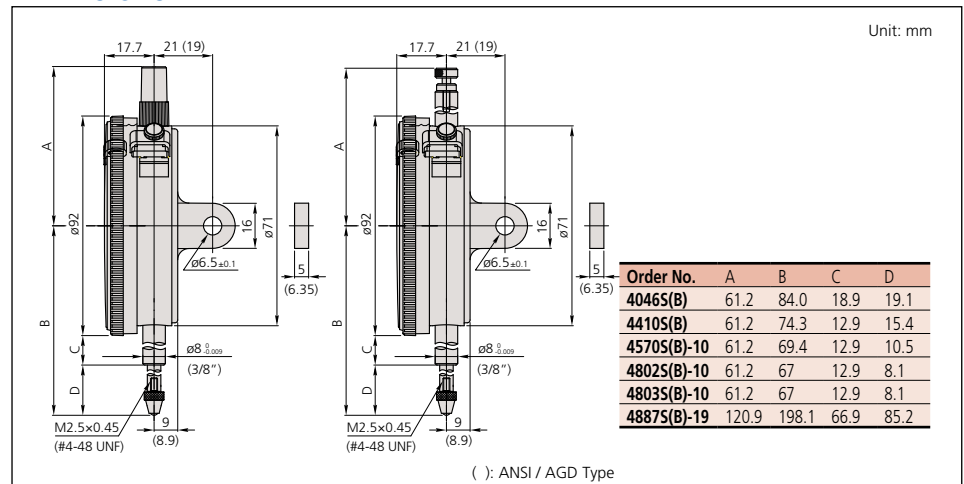


40465

Inch		Stem 3/8" DIA. #4-48 UNF Thread						ANSI/AGD type		
Graduation	Range	Range /rev	Dial reading	Order No.		Accuracy		Measuring Force		
				W/ lug	Flat-back	First 2.5 Rev	Overall accuracy			
.0001"	.025"	.01"	0-10	48025-10	48025B-10	±.0001"	±.0001"	2.0N or less	✓	✓
.0001"	.025"	.01"	0-5-0	48035-10	48035B-10	±.0001"	±.0001"	2.0N or less	✓	✓
.0005"	.075"	.03"	0-30	45705-10	45705B-10	±.0005"	±.0005"	1.8N or less	—	✓
.001"	.25"	.1"	±0-100	4410S	4410SB	±.001"	±.001"	1.8N or less	—	—
.001"	3"	.1"	±0-100	48875-19	48875B-19	±.001"	±.005"	3.0N or less	✓	✓

Metric		Stem ø 8mm M2.5x0.45 Thread						ISO/JIS type		
Graduation	Range	Range /rev	Dial reading	Order No.		Accuracy		Measuring force		
				W/ lug	Flat-back	First 2.5 Rev	Overall accuracy			
0.01mm	10mm	1mm	0-100	4046S	4046SB	± 0.01mm	± 0.015mm	1.4N or less	✓	✓

DIMENSIONS



Back Plunger Type Dial Indicators

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.



One revolution type



Shockproof type



Jeweled bearing type

SPECIFICATIONS

Inch		Series 1		Stem 3/8" dia., #4-48 UNF Thread			ANSI/AGD type		
Graduation	Range	Range / Rev	Dial reading	Order No.	Accuracy	Measuring force			
.001"	.04"	.05"*	20-0-20	1961	±.001"	1.4N or less	✓	✓	
.001"	.1"	.1"	0-100	1156	±.001"	2.1N or less			
.001"	.1"	.1"	0-50-0	1157	±.001"	2.1N or less			
.001"	.2"	.05"	0-50	1166	±.001"	1.4N or less			
.001"	.2"	.05"	0-25-0	1167	±.001"	1.4N or less			
.001"	.2"	.05"	50-0	1168	±.001"	1.4N or less			✓

*Full stroke

Metric		Series 1 Stem ø8mm, M2.5x0.45 Thread				ISO/JIS type				
Graduation	Range	Range / Rev	Dial reading	Order No.	Accuracy	Measuring force				Remarks
0.01mm	1mm	1.27mm*	50-0-50	1960	±0.014mm	1.4N or less	✓	✓		—
0.01mm	5mm	1mm	0-100	1160	±0.016mm	1.4N or less				—
0.01mm	5mm	1mm	100-0	1162	±0.016mm	1.4N or less			✓	—
0.01mm	5mm	1mm	0-100	1180-6	±0.016mm	1.5N or less				with arm (ø6x42mm)
0.01mm	5mm	1mm	0-100	1180-7	±0.016mm	1.5N or less				with arm (ø6.35x42mm)
0.01mm	5mm	1mm	0-100	1180-8	±0.016mm	1.5N or less				with arm (ø8x42mm)

Inch		Series 2		Stem 3/8" dia., #4-48 UNF Thread			ANSI/AGD type		
Graduation	Range	Range/full stroke	Dial reading	Order No.	Accuracy	Measuring force			
.0001"	.008"	.01"	4-0-4	2991	±.0002"	1.5N or less	✓	✓	✓
.0005"	.04"	.05"	20-0-20	2961	±.0005"	1.8N or less	✓	✓	

Metric		Series 2 Stem ø8mm, M2.5x0.45 Thread					ISO/JIS type		
Graduation	Range	Range/full stroke	Dial reading	Order No.	Accuracy	Measuring force			
0.001mm	0.14"	0.14"	50-0-50	2990	±0.0065mm	1.5N or less	✓	✓	✓
0.01mm	1.27"	1.27"	50-0-50	2960F	±0.014mm	1.4N or less	✓	✓	

Optional Accessories

- 136567:** Holding bar (ø6mm, L=81mm)
21AAA166: Holding bar (ø6mm, L=42mm) (Standard with 1180-6)
136568: Holding bar (ø8mm, L=81mm)
21AAA168: Holding bar (ø8mm, L=42mm) (Standard with 1180-8)
124625: Holding bar (.25" DIA, L=3.19")
21AAA167: Holding bar (.25" DIA, L=1.65") (Standard with 1180-7)

- : Backs (See page F-33.)
 —: Contact points (See page F-34.)

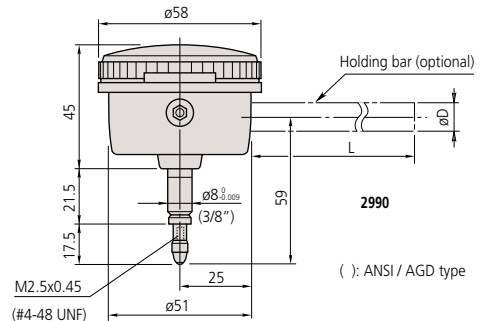
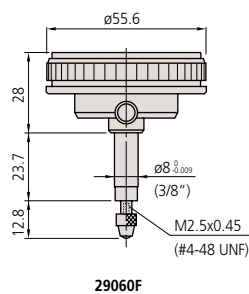
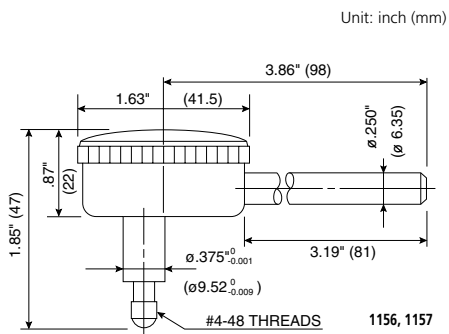
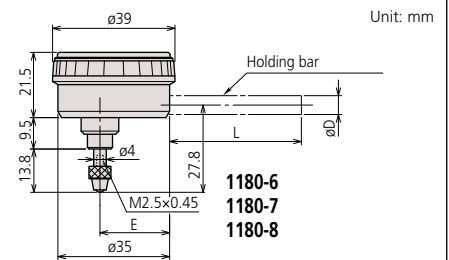
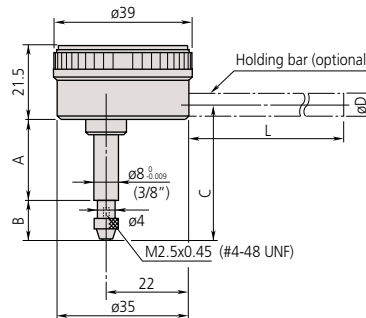
Back Plunger Type Dial Indicators

SERIES 1 and 2



DIMENSIONS

Order No.	A	B	C
1160	25.0	13.8	43.3
1162	25.0	13.8	43.3
1166	25.0	13.0	42.5
1167	25.0	13.0	42.5
1168	25.0	13.0	42.5
1960	28.7	12.8	46.0
1961	25.0	10.9	40.4



Hicators, Signal Hicators

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

SPECIFICATIONS

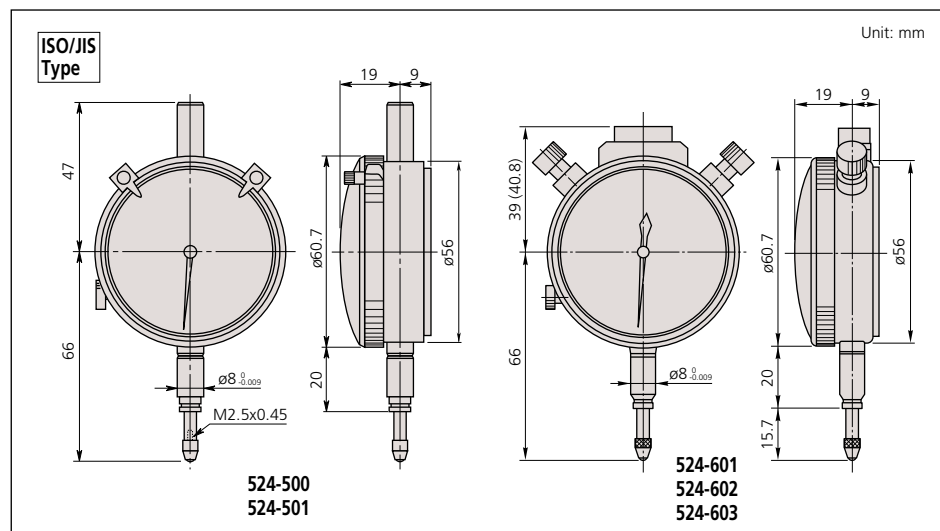
Metric		Hicator						ISO/JIS type	
Graduation	Order No.*	Range	Dial reading	Spindle travel	Accuracy	Measuring force	Remarks		
0.001mm	524-501	±0.05mm	50-0-50	3mm	±1μm	1.2N or less	w/ spindle lifting cable		
0.0005mm	524-500	±0.03mm	30-0-30	3mm	±0.5μm	1.2N or less	w/ spindle lifting cable		

*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

DIMENSIONS



Optional Accessories

- 524-001: Signal box (100V AC)
- 524-001A: Signal box (120V AC)
- Backs (See page F-33.)
- Contact points (See page F-34.)

ABSOLUTE Digimatic Indicator ID-C

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



FEATURES

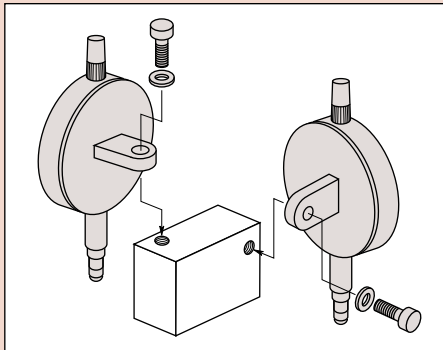
- With the max./min. value holding function, the signal ID-C can output the signal of the GO/±NG judgment result against the peak values set. Substitute for the mechanical/ electrical contact, the judgment is carried out by calculating the measurement data obtained. This provides high reliability with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

Backs

Optional Accessory for Digimatic and Dial Indicators

There are two ways to support Digimatic and dial indicators; by either holding the stem or the lug on the back of the indicator. The back of the indicator may need to be replaced for special applications. A wide variety of backs are available for Mitutoyo Digimatic and dial indicators.

Application



SPECIFICATIONS

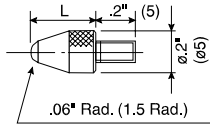
Description		Order No.			
		Series 0 ($\phi 31$ mm) 1003 ($\phi 36$ mm)	Series 1 ($\phi 41$ mm)	Series 2 ($\phi 57$ mm)	Series 3, 4 ($\phi 77, 91$ mm)
Flat Back	 Unit: mm	191559: a=1.0 137906: for 1003 a=1.0	101211: a=2.2 136872: for water-proof type 191559: for 1911, 1913-10	101039: a=2.5 21AZB231: for water-proof of S type	100836: a=3.0
Lug-on-Center Back	 Unit: mm	190561: Metric type 190139: Inch type 137905: for 1003	101210: metric type 101307: inch type 190561: for 1911, 1913-10	101040: metric type 101306: inch type 21AZB230: for water-proof of S type	100691: metric type 100797: inch type
Magnetic Back	 Unit: mm	—	Special order	900928	900929
Back with Offset Lug	 Unit: mm	—	Special order	101167	100837
Back with Post	 Unit: mm	—	193172	101169	100839
Back with Screw Mount	 Unit: mm	—	193173: M6x1, 193174: #1/4-28UNF,	136023: M6x1 193174: #1/4-28UNF	136024: M6x1 100840: #1/4-28UNF
Adjustable Back	 Unit: mm	—	136025: M6x1 129721: #1/4-28UNF	136026: M6x1 101168: 1/4-28UNF	136027: M6x1 100838: #1/4-28UNF
Back with Dovetail	 Unit: mm	—	—	900008	Special order
Back with Adjustable Bracket	 Unit: mm	—	—	901963: Set No. 129902: Dovetail Rack Back 901964: Dovetail bracket for rack back	—

(): ANSI / AGD Type

Contact Points

Optional Accessories for Digimatic and Dial Indicators and Linear Gages

ø.118" (ø3mm) Ball Point

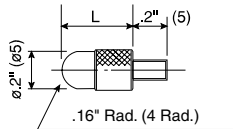


4-48UNF				
L	Carbide	Sapphire	Ruby	Plastic
.28"	—	—	—	902018
.3"	131262	131263	131264	—
.6"	131265	131266	131267	—
1"	131268	131269	131270	—

M2.5 x 0.45mm				
L	Carbide	Sapphire	Ruby	Plastic
7.3mm	901312*	—	—	901994
8mm	120045	120046	120047	—
15mm	120049	120050	120051	—
25mm	120053	120054	120055	—

*Furnished with standard metric dial indicators.

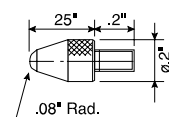
Shell type point



4-48UNF		M2.5 x 0.45mm	
L	Order No.	L	Order No.
3/32" (.094")	193697	5mm	101386
5/32" (.156")	101184	10mm	101118
1/4" (.25")	21AAA031*	15mm	137393
3/8" (.375")	21AAA032	20mm	101387
1/2" (.5")	101185	25mm	101388
5/8" (.625")	21AAA033		
3/4" (.75")	101186		
7/8" (.875")	21AAA034		
1"	101187		
1 1/4" (1.25")	21AAA035		
1 1/2" (1.5")	21AAA036		
1 3/4" (1.75")	21AAA037		
2"	21AAA038		
2 1/4" (2.25")	21AAA039		
2 1/2" (2.5")	21AAA040		
2 3/4" (2.75")	21AAA041		
3"	21AAA042		

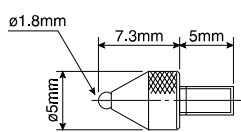
*Furnished with standard Inch and Metric ANSI Dial Indicators.

ø.16 Ball Point



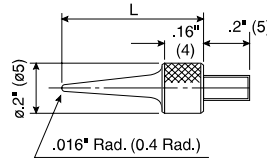
4-48UNF	
Order No.	
900032	

ø1.8mm Ball Point



M2.5 x 0.45mm	
Order No.	
101122	

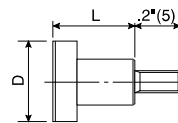
Needle point



4-48UNF	
L	Order No.
.6"	21AAA030
1"	21AAA046
1 1/2"	21AAA047
2"	21AAA048

M2.5 x 0.45mm	
L	Order No.
15mm	101121
17mm	137413

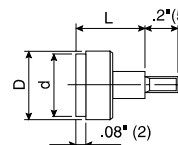
Flat Point



4-48UNF		
D	L	Order No.
Ø1/2"	3/8"	101188
Ø3/8"	3/8"	101189

M2.5 x 0.45mm		
D	L	Order No.
Ø10mm	10mm	101117

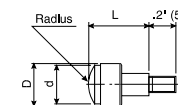
Flat Point, Carbide Tip



4-48UNF			
D	d	L	Order No.
Ø.2"	Ø.17"	.2"	131259
Ø.27"	Ø.25"	.4"	131260
Ø.41"	Ø.37"	.4"	131261

M2.5 x 0.45mm			
D	d	L	Order No.
Ø5.2mm	Ø4.3mm	5mm	120041
Ø7mm	Ø6.5mm	10mm	120042
Ø10.5mm	Ø9.5mm	10mm	120043

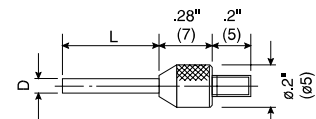
Spherical Point, Carbide Tip



4-48UNF				
D	d	Radius	L	Order No.
Ø.2"	Ø.17"	.2"	.2"	131273
Ø.27"	Ø.16"	.16"	.4"	131274
Ø.41"	Ø.37"	.4"	.4"	131275

M2.5 x 0.45mm				
D	d	Radius	L	Order No.
Ø5.2mm	Ø4.3mm	5mm	5mm	120058
Ø7mm	Ø6.5mm	7mm	10mm	120059
Ø10.5mm	Ø9.5mm	10mm	10mm	120060

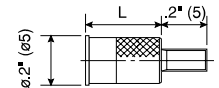
Needle point, Carbide tipped



4-48UNF		
D	L	Order No.
Ø.018"	.12"	131281
Ø.04"	.12"	131280
Ø.06"	.5"	131279
Ø.078"	.04"	131271

M2.5 x 0.45mm		
D	L	Order No.
Ø0.45mm	2.5mm	120066
Ø1mm	2.5mm	120065
Ø1.5mm	13mm	120064
Ø2mm	1mm	120056
Ø2mm	8mm	137257

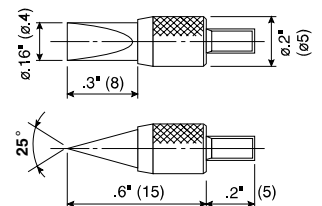
ø.2" (ø5mm) Flat Point



4-48UNF	
L	Order No.
5/16"	133017
1/2"	21AAA043
3/4"	21AAA044
1"	21AAA045

M2.5 x 0.45mm	
L	Order No.
8mm	131365

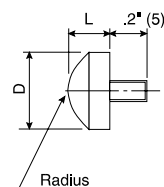
Knife edge point, Carbide tipped



4-48UNF	
Order No.	
131282	

M2.5 x 0.45mm	
Order No.	
120067	

Spherical point



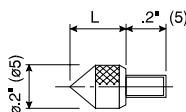
4-48UNF			
D	L	Radius	Order No.
Ø.5"	.125"	.28"	101205
Ø.375"	.09375"	.35"	101204

M2.5 x 0.45mm			
D	L	Radius	Order No.
Ø10mm	5mm	7mm	101119

Contact Points

Optional Accessories for Digimatic and Dial Indicators and Linear Gages

60° Conical point



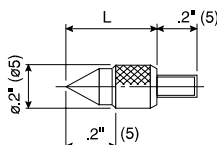
4-48UNF

L	Order No.
1/2"	101190

M2.5 x 0.45mm

L	Order No.
10mm	101120

90° Conical point



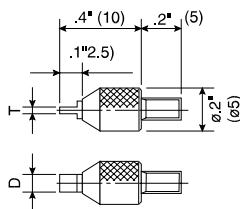
4-48UNF

L	Order No.
1/4"	101191

M2.5 x 0.45mm

L	Order No.
5mm	101385

Blade Point, Carbide Tip



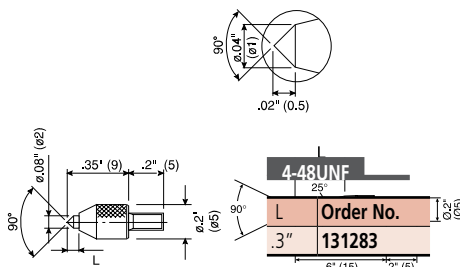
4-48UNF

D	T	Order No.
.08"	.016"	131276
.08"	.024"	131277
.16"	.04"	131278

M2.5 x 0.45mm

D	T	Order No.
2mm	0.4mm	120061
2mm	0.6mm	120062
4mm	1mm	120063

90° Conical point, Carbide tipped



4-48UNF

L	Order No.
.08"	131272

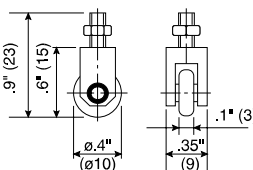
M2.5 x 0.45mm

L	Order No.
2mm	120057

M2.5 x 0.45mm

L	Order No.
8mm	120068

Roller Point



4-48UNF

Order No.
901991

M2.5 x 0.45mm

Order No.
901954

Interchangeable Contact Point Set (4-48 UNF)

Set Order No. 21AZA034

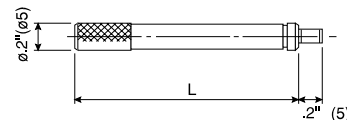
Individual No.	Description
101184	Shell Type Point 5/32"
101185	Shell Type Point 1/2"
101186	Shell Type Point 3/4"
101187	Shell Type Point 1"
101188	Flat Point ø1/2"
101189	Flat Point ø3/8"
101190	60° Conical Point
101191	90° Conical Point
101204	Spherical Point ø3/8"
21AAA030	Needle Point .6"

Interchangeable Carbide Contact Point Set (4-48 UNF)

Set Order No. 21AZA035

Individual No.	Description
131260	Flat Point ø1/4"
131274	Spherical Point ø1/4"
131279	Needle Point ø.06" 1/2" Long
131262	Ballpoint ø.118"
131271	Needle Point ø.078" .04" Long

Extension Rod



4-48UNF

L	Order No.
1/2"	139167
1"	301655
2"	301657
4"	301659

M2.5 x 0.45mm

L	Order No.
10mm	303611
20mm	303612
30mm	303613
100mm	303614

Point Conversion

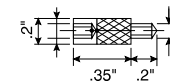
M2.5 x 0.45mm 4-48 UNFI



Order No.

21AAA011

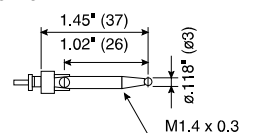
4-48 UNFI M2.5 x 0.45mm



Order No.

21AAA012

Lever Point



4-48UNF

Order No.
900393

M2.5 x 0.45mm

Order No.
900391

Interchangeable Contact Point Set (M2.5x0.45)

Set Order No. 7822



Individual No.	Description
131365	Flat Point (ø5mm)
101117	Flat Point (ø10mm)
101121	Needle Point
101119	Spherical Point
101118	Shell Type Point
101387	Shell Type Point

Spindle Lifting Lever and Cable

Optional Accessories for Digimatic and Dial Indicators

Spindle Lifting Lever

- The Spindle Lifting Lever is attached to the top end of the spindle for improved inspection efficiency when using a dial indicator mounted on a stand.

21AZB149

Use for **S type** Series 2, 3, and 4 dial indicators (up to 10mm/.4").



Use for Series 1 dial indicators (up to 5mm / .25")

Set Order No.	Lever	Screw	Screw Thread
21BZA610	900527	101047	4-48 UNF
21BZA205	900527	101171	M2.5 x 0.45



21AZB150

Use for **S type** Series 2 and 3 dial indicators (from 10mm/.4" up to 20mm/.8").



Use for Series 2 dial indicators (up to 10mm/.4")

Set Order No.	Lever	Screw	Screw Thread
902794	900525	101047	4-48 UNF
902011	900525	101171	M2.5 x 0.45



21AZB151

Lifting lever for **S type** thickness gage.



Use for Series 2 dial indicators (up to 10mm/.4")

Set Order No.	Lever	Screw	Screw Thread
21BZA613	21BZA612	101047	4-48 UNF
902100	21BZA612	101171	M2.5 x 0.45



Spindle Lifting Cable

901975: with auto-stop function

540774: without auto-stop function

Lifting range: 10mm

Cable length: 300mm



Use for Series 2 dial indicators (up to 20mm/.8") and Series 3 and 4 dial indicators (up to 10mm/.4")

Set Order No.	Lever	Screw	Screw Thread
903425	903307	192753	4-48 UNF
903424	903307	192686	M2.5 x 0.45



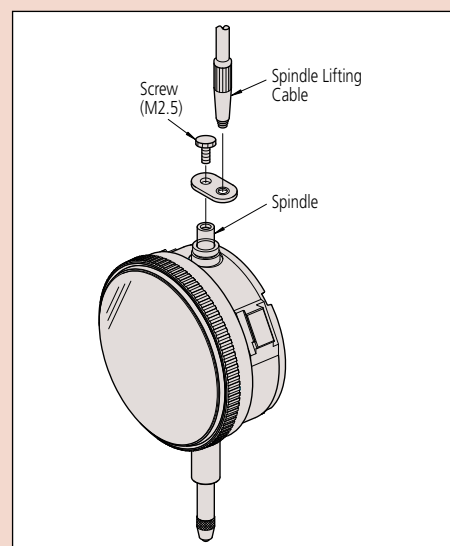
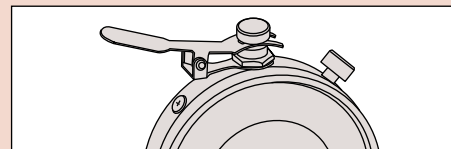
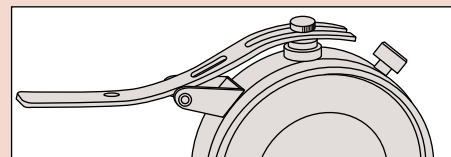
Spindle Lifting Knob

137693

Applicable spindle diameter; 4.8mm



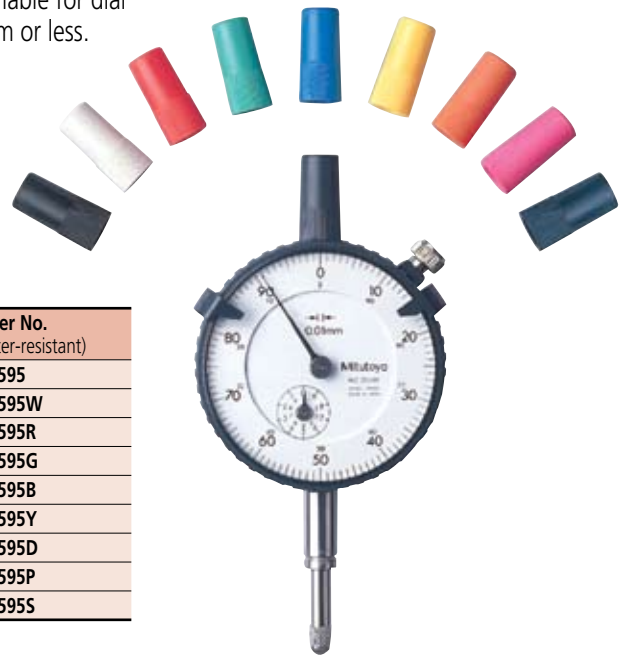
Application



Color Spindle Caps

Optional Accessories for Digimatic and Dial Indicators

8 colors of spindle caps are available for dial indicators with a range of 10mm or less.



SPECIFICATIONS

Color	Order No. (normal)	Order No. (water-resistant)
Black	193051	193595
White	193051W	193595W
Red	193051R	193595R
Green	193051G	193595G
Blue	193051B	193595B
Yellow	193051Y	193595Y
Orange	193051D	193595D
Pink	193051P	193595P
Dark blue	193051S	193595S

Limit Stickers

Optional Accessories for Digimatic and Dial Indicators

FEATURES

- Stuck on the dial face or crystal of a Series 2 dial indicator (55.6mm or 57mm bezel dia.) to indicate tolerance limits.



136420: Red (10-sheet/set)



136421: Green (10-sheet/set)

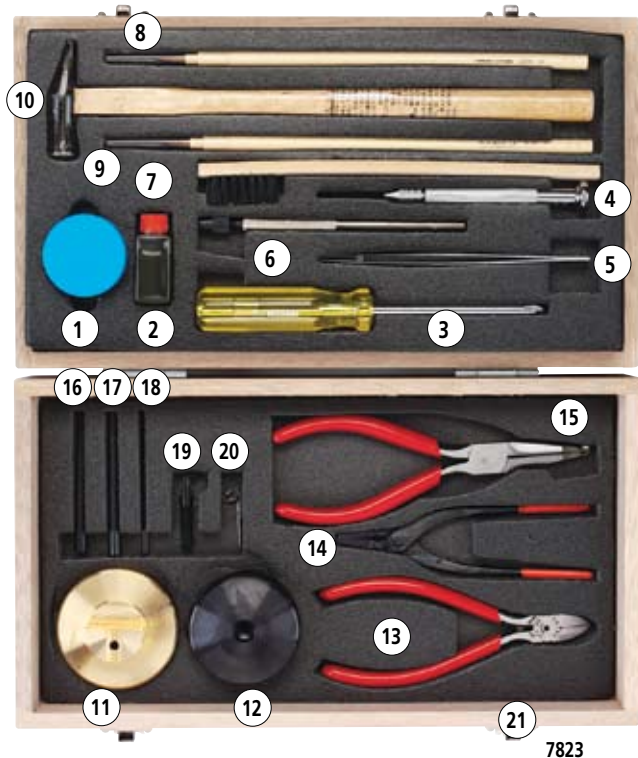


136422: Yellow (10-sheet/set)

Dial Indicator Repair Tool Kit

Optional Accessories for Digimatic and Dial Indicators

Mitutoyo offers a tool set designed to let you perform simple repairs to your Mitutoyo dial indicator, and a device that lets you reset the indicator crystals.



SPECIFICATIONS

Order No.	Description
7823	Dial indicator repair tool kit

Dial Indicator Crystal Setter

Optional Accessories for Digimatic and Dial Indicators

FEATURES

- Used for fitting a crystal on dial indicators, dial test indicators, and dial calipers.



With 8 sizes of crystal setting pads

SPECIFICATIONS

Order No.	Description
7000	Dial indicator crystal setter

Order No. 7823

Set Configuration

- (1) 901171: Molykote (lubricant)
- (2) 901172: Lubricating oil
- (3) 901173: Screwdriver (Phillips)
- (4) 901174: Screwdriver (Phillips/flat blade)
- (5) 129729: Tweezers
- (6) 901175: Pin-vise
- (7) 901176: Brush
- (8) 901177: Brush
- (9) 901177: Brush
- (10) 901178: Hammer
- (11) 129730: Spindle rest
- (12) 129731: Pin rest
- (13) 901179: Nippers
- (14) 901180: Pliers
- (15) 901181: Hand remover
- (16) 129732: Pin remover
- (17) 129733: Punch
- (18) 129734: Bearing adjuster
- (19) 129735: Pinion rest
- (20) 129736: Reamer ø1
- (21) 901182: Case

Optional Accessories For Hand Remover

- 126630: Interchangeable Pin, 0.8mm DIA.
- 126630B: Interchangeable Pin, 0.5mm DIA.
- 126630C: Interchangeable Pin, 1.6mm DIA.