

# Bore Gages

For easy and accurate measurement of inside diameters

## Bore Gages SERIES 511 — with Micrometer Head

- Micrometer head is attached to the anvil for accurate dimensional setting.
- Longer plunger stroke with no effect on accuracy.
- Carbide is used for the contact point ensuring high durability and wear resistance.
- This model reduces the influence of heat from the operator's hand by 50% by increasing the grip size and making the grip hollow-structured, thereby retaining high-accuracy measurement.
- Wide measuring range with sub-anvils.
- The indicator (dial indicator, Digimatic indicator) and dial protection cover are optional. Select an indicator from the recommended dial indicators and Digimatic indicators. Please contact us for advice when using an indicator other than the recommended indicators.
- Optional Extension Rods can be attached for measuring deep holes. (For details, refer to page C-45.)
- A Bore Gage Checker and a range of Setting Rings are available to aid in accurately setting a gage before making a measurement. (For details, refer to pages C-46 and C-47.)



511-804



511-806

## SPECIFICATIONS

Note: The dial indicator and the protection cover are optional.

Metric												
Order No.	Range (mm)	Stroke of contact point (mm)	Measuring force (N)	Guide force (N)	Content of set						Probing depth (mm)	
					Bore gage	Dial indicator	Dial protection cover	Micrometer head	Sub-Anvil	Spanner		
511-803	60 - 100	1.6	5 or less	10 or less	511-803	Not supplied	Not supplied	1 pc.	2 pcs.	3 pcs.	150	
511-804	100 - 160				3 pcs.							
511-805	150 - 250				4 pcs.							
511-806	250 - 400				3 pcs.							
511-807	400 - 600				2 pcs.							
511-808	600 - 800	20 or less	511-807	2 pcs.	2 pcs.	250						
511-823	60 - 100	1.6	5 or less	10 or less			511-803	2109SB-10 (Graduation: 0.001 mm)	21DZA000	2 pcs.	3 pcs.	150
511-824	100 - 160						3 pcs.					
511-825	150 - 250						4 pcs.					
511-826	250 - 400						3 pcs.					
511-827	400 - 600				2 pcs.							
511-828	600 - 800	20 or less	511-807	2 pcs.	2 pcs.	250						
511-813	60 - 100	1.6	5 or less	10 or less			511-803	2046SB (Graduation: 0.01 mm)	21DZA000	2 pcs.	3 pcs.	150
511-814	100 - 160						3 pcs.					
511-815	150 - 250						4 pcs.					
511-816	250 - 400						3 pcs.					
511-817	400 - 600				2 pcs.							
511-818	600 - 800	20 or less	511-807	2 pcs.	2 pcs.	250						
511-833	2.4 - 4.0	0.063	5 or less	10 or less			511-833	Not supplied	Not supplied	2 pcs.	3 pcs.	6
511-834	4.0 - 6.4						3 pcs.					
511-835	6.0 - 10.0						4 pcs.					
511-836	10.0 - 16.0						3 pcs.					
511-837	16.0 - 24.0				2 pcs.							
511-838	24.0 - 32.0	20 or less	511-837	2 pcs.	2 pcs.	10						
511-853	2.4 - 4.0	0.063	5 or less	10 or less			511-833	2923SB-10 (Graduation: 0.0001 in)	21DZA000	2 pcs.	3 pcs.	4
511-854	4.0 - 6.4						3 pcs.					
511-855	6.0 - 10.0						4 pcs.					
511-856	10.0 - 16.0						3 pcs.					
511-857	16.0 - 24.0				2 pcs.							
511-858	24.0 - 32.0	20 or less	511-837	2 pcs.	2 pcs.	6						
511-843	2.4 - 4.0	0.063	5 or less	10 or less			511-833	2922SB (Graduation: 0.0005 in)	21DZA000	2 pcs.	3 pcs.	4
511-844	4.0 - 6.4						3 pcs.					
511-845	6.0 - 10.0						4 pcs.					
511-846	10.0 - 16.0						3 pcs.					
511-847	16.0 - 24.0				2 pcs.							
511-848	24.0 - 32.0	20 or less	511-837	2 pcs.	2 pcs.	10						
511-838	24.0 - 32.0	2 pcs.										

Note 1: Storage boxes for 511-807/808/837/838 models are made of wood. The boxes of other models are made of plastic.

Note 2: It is not permissible to expand measuring range using sub-anvils other than as supplied as standard accessories. (The measurement accuracy in such cases is not guaranteed.)

## Contact Points

### Technical Data

- Accuracy: Metric models 2  $\mu$ m  
Inch models 0.00008 in
- Repeatability: Metric models 0.5  $\mu$ m  
Inch models 0.00002 in
- Adjacent error: Metric models 1  $\mu$ m  
Inch models 0.00004 in

### Optional Accessories

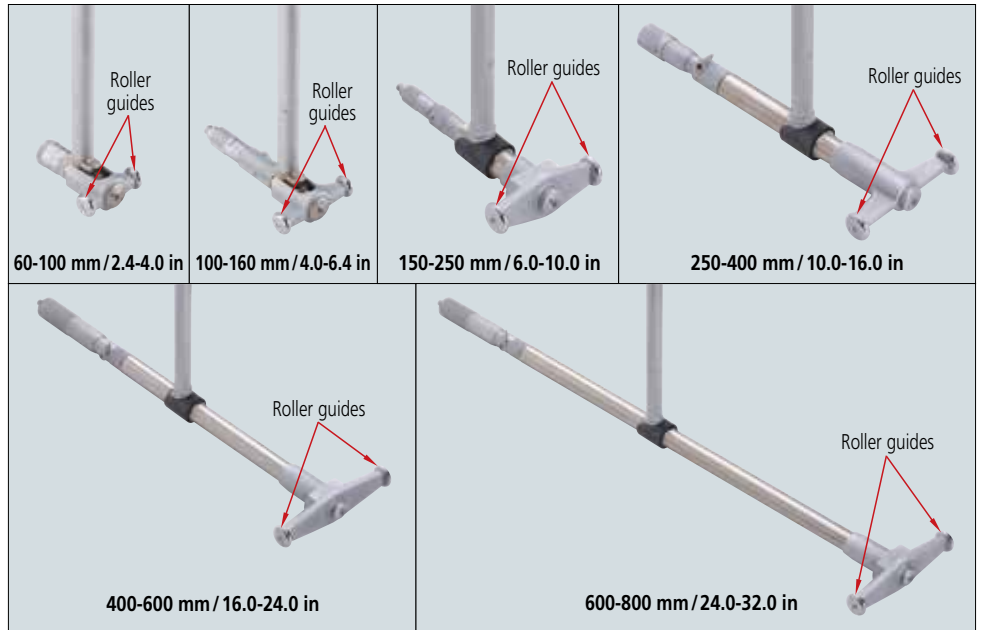
- Dial indicator (See Chapter F)
- Dial protection cover: **21DZA000**

### Recommended Dial Indicators (see Chapter F)

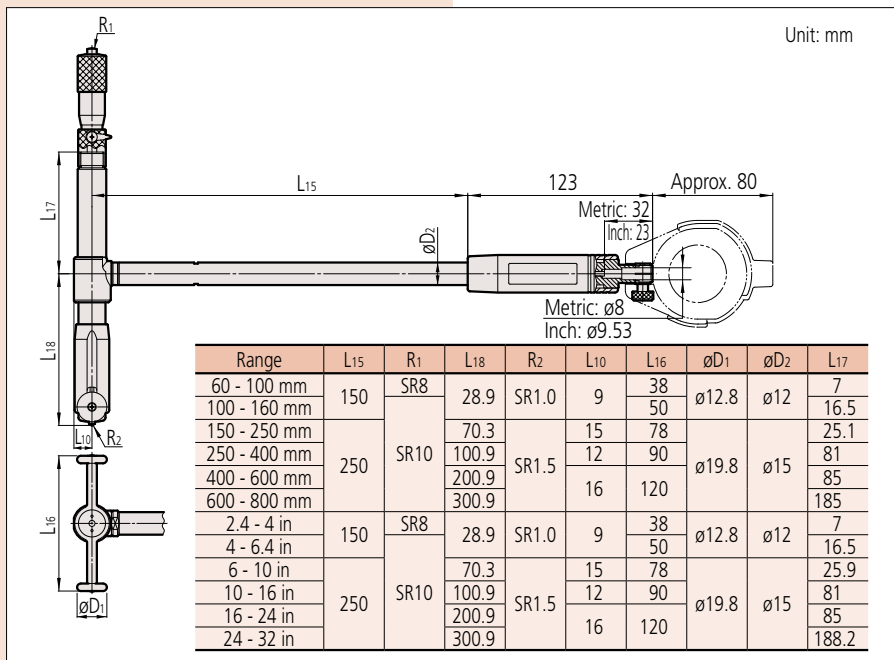
- Metric models: **2046SB** (0.01 mm)  
**2972TB** (0.01 mm - One-revolution type)  
**2109SB-10** (0.001 mm)  
**2900SB-10** (0.001 mm - One-revolution type)
- Inch models: **2922SB** (0.0005 in)  
**2977TB** (0.0005 in - One-revolution type)  
**2923SB-10** (0.0001 in)  
**2910SB-10** (0.0001 in - One-revolution type)

### Recommended Digimatic Indicators (see Chapter F)

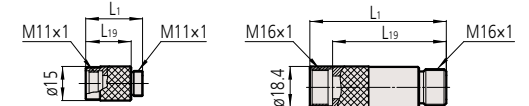
- Metric models: **543-310B (ID-C112GXB)**: 0.001 mm
  - Inch models: **543-312B (ID-C112GEXB)**: 0.001 mm/0.00005 in
- Note: Indicators equipped with rubber bellows, such as water-proof types, cannot be used.



## DIMENSIONS



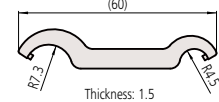
### Sub-anvil



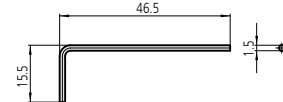
Note: It is not permissible to use a sub-anvil other than as supplied as a standard accessory, or widen a measuring range by using multiple sub-anvils. (The measurement accuracy in such cases is not guaranteed.)

### Spanner

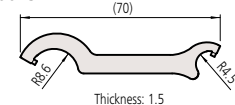
#### 301336



#### 202863



#### 200154



## STANDARD ACCESSORIES

Metric									
Bore gage (Main body)	Micrometer head			Sub-Anvil				Spanner	
	Order No.	Stroke (mm)	Screw size	Marked No. (mm)	Order No.	L1 (mm)	L19 (mm)	Order No.	
511-803	21DZA267	10	M11x1	10	208892	15	10	301336 (2 pcs.)	
				20	208894	25	20	202863 (1 pc.)	
511-804	21DZA268	13	M11x1	10	208892	15	10	301336 (2 pcs.)	
				20	208894 (2 pcs.)	25	20		
511-805	21DZA268	13	M11x1	10	208892	15	10	301336 (2 pcs.)	
				20	208894 (2 pcs.)	25	20		
				50	21DAA492	55	50		
511-806	953118	25	M16x1	25	208926	35	25	200154 (2 pcs.)	
				50	208928 (2 pcs.)	60	50		
511-807	953120	50	M16x1	50	208928	60	50	200154 (2 pcs.)	
				100	208932	110	100		
511-808	953120	50	M16x1	50	208928	60	50	200154 (2 pcs.)	
				100	208932	110	100		

Inch									
Bore gage (Main body)	Micrometer head			Sub-Anvil				Spanner	
	Order No.	Stroke (in)	Screw size	Marked No. (in)	Order No.	L1 (in)	L19 (in)	Order No.	
511-833	21DZA272	0.4	M11x1	0.4	208893	0.6	0.4	301336 (2 pcs.)	
				0.8	208895	1.0	0.8	202863 (1 pc.)	
511-834	21DZA273	0.5	M11x1	0.4	208893	0.6	0.4	301336 (2 pcs.)	
				0.8	208895 (2 pcs.)	1.0	0.8		
511-835	21DZA273	0.5	M11x1	0.4	208893	0.6	0.4	301336 (2 pcs.)	
				0.8	208895 (2 pcs.)	1.0	0.8		
				2	21DAA493	2.2	2		
511-836	21DZA275	1.0	M16x1	1	208927	1.4	1	200154 (2 pcs.)	
				2	208929 (2 pcs.)	2.4	2		
511-837	902313	2.0	M16x1	2	208929	2.4	2	200154 (2 pcs.)	
				4	208933	4.4	4		
511-838	902313	2.0	M16x1	2	208929	2.4	2	200154 (2 pcs.)	
				4	208933	4.4	4		