

Bore Gages

Bore Gages SERIES 511 — for Small Holes

- These gages are designed to measure the diameters of very small holes.
- 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.
- Customized products with a longer rod below the grip or with a carbide anvil are available upon request.



511-201

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

SPECIFICATIONS

Metric

Order No.	Range (mm)	Stroke of contact point (mm)	Accuracy* (μm)	Repeatability* (μm)	Adjacent error* (μm)	Measuring force (N)	Guide force (N)
511-209	6 - 10	0.5	5	2	2	2 or less	—
511-201	10 - 18.5	0.6					6 or less
511-210-20	6 - 10	0.5	5	2	2	2 or less	—
511-203-20	10 - 18.5	0.6					6 or less
511-211-20	6 - 10	0.5	5	2	2	2 or less	—
511-204-20	10 - 18.5	0.6					6 or less

Order No.	Content of set					Probing depth (mm)
	Bore gage	Dial indicator	Dial protection cover	Anvil	Interchangeable Washer	
511-209	511-209	Not supplied	Not supplied	9 pcs.	Not supplied	50
511-201	511-201				1 pc.	100
511-210-20	511-209	2109AB-10 (Graduation: 0.001 mm)	21DZA000	9 pcs.	Not supplied	50
511-203-20	511-201				1 pc.	100
511-211-20	511-209	2046AB (Graduation: 0.01 mm)	21DZA000	9 pcs.	Not supplied	50
511-204-20	511-201				1 pc.	100

Inch

Order No.	Range (in)	Stroke of contact point (in)	Accuracy* (in)	Repeatability* (in)	Adjacent error* (in)	Measuring force (N)	Guide force (N)
511-214	0.24 - 0.4	0.020	0.0002	0.00008	0.00008	2 or less	—
511-205	0.4 - 0.74	0.024					6 or less
511-212-20	0.24 - 0.4	0.020	0.0002	0.00008	0.00008	2 or less	—
511-206-20	0.4 - 0.74	0.024					6 or less
511-213-20	0.24 - 0.4	0.020	0.0002	0.00008	0.00008	2 or less	—
511-207-20	0.4 - 0.74	0.024					6 or less

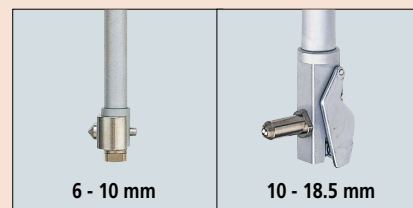
Order No.	Content of set					Probing depth (in)
	Bore gage	Dial indicator	Dial protection cover	Anvil	Interchangeable Washer	
511-214	511-214	Not supplied	Not supplied	9 pcs.	Not supplied	2
511-205	511-205				1 pc.	4
511-212-20	511-214	2923AB-10 (Graduation: 0.0001 in)	21DZA000	9 pcs.	Not supplied	2
511-206-20	511-205				1 pc.	4
511-213-20	511-214	2922AB (Graduation: 0.0005 in)	21DZA000	9 pcs.	Not supplied	2
511-207-20	511-205				1 pc.	4

* Accuracy of the bore gage alone.

Measurement example



Contact Points



The dial protection cover, recommended indicators

Refer to page C-50.

Unit: mm

5.4 50 53 27 Approx. 80

3.7 4 Anvil SR1.5 Hardened steel

Metric: 32 Inch: 23

8.5 100 5.4 Anvil SR0.5 Carbide ball

6 10 mm / 0.24 - 0.4 in range model

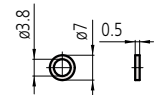
10 - 18.5 mm / 0.4 - 0.74 in range model

Metric: 8 Inch: 9.53

6 - 10 mm / 0.24 - 0.4 in range model

10 - 18.5 mm / 0.4 - 0.74 in range model

Interchangeable washer
(Supplied only with **511-201/511-205**)



Bore gage (Main body)	Anvil					Interchangeable Washer	Spanner
	Marked No.	Order No.	Indication of measuring size	L ₁	L ₁₃	Order No.	Order No.
511-209 511-214	1	952168	6.0 mm/0.24 in	4.7	1.2	Not supplied	206709
	2	952169	6.5 mm/0.26 in	5.3	1.7		
	3	952170	7.0 mm/0.28 in	5.8	2.2		
	4	952414	7.5 mm/0.30 in	6.3	2.7		
	5	952415	8.0 mm/0.32 in	6.8	3.2		
	6	952416	8.5 mm/0.34 in	7.3	3.7		
	7	952417	9.0 mm/0.36 in	7.8	4.2		
	8	952418	9.5 mm/0.38 in	8.3	4.7		
	9	952419	10.0 mm/0.40 in	8.8	5.2		

Bore gage (Main body)	Anvil					Interchangeable Washer	Spanner
	Marked No.	Order No.	Indication of measuring size	L ₁	L ₁₄	Order No.	Order No.
511-201 511-205	1	204356	10 mm/0.40 in	3.8	2	204355	204354
	2	204357	11 mm/0.44 in	4.8	3		
	3	204358	12 mm/0.48 in	5.8	4		
	4	204359	13 mm/0.52 in	6.8	5		
	5	204360	14 mm/0.56 in	7.8	6		
	6	204361	15 mm/0.60 in	8.8	7		
	7	204362	16 mm/0.64 in	9.8	8		
	8	204363	17 mm/0.68 in	10.8	9		
	9	204364	18 mm/0.72 in	11.8	10		

Technical drawing of a mechanical part. The part has a central shaft with a diameter of 3.9. The shaft is flanked by two larger, rounded sections. The total length of the part is indicated as (41).

Mitutoyo