

Bore Gages

For easy and accurate measurement of inside diameters

Bore Gages SERIES 511 — for Small Holes

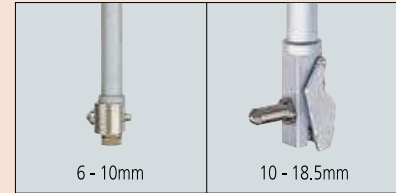
- The interchangeable anvils used on this gage are made of high-grade tool steel.
- The dial indicator is fully protected by a rugged cover.
- Dial indicators and protection covers are optionally available. Some indicators and protection covers cannot be used with these bore gages. Contact a Mitutoyo sales office if considering the use of dial indicators or Digimatic indicators other than recommended models.
- Setting Rings are available to aid in accurately setting a gage before making a measurement. (For details, refer to page C-47)



511-201

The dial indicator and protection cover are optional.

Close-up view of anvils and contact points



Technical Data

Accuracy: Metric models: 5µm
Inch models: .0002"
Repeatability: Metric models: 2µm
Inch models: .00008"
Adjacent error: Metric models: 2µm
Inch models: .00008"

Optional Accessories

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

Recommended dial indicators

Metric models: 2046SB (0.01mm)
2972TB (0.01mm - One-revolution type)
2109SB-10 (0.001mm)
2900SB-10 (0.001mm - One-revolution type)
Inch models: 2922SB (.0005")
2977TB (.0005" - One-revolution type)
2923SB-10 (.0001")
2910SB-10 (.0001" - One-revolution type)

Recommended digimatic indicators

Metric models: 543-264B (ID-C112GB: 0.001mm)
Inch models: 543-266B (ID-C112GB: 0.001mm/.00005")
* Indicators equipped with rubber bellows, such as water-proof types, cannot be used.

SPECIFICATIONS

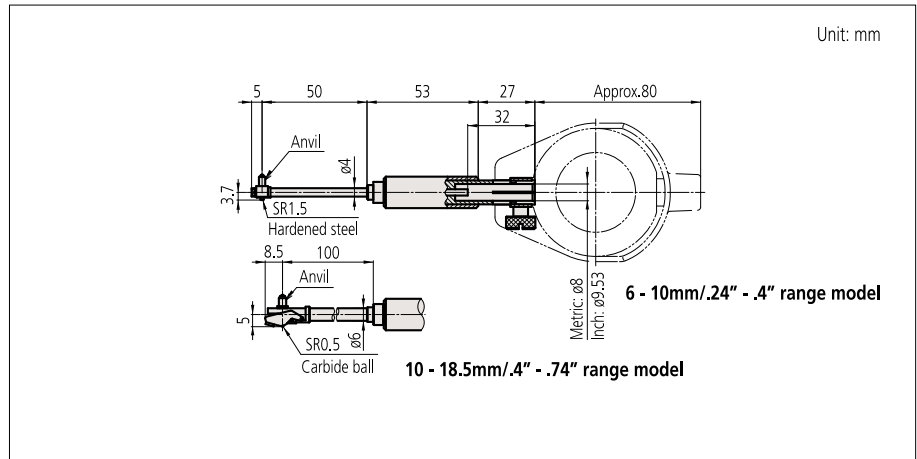
Metric

Order No.	Range	Stroke of contact point	Measuring force	Guide force	Content of set					Probing depth
					Bore gage	Dial indicator	Dial protection cover	Anvil	Interchangeable Washer	
511-209	6-10mm	0.5mm	2N or less	—	511-209	Not supplied	Not supplied	9 pcs.	Not supplied	50mm
511-201	10-18.5mm	0.6mm		6N or less	511-201				1 pc.	100mm
511-210	6-10mm	0.5mm	2N or less	—	511-209	2109SB-10 (Graduation: 0.001mm)	21DZA000	9 pcs.	Not supplied	50mm
511-203	10-18.5mm	0.6mm		6N or less	511-201				1 pc.	100mm
511-211	6-10mm	0.5mm	2N or less	—	511-209	2046SB (Graduation: 0.01mm)	21DZA000	9 pcs.	Not supplied	50mm
511-204	10-18.5mm	0.6mm		6N or less	511-201				1 pcs.	100mm

Inch

Order No.	Range	Stroke of contact point	Measuring force	Guide force	Content of set					Probing depth
					Bore gage	Dial indicator	Dial protection cover	Anvil	Interchangeable Washer	
511-214	.24-.4"	.020"	2N or less	—	511-214	Not supplied	Not supplied	9 pcs.	Not supplied	2"
511-205	.4-.74"	.024"		6N or less	511-205				1 pc.	4"
511-212	.24-.4"	.020"	2N or less	—	511-214	2923SB-10 (Graduation: .0001")	21DZA000	9 pcs.	Not supplied	2"
511-206	.4-.74"	.024"		6N or less	511-205				1 pc.	4"
511-213	.24-.4"	.020"	2N or less	—	511-214	2922SB (Graduation: .0005")	21DZA000	9 pcs.	Not supplied	2"
511-207	.4-.74"	.024"		6N or less	511-205				1 pc.	4"

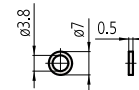
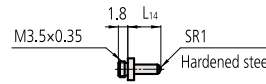
DIMENSIONS



511-209/511-214
Anvil

511-201/511-205
Anvil

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



No.204355

STANDARD ACCESSORIES

Bore gage (Main body)	Anvil					Interchangeable Washer Parts No.	Wrench Parts No.
	Marked No.	Parts No.	Size*1		L13		
511-209 511-214	1	952168	6.0mm	.24"	1.2mm/.05"	Not supplied	206709
	2	952169	6.5mm	.26"	1.7mm/.07"		
	3	952170	7.0mm	.28"	2.2mm/.09"		
	4	952414	7.5mm	.30"	2.7mm/.11"		
	5	952415	8.0mm	.32"	3.2mm/.13"		
	6	952416	8.5mm	.34"	3.7mm/.15"		
	7	952417	9.0mm	.36"	4.2mm/.17"		
	8	952418	9.5mm	.38"	4.7mm/.19"		
	9	952419	10.0mm	.40"	5.2mm/.21"		

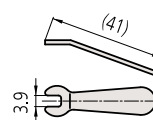
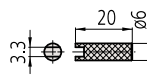
Bore gage (Main body)	Anvil					Interchangeable Washer Parts No.	Wrench Parts No.
	Marked No.	Parts No.	Size*1		L14		
511-201*2 511-205	1	204356	10.0mm	.40"	2mm/.08"	204355	204354
	2	204357	11.0mm	.44"	3mm/.12"		
	3	204358	12.0mm	.48"	4mm/.16"		
	4	204359	13.0mm	.52"	5mm/.20"		
	5	204360	14.0mm	.56"	6mm/.24"		
	6	204361	15.0mm	.60"	7mm/.28"		
	7	204362	16.0mm	.64"	8mm/.32"		
	8	204363	17.0mm	.68"	9mm/.36"		
	9	204364	18.0mm	.72"	10mm/.40"		

*1 Indication of measuring size.

*2 Equipped with an anvil fixing plate.

Wrench
No.206709

No.204354



Thickness: 1.5mm

Bore Gages

For easy and accurate measurement of inside diameters

Bore Gages SERIES 511

- Now offers a longer plunger stroke while maintaining original 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.
- Optional extension rods can be attached for measuring deep holes. (For details, refer to page C-45.)
- Dial indicators and protection covers are optionally available.
Some dial indicators are not usable with bore gages or protection covers.
- 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.)



Dial indicators and protection covers are optional.

SPECIFICATIONS

Metric					Content of set							Probing depth
Order No.	Range	Stroke of contact point	Measuring force	Guide force	Bore gage	Dial indicator	Dial protection cover	Anvil	Interchangeable Washer	Sub-Anvil	Wrench	
511-701	18-35mm	1.2mm	4N or less	6N or less	511-701	Not supplied	Not supplied	9 pcs.	2 pcs.	Not supplied	1 pc.	100mm
511-702	35-60mm				511-702			6 pcs.				
511-703	50-150mm	1.6mm	5N or less	10N or less	511-703	Not supplied	Not supplied	11 pcs.	4 pcs.	1 pc.	Not supplied	150mm
511-704	100-160mm				511-704			13 pcs.				
511-705	160-250mm				511-705			6 pcs.				
511-706	250-400mm				511-706			5 pcs.				
511-721	18-35mm	1.2mm	4N or less	6N or less	511-701	2109SB-10 (Graduation: 0.001mm)	21DZA000	9 pcs.	2 pcs.	Not supplied	1 pc.	100mm
511-722	35-60mm				511-702			6 pcs.				
511-723	50-150mm	1.6mm	5N or less	10N or less	511-703	2109SB-10 (Graduation: 0.01mm)	21DZA000	11 pcs.	4 pcs.	1 pc.	Not supplied	150mm
511-724	100-160mm				511-704			13 pcs.				
511-725	160-250mm				511-705			6 pcs.				
511-726	250-400mm				511-706			5 pcs.				
511-711	18-35mm	1.2mm	4N or less	6N or less	511-701	2046SB (Graduation: 0.01mm)	21DZA000	9 pcs.	2 pcs.	Not supplied	1 pc.	100mm
511-712	35-60mm				511-702			6 pcs.				
511-713	50-150mm	1.6mm	5N or less	10N or less	511-703	2046SB (Graduation: 0.01mm)	21DZA000	11 pcs.	4 pcs.	1 pc.	Not supplied	150mm
511-714	100-160mm				511-704			13 pcs.				
511-715	160-250mm				511-705			6 pcs.				
511-716	250-400mm				511-706			5 pcs.				
511-921	18-150mm	—	—	—	511-701	2046SB	21DZA000	—	—	—	—	—
511-922					511-702	2109SB-10						
511-925					511-703	543-264B						

Inch					Content of set							Probing depth
Order No.	Range	Stroke of contact point	Measuring force	Guide force	Bore gage	Dial indicator	Dial protection cover	Anvil	Interchangeable Washer	Sub-Anvil	Wrench	
511-731	.7-1.4"	.047"	4N or less	6N or less	511-731	Not supplied	Not supplied	9 pcs.	2 pcs.	Not supplied	1 pc.	4"
511-732	1.4-2.5"				511-732			6 pcs.				
511-733	2.0-6.0"	.063"	5N or less	10N or less	511-733	Not supplied	Not supplied	11 pcs.	4 pcs.	1 pc.	Not supplied	6"
511-734	4.0-6.5"				511-734			13 pcs.				
511-735	6.5-10.0"				511-735			6 pcs.				
511-736	10.0-16.0"				511-736			5 pcs.				
511-751	.7-1.4"	.047"	4N or less	6N or less	511-731	2923SB-10 (Graduation: .0001")	21DZA000	9 pcs.	2 pcs.	Not supplied	1 pc.	4"
511-752	1.4-2.5"				511-732			6 pcs.				
511-753	2.0-6.0"	.063"	5N or less	10N or less	511-733	2923SB-10 (Graduation: .0001")	21DZA000	11 pcs.	4 pcs.	1 pc.	Not supplied	6"
511-754	4.0-6.5"				511-734			13 pcs.				
511-755	6.5-10.0"				511-735			6 pcs.				
511-756	10.0-16.0"				511-736			5 pcs.				
511-741	.7-1.4"	.047"	4N or less	6N or less	511-731	2922SB (Graduation: .0005")	21DZA000	9 pcs.	2 pcs.	Not supplied	1 pc.	4"
511-742	1.4-2.5"				511-732			6 pcs.				
511-743	2.0-6.0"	.063"	5N or less	10N or less	511-733	2922SB (Graduation: .0005")	21DZA000	11 pcs.	4 pcs.	1 pc.	Not supplied	6"
511-744	4.0-6.5"				511-734			13 pcs.				
511-745	6.5-10.0"				511-735			6 pcs.				
511-746	10.0-16.0"				511-736			5 pcs.				
511-931	.7-6.0"	—	—	—	511-731	2922SB	21DZA000	—	—	—	—	—
511-932					511-732	2923SB-10						
511-935					511-733	543-266B						

Notes: 1) A 50mm sub-anvil is supplied with 511-703, and a 75mm sub-anvil is supplied with 511-706.

2) A 2" sub-anvil is supplied with 511-733, and a 3" sub-anvil is supplied with 511-736.

3) 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.)