

# Bore Gages

For easy and accurate measurement of inside diameters

## Bore Gages SERIES 511 — for Small Holes

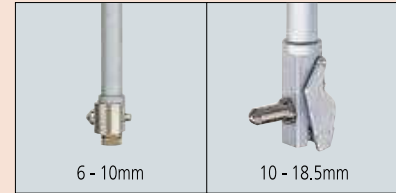
- The interchangeable anvils used on this gage are made of high-grade tool steel.
- The dial indicator is fully protected by a rugged cover.
- Dial indicators and protection covers are optionally available. Some indicators and protection covers cannot be used with these bore gages. Contact a Mitutoyo 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

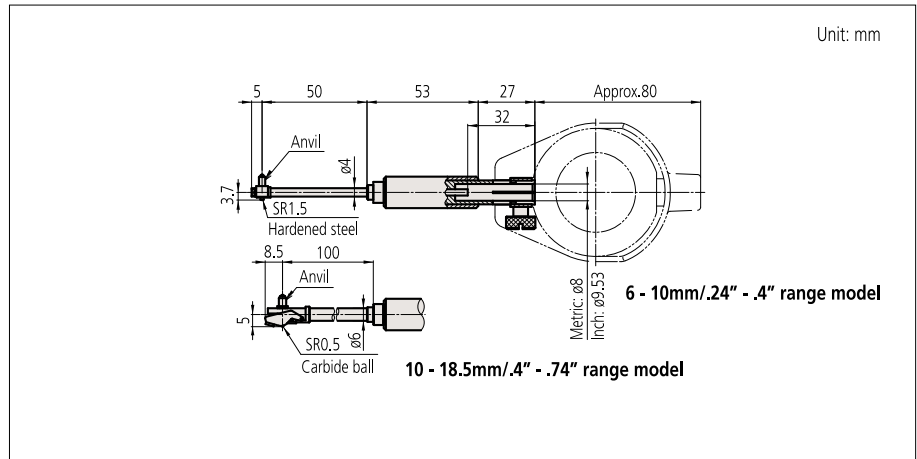
### Metric

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"

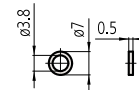
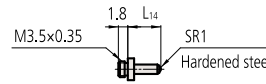
## DIMENSIONS



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

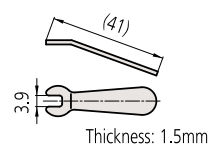
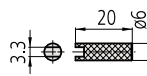
Bore gage (Main body)	Anvil					Interchangeable Washer	Wrench
	Marked No.	Parts No.	Size*1		L14	Parts No.	Parts No.
<b>511-201*2</b> <b>511-205</b>	1	<b>204356</b>	10.0mm	.40"	2mm/.08"	<b>204355</b>	<b>204354</b>
	2	<b>204357</b>	11.0mm	.44"	3mm/.12"		
	3	<b>204358</b>	12.0mm	.48"	4mm/.16"		
	4	<b>204359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

\*1 Indication of measuring size.

\*2 Equipped with an anvil fixing plate.

Wrench  
No.206709

No.204354



# 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						
511-923					511-703	543-264B						

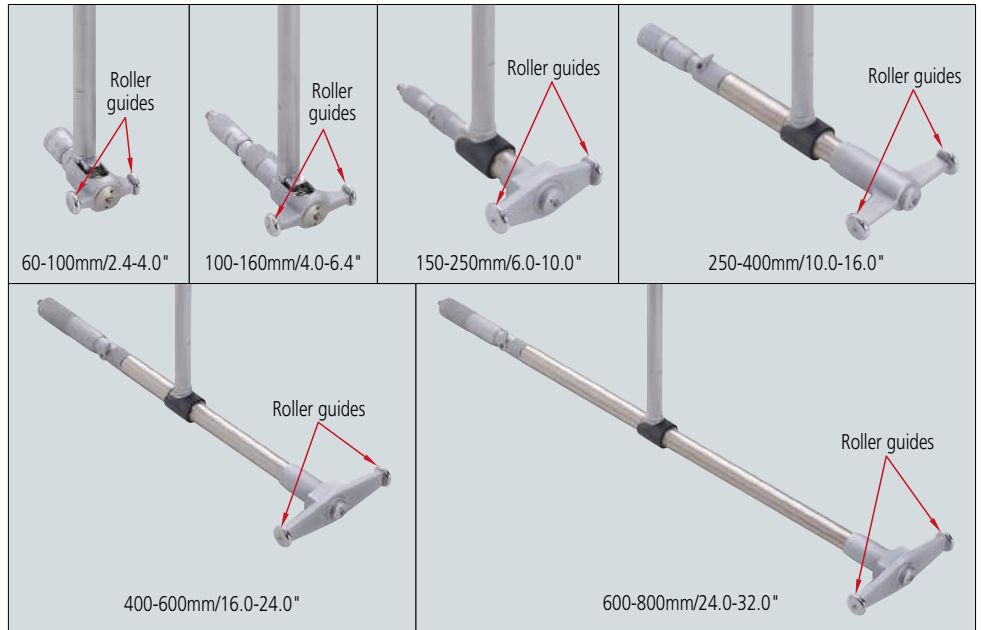
Inch					Content of set							Probing depth
Order No.	Range	Stroke of contact point	Measuring force	Guide force	Bore gage	Dial indicator	Dial protection cover	Anvil	Interchangeable Washer	Sub-Anvil	Wrench	
511-731	.7-1.4"	.047"	4N or less	6N or less	511-731	Not supplied	Not supplied	9 pcs.	2 pcs.	Not 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						
511-933					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.)

## Contact Points



### Technical Data

Accuracy: Metric models 2µm  
Inch models .00008"  
Repeatability: Metric models 0.5µm  
Inch models .00002"  
Adjacent error: Metric models 1µm  
Inch models .00004"

### Optional Accessories

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

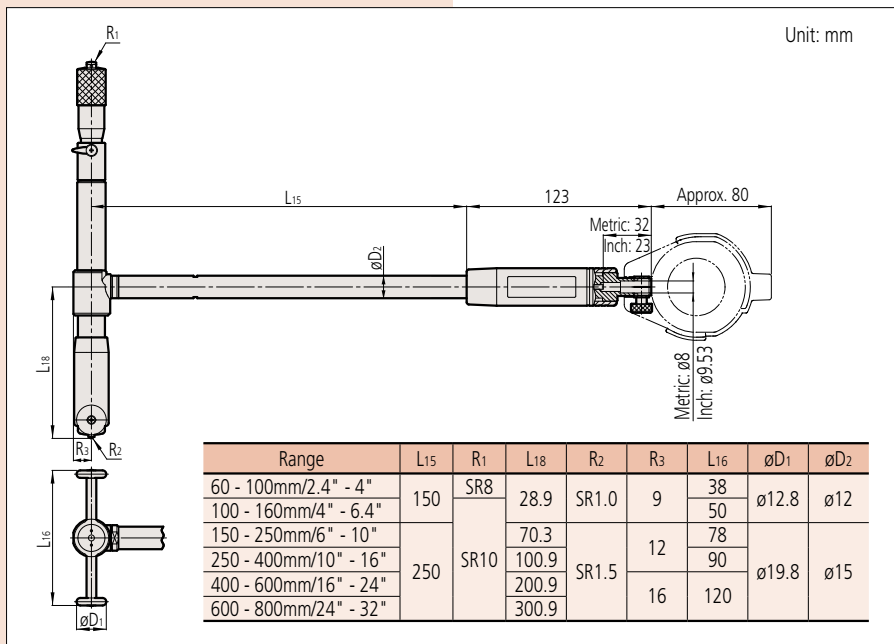
### Recommended dial indicators (see Chapter F)

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)

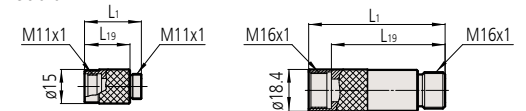
### Recommended digimatic indicators (see Chapter F)

Metric models: **543-310B** (ID-C112GXB: 0.001mm)  
Inch models: **543-312B** (ID-C112GEXB: 0.001mm/.00005")  
\* Indicators equipped with rubber bellows, such as water-proof types, cannot be used.

## DIMENSIONS



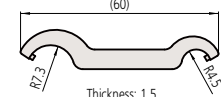
### Sub-anvil



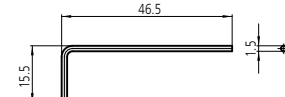
Notes: It is not permissible to use a sub-anvil other than as supplied as a standard accessory, or widen a measuring range by using multiple sub-anvils. (The measurement accuracy in such cases is not guaranteed.)

### Spanner

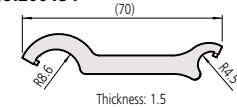
#### No.301336



#### No.202863



#### No.200154



## STANDARD ACCESSORIES

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

Inch		Micrometer head		Sub-Anvil				Spanner
Bore gage (Main body)	Parts No.	Stroke	Screw size	Marked No.	Parts No.	L1	L19	Parts No.
511-833	21DZA272	.4"	M11x1	.4"	208893	.6"	.4"	301336 (2 pcs.)
				.8"	208895	1.0"	.8"	202863 (1 pcs.)
511-834	21DZA273	.5"	M11x1	.4"	208893	.6"	.4"	301336 (2 pcs.)
				.8"	208895 (2 pcs.)	1.0"	.8"	
511-835	21DZA273	.5"	M11x1	.4"	208893	.6"	.4"	301336 (2 pcs.)
				.8"	208895 (2 pcs.)	1.0"	.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"	

# Bore Gages

For easy and accurate measurement of inside diameters

## Bore Gages SERIES 511 — for Blind Holes

- Capable of ID (inside diameter) measurement close to the bottom of a hole.
- Carbide contact point ensuring high durability and wear resistance.
- Grip is large and hollow to reduce effect of body heat on high-accuracy measurements.
- Alternative indicators may be used in place of those recommended\*.

\* Some indicators and protection covers cannot be used with these bore gages. Contact a Mitutoyo sales office if considering the use of dial or digimatic indicators other than the recommended models.

- 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.)



511-415

511-416

511-417

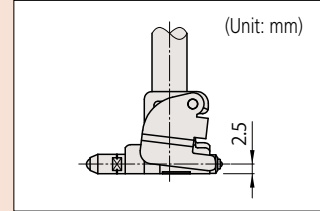


511-416



511-417

The dial indicator and protection cover are optional.



### Technical Data

Accuracy: Metric models 4µm  
Inch models .00016"  
Repeatability: Metric models 1µm  
Inch models .00004"  
Adjacent error: Metric models 1µm  
Inch models .00004"

### Optional Accessories

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

### Recommended dial indicators (see Chapter F)

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 (see Chapter F)

Metric models: 543-310B (0.001mm)  
Inch models: 543-312B (0.001mm/.00005")

\* Indicators equipped with rubber bellows, such as water-proof types, cannot be used.

## SPECIFICATIONS

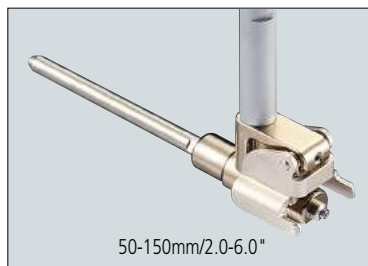
Metric										
Order No.	Range	Stroke of contact point	Measuring force	Guide force	Content of set					Probing depth
					Bore gage	Dial indicator	Dial protection cover	Anvil	Washer	
511-415	15-35mm	1.2mm	4N or less	6N or less	511-415	Not supplied	Not supplied	11 pcs.	1 pc.	150mm
511-416	35-60mm				511-416					
511-417	50-150mm				511-417					
511-425	15-35mm	1.2mm	4N or less	6N or less	511-415	2046SB	21DZA000	6 pcs.	1 pc.	150mm
511-426	35-60mm				511-416					
511-427	50-150mm				511-417					
511-435	15-35mm	1.2mm	4N or less	6N or less	511-415	2109SB-10	21DZA000	11 pcs.	1 pc.	150mm
511-436	35-60mm				511-416					
511-437	50-150mm				511-417					

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	Washer	
511-418	.6-1.4"	.047"	4N or less	6N or less	511-418	Not supplied	Not supplied	11 pcs.	1 pc.	6"
511-419	1.4-2.4"				511-419					
511-420	2.0-6.0"				511-420					
511-428	.6-1.4"	.047"	4N or less	6N or less	511-418	2922SB	21DZA000	11 pcs.	1 pc.	6"
511-429	1.4-2.4"				511-419					
511-430	2.0-6.0"				511-420					
511-438	.6-1.4"	.047"	4N or less	6N or less	511-418	2923SB-10	21DZA000	11 pcs.	1 pc.	6"
511-439	1.4-2.4"				511-419					
511-440	2.0-6.0"				511-420					

Notes: 1) A 10mm (.4") sub-anvil is supplied with 511-415/425/435/418/428/438 and a 50mm (2") sub-anvil is supplied with 511-417/427/437/420/430/440.

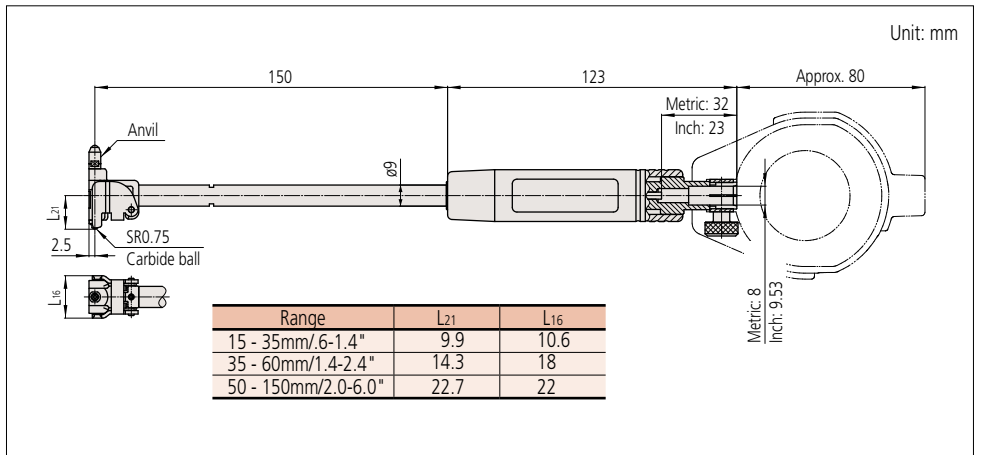
2) It is not permissible to use a sub-anvil other than as supplied as a standard accessory, or widen a measuring range by using multiple sub-anvils. (The measurement accuracy in such cases is not guaranteed.)

## Contact Points

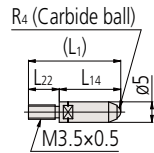




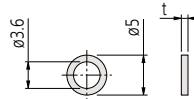
## DIMENSIONS



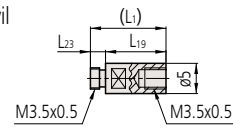
Anvil



Interchangeable washer

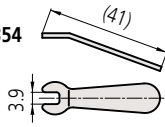


Sub-anvil



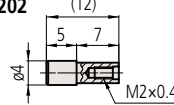
Notes: It is not permissible to use a sub-anvil other than as supplied as a standard accessory, or widen a measuring range by using multiple sub-anvils. (The measurement accuracy in such cases is not guaranteed.)

Spanner  
No.204354

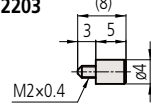


Thickness: 1.5mm

Washer holder  
No.212202



Locking screw  
No.212203



## STANDARD ACCESSORIES

Bore gage (Main body)	Anvil							Interchangeable washer		Sub-Anvil		
	Marked No.	Order No.	Indication of measuring size	L <sub>1</sub>	L <sub>22</sub>	R <sub>4</sub>	L <sub>14</sub>	Order No.	t	Order No.	L <sub>23</sub>	L <sub>19</sub>
511-415 511-418 ( ) Used 10mm/.4" Sub-Anvil	1	21DZA376A	15mm(25mm)/.59"( .98")	4.5mm/.18"	2.5 mm/.1"	SR1 mm/SR.04"	2mm/.08"	212127	0.5mm/.02"	21DAA563	2.5mm/.1"	10mm/.4"
	2	21DZA376B	16mm(26mm)/.63"(1.02")	5.5mm/.22"			3mm/.12"					
	3	21DZA376C	17mm(27mm)/.67"(1.06")	6.5mm/.26"			4mm/.16"					
	4	21DZA376D	18mm(28mm)/.71"(1.10")	7.5mm/.30"			5mm/.20"					
	5	21DZA376E	19mm(29mm)/.75"(1.14")	8.5mm/.33"			6mm/.24"					
	6	21DZA376F	20mm(30mm)/.79"(1.18")	9.5mm/.37"		7mm/.28"						
	7	21DZA376G	21mm(31mm)/.83"(1.22")	10.5mm/.41"		8mm/.31"						
	8	21DZA376H	22mm(32mm)/.87"(1.26")	11.5mm/.45"		9mm/.35"						
	9	21DZA376J	23mm(33mm)/.91"(1.30")	12.5mm/.49"		10mm/.39"						
	10	21DZA376L	24mm(34mm)/.94"(1.34")	13.5mm/.53"		11mm/.43"						
	11	21DZA376M	25mm(35mm)/.98"(1.38")	14.5mm/.57"		12mm/.47"						
511-416 511-419	1	21DZA404A	35mm/1.38"	17.5mm/.69"	7.5 mm/.3"	SR1.5 mm/SR.06"	10mm/.39"	212127	0.5mm/.02"			
	2	21DZA404B	40mm/1.57"	22.5mm/.89"			15mm/.59"					
	3	21DZA404C	45mm/1.77"	27.5mm/1.08"			20mm/.79"					
	4	21DZA404D	50mm/1.97"	32.5mm/1.28"			25mm/.98"					
	5	21DZA404E	55mm/2.17"	37.5mm/1.48"			30mm/1.18"					
	6	21DZA404F	60mm/2.36"	42.5mm/1.67"			35mm/1.38"					
511-417 511-420 ( ) Used 50mm/2" Sub-Anvil	1	21DZA404A	50mm(100mm)/1.97"(3.94")	17.5mm/.69"	7.5 mm/.3"	SR1.5 mm/SR.06"	10mm/.39"	212127	0.5mm/.02"	21DAA596	7.5mm/.3"	50mm/2"
	2	21DZA404B	55mm(105mm)/2.17"(4.13")	22.5mm/.89"			15mm/.59"					
	3	21DZA404C	60mm(110mm)/2.36"(4.33")	27.5mm/1.08"			20mm/.79"					
	4	21DZA404D	65mm(115mm)/2.56"(4.53")	32.5mm/1.28"			25mm/.98"					
	5	21DZA404E	70mm(120mm)/2.76"(4.72")	37.5mm/1.48"			30mm/1.18"					
	6	21DZA404F	75mm(125mm)/2.95"(4.92")	42.5mm/1.67"			35mm/1.38"					
	7	21DZA404G	80mm(130mm)/3.15"(5.12")	47.5mm/1.87"			40mm/1.57"					
	8	21DZA404H	85mm(135mm)/3.35"(5.31")	52.5mm/2.07"			45mm/1.77"					
	9	21DZA404J	90mm(140mm)/3.54"(5.51")	57.5mm/2.26"			50mm/1.97"					
	10	21DZA404L	95mm(145mm)/3.74"(5.71")	62.5mm/2.46"			55mm/2.17"					
	11	21DZA404M	100mm(150mm)/3.94"(5.91")	67.5mm/2.66"			60mm/2.36"					

# Bore Gages

For easy and accurate measurement of inside diameters

## Bore Gages

### SERIES 511 — ABSOLUTE Digimatic Bore Gages

- These ABSOLUTE Digimatic bore gages are exclusively designed for inside diameter measurement.
- Up to four extension rods (250mm or 500mm) can be used for measuring at the bottom of a hole 2m deep.
- ABS (ABSOLUTE) type bore gages are not subject to overspeed error.
- The display and grip can be rotated up to 320 degrees and the display can be inclined up to 90 degrees, so that it is easily readable from any direction.
- The minimum value holding function provides easy measurement of hole diameter.
- Setting the Bore Gage to a master value using a gauge block set allows quick and accurate setting.
- 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.)



## SPECIFICATIONS

Metric									
Order No.	Range	Stroke of contact point	Measuring force	Guide force	Resolution	Content of set			Probing depth
						Anvil	Interchangeable washer	Battery (SR44)	
511-501	45-100mm	1.2mm	5N or less	10N or less	0.001mm	12 pcs.	4 pcs.	2 pcs.	150mm
511-502	100-160mm					13 pcs.	4 pcs.	2 pcs.	

Inch									
Order No.	Range	Stroke of contact point	Measuring force	Guide force	Resolution	Content of set			Probing depth
						Anvil	Interchangeable washer	Battery (SR44)	
511-521	1.8-4.0"	.047"	5N or less	6N or less	.00005"/ 0.001mm	12 pcs.	4 pcs.	2 pcs.	6"
511-522	4.0-6.5"					13 pcs.	4 pcs.	2 pcs.	

- Notes: 1) Normal use is assumed to be 8 hours per day.  
 2) The correct peak value may not be displayed if the anvil's speed exceeds 50 µm/s.  
 3) IP53 indicates resistance to dust and dripping water, but only applies when the connector cap is in place.



**ABSOLUTE™** (Refer to page X for details.)

## Technical Data

- Accuracy: Metric models 3µm  
 Inch models .00012"  
 Excluding quantizing error
- Repeatability: Metric models 2µm  
 Inch models .00008"
- Adjacent error: Metric models 2µm  
 Inch models .00008"
- Battery: SR44 (2 pc), **938882**, for initial operational checks (standard accessory)
- Battery life: Approx. 2000 hours under normal use.
- Display: LCD character height 8.5mm
- Scale type: ABSOLUTE electrostatic linear encoder
- Max. response speed: Unlimited

## Function

- Preset function
- Master value registration (3 values at maximum)
- Tolerance judgment
- Upper/lower limit registration (3 values at maximum)
- Minimum value holding
- Data output
- Display rotation (320°)
- Display inclination (90°, 7 steps)
- Low battery alarm display
- Error display

## Optional Accessories

- 21DZA089:** Extension rod 250 mm (10")
- 21DZA081:** Extension rod 500 mm (20")
- Up to four extension rods can be jointed, and the maximum length 2m is allowed.
- Refer to page A-21 for details
- Connecting cables for Input Tool/ Digimatic Mini-Processor, etc.
- 1m: **905338**
- 2m: **905409**
- USB Input Tool Direct (2m): 06ADV380F**
- Connecting cables for **U-WAVE-T**
- For standard (160mm): **02AZD790F**
- For foot switch: **02AZE140F**
- Setting ring (See page C-47.)
- Digimatic Mini-Processor DP-1VR: **264-504**

## Example of connection

When connecting four pieces of 500mm extension rods

