

HOLTEST INSIDE MICROMETERS BORE GAUGES

C-01

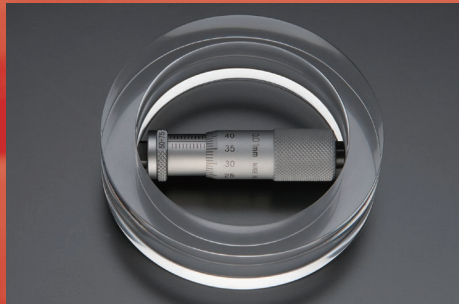


C

Holtest



Inside Micrometers



Bore Gauges



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Holtest

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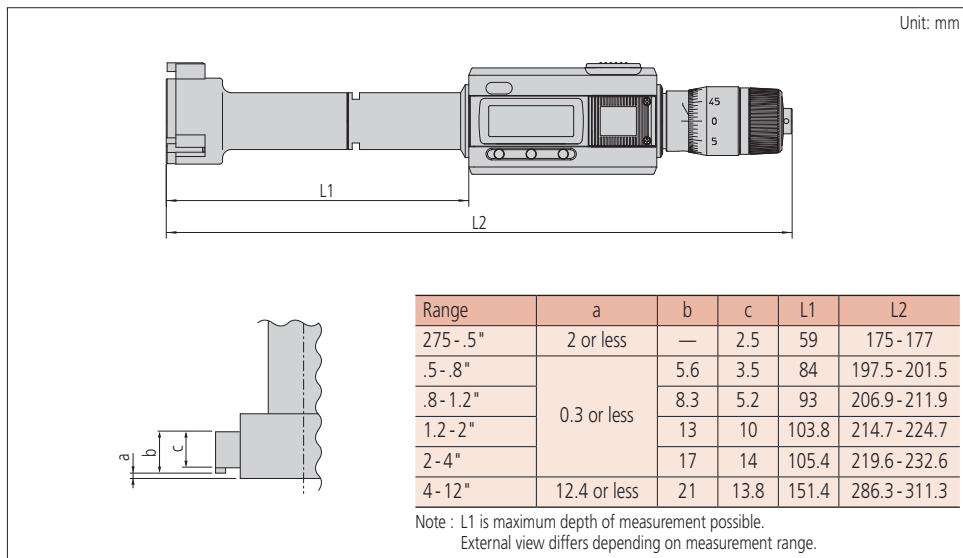
Holtest

SERIES 468 – Digimatic Holtest Three-Point Bore Micrometer

- Three-point bore micrometer with large LCD readout (character height 7.5 mm).
- Titanium-coated measuring pins provide excellent durability and impact resistance and allow the instrument to measure right to the bottom of a blind hole.
- One SR44 battery is required and battery life is approx. 1.2 years under normal use.
- ABSolute and INCRemental measurement modes allow highly efficient operation.
- The IP65 protection rating allows the instrument to be used in the presence of splashing coolant.
- Deep holes can be measured by attaching an extension rod (optional).
- A function lock prevents accidental change of reference point.
- Measurement data output enables operation with Statistical Process Control (SPC) and measurement control systems.
- An interface input tool is available for transferring measurement data, under keyboard control, directly to commercial spreadsheet software.
- Interchangeable-Head Sets (interchangeable measuring heads type) covering an extended measuring range using multiple heads and Non-interchangeable-Head Sets are available.
- Optional setting rings are available for setting the instrument accurately before measurement (see page C-37).



Dimensions



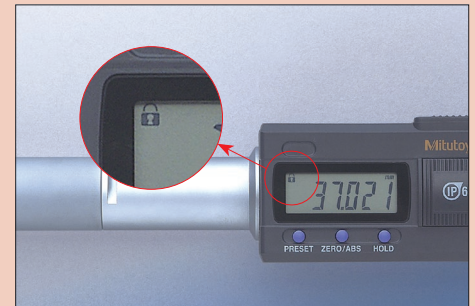
Technical Data

Display:	LCD
Dust/water	
protection level:	IP65 (IEC60529) *1
Battery:	SR44 (1 pc), 938882

*1 Rustproofing treatment to be applied after use.

Functions

- Zero-setting
- Origin restoration
- Data hold
- 2-point preset
- Function lock
- inch/mm readout
- Automatic power ON/OFF
- Error alarm
- Data output



Data hold.



Shown mounted on stand using bracket **04AZB157** (optional accessory).

Optional Accessories

Code No.	Description	Price
05CZA662	SPC data cable with pushbutton (1 m)	£67.30
05CZA663	SPC data cable with pushbutton (2 m)	£81.00
06ADV380B	USB Input Tool Direct USB-ITN-B (2 m)	£122.00
02AZD790B	SPC data cable for U-WAVE-T (160 mm)	£60.10
02AZE140B	SPC data cable for U-WAVE-T and footswitch (160/500 mm)	£137.00



952322	100 mm extension rod (for 6.985 - 12.7 mm range)	£72.30
952621	150 mm extension rod (for 12.7 - 20.32 mm range)	£58.70
952622	150 mm extension rod (for 20.32 - 50.8 mm range)	£65.60
952623	150 mm extension rod (for 50.8 - 304.8 mm range)	£97.80

Specifications

Inch/Metric		Code No.	Range	Resolution	Accuracy*	Price
		468-261	.275 - .35" (6.985 - 8.89 mm)	.00005" (0.001 mm)	±2 μm (range 2 μm) / ±.0001" (range .0001")	£748.00
		468-262	.35 - .425" (8.89 - 10.795 mm)			£748.00
		468-263	.425 - .5" (10.795 - 12.7 mm)			£748.00
		468-264	.5 - .65" (12.7 - 16.51 mm)			£828.00
		468-265	.65 - .8" (16.51 - 20.32 mm)			£828.00
		468-266	.8 - 1" (20.32 - 25.4 mm)			£851.00
		468-267	1 - 1.2" (25.4 - 30.48 mm)			£891.00
		468-268	1.2 - 1.6" (30.48 - 40.64 mm)		£953.00	
		468-269	1.6 - 2" (40.64 - 50.8 mm)		£974.00	
		468-270	2 - 2.5" (50.8 - 63.5 mm)		£1020.00	
		468-271	2.5 - 3" (63.5 - 76.2 mm)		£1040.00	
		468-272	3 - 3.5" (76.2 - 88.9 mm)		£1060.00	
		468-273	3.5 - 4" (88.9 - 101.6 mm)		£1070.00	
		468-274	4 - 5" (101.6 - 127 mm)		£1270.00	
		468-275	5 - 6" (127 - 152.4 mm)	£1640.00		
		468-276	6 - 7" (152.4 - 177.8 mm)	£1710.00		
		468-277	7 - 8" (177.8 - 203.2 mm)	£1800.00		
		468-278	8 - 9" (203.2 - 228.6 mm)	£1900.00		
		468-279	9 - 10" (228.6 - 254 mm)	£1960.00		
		468-280	10 - 11" (254 - 279.4 mm)	£2020.00		
		468-281	11 - 12" (279.4 - 304.8 mm)	£2070.00		
				.0001" (0.001 mm)	±5 μm (range 5 μm) / ±.00025" (range .00025")	

* Excluding quantizing error. Accuracy specifications apply to the whole length of the measuring pins, and are given both in terms of the limits of deviation of a measurement and the total width of the deviation range (in parentheses).
Note: It is not advisable to use measuring heads other than those supplied as standard accessories, or attempt to widen a measuring range by using any other heads. (The measuring accuracy in such cases is not guaranteed.)



Interchangeable-head sets (interchangeable measuring heads type).



Non-interchangeable-head sets.

Holtest

SERIES 468 – Digimatic Holtest Three-Point Bore Micrometer Interchangeable-Head Sets



468-976



468-977



468-979

Specifications

Inch/Metric

Code No.	Range	Content of set	Price
468-976	.275 - .5" (6.985 - 12.7 mm)	Display unit	1 pc
		Measuring head	.275 - .35" 1 pc .35 - .425" 1 pc .425 - .5" 1 pc
		Setting ring	ø.35" 1 pc ø.425" 1 pc
		Extension rod	100 mm 1 pc
		Spanner	2 pcs
		Hex wrench	1 pc
		Phillips screw driver	1 pc
		Price	£1660.00
468-977	.5 - .8" (12.7 - 20.32 mm)	Display unit	1 pc
		Measuring head	.5 - .65" 1 pc .65 - .8" 1 pc
		Setting ring	ø.65" 1 pc
		Extension rod	150 mm 1 pc
		Spanner	2 pc
		Hex wrench	1 pc
		Phillips screw driver	1 pc
		Price	£1370.00
468-978	.8 - 2" (20.32 - 50.8 mm)	Display unit	1 pc
		Measuring head	.8 - 1" 1 pc 1 - 1.2" 1 pc 1.2 - 1.6" 1 pc 1.6 - 2" 1 pc
		Setting ring	ø1" 1 pc ø1.6" 1 pc
		Extension rod	150 mm 1 pc
		Spanner	2 pc
		Hex wrench	1 pc
		Phillips screw driver	1 pc
		Price	£2330.00
468-979	2 - 4" (50.8 - 101.6 mm)	Display unit	1 pc
		Measuring head	2 - 2.5" 1 pc 2.5 - 3" 1 pc 3 - 3.5" 1 pc 3.5 - 4" 1 pc
		Setting ring	ø2.5" 1 pc ø3.5" 1 pc
		Extension rod	150 mm 1 pc
		Spanner	2 pc
		Hex wrench	1 pc
		Phillips screw driver	1 pc
		Price	£3340.00
468-980	4 - 8" (101.6 - 203.2 mm)	Display unit	1 pc
		Measuring head	4 - 5" 1 pc 5 - 6" 1 pc 6 - 7" 1 pc 7 - 8" 1 pc
		Setting ring	ø5" 1 pc ø7" 1 pc
		Extension rod	150 mm 1 pc
		Spanner	2 pc
		Hex wrench	1 pc
		Phillips screw driver	1 pc
		Price	£4490.00

Note: It is not advisable to use measuring heads other than those supplied as standard accessories, or attempt to widen a measuring range by using any other heads. (The measuring accuracy in such cases is not guaranteed.)

Optional Accessories

Code No.	Description	Price
05CZA662	SPC data cable with pushbutton (1 m)	£67.30
05CZA663	SPC data cable with pushbutton (2 m)	£81.00
06ADV380B	USB Input Tool Direct USB-ITN-B (2 m)	£122.00
02AZD790B	SPC data cable for U-WAVE-T (160 mm)	£60.10
02AZE140B	SPC data cable for U-WAVE-T and footswitch (160/500 mm)	£137.00

Optional Accessories

Code No.	Description	Price
05CZA662	SPC data cable with pushbutton (1 m)	£67.30
05CZA663	SPC data cable with pushbutton (2 m)	£81.00
06ADV380B	USB Input Tool Direct USB-ITN-B (2 m)	£122.00
02AZD790B	SPC data cable for U-WAVE-T (160 mm)	£60.10
02AZE140B	SPC data cable for U-WAVE-T and footswitch (160/500 mm)	£137.00



952322	100 mm extension rod (for 6.985 - 12.7 mm range)	£72.30
952621	150 mm extension rod (for 12.7 - 20.32 mm range)	£58.70
952622	150 mm extension rod (for 20.32 - 50.8 mm range)	£65.60
952623	150 mm extension rod (for 50.8 - 304.8 mm range)	£97.80

SERIES 468 – Digimatic Holtest Three-Point Bore Micrometer Non-Interchangeable-Head Sets



468-987



468-990

Specifications

Inch/Metric

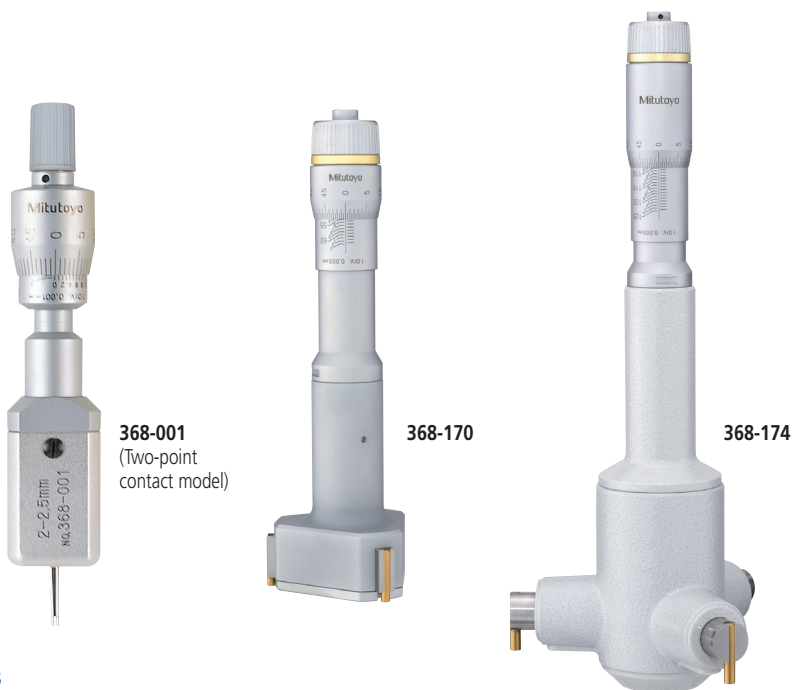
Code No.	Range	Content of set	Price
468-986	.275 - .5" (6.985 - 12.7 mm)	Display unit	.275 - .35" 1 pc
			.35 - .425" 1 pc
			.425 - .5" 1 pc
		Setting ring	ø.35" 1 pc
			ø.425" 1 pc
			Spanner 2 pcs
468-987	.5 - 1" (12.7 - 25.4 mm)	Display unit	.5 - .65" 1 pc
			.65 - .8" 1 pc
			.8 - 1" 1 pc
		Setting ring	ø.65" 1 pc
			ø.8 1 pc
			Spanner 2 pcs
468-988	1 - 2" (25.4 - 50.8 mm)	Display unit	1 - 1.2" 1 pc
			1.2 - 1.6" 1 pc
			1.6 - 2" 1 pc
		Setting ring	ø1.2" 1 pc
			ø1.6" 1 pc
			Spanner 1 pc
468-989	2 - 3" (50.8 - 76.2 mm)	Display unit	2 - 2.5" 1 pc
			2.5 - 3" 1 pc
		Setting ring	ø2.5" 1 pc
		Spanner	1 pc
		Hex wrench	1 pc
		Phillips screw driver	1 pc
468-990	3 - 4" (76.2 - 101.6 mm)	Display unit	3 - 3.5" 1 pc
			3.5 - 4" 1 pc
		Setting ring	ø3.5" 1 pc
		Spanner	1 pc
		Hex wrench	1 pc
		Phillips screw driver	1 pc

Note: It is not advisable to use measuring heads other than those supplied as standard accessories, or attempt to widen a measuring range by using any other heads. (The measuring accuracy in such cases is not guaranteed.)

Holtest

SERIES 368 – Holtest Three-Point/Two-Point Bore Micrometers

- Titanium-coated measuring pins on the three-point type (over 6 mm range models) provide excellent durability and impact resistance and allow the instrument to measure right to the bottom of a blind hole.
- Three-point bore micrometer with measuring range 6 mm or larger allows stable measurement through automatic centering.
- Can measure deep holes using an Extension rod (optional) which is available on models over 6 mm (.275") measuring range.
- Ratchet Stop ensures constant-force, repeatable measurement.
- Optional setting rings are available for setting the instrument accurately before measurement (see page C-37).



Specifications

Metric				
Code No.	Range	Graduation	Accuracy*	Price
Two-point				
368-001	2 - 2.5 mm	0.001 mm	±2 μm (range 2 μm)	£816.00
368-002	2.5 - 3 mm			£816.00
368-003	3 - 4 mm			£680.00
368-004	4 - 5 mm			£680.00
368-005	5 - 6 mm			£680.00
Three-point				
368-161	6 - 8 mm	0.001 mm	±2 μm (range 2 μm)	£228.00
368-162	8 - 10 mm			£228.00
368-163	10 - 12 mm			£228.00
368-164	12 - 16 mm			£314.00
368-165	16 - 20 mm			£341.00
368-166	20 - 25 mm			£341.00
368-167	25 - 30 mm			£341.00
368-168	30 - 40 mm			£425.00
368-169	40 - 50 mm			£434.00
368-170	50 - 63 mm			0.005 mm
368-171	62 - 75 mm	£470.00		
368-172	75 - 88 mm	£485.00		
368-173	87 - 100 mm	£495.00		
368-174	100 - 125 mm	£713.00		
368-175	125 - 150 mm	£759.00		
368-176	150 - 175 mm	£863.00		
368-177	175 - 200 mm	£886.00		
368-178	200 - 225 mm	£886.00		
368-179	225 - 250 mm	±5 μm (range 5 μm)	£947.00	
368-180	250 - 275 mm			£886.00
368-181	275 - 300 mm			£1100.00

* Accuracy specifications apply to the whole length of the measuring pins, and are given both in terms of the limits of deviation of a measurement and the total width of the deviation range (in parentheses).

Optional Accessories

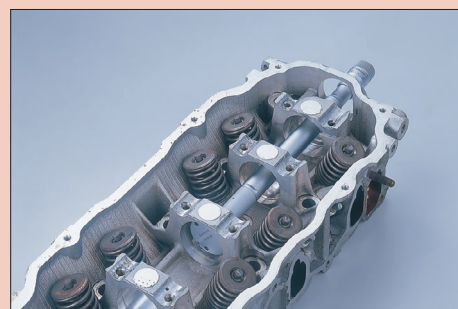
Code No.	Description	Price
952322	100 mm extension rod (for 6 - 12 mm range)	£72.30
952621	150 mm extension rod (for 12 - 20 mm range)	£58.70
952622	150 mm extension rod (for 20 - 50 mm range)	£65.60
952623	150 mm extension rod (for 50 - 300 mm range)	£97.80



Application example.



Application example.



Application using an extension rod.

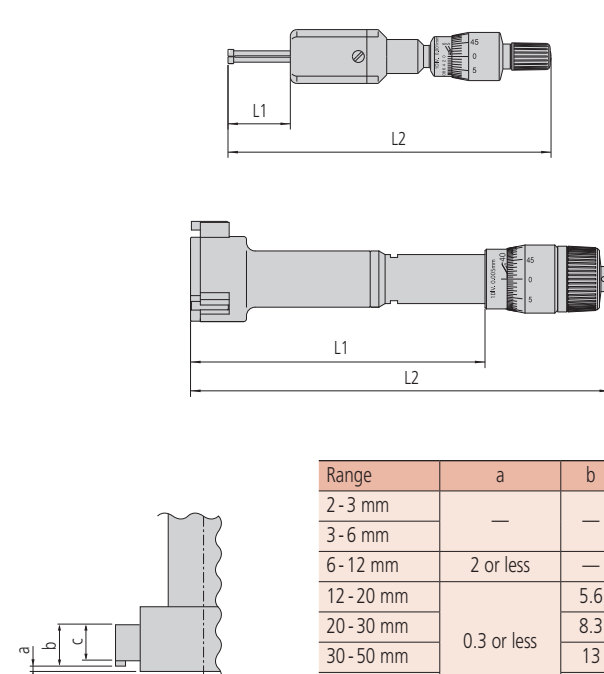
Specifications

Inch					
Code No.	Range	Graduation	Accuracy*	Price	
Two-point					
368-021	.08 - .1"	.0001"	±.0001" (range .0001")	£816.00	
368-022	.1 - .12"			£816.00	
368-023	.12 - .16"			£680.00	
368-024	.16 - .2"			£680.00	
368-025	.2 - .24"			£680.00	
368-026	.24 - .28"			£680.00	
Three-point					
368-261	.275 - .35"	.0001"	±.0001" (range .0001")	£228.00	
368-262	.35 - .425"			£228.00	
368-263	.425 - .5"			£228.00	
368-264	.5 - .65"			£314.00	
368-265	.65 - .8"			£341.00	
368-266	.8 - 1"			£341.00	
368-267	1 - 1.2"	.0002"	±.00015" (range .00015")	£341.00	
368-268	1.2 - 1.6"			£425.00	
368-269	1.6 - 2"			£434.00	
368-270	2 - 2.5"			£437.00	
368-271	2.5 - 3"			£470.00	
368-272	3 - 3.5"			£485.00	
368-273	3.5 - 4"			£495.00	
368-274	4 - 5"			£713.00	
368-275	5 - 6"			£759.00	
368-276	6 - 7"			£856.00	
368-277	7 - 8"			±.00025" (range .00025")	£884.00
368-278	8 - 9"				£884.00
368-279	9 - 10"	£884.00			
368-280	10 - 11"	£947.00			
368-281	11 - 12"	£1090.00			

* Accuracy specifications apply to the whole length of the measuring pins, and are given both in terms of the limits of deviation of a measurement and the total width of the deviation range (in parentheses).

Dimensions

Unit: mm



Range	a	b	c	L1	L2
2 - 3 mm	—	—	2	12	103.5 - 104
3 - 6 mm	—	—	2	22	113 - 114
6 - 12 mm	2 or less	—	2.5	59	102 - 104
12 - 20 mm	0.3 or less	5.6	3.5	82	126 - 130
20 - 30 mm		8.3	5.2	94	137 - 142
30 - 50 mm		13	10	102	145 - 155
50 - 100 mm		17	14	105	150 - 163
100 - 300 mm	12.4 or less	21	13.8	161	227 - 252

Note: External view differs depending on measurement range.

Holtest

SERIES 368 – Holtest Three-Point/Two-Point Bore Micrometer Sets



368-907



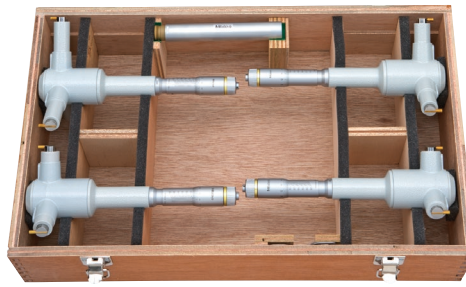
368-912

Specifications

Metric

Code No.	Range	Graduation	Content of Set	Price
Two-point				
368-906	2 - 3 mm	0.001 mm	Micrometer head unit 2 - 2.5 mm	1 pc
			Micrometer head unit 2.5 - 3 mm	1 pc
			Setting ring ø2.5 mm	1 pc
			Hex wrench	1 pc
368-907	3 - 6 mm	0.001 mm	Micrometer head unit 3 - 4 mm	1 pc
			Micrometer head unit 4 - 5 mm	1 pc
			Micrometer head unit 5 - 6 mm	1 pc
			Setting ring ø4 mm	1 pc
			Hex wrench ø5 mm	1 pc
Three-point				
368-911	6 - 12 mm	0.001 mm	Micrometer head unit 6 - 8 mm	1 pc
			Micrometer head unit 8 - 10 mm	1 pc
			Micrometer head unit 10 - 12 mm	1 pc
			Setting ring ø8 mm	1 pc
			Setting ring ø10 mm	1 pc
			Extension rod 100 mm	1 pc
			Spanner	2 pcs
Hex wrench	1 pc			
368-912	12 - 20 mm	0.001 mm	Micrometer head unit 12 - 16 mm	1 pc
			Micrometer head unit 16 - 20 mm	1 pc
			Setting ring ø16 mm	1 pc
			Extension rod 150 mm	1 pc
			Spanner	2 pcs
			Hex wrench	1 pc
368-913	20 - 50 mm	0.005 mm	Micrometer head unit 20 - 25 mm	1 pc
			Micrometer head unit 25 - 30 mm	1 pc
			Micrometer head unit 30 - 40 mm	1 pc
			Micrometer head unit 40 - 50 mm	1 pc
			Setting ring ø25 mm	1 pc
			Setting ring ø40 mm	1 pc
			Extension rod 150 mm	1 pc
Spanner	2 pcs			
Hex wrench	1 pc			
368-914	50 - 100 mm	0.005 mm	Micrometer head unit 50 - 63 mm	1 pc
			Micrometer head unit 62 - 75 mm	1 pc
			Micrometer head unit 75 - 88 mm	1 pc
			Micrometer head unit 87 - 100 mm	1 pc
			Setting ring ø62 mm	1 pc
			Setting ring ø87 mm	1 pc
			Extension rod 150 mm	1 pc
Spanner	2 pcs			
Hex wrench	1 pc			
368-915	100 - 200 mm	0.005 mm	Micrometer head unit 100 - 125 mm	1 pc
			Micrometer head unit 125 - 150 mm	1 pc
			Micrometer head unit 150 - 175 mm	1 pc
			Micrometer head unit 175 - 200 mm	1 pc
			Setting ring ø125 mm	1 pc
			Setting ring ø175 mm	1 pc
			Extension rod 150 mm	1 pc
Spanner	1 pc			
Hex wrench	1 pc			

Note: It is not advisable to use measuring heads other than those supplied as standard accessories, or attempt to widen a measuring range by using any other heads. (The measuring accuracy in such cases is not guaranteed.)



368-913



368-915

Specifications

Inch							
Code No.	Range	Graduation	Content of Set		Price		
Two-point							
368-926	.08-.12"	.0001"	Micrometer head unit	.08-.12"	1 pc	£1590.00	
			Setting ring	.1-.12"	1 pc		
		Hex wrench	ø.1"	1 pc			
				1 pc			
368-927	.12-.28"		Micrometer head unit	.12-.16"	1 pc	£2480.00	
				.16-.2"	1 pc		
				.2-.24"	1 pc		
				.24-.28"	1 pc		
			Setting ring	ø.16"	1 pc		
				ø.24"	1 pc		
			Hex wrench		1 pc		
Three-point							
368-916	.275-.5"	.0001"	Micrometer head unit	.275-.35"	1 pc	£864.00	
				.35-.425"	1 pc		
				.425-.5"	1 pc		
			Setting ring	ø.35"	1 pc		
				ø.5"	1 pc		
			Extension rod	100 mm	1 pc		
			Spanner		2 pcs		
			Hex wrench		1 pc		
368-917	.5-.8"	.0002"	Micrometer head unit	.5-.65"	1 pc	£626.00	
					.65-.8"		1 pc
				Setting ring	ø.65"		1 pc
				Extension rod	150 mm		1 pc
				Spanner			2 pcs
				Hex wrench			1 pc
368-918	.8-2"		Micrometer head unit	.8-1"	1 pc	£1980.00	
				1-1.2"	1 pc		
				1.2-1.6"	1 pc		
				1.6-2"	1 pc		
			Setting ring	ø1"	1 pc		
				ø1.6"	1 pc		
			Extension rod	150 mm	1 pc		
			Spanner		2 pcs		
			Hex wrench		1 pc		
368-919	2-4"		Micrometer head unit	2-2.5"	1 pc	£2470.00	
				2.5-3"	1 pc		
				3-3.5"	1 pc		
				3.5-4"	1 pc		
			Setting ring	ø2.5"	1 pc		
				ø3.5"	1 pc		
			Extension rod	150 mm	1 pc		
			Spanner		2 pcs		
			Hex wrench		1 pc		
368-920	4-8"		Micrometer head unit	4-5"	1 pc	£4030.00	
				5-6"	1 pc		
				6-7"	1 pc		
				7-8"	1 pc		
			Setting ring	ø5"	1 pc		
				ø7"	1 pc		
			Extension rod	150 mm	1 pc		
			Spanner		1 pc		
			Hex wrench		1 pc		

Note: It is not advisable to use measuring heads other than those supplied as standard accessories, or attempt to widen a measuring range by using any other heads. (The measuring accuracy in such cases is not guaranteed.)

Holtest

SERIES 368 – Holtest (Type II) Three-Point Bore Micrometer

- Hardened tool-steel anvils (instead of titanium-coated carbide) allow a more economically priced tool.
- Same accuracy as the titanium-coated Holtest models.
- Constant-force device allows repeatable measurement.
- Measurement can be made close to the bottom of a blind hole.
- Can measure deep holes using an Extension Rod (optional).
- Optional setting rings are available for setting the instrument accurately before measurement (see page C-37).



368-769



368-770



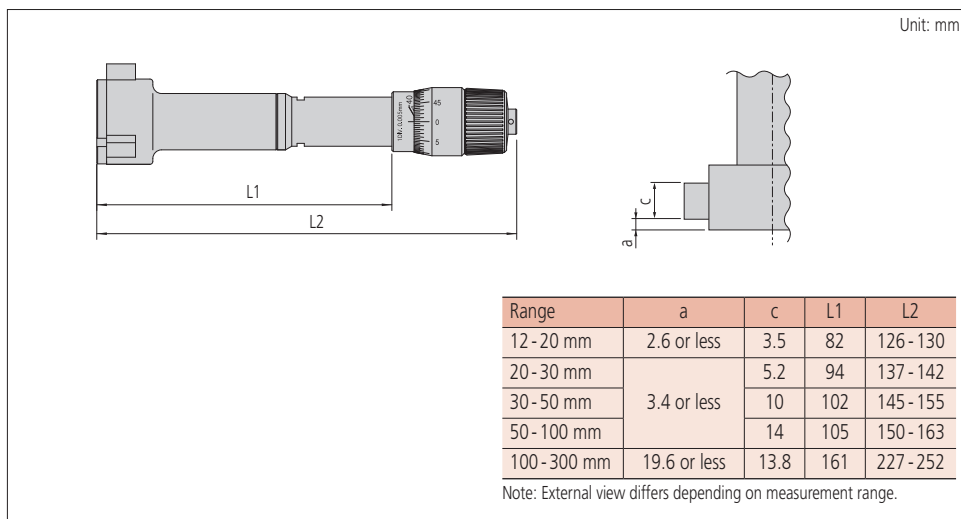
368-774

Optional Accessories



Code No.	Description	Price
952621	150 mm extension rod (for 12 - 20 mm range)	£58.70
952622	150 mm extension rod (for 20 - 50 mm range)	£65.60
952623	150 mm extension rod (for 50 - 300 mm range)	£97.80

Dimensions





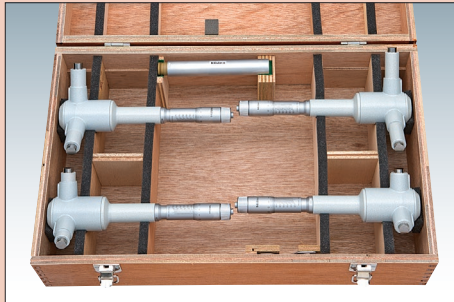
368-991



368-992



368-993



368-994

Specifications

Metric

Code No.	Range	Graduation	Accuracy*	Price
368-764	12 - 16 mm	0.005 mm	±2 μm (range 2 μm)	£219.00
368-765	16 - 20 mm			£232.00
368-766	20 - 25 mm			£247.00
368-767	25 - 30 mm		±3 μm (range 3 μm)	£274.00
368-768	30 - 40 mm			£330.00
368-769	40 - 50 mm			£330.00
368-770	50 - 63 mm			£379.00
368-771	62 - 75 mm			£393.00
368-772	75 - 88 mm			£406.00
368-773	87 - 100 mm		±5 μm (range 5 μm)	£420.00
368-774	100 - 125 mm			£667.00
368-775	125 - 150 mm			£713.00
368-776	150 - 175 mm			£782.00
368-777	175 - 200 mm			£794.00
368-778	200 - 225 mm			£794.00
368-779	225 - 250 mm			£817.00
368-780	250 - 275 mm		£909.00	
368-781	275 - 300 mm			

Sets

Code No.	Range	Micrometer head units	Setting rings	Extension rod	Price
368-991	12 - 20 mm	12 - 16, 16 - 20 mm	∅16 mm	150 mm	£596.00
368-992	20 - 50 mm	20 - 25, 25 - 30, 30 - 40, 40 - 50 mm	∅25, ∅40 mm		£1460.00
368-993	50 - 100 mm	50 - 63, 62 - 75, 75 - 88, 87 - 100 mm	∅62, ∅87 mm		£2170.00
368-994	100 - 200 mm	100 - 125, 125 - 150, 150 - 175, 175 - 200 mm	∅125, ∅175 mm		£2970.00

Inch

Code No.	Range	Graduation	Accuracy*	Price
368-864	.5 - .65"	.0002"	±.0001" (range .0001")	£219.00
368-865	.65 - .8"			£232.00
368-866	.8 - 1"			£247.00
368-867	1 - 1.2"		±.00015" (range .00015")	£274.00
368-868	1.2 - 1.6"			£330.00
368-869	1.6 - 2"			£330.00
368-870	2 - 2.5"			£379.00
368-871	2.5 - 3"			£393.00
368-872	3 - 3.5"			£406.00
368-873	3.5 - 4"		±.00025" (range .00025")	£420.00
368-874	4 - 5"			£621.00
368-875	5 - 6"			£670.00
368-876	6 - 7"			£725.00
368-877	7 - 8"			£748.00
368-878	8 - 9"			£748.00
368-879	9 - 10"			£748.00
368-880	10 - 11"		£800.00	
368-881	11 - 12"		£909.00	

Sets

Code No.	Range	Micrometer head units	Setting rings	Extension rod	Price
368-995	.5 - .8"	.5 - .65, .65 - .8"	∅.65"	150 mm	£596.00
368-996	.8 - 2"	.8 - 1, 1 - 1.2, 1.2 - 1.6, 1.6 - 2"	∅1, 1.6"		£1460.00
368-997	2 - 4"	2 - 2.5, 2.5 - 3, 3 - 3.5, 3.5 - 4"	∅2.5, ∅3.5"		£2170.00
368-998	4 - 8"	4 - 5, 5 - 6, 6 - 7, 7 - 8"	∅5, ∅7"		£2970.00

* Accuracy specifications apply to the whole length of the measuring jaws, and are given both in terms of the limits of deviation of a measurement and the total width of the deviation range (in parentheses).

Note: It is not advisable to use measuring heads other than those supplied as standard accessories, or attempt to widen a measuring range by using any other heads. (The measuring accuracy in such cases is not guaranteed.)

Holtest

SERIES 568 – ABSOLUTE Digimatic Borematic Snap-Open Bore Gauge

- A snap-type digital display, inside-diameter measuring instrument allows easy and speedy measurement by lever operation.
- Titanium-coated measuring pins provide excellent durability and impact resistance and allow the instrument to measure right to the bottom of a blind hole.
- Three-Point contact measuring head enables highly repeatable measurement data to be obtained.
- The ABSOLUTE linear encoder eliminates overspeed errors.
- GO/NO-GO judgement function.
- Dual HOLD function buttons, optimally located, enable high operability.
- 330° rotatable display unit for easy reading at any angle.
- Can measure deep holes by attaching an optional extension rod.
- Digimatic output port enables inclusion in a statistical process control or networked measurement system.
- Interface Input Tools are available that enable the conversion of measurement data to keyboard signals that are then directly input to cells in off-the-shelf spreadsheet software such as Excel.
- Interchangeable-Head Bore Gauges are available in part sets and full sets.
- Optional setting rings are available for setting the instrument accurately before measurement (see page C-37).

ABSOLUTE

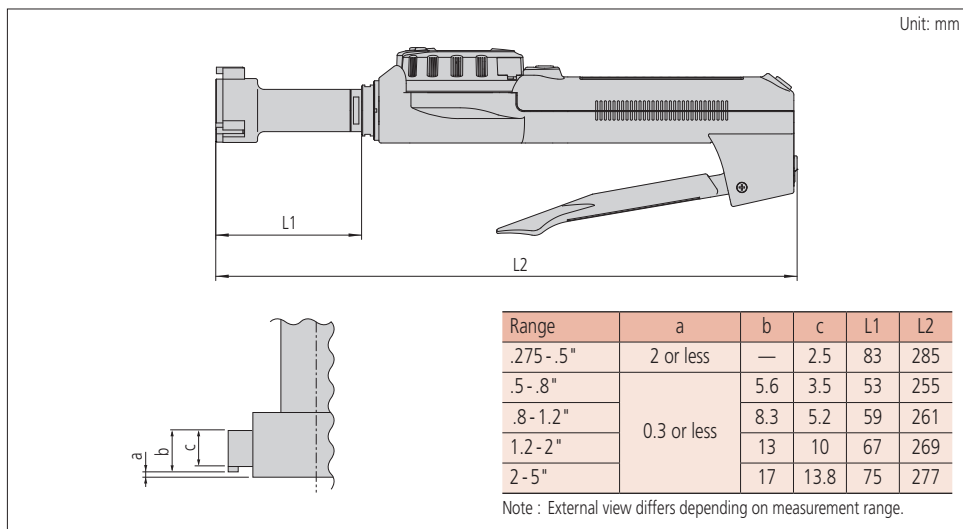


568-464



568-468

Dimensions



Technical Data

Display:	LCD
Response speed:	Infinite
Battery:	SR44 (1 pc), 938882
Battery life:	Approx. 5,000 hours in continuous use

Functions

GO/NO-GO judgement
 GO/NO-GO judgement zoom
 2-point preset
 Zero-setting
 Data hold, error alarm
 Low battery voltage alert
 Data output
 Function lock
 330° rotatable display

Optional Accessories

Code No.	Description	Price
905338	SPC data cable with pushbutton (1 m)	£32.90
905409	SPC data cable with pushbutton (2 m)	£36.80
06ADV380F	USB Input Tool Direct USB-ITN-B (2 m)	£105.00
02AZD790F	SPC data cable for U-WAVE-T (160 mm)	£60.10
02AZE140F	SPC data cable for U-WAVE-T and footswitch (160/500 mm)	£123.00



952322	100 mm extension rod (for 6.985 - 12.7 mm range)	£72.30
952621	150 mm extension rod (for 12.7 - 20.32 mm range)	£58.70
952622	150 mm extension rod (for 20.32 - 50.8 mm range)	£65.60
952623	150 mm extension rod (for 50.8 - 304.8 mm range)	£97.80



Function lock.



Large LCD.

Specifications

Inch/Metric

Code No.	Range	Resolution	Accuracy*	Price
568-461	.275 - .35" (6.985 - 8.89 mm)	.00005" (0.001 mm)	±5 μm (range 5 μm) / ±.00025" (range .00025")	£1050.00
568-462	.35 - .425" (8.89 - 10.795 mm)			£1040.00
568-463	.425 - .5" (10.795 - 12.7 mm)			£1040.00
568-464	.5 - .65" (12.7 - 16.51 mm)			£1040.00
568-465	.65 - .8" (16.51 - 20.32 mm)			£1040.00
568-466	.8 - 1" (20.32 - 25.4 mm)		±6 μm (range 6 μm) / ±.0003" (range .0003")	£1000.00
568-467	1 - 1.2" (25.4 - 30.48 mm)			£1080.00
568-468	1.2 - 1.6" (30.48 - 40.64 mm)			£1180.00
568-469	1.6 - 2" (40.64 - 50.8 mm)			£1180.00
568-470	2 - 2.5" (50.8 - 63.5 mm)			£1090.00
568-471	2.5 - 3" (63.5 - 76.2 mm)			£1130.00
568-472	3 - 3.5" (76.2 - 88.9 mm)			£1350.00
568-473	3.5 - 4" (88.9 - 101.6 mm)			£1350.00
568-474	4 - 4.5" (101.6 - 114.3 mm)			£1410.00
568-475	4.5 - 5" (114.3 - 127 mm)			£1430.00

Code No.	Range	Measuring head units	Setting rings	Price
Interchangeable-head bore gauge sets				
568-928	.275 - .5" (6.985 - 12.7 mm)	.275 - .35", .35 - .425", .425 - .5"	ø.35", ø.425"	£1480.00
568-929	.5 - 1" (12.7 - 25.4 mm)	.5 - .65", .65 - .8", .8 - 1"	ø.65", ø.8"	£1590.00
568-930	1 - 2" (25.4 - 50.8 mm)	1 - 1.2", 1.2 - 1.6", 1.6 - 2"	ø1.2", ø1.6"	£1920.00
568-936	2 - 4" (50.8 - 101.6 mm)	2 - 2.5", 2.5 - 3", 3 - 3.5", 3.5 - 4"	ø2.5", ø3.5"	£3180.00
Non-interchangeable-head bore gauge sets				
568-965	.275 - .5" (6.985 - 12.7 mm)	.275 - .35", .35 - .425", .425 - .5"	ø.35", ø.425"	£3510.00
568-966	.5 - 1" (12.7 - 25.4 mm)	.5 - .65", .65 - .8", .8 - 1"	ø.65", ø.8"	£3650.00
568-967	1 - 2" (25.4 - 50.8 mm)	1 - 1.2", 1.2 - 1.6", 1.6 - 2"	ø1.2", ø1.6"	£4060.00
568-968	2 - 3" (50.8 - 76.2 mm)	2 - 2.5", 2.5 - 3"	ø2.5"	£2910.00
568-969	3 - 4" (76.2 - 101.6 mm)	3 - 3.5", 3.5 - 4"	ø2.5", ø3.5"	£3250.00

* Accuracy specifications apply to the whole length of the measuring jaws, and are given both in terms of the limits of deviation of a measurement and the total width of the deviation range (in parentheses).
 Note: It is not advisable to use measuring heads other than those supplied as standard accessories, or attempt to widen a measuring range by using any other heads. (The measuring accuracy in such cases is not guaranteed.)



568-930



568-969

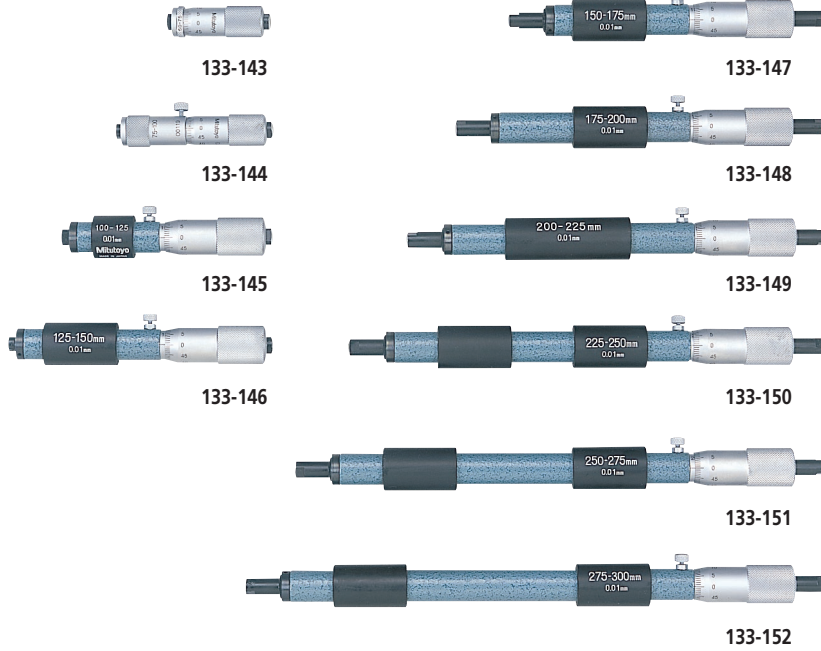
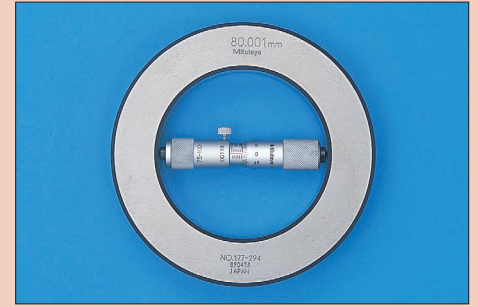
Inside Micrometers

SERIES 133 – Tubular Inside Micrometer

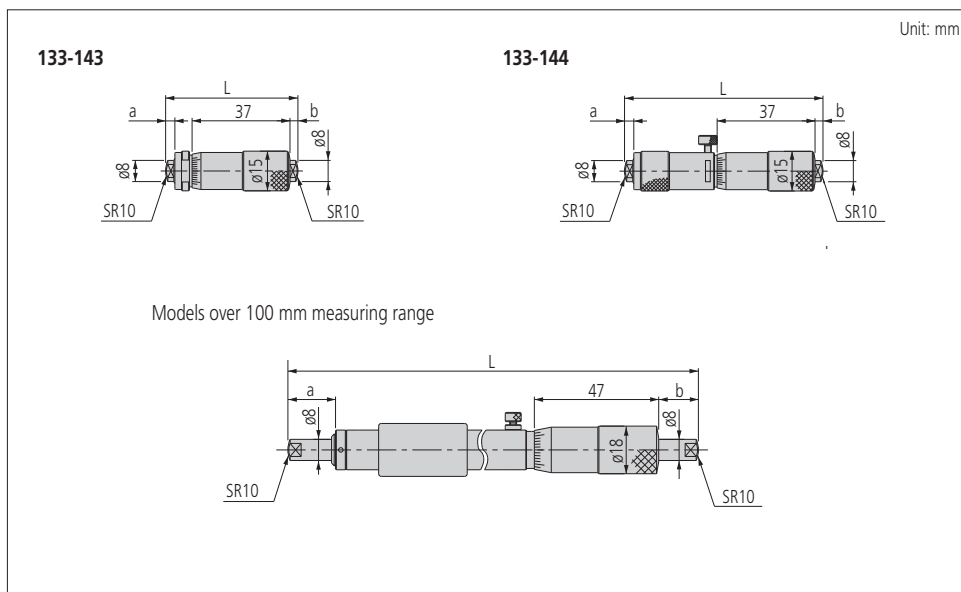
- Standard single rod type inside micrometer.
- The sleeve is rotated to adjust the index line position when setting to a length standard.
- Carbide measuring faces.
- An inside-length standard, such as a setting ring or Inside Micro Checker (see page C-24), is required for accurately setting the micrometer before measurement.

Optional Accessory

Settings rings up to 300 mm (12") diameter (see page C-37).



Dimensions





133-902 Inside Micrometer Set.

Specifications

Metric							
Code No.	Range	Graduation	Accuracy	L	a	b	Price
133-143	50 - 75 mm	0.01 mm	±3 µm	50	3.5	3	£75.00
133-144	75 - 100 mm		±4 µm	75			£77.70
133-145	100 - 125 mm		±5 µm	100			£93.30
133-146	125 - 150 mm		125	£97.80			
133-147	150 - 175 mm		150	£105.00			
133-148	175 - 200 mm		175	£114.00			
133-149	200 - 225 mm		200	£121.00			
133-150	225 - 250 mm		225	£125.00			
133-151	250 - 275 mm		±6 µm	250	£134.00		
133-152	275 - 300 mm		275	£142.00			
133-153	300 - 325 mm		300	£145.00			
133-154	325 - 350 mm		±7 µm	325	£149.00		
133-155	350 - 375 mm		350	£151.00			
133-156	375 - 400 mm		375	£155.00			
133-157	400 - 425 mm		±8 µm	400	£157.00		
133-158	425 - 450 mm		425	£159.00			
133-159	450 - 475 mm		450	£161.00			
133-160	475 - 500 mm		±9 µm	475	£164.00		
133-161	500 - 525 mm		500	£168.00			
133-162	525 - 550 mm		525	£173.00			
133-163	550 - 575 mm		±10 µm	550	£175.00		
133-164	575 - 600 mm		575	£178.00			
133-165	600 - 625 mm		600	£180.00			
133-166	625 - 650 mm		±11 µm	625	£184.00		
133-167	650 - 675 mm		650	£187.00			
133-168	675 - 700 mm		675	£191.00			
133-169	700 - 725 mm		±12 µm	700	£197.00		
133-170	725 - 750 mm		725	£199.00			
133-171	750 - 775 mm		750	£202.00			
133-172	775 - 800 mm		±13 µm	775	£204.00		
133-173	800 - 825 mm	800	£205.00				
133-174	825 - 850 mm	825	£207.00				
133-175	850 - 875 mm	±14 µm	850	£213.00			
133-176	875 - 900 mm	875	£217.00				
133-177	900 - 925 mm	900	£219.00				
133-178	925 - 950 mm	±15 µm	925	£225.00			
133-179	950 - 975 mm	950	£228.00				
133-180	975 - 1000 mm	±16 µm	975	£229.00			

Micrometer sets

Code No.	Range	Models included	Price
133-901	50 - 150 mm (4 heads/set)	133-143/4/5/6	£467.00
133-902	50 - 300 mm (10 heads/set)	133-143/44/45/46/47/48/49/50/51/52	£990.00

Inch

Code No.	Range	Graduation	Accuracy	L	a	b	Price
133-223	2 - 3"	.001"	±.00015"				£75.00
133-224	3 - 4"		±.0002"				£77.70
133-225	4 - 5"		±.00025"				£93.30
133-226	5 - 6"						£97.80
133-227	6 - 7"						£105.00
133-228	7 - 8"		±.0003"				£114.00
133-229	8 - 9"						£121.00
133-230	9 - 10"						£125.00
133-231	10 - 11"						£134.00
133-232	11 - 12"						£142.00

Micrometer sets

Code No.	Range	Models included	Price
133-903	2 - 6" (4 heads/set)	133-223/4/5/6	£467.00
133-904	2 - 12" (10 heads/set)	133-223/24/25/26/27/28/29/30/31/32	£990.00

Inside Micrometers

SERIES 337 – Digimatic Extension Tube Inside Micrometer

- Wide range of inside measurements possible by combining extension rods and anvils with the micrometer head.
- The sleeve is rotated to adjust the index line position when setting to a length standard.
- An inside-length standard, such as a setting ring or Inside Micro Checker (see page C-24), is required for accurately setting the micrometer before measurement.

337-303/304 features:

- IP65 (water-proof) protection level that enables use in the presence of cutting fluid.
- A large-character LCD display.
- Storage of 2 preset values for use when setting to an inside length standard.
- A function lock that prevents accidental changing of the reference setting during measurement.
- An output port for measurement data that enables inclusion in a statistical process control or networked measurement system.
- Ability to use Interface Input Tools that enable conversion of measurement data to keyboard signals that are then directly input to cells in off-the-shelf spreadsheet software.



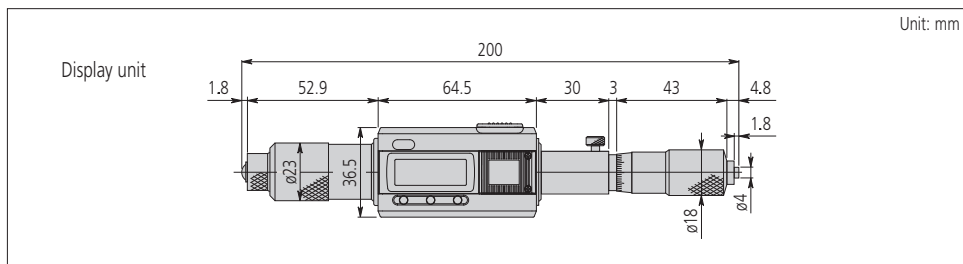
337-303

Specifications

Inch/Metric

Code No.	Range	Micrometer head stroke	Extension rods	Display unit	Price
337-102	8-9" (203.2-228.6 mm)	1" (25 mm)	—	8-9" (200-225 mm)	£828.00
337-303	8-40" (203.2-1016 mm)		1", 2", 4" (2 pcs.), 8", 12"		£1100.00
337-304	8-60" (203.2-1524 mm)		1", 2", 4", 8", 12" (3 pcs.)		£1200.00

Dimensions



Technical Data

Dust/Water protection level:	IP65 (IEC60529)
Resolution:	0.001 mm / .0001"
Battery:	SR44 (1 pc) 938882
Accuracy*1:	$\pm(3+n+L/50) \mu\text{m}^{*2} / \pm[.00015+.00005n+.00005 (L/2)]^{*2}$

*1 Excluding quantizing error.
*2 n = number of rods, L = maximum measuring length (mm/inch)
Note: Fractions rounded up

Functions (for 337-303/304)

- Zero-setting
- Origin restoration
- Data hold
- 2-point preset
- Function lock
- Automatic power ON/OFF
- Error alarm
- Data output

Optional Accessories

Code No.	Description	Price
05CZA662	SPC data cable with pushbutton (1 m)	£67.30
05CZA663	SPC data cable with pushbutton (2 m)	£81.00
06ADV380B	USB Input Tool Direct USB-ITN-B (2 m)	£122.00
02AZD790B	SPC data cable for U-WAVE-T (160 mm)	£60.10
02AZE140B	SPC data cable for U-WAVE-T and footswitch (160/500 mm)	£137.00

Settings rings up to 300 mm (12") diameter (see page C-37).



Technical Data

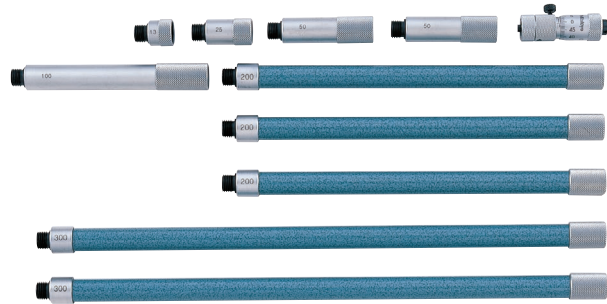
Graduation:	0.01 mm / .001"
Micrometer head stroke:	13 mm / .5"
Accuracy:	$\pm(3+n+L/50) \mu\text{m}^* / \pm[.00015+.00005n+.00005 (L/2)]^* \text{in}^*$
* n = number of rods, L = maximum measuring length (mm/inch)	
Note: Fractions rounded up	

Optional Accessory

Settings rings up to 300 mm (12") diameter (see page C-37).

SERIES 137 – Extension Tube Inside Micrometer

- Wide range of inside measurements possible by combining extension rods and anvils with the micrometer head.
- The sleeve is rotated to adjust the index line position when setting to a length standard.
- An inside-length standard, such as a setting ring or Inside Micro Checker (see page C-24), is required for accurately setting the micrometer before measurement.
- Carbide measuring faces are available.



137-205

Specifications

Metric				
Code No.	Range	Extension rods	Main unit	Price
137-011	50-63 mm	—	50-63 mm	£142.00
137-201	50-150 mm	13, 25, 50 mm		£164.00
137-202	50-300 mm	13, 25, 50 (2 pcs.), 100 mm		£249.00
137-203	50-500 mm	13, 25, 50 (2 pcs.), 100, 200 mm		£307.00
137-204	50-1000 mm	13, 25, 50 (2 pcs.), 100, 200 (2 pcs.), 300 mm		£414.00
137-205	50-1500 mm	13, 25, 50 (2 pcs.), 100, 200 (3 pcs.), 300 (2 pcs.) mm		£546.00

Carbide measuring face

137-013	50-63 mm	—	50-63 mm	£161.00
137-206	50-150 mm	13, 25, 50 mm		£206.00
137-207	50-300 mm	13, 25, 50 (2 pcs.), 100 mm		£278.00
137-208	50-500 mm	13, 25, 50 (2 pcs.), 100, 200 mm		£406.00
137-209	50-1000 mm	13, 25, 50 (2 pcs.), 100, 200 (2 pcs.), 300 mm		£501.00
137-210	50-1500 mm	13, 25, 50 (2 pcs.), 100, 200 (3 pcs.), 300 (2 pcs.) mm		£641.00

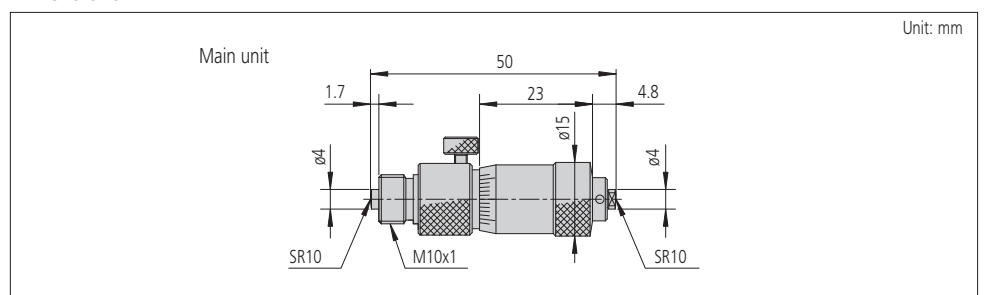
Inch

Code No.	Range	Extension rods	Main unit	Price
137-012	2-2.5"	—	2-2.5"	£142.00
137-211	2-6"	.5", 1", 2"		£164.00
137-212	2-12"	.5", 1", 2" (2 pcs.), 4"		£249.00
137-213	2-20"	.5", 1", 2" (2 pcs.), 4", 8"		£307.00
137-214	2-40"	.5", 1", 2" (2 pcs.), 4", 8" (2 pcs.), 12"		£414.00
137-215	2-60"	.5", 1", 2" (2 pcs.), 4", 8" (3 pcs.), 12" (2 pcs.)		£546.00

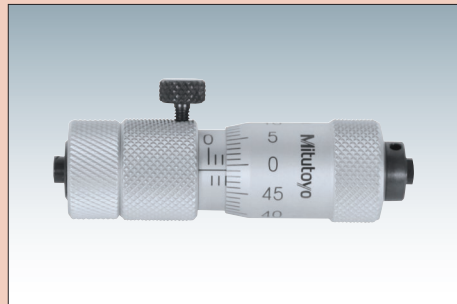
Carbide measuring face

137-014	2-2.5"	—	2-2.5"	£145.00
137-216	2-6"	.5", 1", 2"		£206.00
137-217	2-12"	.5", 1", 2" (2 pcs.), 4"		£278.00
137-218	2-20"	.5", 1", 2" (2 pcs.), 4", 8"		£406.00
137-219	2-40"	.5", 1", 2" (2 pcs.), 4", 8" (2 pcs.), 12"		£501.00
137-220	2-60"	.5", 1", 2" (2 pcs.), 4", 8" (3 pcs.), 12" (2 pcs.)		£641.00

Dimensions



Unit: mm



137-011

Inside Micrometers

SERIES 339 – Digimatic Long Range Extension Tube Inside Micrometer

- Wide range of inside measurements possible by combining extension tubes and anvils with the micrometer head.
- The sleeve is rotated to adjust the index line position when setting to a length standard.
- An inside-length standard, such as a setting ring or Inside Micro Checker (see page C-24), is required for accurately setting the micrometer before measurement.

339-303/304 features:

- IP65 (water-proof) protection level that enables use in the presence of cutting fluid.
- A large-character LCD display.
- Storage of 2 preset values for use when setting to an inside length standard.
- A function lock that prevents accidental changing of the reference setting during measurement.
- An output port for measurement data that enables inclusion in a statistical process control or networked measurement system.
- Ability to use Interface Input Tools that enable conversion of measurement data to keyboard signals that are then directly input to cells in off-the-shelf spreadsheet software.



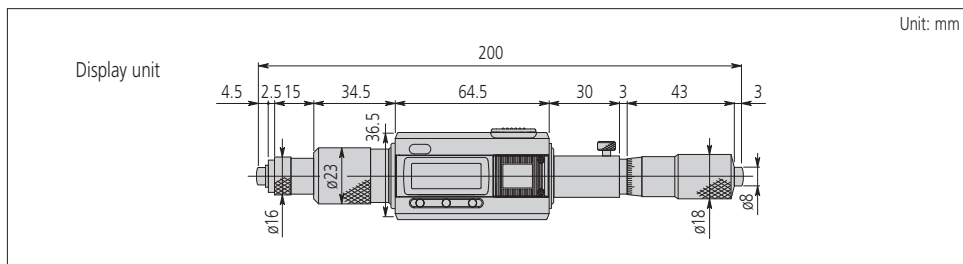
339-303

Specifications

Inch/Metric

Code No.	Range	Micrometer head stroke	Extension rods	Display unit	Price
339-102	8-9" (203.2-228.6 mm)	1" (25 mm)	—	8-9" (200-225 mm)	£828.00
339-303	8-40" (203.2-1016 mm)		1", 2", 4", 8", 16"		£1140.00
339-304	8-60" (203.2-1524 mm)		1", 2", 4", 8" (2 pcs.), 16" (3 pcs.)		£1450.00

Dimensions



Technical Data

Dust/Water protection level:	IP65 (IEC60529)
Resolution:	0.001 mm / .0001"
Battery:	SR44 (1 pc) 938882
Accuracy*1:	$\pm(3+n+L/50) \mu\text{m}^{*2}$ / $\pm[.00015+.00005n+.00005 (L/2)]^{*2}$

*1 Excluding quantizing error.
*2 n = number of rods, L = maximum measuring length (mm/inch)
Note: Fractions rounded up

Functions (for 339-303/304)

- Zero-setting
- Origin restoration
- Data hold
- 2-point preset
- Function lock
- Automatic power ON/OFF
- Error alarm
- Data output

Optional Accessories

Code No.	Description	Price
05CZA662	SPC data cable with pushbutton (1 m)	£67.30
05CZA663	SPC data cable with pushbutton (2 m)	£81.00
06ADV380B	USB Input Tool Direct USB-ITN-B (2 m)	£122.00
02AZD790B	SPC data cable for U-WAVE-T (160 mm)	£60.10
02AZE140B	SPC data cable for U-WAVE-T and footswitch (160/500 mm)	£137.00

Settings rings up to 300 mm (12") diameter (see page C-37).



Technical Data

Graduation: 0.01 mm / .001"
 Accuracy: $\pm(3+n+L/50) \mu\text{m}^*$ /
 $\pm[.00015+.00005n+.00005 (L/2)]^*$

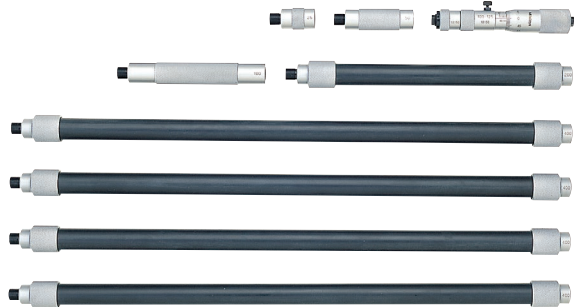
* n = number of rods, L = maximum measuring length (mm/inch)
 Note: Fractions rounded up

Optional Accessory

Settings rings up to 300 mm (12") diameter (see page C-37).

SERIES 139/140 – Long Range Extension Tube Inside Micrometer

- Wide range of inside measurements possible by combining extension pipes and anvils with the micrometer head.
- The sleeve is rotated to adjust the index line position when setting to a length standard.
- An inside-length standard, such as a setting ring or Inside Micro Checker (see page C-24), is required for accurately setting the micrometer before measurement.



139-177

Specifications

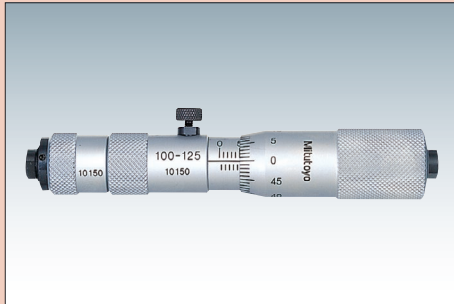
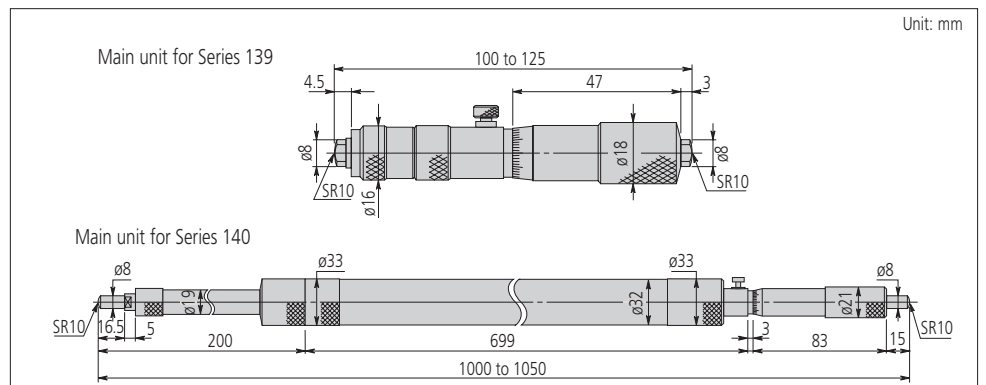
Metric

Code No.	Range	Head adjustment range	Extension rods	Main unit	Price
139-001	100 - 125 mm	25 mm	—	100 - 125 mm	£142.00
139-173	100 - 500 mm		25, 50, 100, 200 mm		£482.00
139-174	100 - 900 mm		25, 50, 100, 200, 400 mm		£537.00
139-175	100 - 1300 mm		25, 50, 100, 200, 400 (2 pcs.) mm		£627.00
139-176	100 - 1700 mm		25, 50, 100, 200, 400 (3 pcs.) mm		£727.00
139-177	100 - 2100 mm		25, 50, 100, 200, 400 (4 pcs.) mm		£794.00
140-157	1000 - 2000 mm	50 mm	50, 100 (2 pcs.), 200, 500 mm	1000 - 1050 mm	£2050.00
140-158	1000 - 3000 mm		50, 100 (2 pcs.), 200, 500, 1000 mm		£2150.00
140-159	1000 - 4000 mm		50, 100 (2 pcs.), 200, 500, 1000 (2 pcs.) mm		£2830.00
140-160	1000 - 5000 mm		50, 100 (2 pcs.), 200, 500, 1000 (3 pcs.) mm		£3520.00

Inch

Code No.	Range	Head adjustment range	Extension rods	Main unit	Price
139-002	4 - 5"	1"	—	4 - 5"	£142.00
139-178	4 - 20"		1", 2", 4", 8"		£482.00
139-179	4 - 36"		1", 2", 4", 8", 16"		£537.00
139-180	4 - 52"		1", 2", 4", 8", 16" (2 pcs.)		£627.00
139-181	4 - 68"		1", 2", 4", 8", 16" (3 pcs.)		£727.00
139-182	4 - 84"		1", 2", 4", 8", 16" (4 pcs.)		£794.00
140-161	40 - 80"	2"	2", 4" (2 pcs.), 8", 20"	40 - 42"	£2050.00
140-162	40 - 120"		2", 4" (2 pcs.), 8", 20", 40"		£2150.00
140-163	40 - 160"		2", 4" (2 pcs.), 8", 20", 40" (2 pcs.)		£2830.00
140-164	40 - 200"		2", 4" (2 pcs.), 8", 20", 40" (3 pcs.)		£3520.00

Dimensions



139-001

Inside Micrometers

SERIES 345 – Digimatic Inside Caliper Micrometer

- Carbide measuring faces.
- Equipped with a constant measuring-force device.
- An inside-length standard, such as a setting ring, is required for accurately setting the micrometer before measurement.



345-350-30



345-351-30

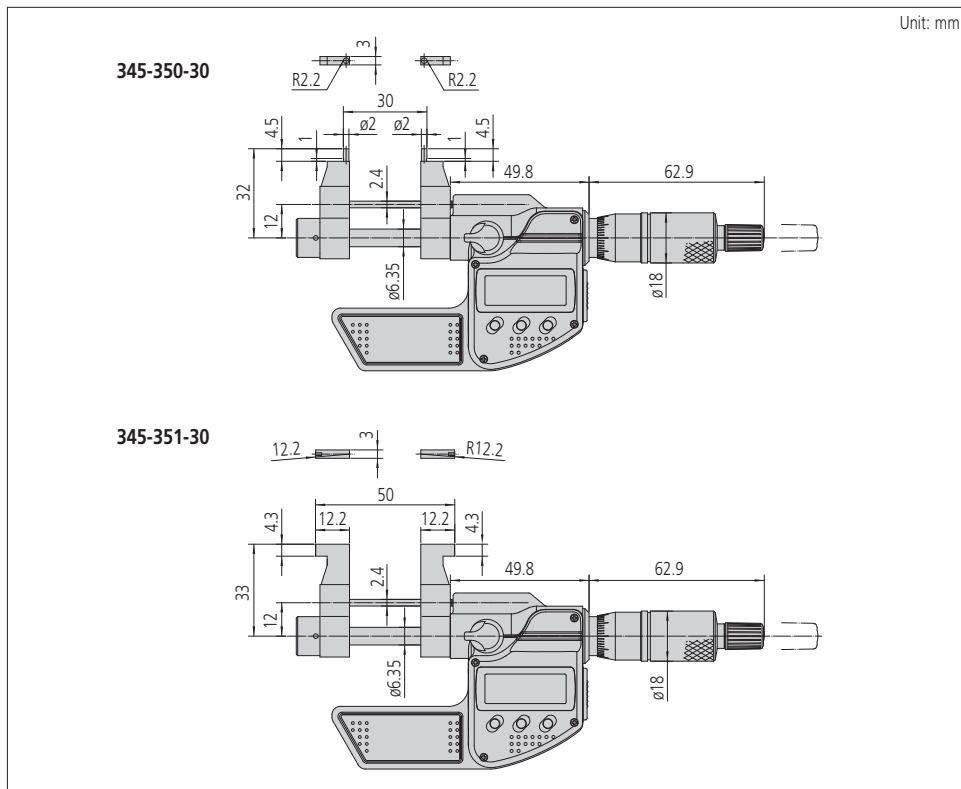
Specifications

Inch/Metric

Code No.	Range	Resolution	Accuracy*	Price
345-350-30	.2 - 1.2" (5.08 - 30.48 mm)	.00005" (0.001 mm)	±.00025" (±5 μm)	£552.00
345-351-30	1 - 2" (25.4 - 50.8 mm)	.00005" (0.001 mm)	±.0003" (±6 μm)	£564.00

* Excluding quantizing error

Dimensions



Optional Accessories

Code No.	Description	Price
05CZA662	SPC data cable with pushbutton (1 m)	£67.30
05CZA663	SPC data cable with pushbutton (2 m)	£81.00
06ADV380B	USB Input Tool Direct USB-ITN-B (2 m)	£122.00
02AZD790B	SPC data cable for U-WAVE-T (160 mm)	£60.10
02AZE140B	SPC data cable for U-WAVE-T and footswitch (160/500 mm)	£137.00

Settings rings up to 300 mm (12") diameter (see page C-37).

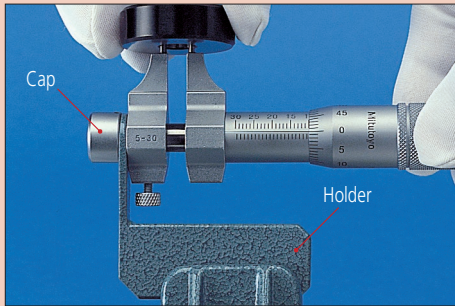


Optional Accessories

Code No.	Description	Price
300401	Micrometer stand cap*	£3.30
300400	Micrometer stand holder*	£9.50

Settings rings up to 300 mm (12") diameter (see page C-37).

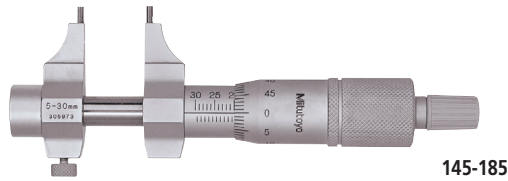
* Only for models with measuring range up to 50 mm / 2".



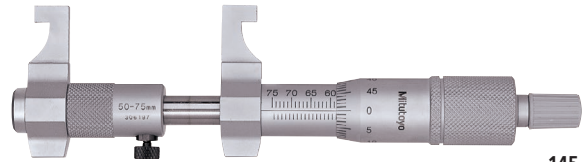
This instrument requires the cap and the holder for mounting on a micrometer stand.

SERIES 145 – Inside Caliper Micrometer

- Carbide measuring faces.
- Equipped with a constant measuring-force device.
- An inside-length standard, such as a setting ring, is required for accurately setting the micrometer before measurement.



145-185



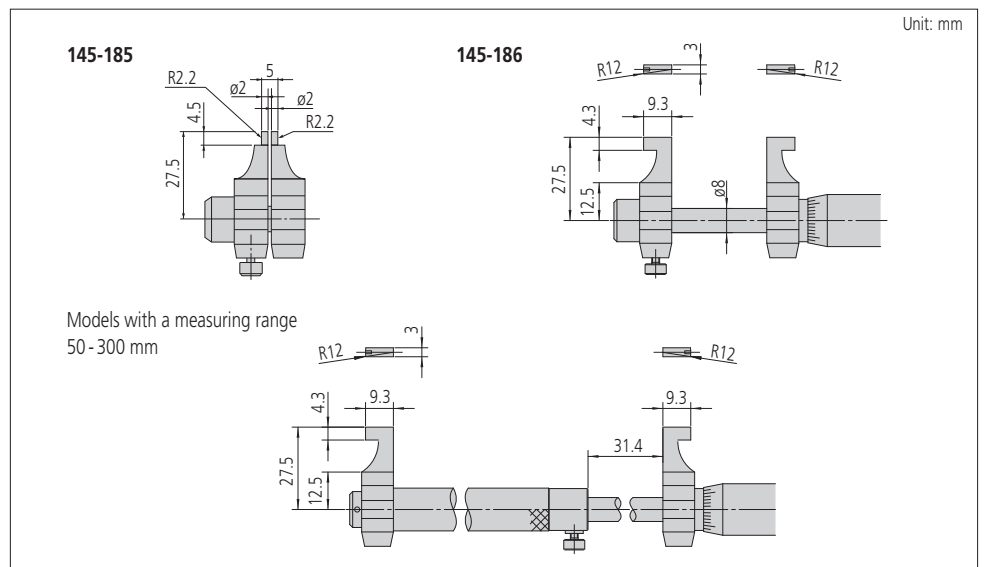
145-187

Specifications

Metric				
Code No.	Range	Graduation	Accuracy	Price
145-185	5 - 30 mm	0.01 mm	±5 µm	£234.00
145-186	25 - 50 mm		±6 µm	£248.00
145-187	50 - 75 mm		±7 µm	£261.00
145-188	75 - 100 mm		±8 µm	£275.00
145-189	100 - 125 mm		±9 µm	£419.00
145-190	125 - 150 mm			£475.00
145-191	150 - 175 mm		±10 µm	£516.00
145-192	175 - 200 mm			£554.00
145-217	200 - 225 mm		±11 µm	£578.00
145-218	225 - 250 mm			£586.00
145-219	250 - 275 mm		±12 µm	£603.00
145-220	275 - 300 mm			£625.00

Inch				
Code No.	Range	Graduation	Accuracy	Price
145-193	2 - 1.2"	.001"	±.00025"	£234.00
145-194	1 - 2"		±.0003"	£248.00
145-195	2 - 3"		±.00035"	£261.00
145-196	3 - 4"		±.0004"	£275.00

Dimensions



Inside Micrometers

SERIES 141 – Interchangeable Rod Inside Micrometer



141-101

- Wide range of inside diameter measurements possible by combining one or more interchangeable rods.
- Each interchangeable rod is marked with its measuring range.
- For models supplied with more than one interchangeable rod, the full measuring range is achieved by combining spacing collars with the rods.
- Both micrometer head and rods are satin-chrome finished throughout.
- The sleeve is rotated to adjust the index line position when setting to a length standard.
- An inside-length standard, such as a setting ring or Inside Micro Checker (see page C-24), is required for accurately setting the micrometer before measurement.

Specifications

Metric					
Code No.	Range	Graduation	Stroke	No. of rods	Price
141-001* ¹	25-32 mm	0.01 mm	7 mm	—	£48.30
141-101	25-50 mm			2	£97.70
141-025* ¹	50-63 mm		13 mm	—	£68.00
141-205	50-200 mm			3	£175.00
141-206	50-300 mm			5	£210.00
141-009* ¹	200-225 mm		25 mm	—	£107.00
141-117	200-500 mm			3	£230.00
141-118	200-1000 mm			8	£344.00

Carbide measuring face

141-003* ¹	25-32 mm	0.01 mm	7 mm	—	£104.00
141-103	25-50 mm			2	£145.00
141-027* ¹	50-63 mm		13 mm	—	£81.90
141-211	50-200 mm			3	£334.00
141-212	50-300 mm			5	£426.00
141-011* ¹	200-225 mm		25 mm	—	£106.00

Inch

Code No.	Range	Graduation	Stroke	No. of rods	Price
141-002* ¹	1-1.25"	.001"	.25"	—	£48.30
141-102	1-2"			2	£97.70
141-026* ¹	2-2.5"		.5"	—	£68.00
141-208	2-8"			3	£175.00
141-233	2-12"			5	£210.00
141-010* ¹	8-9"		1"	—	£107.00
141-121	8-20"			3	£230.00
141-122	8-40"			8	£344.00

Carbide measuring face

141-004* ¹	1-1.25"	.001"	.25"	—	£104.00
141-104	1-2"			2	£145.00
141-028* ¹	2-2.5"		.5"	—	£81.90
141-214	2-8"			3	£334.00
141-215	2-12"			5	£411.00
141-012* ¹	8-9"		1"	—	£106.00

*¹ Head only.

Technical Data

Accuracy: $\pm(6+L/50) \mu\text{m}^{*2} / \pm[.0003+.00005 (L/2)]^{*2}$

*² L = maximum measuring length (mm/inch)

Note: Fractions rounded up

Optional Accessory

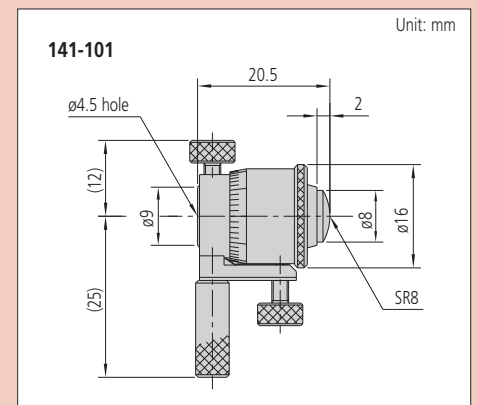
Settings rings up to 300 mm (12") diameter (see page C-37).

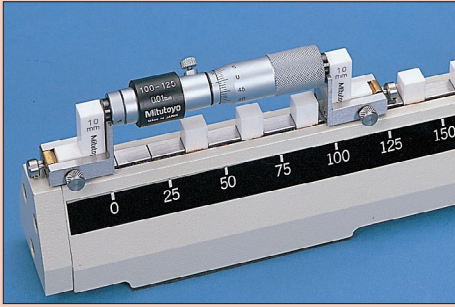


When using one of the extension rods supplied.

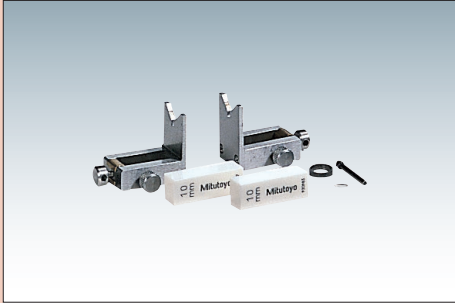


Dimensions





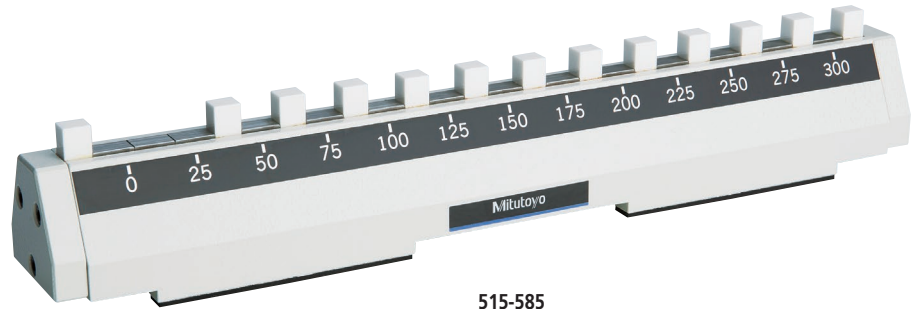
The two auxiliary gauge blocks are held against the appropriate measuring blocks by the support clamps, which also provide accurate location for the inside micrometer by means of the V-grooved extensions.



Standard accessory set.

SERIES 515 – Inside Micro Checker

- The Inside Micro Checker is designed to act as a setting standard for inside micrometers.
- Each measuring block is made of zirconia based ceramic that is free from deterioration and dimensional changes over time.
- Can be used for calibration in conjunction with a set of gauge blocks (optional).



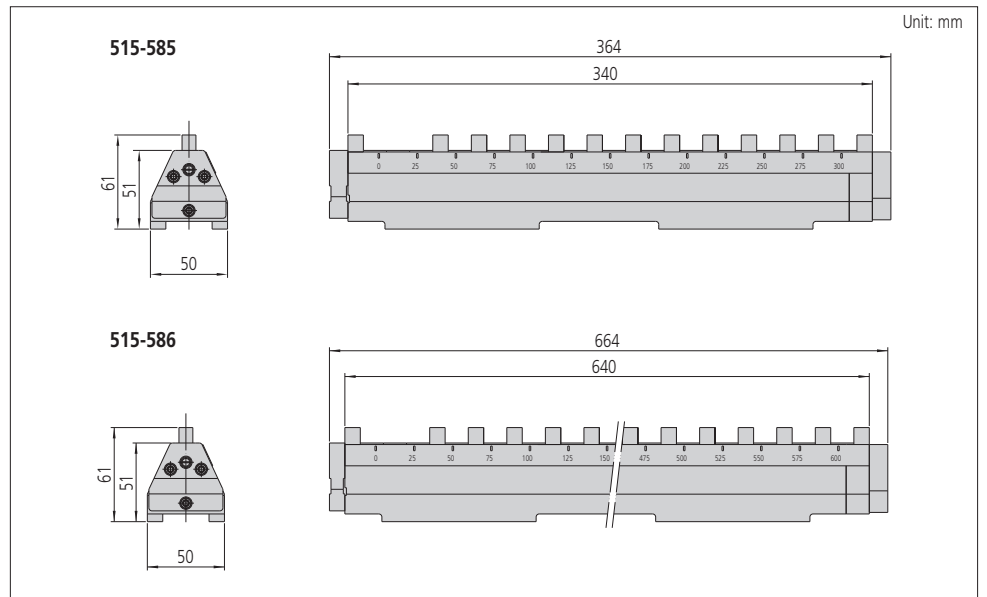
515-585

Specifications

Metric			
Code No.	Range	Accuracy	Price
515-585	25 - 300 mm	$\pm(1+L/150) \mu\text{m}$ L: Length to check (mm)	£1400.00
515-586	25 - 600 mm		£2700.00

Note: The bottom surface and the contact faces are not perpendicular to each other.

Dimensions



Bore Gauges

SERIES 526 – Extra Small Hole Bore Gauge

- This gauge is designed to measure the diameters of very small holes. The radial displacement of the split-ball anvil is converted to axial displacement of the measuring rod, which is shown on the dial indicator.
- An optional stand (215-120-10) is available for efficient measurement of multiple small holes.



526-172-1

526-125

Specifications

Metric

Code No.	Range	Content of set					Probing depth	Price
		Bore gauge	Dial indicator	Anvils	Pin point	Setting rings		
Graduation 0.001 mm								
526-172-1	0.95 - 1.55 mm	526-170	2109SB-10	5 pcs.	1 pc.	—	11.5 mm	£851.00
526-162-1	1.50 - 4.00 mm	526-160		9 pcs.	2 pcs.	—	17.5, 22.5 mm	£1090.00
526-152-1	3.70 - 7.30 mm	526-150		7 pcs.	1 pc.	—	32 mm	£794.00
526-124	7 - 10 mm	526-101		6 pcs.	—	—		£335.00
526-125	10 - 18 mm	526-102		8 pcs.	—	—	62 mm	£410.00

Graduation 0.01 mm

526-173-1	0.95 - 1.55 mm	526-170	2046SB	5 pcs.	1 pc.	—	11.5 mm	£790.00
526-163-1	1.50 - 4.00 mm	526-160		9 pcs.	2 pcs.	—	17.5, 22.5 mm	£990.00
526-153-1	3.70 - 7.30 mm	526-150		7 pcs.	1 pc.	—	32 mm	£748.00
526-126	7 - 10 mm	526-101		6 pcs.	—	—		£290.00
526-127	10 - 18 mm	526-102		8 pcs.	—	—	62 mm	£357.00

Inch

Code No.	Range	Content of set					Probing depth	Price
		Bore gauge	Dial indicator	Anvils	Pin point	Setting rings		
Graduation .0001"								
526-176	.037 - .061"	526-175	2923SB-10	5 pcs.	1 pc.	5 pcs.	.45"	£1720.00
526-166	.06 - .155"	526-165		9 pcs.	2 pcs.	9 pcs.	.68, .88"	£2490.00
526-156	.145 - .29"	526-155		7 pcs.	1 pc.	7 pcs.	1.25"	£1450.00
526-122	.3 - .4"	526-101		6 pcs.	—	—		£335.00
526-123	.4 - .7"	526-102		8 pcs.	—	—	2.42"	£410.00

Graduation .0005"

526-119	.3 - .4"	526-101	2922SB	6 pcs.	—	—	1.25"	£357.00
526-120	.4 - .7"	526-102		8 pcs.	—	—	2.42"	£357.00

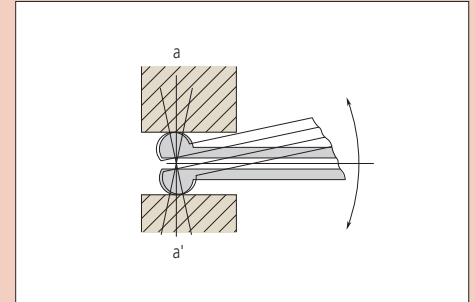
Technical Data

Accuracy

Range 0.95 - 10 mm:	4 µm
Range 10 - 18 mm:	6 µm
Range .037 - .4":	.00016"
Range .4 - .7":	.00024"
Repeatability:	2 µm / .00008"

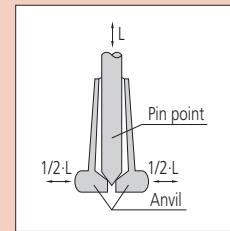
Optional Accessory

Code No.	Description	Price
215-120-10	Stand for small holes	£1040.00



How to measure a hole diameter

The 526 series has a gauge head with high curvature to ensure accurate reading in use. Aligning the measuring direction of the gauge with the diameter (a-a') is achieved by rocking the gauge head within the hole as indicated, and the required diameter is the minimum value seen (at the reversal point) on the dial indicator.



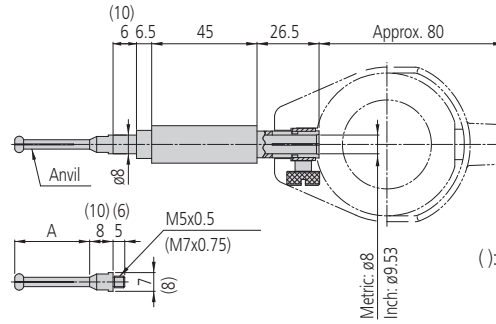
Measurement principle.



526-156

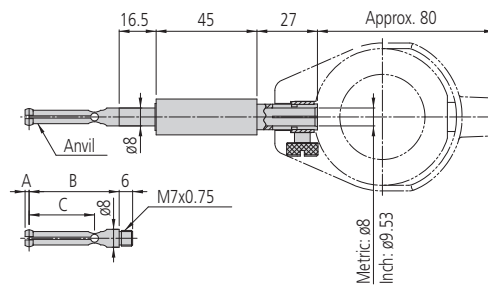
Dimensions

Unit: mm



(): 3.7 - 7.3 mm / .145 - .29" range model

Measuring range	Anvil			Setting ring
	Marked No.	Measuring range	A	mm/inch
0.95 - 1.55 mm / .037 - .061"	1.0	0.95 - 1.15 mm / .037 - .045"	11.5 mm / .45"	1.0 mm / .04"
	1.1	1.07 - 1.25 mm / .042 - .049"		1.1 mm / .045"
	1.2	1.17 - 1.35 mm / .046 - .053"		1.2 mm / .05"
	1.3	1.27 - 1.45 mm / .050 - .057"		1.3 mm / .055"
	1.4	1.37 - 1.55 mm / .054 - .061"		1.4 mm / .06"
1.50 - 4.00 mm / .60 - .155"	1.75	1.50 - 1.90 mm / .060 - .075"	17.5 mm / .68"	1.75 mm / .07"
	2.00	1.80 - 2.20 mm / .070 - .085"		2.00 mm / .08"
	2.25	2.05 - 2.45 mm / .080 - .095"		2.25 mm / .09"
	2.50	2.25 - 2.75 mm / .090 - .105"		2.50 mm / .10"
	2.75	2.50 - 3.00 mm / .100 - .115"	22.5 mm / .88"	2.75 mm / .11"
	3.00	2.75 - 3.25 mm / .110 - .125"		3.00 mm / .12"
	3.25	3.00 - 3.50 mm / .120 - .135"		3.25 mm / .13"
	3.50	3.25 - 3.75 mm / .130 - .145"		3.50 mm / .14"
3.70 - 7.30 mm / .145 - .29"	3.75	3.50 - 4.00 mm / .140 - .155"	32.0 mm / 1.25"	3.75 mm / .15"
	4.0	3.70 - 4.30 mm / .145 - .170"		4.0 mm / .16"
	4.5	4.20 - 4.80 mm / .165 - .190"		4.5 mm / .18"
	5.0	4.70 - 5.30 mm / .185 - .210"		5.0 mm / .20"
	5.5	5.20 - 5.80 mm / .205 - .230"		5.5 mm / .22"
	6.0	5.70 - 6.30 mm / .225 - .250"		6.0 mm / .24"
	6.5	6.20 - 6.80 mm / .245 - .270"		6.5 mm / .26"
7.0	6.70 - 7.30 mm / .265 - .290"	7.0 mm / .28"		



Unit: mm

Measuring range	Anvil				
	Marked No.	Measuring range	A	B	C
7 - 10 mm / .3 - .4"	1	7.0 - 7.5 mm / .28 - .30"	1.8 mm / .07"	40 mm / 1.57"	29.2 mm / 1.15"
	2	7.5 - 8.0 mm / .28 - .30"			
	3	8.0 - 8.5 mm / .32 - .34"			
	4	8.5 - 9.0 mm / .34 - .36"			
	5	9.0 - 9.5 mm / .36 - .38"			
	6	9.5 - 10.0 mm / .38 - .40"			
10 - 18 mm / .4 - .7"	1	10 - 11 mm / .40 - .44"	2.1 mm / .08"	46 mm / 1.81"	38 mm / 1.50"
	2	11 - 12 mm / .44 - .48"	2.7 mm / .11"		
	3	12 - 13 mm / .48 - .52"			
	4	13 - 14 mm / .52 - .56"			
	5	14 - 15 mm / .56 - .60"			
	6	15 - 16 mm / .60 - .64"			
	7	16 - 17 mm / .64 - .68"			
	8	17 - 18 mm / .68 - .72"			

Bore Gauges

SERIES 511 – Small Hole Bore Gauge

- The interchangeable anvils used on this gauge are made of high-grade tool steel.
- Interchangeable washers 0.5 mm thick are supplied as standard accessories to enable setting the 10 - 18.5 mm / .4 - .74" models in small steps.
- The dial indicator is fully protected by a rugged cover.
- Optional setting rings are available for accurately setting a gauge before measurement (see page C-37).

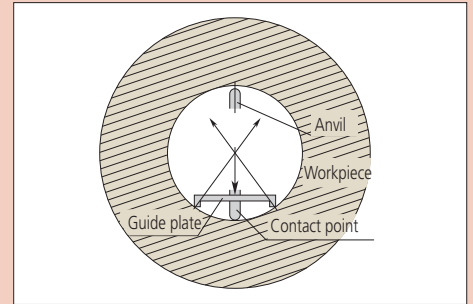


511-203

511-211

Technical Data

Accuracy: 5 μm / .0002"
 Repeatability: 2 μm / .00008"
 Narrow-range accuracy: 2 μm / .00008"



How to measure a hole diameter

The 511 series provides a guide plate to align the hole or bore diameter with the measurement axis of the bore gauge.

Specifications

Metric

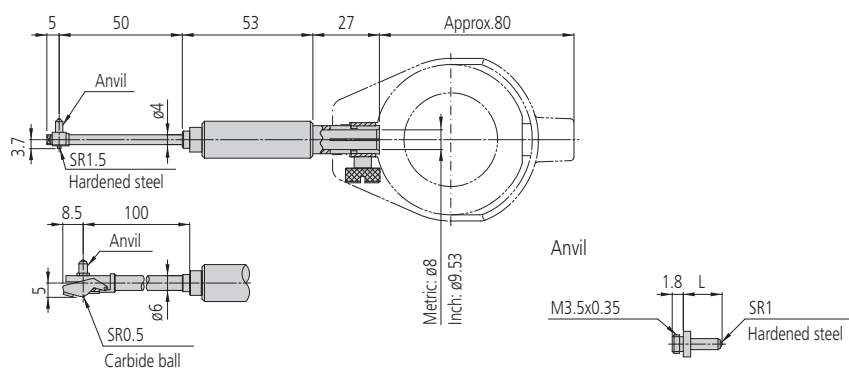
Code No.	Range	Measuring force	Content of set			Probing depth	Price
			Bore gauge	Dial indicator	Anvils		
Graduation 0.001 mm							
511-210	6 - 10 mm	2N or less	511-209	2109SB-10	9 pcs.	50 mm	£426.00
511-203	10 - 18.5 mm		511-201			100 mm	£426.00
Graduation 0.01 mm							
511-211	6 - 10 mm	2N or less	511-209	2046SB	9 pcs.	50 mm	£380.00
511-204	10 - 18.5 mm		511-201			100 mm	£368.00

Inch

Code No.	Range	Measuring force	Content of set			Probing depth	Price
			Bore gauge	Dial indicator	Anvils		
Graduation .0001"							
511-212	.24 - .4"	2N or less	511-214	2923SB-10	9 pcs.	2"	£426.00
511-206	.4 - .74"		511-205			4"	£426.00
Graduation .0005"							
511-213	.24 - .4"	2N or less	511-214	2922SB	9 pcs.	2"	£380.00
511-207	.4 - .74"		511-205			4"	£368.00

Dimensions

Unit: mm



Measuring range	Anvil		
	Marked No.	Size	L
6 - 10 mm / .24 - .4"	1	6.0 mm / .24"	1.2 mm / .05"
	2	6.5 mm / .26"	1.7 mm / .07"
	3	7.0 mm / .28"	2.2 mm / .09"
	4	7.5 mm / .30"	2.7 mm / .11"
	5	8.0 mm / .32"	3.2 mm / .13"
	6	8.5 mm / .34"	3.7 mm / .15"
	7	9.0 mm / .36"	4.2 mm / .17"
	8	9.5 mm / .38"	4.7 mm / .19"
	9	10.0 mm / .40"	5.2 mm / .21"
10 - 18.5 mm / .4 - .74"	1	10 mm / .40"	2 mm / .08"
	2	11 mm / .44"	3 mm / .12"
	3	12 mm / .48"	4 mm / .16"
	4	13 mm / .52"	5 mm / .20"
	5	14 mm / .56"	6 mm / .24"
	6	15 mm / .60"	7 mm / .28"
	7	16 mm / .64"	8 mm / .32"
	8	17 mm / .68"	9 mm / .36"
	9	18 mm / .72"	10 mm / .40"

Bore Gauges

SERIES 511 – Bore Gauge

- 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.
- Interchangeable washers 0.5 mm thick are supplied as standard accessories to enable setting in small steps.
- Optional extension rods can be attached for measuring deep holes (see page C-35).
- An optional bore gauge checker and optional setting rings are available for accurately setting a gauge before measurement (see pages C-36 to C-37).



511-723



511-712

Specifications

Metric

Code No.	Range	Measuring force	Content of set			Probing depth	Price
			Bore gauge	Dial indicator	Anvils		
Graduation 0.001 mm							
511-721	18 - 35 mm	4N or less	511-701	2109SB-10	9 pcs.	100 mm	£283.00
511-722	35 - 60 mm		511-702		6 pcs.		£283.00
511-723	50 - 150 mm	5N or less	511-703		11 pcs.	150 mm	£311.00
511-724	100 - 160 mm		511-704		13 pcs.		£426.00
511-725	160 - 250 mm	6N or less	511-705		6 pcs.	250 mm	£504.00
511-726	250 - 400 mm		511-706		5 pcs.		£596.00

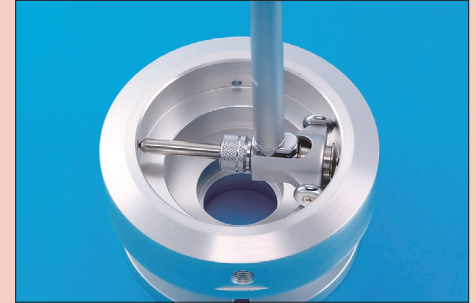
Graduation 0.01 mm							
511-711	18 - 35 mm	4N or less	511-701	2046SB	9 pcs.	100 mm	£225.00
511-712	35 - 60 mm		511-702		6 pcs.		£225.00
511-713	50 - 150 mm	5N or less	511-703		11 pcs.	150 mm	£250.00
511-714	100 - 160 mm		511-704		13 pcs.		£380.00
511-715	160 - 250 mm	6N or less	511-705		6 pcs.	250 mm	£458.00
511-716	250 - 400 mm		511-706		5 pcs.		£549.00

Bore Gauge Sets

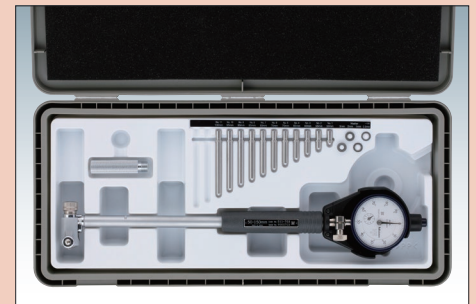
Code No.	Range	Bore gauge	Dial indicator	Price
511-921	18 - 150 mm	511-701	2046SB	£563.00
511-922		511-702	2109SB-10	£648.00
511-925-10		511-703	543-264B	£748.00

Technical Data

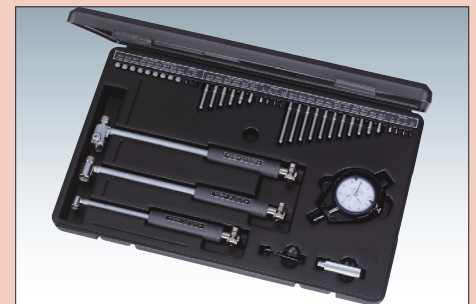
Accuracy:	2 µm / .00008"
Repeatability:	0.5 µm / .00002"
Narrow-range accuracy:	1 µm / .00004"



New grip improves accuracy during prolonged use.



511-713

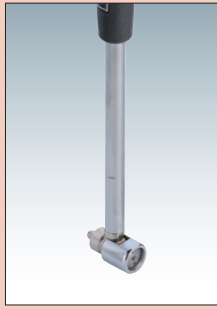


511-921

Contact Points



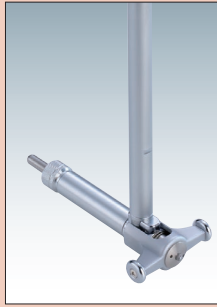
18 - 35 mm / .7 - 1.4"



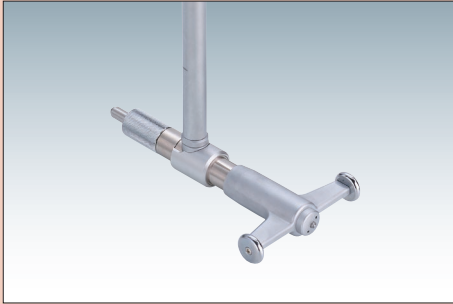
35 - 60 mm / 1.4 - 2.5"



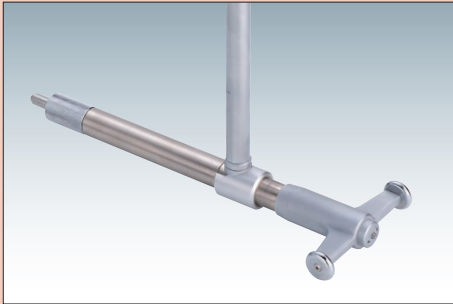
50 - 150 mm / 2.0 - 6.0"



100 - 160 mm / 4.0 - 6.5"



160 - 250 mm / 6.5 - 10.0"

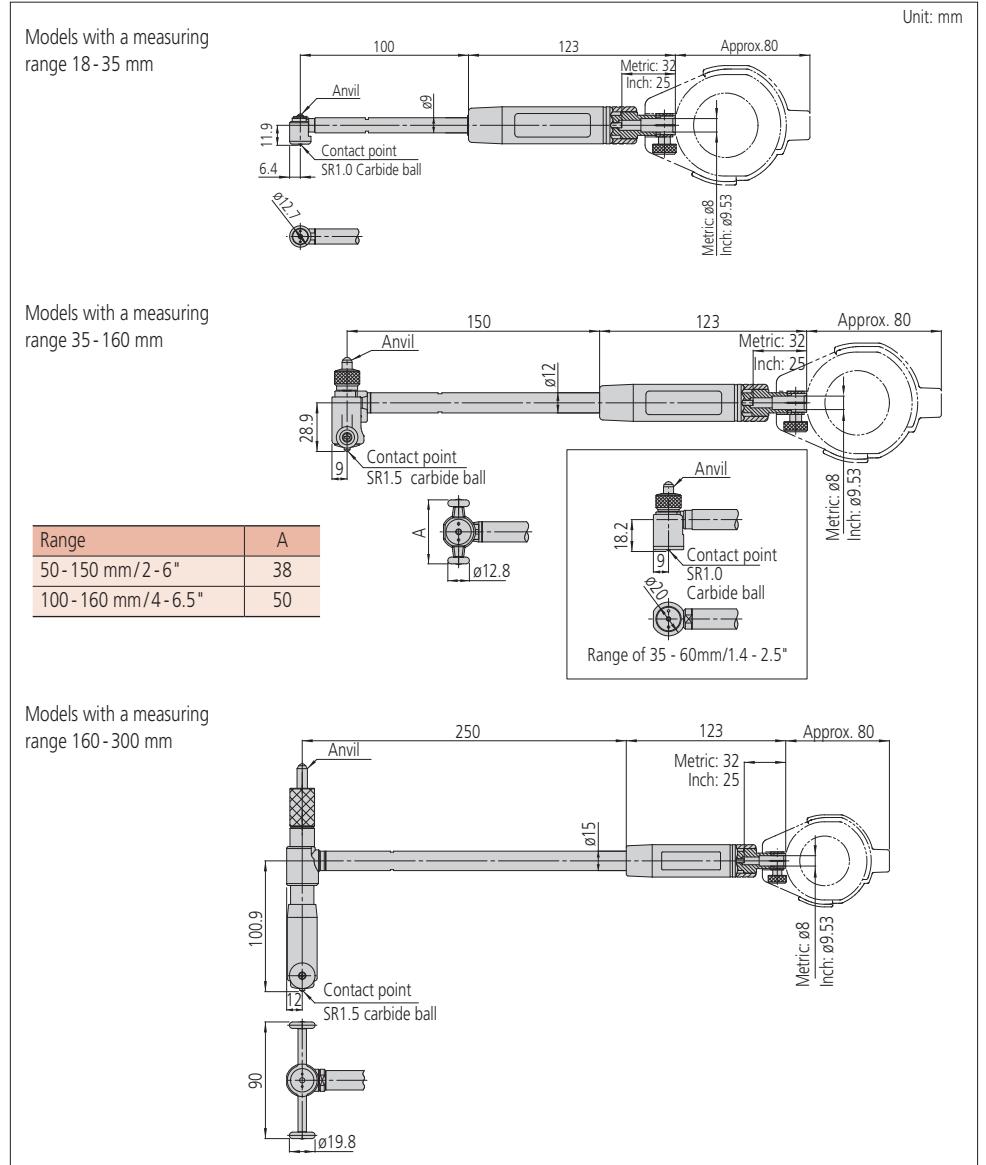


250 - 400 mm / 10.0 - 16.0"

Specifications

Inch							
Code No.	Range	Measuring force	Content of set			Probing depth	Price
			Bore gauge	Dial indicator	Anvils		
Graduation .0001"							
511-751	.7 - 1.4"	4N or less	511-731	2923SB-10	9 pcs.	4"	£283.00
511-752	1.4 - 2.5"		511-732		6 pcs.		£283.00
511-753	2.0 - 6.0"	5N or less	511-733		11 pcs.	6"	£311.00
511-754	4.0 - 6.5"		511-734		13 pcs.		£426.00
511-755	6.5 - 10.0"	6N or less	511-735		6 pcs.	10"	£504.00
511-756	10.0 - 16.0"		511-736		5 pcs.		£596.00
Graduation .0005"							
511-741	.7 - 1.4"	4N or less	511-731	2922SB	9 pcs.	4"	£225.00
511-742	1.4 - 2.5"		511-732		6 pcs.		£225.00
511-743	2.0 - 6.0"	5N or less	511-733		11 pcs.	6"	£250.00
511-744	4.0 - 6.5"		511-734		13 pcs.		£380.00
511-745	6.5 - 10.0"	6N or less	511-735		6 pcs.	10"	£458.00
511-746	10.0 - 16.0"		511-736		5 pcs.		£549.00
Bore Gauge Sets							
Code No.	Range	Measuring head units	Dial indicator	Price			
511-931	.7 - 6.0"	511-731	2922SB	£563.00			
511-932		511-732	2923SB-10	£648.00			
511-935		511-733	543-266B	£748.00			

Dimensions



Bore Gauges

SERIES 511 – Micrometer Head Bore Gauge

- Micrometer head is attached to the anvil for convenient and accurate dimensional setting.
- Now offers a longer plunger stroke while maintaining original accuracy.
- Carbide is used for the contact point ensuring high durability and wear resistance.
- High-accuracy measurement is aided by a large grip with a sponge-like structure that reduces heat transfer from the operator's hand by 50%.
- Wide measuring range with sub-anvils.
- Optional extension rods can be attached for measuring deep holes (see page C-35).
- An optional bore gauge checker and optional setting rings are available for accurately setting a gauge before measurement (see pages C-36 to C-37)

Technical Data

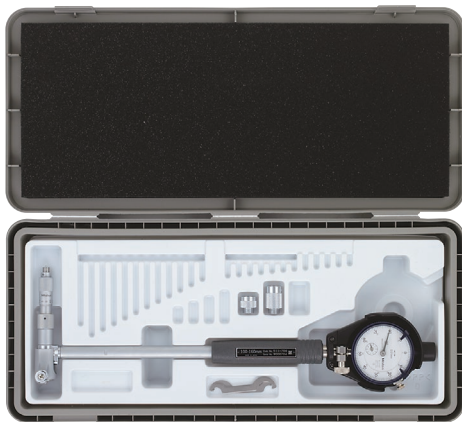
Accuracy:	2 μm / .00008"
Repeatability:	0.5 μm / .00002"
Narrow-range accuracy:	1 μm / .00004"



511-813



511-814



511-824



511-816

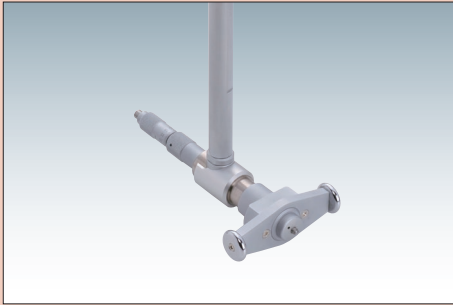
Contact Points



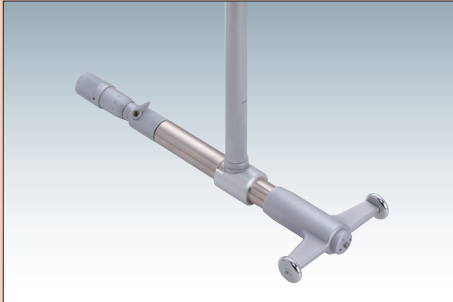
60 - 100 mm / 2.4 - 4"



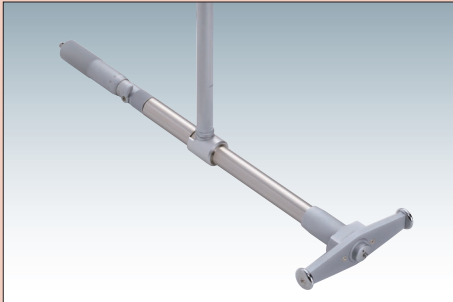
100 - 160 mm / 4 - 6.4"



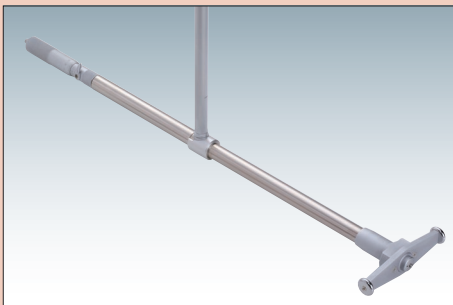
150 - 250 mm / 6 - 10"



250 - 400 mm / 10 - 16"



400 - 600 mm / 16 - 24"



600 - 800 mm / 24 - 32"

Specifications

Metric

Code No.	Range	Measuring force	Content of set			Probing depth	Price
			Bore gauge	Dial indicator	Sub-Anvils		
Graduation 0.001 mm							
511-823	60 - 100 mm	5N or less	511-803	2109SB-10	2 pcs.	150 mm	£437.00
511-824	100 - 160 mm		511-804		3 pcs.		£460.00
511-825	150 - 250 mm	6N or less	511-805		4 pcs.	250 mm	£533.00
511-826	250 - 400 mm		511-806		3 pcs.		£633.00
511-827	400 - 600 mm		511-807		2 pcs.		£914.00
511-828	600 - 800 mm		511-808		2 pcs.		£1030.00

Graduation 0.01 mm

511-813	60 - 100 mm	5N or less	511-803	2046SB	2 pcs.	150 mm	£397.00
511-814	100 - 160 mm		511-804		3 pcs.		£435.00
511-815	150 - 250 mm	6N or less	511-805		4 pcs.	250 mm	£519.00
511-816	250 - 400 mm		511-806		3 pcs.		£586.00
511-817	400 - 600 mm		511-807		2 pcs.		£761.00
511-818	600 - 800 mm		511-808		2 pcs.		£989.00

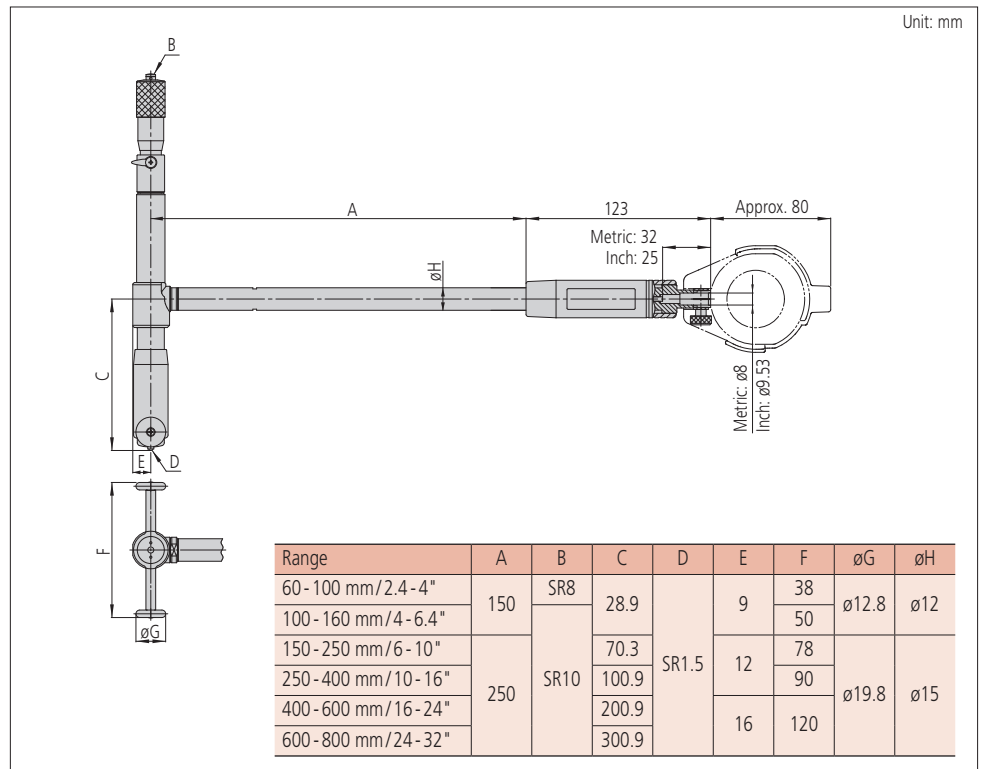
Inch

Code No.	Range	Measuring force	Content of set			Probing depth	Price
			Bore gauge	Dial indicator	Sub-Anvils		
Graduation .0001"							
511-853	2.4 - 4.0"	5N or less	511-833	2923SB-10	2 pcs.	4"	£437.00
511-854	4.0 - 6.4"		511-834		3 pcs.		£460.00
511-855	6.0 - 10.0"	6N or less	511-835		4 pcs.	6"	£533.00
511-856	10.0 - 16.0"		511-836		3 pcs.		£633.00
511-857	16.0 - 24.0"		511-837		2 pcs.		£914.00
511-858	24.0 - 32.0"		511-838		2 pcs.		£1030.00

Graduation .0005"

511-843	2.4 - 4.0"	5N or less	511-833	2922SB	2 pcs.	4"	£397.00
511-844	4.0 - 6.4"		511-834		3 pcs.		£435.00
511-845	6.0 - 10.0"	6N or less	511-835		4 pcs.	6"	£519.00
511-846	10.0 - 16.0"		511-836		3 pcs.		£586.00
511-847	16.0 - 24.0"		511-837		2 pcs.		£761.00
511-848	24.0 - 32.0"		511-838		2 pcs.		£989.00

Dimensions



Bore Gauges

SERIES 511 – Blind Hole Bore Gauge

- Flat-bottomed head design enables measurement right down to the bottom of blind holes or bores.
- Carbide-tipped contact point for durability.
- Extension rods (optional) can be attached for measuring deep holes (see page C-35).
- Wide measuring range with sub-anvils.
- An optional bore gauge checker and optional setting rings are available for accurately setting a gauge before measurement (see pages C-36 to C-37).



Specifications

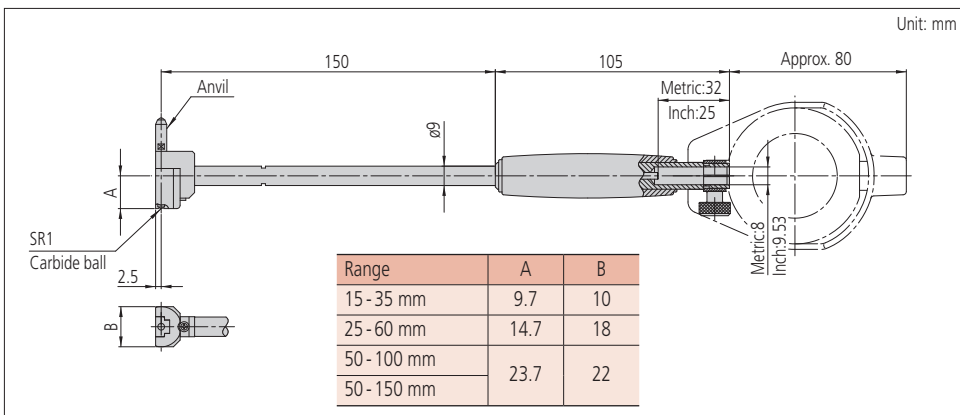
Metric

Code No.	Range	Measuring force	Content of set			Probing depth	Price
			Bore gauge	Dial indicator	Anvils		
Graduation 0.001 mm							
511-435	15 - 35 mm	4N or less	511-401	2109SB-10	11 pcs.	150 mm	£465.00
511-436	35 - 60 mm		511-402		6 pcs.		£408.00
511-437	50 - 150 mm	5N or less	511-404		£435.00		
Graduation 0.01 mm							
511-425	15 - 35 mm	4N or less	511-401	2046SB	11 pcs.	150 mm	£462.00
511-426	35 - 60 mm		511-402		6 pcs.		£472.00
511-427	50 - 150 mm	5N or less	511-404		£531.00		

Inch

Code No.	Range	Measuring force	Content of set			Probing depth	Price
			Bore gauge	Dial indicator	Anvils		
Graduation .0001"							
511-438	.6 - 1.4"	4N or less	511-406	2923SB-10	11 pcs.	6"	£465.00
511-439	1.4 - 2.4"		511-407		6 pcs.		£408.00
511-440	2.0 - 6.0"	5N or less	511-409		£435.00		
Graduation .0005"							
511-428	.6 - 1.4"	4N or less	511-406	2922SB	11 pcs.	6"	£462.00
511-429	1.4 - 2.4"		511-407		6 pcs.		£472.00
511-430	2.0 - 6.0"	5N or less	511-409		£531.00		

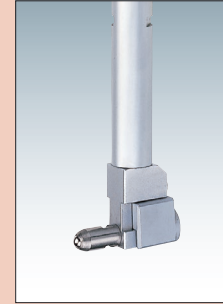
Dimensions



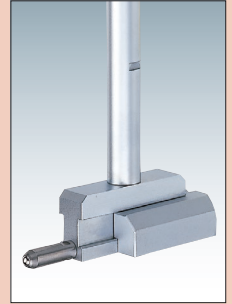
Technical Data

Accuracy: 5 μm / .0002"
 Repeatability: 2 μm / .00008"
 Narrow-range accuracy: 2 μm / .00008"

Contact Points



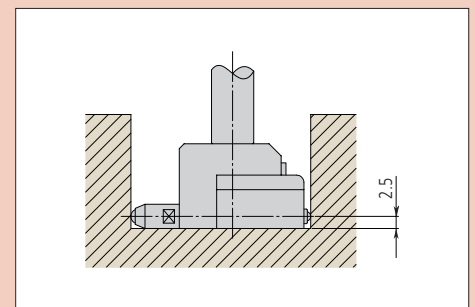
15 - 35 mm / .6 - 1.4"



50 - 100 mm / 2 - 4",
50 - 150 mm / 2 - 6"



511-426



Technical Data

Accuracy*:	3 µm / .00012"
Repeatability:	2 µm / .00008"
Narrow-range accuracy:	2 µm / .00008"
Scale type:	ABSOLUTE electrostatic linear encoder
Max. response speed:	Unlimited
Battery:	SR44 (2 pcs.), 938882
Battery life:	Approx. 2000 hours under normal use

* Excluding quantizing error

Functions

Presetting
 Preset
 Power on/off
 Inch/mm conversion
 Data output
 GO/±NG tolerance judgement
 Min value holding
 Data hold
 Alarm: Low battery voltage, scale contamination, overflow error, tolerance limit setting error

Optional Accessories

Code No.	Description	Price
21DZA089	Extension rod 250 mm (10")	£328.00
21DZA081	Extension rod 500 mm (20")	£298.00
516-118-10	Setup metric rectangular gauge block set	£790.00
905338	SPC data cable (1 m)	£32.90
905409	SPC data cable (2 m)	£36.80
02AZD790F	SPC data cable for U-WAVE-T (160 mm)	£60.10



Setting the Bore Gauge to a master value using a gauge block set.

SERIES 511 – ABSOLUTE Digimatic Bore Gauge

- This ABSOLUTE Digimatic bore gauge is exclusively designed for inside diameter measurement.
- Up to four extension rods (250 mm or 500 mm) can be used for measuring at the bottom of a hole 2 m deep.
- The display and grip can be rotated up to 320° and the display can be inclined up to 90°, so that it is easily readable from any direction.
- The minimum value holding function provides easy measurement of hole diameter.
- Interchangeable washers are supplied as standard accessories to enable setting in small steps.
- Setting the Bore Gauge to a master value using a gauge block set allows quick and accurate setting.
- An optional bore gauge checker and optional setting rings are available for accurately setting a gauge before measurement (see pages C-36 to C-37).



ABSOLUTE



511-521



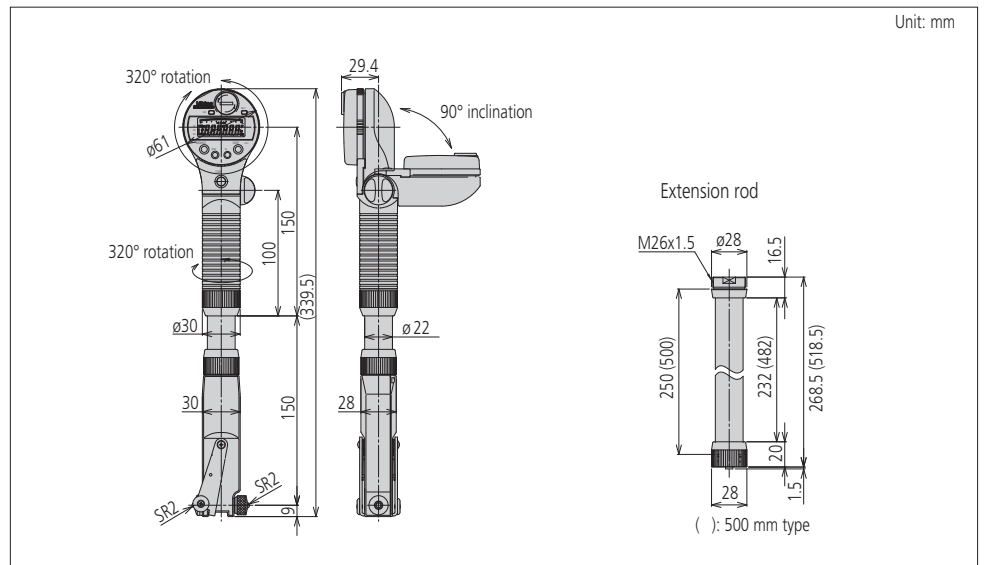
With optional extension rods

Specifications

Inch/Metric

Code No.	Range	Measuring force	Resolution	Anvils	Probing depth	Price
511-521	1.8 - 4.0" (45.72 - 101.6 mm)	5N or less	.0005" (0.001 mm)	12 pcs.	6" (150 mm)	£990.00
511-522	4.0 - 6.5" (101.6 - 165.1 mm)			13 pcs.		£1000.00

Dimensions



Optional Accessories

Bore Gauge Extension Rods

- Extension rods are available to assist in deep-hole measurement.
- If two or more extension rods are connected together, measurement errors may occur due to flexure of the rod assembly. Therefore it is best to use no more than a single extension rod.
- Extension rods are available in sizes up to 1000 mm long.
- When using a 500 mm (or longer) extension rod, use the bore gauge in an upright position.
- The accuracy and security of the assembly should be confirmed after connecting a rod.



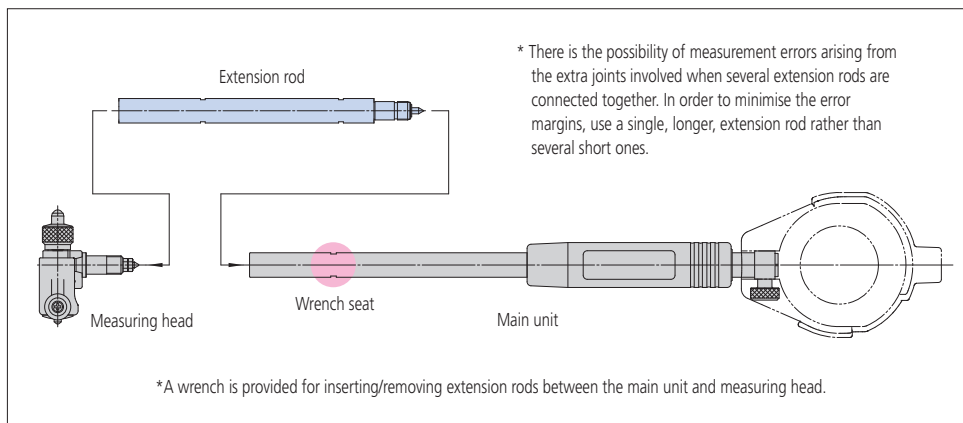
953549

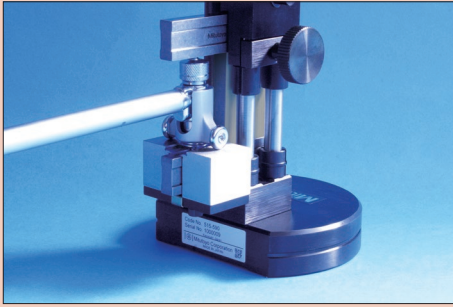
953557

Specifications

Inch/Metric

Code No.	Length	Diameter	Applicable measuring range	Price
953549	125 mm / 5"	ø9 mm / .342"	18 - 35 mm / .7 - 1.4"	£122.00
953550	250 mm / 10"			£141.00
953551	500 mm / 20"			£220.00
953552	125 mm / 5"	ø12 mm / .472"	35 - 160 mm / 1.4 - 6.5"	£132.00
953553	250 mm / 10"			£152.00
953554	500 mm / 20"			£263.00
953555	750 mm / 30"			£349.00
953556	1000 mm / 40"			£480.00
953557	125 mm / 5"	ø15 mm / .59"	160 - 400 mm / 6.5 - 16.0"	£141.00
952361	250 mm / 10"			£202.00
953558	500 mm / 20"			£328.00
953559	750 mm / 30"			£436.00
953560	1000 mm / 40"			£566.00





SERIES 515 – Dial Bore Gauge Checker

- The Bore Gauge Checker allows easy setting of dial bore gauges with ranges of 18 mm (.7") through 400 mm (16") using gauge blocks.



515-590

Standard configuration: Stand
Attachment A, B, C (1 pc each)
Parallel jaw (2 pcs)

Specifications

Code No.	Applicable range	Flatness of parallel jaw	Price
515-590	18 - 400 mm / .7 - 16"	0.5 μ m (parallelism 1 μ m)	£1400.00

Optional Accessories

SERIES 177 – Steel Setting Rings for Inside Micrometers, Holtest and Dial Bore Gauges

- Used for quick and accurate setting of dial bore gauges, Holtest, and inside micrometers.
- A setting ring should be selected that is closest in size to the dimension to be measured and that falls within the measuring range of the instrument.



Specifications

Inch

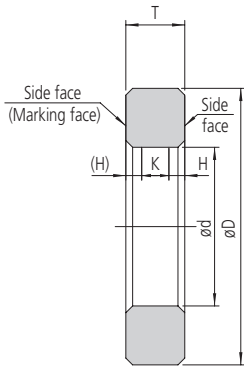
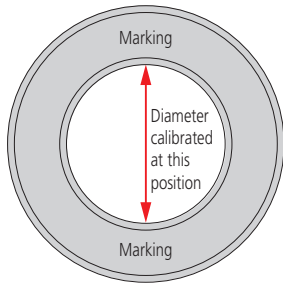
Code No.	Nominal size ϕD	Dimensions (mm)			Type	Accuracy					Price
		ϕD	ϕE	T		Tolerance between the nominal size and the actual diameter (inch)	Uncertainty of marked diameter value (inch)* ¹	Roundness/Cylindricity (inch)* ²	Distance from the side face H (mm)	Size of warranted calibration surface K (mm)	
177-209	.1"	25	—	7	A	$\pm .0004$ "	$\pm .00006$ "	.00004"	1.5	4.0	£94.70
177-206	.16"	25	—	7	A	$\pm .0004$ "	$\pm .00006$ "	.00004"	1.5	4.0	£94.70
177-207	.24"	25	—	7	A	$\pm .0004$ "	$\pm .00006$ "	.00004"	1.5	4.0	£94.70
177-281	.275"	25	—	7	A	$\pm .0004$ "	$\pm .00006$ "	.00004"	1.8	3.4	£94.70
177-179	.35"	32	—	10	A	$\pm .0004$ "	$\pm .00006$ "	.00004"	1.8	6.4	£94.70
177-283	.425"	32	—	10	A	$\pm .0004$ "	$\pm .00006$ "	.00004"	1.8	6.4	£94.70
177-180	.5"	32	—	10	A	$\pm .0004$ "	$\pm .00006$ "	.00004"	1.8	6.4	£94.70
177-181	.6"	38	—	10	A	$\pm .0004$ "	$\pm .00006$ "	.00004"	1.8	6.4	£94.70
177-182	.65"	45	—	10	A	$\pm .0004$ "	$\pm .00006$ "	.00004"	1.8	6.4	£94.70
177-183	.7"	45	—	10	A	$\pm .0004$ "	$\pm .00006$ "	.00004"	1.8	6.4	£94.70
177-287	.8"	45	—	10	A	$\pm .0004$ "	$\pm .00006$ "	.00004"	1.8	6.4	£102.00
177-184	1"	53	—	15	A	$\pm .0004$ "	$\pm .00006$ "	.00004"	3.0	9.0	£110.00
177-289	1.2"	71	—	15	A	$\pm .0004$ "	$\pm .00006$ "	.00004"	3.0	9.0	£127.00
177-185	1.4"	71	—	15	A	$\pm .0004$ "	$\pm .00006$ "	.00004"	3.0	9.0	£161.00
177-291	1.6"	71	—	15	A	$\pm .0004$ "	$\pm .00006$ "	.00004"	3.0	9.0	£150.00
177-186	1.8"	85	—	15	A	$\pm .0004$ "	$\pm .00006$ "	.00004"	3.5	8.0	£161.00
177-187	2"	85	—	20	A	$\pm .0008$ "	$\pm .00006$ "	.00004"	3.5	13.0	£161.00
177-293	2.4"	112	—	20	A	$\pm .0008$ "	$\pm .00006$ "	.00004"	3.5	13.0	£198.00
177-315	2.5"	112	—	20	A	$\pm .0008$ "	$\pm .00006$ "	.00006"	4.0	12.0	£253.00
177-188	2.8"	112	—	20	A	$\pm .0008$ "	$\pm .00006$ "	.00006"	4.0	12.0	£219.00
177-317	3"	125	—	25	A	$\pm .0008$ "	$\pm .00006$ "	.00006"	4.0	17.0	£263.00
177-295	3.2"	125	—	25	A	$\pm .0008$ "	$\pm .00006$ "	.00006"	4.0	17.0	£247.00
177-319	3.5"	140	—	25	A	$\pm .0008$ "	$\pm .00006$ "	.00006"	4.0	17.0	£345.00
177-189	3.6"	140	—	25	A	$\pm .0008$ "	$\pm .00006$ "	.00006"	4.0	17.0	£350.00
177-297	4"	160	—	25	A	$\pm .0008$ "	$\pm .00006$ "	.00008"	4.0	17.0	£393.00
177-299	5"	210	168	38.1	B	$\pm .0008$ "	$\pm .00010$ "	.00008"	5.0	28.1	£725.00
177-301	6"	235	187	38.1	B	$\pm .0008$ "	$\pm .00010$ "	.00008"	5.0	28.1	£782.00
177-303	7"	260	215	38.1	B	$\pm .0008$ "	$\pm .00010$ "	.00010"	5.0	28.1	£1110.00
177-305	8"	311	244	38.1	B	$\pm .0008$ "	$\pm .00010$ "	.00010"	5.0	28.1	£1420.00
177-307	9"	337	264	38.1	B	$\pm .0008$ "	$\pm .00010$ "	.00010"	5.0	28.1	£1600.00
177-309	10"	362	290	38.1	B	$\pm .0008$ "	$\pm .00010$ "	.00012"	5.0	28.1	£1730.00
177-311	11"	413	321	38.1	B	$\pm .0008$ "	$\pm .00010$ "	.00012"	5.0	28.1	£1990.00
177-313	12"	438	340	38.1	B	$\pm .0008$ "	$\pm .00010$ "	.00012"	5.0	28.1	£2430.00

*¹ Actual diameter is marked in 0.00001" increments.

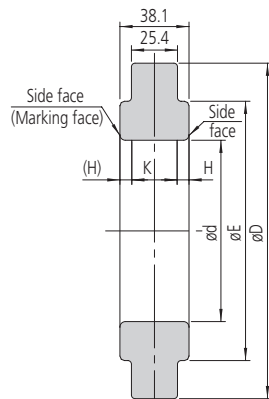
*² Cylindricity is defined as per JIS B 0621 Definitions and designations of geometrical deviations, Section 4.4 "Cylindricity." Cylindricity is measured using three cross-sections between the top and bottom face of a ring, namely, close to the face near each side and the centre.

Dimensions

Unit: mm



Type A



Type B

Specifications

Metric

Code No.	Nominal size ϕD	Dimensions (mm)			Type	Accuracy					Price
		ϕD	ϕE	T		Tolerance between the nominal size and the actual diameter (μm)	Uncertainty of marked diameter value (μm) ^{*1}	Roundness/Cylindricity (μm) ^{*2}	Distance from the side face H (mm)	Size of warranted calibration surface K (mm)	
177-220	1 mm	20	—	4	A	± 10	± 1.5	1	1.6	0.8	£94.70
177-222	1.1 mm	20	—	4	A	± 10	± 1.5	1	1.6	0.8	£94.70
177-225	1.2 mm	20	—	4	A	± 10	± 1.5	1	1.6	0.8	£94.70
177-227	1.3 mm	20	—	4	A	± 10	± 1.5	1	1.6	0.8	£94.70
177-230	1.4 mm	20	—	4	A	± 10	± 1.5	1	1.6	0.8	£94.70
177-236	1.75 mm	25	—	5	A	± 10	± 1.5	1	1.6	1.8	£94.70
177-239	2 mm	25	—	5	A	± 10	± 1.5	1	1.6	1.8	£94.70
177-242	2.25 mm	25	—	5	A	± 10	± 1.5	1	1.6	1.8	£94.70
177-208	2.5 mm	25	—	7	A	± 10	± 1.5	1	1.7	3.6	£94.70
177-246	2.75 mm	25	—	7	A	± 10	± 1.5	1	1.7	3.6	£94.70
177-248	3 mm	25	—	7	A	± 10	± 1.5	1	1.7	3.6	£94.70
177-250	3.25 mm	25	—	7	A	± 10	± 1.5	1	1.7	3.6	£94.70
177-252	3.5 mm	25	—	7	A	± 10	± 1.5	1	1.7	3.6	£94.70
177-255	3.75 mm	25	—	7	A	± 10	± 1.5	1	1.7	3.6	£94.70
177-204	4 mm	25	—	7	A	± 10	± 1.5	1	1.7	3.6	£94.70
177-257	4.5 mm	25	—	7	A	± 10	± 1.5	1	1.7	3.6	£94.70
177-205	5 mm	25	—	7	A	± 10	± 1.5	1	1.7	3.6	£94.70
177-263	5.5 mm	25	—	7	A	± 10	± 1.5	1	1.7	3.6	£94.70
177-267	6 mm	25	—	7	A	± 10	± 1.5	1	1.7	3.6	£94.70
177-271	6.5 mm	25	—	7	A	± 10	± 1.5	1	1.7	3.6	£94.70
177-275	7 mm	25	—	7	A	± 10	± 1.5	1	1.7	3.6	£94.70
177-125	8 mm	32	—	10	A	± 10	± 1.5	1	2.0	6.0	£94.70
177-279	9 mm	32	—	10	A	± 10	± 1.5	1	2.0	6.0	£94.70
177-126	10 mm	32	—	10	A	± 10	± 1.5	1	2.0	6.0	£94.70
177-284	12 mm	32	—	10	A	± 10	± 1.5	1	2.0	6.0	£94.70
177-132	14 mm	38	—	10	A	± 10	± 1.5	1	2.0	6.0	£94.70
177-177	16 mm	45	—	10	A	± 10	± 1.5	1	2.0	6.0	£94.70
177-133	17 mm	45	—	10	A	± 10	± 1.5	1	2.0	6.0	£94.70
177-285	18 mm	45	—	10	A	± 10	± 1.5	1	2.0	6.0	£104.00
177-286	20 mm	45	—	10	A	± 10	± 1.5	1	2.0	6.0	£102.00
177-139	25 mm	53	—	15	A	± 10	± 1.5	1	3.2	8.6	£110.00
177-288	30 mm	71	—	15	A	± 10	± 1.5	1	3.2	8.6	£127.00
177-140	35 mm	71	—	15	A	± 10	± 1.5	1	3.2	8.6	£161.00
177-290	40 mm	71	—	15	A	± 10	± 1.5	1	3.2	8.6	£150.00
177-178	45 mm	85	—	15	A	± 10	± 1.5	1	3.7	7.6	£161.00
177-146	50 mm	85	—	20	A	± 20	± 1.5	1	3.7	12.6	£161.00
177-292	60 mm	112	—	20	A	± 20	± 1.5	1	3.7	12.6	£198.00
177-314	62 mm	112	—	20	A	± 20	± 1.5	1.5	3.7	12.6	£213.00
177-147	70 mm	112	—	20	A	± 20	± 1.5	1.5	3.7	12.6	£219.00
177-316	75 mm	125	—	25	A	± 20	± 1.5	1.5	4.2	16.6	£265.00
177-294	80 mm	125	—	25	A	± 20	± 1.5	1.5	4.2	16.6	£247.00
177-318	87 mm	140	—	25	A	± 20	± 1.5	1.5	4.2	16.6	£288.00
177-148	90 mm	140	—	25	A	± 20	± 1.5	1.5	4.2	16.6	£294.00
177-296	100 mm	160	—	25	A	± 20	± 1.5	2	4.2	16.6	£393.00
177-298	125 mm	210	168	38.1 (25.4)	B	± 20	± 2.5	2	5.3	27.5	£725.00
177-300	150 mm	235	187		B	± 20	± 2.5	2	5.3	27.5	£748.00
177-302	175 mm	260	215		B	± 20	± 2.5	2.5	5.3	27.5	£897.00
177-304	200 mm	311	244		B	± 20	± 2.5	2.5	5.3	27.5	£1420.00
177-306	225 mm	337	264		B	± 20	± 2.5	2.5	5.3	27.5	£1600.00
177-308	250 mm	362	290		B	± 20	± 2.5	3	5.3	27.5	£1730.00
177-310	275 mm	413	321		B	± 20	± 2.5	3	5.3	27.5	£1990.00
177-312	300 mm	438	340		B	± 20	± 2.5	3	5.3	27.5	£2430.00

*1 Actual diameter is marked in 0.001 mm increments.

*2 Cylindricity is defined as per JIS B 0621 Definitions and designations of geometrical deviations, Section 4.4 "Cylindricity." Cylindricity is measured using three cross-sections between the top and bottom face of a ring, namely, close to the face near each side and the centre.