

Holtest

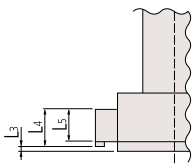
For easy and accurate measurement of inside diameters

Digimatic Holtest SERIES 468 — Three-point Internal Micrometers

MeasurLink ENABLED
Data Management Software by Mitutoyo

- Three-point internal micrometer with large LCD readout. (Character height 7.4 mm)
- Titanium-coated measuring pins provide excellent durability and impact resistance.
- Only 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.
- Measurements can be made close to the bottom of a blind hole.
- 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. (Refer to page A-3)
- An interface input tool is available for transferring measurement data, under keyboard control, directly to commercial spreadsheet software. (Refer to page A-5)
- Interchangeable-Head Sets (interchangeable measuring heads type) covering an extended measuring range using multiple heads and Non-interchangeable-Head Sets are available.
- For details of Setting Rings, refer to page C-47.

Range (mm)	L ₃ (mm)	L ₄ (mm)	L ₅ (mm)
6 - 12	2 or below	—	2.5
12 - 20	0.3 or below	5.6	3.5
20 - 30		8.3	5.2
30 - 50		13.0	10.0
50 - 100		17.0	14.0
100 - 300	12.4 or below	21.0	13.8



468-161

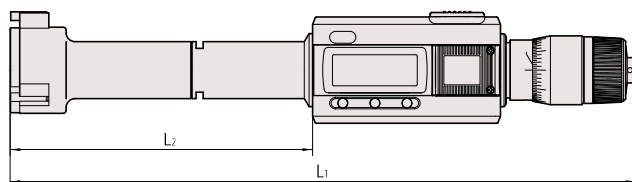


468-168



468-174

DIMENSIONS



Unit: mm

Range	L ₂ *	L ₁
6 - 8, 8 - 10, 10 - 12 mm	59	175 - 177
12 - 16, 16 - 20 mm	84	197.5 - 201.5
20 - 25, 25 - 30 mm	93	206.9 - 211.9
30 - 40, 40 - 50 mm	103.8	214.7 - 224.7
50 - 63, 62 - 75, 75 - 88, 87 - 100 mm	105.4	219.6 - 232.6
100 - 125, 125 - 150, 150 - 175, 175 - 200, 200 - 225, 225 - 250, 250 - 275, 275 - 300 mm	151.4	286.3 - 311.3

* L₂ is maximum depth of measurement possible.
Note: External view differs depending on measurement range.

MeasurLink ENABLED
Data Management Software by Mitutoyo

Products equipped with the measurement data output function can be connected to the measurement data network system MeasurLink (refer to page A-5 for details).

IP 65

These marks indicate that a product has successfully passed IP65-level testing, which is carried out by the independent German certification organization TÜV Rheinland.



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An inspection certificate is supplied as standard. Refer to page U-11 for details.

IP Codes

Level 6: Dustproof.

No ingress of dust allowed.

Level 5: Protected against water jets.

Water projected in jets against the enclosure from any direction shall have no harmful effects.

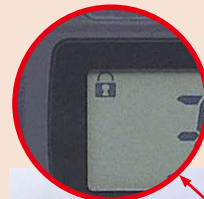


Technical Data

- Battery: SR44 (1 pc.), **938882**, for initial operational checks (standard accessory)
- Battery life: Approx. 1.2 years under normal use
- Scale type: Electromagnetic induction-type rotary encoder

Functions

- Zero-setting
- Origin restoration
- Data hold
- 2-point Preset
- Function lock (see illustration of lock symbol below)



- inch/mm readout (inch/mm models)
- Automatic power ON/OFF
- Error alarm
- Data output

Optional Accessories

- Refer to page A-27 for details.
- USB Input Tool Direct (2 m): **06AFM380B**
- Connecting cables for **U-WAVE-T**
For standard (160 mm): **02AZD790B**
For foot switch: **02AZE140B**

Optional Accessories

Shown mounted on stand using bracket



Mounting bracket
04AZB157

For details of Special-order Products,
refer to page C-49.

SPECIFICATIONS

Metric					
Order No.	Range*2 (mm)	Resolution (mm)	Maximum permissible error J_{MPE} (μm)*1	Optional Accessories	
				Extension rod	SPC cable
468-161	6 - 8	0.001	± 2 (within 2)	952322 (100 mm)	05CZA662 (1 m) 05CZA663 (2 m)
468-162	8 - 10				
468-163	10 - 12				
468-164	12 - 16				
468-165	16 - 20				
468-166	20 - 25				
468-167	25 - 30		± 3 (within 3)	952621 (150 mm)	
468-168	30 - 40				
468-169	40 - 50				
468-170	50 - 63				
468-171	62 - 75				
468-172	75 - 88				
468-173	87 - 100		± 4 (within 4)	952622 (150 mm)	
468-174	100 - 125				
468-175	125 - 150				
468-176	150 - 175				
468-177	175 - 200				
468-178	200 - 225				
468-179	225 - 250	± 5 (within 5)	952623 (150 mm)		
468-180	250 - 275				
468-181	275 - 300				

Inch/Metric					
Order No.	Range*2 (in)	Resolution	Maximum permissible error J_{MPE} (in)*1	Optional Accessories	
				Extension rod	SPC cable
468-261	0.275 - 0.35	0.00005 in/ 0.001 mm	± 0.0001 (within 0.0001)	952322 (100 mm)	05CZA662 (1 m) 05CZA663 (2 m)
468-262	0.35 - 0.425				
468-263	0.425 - 0.5				
468-264	0.5 - 0.65				
468-265	0.65 - 0.8				
468-266	0.8 - 1				
468-267	1 - 1.2				
468-268	1.2 - 1.6				
468-269	1.6 - 2				
468-270	2 - 2.5				
468-271	2.5 - 3				
468-272	3 - 3.5		± 0.0002 (within 0.0002)	952622 (150 mm)	
468-273	3.5 - 4				
468-274	4 - 5				
468-275	5 - 6				
468-276	6 - 7				
468-277	7 - 8	± 0.00025 (within 0.00025)			952623 (150 mm)
468-278	8 - 9				
468-279	9 - 10				
468-280	10 - 11				
468-281	11 - 12				

*1 Additionally, the difference in permissible error allowable is limited to a value within this range, as given in parentheses, and is measured with the entire measuring surface in contact with the object measured.

*2 The measurement range cannot be enlarged by measuring heads that are not standard-supplied (the accuracy is not guaranteed).
Note: Setting rings are optional.

Holtest

For easy and accurate measurement of inside diameters

Interchangeable-Head Sets

Metric				Inch / Metric			
Set Order No.	Range* (mm)	Content of set	Accessories (optional)	Set Order No.	Range* (in)	Content of set	Accessories (optional)
468-971	6 - 12	Display unit 6 - 12 mm	SPC cable with data switch 05CZA662 (1 m)	468-976	0.275 - 0.5	Display unit 0.275 - 0.5 in	SPC cable with data switch 05CZA662 (1 m)
		Measuring head 6 - 8 mm				Measuring head 0.275 - 0.35 in	
		8 - 10 mm				0.35 - 0.425 in	
		10 - 12 mm				0.425 - 0.5 in	
		Setting ring (ø8, ø10) 1 pc. each				Setting ring (0.35 in DIA., 0.425 in DIA.) 1 pc. each	
Extension rod (100 mm) 1 pc.	Extension rod (100 mm) 1 pc.						
Spanner 2 pcs.	Spanner 2 pcs.						
Hex wrench 1 pc.	Hex wrench 1 pc.						
Phillips screwdriver 1 pc.	Phillips screwdriver 1 pc.						
468-972	12 - 20	Display unit 12 - 20 mm	SPC cable with data switch 05CZA662 (1 m)	468-977	0.5 - 0.8	Display unit 0.5 - 0.8 in	SPC cable with data switch 05CZA662 (1 m)
		Measuring head 12 - 16 mm				Measuring head 0.5 - 0.65 in	
		16 - 20 mm				0.65 - 0.8 in	
		Setting ring (ø16) 1 pc.				Setting ring (0.65 in DIA.) 1 pc.	
		Extension rod (150 mm) 1 pc.				Extension rod (150 mm) 1 pc.	
Spanner 2 pcs.	Spanner 2 pcs.						
Hex wrench 1 pc.	Hex wrench 1 pc.						
Phillips screwdriver 1 pc.	Phillips screwdriver 1 pc.						
468-973	20 - 50	Display unit 20 - 50 mm	SPC cable with data switch 05CZA662 (1 m)	468-978	0.8 - 2	Display unit 0.8 - 2 in	SPC cable with data switch 05CZA662 (1 m)
		Measuring head 20 - 25 mm				Measuring head 0.8 - 1 in	
		25 - 30 mm				1 - 1.2 in	
		30 - 40 mm				1.2 - 1.6 in	
		40 - 50 mm				1.6 - 2 in	
Setting ring (ø25, ø40) 1 pc. each	Setting ring (1 in DIA., 1.6 in DIA.) 1 pc. each						
Extension rod (150 mm) 1 pc.	Extension rod (150 mm) 1 pc.						
Spanner 2 pcs.	Spanner 2 pcs.						
Hex wrench 1 pc.	Hex wrench 1 pc.						
Phillips screwdriver 1 pc.	Phillips screwdriver 1 pc.						
468-974	50 - 100	Display unit 50 - 100 mm	SPC cable with data switch 05CZA662 (1 m)	468-979	2 - 4	Display unit 2 - 4 in	SPC cable with data switch 05CZA662 (1 m)
		Measuring head 50 - 63 mm				Measuring head 2 - 2.5 in	
		62 - 75 mm				2.5 - 3 in	
		75 - 88 mm				3 - 3.5 in	
		87 - 100 mm				3.5 - 4 in	
Setting ring (ø62, ø87) 1 pc. each	Setting ring (2.5 in DIA., 3.5 in DIA.) 1 pc. each						
Extension rod (150 mm) 1 pc.	Extension rod (150 mm) 1 pc.						
Spanner 2 pcs.	Spanner 2 pcs.						
Hex wrench 1 pc.	Hex wrench 1 pc.						
Phillips screwdriver 1 pc.	Phillips screwdriver 1 pc.						
468-975	100 - 200	Display unit 100 - 200 mm	SPC cable with data switch 05CZA662 (1 m)	468-980	4 - 8	Display unit 4 - 8 in	SPC cable with data switch 05CZA662 (1 m)
		Measuring head 100 - 125 mm				Measuring head 4 - 5 in	
		125 - 150 mm				5 - 6 in	
		150 - 175 mm				6 - 7 in	
		175 - 200 mm				7 - 8 in	
Setting ring (ø125, ø175) 1 pc. each	Setting ring (5 in DIA., 7 in DIA.) 1 pc. each						
Extension rod (150 mm) 1 pc.	Extension rod (150 mm) 1 pc.						
Spanner 2 pcs.	Spanner 2 pcs.						
Hex wrench 1 pc.	Hex wrench 1 pc.						
Phillips screwdriver 1 pc.	Phillips screwdriver 1 pc.						

* The measurement range cannot be enlarged by measuring heads that are not standard-supplied (the accuracy is not guaranteed).



468-971

468-972

468-973

468-974



Setting rings are supplied as standard
(ø125, ø175) (Packed separately)
468-975

Optional Accessories

Refer to page A-27 for details.

- USB Input Tool Direct (2 m): **06AFM380B**
- Connecting cables for **U-WAVE-T**
For standard (160 mm): **02AZD790B**
For foot switch: **02AZE140B**

Non-Interchangeable-Head Sets

Metric					Inch / Metric				
Set Order No.	Range* ² (mm)	Content of set	Accessories (optional)		Set Order No.	Range* ² (in)	Content of set	Accessories (optional)	
			Extension rod	SPC cable				Extension rod	SPC cable
468-981	6 - 12	Display unit 6 - 8 mm 1 pc. 8 - 10 mm 1 pc. 10 - 12 mm 1 pc. Setting ring (ø8, ø10) 1 pc. each Spanner 2 pcs. Hex wrench 1 pc. Phillips screwdriver 1 pc.	100 mm 1 pc.		468-986	0.275 - 0.5	Display unit 0.275 - 0.35 in 1 pc. 0.35 - 0.425 in 1 pc. 0.425 - 0.5 in 1 pc. Setting ring (0.35 in DIA., 0.425 in DIA) 1 pc. each Spanner 2 pcs. Hex wrench 1 pc. Phillips screwdriver 1 pc.	100 mm 1 pc.	
468-982	12 - 25	Display unit 12 - 16 mm 1 pc. 16 - 20 mm 1 pc. 20 - 25 mm 1 pc. Setting ring (ø16, ø20) 1 pc. each Spanner 2 pcs. Hex wrench 1 pc. Phillips screwdriver 1 pc.	150 mm 2 pcs.* ¹		468-987	0.5 - 1	Display unit 0.5 - 0.65 in 1 pc. 0.65 - 0.8 in 1 pc. 0.8 - 1 in 1 pc. Setting ring (0.65 in DIA., 0.8 in DIA) 1 pc. each Spanner 2 pcs. Hex wrench 1 pc. Phillips screwdriver 1 pc.	150 mm 2 pcs.* ¹	
468-983	25 - 50	Display unit 25 - 30 mm 1 pc. 30 - 40 mm 1 pc. 40 - 50 mm 1 pc. Setting ring (ø30, ø40) 1 pc. each Spanner 1 pc. Hex wrench 1 pc. Phillips screwdriver 1 pc.	150 mm 1 pc.	SPC cable with data switch 05CZA662 (1 m) 05CZA663 (2 m)	468-988	1 - 2	Display unit 1 - 1.2 in 1 pc. 1.2 - 1.6 in 1 pc. 1.6 - 2 in 1 pc. Setting ring (1.2 in DIA., 1.6 in DIA) 1 pc. each Spanner 1 pc. Hex wrench 1 pc. Phillips screwdriver 1 pc.	150 mm 1 pc.	SPC cable with data switch 05CZA662 (1 m) 05CZA663 (2 m)
468-984	50 - 75	Display unit 50 - 63 mm 1 pc. 62 - 75 mm 1 pc. Setting ring (ø62) 1 pc. Spanner 1 pc. Hex wrench 1 pc. Phillips screwdriver 1 pc.	150 mm 1 pc.		468-989	2 - 3	Display unit 2 - 2.5 in 1 pc. 2.5 - 3 in 1 pc. Setting ring (2.5 in DIA) 1 pc. Spanner 1 pc. Hex wrench 1 pc. Phillips screwdriver 1 pc.	150 mm 1 pc.	
468-985	75 - 100	Display unit 75 - 88 mm 1 pc. 87 - 100 mm 1 pc. Setting ring (ø87) 1 pc. Spanner 1 pc. Hex wrench 1 pc. Phillips screwdriver 1 pc.	150 mm 1 pc.		468-990	3 - 4	Display unit 3 - 3.5 in 1 pc. 3.5 - 4 in 1 pc. Setting ring (3.5 in DIA) 1 pc. Spanner 1 pc. Hex wrench 1 pc. Phillips screwdriver 1 pc.	150 mm 1 pc.	

*1 Total 2 pcs. of extension rods: 1 pc. of Order No. **952621** (for measuring range 12 to 16 mm, 16 to 20 mm) and Order No. **952622** (for measuring range 20 to 25 mm).
Two extension rods cannot be connected due to the different mounting positions.

*2 The measurement range cannot be enlarged by measuring heads that are not standard-supplied (the accuracy is not guaranteed).



468-981



468-982



468-983



468-984



468-985

Optional Accessories

Refer to page A-27 for details.

- USB Input Tool Direct (2 m): **06AFM380B**
- Connecting cables for **U-WAVE-T**
For standard (160 mm): **02AZD790B**
For foot switch: **02AZE140B**

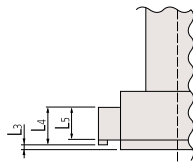
Holtest

For easy and accurate measurement of inside diameters

Holtest SERIES 368 — Three-point/Two-point Internal Micrometers

- Titanium-coated measuring pins on the three-point type (over 6 mm range models) provide excellent durability and impact resistance.
- Three-point bore micrometer with measuring range 6 mm or longer allows stable measurement through automatic centering.
- Measurement can be made close to the bottom of a blind hole.
- Deep holes can be measured by attaching an Extension Rod (optional) which is available on models over 6 mm (0.275 in) measuring range.
- Constant-force device allows repeatable measurement, regardless of operator's skill.
- For details of Setting Rings, refer to page C-47.

Range (mm)	L ₃ (mm)	L ₄ (mm)	L ₅ (mm)
2 - 6	—	—	2
6 - 12	2 or below	—	2.5
12 - 20	0.3 or below	5.6	3.5
20 - 30		8.3	5.2
30 - 50		13.0	10.0
50 - 100		17.0	14.0
100 - 300	12.4 or below	21.0	13.8



368-001
(Two-point contact model)



368-168



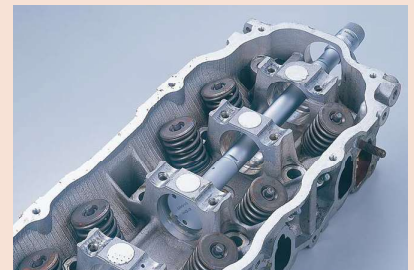
368-170



368-174



An inspection certificate is supplied as standard. Refer to page U-11 for details.



Typical application using an extension rod

For details of Special-order Products, refer to page C-49.

SPECIFICATIONS

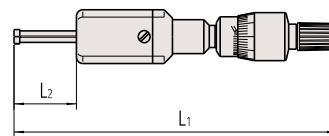
Metric					Inch				
Order No.	Range*2 (mm)	Graduation (mm)	Maximum permissible error J_{MPE} (μm)*1	Extension Rod (optional)	Order No.	Range*2 (in)	Graduation (in)	Maximum permissible error J_{MPE} (in)*1	Extension Rod (optional)
(Two-point)					(Two-point)				
368-001	2 - 2.5	0.001	± 2 (within 2)	—	368-021	0.08 - 0.1	0.0001	± 0.0001 (within 0.0001)	—
368-002	2.5 - 3				368-022	0.1 - 0.12			
368-003	3 - 4				368-023	0.12 - 0.16			
368-004	4 - 5				368-024	0.16 - 0.2			
368-005	5 - 6				368-025	0.2 - 0.24			
(Three-point)					(Three-point)				
368-161	6 - 8	0.005	± 3 (within 3)	952322 (100 mm)	368-261	0.275 - 0.35	0.0002	± 0.00015 (within 0.00015)	952322 (100 mm)
368-162	8 - 10				368-262	0.35 - 0.425			
368-163	10 - 12				368-263	0.425 - 0.5			
368-164	12 - 16				368-264	0.5 - 0.65			
368-165	16 - 20				368-265	0.65 - 0.8			
368-166	20 - 25				368-266	0.8 - 1			
368-167	25 - 30				368-267	1 - 1.2			
368-168	30 - 40				368-268	1.2 - 1.6			
368-169	40 - 50				368-269	1.6 - 2			
368-170	50 - 63				± 4 (within 4)	± 5 (within 5)			
368-171	62 - 75	368-271	2.5 - 3						
368-172	75 - 88	368-272	3 - 3.5						
368-173	87 - 100	368-273	3.5 - 4						
368-174	100 - 125	368-274	4 - 5						
368-175	125 - 150	368-275	5 - 6						
368-176	150 - 175	368-276	6 - 7						
368-177	175 - 200	368-277	7 - 8						
368-178	200 - 225	368-278	8 - 9						
368-179	225 - 250	± 6 (within 6)					368-279	9 - 10	± 0.0003 (within 0.0003)
368-180	250 - 275				368-280	10 - 11			
368-181	275 - 300				368-281	11 - 12			

*1 Additionally, the difference in permissible error allowable is limited to a value within this range, as given in parentheses, and is measured with the entire measuring surface in contact with the object measured.

*2 The measurement range cannot be enlarged by measuring heads that are not standard-supplied (the accuracy is not guaranteed).

Note: Setting rings are optional.

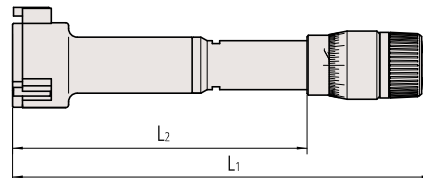
DIMENSIONS



Unit: mm

Range	L2	L1
2 - 2.5, 2.5 - 3 mm	12	103.5 - 104
3 - 4, 4 - 5, 5 - 6 mm	22	113 - 114

Note: External appearance differs depending on the measuring range.



Range	L2	L1
6 - 8, 8 - 10, 10 - 12 mm	59	102 - 104
12 - 16, 16 - 20 mm	82	126 - 130
20 - 25, 25 - 30 mm	94	137 - 142
30 - 40, 40 - 50 mm	102	145 - 155
50 - 63, 62 - 75, 75 - 88, 87 - 100 mm	105	150 - 163
100 - 125, 125 - 150, 150 - 175, 175 - 200, 200 - 225, 225 - 250, 250 - 275, 275 - 300 mm	161	227 - 252

Note: External appearance differs depending on the measuring range.

Holtest

For easy and accurate measurement of inside diameters

Holtest SERIES 368 — Three-point/Two-point Internal Micrometers

Non-Interchangeable-Head Sets

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

Inch			
Set Order No.	Range* (in)	Graduation (in)	Content of Set
(Two-point) 368-926	0.08 - 0.12	0.0001	Micrometer head unit 0.08 - 0.1 in 1 pc. 0.1 - 0.12 in 1 pc. Setting ring (0.1 in DIA) 1 pc. Hex wrench 1 pc.
368-927	0.12 - 0.28		Micrometer head unit 0.12 - 0.16 in 1 pc. 0.16 - 0.2 in 1 pc. 0.2 - 0.24 in 1 pc. 0.24 - 0.28 in 1 pc. Setting ring (0.16 in DIA, 0.24 in DIA) 1 pc. each Hex wrench 1 pc.
(Three-point) 368-916	0.275 - 0.5		Micrometer head unit 0.275 - 0.35 in 1 pc. 0.35 - 0.425 in 1 pc. 0.425 - 0.5 in 1 pc. Setting ring (0.35 in DIA, 0.5 in DIA) 1 pc. each Extension rod (100 mm) 1 pc. Spanner 2 pcs. Hex wrench 1 pc.
368-917	0.5 - 0.8		Micrometer head unit 0.5 - 0.65 in 1 pc. 0.65 - 0.8 in 1 pc. Setting ring (0.65 in DIA) 1 pc. Extension rod (150 mm) 1 pc. Spanner 2 pcs. Hex wrench 1 pc.
368-918	0.8 - 2		Micrometer head unit 0.8 - 1 in 1 pc. 1 - 1.2 in 1 pc. 1.2 - 1.6 in 1 pc. 1.6 - 2 in 1 pc. Setting ring (1 in DIA, 1.6 in DIA) 1 pc. each Extension rod (150 mm) 1 pc. Spanner 2 pcs. Hex wrench 1 pc.
368-919	2 - 4	0.0002	Micrometer head unit 2 - 2.5 in 1 pc. 2.5 - 3 in 1 pc. 3 - 3.5 in 1 pc. 3.5 - 4 in 1 pc. Setting ring (2.5 in DIA, 3.5 in DIA) 1 pc. each Extension rod (150 mm) 1 pc. Spanner 2 pcs. Hex wrench 1 pc.
368-920	4 - 8	Micrometer head unit 4 - 5 in 1 pc. 5 - 6 in 1 pc. 6 - 7 in 1 pc. 7 - 8 in 1 pc. Setting ring (5 in DIA, 7 in DIA) 1 pc. each Extension rod (150 mm) 1 pc. Spanner 2 pcs. Hex wrench 1 pc.	

* The measurement range cannot be enlarged by measuring heads that are not standard-supplied (the accuracy is not guaranteed).



368-906



368-907



368-911



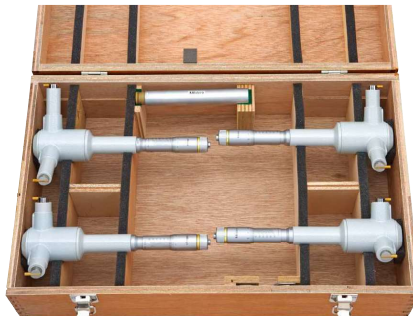
368-912



368-913



368-914



Setting rings are supplied as standard
($\varnothing 125$, $\varnothing 175$) (Packed separately)

368-915

Holtest

For easy and accurate measurement of inside diameters

Holtest (Type II) SERIES 368 — Three-point Internal Micrometers

- Affordable, entry-level Holtest.
- Same accuracy as the titanium-coated Holtest models.
- For details of Setting Rings, refer to page C-47.
- Constant-force device allows repeatable measurement, regardless of operator's skill.

Range (mm)	L ₃ (mm)	L ₅ (mm)
12 - 20	2.6 or below	3.5
20 - 30		5.2
30 - 50	3.4 or below	10
50 - 100		14
100 - 300	19.6 or below	13.8



- Deep holes can be measured by attaching an Extension Rod (optional).



368-769



368-770



368-774

SPECIFICATIONS

Metric Individual				
Order No.	Range* ² (mm)	Graduation (mm)	Maximum permissible error J_{MPE} (μm)* ¹	Extension Rod (optional)
368-764	12 - 16	0.005	±3 (within 3)	952621 (150 mm)
368-765	16 - 20			
368-766	20 - 25			
368-767	25 - 30			
368-768	30 - 40			
368-769	40 - 50			
368-770	50 - 63		±4 (within 4)	952622 (150 mm)
368-771	62 - 75			
368-772	75 - 88			
368-773	87 - 100			
368-774	100 - 125	±5 (within 5)	952623 (150 mm)	
368-775	125 - 150			
368-776	150 - 175	±6 (within 6)	952623 (150 mm)	
368-777	175 - 200			
368-778	200 - 225			
368-779	225 - 250			
368-780	250 - 275			
368-781	275 - 300			

Inch Individual				
Order No.	Range* ² (in)	Graduation (in)	Maximum permissible error J_{MPE} (in)* ¹	Extension Rod (optional)
368-864	0.5 - 0.65	0.0002	±0.00015 (within 0.00015)	952621 (150 mm)
368-865	0.65 - 0.8			
368-866	0.8 - 1			
368-867	1 - 1.2			
368-868	1.2 - 1.6			
368-869	1.6 - 2			
368-870	2 - 2.5		±0.0002 (within 0.0002)	952622 (150 mm)
368-871	2.5 - 3			
368-872	3 - 3.5			
368-873	3.5 - 4			
368-874	4 - 5	±0.00025 (within 0.00025)	952623 (150 mm)	
368-875	5 - 6			
368-876	6 - 7	±0.0003 (within 0.0003)	952623 (150 mm)	
368-877	7 - 8			
368-878	8 - 9			
368-879	9 - 10			
368-880	10 - 11			
368-881	11 - 12			

*1 Additionally, the difference in permissible error allowable is limited to a value within this range, as given in parentheses, and is measured with the entire measuring surface in contact with the object measured.

*2 The measurement range cannot be enlarged by measuring heads that are not standard-supplied (the accuracy is not guaranteed).

Note: Setting rings are optional.



An inspection certificate is supplied as standard. Refer to page U-11 for details.



For details of Special-order Products, refer to page C-49.

DIMENSIONS

Range	L ₂	L ₁
12 - 16, 16 - 20	82	126 - 130
20 - 25, 25 - 30	94	137 - 142
30 - 40, 40 - 50	102	145 - 155
50 - 63, 62 - 75, 75 - 88, 87 - 100	105	150 - 163
100 - 125, 125 - 150, 150 - 175, 175 - 200	161	227 - 252
200 - 225, 225 - 250, 250 - 275, 275 - 300		

Note: External appearance differs depending on the measuring range.

Non-Interchangeable-Head Sets

Metric				Inch			
Order No.	Range* (mm)	Graduation (mm)	Content of Set	Order No.	Range* (in)	Graduation (in)	Content of Set
368-991	12 - 20	0.005	Micrometer head unit	368-995	0.5 - 0.8	0.0002	Micrometer head unit
			12 - 16 mm 1 pc.				0.5 - 0.65 in 1 pc.
			16 - 20 mm 1 pc.				0.65 - 0.8 in 1 pc.
			Setting ring (ø16) 1 pc.				Setting ring (0.65 in DIA.) 1 pc.
Extension rod (150 mm) 1 pc.	Extension rod (150 mm) 1 pc.						
Spanner 2 pcs.	Spanner 2 pcs.						
Hex wrench 1 pc.	Hex wrench 1 pc.						
368-992	20 - 50	0.005	Micrometer head unit	368-996	0.8 - 2	0.0002	Micrometer head unit
			20 - 25 mm 1 pc.				0.8 - 1 in 1 pc.
			25 - 30 mm 1 pc.				1 - 1.2 in 1 pc.
			30 - 40 mm 1 pc.				1.2 - 1.6 in 1 pc.
			40 - 50 mm 1 pc.				1.6 - 2 in 1 pc.
Setting ring (ø25, ø40) 1 pc. each	Setting ring (1 in DIA., 1.6 in DIA.) 1 pc. each						
Extension rod (150 mm) 1 pc.	Extension rod (150 mm) 1 pc.						
Spanner 2 pcs.	Spanner 2 pcs.						
Hex wrench 1 pc.	Hex wrench 1 pc.						
368-993	50 - 100	0.005	Micrometer head unit	368-997	2 - 4	0.0002	Micrometer head unit
			50 - 63 mm 1 pc.				2 - 2.5 in 1 pc.
			62 - 75 mm 1 pc.				2.5 - 3 in 1 pc.
			75 - 88 mm 1 pc.				3 - 3.5 in 1 pc.
			87 - 100 mm 1 pc.				3.5 - 4 in 1 pc.
Setting ring (ø62, ø87) 1 pc. each	Setting ring (2.5 in DIA., 3.5 in DIA.) 1 pc. each						
Extension rod (150 mm) 1 pc.	Extension rod (150 mm) 1 pc.						
Spanner 2 pcs.	Spanner 2 pcs.						
Hex wrench 1 pc.	Hex wrench 1 pc.						
368-994	100 - 200	0.005	Micrometer head unit	368-998	4 - 8	0.0002	Micrometer head unit
			100 - 125 mm 1 pc.				4 - 5 in 1 pc.
			125 - 150 mm 1 pc.				5 - 6 in 1 pc.
			150 - 175 mm 1 pc.				6 - 7 in 1 pc.
			175 - 200 mm 1 pc.				7 - 8 in 1 pc.
			Setting ring (ø125, ø175) 1 pc. each				Setting ring (5 in DIA., 7 in DIA.) 1 pc. each
Extension rod (150 mm) 1 pc.	Extension rod (150 mm) 1 pc.						
Spanner 2 pcs.	Spanner 2 pcs.						
Hex wrench 1 pc.	Hex wrench 1 pc.						

* The measurement range cannot be enlarged by measuring heads that are not standard-supplied (the accuracy is not guaranteed).



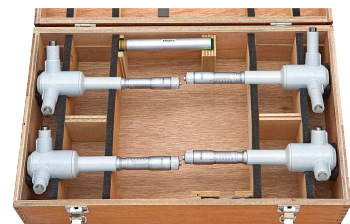
368-991



368-992



368-993



Setting rings are supplied as standard (ø125, ø175) (Packed separately)

368-994

Holtest

For easy and accurate measurement of inside diameters

ABSOLUTE Borematic SERIES 568 — ABSOLUTE Digimatic Snap-Open Bore Gages

MeasurLink[®] ENABLED
Data Management Software by Mitutoyo

MeasurLink[®] ENABLED
Data Management Software by Mitutoyo

Products equipped with the measurement data output function can be connected to the measurement data network system MeasurLink (refer to page A-5 for details).



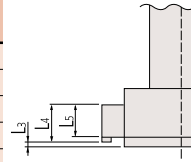
An inspection certificate is supplied as standard. Refer to page U-11 for details.

ABSOLUTE[™]

- A snap-type digital display, inside-diameter measuring instrument allows quick and easy measurement with lever operation.
- Titanium-coated measuring pins provide excellent durability and impact resistance.
- Three-Point contact measuring head enables highly repeatable measurement data to be obtained.
- Built-in ABS (absolute) scale with absolute origin eliminates the need for origin setting each time power is turned on. In addition, reliability has improved due to elimination of overspeed errors.
- Equipped with GO/NO-GO judgment function, which is enabled when the upper and lower limits are set. In addition, the GO/NO-GO judgment result can be zoomed.

- Dual HOLD function buttons, optimally located, enable high operability.
- 330° rotatable display unit for easy reading at any angle.
- Measurement can be made close to the bottom of a blind hole.

Range (mm)	L3 (mm)	L4 (mm)	L5 (mm)
6 - 12	2 or below	—	2.5
12 - 20	0.3 or below	5.6	3.5
20 - 30		8.3	5.2
30 - 50		13.0	10
50 - 125		17.0	14



- Deep holes can be measured by attaching an Extension Rod (optional).



Extension Rod (optional)

- Digimatic output port enables inclusion in a statistical process control or networked measurement system. (Refer to page A-3 for details)
- 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. (Refer to page A-5 for details)
- Interchangeable-Head Sets (interchangeable measuring heads type) covering an extended measuring range using multiple heads and Non-interchangeable-Head Sets are available.
- For details of Setting Rings, refer to page C-47.



Large LCD

Character height of 11 mm (1.5 times the character area of conventional 8.5 mm products).



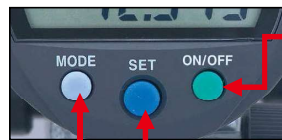
Function Lock

Ensures reliability of measurement by locking the settings to prevent preset function settings from being changed by mistake.



Three large buttons

The three large-button design employed by ID-N/ID-B, the ABSOLUTE coolant proof Digimatic indicators, enables easier and simpler operation.



- **MODE** (ABS measurement system)
Tolerance judgment setting
Function lock setting
- **SET** (INC measurement system)
Zero-setting (INC measurement system)
- **ON/OFF** (Power ON/OFF)
Switches between the ABS (absolute) and INC (incremental) measurement modes

Technical Data

- Resolution: 0.001 mm or 0.00005 in/0.001 mm
- Response speed: Infinite
- Battery: SR44 (1 pc.), **938882**, for initial operational checks (standard accessory)
- Scale type: Electrostatic capacitance type absolute encoder
- Battery life: Approx. 5,000 hours in continuous use



Functions

- GO/NO-GO judgment
- GO/NO-GO judgment zoom
- 2-Point Preset
- Zero-setting
- Data hold, Error alarm
- Low battery voltage alert
- Data output
- Function Lock
- 330° rotary display
- inch/mm conversion (inch/mm models)

For details of Custom-ordered Products, refer to page C-49.

Optional Accessories

Refer to page A-28 for details

- USB Input Tool Direct (2 m): **06AFM380F**
- Connecting cables for **U-WAVE-T**
For standard (160 mm): **02AZD790F**
For foot switch: **02AZE140F**

SPECIFICATIONS

Metric		Individual			
Order No.	Range*2 (mm)	Maximum permissible error J_{MPE} (μm)*1	Mass (g)	Accessories (optional)	
				Extension Rod	SPC cable
568-361	6 - 8	± 5 (within 5)	480	952322 (100 mm)	
568-362	8 - 10		485		
568-363	10 - 12		485		
568-364	12 - 16		475		
568-365	16 - 20		480		
568-366	20 - 25	± 6 (within 6)	540	905338 (1 mm)	
568-367	25 - 30		555		
568-368	30 - 40		565		
568-369	40 - 50		610		
568-370	50 - 63		730		
568-371	62 - 75		740		
568-372	75 - 88		790		
568-373	87 - 100		800		
568-374	100 - 113		900		
568-375	112 - 125		910		

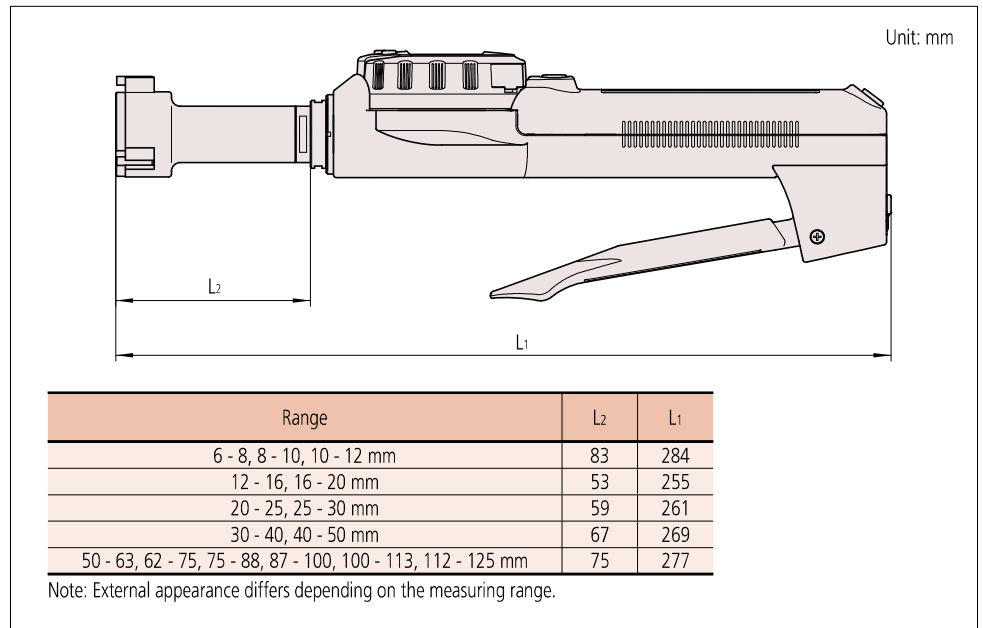
Inch / Metric		Individual			
Order No.	Range*2 (in)	Maximum permissible error J_{MPE} (in)*1	Mass (g)	Extension Rod (optional)	
				Extension Rod	SPC cable
568-461	0.275 - 0.35	± 0.00025 (within 0.00025)	480	952322 (100 mm)	
568-462	0.35 - 0.425		485		
568-463	0.425 - 0.5		485		
568-464	0.5 - 0.65		475		
568-465	0.65 - 0.8		480		
568-466	0.8 - 1	± 0.0003 (within 0.0003)	540	905338 (1 mm)	
568-467	1 - 1.2		555		
568-468	1.2 - 1.6		565		
568-469	1.6 - 2		610		
568-470	2 - 2.5		730		
568-471	2.5 - 3		740		
568-472	3 - 3.5		790		
568-473	3.5 - 4		800		
568-474	4 - 4.5		900		
568-475	4.5 - 5		910		

*1 Additionally, the difference in permissible error allowable is limited to a value within this range, as given in parentheses, and is measured with the entire measuring surface in contact with the object measured.

*2 The measurement range cannot be enlarged by measuring heads that are not standard-supplied (the accuracy is not guaranteed).

Note: Setting rings are optional.

DIMENSIONS



Holtest

For easy and accurate measurement of inside diameters

MeasurLink ENABLED
Data Management Software by Mitutoyo

Products equipped with the measurement data output function can be connected to the measurement data network system MeasurLink (refer to page A-5 for details).

ABSOLUTE Borematic SERIES 568 — ABSOLUTE Digimatic Snap-Open Bore Gages

MeasurLink ENABLED
Data Management Software by Mitutoyo

Interchangeable-Head Bore Gage Sets

Metric			
Order No.	Range (mm)	Content of Set	
568-924	6 - 12	Display unit	1 pc.
		Measuring head	
		6 - 8 mm	1 pc.
		8 - 10 mm	1 pc.
		10 - 12 mm	1 pc.
		Attachment	1 pc.
568-925	12 - 25	Setting ring (ø8, ø10)	1 pc. each
		Spanner	3 pcs.
		Display unit	1 pc.
		Measuring head	
		12 - 16 mm	1 pc.
		16 - 20 mm	1 pc.
568-926	25 - 50	20 - 25 mm	1 pc.
		Attachment	2 pcs.
		Setting ring (ø16, ø20)	1 pc. each
		Spanner	2 pcs.
		Display unit	1 pc.
		Measuring head	
568-927	50 - 100	25 - 30 mm	1 pc.
		30 - 40 mm	1 pc.
		40 - 50 mm	1 pc.
		Attachment	1 pc.
		Setting ring (ø30, ø40)	1 pc. each
		Spanner	2 pcs.

Inch / Metric			
Order No.	Range (in)	Content of Set	
568-928	0.275 - 0.5	Display unit	1 pc.
		Measuring head	
		0.275 - 0.35 in	1 pc.
		0.35 - 0.425 in	1 pc.
		0.425 - 0.5 in	1 pc.
		Attachment	1 pc.
568-929	0.5 - 1	Setting ring (0.35 in DIA, 0.425 in DIA)	1 pc. each
		Spanner	3 pcs.
		Display unit	1 pc.
		Measuring head	
		0.5 - 0.65 in	1 pc.
		0.65 - 0.8 in	1 pc.
568-930	1 - 2	0.8 - 1 in	1 pc.
		Attachment	2 pcs.
		Setting ring (0.65 in DIA, 0.8 in DIA)	1 pc. each
		Spanner	2 pcs.
		Display unit	1 pc.
		Measuring head	
568-936	2 - 4	1 - 1.2 in	1 pc.
		1.2 - 1.6 in	1 pc.
		1.6 - 2 in	1 pc.
		Attachment	1 pc.
		Setting ring (1.2 in DIA, 1.6 in DIA)	1 pc. each
		Spanner	2 pcs.

Non-Interchangeable-Head Snap-Open Bore Gage Sets

Each set includes complete gages (display units and measuring heads for each size).

Metric			
Order No.	Range (mm)	Content of Set	
568-955	6 - 12	Display unit	
		6 - 8 mm	1 pc.
		8 - 10 mm	1 pc.
		10 - 12 mm	1 pc.
		Setting ring (ø8, ø10)	1 pc. each
		Spanner	3 pcs.
568-956	12 - 25	Display unit	
		12 - 16 mm	1 pc.
		16 - 20 mm	1 pc.
		20 - 25 mm	1 pc.
		Setting ring (ø16, ø20)	1 pc. each
		Spanner	2 pcs.
568-957	25 - 50	Display unit	
		25 - 30 mm	1 pc.
		30 - 40 mm	1 pc.
		40 - 50 mm	1 pc.
		Setting ring (ø30, ø40)	1 pc. each
		Spanner	2 pcs.
568-958	50 - 75	Display unit	
		50 - 63 mm	1 pc.
		62 - 75 mm	1 pc.
		Setting ring (ø62)	1 pc.
		Spanner	2 pcs.
		Display unit	
568-959	75 - 100	75 - 88 mm	1 pc.
		87 - 100 mm	1 pc.
		Setting ring (ø87)	1 pc.
		Spanner	2 pcs.
		Display unit	
		Measuring head	

Inch / Metric			
Order No.	Range (in)	Content of Set	
568-965	0.275 - 0.5	Display unit	
		0.275 - 0.35 in	1 pc.
		0.35 - 0.425 in	1 pc.
		0.425 - 0.5 in	1 pc.
		Setting ring (0.35 in DIA, 0.425 in DIA)	1 pc. each
		Spanner	3 pcs.
568-966	0.5 - 1	Display unit	
		0.5 - 0.65 in	1 pc.
		0.65 - 0.8 in	1 pc.
		0.8 - 1 in	1 pc.
		Setting ring (0.65 in DIA, 0.8 in DIA)	1 pc. each
		Spanner	2 pcs.
568-967	1 - 2	Display unit	
		1 - 1.2 in	1 pc.
		1.2 - 1.6 in	1 pc.
		1.6 - 2 in	1 pc.
		Setting ring (1.2 in DIA, 1.6 in DIA)	1 pc. each
		Spanner	2 pcs.
568-968	2 - 3	Display unit	
		2 - 2.5 in	1 pc.
		2.5 - 3 in	1 pc.
		Setting ring (2.5 in DIA)	1 pc.
		Spanner	2 pcs.
		Display unit	
568-969	3 - 4	3 - 3.5 in	1 pc.
		3.5 - 4 in	1 pc.
		Setting ring (3.5 in DIA)	1 pc.
		Spanner	2 pcs.
		Display unit	
		Measuring head	



568-924



568-926



568-955



568-957



568-959