

Holtest

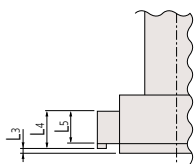
For easy and accurate measurement of inside diameters

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

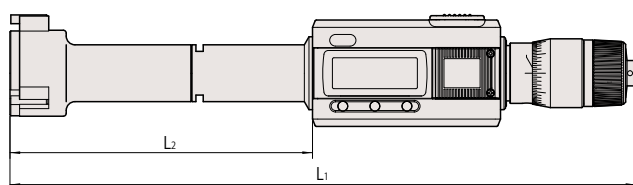


468-168



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.

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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.

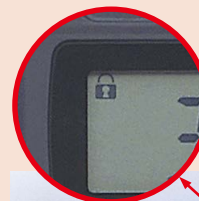


Technical Data

- 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 <i>J</i> _{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		±3 (within 3)	952621 (150 mm)	
468-163	10 - 12			952622 (150 mm)	
468-164	12 - 16				
468-165	16 - 20				
468-166	20 - 25				
468-167	25 - 30				
468-168	30 - 40				
468-169	40 - 50				
468-170	50 - 63				
468-171	62 - 75				
468-172	75 - 88				
468-173	87 - 100				
468-174	100 - 125				
468-175	125 - 150				
468-176	150 - 175				
468-177	175 - 200				
468-178	200 - 225				
468-179	225 - 250				
468-180	250 - 275				
468-181	275 - 300				
		±4 (within 4)			
		±5 (within 5)			
		±6 (within 6)			

Inch / Metric					
Order No.	Range*2 (in)	Resolution	Maximum permissible error <i>J</i> _{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		±0.00015 (within 0.00015)	952621 (150 mm)	
468-263	0.425 - 0.5			952622 (150 mm)	
468-264	0.5 - 0.65				
468-265	0.65 - 0.8			952623 (150 mm)	
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				
468-273	3.5 - 4				
468-274	4 - 5	0.0001 in/ 0.001 mm	±0.00025 (within 0.00025)		
468-275	5 - 6		±0.0003 (within 0.0003)		
468-276	6 - 7				
468-277	7 - 8				
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.

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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 1 pc.	SPC cable with data switch 05CZA662 (1 m) 05CZA663 (2 m)	468-976	0.275 - 0.5	Display unit 0.275 - 0.5 in 1 pc.	SPC cable with data switch 05CZA662 (1 m) 05CZA663 (2 m)
		Measuring head 6 - 8 mm 1 pc.				Measuring head 0.275 - 0.35 in 1 pc.	
		8 - 10 mm 1 pc.				0.35 - 0.425 in 1 pc.	
		10 - 12 mm 1 pc.				0.425 - 0.5 in 1 pc.	
		Setting ring (ø8, ø10) 1 pc. each				Setting ring (0.35 in DIA., 0.425 in DIA.) 1 pc. each	
468-972	12 - 20	Extension rod (100 mm) 1 pc.		468-977	0.5 - 0.8	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.	
468-973	20 - 50	Display unit 12 - 20 mm 1 pc.		468-978	0.8 - 2	Display unit 0.5 - 0.8 in 1 pc.	
		Measuring head 12 - 16 mm 1 pc.				Measuring head 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.	
468-974	50 - 100	Spanner 2 pcs.		468-979	2 - 4	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 20 - 50 mm 1 pc.		468-980	4 - 8	Display unit 0.8 - 2 in 1 pc.	
		Measuring head 20 - 25 mm 1 pc.				Measuring head 2 - 2.5 in 1 pc.	
		25 - 30 mm 1 pc.				2.5 - 3 in 1 pc.	
		30 - 40 mm 1 pc.				3 - 3.5 in 1 pc.	
		40 - 50 mm 1 pc.				3.5 - 4 in 1 pc.	
468-976	12 - 20	Setting ring (ø25, ø40) 1 pc. each		468-977	0.5 - 0.8	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.	
468-977	20 - 50	Display unit 50 - 100 mm 1 pc.		468-978	0.8 - 2	Display unit 2 - 4 in 1 pc.	
		Measuring head 50 - 63 mm 1 pc.				Measuring head 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.	
468-978	50 - 100	Setting ring (ø62, ø87) 1 pc. each		468-979	2 - 4	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.	
468-979	100 - 200	Display unit 100 - 200 mm 1 pc.		468-980	4 - 8	Display unit 4 - 8 in 1 pc.	
		Measuring head 100 - 125 mm 1 pc.				Measuring head 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.	
468-980	100 - 200	Setting ring (ø125, ø175) 1 pc. each		468-980	4 - 8	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.	SPC cable with data switch 05CZA662 (1 m) 05CZA663 (2 m)	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.	SPC cable with data switch 05CZA662 (1 m) 05CZA663 (2 m)
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.		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.	
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**