

# Micrometer

The origin of Mitutoyo's trustworthy brand of small tool instruments

## Outside Micrometers SERIES 102

- Heat-insulated frame.
- Cut-away frame (behind anvil) for measuring in hard-to-reach places.
- A ratchet stop or a friction thimble for a constant measuring force.
- Measuring faces: Carbide

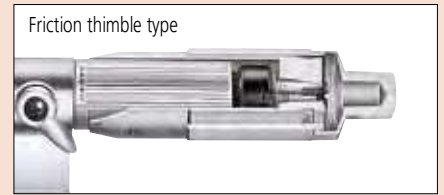


Ratchet stop  
102-301



An inspection certificate is supplied as standard. Refer to page X for details.

Common specifications:  
Standard accessories: Reference bar, 1 pc (except for measuring range 0-25mm models)  
Spanner (301336), 1 pc (for measuring range 0-25mm/25-50mm models)  
Spanner (200877), 1 pc (for measuring range 50-75mm/75-100mm models)

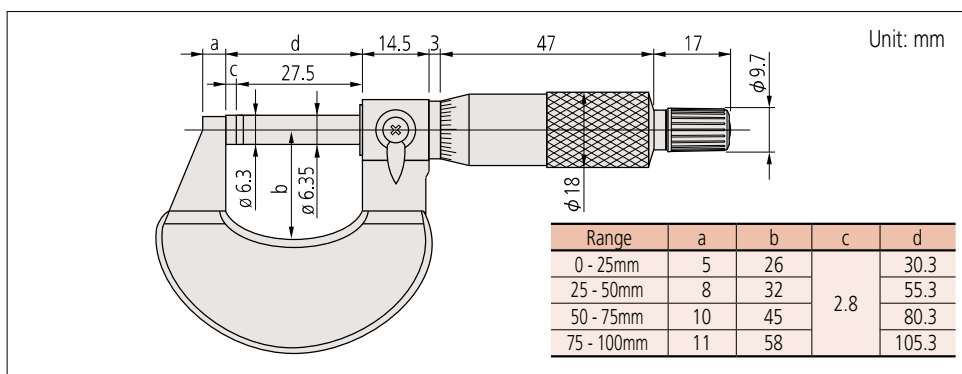


## SPECIFICATIONS

Metric						
Order No.	Range	Graduation	Accuracy	Flatness	Parallelism	Constant-force device
102-301	0 - 25mm	0.01mm	±2μm	0.6μm	2μm	Ratchet stop
102-311		0.001mm	±1μm	0.3μm	1μm	friction thimble
102-313						
102-302	25 - 50mm	0.01mm	±2μm	0.6μm	2μm	Ratchet stop
102-312		0.001mm	±1μm	0.3μm	1μm	
102-303	50 - 75mm	0.01mm	±2μm	0.6μm	2μm	Ratchet stop
102-304	75 - 100mm		±3μm		3μm	

Metric		
Order No.	Range	Models included
102-911-40	0 - 100mm (Four micrometers per set)	<ul style="list-style-type: none"> <li>• 102-301</li> <li>• 102-302</li> <li>• 102-303</li> <li>• 102-304</li> <li>• 3 micrometer standards</li> </ul>

## DIMENSIONS



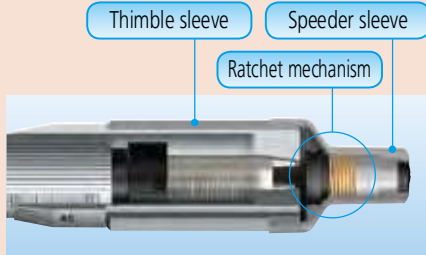


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### Technical Data

Flatness: 0.6µm/.000024"  
 Parallelism: 2µm/.00008"  
 Measuring force: 5-10N  
 Standard accessories: Reference bar, 1 pc  
 (except for measuring range 0-25mm (0-1") models)  
 Spanner (301336), 1 pc

### Internal structure

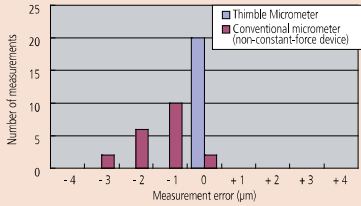


### Greatly improved accuracy and repeatability

#### Measurement results of one-handed operation

A beginner performed a test by measuring a workpiece 20 times using a conventional micrometer and a Ratchet Thimble Micrometer.

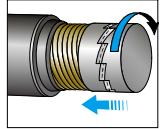
Table showing results of test



## Ratchet Thimble Micrometer SERIES 102 — Outside Micrometers

- More accurate in one-handed operation: inexperienced operators measure significantly more accurately with the new micrometer.
- Ratchet function works both from the thimble and the speeder.

- Rotating the thimble/speeder when the workpiece is between the anvil and spindle causes the ratchet mechanism to operate and apply a constant measuring force to the workpiece.
- Clearly audible ratchet operation for reassurance that measurement is being performed at constant, preset force.
- The speeder is always available for quick rotation of spindle.
- A simple mechanism, which requires neither parts maintenance nor special technique, is employed in the constant-force device.
- Heat-insulated frame.
- Measuring faces: Carbide



### SPECIFICATIONS

Metric				
Order No.	Range	Graduation	Accuracy	Mass
102-701	0 - 25mm	0.01mm	±2µm	180g
102-707		0.001mm		
102-702	25 - 50mm	0.01mm	±2µm	270g
102-708		0.001mm		

Inch				
Order No.	Range	Graduation	Accuracy	Mass
102-717	0 - 1"	.0001"	±.0001"	180g
102-718	1" - 2"	.0001"		270g

### DIMENSIONS

