

# Micrometer

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

## ABSOLUTE Digimatic Micrometers SERIES 227 — with Adjustable Measuring Force

**MeasurLink<sup>®</sup> ENABLED**  
Data Management Software by Mitutoyo

- Digimatic micrometer dedicated to applications requiring a constant/low measuring force such as measuring wire, paper, and plastic/rubber parts.
- Ratchet mechanism in the thimble applies constant force to workpiece.
- Compact and easy to handle.
- Measuring force is adjustable (in steps) to suit various kinds of workpieces.
- High-accuracy measurement can be performed even by unskilled operators due to the repeatability of the automatically applied measuring force.
- Non-rotating spindle.
- Measuring faces: Carbide.
- In addition to standard specification, a non-rotating spindle type tooth thickness micrometer (refer to page B-35 for details) is also available.



## SPECIFICATIONS

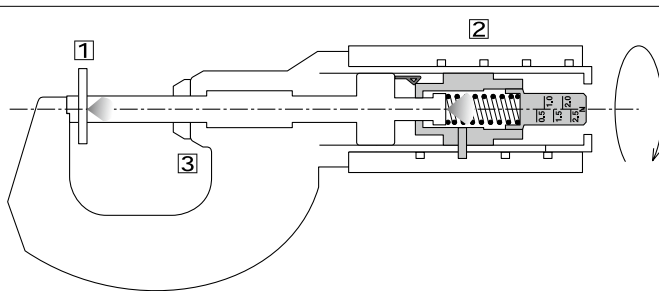
Metric								
Order No.	Measuring force (N)	Range (mm)	Resolution (mm)	Maximum permissible error $J_{MPE}$ ( $\mu\text{m}$ )	Measuring force (N)	Accuracy of the selected measuring force* (N)	Repeatability of measuring force* (N)	Mass (g)
227-201-20	0.5 - 2.5 (adjustable)	0 - 15	0.001	$\pm 2$	0.5, 1.0, 1.5, 2.0, 2.5	$\pm (0.1 + \text{the selected measuring force}/10)$	within 0.1	300
227-203-20		15 - 30						380
227-205-20	2 - 10 (adjustable)	0 - 10			345			
227-206-20		10 - 20			425			
227-207-20		20 - 30			2, 4, 6, 8, 10	$\pm (0.4 + \text{the selected measuring force}/10)$	within 0.4	415

\* These values are guaranteed when micrometer is used in a horizontal orientation (within  $\pm 3$  degrees)

Inch / Metric								
Order No.	Measuring force (N)	Range (in)	Resolution	Maximum permissible error $J_{MPE}$ (in)	Measuring force (N)	Accuracy of the selected measuring force* (N)	Repeatability of measuring force* (N)	Mass (g)
227-211-20	0.5 - 2.5 (adjustable)	0 - 0.6	0.00005 in / 0.001 mm	$\pm 0.0001$	0.5, 1.0, 1.5, 2.0, 2.5	$\pm (0.1 + \text{the selected measuring force}/10)$	within 0.1	300
227-213-20		0.6 - 1.2						380
227-215-20	2 - 10 (adjustable)	0 - 0.4			345			
227-216-20		0.4 - 0.8			425			
227-217-20		0.8 - 1.2			2, 4, 6, 8, 10	$\pm (0.4 + \text{the selected measuring force}/10)$	within 0.4	415

\* These values are guaranteed when micrometer is used in a horizontal orientation (within  $\pm 3$  degrees)

## Constant-Measuring-Force Mechanism



- 1 Measuring force is generated by the action of trapping a workpiece between the spindle face and the anvil.
- 2 The constant-force unit applies the specified measuring force.
- 3 When the preset measuring force is reached, the count on the LCD is automatically held and the hold symbol appears. (To cancel the hold, reverse the thimble more than 1/10 revolution and press the hold button.)

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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).

**ABSOLUTE<sup>™</sup>**

## Technical Data

- Flatness: 0.3  $\mu\text{m}/0.000012$  in
- Parallelism: 2  $\mu\text{m}/0.00008$  in
- Measurement posture: horizontal orientation only (Recommended spindle inclination: within  $\pm 3^\circ$ )
- SR44 (1 pc.), **938882**, for initial operational checks (standard accessory)
- Battery life: Approx. 5 years under normal use
- Length standard: Electrostatic capacity absolute sensor
- Standard accessories: Reference bar, 1 pc. (except for measuring range 0 to 15 mm (0 to 0.6 in)/ 0 to 10 mm (0 to 0.4 in) models)  
Screwdriver (**210183**), 1 pc.

## Functions

Adjustable measuring force mechanism  
Origin point setting  
Zero setting  
Hold  
Function Lock  
Auto power off  
Measurement data output  
Error alarm

## Optional Accessories

- Connecting cables  
1 m: **05CZA662**  
2 m: **05CZA663**
- USB Input Tool Direct  
**USB-ITN-B** (2 m): **06AFM380B**
- Connecting cables for **U-WAVE-T**  
160 mm: **02AZD790B**  
For foot switch: **02AZE140B**  
Refer to page A-27 for details.

### Adjustable Measuring Force

To preset the measuring force, adjust the measuring force setting scale on the thimble with the screwdriver supplied.



### DIMENSIONS

