

Micrometer

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

ABSOLUTE Digimatic Micrometers SERIES 227 — with Adjustable Measuring Force

- 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 workpiece.
- 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



227-201

SPECIFICATIONS

| Metric | | | | | | | | |
|-----------|-----------|-----------------|------------|-----------|---------------------------|--|--|------|
| Order No. | Range | Measuring force | Resolution | Accuracy* | Measuring force | Accuracy of the selected measuring force* ¹ | Repeatability of measuring force* ¹ | Mass |
| 227-201 | 0 - 15mm | 0.5N - 2.5N | 0.001mm | ±2μm | 0.5, 1.0, 1.5, 2.0, 2.5 N | ± (0.1+ the selected measuring force/10) N | within 0.1 N | 300g |
| 227-203 | 15 - 30mm | | | | | | | 380g |
| 227-205 | 0 - 10mm | 2N - 10N | 0.001mm | ±2μm | 2, 4, 6, 8, 10 N | ± (0.4+ the selected measuring force/10) N | within 0.4 N | 340g |
| 227-206 | 10 - 20mm | | | | | | | 425g |
| 227-207 | 20 - 30mm | | | | | | | 415g |

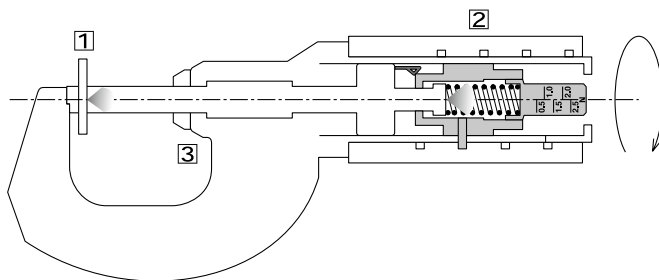
* Excluding quantizing error

| Inch/Metric | | | | | | | | |
|-------------|------------|-----------------|-----------------|-----------|---------------------------|--|--|------|
| Order No. | Range | Measuring force | Resolution | Accuracy* | Measuring force | Accuracy of the selected measuring force* ¹ | Repeatability of measuring force* ¹ | Mass |
| 227-211 | 0 - .6" | 0.5N - 2.5N | .00005"/0.001mm | ±.0001" | 0.5, 1.0, 1.5, 2.0, 2.5 N | ± (0.1+ the selected measuring force/10) N | within 0.1 N | 300g |
| 227-213 | .6" - 1.2" | | | | | | | 380g |
| 227-215 | 0 - .4" | 2N - 10N | .00005"/0.001mm | ±.0001" | 2, 4, 6, 8, 10 N | ± (0.4+ the selected measuring force/10) N | within 0.4 N | 340g |
| 227-216 | .4" - .8" | | | | | | | 425g |
| 227-217 | .8" - 1.2" | | | | | | | 415g |

* Excluding quantizing error

* 1: These values are guaranteed used in a horizontal orientation (within ±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.)

ABSOLUTE™ Absolute Encoder

Technical Data

Flatness: 0.3μm/0.00012"
 Parallelism: 2μm/0.0008"
 Measurement posture: horizontal orientation only
 (Recommended spindle inclination: within ±3°)
SR44 (1 pc), **938882**, for initial operational checks (standard accessory)
 Battery life: Approx. 3 years under normal use
 (1 year for No.227-203, 206, 207, 213, 216, 217)
 Length standard: Electrostatic capacity absolute sensor
 Standard accessories: Reference bar, 1 pc
 (except for measuring range 0-15mm (0-6") / 0-10mm (0-4") models)
 Screwdriver (210183), 1 pc

Functions

Adjustable measuring force mechanism
 Hold
 Origin point setting
 ABS measurement system
 Low voltage alarm
 Data output
 Presetting (No.227-203, 206, 207, 213, 216, 217)

Optional accessories

Connecting cables
 1m: **937387**
 2m: **965013**
USB Input Tool Direct
USB-ITN-E (2m): **06ADV380E**
 Connecting cables for **U-WAVE-T**
02AZD790E 160mm
 For foot switch: **02AZE140E**
 Refer to page B-68 for details.

Adjustable measuring force

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



DIMENSIONS

