Coolant Proof Micrometers
MDC-MX Series
Twice as Long Battery Life and Drastic Improvement in Measurement Efficiency

Small Tool Instruments and Data Management

Bulletin No. 2145

Mitutoyo

Mitutoyo Corporation
80th Anniversary
Since 1934
Coolant Proof Micrometers
MDC-MX Series

Twice as Long Battery Life as before and Drastic Improvement in Measurement Efficiency

- Approximately 2.4-year span of battery life
- Newly-improved nonslip surface with raised dots
- Ratchet thimble type*
  * Refer to the "SPECIFICATIONS" section on page 4.
- Oilproof material employed for plastic parts
- Compatibility with statistical process control and measurement systems

www.mitutoyo.com/mdc

View the MDC Coolant Proof Micrometer in Action
1. Digital micrometer standard type

2. Ratchet Thimble type that has improved operability with one hand

3. Plain Function, Simple design
Approximately 2.4-year span of battery life has been achieved, thus reducing the inconvenience of replacing the battery.

A nonslip surface with raised dots is employed for the frame cover and surface panel to achieve stable handhold measurement.

The ratchet thimble mechanism helps to ensure repeatable results by transmitting microvibrations along the spindle to the contact face to provide a constant measuring force and encourage good contact with the workpiece. The ratchet works from the thimble as well as the speeder so it is always easy to use – even when making measurements onehanded.

The sound of the ratchet provides the user with a sense of confidence and the speeder enables the rapid spindle feed needed when measuring widely different dimensions.

Oilproof materials are used in all plastic components.

Two types of constant-force devices are available: Ratchet Stop and Ratchet Thimble.
Ratchet Thimble type that has improved operability with one hand

Technical Data
• Resolution: .00005"/0.001mm
• Quantizing error: ±1 is not included.
• Flatness: .000012"/0.3 μm
• Dust/water protection level: IP65 (IEC60529) *2
• Measuring system: Electromagnetic induction type rotary sensor
• Battery: SR44 (1 pc), 938882, for initial operational checks (standard accessory)
• Battery life: Approx. 2.4 years under normal use
• Standard accessories: Reference bar, 1 pc (except for 0-25mm (0-1") models), Spanner (301336), 1 pc
* Rustproofing shall be applied after use.

An inspection certificate is supplied as standard. (50mm/2" or less range model)

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

IP Codes
Level 6: Dust-proof.
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.

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Functions

• **Origin point setting** (ABS measurement system)
  Resets the ABS origin at the current spindle position to the minimum value of the measuring range and switches to ABS mode.

• **Zero-setting** (INC measurement system)
  A brief press on the ZERO/ABS button sets display to zero at the current spindle position and switches to the incremental (INC) measuring mode. A longer press resets to the ABS measuring mode.

• **Hold**
  Pressing the HOLD button freezes the current value in the display. This function is useful for preserving a measurement in situations of poor visibility where the instrument must be moved away from the workpiece before the reading can be recorded.

• **Data output**
  Models equipped with this function have an output port for transferring measurement data to a Statistical Process Control (SPC) system.

• **Auto power ON/OFF**:
  The reading on the LCD disappears after this instrument is idle for about 20 minutes, but the reading and measurement mode are retained. Turning the spindle causes the reading to reappear.

• **Error alert**:
  In case of an overflow on the LCD or a computing error, an error message appears on the LCD, and the measuring function stops. This prevents an instrument from giving an erroneous reading. Also, when the battery voltage drops to a certain level, the low-battery-voltage alarm annunciator appears well before the micrometer becomes unusable.

• **Function lock**
  This function allows the ORIGIN (origin point setting) function and the ZERO (zero-setting) function to be locked to prevent these points being reset accidentally.

### Optional accessories

(Only for models with data output function)

- **Printer**
  Digimatic mini-processor DP1-VR
  Connecting cables with output switch
  05CZA662 SPC cable w/data switch 40" (1m)
  05CZA663 SPC cable w/data switch 80" (2m)

- **USB Input Tool Direct**
  USB-ITN-B: 06ADV380B (2m)

- **Wireless interface**
  02AZD730D U-WAVE transmitter IP67 type
  02AZD880D U-WAVE transmitter buzzer type
  02AZD810D U-WAVE receiver
  02AZD790B U-WAVE connecting cable
  02AZE140B Connecting cable for footswitch

### DIMENSIONS

#### Ratchet stop type

<table>
<thead>
<tr>
<th>Range</th>
<th>L</th>
<th>a</th>
<th>e</th>
<th>f</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-25mm</td>
<td>0</td>
<td>25</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>25-50mm</td>
<td>25</td>
<td>32</td>
<td>9.8</td>
<td></td>
</tr>
<tr>
<td>50-75mm</td>
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<td>47</td>
<td>12.6</td>
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<tr>
<td>75-100mm</td>
<td>75</td>
<td>60</td>
<td>14</td>
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#### Ratchet thimble type

<table>
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<th>Range</th>
<th>L</th>
<th>a</th>
<th>e</th>
<th>f</th>
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<td>75</td>
<td>60</td>
<td>14</td>
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</tbody>
</table>

Unit: mm
Plain Function, Simple design

- Approximately 2.4-year span of battery life has been achieved, thus reducing the inconvenience of replacing the battery.
- Simple design, such as not incorporating data output, achieves low cost.
- Provided only with an origin-set button for easy origin setting.
- Two types of constant-force devices are available: Ratchet Stop and Friction Thimble.

Technical Data

- Measuring force: 5 - 10N
- Quantizing error: ±1 is not included.
- Measuring system: Electromagnetic induction type rotary sensor
- Battery: SR44 (1 pc), 938882, for initial operational checks (standard accessory)
- Battery life: Approx. 2.4 years under normal use

SPECIFICATIONS

<table>
<thead>
<tr>
<th>Metric</th>
<th>Order No.</th>
<th>Range</th>
<th>Resolution</th>
<th>Accuracy</th>
<th>constant-force device</th>
<th>Mass</th>
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<tr>
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<td>293-821-30</td>
<td>0-25mm</td>
<td>0.001mm</td>
<td>±2μm</td>
<td>With ratchet thimble</td>
<td>270g</td>
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<table>
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<th>Inch/Metric</th>
<th>Order No.</th>
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<th>Mass</th>
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<tr>
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<td>.00005&quot;/0.001mm</td>
<td>±.0001&quot;</td>
<td>With ratchet thimble</td>
<td>270g</td>
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<tr>
<td></td>
<td>293-832-30</td>
<td></td>
<td></td>
<td></td>
<td>With friction thimble</td>
<td>275g</td>
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</tbody>
</table>

DIMENSIONS

Ratchet stop type

- Unit: mm

- An inspection certificate is supplied as standard.
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MDC-MX Series

Note: All information regarding our products, and in particular the illustrations, drawings, dimensional and performance data contained in this printed matter as well as other technical data are to be regarded as approximate average values. We therefore reserve the right to make changes to the corresponding designs. The stated standards, similar technical regulations, descriptions and illustrations of the products were valid at the time of printing. In addition, the latest applicable version of our General Trading Conditions will apply. Only quotations submitted by ourselves may be regarded as definitive.

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