

■ Certificate of inspection attached

- A Certificate of Inspection is supplied with each instrument shipped that guarantees the quality of the product. Please note that this certificate cannot be used to obtain a Certificate of Calibration because the purchase date cannot be specified.
- Please let us know if a Certificate of Calibration is required when ordering a micrometer. This certificate is supplied, for a fee, and certifies the traceability of the purchased instrument and of the standard that was used to calibrate that instrument.
- Certificates of inspection and calibration are issued after processing each instrument by special measuring equipment, developed using Mitutoyo's advanced measuring technologies, which feature very small uncertainties of measurement.



| CERTIFICATE OF INSPECTION / 検査成績書 | | Issue No./発行No. | |
|---|-------------------------|---------------------------|--|
| 1. Item/対象製品 | | 08H310A8 | |
| Product name/品名 | Digital Micrometer | Measuring range/測定範囲 | |
| Model/型号 | MDE-25MAJ | Resolution/最小表示量 | |
| Code No./コードNo. | 293-140 | Serial No./製造No. | |
| 2. Result of Inspection/検査結果 | | 12345678 | |
| Inspection standard: Mitutoyo standard (J) | | Standard temperature/標準温度 | |
| Performance/性能 | | 20 °C | |
| | | [μm] | |
| Flatness of measuring face / 平面度 | Arvli / フラット | Permissible error / 許容値 | Measured value / 測定値 |
| | Splitle / スリット | 0.3 | 0.0 |
| | | 0.3 | 0.0 |
| Parallelism of measuring faces / 平行度 | | 1.0 | 0.8 |
| | | [μm] | |
| Measuring length / 測定長さ | Permissible error / 許容値 | Error / 偏差 | Uncertainty of measurement / 測定の不確かさ |
| 0.00 | 0 | 0 | U = ** (k=2) |
| 4.00 | 0 | 0 | |
| 10.40 | ± 1 | 0 | |
| 15.20 | 0 | 0 | |
| 18.60 | 0 | 0 | |
| 25.00 | +1 | 0 | |
| Traceable to: NMI/AST by JCSS No.6030/NIST via No.R21/268634-03, No.R21/262688-00 & R21/262133-99 | | | |
| PTB via No.3268/PTB02, No.4386/PTB03 | | | |
| 3. Judgment / 総合判定 | | Passed / 合格 | この検査結果は、当社にて行われたものです。この検査結果は、当社にて行われたものです。校正証明書は別途発行いたします。 |
| 4. QC Manager | | J. Watabe | |
| Mitutoyo Corporation | | | |



SPC Data Output
293-140 (mm)



SPC Data Output
293-141 (mm)



SPC Data Output
293-180 (inch/mm)



SPC Data Output
293-181 (inch/mm)

Common specifications

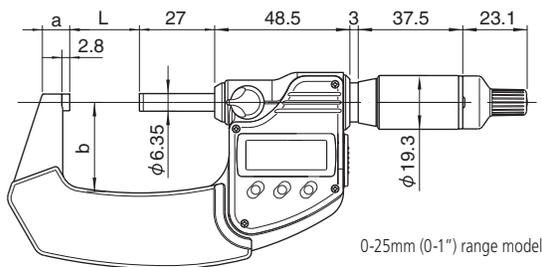
| | |
|---------------------------|---|
| Functions | Origin point setting (ABS length measurement system) Zero setting (INC length measurement system) Hold Function lock Auto power ON/OFF Data output *1 Error alarm |
| Degree of protection | IP65 (IEC60529)*2 |
| Measuring force | 7-12N |
| Power supply | Button type silver oxide battery (SR44), 1 piece |
| Position detection system | Electromagnetic rotary sensor *3 |
| Battery life | Approx. 3 years under normal conditions |
| Standard accessories | Reference bar, 1 piece (not for 0-25mm models) Button type silver oxide battery (SR44, No. 938882), 1 piece Spanner (No. 301336), 1 piece |

*1: Applicable only to 293-140/293-141/293-180/293-181

*2: This product is not waterproof. Rustproofing shall be applied after use.

*3: Patent registered (in USA), Patent pending (in Japan, Europe, and China)

Dimensions



Unit: mm

| | L | a | b |
|-----------------|------------|-----|----|
| 0-25mm (0-1") | 0 | 9 | 25 |
| 25-50mm (1-2")* | 25 (25.4)* | 9.8 | 32 |

Selective specifications

| | Order No. | Measuring range | Resolution | Instrumental error* | Flatness of measuring faces | Parallelism of measuring faces | Weight |
|-------------------------|-----------|-----------------|-----------------|---------------------|-----------------------------|--------------------------------|--------|
| SPC data output | 293-140 | 0-25mm | 0.001mm | ±1μm | 0.3μm or less | 1μm or less | 265g |
| | 293-141 | 25-50mm | | | | | 325g |
| Without SPC data output | 293-145 | 0-25mm | 0.001mm | ±1μm | 0.3μm or less | 1μm or less | 265g |
| | 293-146 | 25-50mm | | | | | 325g |
| SPC data output | 293-180 | 0-1"/0-25mm | .00005"/0.001mm | ±.00005"/±1μm | 0.3μm or less | 1μm or less | 265g |
| | 293-181 | 1-2"/25-50mm | | | | | 325g |
| Without SPC data output | 293-185 | 0-1"/0-25mm | .00005"/0.001mm | ±.00005"/±1μm | 0.3μm or less | 1μm or less | 265g |
| | 293-186 | 1-2"/25-50mm | | | | | 325g |

*Quantization error of ±1 count excluded

Functions

| | |
|--|---|
| Origin point setting (ABS length measurement system) | Pressing the ORIGIN button resets the ABS origin at the current spindle position. |
| Zero setting (INC length 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 when the instrument must be moved away from the workpiece before the reading can be recorded. A second press unfreezes the display ready for another measurement. |
| 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. |
| Auto power ON/OFF | The reading on the LCD disappears after this instrument is idle for approx. 20 minutes, but the origin point is retained. Turning the spindle causes the reading on the LCD to reappear. |
| Data output | Models equipped with this function have an output port for transferring measurement data to a Statistical Process Control (SPC) system. |
| Error alarm | 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. |