Micrometer

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

Digimatic Outside Micrometers SERIES 293

MeasurLink® ENABLED
Data Management Software by Mitutoyo

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).

- Equipped with measurement data output function, it can form part of a statistical process control system or networked measurement system.
- Constant-force device: ratchet stop

293-582

- Interface Input Tools are available that enable the conversion of measurement data to keyboard signals that are then directly input to cells in off-the-shelf spreadsheet software such as Excel. (Refer to page A-13 for details.)
- Measuring faces: Carbide.

SPECIFICATIONS

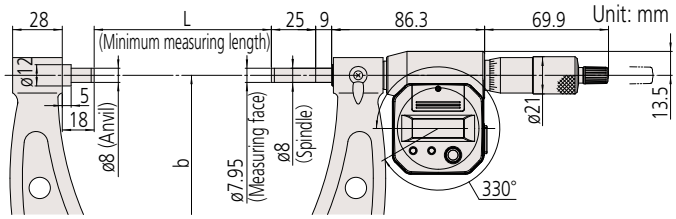
Metric

Order No.	Range (mm)	Maximum permissible error J_{MPE} (µm)	Flatness (µm)	Parallelism (µm)
293-582	300 - 325	±6	0.6	5
293-583	325 - 350			
293-584	350 - 375			
293-585	375 - 400	±7		6
293-586	400 - 425			
293-587	425 - 450			
293-588	450 - 475	±8		
293-589	475 - 500			7

Inch / Metric

Order No.	Range (in)	Maximum permissible error J_{MPE} (in)	Flatness (in)	Parallelism (in)
293-782	12 - 13	±0.0003	0.000024	0.0002
293-783	13 - 14			
293-784	14 - 15			
293-785	15 - 16	±0.00035		0.00024
293-786	16 - 17			
293-787	17 - 18			
293-788	18 - 19	±0.0004		
293-789	19 - 20			0.00028

DIMENSIONS



Range (mm)	L	b
300 - 325	300	187
325 - 350	325	199
350 - 375	350	212
375 - 400	375	224
400 - 425	400	236
425 - 450	425	248
450 - 475	450	261
475 - 500	475	273

Technical Data

- Resolution: 0.001 mm or 0.0001 in/0.001 mm
- Measuring force: 10 to 15 N
- SR44 (2 pcs.), **938882**, for initial operational checks (standard accessory)
- Battery life: Approx. 1.8 years under normal use
- Length standard: Electromagnetic rotary sensor
- Standard accessories: Reference bar, 1 pc. Spanner (**200154**), 1 pc.

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.
Function lock:
This function allows the PRESET (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 about 20 minutes, but the reading and measurement mode are retained. Turning the spindle causes the reading 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.

Optional Accessories

- Connecting Cables
- Recommended cables:
  L-Type (does not interfere with operating the thimble.)
  1 m: **04AZB512**
  2 m: **04AZB513**
- Straight type (may interfere with operating the thimble.)
  1 m: **959149**
  2 m: **959150**

Refer to page A-27 for detailed information about recommended cables.

SERIES 293 — Digimatic Outside Micrometers

- Extended battery life of approximately 2.4 years.
- Simple design and excluding the data output function keeps price economical.
- One switch operation (Origin Set) for easy use.
- Equipped with Ratchet Stop for constant measuring force.
- Measuring faces: Carbide.

293-821-30

An inspection certificate is supplied as standard. Refer to page U-11 for details.

Technical Data

- SR44 (1 pc.), **938882**, for initial operational checks (standard accessory)
- Length standard: Electromagnetic rotary sensor
- Battery life: Approx. 2.4 years under normal use
- Spanner (**301336**), 1 pc.

Functions

Zero-setting:
A brief press on the ORIGIN button sets display to zero at the current spindle position (zero-setting), which allows easy comparison measurement.
Auto power ON / OFF:
The reading on the LCD disappears after this instrument is idle for about 20 minutes, but the reading is retained. Turning the spindle causes the reading on the LCD to reappear.

SPECIFICATIONS

Metric With ratchet stop/Measuring force: 5 to 10 N

Order No.	Range (mm)	Resolution (mm)	Maximum permissible error J_{MPE} (µm)
293-821-30	0 - 25	0.001	±2

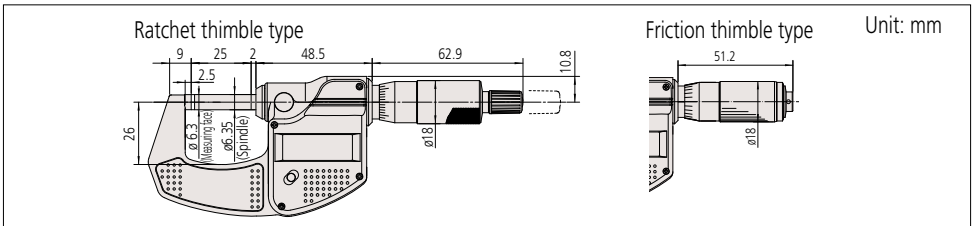
Inch / Metric With ratchet stop/Measuring force: 5 to 10 N

Order No.	Range (in)	Resolution	Maximum permissible error J_{MPE} (in)
293-831-30	0 - 1	0.00005 in/ 0.001 mm	±0.0001

Inch / Metric With friction thimble/Measuring force: 5 to 10 N

Order No.	Range (in)	Resolution	Maximum permissible error J_{MPE} (in)
293-832-30	0 - 1	0.00005 in/ 0.001 mm	±0.0001

DIMENSIONS



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.

Mitutoyo reserves the right to change any or all aspects of any product specification, including prices, designs and service content, without notice.