High-speed and High-accuracy Digimatic Micrometer QuantuMike

SERIES 293 — IP65 Micrometer with 2 mm/rev Spindle Feed

- The spindle moves four times faster than that of the standard micrometer, enabling faster, easier measurement even when it is repeated many times over.
- The approach speed warning function can detect collision with a workpiece at excessive speed, helping inexperienced users obtain reliable and accurate measurement results.
- The calculation function can calculate offsets added to measurement results before they are passed to a machine. This eliminates errors and the effort needed for calculation, helping reduce the number of rejected machined items.
- The Calibration alert function helps with effective measuring instrument management.
- Bidirectional serial communication supported.

293-140-40

SPECIFICATIONS

Metric

Code No.	Range (mm)	Resolution (mm)	Measuring force*1 (N)	Maximum permissible error J_{MPE} (µm)	Flatness (µm)	Parallelism (µm)	Mass (g)
With SPC data output							
293-140-40	0 - 25	0.001	7 to 12	±1	0.3	1	265
293-141-40	25 - 50						325
293-142-40	50 - 75			±2		2	465
293-143-40	75 - 100						620

Inch / Metric

Code No.	Range (in)	Resolution	Measuring force*1 (N)	Maximum permissible error J_{MPE} (in)	Flatness (in)	Parallelism (in)	Mass (g)
With SPC data output							
293-180-40	0 - 1	0.00005 in/ 0.001 mm	7 to 12	±0.00005	0.000012	0.00004	265
293-181-40	1 - 2						325
293-182-40	2 - 3			±0.0001		0.00008	465
293-183-40	3 - 4						620

- Dust/Water protection level: IP65 (IEC60529)*2
- Power source: **CR2032** battery (1 pc.), included as standard (for operational checks)
- Battery life: Approx. 2 years under normal use
- Position detection method: Electromagnetic rotary sensor
- Standard accessories: Setting standard, 1 pc. (except for 0 to 25 mm (0 to 1 in) models), Spanner (**301336**), 1 pc.

*1 Measuring force when using the speeder ratchet (Apply a measuring force in the same condition as for measurement and then set the origin.)
*2 Rustproofing shall be applied after use.

MeasurLink® ENABLED
Data Management Software by Mitutoyo

U-WAVE fit

IP65

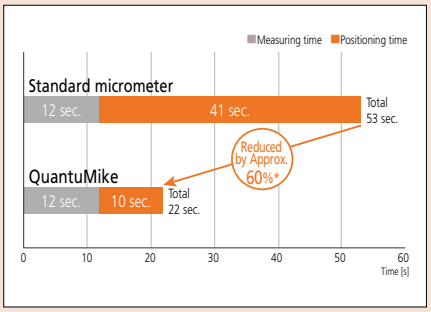
Dust- and Water-Protected
TÜVRheinland CERTIFIED
www.tuv.com ID 1111264795

PROPRIETARY INSPECTION CERTIFICATE

DIGIMATIC S1

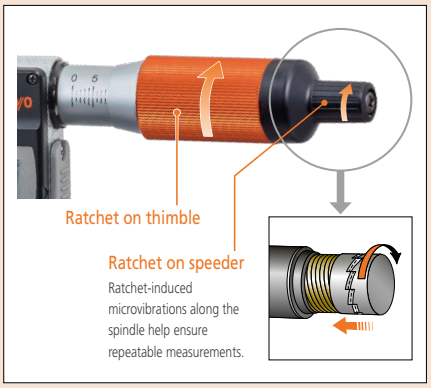
Measurement example

Comparison of time needed to measure a 6-stepped workpiece (with one hand)



* According to Mitutoyo's comparison test data for measuring time on typical workpieces.

Ratchet thimble mechanism



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Functions

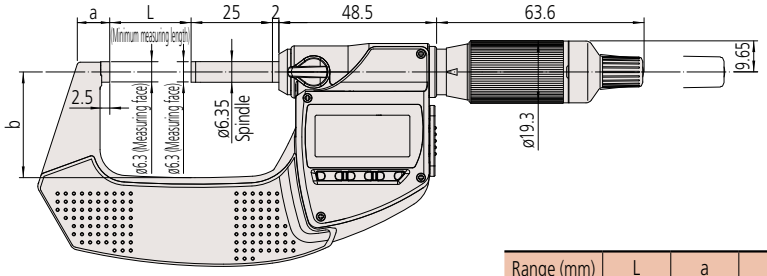
Preset (ABS measurement system):
The measurement origin can be preset to any value within the display range for convenience in measuring.
Zero-setting (INC measurement system):
The display can be zeroed at any position of the spindle, making comparison measurement easier.
Returning to the absolute-measurement mode is easily accomplished.
Hold:
The function that holds the display of value is useful when it is difficult to see the measured value at the measurement point.
When the function is cancelled, the previous zero-set point or a measured value with reference to the origin is displayed.
Calibration alert:
This function gives an alert when the instrument is approaching its calibration date and again on the actual calibration due date, helping to ensure better measuring instrument management by preventing missed calibrations.
Approach speed warning:
Reduces variation in measurement values and improves reliability of measurements.
Tolerance judgment:
The function determines whether a measured value is within the range between the upper and lower tolerance limits and displays the result with a tolerance judgment mark.
Function lock:
Functions such as preset or zero-set can be locked to avoid inadvertently changing the origin position.
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.
Key customization:
Frequently used functions can be assigned to buttons and called back easily, improving work efficiency.
Measurement data output:
Measurement data can be output, allowing easy incorporation of this instrument into a statistical process control or measurement system.
Error display:
In the unlikely event of a display overflow or calculation error, an error message is displayed and measurement stops. Measurement cannot continue until the error is corrected.
Also, if the battery voltage drops below a certain point, the battery indicator will turn on before measurement becomes impossible, warning the user that the battery needs to be replaced.

Optional Accessories

Code No.	Type	Description
264-020	—	USB Input Tool Series USB Keyboard Signal Conversion Type **IT-020U**
06AGL111	SA	Connection cable (1 m)
06AGL121	SA	Connection cable (2 m)
06AGQ001A	SA	USB Input Tool Direct (2 m)
264-622	IP67	**U-WAVE-TM**
264-623	Buzzer	**U-WAVE-TM**
264-626	IP67	**U-WAVE-TMB**
264-627	Buzzer	**U-WAVE-TMB**
02AZF960	IP67	Connecting unit for **U-WAVE-TM/TMB**

DIMENSIONS

Unit: mm



Range (mm)	L	a	b
0 - 25	0	9	25
25 - 50	25	9.8	32.5
50 - 75	50	12.6	47
75 - 100	75	14	60

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