

MICROMETER MDH

HIGH ACCURACY AND HIGH RESOLUTION DIGITAL MICROMETER

SMALL TOOL INSTRUMENTS
AND DATA MANAGEMENT



Digital step: 0.1 μm

High accuracy and high resolution digital micrometer

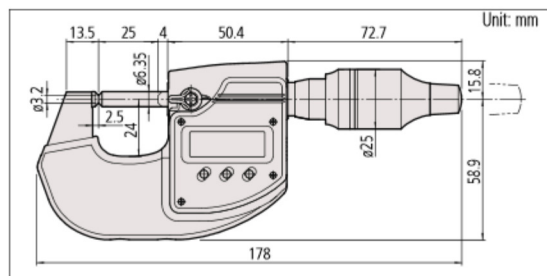
- Enabling 0.1 μ m resolution measurement, this micrometer is ideal for customers who need to make highly accurate measurements with a hand-held tool.
- The High-Accuracy Digimatic Micrometer utilizes Mitutoyo's innovative 0.1 μ m resolution ABS ABSOLUTE rotary sensor^{*1} and high-accuracy screw machining technology to reduce the instrumental error to $\pm 0.5\mu$ m, delivering higher accuracy without sacrificing operability.
*1. Patent pending in Japan, the United States of America, the European Union, and China.
- A highly rigid frame and high-performance constant-force mechanism^{*2} enable more stable measurement, while the clicks emitted while the workpiece is being measured assures the operator that measurement is proceeding normally.
*2. Patent pending in Japan, the United States of America, the European Union, and China.
- Body heat transferred to the instrument is reduced by a (removable) heat shield, minimizing the error caused by thermal expansion of the frame when performing handheld measurements.
- The ABS ABSOLUTE rotary sensor^{*3} eliminates the need to perform origin setting each time the power is turned on, letting you start measuring straight away. With no possibility of overspeed errors, the High-Accuracy Digimatic Micrometer also delivers a higher level of reliability.
*3. Patent pending in Japan, the United States of America, the European Union, and China.
- The High-Accuracy Digimatic Micrometer has a range of features to enable flexible measurement, including switchable resolution (0.0001mm/0.0005mm), function lock and preset.

Specifications

	Metric	Inch/Metric
Code No.	293-100	293-130
Measuring range	0 - 25 mm	0 - 1"
Resolution	0.0001 mm / 0.0005 mm (switchable)	0.000005" / 0.00002" / 0.0001 mm / 0.0005 mm (switchable)
Instrumental error (20°C) ^{*4}	$\pm 0.5 \mu$ m	± 0.00002 "
Measuring surface	$\varnothing 3.2$ mm	
Measuring force	7 bis 9 N	
Measuring system	Electromagnetic induction type ABS rotary sensor	
Mass	400 g (440 g with heat shield attached)	
Power supply	Lithium battery (CR2032) x 1	
Battery life	Approx. two years when used under normal conditions	

*4. Includes quantization error of ± 1 count.

Dimensions



High-Accuracy Digimatic Micrometer



293-100

178 mm

Comparative sizes:
High Accuracy-Micrometer with a highly rigid frame and a common Micrometer with a standard frame



293-240
Standard micrometer

147.5 mm



Standard accessories

Heat shield (No. 04AAB969A: 293-100
No. 04AAB969B: 293-130) x 1
Lithium battery (CR2032) x 1
Spanner (No. 200877) x 1



With heat shield attached*5

*5. Patent pending in Japan, the United States of America, the European Union, and China.



Heat shield

Screwdriver (No. 04AAB985) x 1
Lens paper (for the monitor)
Inspection certificate

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 displayed value is held while the spindle is withdrawn and the micrometer moved so that the display can be read at the operator's convenience. After cancelling the hold, the instrument returns to the previous measuring mode (absolute or incremental).

Resolution switching: The resolution of the display can be switched. If 0.1 μ m measurement is not required, the resolution can be switched to 0.5 μ m.

Function lock: Functions such as preset or zero-set can be locked to avoid inadvertently changing the origin position.

On/off: The power can be turned off after measurement is complete. Even after the power is turned off, the origin or last zero-set position remains in the memory.

Auto power off: Even if the power is left on, the power turns off automatically if the micrometer is not used within a 20-minute period.

Measurement data output: Measurement data can be output, allowing easy incorporation of this instrument into a statistical process control or measurement system.

Error alarm: 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.



Whatever your challenges are, Mitutoyo supports you from start to finish.

Mitutoyo is not only a manufacturer of top quality measuring products but one that also offers qualified support for the lifetime of the equipment, backed up by comprehensive services that ensure your staff can make the very best use of the investment.

Apart from the basics of calibration and repair, Mitutoyo offers product and metrology training, as well as IT support for the sophisticated software used in modern measuring technology. We can also design, build, test and deliver bespoke measuring solutions and even, if deemed cost-effective, take your critical measurement challenges in-house on a sub-contract basis.



Find additional product literature and our product catalogue

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