Micrometers

SERIES 293 – ABSOLUTE Digimatic High-Accuracy Micrometer

- A world-leading 0.1 µm resolution makes this micrometer 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 µm resolution ABS (absolute) rotary sensor*1 and high-accuracy screw machining technology to reduce the instrumental error to ±0.5 µm, 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 assure the operator that measurement is proceeding normally.

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

- Transfer of body heat to the instrument is reduced by a (removable) heat shield, minimizing error caused by thermal expansion of the frame when performing handheld measurements.
- The ABS sensor also 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, this micrometer also delivers a higher level of reliability.
- A range of features enables flexible measurement, including switchable resolution (0.0001/0.0005 mm), function lock and preset.

Function lock

ABSOLUTE

293-130

SPECIFICATIONS

Code No.	Range	Resolution	Accuracy*	Measuring surface	Mass	Price
293-130	0 - 25 mm (0 - 1")	0.0001/0.0005 mm (.000005"/.00002") switchable	±0.5 µm (±.00002")	ø3.2 mm	400 g	**£1320.00**

* Excluding quantizing error

Technical Data

Measuring force:	7 to 9N
Power supply:	Lithium battery (CR2032) x 1
Battery life:	Approx. two years when used under normal conditions

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:
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.

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

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.