

Mitutoyo

Mitutoyo Quality

High-Accuracy Digimatic Micrometer MDH-25MB

Small Tool Instruments
and Data Management



d2

Mitutoyo

HIGH ACCURACY

World's First

0.1 μm^*

Resolution Micrometer

*0.1 μm =0.0001 mm

d2

"d2" is a generic name for Mitutoyo Digimatic output compatible with up to 8 digits of I/O data.

High Accuracy
DIGIMATIC MICROMETER

0.0001mm

MDH-25MB

Easy, Rapid and High-accuracy Measurement of Workpieces That Require an Accuracy of 1 μm or Less

Delivering $\pm 0.5 \mu\text{m}$ accuracy at $0.1 \mu\text{m}$ resolution means Mitutoyo's MDH-25MB is the most accurate hand-held micrometer available*, and this instrument will enable you to easily and rapidly measure workpieces that require very-high-accuracy measurement. This remarkable performance is attained due to Mitutoyo's proprietary ABS (absolute) rotary encoder and high-accuracy thread cutting technology.

*Mitutoyo's research as of March, 2018

Position and Merits of MDH-25MB



- Measuring accuracy equivalent to a laser micrometer
- No jig, etc. needed to be fabricated
- Simple measurement enabled even for very small parts
- Portable and compatible with standard workpiece measurement techniques, similar to conventional micrometers
- Economical - low investment in equipment compared with other choices

APPLICATION

Beyond the Usual Micrometer! Many More Kinds of High-accuracy Parts Now Measurable.

This micrometer allows easy, rapid and high-accuracy measurement of workpieces that require a measuring accuracy of 1 μm or less, such as medical parts, precision instruments and auto-parts regarded as being difficult to accurately measure with conventional micrometers.



 Manufacturing

Pin gage measurement

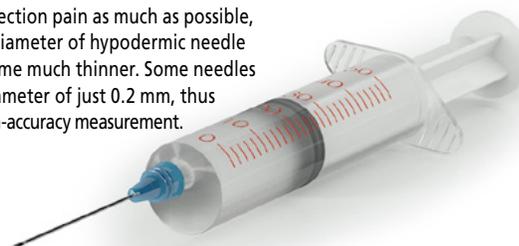
Pin gages are widely used for measurement of the diameter or center-to-center distance of holes. The periodic calibration of a high-precision pin gage requires high-accuracy measurement.



 Medical care

Hypodermic needle measurement

To reduce injection pain as much as possible, the outside diameter of hypodermic needle tips has become much thinner. Some needles have a tip diameter of just 0.2 mm, thus requiring high-accuracy measurement.

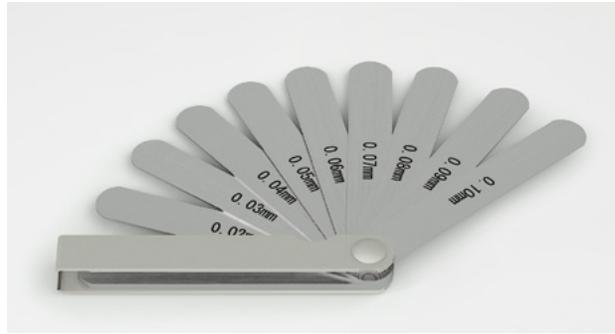




 Electric/electronic devices

Fiber optics measurement

The optical-transmission cylindrical "core" made of quartz glass is 0.01 to 0.05 mm in diameter. Since its thickness is similar to a strand of hair, high accuracy is required for its measurement.



 Manufacturing

Gap gage calibration

Gap gages are widely used for easy measurement of small gaps in assemblies. Periodic gage calibration is indispensable for accuracy control to detect undue wear.



 Automobile and machine tools

Gear tooth measurement

As gears decrease in size and weight, the MDH allows for convenient high accuracy evaluation. MDH simply enables accuracy evaluation with it on hand for the customer demand of high accuracy.



 Medical care

Implant measurement

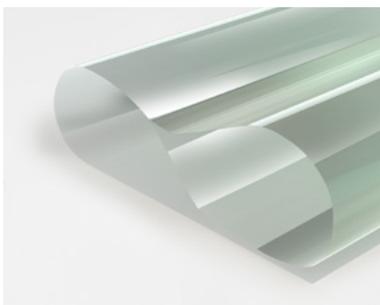
An abutment is used for dental implants. Abutments have various lengths, angles, and materials. Each abutment needs to be made and measured very accurately.



 Medical care

Catheter measurement

High-accuracy measurement is needed when manufacturing the fine tubing widely used in the medical field, such as a catheter that plays a crucial part in dilating a blood vessel.



 Electric/electronic devices

Optical film measurement

Optical films are widely used to display still images or moving images on a car navigation device or LCD TV. The micrometer accuracy is a must for measuring film thickness.



 Machine tools

Cutting tool measurement

The diameter of extremely small drills used for manufacturing precision tools and instruments requires high accuracy measurement.



 Automobile/office equipment

Bearing measurement

High-accuracy measurement is required for the component parts of anti-friction ball and roller bearings that are required to support vibration-free rotation in high-quality products.

USABILITY



Reliable operation

The sound of the ratchet provides a reliable operation and repeatable measurements.



Wear-resistant carbide tip

The $\phi 3.2$ mm carbide tip on the measuring face is highly resistant to wear, allowing accurate measurement for an extended period of time.



Enhances productivity, ease of use

This micrometer is equipped with many versatile and time-saving functions such as resolution switching (0.0001 mm/0.0005 mm), function lock, and presetting.

Absolute encoder

The ABS (absolute) rotary encoder eliminates the need for origin point setting at every power-on, allowing immediate starting of measurement. This encoder achieves high reliability without causing an overspeed error.

Zero-setting function

This function allows the display to be zero set at any position, thus facilitating comparative measurement. Also the absolute value from the origin can be restored.

Built-in "Hold" function

This function can hold (freeze) the displayed value. Enables the micrometer to be removed from a workpiece when the readout is not easily viewable so the measurement value can be read at your convenience.

ABSOLUTE™

■ Measurement Data Recording Tools (Optional)



DP-1VA LOGGER

Mini-printer equipped with data logger function
Digimatic mini processor DP-1VA LOGGER No. 264-505
 (See Catalog No. E12041)

The data logger function allows data output to a PC and automatic logging of measurement data in an Excel-format inspection certificate using Mitutoyo USB-ITPAK. It provides significant potential for efficiency improvement in the QC function.

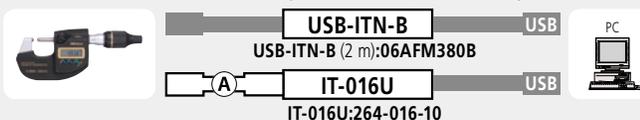
■ Standard Accessories

- Heat shield (04AAB969A: 293-100-10
04AAB969B: 293-130-10) x 1
- Lithium battery (CR2032: Battery supplied is for testing purpose only) x 1
- Spanner (200877) x 1
- Screwdriver (04AAB985) x 1
- Lens paper
- Inspection certificate

■ Optional Accessories

- Lens paper x 1,000 (04AZB581)

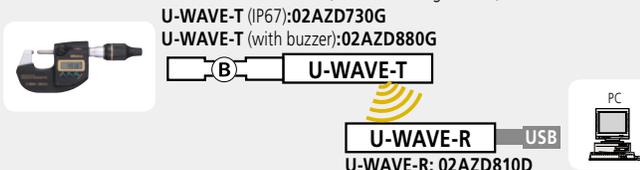
• Wired Connection to PC via USB Input Tool Series (Refer to Catalog E12007)



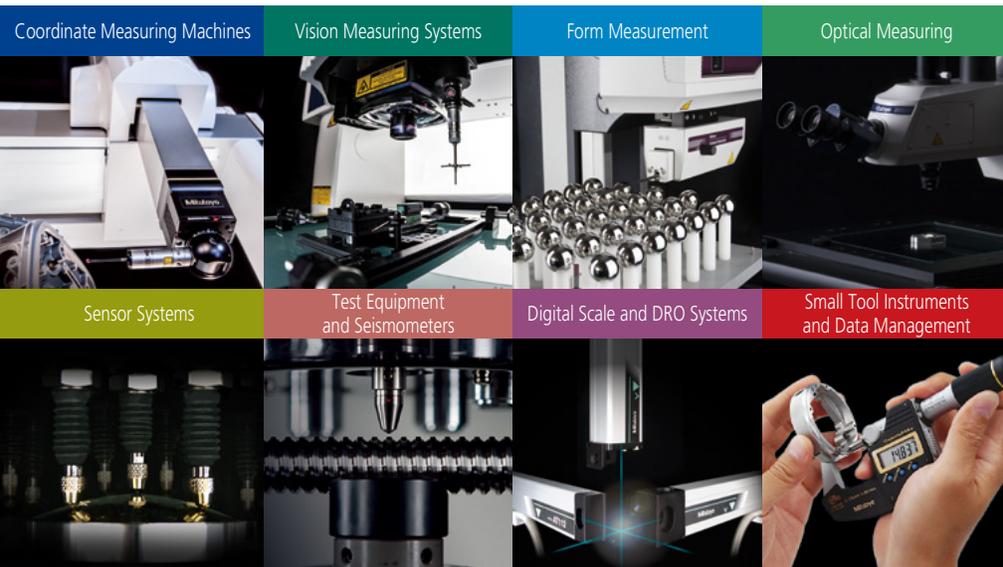
Connecting cables specific to output-function equipped models

- Ⓐ 1 m: 05CZA662
 2 m: 05CZA663

• Wireless Connection to PC via U-WAVE (Refer to Catalog E12000)



- Ⓑ For standard use (160 mm): 02AZD790B
 For foot switch use: 02AZE140B



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 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 measuring solutions and even, if deemed cost-effective, take your critical measurement challenges in-house on a sub-contract basis.



Find additional product literature
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www.mitutoyo.com

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