

Microscopes

Microscope lineups that systemize observation, measurement and processing

MF-U series

SERIES 176 — Universal Measuring Microscopes

- Observation with a clear and flareless erect image and a wide field of view.
- Measuring accuracy is the highest in its class (and conforms to JIS B 7153).
- Proven high-NA objectives from the FS optical system (long working distance type).
- Integration of metallurgical and measurement microscope functions provide high-resolution observation and a high-accuracy measurement solutions.
- Illumination unit (reflected/transmitted) can be selected from a high-intensity LED or halogen bulb (required).
- Variable aperture diaphragm (reflected/transmitted) allows observation measurement while suppressing light diffraction.
- Variety of standardized stages in sizes up to 400x200mm.
- Quick-release mechanism useful for moving the stage quickly.
- Coarse/fine feed handles are standard on both sides allowing precise focus and observation measurement regardless of handedness.
- High-magnification observation up to 4000X.



MF-UB2017D

• The turret, objectives and illumination unit are optional accessories.



Refer to the MF /MF-U series (Catalog No.E14003) for more details.

SPECIFICATIONS

| | Without Z-axis scale | Model No. | MF-UA1010D | MF-UA2010D | MF-UA2017D | MF-UA3017D | MF-UA4020D |
|--|--|---|------------|------------|------------|------------|------------|
| BF (bright-field) | Order No. | | 176-871*1 | 176-872*1 | 176-873*1 | 176-874*1 | 176-875*1 |
| | With Z-axis scale | Model No. | MF-UB1010D | MF-UB2010D | MF-UB2017D | MF-UB3017D | MF-UB4020D |
| | Order No. | | 176-876*1 | 176-877*1 | 176-878*1 | 176-879*1 | 176-880*1 |
| BD (bright-field/dark-field) | Without Z-axis scale | Model No. | MF-UC1010D | MF-UC2010D | MF-UC2017D | MF-UC3017D | MF-UC4020D |
| | Order No. | | 176-881*1 | 176-882*1 | 176-883*1 | 176-884*1 | 176-885*1 |
| | With Z-axis scale | Model No. | MF-UD1010D | MF-UD2010D | MF-UD2017D | MF-UD3017D | MF-UD4020D |
| Order No. | | 176-886*1 | 176-887*1 | 176-888*1 | 176-889*1 | 176-890*1 | |
| Observation image | BF (Bright field), DF (Dark field) (MF-UC and MF-UD models only), Polarization, Differential Interference Contrast (DIC) / Erect image | | | | | | |
| Eyepiece (optional) | Adjustable diopter | 10X (eyepiece field number: 24, two eyepieces provided as standard), 15X, 20X | | | | | |
| Turret (required) | Bright-field (BF) | Adjustable manual turret or adjustable power turret (Select one.) | | | | | |
| | Bright-field/dark-field (BD) | Manual turret or power turret (Select one.) | | | | | |
| Objective (optional) | Bright-field (BF) | M Plan Apo, M Plan Apo SL, G Plan Apo series | | | | | |
| | Bright-field/dark-field (BD) | BD Plan Apo, BD Plan Apo SL series | | | | | |
| Illumination unit (One of the two options must be selected.) | LED illumination unit | Transmitted illumination: Telecentric system, Built-in aperture diaphragm, White LED light source, stepless light intensity control, With cooling fan Reflected illumination: Koehler illumination, Variable aperture diaphragm mechanism, White LED light source, stepless light intensity control Control unit: Power ON/OFF switch (main switch), 100 - 240V AC power input connector | | | | | |
| | Halogen illumination unit | Transmitted illumination: Telecentric system, Built-in aperture diaphragm, Halogen bulb (12V, 50W), stepless light intensity control, With cooling fan Reflected: BF/BD Kohler illumination with adjustable aperture diaphragm, 12V/100W or 12V/15W halogen lamp (selectable), external fiber illumination, stepless brightness adjustment Control unit: Power ON/OFF switch (main switch), 100 - 240V AC power input connector | | | | | |
| Stage | Measuring range | 100x100mm | 200x100mm | 200x170mm | 300x170mm | 400x200mm | |
| | Quick-release mechanism | Provided as standard for the X and Y axes | | | | | |
| | Zero-set button | Provided as standard for the X and Y axes (and for the Z axis only for the MF-UB and -UD types) | | | | | |
| Z axis | Max. workpiece height | 150mm | | | 220mm | | |
| | Feed mechanism | Coaxial coarse and fine feed, handles on both sides (coarse: 10mm/rotation, fine: 0.1mm/rotation) | | | | | |
| Measuring accuracy *2 (X and Y axes, when not loaded) | | (2.2+0.02L)μm L: measuring length(mm) | | | | | |
| | Minimum reading | 1/0.5/0.1μm .0001"/.00005"/.00001" switchable | | | | | |
| Digital display | Display axes | X and Y (or X, Y, and Z only for the MF-UB and -UD types) | | | | | |
| | Functions | Zero-setting, direction switching, RS232C output, USB output (specific to QSPAK) | | | | | |

*1: The following suffixes are added to the order No. to specify the User Manual's language: -10 for English; -11 for Simplified Chinese; No suffix for Japanese.

*2: Measuring method complies with JIS B7153.

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| Bulb replacement for transmitted/reflected illumination | Standard: Halogen bulb (12V, 50W) (No.513667) |
| | Bulb life: 1,100 hours |
| For replacement for reflected illumination (from separate light source) *3 | Standard: Halogen bulb (12V, 100W) (No.517181) |
| | High-intensity bulb (12V, 100W) (No.12BAD602) |

*3: At the time of purchase, a standard bulb and a high-intensity bulb are provided. (Only for the Reflected illumination models.)