

MF SERIES 176 — Measuring Microscopes

- An easy-to-operate standard measuring microscope using specially designed long working distance **ML** objectives.
- Measuring accuracy is the highest in its class (and conforms to JIS B 7153).
- Illumination can be selected from an LED unit, which has a longer life, or a powerful halogen unit for high-magnification applications.
- Excellent usability, a high-NA and long working distance objectives enable effective observation.

Manual type

- Stages range in size from 100×100 mm to 400×200 mm.
- The XY stage is equipped with a quick-release mechanism that enables switching between coarse and fine feed to provide swift and precise stage movement, even over a large distance.



MF-B2017D

Note: The binocular tube (eyepiece) and illumination unit are optional accessories.

SPECIFICATIONS

Without Z-axis scale	Model No.	MF-A1010D	MF-A2010D	MF-A2017D	MF-A3017D	MF-A4020D
	Order No.	176-861^{*1}	176-862^{*1}	176-863^{*1}	176-864^{*1}	176-865^{*1}
With Z-axis scale	Model No.	MF-B1010D	MF-B2010D	MF-B2017D	MF-B3017D	MF-B4020D
	Order No.	176-866^{*1}	176-867^{*1}	176-868^{*1}	176-869^{*1}	176-870^{*1}
Observation image		BF (Bright-field)/Erect image				
Eyepiece with diopter adjustment		10X (eyepiece field number: 24), 15X, 20X Note: Monocular - one 10X eyepiece provided as standard; Binocular - two 10X eyepieces provided as standard				
Objective		ML objective 3X (provided as standard), 1X, 5X, 10X, 20X, 50X, 100X				
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), AC100 to 240 V power input connector				
	Halogen illumination unit	Transmitted illumination: Telecentric system, Built-in aperture diaphragm, Halogen bulb (50 W), stepless light intensity control, With cooling fan Reflected illumination: Koehler illumination, Variable aperture diaphragm mechanism, Halogen bulb (50 W), stepless light intensity control, With cooling fan Control unit: Power ON/OFF switch (main switch), AC100 to 240 V power input connector				
Stage	Measuring range	100×100 mm	200×100 mm	200×170 mm	300×170 mm	400×200 mm
	Quick-release mechanism	Provided as standard for the X and Y axes				
Z axis	Zero-set button	Provided as standard for the X and Y axes (and for the Z axis only for the MF-B type)				
	Max. workpiece height	150 mm			220 mm	
Measuring accuracy ^{*2} (X and Y axes, when not loaded)	Feed mechanism	Coaxial coarse and fine feed, handles on both sides (coarse: 30 mm/rotation, fine: 0.2 mm/rotation)				
	Resolution	(2.2 + 0.02L) μm L=measuring length (mm)				
Digital display	Display axes	1/0.5/0.1 μm 0.0001/0.00005/0.00001 in (switchable)				
	Functions	X and Y (or X, Y, and Z only for the MF-B type)				
		Zero-setting, direction switching, RS-232C 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 B 7153.

Motor-Driven Z-axis

- Freedom from burdensome focus adjustment even on a workpiece with many asperities allows the operator to perform stress-free measurement.
- Using the Vision Unit (optional) enables the image AF function.



MF-J2017D

Note: The binocular tube (eyepiece) and illumination unit are optional accessories.

SPECIFICATIONS for Motor-Driven Z-axis MF models

Model No.	MF-J2017D	MF-J3017D	MF-J4020D
Order No.	176-891^{*1}	176-892^{*1}	176-893^{*1}
Vision AF ^{*2}	Available		
Stage	Quick release mechanism	Fitted to X and Y axes	
	Zero set switch	Fitted to X and Y axes	
Z axis	Max. workpiece height	220 mm	
	Feed mechanism	Motordrive (Maximum measuring speed: 20 mm/s)	

*1 To denote your AC power cable add the following suffixes to the order No.: A for UL/CSA, D for CEE, DC for CCC, E for BS, K for KC, C and No suffix is required for PSE.

*2 Vision Unit and an image AF cable are separately required.

Note: The specification other than the above is subject to the **MF** Series.



Refer to the **MF/MF-U Series** Brochure (**E14003**) for more details.