

# Hyper MF/MF-U Measuring Microscope

## Series 176

- One of the highest XY measuring accuracy of (0,9+3L/1000) μm

(L = measured length (mm) in XY plane, stage unloaded).

- Selectable LAF (Laser Auto Focus) function.
- High operability and repeatability.
- Three-axis motorized control.
- Power-drive auto focus unit is a standard feature.
- Easy positioning via joystick control.

### Specifications

|                          |                                                                                                                                                                                                                                                                                                        |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Observation image        | Erect                                                                                                                                                                                                                                                                                                  |
| Optical tube             | Reticle projection method, with TV mount, Optical path ratio (eyepiece/TV mount : 50/50)<br><b>Hyper MF</b> : Monocular or binocular tube (optional depression : 25°)<br><b>Hyper MF-U</b> : Siedentoph type (pupil distance adjustment : 51 - 76 mm), 1X tube lens, Binocular tube (depression : 25°) |
| Eyepiece                 | <b>Hyper MF</b> : Optional 10X, 15X, 20X<br><b>Hyper MF-U</b> : 10X (field No. : 24 mm), Optional : 15X, 20X                                                                                                                                                                                           |
| Turret (optional)        | <b>Hyper MF-U</b> : Power Objective (optional) : M / BD Plan Apo objective from 1X to 100X                                                                                                                                                                                                             |
| Transmitted illumination | Light source : Halogen bulb (12V, 100W)<br><b>Hyper MF</b> : (fiber-optic cold light illumination)<br>Optical system : Telecentric illumination with adjustable aperture diaphragms<br>Functions : Light intensity adjustable, 100 steps brightness adjustment                                         |
| Surface illumination     | Light source : Halogen bulb (12V, 50W)<br>Optical system : Koehler illumination with adjustable aperture diaphragms<br>Functions : Light intensity adjustable, 100 steps brightness adjustment                                                                                                         |
| Data output              | Via RS-232C interface                                                                                                                                                                                                                                                                                  |
| Power supply             | 220/240V AC, 50/60 Hz                                                                                                                                                                                                                                                                                  |
| Optional Accessories     | See MF accessories for Hyper MF models<br>See MF-U accessories for Hyper MF-U models                                                                                                                                                                                                                   |



Control panel for fast traverse and three-axis positioning



Laser Auto Focus Optical Tube



Refer to the Hyper MF / MF-U brochure



Hyper MF-UF2515B  
with optional turret and objective lenses

XY stage travel range : 250 x 150 mm  
Measuring unit : Linear encoder  
Resolution : 0,01 μm  
XY stage top size : 300 x 200 mm  
Swiveling function : ±3°  
Max. stage loading : 30 kgf  
Max. workpiece height : 150 mm

| Model                     | Hyper MF-B2515B        | Hyper MF-UB2515B       | Hyper MF-UD2515B                        | Hyper MF-UE2515B       | Hyper MF-UF2515B                        |
|---------------------------|------------------------|------------------------|-----------------------------------------|------------------------|-----------------------------------------|
| No.                       | 176-430D*<br>176-430E* | 176-431D*<br>176-431E* | 176-432D*<br>176-432E*                  | 176-433D*<br>176-433E* | 176-434D*<br>176-434E*                  |
| Observation type          | Bright Field           | Bright Field           | Bright Field or Bright Field/Dark Field | Bright Field           | Bright Field or Bright Field/Dark Field |
| Laser auto focus function | -                      | -                      | -                                       | Available              | Available                               |
| Remarks                   | 176-430E UK only       | 176-431E UK only       | 176-432E UK only                        | 176-433E UK only       | 176-434E UK only                        |