

Union

Ideal for practical training and operation in the factory

Inverted Type Metallurgical Microscope

MCB-1

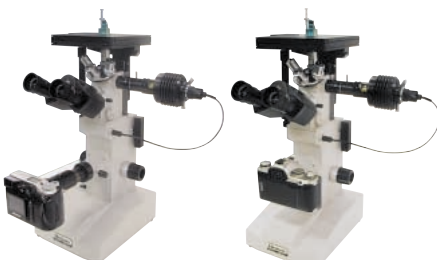
The compact MCB-1 is an efficient, easy-to-use inverted type metallurgical microscope. The combination of a flat-field objective lens with outstanding resolution even around the periphery of the field of view and a high eye-point eyepiece with a wide field of view permits prolonged microscopic observation without fatigue. A wealth of functions include 35 mm photographing and digital camera photographing.



* Digital camera is optional.

Compact photographing unit

Respective photographing units mounted around lower position of main body are stable and easy to operate. Two types of units with a 4X Camera Lens for a 35 mm camera and a 0.7X TV Lens for a digital camera are provided as standard. By changing the units, you can easily mount a digital camera (left) or a 35 mm camera (right).



Digital camera

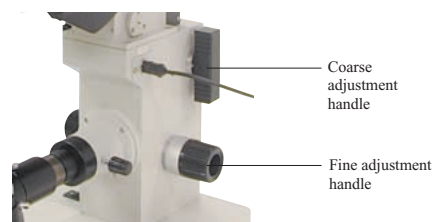
35 mm camera



The Polaroid photographing unit is optional.

Easy-to-operate prefocusing unit

The stage moves vertically by the coarse adjustment handle and stops at a fixed position that has been adjusted as a focusing point. The objective lens has the same focal point at respective magnifications, permitting quick change from low to high magnification.

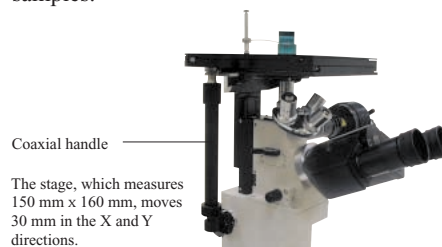


Coarse adjustment handle

Fine adjustment handle

Large cross movement mechanical stage with coaxial handle

The ball race type large cross movement mechanical stage is mounted, and its coaxial handle allows easy position adjustment of samples.

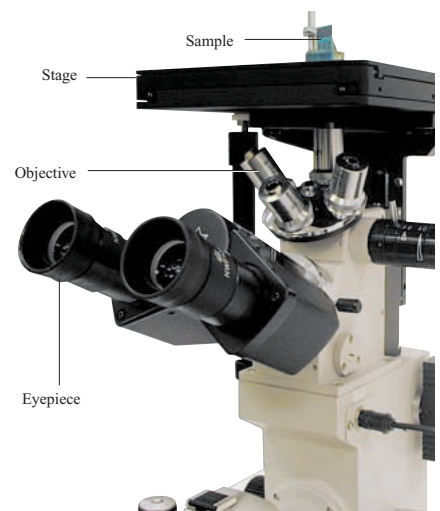


Coaxial handle

The stage, which measures 150 mm x 160 mm, moves 30 mm in the X and Y directions.

Inverted type ideal for inspection of metal samples

The surface of metal sample to be inspected is set downward on the stage, and is immediately ready for observation. Troublesome hand pressing is not required.



Built-in high-intensity lighting unit

The transformer is built into the base. The reflected illumination unit is a Koehler illumination type with an aperture and a field diaphragms.

A variety of options useful for material inspection

35 mm Camera Attachment

The 4X Camera Lens for a 35 mm camera comes with Asahi K Mount as standard to permit an Asahi Pentax to be mounted directly. Select separate mounts to attach other cameras. Magnification on film surface: Magnification of objective x 4



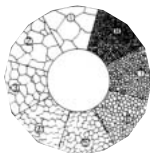
3"x4" Polaroid photographing unit

A 10X photographing lens and a shutter are built into the unit. After the photographing unit is removed from the microscope, this Polaroid unit is inserted. Magnification on film surface: Magnification of objective x 10



Eyepiece for measurement of austenite grain size

This is used to measure the size of austenite grains in steel. The grain size patterns corresponding to grain sizes No.1-No.8 are drawn within the field of view, and a microscopic image is seen through the vacant center.

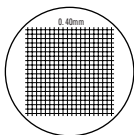


Transmitted illumination unit

Observation with transmitted light is possible by attaching this unit to the back of the stage bracket of the microscope. This is effective for observing fine powder and transparent samples. An 8V, 15W tungsten lamp is adopted.

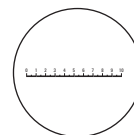
Eyepiece for nonmetallic inclusion test (JIS G0555)

This eyepiece has a point-counting grid pattern scale that conforms to JIS. Two types of scales, for Method 1 and Method 3, are provided. The scale for Method 3 is used together with a 40X lens, while the scale for Method 1 is used with a 10X lens.



Object micrometer (for metal)

This object micrometer is used to correctly measure the total magnification or the magnification of the objective. It is a kind of standard scale, and 1 mm is equally divided into 100 subsections.



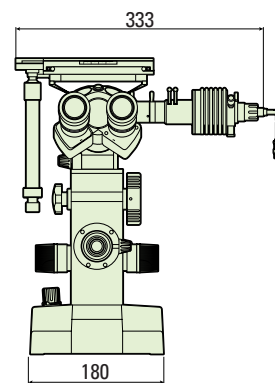
(Magnification of eyepiece: 10X)

Standard Specifications

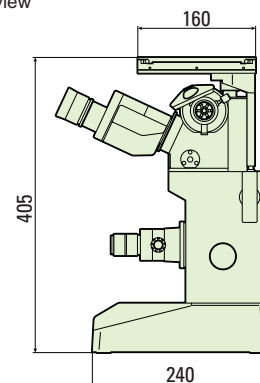
	MCB-1	MCB-1D
Main body	Inverted type	
Base	8-15V (built-in) transformer for lighting; variable brightness	
Optical tube	Angle of depression of viewing head: 25°	
	Quadruple Nosepiece (4 objectives can be mounted.) Seidentopf type binocular unit	
Eyepiece	NWF 10X (Field number: φ18), 2 pcs	
Objectives	MF5X, MF10X, MF20X, MF40X; 1 each	
Stage up-down handle	Coarse adjustment stroke: 30 mm roller way type (Rack-and-pinion movement by lever handle)	
Focusing section	Fine adjustment stroke: 2mm	
	With focus fixing stopper	
Reflected illumination unit	8V, 15W tungsten lamp (EL-38) with AD (aperture diaphragm) and FD (field diaphragm)	
Stage	Large cross movement mechanical stage with coaxial handle; X-Y moving range: 30 mm	
	X-Y coaxial handle (left-downward)	
	φ15, φ25 and φ25 (with 360° scale) stage plates: one each; sample holder	
Simple polarizing unit	Analyzer: Built-in optical tube; slide insertion type	
	Polarizer: Insertion into the filter slot of illuminator	
Photographing unit	4X Camera Lens for 35 mm camera	C-mount: 0.7X TV Lens for digital camera
	Polaroid Photo Unit MICAR-PB mountable (option)	
Others	Filter (green and blue; one each); spare bulb	
Weight	Approx. 7 kg	

Dimensions (Unit: mm)

Front view



Side view



UNION OPTICAL CO., LTD.

2-22-4, Shingashi, Itabashi-Ku, Tokyo 175-0081, Japan
Tel: 81-3-5997-8531 Fax: 81-3-5997-8532

<http://www.union.co.jp>

* The specifications shown in the catalog are subject to change without notice.