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COMPACT INVERTED
METALLURGICAL MICROSCOPE

CK40M



Suitable for checking the work finish of metallurgical specimens as well as for routine quality inspections.

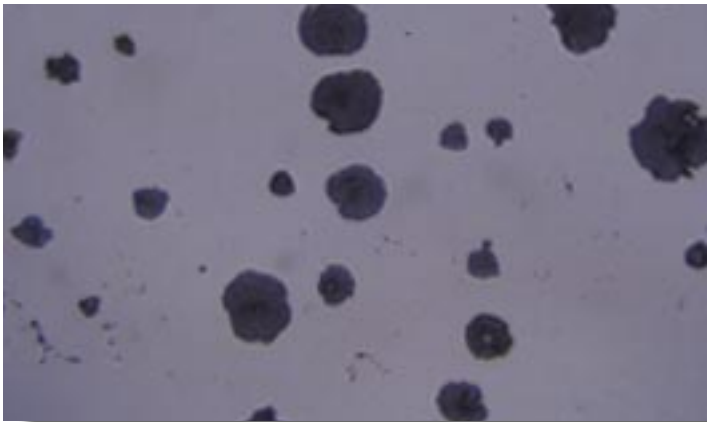


The CK40M — A Compact, Inverted Metallurgical Microscope That Facilitates Specimen Observation

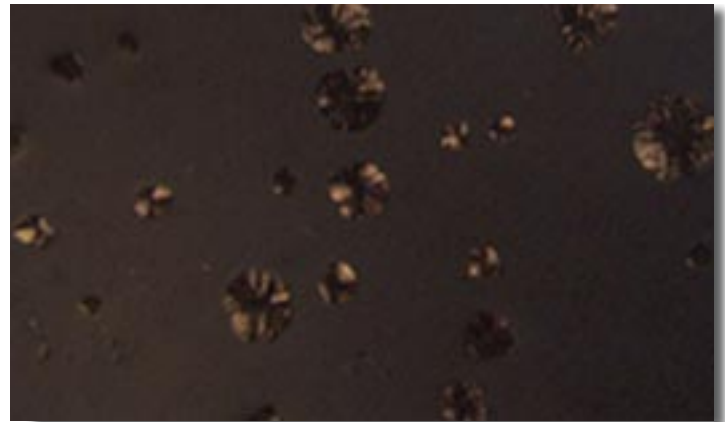
Superior operability is the key feature of the CK40M — a compact new microscope that is equipped with all the functions required for metallurgical observation. The compact design makes it light enough to carry by hand and conveniently place alongside the specimen grinder. A tilting observation tube is provided to allow comfortable operation for standing or sitting, and the design features a low stage and low frontal operation section to allow for comfortable observations.



Performance



Spherical graphite cast iron (brightfield)



Spherical graphite cast iron (simple polarized light)

High-Speed Observations

- The CK40M's simple operation eliminates the need for complicated lever adjustments — just turn the main switch on to begin instantaneous observations through the use of incident brightfield and simple polarized light observations .
- 5x - 50x objectives are provided (80x is optional). With up to 4 objectives set on the revolving nosepiece, lens position change becomes quick and easy.
- A coaxial handle for coarse and fine focusing allows for simple focus adjustment without switching hands.
- Level setting of the specimen with a hand press is not necessary.

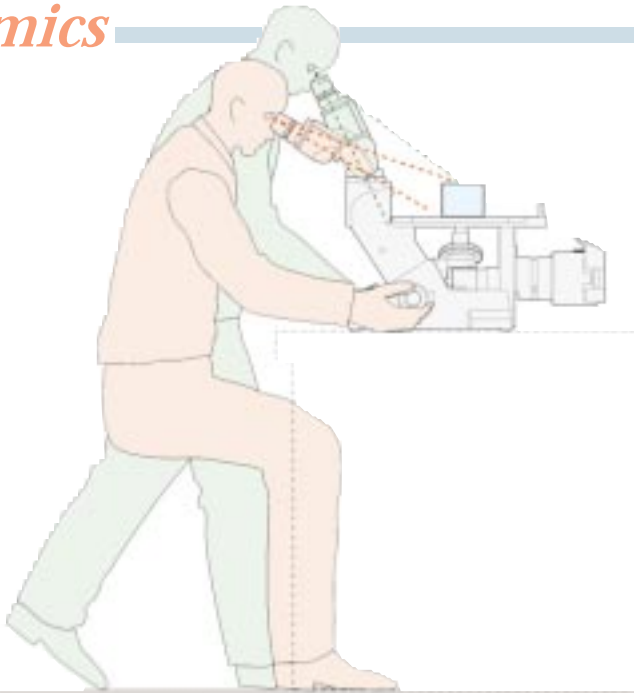
Clear, Sharp Images

- Thanks to Olympus' renowned IC optics, the observation images are guaranteed to be clear and sharp. The illumination unit features an aperture diaphragm, and it can accommodate range of filters which can obtain the best light balance and intensity.
- Inspection efficiency is enhanced by the WHK10x eyepiece (F.N.20) due to the wide field of view and the sharp observation images provided 50x - 800x total magnifications.
- The polarizer provides optimum contrast, by a rotation mechanism that reaches up to 90 degrees.

Specimen size compatibility

- The co-axial mechanical stage can be affixed to either side of the plain stage. The mechanical stage is accompanied with the standard stage plate (CK40M-CP) which is designed to best accommodate specimens up to 50mm in diameter.
- In addition to the standard stage plate, a stage insert plate (IX-CP50) can be optionally provided for specimens over 50mm in diameter for plain stage use.

Ergonomics



Easy specimen confirmation

- The inclined tube angle and low stage design allows the operator to inspect specimens with only slight eye movement, and no change in posture.
- Observations from under the stage become unnecessary with the attached optional stage mirror (CK40M-MS) that makes confirmation of the specimen position more convenient.



User-friendly ergonomic design

- Meeting user needs starts with simple operation. All the main controls (power switch, light intensity adjustment dial, focusing knob and stage handles) are placed within easy reach of the user to minimize the need for distracting movements.
- Objective position change, focusing and mechanical stage handling are all easily performed in a comfortable posture.



Observations in any posture

- The CK40-TBI tilting binocular observation tube allows the operator to select any tube angle from 30 to 60 degrees. This results in comfortable, fatigue-free observations, and accommodates the operator's height and posture.
- Three different observation tubes are offered (binocular, tilting binocular or trinocular) which allows the operator to select the most suitable tube for each specific purpose.



Portable and easy to carry

- The compact, lightweight design incorporates a convenient hand grip which makes it easy to carry the CK40M anywhere. This convenience allows the operator to observe specimens on the spot, or to check grinding/polishing levels in iron/steel work etc...adjacent to the grinding/polishing machine. This portable design also affords easy movement of the microscope within educational settings.

Accessories

Compatibility with various image recording systems

- The automatic photomicrographic system PM10SP, or a video camera and the digital photomicrography system DP10, can be easily attached to the trinocular observation tube.
- The CK40M combined with the DP10 system offers a cost-effective, space-saving, direct printing system. Images can be previewed via a built-in LCD monitor for more effective image capturing and printing. In addition, the digitally stored data is easily accessible allowing for reprinting and archiving at your convenience. In turn, operating costs are greatly reduced.



CK40M+DP10+digital printer



CK40M+PM10SP



CK40M+video camera

Accessories



Grain size measurement image

Grain size measurement capability.

• The WHK10x-GS grain-size-reticle eyepiece enables simple measurement of grain size through the binocular observation tube.

WHK10x-GS is for observation only, and grain size scale cannot be imprinted on the image.

Objectives specifications

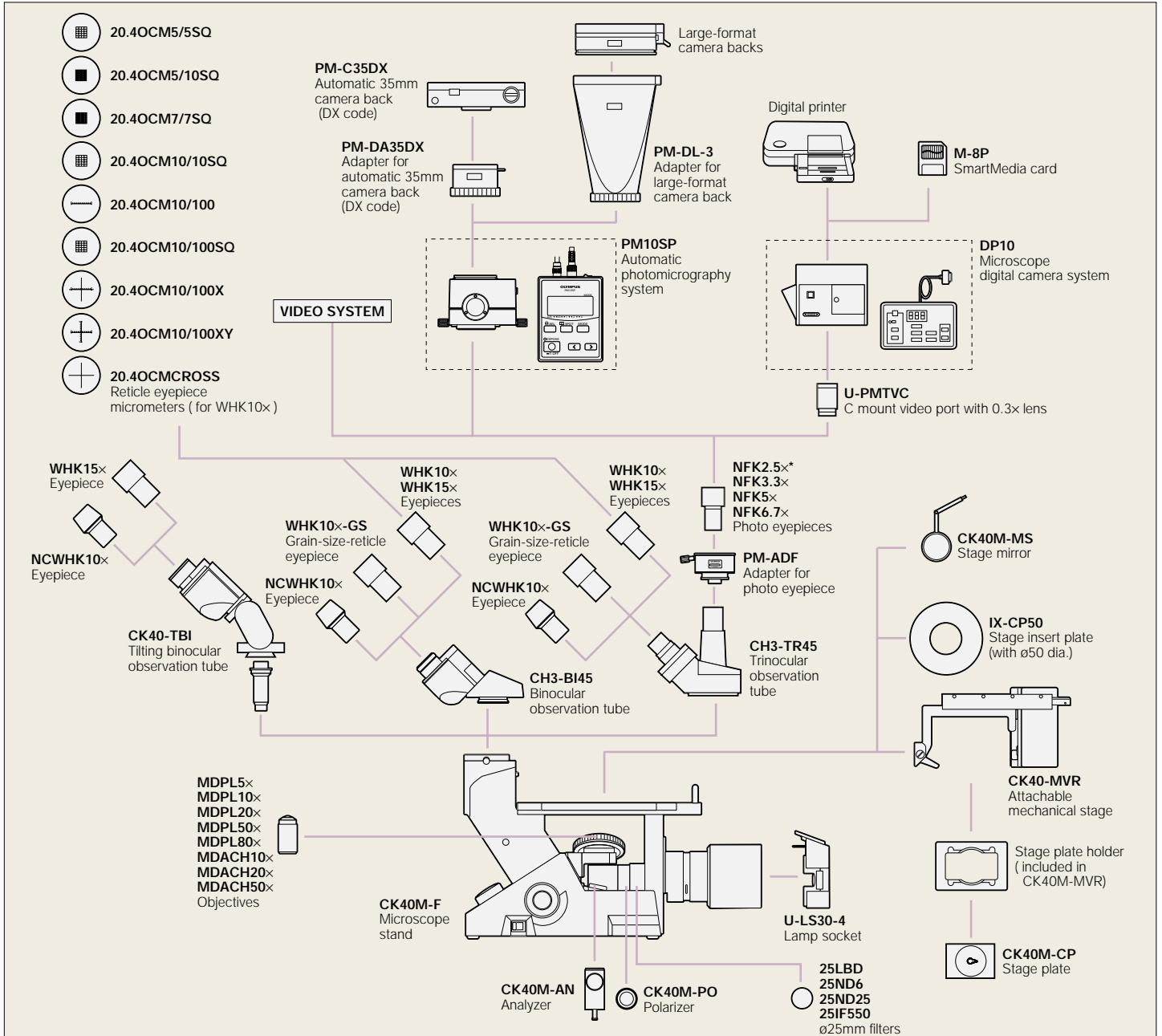
Objectives	Numerical Aperture N.A.	Working Distance W.D.(mm)	Depth of focus* (μm)	Resolution (μm)
MDPL5x	0.10	19.0	97.5	3.35
MDPL10x	0.25	7.00	18.4	1.34
MDPL20x	0.40	1.00	6.1	0.84
MDPL50x	0.75	0.38	1.4	0.45
MDPL80x	0.90	0.20	0.8	0.37
MDACH10x	0.25	6.77	18.4	1.34
MDACH20x	0.40	1.10	6.1	0.84
MDACH50x	0.70	0.45	1.6	0.48

* With use of 10x eyepiece



MDPL series objectives

SYSTEM DIAGRAM

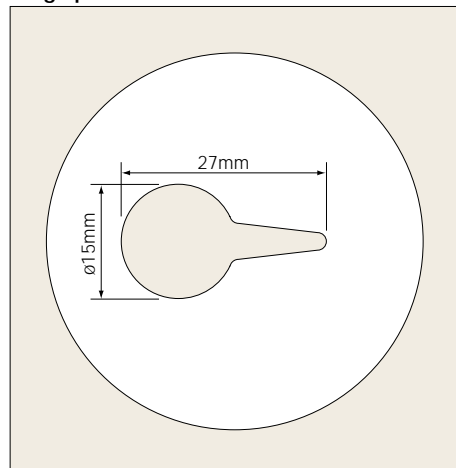


* NFK2.5x cannot be combined with DP10.

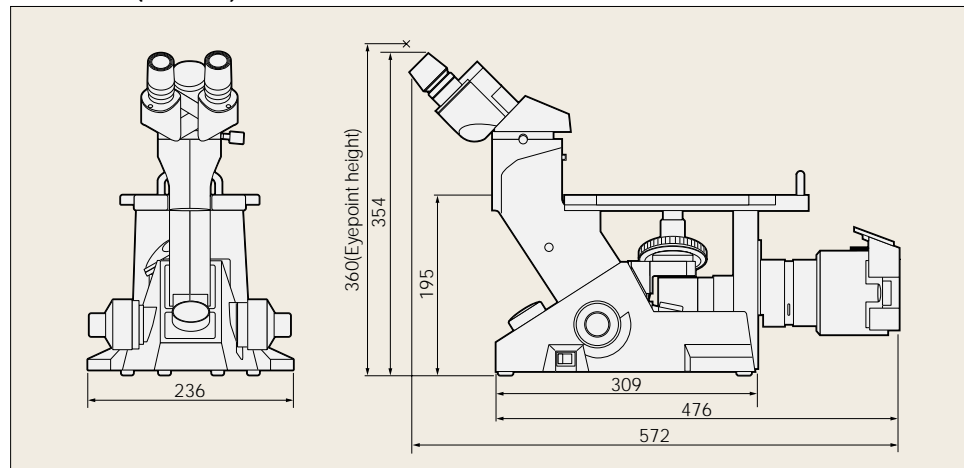
CK40M Standard Specifications

Optical system	IC optical system (infinity-corrected), reversal image	
Observation method	Brightfield, simple polarized light	
Illumination system	PHILIPS 5761 6V30WHAL halogen bulb Rated output: 6V AC, 30W Rated input: 100/110-120VAC 0.6A, 50/60Hz, 220/230-240VAC 0.3A 50/60Hz An aperture iris diaphragm unit is incorporated. Filters with 25mm in diameter can be set optionally.	
Focus	Vertical nosepiece movement (fixed stage), coarse and fine coaxial handle (with torque adjustment mechanism), Stroke: 7mm up and 2mm down (from the focus position)	
Revolving nosepiece	Quadruple	
Observation tube	Binocular tube CH3-BI45	Inclination angle: 45 degrees, interpupillary distance range: 48 - 75mm
	Trinocular tube CH3-TR45	Inclination angle: 45 degrees, interpupillary distance range: 53 - 72mm
	Tilting binocular tube CK40-TBI	Inclination angle: 30 degrees - 60 degrees, interpupillary distance range: 50 - 76mm
Eyepiece	NCWHK10x: F.N. 18 (standard), WHK10x : F.N 20 (optional)	
Stage	Plain stage	160 (W) × 250 (D) mm
	Mechanical stage	Stage movement 120 (X) × 78 (Y) mm, with coaxial low drive controls The stage plate CK40M-CP is needed so that a specimen with up to 50mm in diameter can be observed. Mountable on the right side or left side of the plain stage
Dimensions	236 (W) × 572 (D) × 354 (H) mm (CH3-BI45 combination)	
Weight	Approx. 9kg	
Power consumption	72W	
Safety standard conformity	UL certificate (CK40M-F100), CE mark conformity (CK40M-F200)	

Stage plate CK40M-CP life size dimensions



Dimensions (unit: mm)

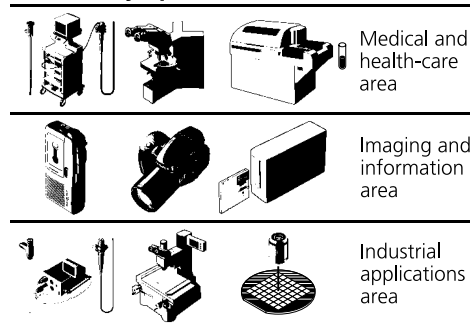


Web site addresses: <http://www.olympus.co.jp>
<http://www.olympus.com>
<http://www.olympus-europa.com>



Specifications are subject to change without any obligation on the part of the manufacturer.

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