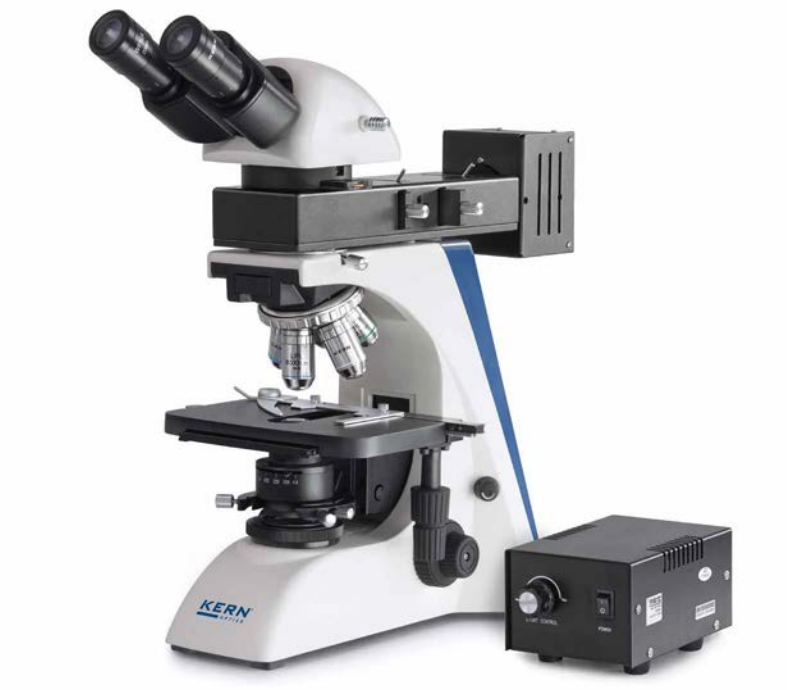
Metallurgical microscopes KERN OKN-1 · OKO-1



Stage OKN

Stage OKO

Illumination unit

PROFESSIONAL LINE MET

The fully-equipped reflected and transmitted light microscope for numerous applications in metallurgy

Features

- The KERN OKN and OKO series are professional, versatile, metallurgical microscopes, which are used in testing metals and analysing surfaces.
- You can choose between two reflected illumination units: A 50 W halogen reflected illumination unit or a premium illumination unit with stunning 100 W reflected illumination for powerful performance.
- A height-adjustable 1,25 Abbe condenser which can be centred as well as a field diaphragm are available for the transmitted light variants (KERN OKO series), for complete professional Koehler illumination.
- The KERN OKO transmitted illumination variant is fitted with an open, mechanical stage, as standard. On the other hand, the KERN OKN reflected illumination variant has a closed, mechanical stage, as standard.
- A simple polarising unit (analyser and polariser) is included with delivery.
- A large selection of accessories, such as, for example, a trinocular eyepiece tube, eyepieces and further objectives are available for longer working distances.
- A protective dust cover, eye cups, as well as multi-lingual user instructions are included in the scope of delivery.
- A C-mount adapter is required to connect a camera to the trinocular version. You can select this adapter from the following model outfit list.
- Please find detailed information in the following charts.

Scope of application

- Metallurgy, material testing, quality assurance

Applications/Samples

- Opaque and thick samples, workpieces (surfaces, fold lines, coatings)

Technical data

- Infinity optical system
- Quintuple nosepiece
- Siedentopf 30° inclined/360° rotatable
- Diopter adjustment: Both-sided
- Overall dimensions W×D×H 550×200×460 mm
- Net weight basic configuration approx. 14,5 kg

STANDARD

OPTION

Model	Standard configuration					
KERN	Tube	Eyepiece	Objective quality	Objectives	Illumination	
OKN 175	Binocular	WF 10×/Ø 18 mm	Infinity Plan	5×/10×/LWD20×/ LWD40×	12 V/50 W Halogen (incident)	
OKO 176	Binocular	WF 10×/Ø 18 mm	Infinity Plan	5×/10×/LWD20×/ LWD40×/100×	12 V/50 W Halogen (incident) + 6 V/20 W (transmitted)	
OKN 177	Binocular	WF 10×/Ø 18 mm	Infinity Plan	5×/10×/LWD20×/ LWD40×	12 V/100 W Halogen (incident)	
OKO 178	Binocular	WF 10×/Ø 18 mm	Infinity Plan	5×/10×/LWD20×/ LWD40×/100×	12 V/100 W Halogen (incident) + 6 V/20 W (transmitted)	

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Metallurgical microscopes KERN OKN-1 · OKO-1

Model outfit		Model KERN				Order number	
		OKN 175	OKO 176	OKN 177	OKO 178		
Eyepieces (23,2 mm)	WF 10×/⌀ 18 mm	✓✓	✓✓	✓✓	✓✓	OBB-A1347	
	WF 10×/⌀ 18 mm (reticule 0,1 mm) (adjustable)	✓	✓	✓	✓	OBB-A1350	
	WF 5×/⌀ 20 mm	○○	○○	○○	○○	OBB-A1355	
	WF12,5×/⌀ 14 mm	○○	○○	○○	○○	OBB-A1353	
	WF 16×/⌀ 13 mm	○○	○○	○○	○○	OBB-A1354	
Infinity Plan objectives (no cover glass)	5×/0,11 W.D. 6,73 mm	✓	✓	✓	✓	OBB-A1268	
	10×/0,25 W.D. 4,19 mm	✓	✓	✓	✓	OBB-A1244	
	20×/0,40 (spring) W.D. 2,14 mm	○	○	○	○	OBB-A1251	
	40×/0,65 (spring) W.D. 0,45 mm	○	○	○	○	OBB-A1258	
	100×/1,25 (oil) (spring) W.D. 0,12 mm		✓		✓	OBB-A1241	
Infinity Plan objectives (no cover glass) for long working distance	20×/0,40 (spring) W.D. 8,35 mm	✓	✓	✓	✓	OBB-A1252	
	40×/0,65 (spring) W.D. 3,90 mm	✓	✓	✓	✓	OBB-A1259	
	50×/0,70 (spring) W.D. 1,95 mm	○	○	○	○	OBB-A1266	
	80×/0,80 (spring) W.D. 0,85 mm	○	○	○	○	OBB-A1271	
Binocular tube	· Siedentopf 30° inclined/360° rotatable · Interpupillary distance 50 – 75 mm · Diopter adjustment: Both-sided	✓	✓	✓	✓		
	· Butterfly 30° inclined/360° rotatable · Interpupillary distance 50 – 75 mm · Diopter adjustment: Both-sided	○	○	○	○	OBB-A1359	
Trinocular tube	· Siedentopf 30° inclined/360° rotatable · Interpupillary distance 50 – 75mm · Light distribution 100:0 · Diopter adjustment: Both-sided	○	○	○	○	OBB-A1344	
	· Butterfly 30° inclined/360° rotatable · Interpupillary distance 50 – 75 mm · Light distribution 100:0 · Diopter adjustment: Both-sided	○	○	○	○	OBB-A1382	
Mechanical stage for reflection	· Stage size W×D 200×140 mm · Travel 78×55 mm · Stage fast lowering unit · Stage Up-Down moving range: max. 50 mm	✓		✓			
Mechanical stage for transmitted illumination	· Stage size W×D 175×145 mm · Travel 78×55 mm · Coaxial coarse and fine focusing knobs		✓		✓		
Stage plate	Plate for sample placement	✓	✓	✓	✓		
Glass plate	Glass plate		○		○	OBB-A1378	
Reflected illumination unit	Polarising unit (Incl. analyser, polariser and blue filter slide)	✓	✓	✓	✓		
Condenser	Abbe N.A. 1,25 (aperture diaphragm)		✓		✓	OBB-A1380	
Illumination	6 V/20 W Halogen spare bulb (transmitted)		✓		✓	OBB-A1370	
	12 V/50 W Halogen spare bulb (incident)	✓	✓			OBB-A1207	
	12 V/100 W Halogen spare bulb (incident)			✓	✓	OBB-A1377	
Polarising unit	for transmitted illumination		✓		✓	OBB-A1470	
Colour filters for transmitted illumination	Blue (fitted to the condenser)		✓		✓		
	Green		○		○	OBB-A1188	
	Yellow		○		○	OBB-A1165	
	Gray		○		○	OBB-A1183	
C-Mount	1×	○	○	○	○	OBB-A1140	
	0,57× (focus adjustable)	○	○	○	○	OBB-A1136	

✓ = Included with delivery ○ = Option

KERN Pictograms:

360° rotatable microscope head

Monocular Microscope
For the inspection with one eye

Binocular Microscope
For the inspection with both eyes

Trinocular Microscope
For the inspection with both eyes and the additional option for the connection of a camera

Abbe Condenser
With high numerical aperture for the concentration and the focusing of light

Halogen illumination
For pictures bright and rich in contrast

LED illumination
Cold, energy saving and especially long-life illumination

Incident illumination
For non-transparent objects

Transmitting illumination
For transparent objects

Fluorescence illumination
For stereomicroscopes

Fluorescence illumination for compound microscopes
With 100 W mercury lamp and filter

Fluorescence illumination for compound microscopes
With 3 W LED illumination and filter

Phase contrast unit
For a higher contrast

Darkfield condenser/unit
For a higher contrast due to indirect illumination

Polarising unit
To polarise the light

Infinity system
Infinity corrected optical system

Zoom magnification
For stereomicroscopes

Parallel optical system
For stereomicroscopes, enables fatigue-proof working

Integrated scale
In the eyepiece

Integrated USB 2.0 digital camera
For direct transmitting of the picture to a PC

Integrated USB 3.0 digital camera
For direct transmitting of the picture to a PC

HDMI digital camera
For direct transmitting of the picture to a display device

SD card
For data storage

PC software
To transfer the measurements from the device to a PC.

Automatic temperature compesation
For measurements between 10 °C and 30 °C

Protection against dust and water splashes IPxx
The type of protection is shown by the pictogram.

Battery operation
Ready for battery operation. The battery type is specified for each device.

Battery operation rechargable
Prepared for a rechargable battery operation

Mains adapter
230V/50Hz in standard version for EU. On request GB, AUS or USA version.

Power supply
Integrated in balance. 230V/50Hz standard EU. More standards e.g. GB, AUS or USA on request.

Package shipment
The time required to manufacture the product internally is shown in days in the pictogram.

Warranty
The warranty period is shown in the pictogram.

Abbreviations

C-Mount Adapter for the connection of a camera to a trinocular microscope

FPS Frames per second

H(S)WF High (Super) Wide Field (Eyepiece with high eye point for wearers of glasses)

LWD Long Working Distance

N.A. Numerical Aperture

SLR Kamera Single-Lens Reflex camera

SWF Super Wide Field (Field number at least Ø 23 mm for 10x eyepiece)

W.D. Working Distance

WF Wide Field (Field number up to Ø 22 mm for 10x eyepiece)

Your KERN specialist dealer: