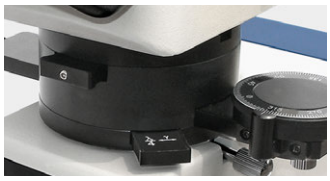
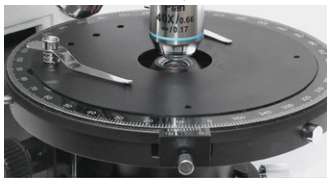
Polarising microscopes KERN OPM-1 · OPN-1 · OPO-1


OPO


OPM


OPN


Bertrand lens, λ Slip, 360° rotatable analyser (removable)


Center-adjustable and turnable polarisation stage


“Swing-Out” condenser

PROFESSIONAL LINE POL

The flexible and powerful polarising microscope for all professional applications with reflected and transmitted light

Features

- These devices are professional, fully-equipped polarising microscopes, which use the polarisation of light to analyse minerals, crystals and isotropic materials
- You can choose between a pure transmitted light variant (KERN OPM), a pure reflected light variant (KERN OPN) and a combi variant (KERN OPO). A complete Koehler illumination is integrated into all series as standard
- As standard, the KERN OPM and OPO transmitted illumination variants have a height-adjustable 0,9/0,13 swing-out Abbe condenser which can be centred, for complete Koehler illumination
- A 360° revolving stage with 1° division, 6' fine division and locking function is integrated into all series as standard
- As standard all series are fitted with a complete polarising unit with scale, a Bertrand lens, a λ + ¼ λ Slip as well as a quartz wedge
- A large selection of accessories such as, for example, a mechanical stage attachment as well as further objectives for a long working distance and filter units are also available
- 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. You can select this adapter from the following model outfit list
- Please find detailed information in the following model outfit list

Scope of application

- Mineralogy, texture observations, material testing, observation of crystals

Applications/Samples

- More complex samples with polarising properties

Technical data

- Infinity optical system
- Quintuple nosepiece
- Siedentopf 30° inclined
- Diopter adjustment: One-sided
- Overall dimensions W×D×H 500×200×500 mm
- Net weight approx. 14,5 kg

STANDARD

TRINO · ABBE · HAL · POLAR · INFINITY · SCALE · 230 V · 1 DAY

Model	Standard configuration					
KERN	Tube	Eyepiece	Objective quality	Objectives	Illumination	
OPM 181	Trinocular	WF 10×/⌀ 20 mm	Infinity Plan	Non-stress 4×/10×/20×/40×	20 W Halogen (transmitted)	
OPN 184	Trinocular	WF 10×/⌀ 18 mm	Infinity Plan	Non-stress 4×/10×/20×/40×	100 W Halogen (incident)	
OPO 185	Trinocular	WF 10×/⌀ 18 mm	Infinity Plan	Non-stress 4×/10×/20×/40×/60×	100 W Halogen (incident) + 20 W (transmitted)	

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Model outfit		Model KERN			Order number	
		OPM 181	OPN 184	OPO 185		
Eyepieces (23,2 mm)	WF 10×/18 mm		✓	✓	OBB-A1347	
	WF 10×/18 mm (reticule 0,1 mm) (adjustable)		✓	✓	OBB-A1464	
	WF 10×/20 mm	✓			OBB-A1351	
	WF 10×/20 mm (reticule 0,1 mm) (adjustable)	✓			OBB-A1465	
Non-stress Infinity Plan objectives	4×/0,10 W.D. 12,1 mm	✓	✓	✓	OBB-A1294	
	10×/0,25 W.D. 4,64 mm	✓	✓	✓	OBB-A1289	
	20×/0,40 (spring-loaded) W.D. 2,41 mm	✓	✓	✓	OBB-A1290	
	40×/0,65 (spring-loaded) W.D. 0,65 mm	✓		✓	OBB-A1292	
	40×/0,65 (spring-loaded) (no cover glass) W.D. 3,9 mm	○	✓	○	OBB-A1288	
	60×/0,80 (spring-loaded) W.D. 0,33 mm	○	○	✓	OBB-A1296	
Infinity Plan objectives (no cover glass) for long working distance	20×/0,40 W.D. 8,35 mm	○	○	○	OBB-A1291	
	40×/0,65 W.D. 3,90 mm	○	○	○	OBB-A1293	
	50×/0,70 (spring-loaded) W.D. 1,95 mm	○	○	○	OBB-A1295	
	80×/0,80 (spring-loaded) W.D. 0,85 mm	○	○	○	OBB-A1297	
Trinocular tube	· Siedentopf 30° inclined · Interpupillary distance 50 – 75 mm · Light distribution 100:0 · Diopter adjustment: One-sided	✓	✓	✓		
Professional dedicated polarising trinocular head	To keep the reticular cross in the right-hand eyepiece in the same position, independent of the adjustment of the tube.	○	○	○	OBB-A1210	
Analyser unit with scale	360° rotatable, lockable	✓	✓	✓		
Bertrand lens	Built-in, center-adjustable	✓	✓	✓	OBB-A1121	
λ + ¼ λ Slip	λ Slip and ¼ λ Slip (combination)	✓	✓	✓	OBB-A1316	
Quartz wedge	I – IV Class	✓	✓	✓	OBB-A1321	
Revolving round stage	360° rotatable, center-adjustable, division 1°, Vernier division 6'	✓	✓	✓		
Polarising attached mechanical stage	Polarising attached mechanical stage	○	○	○	OBB-A1337	
Swing-out condenser	N.A. 0,9/0,13 swing-out achromatic condenser (aperture diaphragm)	✓		✓	OBB-A1107	
Polarising unit with scale (transmitted)	360° rotatable, lockable	✓		✓		
Koehler illumination	20 W Halogen spare bulb (transmitted)	✓		✓	OBB-A1370	
Reflecting polarising unit replacement bulb	12 V/50 W Halogen		○	○	OBB-A1207	
	12 V/100 W Halogen		✓	✓	OBB-A1377	
Colour filters for transmitted illumination	Blue	✓		✓	OBB-A1170	
	Green	○		○	OBB-A1188	
	Yellow	○		○	OBB-A1165	
	Grey	○		○	OBB-A1183	
C-Mount	1×	○	○	○	OBB-A1140	
	0,57× (focus adjustable)	○	○	○	OBB-A1136	

✓ = Included with delivery ○ = Option

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

SD card
For data storage

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

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

WLAN data interface
For transmitting of the picture to a mobile display device

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

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 microscope. 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.

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 camera	Single-Lens Reflex camera
SWF	Super Wide Field (Field number at least ⌀ 23 mm for 10× eyepiece)
W.D.	Working Distance
WF	Wide Field (Field number up to ⌀ 22 mm for 10× eyepiece)

Your KERN specialist dealer: