







λ Slip and quartz wedge

#### **EDUCATIONAL LINE POL**

# The economical polarising microscope for training, laboratory and industry

#### Features

- The KERN OPE series is a range of excellent polarising microscopes with transmitted light for all common routine applications, such as, for example observation and analysis of translucent, isotropic materials such as, for example, crystals or minerals
- The strong, continuously dimmable 20 W halogen transmitted illumination is the basis for excellent and high-contrast images.
- The height-adjustable and focusable 1,25
   Abbe condenser with aperture diaphragm is a further quality feature of the KERN OPE series and ensures the very best adjustment of the illumination.
- A quadruple nosepiece enables rapid and simple changing to the different magnification levels. As standard, the nosepiece is fitted with three achromatic "non stress" polarising objectives

- The monocular eyepiece tube is fitted with a polarising unit, a Bertrand lens and a  $\lambda + \frac{1}{4} \lambda$  Slip.
- A 360° revolving stage with 1° division, 6' fine division and locking function is integrated into the KERN OPE series as standard.
- A large selection of accessories such as, for example, a quartz wedge, a mechanical table attachment as well as further objectives are available.
- A protective dust cover, eye cups, as well as multi-lingual user instructions are included in the scope of delivery.
- Please find detailed information in the following charts.

#### Scope of application

 Training, mineralogy, texture observations, material testing, observation of crystals

#### Applications/Samples

Less complex samples with polarising properties

#### Technical data

- · Finite optical system
- Quadplex nosepiece
- Siedentopf 30° inclined/360° rotatable
- Overall dimensions W×D×H 320×180×380 mm
- · Net weight approx. 5,5 kg

#### STANDARD















Model	Standard configuration					
KERN	Tube	Eyepiece	Objective quality	Objectives	Illumination	
OPE 118	Monocular	WF 10×/Ø 18 mm	Achromatic	Non-stress 4×/10×/40×	6 V/20 W Halogen (transmitted)	

# Polarising microscope KERN OPE-1



Model outfit		Model KERN	Order number
		OPE 118	
Eyepieces	WF 10×/Ø 18 mm (reticule 0,1 mm) (non-adjustable)	✓	OBB-A1349
(23,2 mm)	WF 16×/ø 13 mm	0	OBB-A1354
	4×/0,10	✓	OBB-A1280
Non-stress	10×/0,25	✓	OBB-A1278
achromatic	40×/0,66 (spring)	✓	OBB-A1281
objectives	20×/0,40	0	OBB-A1279
	60×/0,80 (spring)	0	OBB-A1282
Monocular tube	30° inclined/360° rotatable	✓	OBB-A1227
Analyser unit	0 – 90°, can easily be moved out of the optical path	✓	
Bertrand lens	Can easily be moved out of the optical path	✓	OBB-A1120
λ + 1/4 λ Slip	λ Slip and 1/4 λ Slip (combination)	✓	OBB-A1316
Quartz wedge	I - IV Class	0	OBB-A1320
Revolving round stage	360° rotatable, Division 1°, Fine division 6', locking fuction	✓	
Polarising attached mechanical stage	Polarising attached mechanical stage	O	OBB-A1337
Condenser	Abbe N.A. 1,25 (aperture diaphragm)	✓	OBB-A1101
Polarising unit	Can be moved out of the optical path	✓	
Colour filters for transmitted illumination	Blue (holder ring)	✓	OBB-A1173
Illumination	6 V/20 W Halogen spare bulb (transmitted)	✓	OBB-A1370

✓ = Included with delivery

O = Option

### **KERN Pictograms:**





360° rotatable microscope head



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



SD card For data storage



Monocular Microscope

For the inspection with one eye



Phase contrast unit For a higher contrast



PC software

To transfer the measurements from the device to a PC.



Binocular Microscope

For the inspection with both eyes



Darkfield condenser/unit

For a higher contrast due to indirect illumination



Automatic temperature compesation

For measurements between 10 °C and 30 °C



Trinocular Microscope

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



Polarising unit

To polarise the light



Protection against dust and water splashes IPxx

The type of protection is shown by the pictogram.



**Abbe Condenser** 

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



Infinity system

Infinity corrected optical system



**Battery operation** 

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



Halogen illumination

For pictures bright and rich in contrast



Zoom magnification

For stereomicroscopes



**Battery operation rechargable** 

Prepared for a rechargable battery operation



**LED** illumination

Cold, energy saving and especially long-life illumination



Parallel optical system

For stereomicroscopes, enables fatigue-proof working



Mains adapter

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



Incident illumination

For non-transparent objects



❖

USB 2.0

•

USB 3.0

Integrated scale In the eyepiece

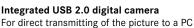
-230 V Power supply

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



Transmitting illumination

For transparent objects





Package shipment The time required to manufacture the



Fluorescence illumination

For stereomicroscopes





WF

product internally is shown in days in the pictogram.



FL-HB0

Fluorescence illumination

for compound microscopes With 100W mercury lamp and filter



**HDMI** digital camera

For direct transmitting of the picture to a display device

For direct transmitting of the picture to a PC

3 YEARS WARRANTY Warranty The warranty period is shown in the

#### **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

SLR Kamera Single-Lens Reflex camera

N.A. **Numerical Aperture**  **SWF** Super Wide Field

pictogram.

(Field number at least Ø 23 mm

for 10x eyepiece)

Working Distance W.D.

Wide Field (Field number up to Ø22 mm for 10x eyepiece)

## Your KERN specialist dealer: