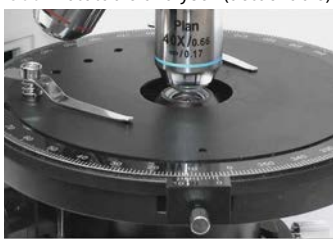
OPM

OPN

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



Centrable and rotatable polarisation stage

Swing-out condenser

PROFESSIONAL LINE POL

The polarising model for the flexible and professional user

Features

- The KERN OPM, OPN and OPO microscope series are polarisation microscopes for professional applications.
- They are available with two illumination systems: Standard halogen illumination (50 W) and premium illumination (100 W).
- They are both suitable for all common routine applications and produce impressive images.
- A transmitted light model (OPM), an reflecting light model (OPN) and a combination model (OPO) are available.
- A nosepiece with objective centring option for up to 5 objectives and a precise stage, rotatable through 360° and lockable, are provided as standard.
- These microscopes are equipped with wide field eyepieces with large field of view, non-stress, infinity corrected, plan achromatic objectives, λ slips, a Bertrand lens and a quartz wedge as standard, plus numerous additional valuable features, depending on model.
- The following optional accessories are available: A mechanical stage unit, a special polarisation microscope head, LWD objectives for a large working distance, diverse filters and more.
- One of the central features of this highly variable and simultaneously robust series of microscopes is the stable and precisely adjustable mechanism. This is underlined by the functional and ergonomic design.

Technical data

OPM 181
- Overall dimensions WxDxH 306x200x445 mm
- Net weight approx. 10 kg

OPN 182 / OPN 184
- Overall dimensions WxDxH 306x200x497,5 mm
- Net weight approx. 13 kg

OPO 183 / OPO 185
- Overall dimensions WxDxH 306x200x497,5 mm
- Net weight approx. 12 kg

Please find detailed information in the following charts.

STANDARD

OPTION

Model KERN	Standard configuration			
	Optical system	Tube	Illumination	
OPM 181	Infinity	Binocular	6V / 20W (transmitting)	
OPN 182	Infinity	Binocular	12V / 50W Halogen (reflecting)	
OPO 183	Infinity	Binocular	12V / 50W Halogen (reflecting) + 6V / 20W (transmitting)	
OPN 184	Infinity	Binocular	12V / 100W Halogen (reflecting)	
OPO 185	Infinity	Binocular	12V / 100W Halogen (reflecting) + 6V / 20W (transmitting)	

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Model outfit		Model KERN	Order number	
		OPM 181		
Eyepieces	WF10 / Ø 20 mm	●	OBB-A1351	
	WF 10x / Ø 20 mm (reticule 0,1 mm) (adjustable)	●	OBB-A1352	
Non-stress Infinity plan objectives	4x / 0,10	●	OBB-A1294	
	10x / 0,25	●	OBB-A1289	
	20x / 0,40 (spring)	●	OBB-A1290	
	40x / 0,65 (spring) (0,17 mm cover glass)	●	OBB-A1292	
	60x / 0,80 (spring)	○	OBB-A1296	
Binocular tube	· Siedentopf, 30°inclined, 360° rotatable · Interpupillary distance: 50 – 75 mm · With diopter adjustment (one-sided)	●	OBB-A1125	
Trinocular tube	· Siedentopf, 30°inclined, 360° rotatable · Interpupillary distance: 50 – 75 mm · Light distribution: 100:0 · With diopter adjustment (one-sided)	○	OBB-A1344	
Professional dedicated polarising binocular head	To keep the reticular cross in the right-hand eyepiece in the same position, independent of the adjustment of the tube.	○	OBB-A1209	
Professional dedicated polarising trinocular head		○	OBB-A1210	
Nosepiece	Quintuple	●		
Analyser unit with scale	360° rotatable, lockable	●	OBB-A1117	
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-A1320	
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	360° rotatable, lockable	●	OBB-A1284	
Koehler illumination	6V / 20W Halogen (transmitting)	●	OBB-A1204	
Filter	Blue	●	OBB-A1172	
	Amber	○	OBB-A1165	
	Green	○	OBB-A1189	
	Neutral	○	OBB-A1198	
C-Mount	1x	○	OBB-A1140	
	0,57x (focus adjustable)	○	OBB-A1136	

● = Standard configuration ○ = Option

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Model outfit		Model KERN				Order number	
		OPN 182	OPO 183	OPN 184	OPO 185		
Eyepieces	WF 10x / 18 mm	●	●	●	●	OBB-A1347	
	WF 10x / 18 mm (reticule 0,1 mm) (adjustable)	●	●	●	●	OBB-A1350	
Non-stress Infinity Plan objectives	4x / 0,10	●	●	●	●	OBB-A1294	
	10x / 0,25	●	●	●	●	OBB-A1289	
	20x / 0,40 (spring)	●	●	●	●	OBB-A1290	
	40x / 0,65 (spring) (0,17 mm cover glass)		●		●	OBB-A1292	
	40x / 0,65 (spring) (no cover glass)	●	○	●	○	OBB-A1288	
	60x / 0,80 (spring)	○	●	○	●	OBB-A1296	
Infinity Plan objectives (no cover glass) for LWD	LWD 20x / 0,40 (spring) W.D. 8,35 mm	○	○	○	○	OBB-A1291	
	LWD 40x / 0,65 (spring) W.D. 3,90 mm	○	○	○	○	OBB-A1293	
	LWD 50x / 0,70 (spring) W.D. 1,95 mm	○	○	○	○	OBB-A1295	
	LWD 80x / 0,80 (spring) W.D. 0,85 mm	○	○	○	○	OBB-A1297	
Binocular tube	· Siedentopf, 30°inclined, 360° rotatable · Interpupillary distance: 50 – 75 mm · With diopter adjustment (one-sided)	●	●	●	●	OBB-A1124	
Trinocular tube	· Siedentopf, 30°inclined, 360° rotatable · Interpupillary distance: 50 – 75mm · Light distribution: 100:0 · With diopter adjustment (one-sided)	○	○	○	○	OBB-A1343	
Professional dedicated polarising binocular head	To keep the reticular cross in the right-hand eyepiece in the same position, independent of the adjustment of the tube.	○	○	○	○	OBB-A1209	
Professional dedicated polarising trinocular head		○	○	○	○	OBB-A1210	
Nosepiece	Quintuple	●	●	●	●		
Analyser unit with scale	360° rotatable, lockable	●	●	●	●	OBB-A1117	
Bertrand lens	Built-in, center-adjustable	●	●	●	●	OBB-A1121	
λ + ¼ λ Slip	λ Slip und ¼ λ Slip (combination)	●	●	●	●	OBB-A1316	
Quartz wedge	(I – IV class)	●	●	●	●	OBB-A1320	
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	360° rotatable, lockable		●		●	OBB-A1284	
Koehler illumination	6V / 20W Halogen (transmitting)		●		●	OBB-A1204	
Filter	Blue	●	●	●	●	OBB-A1172	
	Amber	○	○	○	○	OBB-A1165	
	Green	○	○	○	○	OBB-A1189	
	Neutral	○	○	○	○	OBB-A1198	
Reflecting polarising unit replacement bulb	12V / 50W Halogen	●	●	○	○	OBB-A1207	
	12V / 100W Halogen	○	○	●	●	OBB-A1376	
C-Mount	1x	○	○	○	○	OBB-A1140	
	0,57x (focus adjustable)	○	○	○	○	OBB-A1136	

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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

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

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.

Rechargeable battery pack
Rechargeable set.

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

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)

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