

Phase contrast microscopes KERN OBL-14 · 15



Mounted phase contrast condenser



Simple PH condenser with 40× PH slide

## LAB LINE

High-quality phase contrast microscope – specially pre-configured with a series of options for flexible expansion

### Features

- We have developed this series specially for general applications with phase contrast method. In addition, the stable, modular construction system of the OBL series offers many more options
- Depending on the application, there is a choice of models with strong, infinitely dimmable 3W LED or 20W halogen illumination (Philips)
- A special fixed, pre-centred phase contrast condenser as well as field diaphragm give you a simplified Koehler illumination and thereby a powerful phase-contrast display of your sample
- The large mechanical stage and its specimen holder holds up to two samples at the same time and is quick and easy to focus using a coaxial coarse and fine focusing knob on both sides
- A large selection of eyepieces, objectives and colour filters, a simple polarising unit as well as further phase contrast units are available to you as accessories
- 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 model outfit list

### Scope of application

- Haematology, urology, gynaecology, dermatology, pathology, microbiology and parasitology, immunology, Sewage treatment plants, Oncology, entomology, vets, water analysis and breweries

### Applications/Samples

- Specially for extremely translucent, thin, low-contrast, challenging samples (e.g. living mammal cells, bacteria, tissue) with phase contrast

### Technical data

- Infinity optical system
- Quadplex nosepiece
- Siedentopf 30° inclined/360° rotatable
- Diopter adjustment: One-sided
- Overall dimensions W×D×H 395×200×380 mm
- Net weight approx. 6,7 kg

#### STANDARD



#### OPTION



#### Model

Standard configuration

KERN	Tube	Eyepiece	Objective quality	Objectives	Illumination
<b>OBL 146</b>	Binocular	HWF 10×/ø 20 mm	Infinity E-Plan/Plan		3 W LED (transmitted)
<b>OBL 155</b>	Trinocular	HWF 10×/ø 20 mm	Infinity E-Plan/Plan	4×/PH10×/PH40×/100×	20 W Halogen (transmitted)
<b>OBL 156</b>	Trinocular	HWF 10×/ø 20 mm	Infinity E-Plan/Plan		3 W LED (transmitted)




























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Model outfit	Model KERN			Order number	
	OBL 155	OBL 146	OBL 156		
<b>Eyepieces</b> (23,2 mm)	HWF 10×/∅ 20 mm	✓✓	✓✓	✓✓	OBB-A1404
	WF 16×/∅ 13 mm	○○	○○	○○	OBB-A1354
	HWF 10×/∅ 20 mm (with Pointer)	○	○	○	OBB-A1448
<b>Infinity E-Plan objectives</b>	4×/0,10 W.D. 12,1 mm	✓	✓	✓	OBB-A1161
	10×/0,25 W.D. 2,1 mm	○	○	○	OBB-A1159
	40×/0,65 (spring-loaded) W.D. 0,58 mm	○	○	○	OBB-A1160
	100×/1,25 (oil) (spring-loaded) W.D. 0,19 mm	✓	✓	✓	OBB-A1158
	Plan 20×/0,40 (spring-loaded) W.D. 2,41 mm	○	○	○	OBB-A1250
	Plan 60×/0,80 (spring-loaded) W.D. 0,33 mm	○	○	○	OBB-A1270
	Plan 100×/1,15 (water) (spring-loaded) W.D. 0,18 mm	○	○	○	OBB-A1437
<b>Binocular tube</b>	<ul style="list-style-type: none"> <li>• Butterfly 30° inclined/360° rotatable</li> <li>• Interpupillary distance 50 – 75 mm (for infinity system)</li> <li>• Diopter adjustment: One-sided</li> </ul>	○	✓	○	OBB-A1578
<b>Trinocular tube</b>	<ul style="list-style-type: none"> <li>• Butterfly 30° inclined/360° rotatable</li> <li>• Interpupillary distance 50 – 75 mm</li> <li>• Light distribution 20:80 (for infinity system)</li> <li>• Diopter adjustment: One-sided</li> </ul>	✓	○	✓	OBB-A1582
<b>Mechanical stage</b>	<ul style="list-style-type: none"> <li>• Stage size W×D 145×130 mm</li> <li>• Travel 76×52 mm</li> <li>• Coaxial coarse and fine focusing knobs, scale: 2 µm</li> <li>• Two slide holder</li> </ul>	✓	✓	✓	
<b>PH condenser</b>	Abbe N.A. 1,25 precentered, for bright field and phase contrast	✓	✓	✓	OBB-A1398
<b>Phase contrast units</b>	Infinity PH-Plan objective 10×	✓	✓	✓	OBB-A1390
	Infinity PH-Plan objective 20×	○	○	○	OBB-A1391
	Infinity PH-Plan objective 40×	✓	✓	✓	OBB-A1392
	Infinity PH-Plan objective 100×	○	○	○	OBB-A1393
	PH slide 10×	✓	✓	✓	OBB-A1399
	PH slide 20×	○	○	○	OBB-A1400
	PH slide 40×	✓	✓	✓	OBB-A1401
	PH slide 100×	○	○	○	OBB-A1402
	Centering eyepiece	✓	✓	✓	
<b>Darkfield condenser</b>	N.A. 0,85 – 0,91 (dry, paraboloid)	○	○	○	OBB-A1422
<b>Illumination</b>	20 W Halogen spare bulb (transmitted)	✓			OBB-A1643
	3 W LED illumination system (transmitted) (non-rechargeable)		✓	✓	
<b>Colour filters for transmitted illumination</b>	Blue (built-in)	✓	✓	✓	
	Green	✓	✓	✓	OBB-A1188
	Yellow	○	○	○	OBB-A1165
	Grey	○	○	○	OBB-A1183
<b>C-Mount</b>	0,5× (focus adjustable)	○		○	OBB-A1515
	1×	○		○	OBB-A1514

For further optional accessories, please see the list of items for the OBL-12 and OBL-13 series from page 17

✓ = Included with delivery

○ = Option

- 
**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
- 
**Auto-focus**  
 For automatic control of the focus level
- 
**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
- 
**WiFi 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 compensation**  
 For measurements between 10 °C and 30 °C
- 
**Protection against dust and water splashes IPxx:**  
 The type of protection is shown in the pictogram cf. DIN EN 60529:2000-09, IEC 60529:1989+A1:1999+A2:2013
- 
**Battery operation**  
 Ready for battery operation. The battery type is specified for each device.
- 
**Battery operation rechargeable**  
 Prepared for a rechargeable battery operation
- 
**Plug-in power supply**  
 230V/50Hz in standard version for EU. On request GB, AUS or USA version.
- 
**Integrated power supply unit**  
 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  $\varnothing$  23 mm for 10 $\times$  eyepiece)
- W.D.** Working Distance
- WF** Wide Field (Field number up to  $\varnothing$  22 mm for 10 $\times$  eyepiece)