Compound microscopes KERN OBL-12 · 13





Trinocular version



#### LAB LINE

# The flexible laboratory assistant with infinity optical system and fixed, pre-centred Koehler illumination

#### **Features**

- The OBL series stands out through its infinity optical unit and is therefore ideally suited for all demanding transmitted illumination applications. The robust and ergonomic stand base guarantees safe and comfortable working
- Depending on the application, there is a choice of models with strong, continuously dimmable 3 W LED or 20 W halogen illumination (Philips)
- The fixed, pre-centred and focusable 1,25
   Abbe condenser with aperture diaphragm and field diaphragm gives you a simplified Koehler illumination, without having to move the centre
- 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 as well as a darkfield condenser, a simple polarising unit, different phase contrast kits through to HBO and LED fluorescence 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, oncology, entomology, vets, water analysis and breweries

## Applications/Samples

 Translucent, thin, low-contrast, challenging samples (e.g. living mammal cells, bacteria, tissue)

#### **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

| ANDAR |      |       |      |     | _   |          |          | _     |
|-------|------|-------|------|-----|-----|----------|----------|-------|
| O     | 00   |       |      | D   | 10  | $\infty$ | <b>-</b> |       |
| 360°  | BINO | TRINO | ABBE | HAL | LED | INFINITY | 230 V    | 1 DAY |

| OPTION |        |    |    |       |       |
|--------|--------|----|----|-------|-------|
|        |        | 0  | •  |       | min   |
| FL-HB0 | FL-LED | PH | DF | POLAR | SCALE |

| Model    |            | Standard configuration |                   |                    |                            |  |  |
|----------|------------|------------------------|-------------------|--------------------|----------------------------|--|--|
| KERN     | Tube       | Eyepiece               | Objective quality | Objectives         | Illumination               |  |  |
| OBL 125* | Binocular  | HWF 10×/Ø 20 mm        | Infinity E-Plan   |                    | 20 W Halogen (transmitted) |  |  |
| OBL 127  | Binocular  | HWF 10×/Ø 20 mm        | Infinity E-Plan   | 4× /10× /40× /100× | 3 W LED (transmitted)      |  |  |
| OBL 135* | Trinocular | HWF 10×/Ø 20 mm        | Infinity E-Plan   | 4×/10×/40×/100×    | 20 W Halogen (transmitted) |  |  |
| OBL 137  | Trinocular | HWF 10×/Ø 20 mm        | Infinity E-Plan   |                    | 3 W LED (transmitted)      |  |  |



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| Model outfit   | Model outfit  |            | Mode       | KERN       | Order number |           |  |  |  |
|--|---|------------|------------|------------|--------------|-----------|--|--|--|
|  |   | OBL<br>125 | OBL<br>135 | OBL<br>127 | OBL<br>137   | -         |  |  |  |
|  | HWF 10×/Ø 20 mm   | 44         | 44         | 44         | 44           | OBB-A1404 |  |  |  |
| Eyepieces<br>(23,2 mm)                                 | WF 16×/Ø 13 mm  | 00         | 00         | 00         | 00           | OBB-A1354 |  |  |  |
|  | HWF 10×/Ø 20 mm (with Pointer)  | 0          | 0          | 0          | 0            | OBB-A1448 |  |  |  |
|  | 4×/0,10 W.D. 12,1 mm  | ✓          | 1          | ✓          | ✓            | OBB-A1161 |  |  |  |
|  | 10×/0,25 W.D. 2,1 mm  | ✓          | ✓          | ✓          | ✓            | OBB-A1159 |  |  |  |
|  | 40×/0,65 (spring-loaded) W.D. 0,58 mm   | ✓          | ✓          | ✓          | ✓            | OBB-A1160 |  |  |  |
| Infinity<br>E-Plan objectives                          | 100×/1,25 (oil) (spring-loaded) W.D. 0,19 mm  | ✓          | 1          | ✓          | ✓            | OBB-A1158 |  |  |  |
| L i idii objectives                                    | Plan 20×/0,40 (spring-loaded) W.D. 2,41 mm  | 0          | 0          | 0          | 0            | OBB-A1250 |  |  |  |
|  | Plan 60×/0,80 (spring-loaded) W.D. 0,33 mm  | 0          | 0          | 0          | 0            | OBB-A1270 |  |  |  |
|  | Plan 100×/1,15 (water) (spring-loaded) W.D. 0,18 mm   | 0          | 0          | 0          | 0            | OBB-A1437 |  |  |  |
| Binocular tube   | Butterfly 30° inclined/360° rotatable     Interpupillary distance 50 – 75 mm (for infinity system)     Diopter adjustment: One-sided                              | <b>✓</b>   | 0          | <b>✓</b>   | 0            | OBB-A1578 |  |  |  |
| Trinocular tube  | Butterfly 30° inclined/360° rotatable     Interpupillary distance 50 – 75 mm     Light distribution 20:80 (for infinity system)     Diopter adjustment: One-sided | 0          | <b>✓</b>   | 0          |              | OBB-A1580 |  |  |  |
| Mechanical stage                                       | Stage size W×D 145×130 mm Travel 76×52 mm Coaxial coarse and fine focusing knobs, scale: 2 µm Two slide holder  | <b>✓</b>   | <b>✓</b>   | <b>✓</b>   | <b>✓</b>     |           |  |  |  |
| Condenser  | Abbe N.A. 1,25 precentered (aperture diaphragm)   | ✓          | ✓          | ✓          | ✓            | OBB-A1103 |  |  |  |
| Darkfield<br>condenser                                 | N.A. 0,85 – 0,91 (dry, paraboloid)  | 0          | 0          | 0          | 0            | OBB-A1422 |  |  |  |
|  | 20 W Halogen spare bulb (transmitted)   | ✓          | 1          |            |              | OBB-A1370 |  |  |  |
| Illumination   | 3 W LED illumination system (transmitted) (non-rechargeable)  |            |            | ✓          | ✓            |           |  |  |  |
| Polarising unit  | Analyser/Polariser  | 0          | 0          | 0          | 0            | OBB-A1277 |  |  |  |
| Phase contrast<br>units (including<br>PH-condenser and | Single unit with ∞ PH-Plan objective 10×  | 0          | 0          | 0          | 0            | OBB-A1215 |  |  |  |
|  | Single unit with ∞ PH-Plan objective 20×  | 0          | 0          | 0          | 0            | OBB-A1217 |  |  |  |
|  | Single unit with ∞ PH-Plan objective 40×  | 0          | 0          | 0          | 0            | OBB-A1219 |  |  |  |
| PH-slides)   | Single unit with ∞ PH-Plan objective 100×   | 0          | 0          | 0          | 0            | OBB-A1213 |  |  |  |
|  | When several magnification levels are required, please contact us   |            |            |            |              |           |  |  |  |
| Fluorescence unit                                      | 100 W HBO Epi Fluorescence unit, three-hole slide (B/G) including centering objective   | 0          | 0          | 0          | 0            | OBB-A1154 |  |  |  |
|  | 3 W LED Epi Fluorescence unit, three-hole slide (B/G) including centering objective   | 0          | 0          | 0          | 0            | OBB-A1157 |  |  |  |
|  | Blue (built-in)   | ✓          | ✓          | ✓          | 1            |           |  |  |  |
| Colour filters   | Green   | 0          | 0          | 0          | 0            | OBB-A1188 |  |  |  |
| for transmitted<br>Ilumination                         | Yellow  | 0          | 0          | 0          | 0            | OBB-A1165 |  |  |  |
|  | Grey  | 0          | 0          | 0          | 0            | OBB-A1183 |  |  |  |
| O.Mt   | 0,5× (focus adjustable)   |            | 0          |            | 0            | OBB-A1515 |  |  |  |
| C-Mount  | 1×  |            | 0          |            | 0            | OBB-A1514 |  |  |  |

✓ = Included with delivery

O = Option



### **Pictograms**



360° rotatable





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



**FPS** 

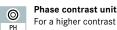
Fluorescence illumination

for compound microscopes With 100W mercury lamp and filter



Fluorescence illumination for compound microscopes

With 3 W LED illumination and filter



Phase contrast unit



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



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



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 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**

Adapter for the connection of a C-Mount

Frames per second

camera to a trinocular microscope

LWD Long Working Distance SWF Super Wide Field (Field number at least Ø 23 mm for 10× eyepiece)

N.A. Numerical Aperture

Working Distance W.D.

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

SLR camera

Single-Lens Reflex camera

WF Wide Field (Field number up to

Ø 22 mm for 10× eyepiece)

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