

Compound Microscope KERN OBS-1

Note

Please request special conditions for a classroom set



OBS 101



OBS 104



OBS 106



Objectives OBS



Educational Line

The school microscope – For the first steps in microscopy and for use in biology lessons

Features

- The KERN OBS range is a solid and simple school microscope range, which is easy to use due to its intuitive control elements
- The continuously dimmable 0.5W LED guarantees optimum illumination of the samples and also ensures long service life. Mobile use is also no problem through the use of rechargeable batteries
- The simple 0.65 condenser on the OBS 101 (condenser disc) and the OBS 102 (fixed condenser) ensures the very best concentration of light and illumination of the sample. The OBS 103, 104, 105 and 106 models have a 1.25 Abbe condenser which is height-adjustable and can therefore be

- focussed and has an aperture diaphragm, which ensures the very best concentration of light
- To focus the object, all models have a coarse and fine focusing knob on both sides. The mechanical stage enables you to work with the samples and move them rapidly (only for OBS 105, 106)
- A large selection of different eyepieces and objectives is also available
- Please find detailed information in the following model outfit list

Scope of application

- Primary school, secondary school, training, hobby use

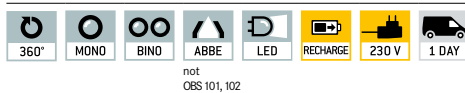
Applications/Samples

- Translucent, thin, high-contrast, less complex samples (e.g. plant tissue, coloured cells/parasites)

Technical data

- Finite optical system (DIN)
- Triple (OBS 101, 102) or quadplex (OBS 103, 104, 105, 106) nosepiece
- Tube 45° (OBS 101, 102, 103, 105) or 30° (OBS 104, 106) inclined/360° rotatable
- Diopter adjustment: Both-sided (for binocular models)
- Overall dimensions W×D×H 130×300×310 mm
- Net weight approx. 3 kg

STANDARD



not OBS 101, 102

Model

Standard configuration

KERN	Tube	Eyepiece	Objective quality	Objectives	Illumination	Stage
OBS 101	Monocular	WF 10×/∅ 18 mm	Achromatic	4×/10×/40×	0,5W LED (transmitted) (battery incl., rechargeable)	fix
OBS 102	Monocular	WF 10×/∅ 18 mm	Achromatic		0,5W LED (transmitted) (battery incl., rechargeable)	fix
OBS 103	Monocular	WF 10×/∅ 18 mm	Achromatic		0,5W LED (transmitted) (battery incl., rechargeable)	fix
OBS 104	Binocular	WF 10×/∅ 18 mm	Achromatic		0,5W LED (transmitted) (battery incl., rechargeable)	fix
OBS 105	Monocular	WF 10×/∅ 18 mm	Achromatic		0,5W LED (transmitted) (battery incl., rechargeable)	mechanical
OBS 106	Binocular	WF 10×/∅ 18 mm	Achromatic		0,5W LED (transmitted) (battery incl., rechargeable)	mechanical

Model outfit	Model KERN						Order number	
	OBS 101	OBS 102	OBS 103	OBS 104	OBS 105	OBS 106		
Eyepieces (23,2 mm)	WF 10×/∅ 18 mm	✓	✓	✓	✓✓	✓	✓✓	OBB-A1473
	WF 16×/∅ 13 mm	○	○	○	○○	○	○○	OBB-A1474
	WF 20×/∅ 11 mm	○	○	○	○○	○	○○	OBB-A1475
	WF 10×/∅ 18 mm (with Pointer)	○	○	○	○	○	○	OBB-A1561
Achromatic objectives	4×/0,10 W.D. 18,0 mm	✓	✓	✓	✓	✓	✓	OBB-A1476
	10×/0,25 W.D. 7,0 mm	✓	✓	✓	✓	✓	✓	OBB-A1477
	40×/0,65 (spring-loaded) W.D. 0,53 mm	✓	✓	✓	✓	✓	✓	OBB-A1478
	60×/0,85 (spring-loaded) W.D. 0,1 mm	○	○	○	○	○	○	OBB-A1479
	100×/1,25 (oil) (spring-loaded) W.D. 0,07 mm	○	○	○	○	○	○	OBB-A1480
E-Plan objectives	4×/0,10 W.D. 14,5 mm	○	○	○	○	○	○	OBB-A1562
	10×/0,25 W.D. 5,65 mm	○	○	○	○	○	○	OBB-A1563
	40×/0,65 (spring-loaded) W.D. 0,85 mm	○	○	○	○	○	○	OBB-A1564
	100×/1,25 (oil) (spring-loaded) W.D. 0,07 mm	○	○	○	○	○	○	OBB-A1565
	100×/0,80 (dry) (spring-loaded) W.D. 0,15 mm	○	○	○	○	○	○	OBB-A1442
Plan 100×/1,0 (water) (spring-loaded) W.D. 0,18 mm	○	○	○	○	○	○	OBB-A1441	
Monocular tube	45° inclined/360° rotatable	✓	✓	✓		✓		OBB-A1471
Binocular tube	<ul style="list-style-type: none"> • 45° inclined/360° rotatable • Interpupillary distance 55-75 mm • Diopter adjustment: Both-sided 				✓		✓	OBB-A1472
Fixed stage	<ul style="list-style-type: none"> • Stage size W×D 110×120 mm • Coaxial coarse and fine focusing knobs, scale: 2,5 µm 	✓	✓	✓	✓			
Mechanical stage	<ul style="list-style-type: none"> • Stage size W×D 115×125 mm • Travel 75×18 mm • Coaxial coarse and fine focusing knobs, scale: 2,5 µm 						✓	✓
Condenser	Simple condenser N.A. 0,65	✓						
	Simple condenser N.A. 0,65 (aperture diaphragm)		✓					
	Abbe N.A. 1,25 (aperture diaphragm)			✓	✓	✓	✓	
Illumination	0,5 W LED illumination system (transmitted) (rechargeable)	✓	✓	✓	✓	✓	✓	
Colour filters for transmitted illumination	Blue			✓	✓	✓	✓	OBB-A1466
	Green			○	○	○	○	OBB-A1467
	Yellow			○	○	○	○	OBB-A1468
	Grey			○	○	○	○	OBB-A1184

✓ = Included with delivery

○ = Option

360° rotatable microscope head	Fluorescence illumination for compound microscopes With 100 W mercury lamp and filter	Integrated scale In the eyepiece	Battery operation Ready for battery operation. The battery type is specified for each device.
Monocular Microscope For the inspection with one eye	Fluorescence illumination for compound microscopes With 3 W LED illumination and filter	SD card For data storage	Battery operation rechargeable Prepared for a rechargeable battery operation
Binocular Microscope For the inspection with both eyes	Phase contrast unit For a higher contrast	USB 2.0 interface For data transmission	Plug-in power supply 230V/50Hz in standard version for EU. On request GB, AUS or USA version.
Trinocular Microscope For the inspection with both eyes and the additional option for the connection of a camera	Darkfield condenser/unit For a higher contrast due to indirect illumination	USB 3.0 interface For data transmission	Integrated power supply unit Integrated in microscope. 230V/50Hz standard EU. More standards e.g. GB, AUS or USA on request.
Abbe Condenser With high numerical aperture for the concentration and the focusing of light	Polarising unit To polarise the light	WIFI data interface: For transmitting of the picture to a mobile display device	Package shipment The time required to manufacture the product internally is shown in days in the pictogram.
Halogen illumination For pictures bright and rich in contrast	Infinity system Infinity corrected optical system	HDMI digital camera For direct transmitting of the picture to a display device	Pallet shipment The time required to manufacture the product internally is shown in days in the pictogram.
LED illumination Cold, energy-saving and especially long-life illumination	Zoom magnification For stereomicroscopes	PC software To transfer the measurements from the device to a PC.	Automatic temperature compensation For measurements between 10 °C and 30 °C
Incident illumination For non-transparent objects	Auto-focus For automatic control of the focus level	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	
Transmitting illumination For transparent objects	Parallel optical system For stereomicroscopes, enables fatigue-proof working		
Fluorescence illumination For stereomicroscopes			

Abbreviations

C-Mount	Adapter for the connection of a camera to a trinocular microscope	SLR camera	Single-Lens Reflex camera
FPS	Frames per second	SWF	Super Wide Field (Field number at least \varnothing 23 mm for 10 \times eyepiece)
H(S)WF	High (Super) Wide Field (Eyepiece with high eye point for wearers of glasses)	W.D.	Working Distance
LWD	Long Working Distance	WF	Wide Field (Field number up to \varnothing 22 mm for 10 \times eyepiece)
N.A.	Numerical Aperture		

KERN OBS 105

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The school microscope – for the first steps in microscopy and for use in biology lessons



Category

Brand	Optics
Product category	Microscope
Product group	Compound microscope
Product family	OBS-1

Approval

CE mark	✓
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Construction

Dimension (W×D×H)	130×300×310 mm
Optical system	Finite
Tube type	Monocular
Tube angle of inclination	45°
Tube 360° rotation	✓
Lens quality	achromatic
Standard objectives	4× 10× 40×
Nosepiece screw-in locations	4
Eyepieces fixed	✓
Contrasting methods	Bright field
Interpupillary distance [Max]	75 mm
Interpupillary distance [Min]	55 mm

Ocular

Ocular field width	WF
Eye point	Standard
Ocular magnifications	10 x
Ocular visual field	18 mm
Ocular diameter	23,2 mm

Focussing

Fine drive minimum	0,00025 mm
Field of view [Min]	0,45 mm
Field of view [Max]	4,5 mm
Focusing mechanism	coaxial coarse and fine drive

Illumination

Illumination intensity transmitted light	0,5 W
Illumination type transmitted light	LED
Illuminance	Transmitted light
Illumination dimmable	Transmitted light
Aperture diaphragm	✓
Filter possible	✓

Power Supply

Input voltage power supply / power [Max]	100 - 240 V
Input voltage device / power [Max]	6 V, 500 mA
Plug-in power supply type	Power adapter
Supplied power supply	Battery & Power supply
Plug-in power supply / adapter for countries - included with the delivery	EURO
Plug-in power supply / adapter for countries - optional	EURO UK
Rechargeable battery charging time	10 h
Rechargeable battery operating time - backlight on	4 h
Battery	3×1.2V AA
Battery / accumulator type	NiMH
Battery connection	Plug-in terminals

Environmental conditions

Storage temperature [Min]	-5 °C
Storage temperature [Max]	40 °C

Packing & Shipping

Readability force [d] (N)	1 d
Dimensions packaging (W×D×H)	410×280×210 mm
Net weight	3,138 kg
Shipping method	Parcel service
Net weight approx.	3,2 kg
Gross weight approx.	4,0 kg
Shipping weight	4,8 kg

KERN OBS 105



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Objective

Objectives - Details	Objective Achromatic 10 x / 0,25 anti-fungus Objective Achromatic 4 x / 0,1 anti-fungus Objective Achromatic 40 x / 0,65 spring, anti-fungus
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Pictograms

STANDARD

