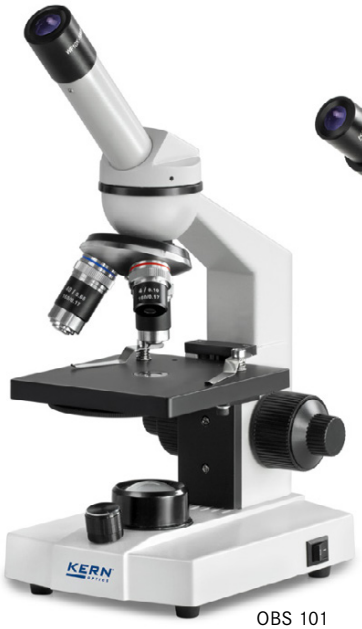
Compound Microscope KERN OBS-1

Note

Please request special conditions for a classroom set

Objectives OBS



OBS 101

OBS 104

OBS 106

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

STANDARD

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

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	· 45° inclined/360° rotatable · Interpupillary distance 55-75 mm · Diopter adjustment: Both-sided				✓		✓	OBB-A1472
Fixed stage	· Stage size W×D 110×120 mm · Coaxial coarse and fine focusing knobs, scale: 2,5 µm	✓	✓	✓	✓			
Mechanical stage	· 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

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 interface
For data transmission

USB 3.0 interface
For data transmission

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 measure-mentsfrom 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.

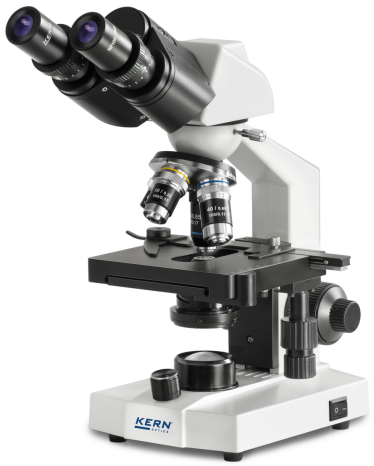
Pallet shipment
The time required to manufacture the product internally is shown in days in the pictogram.

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 Ø 23 mm for 10× eyepiece)
W.D.	Working Distance
WF	Wide Field (Field number up to Ø 22 mm for 10× eyepiece)

KERN **OBS 106**

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



Category	
Brand	Optics
Product categoriy	Microscope
Product group	Compound microscope
Product family	OBS-1

Approval	
CE mark	✓

Construction	
Dimension (W×D×H)	130×300×310 mm
Optical system	Finite
Tube type	Siedentopf
Tube type	Binocular
Tube angle of inclination	30°
Tube 360° rotation	✓
Lens quality	achromatic
Standard objectives	4× 10× 40×
Nosepiece screw-in locations	4
Eyepieces fixed	✓
Diopter adjustment	both-sided
Diopter adjustment [Min]	-5
Diopter adjustment [Max]	5
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)	420×340×200 mm
Net weight	3,138 kg
Shipping method	Parcel service

KERN **OBS 106**

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Net weight approx.	3,2 kg
Gross weight approx.	4,0 kg
Shipping weight	5,7 kg

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

Pictograms

STANDARD