

MICROSCOPES & REFRACTOMETERS

for laboratories, industry, food industry and quality assurance

PROFESSIONAL
MEASURING

































175
KERN & SOHN

Balance manufacture in the
Sauter family-owned company

250

2019

KERN Pictograms

 360° rotatable microscope head	 Fluorescence illumination for compound microscopes With 3 W LED illumination and filter	 WLAN data interface: For transmitting of the picture to a mobile display device
 Monocular Microscope For the inspection with one eye	 Phase contrast unit For a higher contrast	 HDMI digital camera For direct transmitting of the picture to a display device
 Binocular Microscope For the inspection with both eyes	 Darkfield condenser/unit For a higher contrast due to indirect illumination	 PC software To transfer the measurements from the device to a PC.
 Trinocular Microscope For the inspection with both eyes and the additional option for the connection of a camera	 Polarising unit To polarise the light	 Automatic temperature compensation For measurements between 10 °C and 30 °C
 Abbe Condenser With high numerical aperture for the concentration and the focusing of light	 Infinity system Infinity corrected optical system	 Protection against dust and water splashes IPxx The type of protection is shown by the pictogram.
 Halogen illumination For pictures bright and rich in contrast	 Zoom magnification For stereomicroscopes	 Battery operation Ready for battery operation. The battery type is specified for each device.
 LED illumination Cold, energy saving and especially long-life illumination	 Integrated scale In the eyepiece	 Battery operation rechargeable Prepared for a rechargeable battery operation
 Incident illumination For non-transparent objects	 SD card For data storage	 Mains adapter 230V/50Hz in standard version for EU. On request GB, AUS or USA version.
 Transmitting illumination For transparent objects	 USB 2.0 digital camera For direct transmitting of the picture to a PC	 Power supply Integrated in balance. 230V/50Hz standard EU. More standards e.g. GB, AUS or USA on request.
 Fluorescence illumination for compound microscopes With 100 W mercury lamp and filter	 USB 3.0 digital camera For direct transmitting of the picture to a PC	 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	LWD	Long Working Distance	SWF	Super Wide Field (Field number at least \varnothing 23 mm for 10× eyepiece)
FPS	Frames per second	N.A.	Numerical Aperture	W.D.	Working Distance
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 \varnothing 22 mm for 10× eyepiece)

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Information on current product availability, product data sheets, user instructions, useful knowledge, technical glossary and much for you to download, practical topic areas, which will guide you to the right product in your industry as well as a microscopes and refractometers search engine.

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- The prices are valid from 01.01.2019 – 31.12.2019. In Europe, all prices do not include the applicable V.A.T.
- Delivery conditions: We supply ex works from Balingen, i. e. the transport costs are invoiced separately. Delivery is usually via parcel service
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Balances & Test service catalogue



Medical scales catalogue



Microscopes & refractometers catalogue



SAUTER measuring equipment catalogue



DAkkS calibration service brochure



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For 175 years, KERN & SOHN has been synonymous with high precision weighing and measuring technology. This claim is the driving force for the development of our microscope and refractometer ranges.

Thanks to consistent customer focus paired with smart ideas and the latest available technology we are proud to be suppliers of high-quality, durable top microscopes and refractometers, which help you to be as efficient as possible in your daily work.

When developing our microscopes we have concentrated on the very best optical quality and have used only high-quality glass and the latest technologies to achieve this. The high-quality Philips halogen and modern LED illumination produce razor-sharp images with high contrast and which will impress you with their brilliant true-colour display – you must have noticed this yourself.

Your advantages:

- all mechanical parts have been designed for a long service life
- special attention has been given to the ergonomics of our microscopes, as this allows the user to work for several hours in a comfortable position which does not cause fatigue
- our microscopes are fully-equipped and can be used immediately
- Highlight for 2019: die KERN camera software – you will be amazed at how user-friendly and intuitive it is
- and much more...



Ralf Gutbrod

Product specialist
Microscopes & Refractometers

Tel. +49 7433 9933-306
Fax +49 7433 9933-29306
ralf.gutbrod@kern-sohn.com



Microscopes



KERN OZL-46

page 23

from €

500,-

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 lens with rotating aperture diaphragm disc on the OBS 101 ensures the very best concentration of light and illumination of the sample. The OBS 104 and OBS 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 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

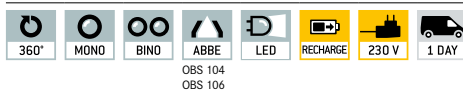
Applications/Samples

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

Technical data

- Finite optical system (DIN)
- Triple (OBS 101) or quadruple (OBS 104, OBS 106) nosepiece
- Tube 45° (OBS 101) or 30° (OBS 104, OBS 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



OBS 104
OBS 106

Model	Standard configuration						Price excl. of VAT ex works €
	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	205,-
OBS 104	Binocular	WF 10×/∅ 18 mm	Achromatic		0,5W LED (transmitted) (battery incl., rechargeable)	fix	325,-
OBS 106	Binocular	WF 10×/∅ 18 mm	Achromatic		0,5W LED (transmitted) (battery incl., rechargeable)	mechanical	360,-

Compound microscope KERN OBS-1

Model outfit		Model KERN			Order number	Price/piece excl. of VAT ex works €
		OBS 101	OBS 104	OBS 106		
Eyepieces (23,2 mm)	WF 10×/∅ 18 mm	✓	✓✓	✓✓	OBB-A1473	30,-
	WF 16×/∅ 13 mm	○	○○	○○	OBB-A1474	30,-
	WF 20×/∅ 11 mm	○	○○	○○	OBB-A1475	30,-
Achromatic objectives	4×/0,10 W.D. 18,0 mm	✓	✓	✓	OBB-A1476	35,-
	10×/0,25 W.D. 7,0 mm	✓	✓	✓	OBB-A1477	40,-
	40×/0,65 (spring) W.D. 0,53 mm	✓	✓	✓	OBB-A1478	45,-
	60×/0,85 (spring) W.D. 0,1 mm	○	○	○	OBB-A1479	60,-
	100×/1,25 (oil) (spring) W.D. 0,07 mm	○	○	○	OBB-A1480	65,-
	E-Plan 100×/0,80 (dry) (spring) W.D. 0,15 mm	○	○	○	OBB-A1442	170,-
	Plan 100×/1,0 (water) (spring) W.D. 0,18 mm	○	○	○	OBB-A1441	170,-
Monocular tube	45° inclined/360° rotatable	✓			OBB-A1471	
Binocular tube	<ul style="list-style-type: none"> • 30° 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	✓				
	Abbe N.A. 1,25 (aperture diaphragm)		✓	✓		
Illumination	0,5 W LED illumination system (transmitted) (rechargeable)	✓	✓	✓		
Colour filters for transmitted illumination	Blue	✓	✓	✓	OBB-A1466	19,-
	Green	○	○	○	OBB-A1467	19,-
	Yellow	○	○	○	OBB-A1468	19,-
	Gray	○	○	○	OBB-A1184	19,-

✓ = Included with delivery

○ = Option



Trinocular version



Monocular version

NOTE
Please request special conditions for a classroom set



Objectives OBE



Simple polarising unit



Darkfield unit

EDUCATIONAL LINE

The fully equipped all-round compound microscope for school, training and laboratories

Features

- The KERN OBE series is a range of high-quality, fully-equipped compound microscopes, which can't be beaten in terms of ease of use and ergonomic design
- The strong and continuously dimmable 3 W LED guarantees optimum illumination of the samples and also ensures long service life. Mobile use of several models is also no problem through the use of rechargeable batteries
- The height-adjustable and thereby focusable 1,25 Abbe condenser with aperture diaphragm is a further quality feature of the OBE series and ensures the very best concentration of light
- Height adjustment of the fully-equipped mechanical stage is carried out using a coarse and fine focusing knob on both sides. The ergonomically designed coaxial drive enables you to work with the samples and move them rapidly
- A large selection of different eyepieces and objectives, a simple polarising unit and a darkfield kit 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 the 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

- Training, haematology, sediment investigation, doctor's practise

Applications/Samples

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

Technical data

- Finite optical system
- Quadplex nosepiece
- Siedentopf 30° inclined/360° rotatable
- Diopter adjustment: One-sided (for binocular and trinocular models)
- Overall dimensions W×D×H 320×180×365 mm
- Net weight approx. 5,5 kg

STANDARD



OPTION



OBE 103, OBE 113

Model	Standard configuration					Price excl. of VAT ex works €
	Tube	Eyepiece	Objective quality	Objectives	Illumination	
OBE 101	Monocular	HWF 10×/ø 18 mm	Achromatic	4×/10×/40×	3 W LED (transmitted)	385,-
OBE 102	Binocular	HWF 10×/ø 18 mm	Achromatic		3 W LED (transmitted)	480,-
OBE 103	Binocular	HWF 10×/ø 18 mm	Achromatic		3 W LED (transmitted) (battery incl., rechargeable)	550,-
OBE 104	Trinocular	HWF 10×/ø 18 mm	Achromatic		3 W LED (transmitted)	590,-
OBE 111	Monocular	HWF 10×/ø 18 mm	Achromatic	4×/10×/40×/100×	3 W LED (transmitted)	450,-
OBE 112	Binocular	HWF 10×/ø 18 mm	Achromatic		3 W LED (transmitted)	540,-
OBE 113	Binocular	HWF 10×/ø 18 mm	Achromatic		3 W LED (transmitted) (battery incl., rechargeable)	610,-
OBE 114	Trinocular	HWF 10×/ø 18 mm	Achromatic		3 W LED (transmitted)	650,-

Compound microscope KERN OBE-1

Model outfit		Model KERN				Order number	Price/piece excl. of VAT ex works €
		OBE 101	OBE 102	OBE 103	OBE 104		
Eyepieces (23,2 mm)	HWF 10×/∅ 18 mm	✓	✓✓	✓✓	✓✓	OBB-A1403	45,-
	WF 16×/∅ 13 mm	○	○○	○○	○○	OBB-A1354	45,-
	HWF 10×/∅ 18 mm (with Pointer)	○	○	○	○	OBB-A1348	40,-
	HWF 10×/∅ 18 mm (reticule 0,1 mm) (non-adjustable)	○	○	○	○	OBB-A1349	60,-
Achromatic objectives	4×/0,10 W.D. 18,6 mm	✓	✓	✓	✓	OBB-A1111	35,-
	10×/0,25 W.D. 6,5 mm	✓	✓	✓	✓	OBB-A1108	45,-
	40×/0,65 (spring) W.D. 0,47 mm	✓	✓	✓	✓	OBB-A1112	70,-
	100×/1,25 (oil) (spring) W.D. 0,07 mm	○	○	○	○	OBB-A1109	105,-
	20×/0,40 (spring) W.D. 1,75 mm	○	○	○	○	OBB-A1110	85,-
	60×/0,85 (spring) W.D. 0,1 mm	○	○	○	○	OBB-A1113	105,-
	E-Plan 100×/0,80 (dry) (spring) W.D. 0,15 mm	○	○	○	○	OBB-A1442	170,-
	Plan 100×/1,0 (water) (spring) W.D. 0,18 mm	○	○	○	○	OBB-A1441	170,-
Monocular tube	30° inclined/360° rotatable	✓				OBB-A1227	
Binocular tube	<ul style="list-style-type: none"> Siedentopf 30° inclined/360° rotatable Interpupillary distance 50 – 75 mm Diopter adjustment: One-sided 		✓	✓		OBB-A1123	
Trinocular tube	<ul style="list-style-type: none"> see binocular tube Light distribution 20:80 				✓	OBB-A1341	
Mechanical stage	<ul style="list-style-type: none"> Stage size W×D 125×115 mm Travel 50×70 mm Coaxial coarse and fine focusing knobs, scale: 2 µm 	✓	✓	✓	✓		
Condenser	Abbe N.A. 1,25 (aperture diaphragm)	✓	✓	✓	✓	OBB-A1101	85,-
Darkfield unit	Usable for 4× – 40× objectives	○	○	○	○	OBB-A1148	85,-
Polarising unit	Analyser/Polariser	○	○	○	○	OBB-A1276	265,-
Illumination	3 W LED illumination system (transmitted) (non-rechargeable)	✓	✓		✓		
	3 W LED illumination system (transmitted) (rechargeable)			✓			
Colour filters for transmitted illumination	Blue	○	○	○	○	OBB-A1466	19,-
	Green	○	○	○	○	OBB-A1467	19,-
	Yellow	○	○	○	○	OBB-A1468	19,-
	Gray	○	○	○	○	OBB-A1184	19,-
C-Mount	0,5× (focus adjustable)				○	OBB-A1137	160,-
	1×				○	OBB-A1139	100,-

✓ = Included with delivery

○ = Option

Compound microscope KERN OBE-1

Model outfit		Model KERN				Order number	Price/piece excl. of VAT ex works €
		OBE 111	OBE 112	OBE 113	OBE 114		
Eyepieces (23,2 mm)	HWF 10×/∅ 18 mm	✓	✓✓	✓✓	✓✓	OBB-A1403	45,-
	WF 16×/∅ 13 mm	○	○○	○○	○○	OBB-A1354	45,-
	HWF 10×/∅ 18 mm (with Pointer)	○	○	○	○	OBB-A1348	40,-
	HWF 10×/∅ 18 mm (reticule 0,1 mm) (non-adjustable)	○	○	○	○	OBB-A1349	60,-
Achromatic objectives	4×/0,10 W.D. 18,6 mm	✓	✓	✓	✓	OBB-A1111	35,-
	10×/0,25 W.D. 6,5 mm	✓	✓	✓	✓	OBB-A1108	45,-
	40×/0,65 (spring) W.D. 0,47 mm	✓	✓	✓	✓	OBB-A1112	70,-
	100×/1,25 (oil) (spring) W.D. 0,07 mm	✓	✓	✓	✓	OBB-A1109	105,-
	20×/0,40 (spring) W.D. 1,75 mm	○	○	○	○	OBB-A1110	85,-
	60×/0,85 (spring) W.D. 0,1 mm	○	○	○	○	OBB-A1113	105,-
	E-Plan 100×/0,80 (dry) (spring) W.D. 0,15 mm	○	○	○	○	OBB-A1442	170,-
	Plan 100×/1,0 (water) (spring) W.D. 0,18 mm	○	○	○	○	OBB-A1441	170,-
Monocular tube	30° inclined/360° rotatable	✓				OBB-A1227	
Binocular tube	• Siedentopf 30° inclined/360° rotatable • Interpupillary distance 50 – 75 mm • Diopter adjustment: One-sided		✓	✓		OBB-A1123	
Trinocular tube	• see binocular tube • Light distribution 20:80				✓	OBB-A1341	
Mechanical stage	• Stage size W×D 125×115 mm • Travel 50×70 mm • Coaxial coarse and fine focusing knobs, scale: 2 µm	✓	✓	✓	✓		
Condenser	Abbe N.A. 1,25 (aperture diaphragm)	✓	✓	✓	✓	OBB-A1101	85,-
Darkfield unit	Usable for 4× – 40× objectives	○	○	○	○	OBB-A1148	85,-
Polarising unit	Analyser/Polariser	○	○	○	○	OBB-A1276	265,-
Illumination	3 W LED illumination system (transmitted) (non-rechargeable)	✓	✓		✓		
	3 W LED illumination system (transmitted) (rechargeable)			✓			
Colour filters for transmitted illumination	Blue	○	○	○	○	OBB-A1466	19,-
	Green	○	○	○	○	OBB-A1467	19,-
	Yellow	○	○	○	○	OBB-A1468	19,-
	Gray	○	○	○	○	OBB-A1184	19,-
C-Mount	0,5× (focus adjustable)				○	OBB-A1137	160,-
	1×				○	OBB-A1139	100,-

✓ = Included with delivery

○ = Option



Trinocular version



Simple polarising attachment

LAB LINE

The high-performance compound microscope for every laboratory with fixed, pre-centred Koehler illumination

Features

- The KERN OBF models are excellent, stable laboratory microscopes for all common routine applications. A central feature of this adaptable, robust microscope series is the stable mechanism which can be adjusted precisely
- 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 and a simple polarising unit 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)

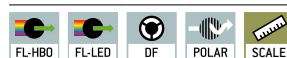
Technical data

- Finite optical system (DIN)
- Quadplex nosepiece
- Siedentopf 30° inclined/360° rotatable
- Diopter adjustment: One-sided
- Overall dimensions WxDxH 395x200x380 mm
- Net weight approx. 6,7 kg

STANDARD



OPTION



For details on the scope of delivery and extensive accessories, see www.kern-sohn.com

Model	Standard configuration					Price excl. of VAT ex works €
	Tube	Eyepiece	Objective quality	Objectives	Illumination	
KERN						
OBF 121	Binocular	HWF 10x/φ 18 mm	Achromatic	4x/10x/40x/100x	6 V/20 W Halogen (transmitted)	750,-
OBF 122	Binocular	HWF 10x/φ 18 mm	Plan		6 V/20 W Halogen (transmitted)	860,-
OBF 123	Binocular	HWF 10x/φ 18 mm	Plan		3 W LED (transmitted)	840,-
OBF 131	Trinocular	HWF 10x/φ 18 mm	Achromatic		6 V/20 W Halogen (transmitted)	860,-
OBF 132	Trinocular	HWF 10x/φ 18 mm	Plan		6 V/20 W Halogen (transmitted)	970,-
OBF 133	Trinocular	HWF 10x/φ 18 mm	Plan		3 W LED (transmitted)	950,-



Trinocular version



Simple polarising attachment

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)

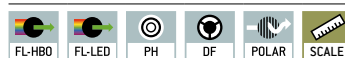
Technical data

- Infinity optical system
- Quadplex nosepiece
- Siedentopf 30° inclined/360° rotatable
- Diopter adjustment: One-sided
- Overall dimensions WxDxH 395x200x380 mm
- Net weight approx. 6,7 kg

STANDARD



OPTION



Model	Standard configuration					Price excl. of VAT ex works €
	Tube	Eyepiece	Objective quality	Objectives	Illumination	
KERN						
OBL 125	Binocular	HWF 10x/φ 20 mm	Infinity E-Plan	4x/10x/40x/100x	6 V/20 W Halogen (transmitted)	910,-
OBL 127	Binocular	HWF 10x/φ 20 mm	Infinity E-Plan		3 W LED (transmitted)	910,-
OBL 135	Trinocular	HWF 10x/φ 20 mm	Infinity E-Plan		6 V/20 W Halogen (transmitted)	1020,-
OBL 137	Trinocular	HWF 10x/φ 20 mm	Infinity E-Plan		3 W LED (transmitted)	1020,-

Model outfit		Model KERN				Order number	Price/piece excl. of VAT ex works €	
		OBL 125	OBL 135	OBL 127	OBL 137			
Eyepieces (23,2 mm)	HWF 10×/∅ 20 mm	✓✓	✓✓	✓✓	✓✓	OBB-A1404	95,-	
	WF 16×/∅ 13 mm	○○	○○	○○	○○	OBB-A1354	45,-	
	HWF 10×/∅ 20 mm (with Pointer)	○	○	○	○	OBB-A1448	80,-	
Infinity E-Plan objectives	4×/0,10 W.D. 12,1 mm	✓	✓	✓	✓	OBB-A1161	90,-	
	10×/0,25 W.D. 2,1 mm	✓	✓	✓	✓	OBB-A1159	150,-	
	40×/0,65 (spring) W.D. 0,58 mm	✓	✓	✓	✓	OBB-A1160	265,-	
	100×/1,25 (oil) (spring) W.D. 0,19 mm	✓	✓	✓	✓	OBB-A1158	335,-	
	Plan 20×/0,40 (spring) W.D. 2,41 mm	○	○	○	○	OBB-A1250	265,-	
	Plan 60×/0,80 (spring) W.D. 0,33 mm	○	○	○	○	OBB-A1270	360,-	
	Plan 100×/1,15 (water) (spring) W.D. 0,18 mm	○	○	○	○	OBB-A1437	445,-	
Binocular tube	<ul style="list-style-type: none"> Siedentopf 30° inclined/360° rotatable Interpupillary distance 50 – 75 mm (for infinity system) Dioptr adjustment: One-sided 	✓	○	✓	○	OBB-A1130		
Trinocular tube	<ul style="list-style-type: none"> Siedentopf 30° inclined/360° rotatable Interpupillary distance 50 – 75 mm Light distribution 20:80 (for infinity system) Dioptr adjustment: One-sided 	○	✓	○		OBB-A1346		
					✓	OBB-A1549		
Mechanical stage	<ul style="list-style-type: none"> Stage size W×D 145×130 mm Travel 76×52 mm Coaxial coarse and fine focusing knobs, scale: 2 µm Two slide holder 	✓	✓	✓	✓			
Condenser	Abbe N.A. 1,25 precentered (aperture diaphragm)	✓	✓	✓	✓	OBB-A1103	85,-	
Darkfield condenser	N.A. 0,85 – 0,91 (dry, paraboloid)	○	○	○	○	OBB-A1422	230,-	
Illumination	6 V/20 W Halogen spare bulb (transmitted)	✓	✓			OBB-A1370	25,-	
	3 W LED illumination system (transmitted) (non-rechargeable)			✓	✓			
Polarising unit	Analyser/Polariser	○	○	○	○	OBB-A1277	265,-	
Phase contrast units (including PH-condenser and PH-slides)	Single unit with ∞ PH-Plan objective 10×	○	○	○	○	OBB-A1215	310,-	
	Single unit with ∞ PH-Plan objective 20×	○	○	○	○	OBB-A1217	350,-	
	Single unit with ∞ PH-Plan objective 40×	○	○	○	○	OBB-A1219	420,-	
	Single unit with ∞ PH-Plan objective 100×	○	○	○	○	OBB-A1213	510,-	
If required, there are several magnification levels, please contact our OPTICS product management team								
Fluorescence unit	100 W HBO Epi Fluorescence unit, three-hole slide (B/G) including centering objective	○	○	○	○	OBB-A1154	2350,-	
	3 W LED Epi Fluorescence unit, three-hole slide (B/G) including centering objective	○	○	○	○	OBB-A1157	3110,-	
Colour filters for transmitted illumination	Blue (built-in)	✓	✓	✓	✓			
	Green	○	○	○	○	OBB-A1188	19,-	
	Yellow	○	○	○	○	OBB-A1165	19,-	
	Gray	○	○	○	○	OBB-A1183	19,-	
C-Mount	0,47× (focus adjustable)	○	○	○		OBB-A1135	160,-	
	0,5× (focus adjustable)				○	OBB-A1515	185,-	
	1×		○	○	○		OBB-A1142	100,-
						○	OBB-A1514	120,-

✓ = Included with delivery

○ = Option



Easy connection to the PC, Laptop not included in delivery. Please refer to KERN's website for more details.

LAB LINE

The digital all-round talent for your applications, documentation and live transmissions through an integrated camera

Features

- The KERN OBD is an excellent, stable laboratory microscope with integrated camera and infinity optical system, based on the OBL series
- A strong and continuously adjustable 20 W halogen illumination unit (Philips) ensures the optimum lighting conditions
- 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, a simple polarising unit as well as phase contrast units are available to you as accessories
- Multi-lingual software, USB cable, calibration scale as well as a protective dust cover, eye cups and multi-lingual user instructions are included in the scope of delivery
- 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, if necessary, for training where there will be lots of people observing the screen/beamer at the same time

Applications/Samples

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

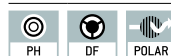
Technical data

- Infinity optical system
- Quadplex nosepiece
- Siedentopf 30° inclined/360° rotatable
- Diopter adjustment: One-sided
- Overall dimensions W×D×H 395×200×430 mm
- Net weight approx. 7 kg

STANDARD



OPTION



Model	Standard configuration					Price excl. of VAT ex works €
	Tube	Eyepiece	Objective quality	Objectives	Illumination	
KERN						
OBD 127	Binocular/3MP digital/USB 2.0	HWF 10×/φ 20 mm	Infinity E-Plan	4×/10×/40×/100×	6 V/20 W Halogen (transmitted)	1510,-
OBD 128	Binocular/5MP digital/USB 2.0	HWF 10×/φ 20 mm	Infinity E-Plan		6 V/20 W Halogen (transmitted)	1600,-

Compound microscope KERN OBD-1

Model outfit		Model KERN		Order number	Price/piece excl. of VAT ex works €
		OBD 127	OBD 128		
Eyepieces (23,2 mm)	HWF 10×/∅ 20 mm	✓✓	✓✓	OBB-A1404	95,-
	WF 16×/∅ 13 mm	○○	○○	OBB-A1354	45,-
	HWF 10×/∅ 20 mm (with Pointer)	○	○	OBB-A1448	80,-
Infinity E-Plan objectives	4×/0,10 W.D. 12,1 mm	✓	✓	OBB-A1161	90,-
	10×/0,25 W.D. 2,1 mm	✓	✓	OBB-A1159	150,-
	40×/0,65 (spring) W.D. 0,58 mm	✓	✓	OBB-A1160	265,-
	100×/1,25 (oil) (spring) W.D. 0,19 mm	✓	✓	OBB-A1158	335,-
	Plan 20×/0,40 (spring) W.D. 2,41 mm	○	○	OBB-A1250	265,-
	Plan 60×/0,80 (spring) W.D. 0,33 mm	○	○	OBB-A1270	360,-
	Plan 100×/1,15 (water) (spring) W.D. 0,18 mm	○	○	OBB-A1437	445,-
Digital tube Trinocular (3MP)	<ul style="list-style-type: none"> • 30° inclined/360° rotatable • Interpupillary distance 50 – 75 mm • Diopter adjustment: One-sided • Light distribution 80:20 • Built-in digital 3MP Camera with ½" CMOS • USB port for PC without extra power supply • With multilingual (DE, EN, FR, IT, ES) software "Microscope VIS" for Windows XP, Vista, 7, 8, 10 	✓		OBB-A1126	
Digital tube Trinocular (5MP)	<ul style="list-style-type: none"> • 30° inclined/360° rotatable • Interpupillary distance 50 – 75 mm • Diopter adjustment: One-sided • Light distribution 80:20 • Built-in digital 5 MP Camera with ½" CMOS • USB port for PC without extra power supply • With multilingual (DE, EN, FR, IT, ES) software "Microscope VIS" for Windows XP, Vista, 7, 8, 10 		✓	OBB-A1127	
Object micrometer	For calibrating the software measuring function, 0.01 mm division	✓	✓	OBB-A1224	70,-
Mechanical stage	<ul style="list-style-type: none"> • Stage size W×D 145×130 mm • Travel 76×52 mm • Two slide holder • Coaxial coarse and fine focusing knobs, scale: 2 µm 	✓	✓		
Condenser	Abbe N.A. 1,25 precentered (aperture diaphragm)	✓	✓	OBB-A1103	85,-
Darkfield condenser	N.A. 0,85 – 0,91 (dry, paraboloid)	○	○	OBB-A1422	230,-
Illumination	6 V/20 W Halogen spare bulb (transmitted)	✓	✓	OBB-A1370	25,-
Polarising unit	Analyser/Polariser	○	○	OBB-A1277	265,-
Phase contrast units (including PH-condenser and PH-slides)	Single unit with ∞ PH-Plan objective 10×	○	○	OBB-A1215	310,-
	Single unit with ∞ PH-Plan objective 20×	○	○	OBB-A1217	350,-
	Single unit with ∞ PH-Plan objective 40×	○	○	OBB-A1219	420,-
	Single unit with ∞ PH-Plan objective 100×	○	○	OBB-A1213	510,-
If required, there are several magnification levels, please contact our OPTICS product management team					
Colour filters for transmitted illumination	Blue (built-in)	✓	✓		
	Green	○	○	OBB-A1188	19,-
	Yellow	○	○	OBB-A1165	19,-
	Gray	○	○	OBB-A1183	19,-

✓ = Included with delivery

○ = Option



OBN-13



OBN-15



OBN-15: Mounted phase contrast condenser



Quintuple PH universal rotary condenser with 10×/20×/40×/100× Infinity PH-Plan objectives (complete set, for OBN-15 included)

PROFESSIONAL LINE

Professionalism and versatility united in one microscope – with Koehler illumination for demanding applications

Features

- The OBN series stands out because of its unbeatable and consistently high quality and its ergonomic design. The range of modular components means that the OBN series can be individually customised for the professional user
- Depending on the application, there is a choice of models with strong, continuously dimmable 3 W LED or 20 W halogen transmitted illumination (Philips)
- In addition the halogen variant is available as a pre-configured phase contrast microscope, which, through the combination of a professional quintuple condenser wheel, phase contrast condenser and Infinity Plan phase contrast objectives makes it a high-quality, fully-equipped microscope for all applications related to this contrasting method
- This series has a professional Koehler illumination unit with an adjustable field diaphragm as well as a height-adjustable 1,25 Abbe condenser which can be centred and which has an adjustable aperture diaphragm
- The extremely large mechanical stage with ergonomic, coaxial coarse and fine focusing knob on both sides enables you to adjust and focus your sample rapidly and accurately
- A wide variety of modular systems, such as, for example, a swing-out condenser, various eyepieces, objectives, colour filters, phase contrast units, a darkfield condenser, a simple polarising unit, Butterfly Tube, through to complete fluorescence units are available to you as accessories
- This centring eyepiece for adjusting the phase contrast (OBN 158), 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. 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

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

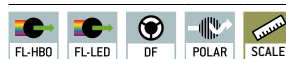
Technical data

- Infinity optical system
- Quintuple nosepiece
- Siedentopf 30° inclined/360° rotatable
- Diopter adjustment: Both-sided
- Overall dimensions W×D×H 390×200×400 mm
- Net weight approx. 9 kg

STANDARD



OPTION



! For details on the scope of delivery and extensive accessories, see www.kern-sohn.com

Model	Standard configuration					Price excl. of VAT ex works €
	Tube	Eyepiece	Objective quality	Objectives	Illumination	
KERN						
OBN 132	Trinocular	HWF 10×/ø 20 mm	Infinity Plan	4×/10×/20×/40×/100×	6 V/20 W Halogen (transmitted)	1370,-
OBN 135	Trinocular	HWF 10×/ø 20 mm	Infinity Plan	4×/10×/20×/40×/100×	3 W LED (transmitted)	1390,-
OBN 158	Trinocular	HWF 10×/ø 20 mm	Infinity Plan	4×/PH10×/PH20×/PH40×/PH100×	6 V/20 W Halogen (transmitted)	2540,-



N.A. 0,3 Abbe Condenser with phase contrast slide



Coaxial control knobs for x/y can be fitted either left or right

LAB LINE

The inverted biological laboratory microscope – also with fluorescence

Features

- The OCM range stands out through its design which is ergonomic, robust and extremely stable. This design, with its large working distance, is particularly suitable for the monitoring and analysis of cell cultures, for example
- A strong and continuously adjustable 30W halogen illumination unit ensures the optimum illumination in the bright field of your samples. An additional Osram 100 W Epi fluorescence illumination unit is available to you as a fluorescence microscope (OCM 165) for perfect illumination and excitation of your fluorescence samples
- A special Abbe N.A. 0.3 condenser with aperture diaphragm and large working distance of 72 mm guarantees the very best working practise in the bright field and with fluorescence applications
- As standard, the OCM range is fitted with a trinocular eyepiece tube

- The mechanical stage including specimen holder (∅ 118 mm) means that you can work quickly and effectively. Further brackets for petri dishes are included with delivery or available as accessories
- Further options such as, for example, a selection of eyepieces, objectives, specimen holders and other phase contrast units can be integrated as accessories
- A dust cover as well as user instructions are included with the delivery
- Please find detailed information in the following model outfit list

Scope of application

- Research and breeding of cell cultures and tissue cultures

Applications/Samples

- Particularly for viewing samples in culture vessels (flasks, petri dishes, microtitre plates), translucent, thin, low-contrast, challenging samples (e.g. living mammal cells, tissue, microorganisms if necessary, Immunofluorescence, FISH, DAPI staining etc.)

Technical data

- Infinity optical system
- Quintuple nosepiece
- Siedentopf 45° inclined
- Diopter adjustment: Both-sided

OCM 161

- Overall dimensions W×D×H 304×599×530 mm
- Net weight approx. 13,5 kg

OCM 165

- Overall dimensions W×D×H 304×782×530 mm
- Net weight approx. 21 kg

STANDARD



Model	Standard configuration					Price excl. of VAT ex works €
	Tube	Eyepiece	Objective quality	Objectives	Illumination	
KERN OCM 161	Trinocular	HWF 10×/∅ 22 mm	Infinity Plan	LWD10×/LWD20×/ LWD40×/LWD20×PH	6 V/30 W Halogen (transmitted)	3180,-
OCM 165	Trinocular	HWF 10×/∅ 22 mm	Infinity Plan		6 V/30 W Halogen + 100 W Epi Fluorescence (B/G)	

Inverted microscope KERN OCM-1

Model outfit		Model KERN		Order number	Price/piece excl. of VAT ex works €
		OCM 161	OCM 165		
Eyepieces (30 mm)	HWF 10×/∅ 22 mm (adjustable)	✓✓	✓✓	OBB-A1491	90,-
	HWF 10×/∅ 20 mm (reticule 0,1 mm) (adjustable)	○	○	OBB-A1523	140,-
Infinity Plan achromatic objectives for long working distance	4×/0,11 W.D. 12,1 mm	○	○	OBB-A1493	135,-
	10×/0,25 W.D. 8,3 mm	✓	✓	OBB-A1494	160,-
	20×/0,40 W.D. 7,2 mm	✓	✓	OBB-A1495	215,-
	40×/0,60 W.D. 3,4 mm	✓	✓	OBB-A1496	280,-
Trinocular tube	<ul style="list-style-type: none"> • 45° inclined • Interpupillary distance 48–76 mm • Light distribution 100:0 • Diopter adjustment: Both-sided 	✓	✓		
Mechanical stage	<ul style="list-style-type: none"> • Stage size W×D 210×241 mm • Travel 128×80 mm • Coaxial coarse and fine focusing knobs • The x/y control knobs can be fitted either left or right • Suitable for attaching a 96-hole microtitre plate 	✓	✓		
	Drop specimen holder (∅ 110)	✓	✓	OBB-A1503	30,-
	Specimen holder for 35 mm culture dish	○	○	OBB-A1505	60,-
	Specimen holder for 54 mm culture dish	✓	✓	OBB-A1506	60,-
	Specimen holder for 65 mm culture dish	○	○	OBB-A1507	60,-
Condenser	Abbe N.A. 0,3 (aperture diaphragm), LWD 72 mm	✓	✓		
Illumination	6 V/30 W Halogen spare bulb (transmitted)	✓	✓	OBB-A1372	35,-
Phase contrast units	Phase contrast slide (universal)	✓	✓	OBB-A1500	100,-
	Infinity PH-Plan objective 10×	○	○	OBB-A1497	215,-
	Infinity PH-Plan objective 20×	✓	✓	OBB-A1498	280,-
	Infinity PH-Plan objective 40×	○	○	OBB-A1499	330,-
	Centering eyepiece	✓	✓	OBB-A1544	110,-
Fluorescence unit	100 W HBO Epi Fluorescence unit, two-hole slide (B/G)		✓		
Colour filters for transmitted illumination	Blue	✓	✓	OBB-A1510	19,-
	Green	✓	✓	OBB-A1511	19,-
	Yellow	○	○	OBB-A1512	19,-
	Gray	○	○	OBB-A1513	19,-
C-Mount	0,5×	○	○	OBB-A1515	185,-
	1×	○	○	OBB-A1514	120,-

✓ = Included with delivery

○ = Option



OSE 421/422

NEW



Side view

• The successor of the well-known series OSF-4

EDUCATIONAL LINE

Stereo microscope with robust, ergonomic design, ideal for workshops, schools and training

Features

- With its integrated handle as well as its stable arm curved stand, the KERN OSE OSE-42 has been specially developed for schools and workshops
- The incident and transmitted illumination unit included as standard can be optionally enabled for the very best illumination of your sample. Mobile use of the OSE 422 is also no problem through the use of rechargeable batteries
- Despite its low price it has very good optical characteristics, which enable you to have sharp images over a large field of view
- An turnable objective with predefined magnifications is available to make your working procedures quicker and more efficient
- The eyepieces are fixed in the eyepiece tube, to stop them getting damaged or lost
- A special feature of this adaptable and yet robust microscope series is the stable mechanism of the microscope stand which can be adjusted precisely. It will also impress you with its functionality and ergonomic design
- A large selection of eyepieces as well as various additional external illumination units are available as accessories

Scope of application

- Training, in vitro fertilisation, detection of parasites, zoology and botany, tissue preparation, section, quality control

Applications/Samples

- Samples with focus on three-dimensional impression (depth, thickness), e.g. insects, seeds, circuit boards, components

Technical data

- Optical system: Greenough optics
- Tube 45° inclined
- Interpupillary distance 55 – 75 mm
- Diopter adjustment: Both-sided
- Overall dimensions W×D×H 230×130×330 mm
- Net weight approx. 2 kg

STANDARD



Model	Standard configuration						Price excl. of VAT ex works €
	Tube	Eyepiece	Field of view mm	Objective	Stand	Illumination	
KERN							
OSE 421	Binocular	WF 10×/ø 20 mm	ø 20	2×/4×	Arm curved	1 W LED (incident); 1 W LED (transmitted)	255,-
OSE 422	Binocular	WF 10×/ø 20 mm	ø 20	2×/4×	Arm curved	1 W LED (incident); 1 W LED (transmitted) (Rechargeable batteries included)	265,-

Stereomicroscope KERN OSE-42

Eyepiece	Specifications – Objectives		
	Magnification	2×	4×
WF 5×	Total magnification	10×	20×
	Field of view mm	∅ 10	∅ 5
WF 10×	Total magnification	20×	40×
	Field of view mm	∅ 10	∅ 5
WF 15×	Total magnification	30×	60×
	Field of view mm	∅ 7,5	∅ 3,7
WF 20×	Total magnification	40×	80×
	Field of view mm	∅ 6,5	∅ 3,2
Working distance		57 mm	57 mm

Model outfit		Model KERN		Order number	Price/piece excl. of VAT ex works €
		OSF 421	OSF 422		
Eyepieces (30,5 mm)	WF 5×/∅ 16,2 mm	○ ○	○ ○	OZB-A4101	35,-
	WF 10×/∅ 20 mm	✓ ✓	✓ ✓	OZB-A4102	30,-
	WF 15×/∅ 15 mm	○ ○	○ ○	OZB-A4103	30,-
	WF 20×/∅ 10 mm	○ ○	○ ○	OZB-A4104	35,-
Stand	Arm curved, with 1 W LED illumination (transmitted + incident)	✓	✓		
Stage plate	Frosted glass/∅ 59,5 mm	✓	✓	OZB-A4815	19,-
	Black-white/∅ 59,5 mm	✓	✓	OZB-A4816	19,-
External illumination	Please find the information about external illumination units on page 28 and on our website www.kern-sohn.com				

✓ = Included with delivery

○ = Option



Stage plate black



Stage plate white

EDUCATIONAL LINE

The practical and robust product for schools, training centres, the workshop and laboratory

Features

- With its integrated handle as well as its stable arm curved stand, the KERN OSF-4G has been specially developed for schools and workshops
- The LED reflected and transmitted illumination included as standard guarantees the very best, continuously dimmable illumination of your sample
- As well as very good optical characteristics, its ergonomic working surface means that it offers the highest level of convenience in this class
- A turnable objective with three predefined magnifications is available to make your working procedures quicker and more effective
- The eyepieces are fixed in the eyepiece tube, to stop them getting damaged or lost
- The ergonomic shape and the stable mechanism which can be adjusted extremely accurately offer a high level of functionality and enable you to work quickly and efficiently with very little effort
- A large selection of eyepieces as well as various additional external illumination units are available as accessories
- A protective dust cover, eye cups, as well as multi-lingual user instructions are included in the scope of delivery
- Please find detailed information in the following model outfit list

Scope of application

- Training, in vitro fertilisation, detection of parasites, zoology and botany, tissue preparation, section, quality control

Applications/Samples

- Samples with focus on three-dimensional impression (depth, thickness), e.g. insects, seeds, circuit boards, components

Technical data

- Optical system: Greenough optics
- Brightness adjustable (separate)
- Tube 45° inclined
- Interpupillary distance 55 – 75 mm
- Diopter adjustment: One-sided
- Overall dimensions W×D×H 230×180×275 mm
- Net weight approx. 2,5 kg

STANDARD



Model	Standard configuration						Price excl. of VAT ex works €
	Tube	Eyepiece	Field of view mm	Objective	Stand	Illumination	
KERN							
OSF 438	Binocular	WF 10×/ø 20 mm	ø 20	1×/2×/3×	Arm curved	1 W LED (incident); 0,35 W LED (transmitted)	325,-
OSF 439	Binocular	WF 10×/ø 20 mm	ø 20	1×/2×/4×	Arm curved	1 W LED (incident); 0,35 W LED (transmitted)	325,-

Eyepiece	Specifications - Objectives				
	Magnification	1×	2×	3×	4×
WF 5×	Total magnification	5×	10×	15×	20×
	Field of view mm	∅ 20	∅ 10	∅ 6,7	∅ 5
WF 10×	Total magnification	10×	20×	30×	40×
	Field of view mm	∅ 20	∅ 10	∅ 6,7	∅ 5
WF 15×	Total magnification	15×	30×	45×	60×
	Field of view mm	∅ 15	∅ 7,5	∅ 5	∅ 3,7
WF 20×	Total magnification	20×	40×	60×	80×
	Field of view mm	∅ 10	∅ 6,5	∅ 4,3	∅ 3,2
Working distance		57 mm	57 mm	57 mm	57 mm

Model outfit		Model KERN		Order number	Price/piece excl. of VAT ex works €
		OSF 438	OSF 439		
Eyepieces (30,5 mm)	WF 5×/∅ 16,2 mm	○ ○	○ ○	OZB-A4101	35,-
	WF 10×/∅ 20 mm	✓ ✓	✓ ✓	OZB-A4102	30,-
	WF 15×/∅ 15 mm	○ ○	○ ○	OZB-A4103	30,-
	WF 20×/∅ 10 mm	○ ○	○ ○	OZB-A4104	35,-
Stand	Arm curved, incl. handle, with LED illumination (0,35 W transmitted + 1 W incident)	✓	✓		
Stage plate	Frosted glass/∅ 59,5 mm	✓	✓	OZB-A4815	19,-
	Black-white/∅ 59,5 mm	✓	✓	OZB-A4816	19,-
External illumination	Please find the information about external illumination units on page 28 and on our website www.kern-sohn.com				

✓ = Included with delivery

○ = Option



OZL 464
With standard stand



OZL 465
With ring illumination



OZL 467
With handle

LAB LINE

The flexible, affordable all-rounder with zoom function for schools, training companies, inspection authorities and laboratories

Features

- The products in the KERN OZL-46 series are stereo zoom microscopes, which will impress you with their quality, easy handling, flexibility as well as their stability and economical price
- The LED reflected and transmitted illumination included as standard guarantees the very best illumination of your sample
- The highlight of the OZL 465/OZL 466 is the strong, continuously dimmable, integrated LED ring illumination in the objective housing, which ensures uniform, shadow-free illumination. An LED transmitted light variant is also included
- As well as excellent optical characteristics and their large working surface, these models offer the highest level of comfort in this class – ideal for training companies, workshops as well as assembly and repair workstations, e.g. in the electronics industry
- The zoom objective offers you continuous magnification from 7×–45×
- The KERN OZL-46 series is available as a binocular or trinocular version
- The pillar stand offers you the highest level of flexibility and the freedom to remove the microscope head and to integrate it into other modular systems, for example into a universal stand
- With its integrated handle as well as its stable arm curved stand, the KERN OZL 467/OZL 468 has been specially developed for schools and workshops
- A large selection of eyepieces, external illumination units as well as auxiliary objectives are available 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

- In vitro fertilisation, detection of parasites, zoology and botany, tissue preparation, section, quality control

Applications/Samples

- Samples with focus on three-dimensional impression, zoom with variable magnification (depth, thickness), e.g. insects, seeds, circuit boards, components

Technical data

- Optical system: Greenough optics
- Brightness adjustable (separate)
- Tube 45° inclined
- Magnification ratio: 6,4:1
- Light distribution 50:50
- Interpupillary distance 55 – 75 mm
- Diopter adjustment: Both-sided
- Overall dimensions W×D×H 300×240×420 mm
- Net weight approx. 4 kg

STANDARD



Model	Standard configuration						Price excl. of VAT ex works €
	Tube	Eyepiece	Field of view mm	Objective Zoom	Stand	Illumination	
KERN							
OZL 463	Binocular	HWF 10×/ø 20 mm	ø 28,6 – 4,4	0,7× – 4,5×	Pillar style	3 W LED (incident); 3 W LED (transmitted)	500,-
OZL 464	Trinocular	HWF 10×/ø 20 mm	ø 28,6 – 4,4	0,7× – 4,5×	Pillar style	3 W LED (incident); 3 W LED (transmitted)	570,-
OZL 465	Binocular	HWF 10×/ø 20 mm	ø 28,6 – 4,4	0,7× – 4,5×	Pillar style	3 W LED (incident); 3 W LED (transmitted)	550,-
OZL 466	Trinocular	HWF 10×/ø 20 mm	ø 28,6 – 4,4	0,7× – 4,5×	Pillar style	3 W LED (incident); 3 W LED (transmitted)	620,-
OZL 467	Binocular	HWF 10×/ø 20 mm	ø 28,6 – 4,4	0,7× – 4,5×	Arm curved	3 W LED (incident); 3 W LED (transmitted)	510,-
OZL 468	Trinocular	HWF 10×/ø 20 mm	ø 28,6 – 4,4	0,7× – 4,5×	Arm curved	3 W LED (incident); 3 W LED (transmitted)	580,-

Eyepiece	Specifications - Objectives					
	Magnification	Standard 1,0×	Auxiliary objectives			
			0,5×	0,75×	1,5×	2,0×
HSWF 10×	Total magnification	7× - 45×	3,5× - 22,5×	5,3× - 33,8×	10,5× - 67,5×	14× - 90×
	Field of view mm	∅ 28,6 - 4,4	∅ 57,1 - 8,9	∅ 38,1 - 5,9	∅ 19 - 3	∅ 14,3 - 2,2
HWF 15×	Total magnification	10,5× - 67,5×	5,3× - 33,8×	7,9× - 50,6×	15,5× - 101,3×	21× - 135×
	Field of view mm	∅ 21,4 - 3,3	∅ 42,9 - 6,7	∅ 28,5 - 4,4	∅ 14,3 - 2,2	∅ 10,7 - 1,7
HSWF 20×	Total magnification	14× - 90×	7× - 45×	10,5× - 67,5×	21× - 135×	28× - 180×
	Field of view mm	∅ 14,3 - 2,2	∅ 28,6 - 4,4	∅ 19,1 - 2,9	∅ 9,5 - 1,5	∅ 7,1 - 1,1
HWF 25×	Total magnification	17,5× - 122,5×	8,8× - 56,3×	13,1× - 91,9×	26,3× - 168,8×	35× - 225×
	Field of view mm	∅ 12,9 - 2,0	∅ 25,7 - 4,0	∅ 17,2 - 2,7	∅ 8,6 - 1,3	∅ 6,4 - 1,0
Working distance		105 mm	177 mm	120 mm	47 mm	26 mm
Maximum sample height		140 mm	35 mm	80 mm	165 mm	185 mm

Model outfit		Model KERN						Order number	Price /piece excl. of VAT ex works €
		OZL 463	OZL 464	OZL 465	OZL 466	OZL 467	OZL 468		
Eyepieces (30,0 mm)	HWF 10×/∅ 20 mm	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	OZB-A4631	40,-
	HSWF 15×/∅ 15 mm	○	○	○	○	○	○	OZB-A4632	50,-
	HWF 20×/∅ 10 mm	○	○	○	○	○	○	OZB-A4633	50,-
	HSWF 25×/∅ 9 mm	○	○	○	○	○	○	OZB-A4634	55,-
Auxiliary objectives	0,5×	○	○	○	○	○	○	OZB-A4641	80,-
	0,75×	○	○	○	○	○	○	OZB-A4644	80,-
	1,5×	○	○	○	○	○	○	OZB-A4642	80,-
	2,0×	○	○	○	○	○	○	OZB-A4643	80,-
	Soldering protection lens	○	○	○	○	○	○	OZB-A4645	35,-
C-Mount	1× (focus adjustable)		✓		✓		✓	OZB-A4809	50,-
	0,3× (focus adjustable)		○		○		○	OZB-A4810	85,-
	0,5× (focus adjustable)		○		○		○	OZB-A4811	95,-
Stand	Pillar style, with 3 W-LED illumination (transmitted + incident)	✓	✓						
	Pillar style, with 3 W-LED illumination (transmitted)			✓	✓				
	Arm curved, incl. handle, with 3 W-LED illumination (transmitted + incident)					✓	✓		
Ring illumination	Integrated into the microscope head as incident illumination			✓	✓				
Stage plate	Frosted glass/∅ 95 mm	✓	✓	✓	✓	✓	✓	OZB-A4805	19,-
	Black-white/∅ 95 mm	✓	✓	✓	✓	✓	✓	OZB-A4806	19,-
External illumination	Please find the information about external illumination units on page 28 and on our website www.kern-sohn.com								

✓ = Included with delivery

○ = Option



LAB LINE

First-class optics and strong illumination combined with a high level of flexibility

Features

- The KERN OZM series is a range of excellent stereo zoom microscopes with above-average optical features
- The ergonomic shape allows a simple, effortless working over a period of several hours
- The extraordinarily strong and continuously dimmable 3 W LED reflected and transmitted illumination ensures a flexible and particularly good level of illumination for your sample
- With its large working distance, an extra large field of view and its brilliant resolution, the KERN OZM provides sharp, high-contrast, colour-true images
- The zoom objective gives you continuous magnification from 7,5×-45×
- There is a choice of a binocular model as well as a trinocular model for connecting a camera for documentation purposes and for quality reports
- The pillar stand is particularly flexible due to its variable and sturdy adjustment mechanism and therefore enables ergonomic working procedures
- A large selection of eyepieces, (universal) stands, a darkfield kit, external illumination units as well as auxiliary objectives and more are available 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

- In vitro fertilisation, detection of parasites, zoology and botany, tissue preparation, section, quality control, electronics and semiconductor industry, assembly and repair

Applications/Samples

- Samples with focus on three-dimensional impression, zoom with variable magnification (depth, thickness), e.g. insects, seeds, circuit boards, components

Technical data

- Optical system: Greenough optics
- Brightness adjustable (separate)
- Tube 45° inclined
- Magnification ratio: 6,4:1
- Light distribution OZM 543/544: 50:50
- Interpupillary distance 52 – 76 mm
- Diopter adjustment: Both-sided
- Overall dimensions W×D×H 330×285×440 mm
- Net weight approx. 4,5 kg

STANDARD

360° BINO TRINO LED IL TL ZOOM 230V 1 DAY

OPTION

SCALE

Model	Standard configuration						Price excl. of VAT ex works €
	Tube	Eyepiece	Field of view mm	Objective Zoom	Stand	Illumination	
KERN							
OZM 542	Binocular	HSWF 10×/ø 23 mm	ø 32,8 – 5,1	0,7× – 4,5×	Pillar style	3 W LED (incident); 3 W LED (transmitted)	1070,-
OZM 544	Trinocular	HSWF 10×/ø 23 mm	ø 32,8 – 5,1	0,7× – 4,5×	Pillar style	3 W LED (incident); 3 W LED (transmitted)	1350,-

Eyepiece	Specifications - Objectives					
	Magnification	Standard 1,0×	Auxiliary objectives			
			0,5×	0,7×	1,5×	2×
HSWF 10×	Total magnification	7× - 45×	3,5× - 22,5×	4,9× - 31,5×	10,5× - 67,5×	14× - 90×
	Field of view mm	∅ 32,8 - 5,1	∅ 65,7 - 10,2	∅ 46,9 - 7,3	∅ 21,9 - 3,4	∅ 16,4 - 2,6
SWF 15×	Total magnification	10,5× - 67,5×	5,3× - 33,8×	7,4× - 47,2×	15,8× - 101,3×	21× - 135×
	Field of view mm	∅ 24,3 - 3,8	∅ 48,6 - 7,6	∅ 34,7 - 5,4	∅ 16,2 - 2,5	∅ 12,1 - 1,9
SWF 20×	Total magnification	14× - 90×	7× - 45×	9,8× - 63×	21× - 135×	28× - 180×
	Field of view mm	∅ 20 - 3,1	∅ 40 - 6,2	∅ 28,6 - 4,4	∅ 13,3 - 2,1	∅ 10 - 1,6
SWF 30×	Total magnification	21× - 135×	10,5× - 67,5×	14,7× - 94,5×	31,5× - 202,5×	42× - 270×
	Field of view mm	∅ 12,9 - 2	∅ 25,7 - 4	∅ 18,4 - 2,9	∅ 8,6 - 1,6	∅ 6,4 - 1
Working distance		110 mm	195 mm	145 mm	50 mm	35 mm
Maximum sample height		130 mm	30 mm	65 mm	160 mm	175 mm

Model outfit		Model KERN		Order number	Price/piece excl. of VAT ex works €
		OZM 542	OZM 544		
Eyepieces (30,0 mm)	HSWF 10×/∅ 23 mm	✓✓	✓✓	OZB-A5503	60,-
	SWF 15×/∅ 17 mm	○○	○○	OZB-A5504	60,-
	SWF 20×/∅ 14 mm	○○	○○	OZB-A5505	70,-
	SWF 30×/∅ 9 mm	○○	○○	OZB-A5506	85,-
	HSWF 10×/∅ 23 mm (reticule 0,1 mm)	○	○	OZB-A5512	95,-
	SWF 15×/∅ 17 mm (reticule 0,05 mm)	○	○	OZB-A5513	110,-
	SWF 20×/∅ 14 mm (reticule 0,05 mm)	○	○	OZB-A5514	110,-
Achromatic auxiliary objectives	0,5×	○	○	OZB-A5612	135,-
	0,7×	○	○	OZB-A5613	135,-
	1,5×	○	○	OZB-A5615	135,-
	2,0×	○	○	OZB-A5616	140,-
	Soldering protection lens	○	○	OZB-A5614	45,-
C-Mount	0,3× (focus adjustable)		○	OZB-A5701	120,-
	0,5× (focus adjustable)		○	OZB-A5702	120,-
	1,0× (focus adjustable)		○	OZB-A5703	95,-
	1,0× (with micrometer) only in combination with OZB-A5703		○	OZB-A5704	255,-
	for SLR cameras (Nikon)		○	OZB-A5706	255,-
	for SLR cameras (Olympus)		○	OZB-A5707	255,-
	for SLR cameras (Canon)		○	OZB-A5708	255,-
Darkfield unit	Darkfield unit	○	○	OZB-A4601	70,-
Object clamp	Object clamp	○	○	OB-B-A6205	35,-
Stand	Pillar style, without illumination				
	Pillar style, with 3 W LED illumination (transmitted + incident)	✓	✓		
	Please find more stands on our website www.kern-sohn.com				
Stage plate	Frosted glass/∅ 94,5 mm	✓	✓	OZB-A5192	19,-
	Black-white/∅ 94,5 mm	✓	✓	OZB-A5191	19,-
	Glass/∅ 94,5 mm	○	○	OZB-A5190	19,-
Mechanical stage (Pre-assembling on request)	Stage size W×D 188×160 mm, Travel 76×65 mm, for transmitted and incident illumination	○	○	OZB-A5781	175,-
	Stage size W×D 180×175 mm, Travel 100×86 mm, for incident illumination only	○	○	OZB-A5782	240,-
External illumination	Please find the information about external illumination units on page 28 and on our website www.kern-sohn.com				

✓ = Included with delivery

○ = Option

NEW



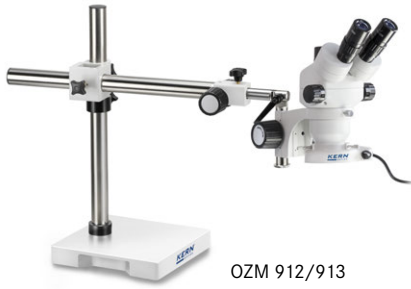
OSE 409



OZL 961/963



OZM 902/903



OZM 912/913



OZM 922/923



OZM 932/933

NEW

Predefined stereo microscope sets with universal stand and illumination for your functional workplace

Features

- Sets which have already been defined (except OSE 409), consisting of a stereo microscope head, a universal stand, a holder, a ring illumination and a dust cover from our range
- Simple – convenient – affordable
- This saves you spending time on configuration and being spoilt for choice in the combination of different components. In this way you get an expensive and highly-flexible solution for your microscope workplace

Model	Microscope head		Stand	Holder	Illumination	Price excl. of VAT ex works €
	Tube	Objective Zoom				
OSE 409	Binocular (WF 10×/ ø 20 mm)	1x (WD: 230 mm)	Swivel arm with block pedestal	With coarse focusing knob Adjustable torque of the hand wheels	3W LED goose neck (integrated)	355,-
OZL 961	Binocular (OZL 461)	0,7× - 4,5×	Telescopic arm with plate	With coarse focusing knob Adjustable torque of the hand wheels	4,5 W LED ring light (OBB-A6 102)	880,-
OZL 963	Trinocular (OZL 462)	0,7× - 4,5×	Telescopic arm with plate	With coarse focusing knob Adjustable torque of the hand wheels	4,5 W LED ring light (OBB-A6 102)	950,-
OZM 902	Binocular (OZM 546)	0,7× - 4,5×	Telescopic arm with plate (OZB-A 1201)	With coarse focusing knob Adjustable torque of the hand wheels (OZB-A5301)	4,5 W LED ring light (OBB-A6 102)	1290,-
OZM 903	Trinocular (OZM 547)	0,7× - 4,5×	Telescopic arm with plate (OZB-A 1201)	With coarse focusing knob Adjustable torque of the hand wheels (OZB-A5301)	4,5 W LED ring light (OBB-A6 102)	1570,-
OZM 912	Binocular (OZM 546)	0,7× - 4,5×	Telescopic arm with plate (OZB-A5201)	With coarse focusing knob Adjustable torque of the hand wheels (OZB-A5301)	4,5 W LED ring light (OBB-A6 102)	1440,-
OZM 913	Trinocular (OZM 547)	0,7× - 4,5×	Telescopic arm with plate (OZB-A5201)	With coarse focusing knob Adjustable torque of the hand wheels (OZB-A5301)	4,5 W LED ring light (OBB-A6 102)	1740,-
OZM 922	Binocular (OZM 546)	0,7× - 4,5×	ball-bearing double telescopic arm with plate (OZB-A 1203)	With coarse focusing knob Adjustable torque of the hand wheels (OZB-A5301)	4,5 W LED ring light (OBB-A6 102)	1340,-
OZM 923	Trinocular (OZM 547)	0,7× - 4,5×	ball-bearing double telescopic arm with plate (OZB-A 1203)	With coarse focusing knob Adjustable torque of the hand wheels (OZB-A5301)	4,5 W LED ring light (OBB-A6 102)	1620,-
OZM 932	Binocular (OZM 546)	0,7× - 4,5×	ball-bearing double telescopic arm with plate (OZB-A5203)	With coarse focusing knob Adjustable torque of the hand wheels (OZB-A5301)	4,5 W LED ring light (OBB-A6 102)	1730,-
OZM 933	Trinocular (OZM 547)	0,7× - 4,5×	ball-bearing double telescopic arm with plate (OZB-A5203)	With coarse focusing knob Adjustable torque of the hand wheels (OZB-A5301)	4,5 W LED ring light (OBB-A6 102)	2030,-

New model

Professional illumination units guarantee outstanding, uniform and strong illumination

These illumination units are also available with UK mains plug. For more information on this, visit our online shop or give us a ring

Features

- Choose your favourite external illumination here to achieve maximum flexibility and greatest possible ease of use in stereo microscopy
- These professional illumination units provide a quality of light at a high, constant intensity at all times
- Regardless of whether your choice is space-saving ring lights or cold light sources using optical fiber, our range is all you can wish for
- With the OZB-A7101 polarisation ring illumination unit, you also have an excellent component which has been specially optimised for observing shiny surfaces
- Naturally, these external illumination units also fit your standard stereo microscope
- Exception: The ring illumination units cannot be used in combination with the following ranges: OSE-1, OSF-4G, OZL-45R, OZC-5 and OZG-4



OZB-A4571



OZB-A4572



OBB-A6102



OZB-A7101

Model	Illuminance	Inner ϕ	Colour temperature	Brightness adjustable	Illumination by segments	Polarising filter	Price excl. of VAT ex works €
KERN		mm	K				
OZB-A4571	3W-LED	60	7000 - 11000	✓			90,-
OZB-A4572	3W-LED	60	6500 - 7000	✓	✓		140,-
OBB-A6102	4,5W-LED	63	ca. 7600	✓			135,-
OZB-A7101	4,5W-LED	62	6500 - 7000	✓		✓	590,-

✓ = Included with delivery

○ = Option

Fiber illumination KERN OZB-IF

Features

- With the OZB-A4516 20 W-LED goose neck illumination unit with focusable light beam, you can adjust the illumination to suit your needs. Spot or scattered radiation means that you can achieve the very best illumination of your sample.



OZB-A4516

NEW



OZB-A4515



OZB-A4512



OZB-A4531



OZB-A4532



OZB-A4533

Model	Description	Length	Illuminance	Colour temperature	Brightness adjustable	Price excl. of VAT ex works €
KERN		mm		K		
OZB-A4515	Dual fiber unit LED	300	6W	5600 - 6300	✓	150,-
OZB-A4516		540	20W	6400	✓	620,-
OZB-A4512*	Cold light source halogen	-	24V/150W	3150 - 3200	✓	290,-
OZB-A4531*	Single fiber	490	Usable for OZB-A4512			175,-
OZB-A4532*	Dual fiber	490				245,-
OZB-A4533*	Ring fiber	900				350,-

🔴 Price reduction

✓ = Included with delivery

○ = Option



ODC 910



Innovative hand-held microscope for mobile applications with immediate display of the image on a smartphone or tablet

Features

- The digital WLAN hand-held microscope is designed for rapid and simple surface observations. Ideally suited for coins, bank notes, stamps, circuit boards, plants, insects, gems and skin samples for industrial use, for all hobby scientists, children and students
- The KERN ODC 910 WLAN microscope has been specially developed for direct connection to your WLAN-enabled smartphone or tablet with iOS or android
- During the live transfer to your smartphone or tablet you can take photos and videos of the sample you are investigating, and these can also be stored on your device. For larger videos you can also insert a mini SD card directly into the microscope
- With the WLAN microscope you can easily adjust the magnification to suit all conventional samples. The focus can be adjusted to a magnification of 10× as well as 200×
- The six LEDs fitted in a ring shape ensure strong and effective illumination of your sample. Use the adjustment wheel on the microscope to control the illumination setting.
- You can download the app for the ODC 910 WLAN microscope from the Apple App Store or the Android Google Play Store free of charge and this app enables you to directly transfer images and videos from the microscope to your smartphone or tablet through a simple connection
- The scope of delivery includes the WLAN microscope with integrated rechargeable battery pack, a flexible column which is easy to adjust and which has a swan neck so that you can achieve the ideal height setting, as well as a mains adapter

STANDARD



Model	Resolution	Interface	FPS	Sensor	Sensor size	Supported operating system	Magnification levels	Focusing stand	Illumination	Price excl. of VAT ex works €
KERN										
ODC 910	2 MP	WLAN, SD	15 - 30	CMOS	1/4"	Android, iOS	10×, 200×	Goose neck	6× LED	170,- ↓

↓ Price reduction

Specialists in microscopy for measurement, counting, documentation, archiving and image processing

Features

- A large selection of microscope cameras is available for your individual applications
- The universal microscope cameras can be used anywhere and can be connected to the microscope as well as to a laptop or PC using the USB cable (USB 2.0 or USB 3.0, see table)
- The power supply is through the USB cable, which means that no additional power supply is required
- Your daily work is made significantly easier with the very best synchronisation, a high frame rate as well as stable image performance together with our camera software microscope VIS KERN OXM 901 which we deliver with the product
- For details about our software please refer to the "Camera software microscope VIS KERN OXM 901" product group see www.kern-sohn.com
- These universal cameras can also be connected to all microscopes available on the market offering the appropriate C-mount adapter for the particular microscope

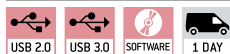
C-mount cameras – USB 2.0/3.0 KERN ODC-82 · ODC-83



Features

- Through the proven CMOS technology, in connection with the USB 2.0 or USB 3.0 the images are shown quickly and clearly
- These cameras are also ideal for more demanding applications, such as, for example, darkfield, phase contrast and for fluorescence applications
- As well as the camera, the delivery includes our multi-lingual camera software Microscope VIS KERN OXM 901, a USB cable (Length: 2 m) various eyepiece adapters and an object micrometer to calibrate the software
- Please order the appropriate C-mount adapter to fit your KERN microscope now

STANDARD



Model	Resolution	Interface	FPS	Sensor	Sensor size	Colour/ Monochrome	Supported operating system	Price excl. of VAT ex works €
KERN								
ODC 822	1,3 MP	USB 2.0	15 – 48	CMOS	1/3"	colour	Win XP, Vista, 7, 8, 10	280,-
ODC 824	3,1 MP	USB 2.0	11,5 – 45	CMOS	1/2"	colour	Win XP, Vista, 7, 8, 10	370,-
ODC 825	5,1 MP	USB 2.0	6,8 – 55	CMOS	1/2,5"	colour	Win XP, Vista, 7, 8, 10	385,-
ODC 831	3,1 MP	USB 3.0	27,3 – 53,3	CMOS	1/3"	colour	Win XP, Vista, 7, 8, 10	500,-
ODC 832	5,1 MP	USB 3.0	14,2 – 101,2	CMOS	1/2,5"	colour	Win XP, Vista, 7, 8, 10	530,-

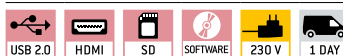
C-mount camera – HDMI KERN ODC-85



Features

- The ODC-851 HDMI microscope camera has been specially developed for direct HDMI connection to your HDMI compatible display device. The images can also be stored directly onto the SD card delivered with the device
- As an alternative, a USB 2.0 connection is also still available to connect a laptop or PC
- Power supply is from an external 12 V power unit
- Scope of delivery: Camera, software, USB mouse, USB 2.0 cable (Length: 2 m), HDMI cable (Length: 2 m) and SD card (16 GB)
- Please order the appropriate C-mount adapter to fit your KERN microscope now

STANDARD

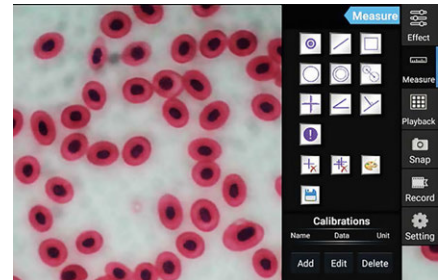


Model	Resolution	Interface	FPS	Sensor	Sensor size	Colour/ Monochrome	Supported operating system	Price excl. of VAT ex works €
KERN								
ODC 851	2 MP	HDMI, USB 2.0, SD	30 – 60	CMOS	1/2,8"	colour	Win XP, Vista, 7, 8, 10	990,-



ODC 241

NEW



Integrated software with measuring function

Digital microscopy brought up to date - tablet with integrated camera for optimal observation and digital documentation of the sample

Features

- A 2-in-1 solution in digital microscopy as a universal system for trinocular microscopes with C-mount adapter. The ODC 241 microscope-tablet-camera consists of a large Android tablet in combination with a 5-MP camera
- The KERN ODC 241 tablet-camera has been specially developed for simple and direct observation of the sample on the screen. Ideally suited for school pupils and students in education or for demonstration purposes in the laboratory
- As well a live transfer of the image to the Android table, the integrated 5-MP camera also means that images and videos can be created for the documentation.
- Simple measuring functions such as, for example, functions for measuring distance, surfaces and angles as well as a manual counting function are also available
- Automatic white balance and automatic contrast adjustment can be performed quickly and easily, which enables efficient working procedures
- A range of additional functions are provided through the integrated interfaces, such as, for example
 - Data storage on a USB stick or SD card
 - Connection to a USB mouse
 - Transfer of the live image to an external screen using HDMI
 - Transfer of stored data to external receivers using WLAN
- The delivery includes the tablet camera with pre-installed software as well as the mains adapter

Technical data

- 9.7" LCD-Touchscreen
- Screen resolution: 2048×1536 pixels
- CPU: Quad Core Cortex-A17; 1,8 GHz
- Overall dimensions W×D×H 238×51×206 mm
- Net weight approx. 0,65 kg

STANDARD



Model	Resolution Camera	Interface	FPS	Sensor	Sensor size	Supported operating system	Price excl. of VAT ex works €
KERN							
ODC 241	5 MP	WLAN, USB 2.0, HDMI, SD	15 - 30	CMOS	1/2,5"	Android 5.1	890,-



Refractometers



KERN
Calibration service

page 39

only €
99,-



! Now also available with calibration certificate, see page 39!

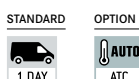
Refractive index measurement for laboratories and the industry

Features

- The KERN ORA refractometers are universal, maintenance free analogue handheld refractometers
- The handy and robust design allows the easy, efficient and sustainable use in everyday life
- Manually calculated conversions and errors of the user are avoided by multiple selectable scales
- These scales are especially developed, exactly calculated and checked. They are also characterized by their thin and clear lines
- The optical system and the prism cover are made of special material which allows a low-tolerance measuring
- All ORA models are equipped with an eyepiece for easy and smooth setting for many different diopter strengths
- The models marked with "ATC" have an automatic temperature compensation which enables accurate measurement at different ambient temperatures (10 °C/30 °C)
- The following accessory-parts are included:
 - Storage box
 - Calibration liquid
 - Calibration block (if required)
 - Pipette
 - Small screwdriver
 - Cleaning tissue
- Further accessories are available optionally

Technical data

- Die-cast housing of copper-aluminium alloy, chrome coated
- Measurement temperature without ATC: 20 °C
- Measurement temperature range with ATC: 10 °C/30 °C
- Dimensions of the box: 205×75×55 mm (depending on the model)
- Product length: approx. 130 – 200 mm (depending on the model)
- Net weight approx. 135 – 600 g (depending on the model)



Scope of application: Urine

The following models are particularly suitable for the measurement of the specific gravity (sg) in urine, the quantity of serum (serumproteine) in urine (doping control among athletes), and the refractive index.

The main scope of applications is:

- Hospitals
- Doctor's surgeries/Physicians
- Medical training institutions
- Nursing homes
- Sports medicine (doping test)
- Veterinary



Model	Scales	Measuring range	Division	ATC	Price excl. of VAT ex works €
KERN					
ORA 2PB	Serum protein Urine (spec. gravity) Refractive index	0 – 12 g/dl 1,000 – 1,050 sgU 1,3330 – 1,3600 nD	0,2 g/dl 0,002 sgU 0,0005 nD		80,-
ORA 2PA	Serum protein Urine (spec. gravity) Refractive index	0 – 12 g/dl 1,000 – 1,050 sgU 1,3330 – 1,3600 nD	0,2 g/dl 0,002 sgU 0,0005 nD	✓	85,-
ORA 5PB	Serum protein Urine (s. g. dog) Urine (s. g. cat)	2 – 14 g/dl 1,000 – 1,060 sgU 1,000 – 1,060 sgU	0,1 g/dl 0,001 sgU 0,001 sgU		80,-

Scope of application: Industry/Automotive

The following models are particularly suitable for the measurement and determination of AdBlue, glycol concentration (ethylene (EG) and propylene (PG)), battery fluid (BF), urea, the freezing point of fountain solution (CW). Furthermore these models are suitable for the measurement of thermal exchange systems.

The main scope of applications is:

- Automotive industry: Car-workshops and producers
- Chemical industry
- Solar industry: Antifreeze monitoring
- Geothermal industry: Brine-concentration-measurement for ground heat
- Forestry/Lumbermen



Model	Scales	Measuring range	Division	ATC	Price excl. of VAT ex works €
KERN					
ORA 4FB	EG (G11/12) PG (G13) CW BF	-50 – 0 °C -50 – 0 °C -40 – 0 °C 1,10 – 1,40 kg/l	1 °C 1 °C 5 °C 0,01 kg/l		80,-
ORA 4FA	EG (G11/12) PG (G13) CW BF	-50 – 0 °C -50 – 0 °C -40 – 0 °C 1,10 – 1,40 kg/l	1 °C 1 °C 5 °C 0,01 kg/l	✓	85,-
ORA 1UB	Urea	0 – 40 %	0,2 %		80,-
ORA 1UA	Urea	0 – 40 %	0,2 %	✓	85,-
ORA 4UB	Urea EG (G11/12) PG (G13) CW BF	30 – 35 % -50 – 0 °C -50 – 0 °C -40 – 0 °C 1,10 – 1,40 kg/l	0,2 % 1 °C 1 °C 5 °C 0,01 kg/l		80,-
ORA 4UA	Urea EG (G11/12) PG (G13) CW BF	30 – 35 % -50 – 0 °C -50 – 0 °C -40 – 0 °C 1,10 – 1,40 kg/l	0,2 % 1 °C 1 °C 5 °C 0,01 kg/l	✓	85,-



Transport and storage case



Rear view, screw-on battery compartment cover



IP65: Protected against dust and water splashes

Digital refractive index measurement for laboratories and the industry for multi-application

Features

- The KERN ORF refractometers are accurate and universal maintenance free digital handheld refractometers
- The large display is easy to read. Mistakes in reading are avoided
- The typical and practical design is suitable for a quick and convenient everyday use and is characterized by its easy-using and robustness
- The KERN ORF range is protected to international IP65 protection class, against dust and water splashes. After use, you can rinse the refractometer under running water
- The large, easy-to-read TFT colour display with integrated temperature display supports the user to reliably determine the measurement
- A large selection of models is available with single or multiple scales. This allows the use in various applications
- The instrument comes with an optimized software that can show a result in different scales
- The integrated automatic temperature compensation (ATC), avoids the manual conversion of the measurement. This allows a quick and efficient usage of the instrument
- Due to the fact that the refractometer has been calibrated at the factory, this guarantees that it can be used immediately for accurately measuring your sample.
- The following accessory-parts are included:
 - Calibration liquid
 - Pipette
 - Storage box
 - 2 x AAA batteries
 - Leather bag
 - Small screwdriver
 - Cleaning tissue

Technical data

- Measurement temperature: 5 °C – 40 °C
- Overall dimensions WxDxH 133x65x38 mm
- Net weight approx. 200 g
- Power supply: 2 x AAA (1,5 V)
- Lifetime of the battery: approx. 3.750 measurements
- ATC (Automatic Temperature Compensation)
- Minimum sample volume: 2-3 drops
- Automatic energy management (AUTO-OFF after 90 seconds)

Now also available with calibration certificate, see page 39!

STANDARD



Scope of application: Urine

The following models are particularly suitable for the measurement of the specific gravity (sg) in urine, the quantity of serum (serumproteine) in urine (doping control among athletes), and the refractive index.

The main scope of applications is:

- Hospitals
- Doctor's surgeries/Physicians
- Medical training institutions
- Nursing homes
- Sports medicine (doping test)



Model	Scales	Measuring range	Accuracy	Division	Price excl. of VAT ex works €
KERN					
ORF 1PM	Serum protein Urine (spec. gravity) Refractive index	0 – 12 g/dl 1,000 – 1,050 sgU 1,3330 – 1,3900 nD	± 0,1 g/dl ± 0,001 sgU ± 0,0003 nD	0,1 g/dl 0,001 sgU 0,001 nD	340,-

Scope of application: Industry/Automotive

The following models are particularly suitable for the measurement and determination of AdBlue, glycol concentration (ethylene (EG) and propylene (PG)), battery fluid (BF), urea, the freezing point of fountain solution (CW). Furthermore these models are suitable for the measurement of thermal exchange systems.

The main scope of applications is:

- Automotive industry: Car-workshops and producers
- Chemical industry
- Solar industry: Antifreeze monitoring
- Geothermal industry: Brine-concentration-measurement for ground heat
- Forestry/Lumbermen



Model	Scales	Measuring range	Accuracy	Division	Price excl. of VAT ex works €
KERN					
ORF 2UM	EG PG BF CW	-50 – 0 °C -50 – 0 °C 1.00 – 1.50 kg/l -40 – 0 °C	± 0,5 °C ± 0,5 °C ± 0,01 kg/l ± 0,5 °C	0,1 °C 0,1 °C 0,01 kg/l 0,1 °C	340,-
ORF 5UM	EG PG Urea CW	-50 – 0 °C -50 – 0 °C 0 – 40 % -40 – 0 °C	± 0,5 °C ± 0,5 °C ± 0,2 % ± 0,5 °C	0,1 °C 0,1 °C 0,1 % 0,1 °C	340,-
ORF 6US	Urea Refractive index	0 – 40 % 1,3330 – 1,4100 nD	± 0,2 % ± 0,0003 nD	0,1 % 0,0001 nD	340,-



! Now also available with calibration certificate, see page 39!

Refractive index measurement for pharmacy, laboratories and industry

Features

- The KERN ORT refractometers are universal analog Abbe refractometers
- The handy and robust design allows the easy, efficient and sustainable use in everyday life
- The integrated scale allows the use in different applications and provides the best possible security to read the measurement results accurately
- The scope of delivery includes:
 - Calibration solution
 - Calibration block
 - Pipette
 - Small screwdriver
 - Cleaning tissue
 - Digital thermometer
- Accessories are available as options

Technical data

- Measurement temperature: 20 °C
- Overall dimensions W×D×H
180×90×240 mm
- Net weight approx. 1950 g

STANDARD

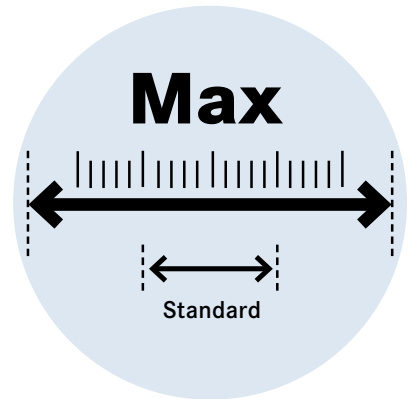


Scope of application: Industry/Pharmacy/Laboratory

The following model is a simple yet highly reliable Abbe refractometer with a digital thermometer. Liquid, solid and pasty samples can be evaluated. This refractometer is robust, accurate and easy to use. Optionally a solide aluminium case for transport and storage is available. It measures the refractive index (nD).

The main scope of applications is:

- Sugar industry: for example cane sugar
- Pharmacy
- Beverage industry
- Food industry
- Chemical industry
- Oil industry/Refinery
- Laboratories
- Training



Model	Scales	Measuring range	Accuracy	Division	Price excl. of VAT ex works €
KERN					
ORT 1RS	Brix Refractive index	0 – 95 % 1,3000 – 1,7000 nD	± 0,1 % ± 0,0002 nD	0,25 % 0,0005 nD	690,-



ORT 1RS

Accessory parts: Abbe refractometer – ORT

Model	Description	Price excl. of VAT ex works €
KERN		
ORA-A1102	Aluminium suitcase Dimension: 310×120×240 mm, weight: 1300 g	80,-
ORA-A2266	Digital thermometer (0 °C/50 °C) (Spare part)	60,-
ORA-A2267	Calibration block for ORT 1RS	40,-
ORA-A1107	Contact liquid – Alpha-Bromonaphthalene (Refractive index: 1,65 nD) Volume: 2,5 ml	25,-
ORA-A3001	Contact liquid – Diiodomethane “Pro” (Refractive index: 1,79 nD) Volume: 2 ml	35,-



Transport and storage case
ORA-A1102



Calibration block
ORA-A2267

Relationship overview – refractometer calibration (Abbe)					
Model refractometer	Calibration value	Calibration liquid	Article number liquid	Calibration block	Article number calibration block
ORT 1RS	engraved on the block (nD value)	Alpha-Bromnaphthalene CAS 90-11-9	ORA-A1107	yes	ORA-A2267



Your partner for calibration services, management of test equipment and support

Features

- Any analogue or digital refractometer will only give correct results if it is checked regularly, i.e. calibrated correctly and adjusted when required. A refractometer or another measuring device is only a reliable measuring and checking tool if it is calibrated and this calibration is documented as part of a quality procedure
- Measuring "correctly" is of elementary significance, as it is not unusual for inaccurate or "wrong" measurements to have expensive economic consequences. Calibration or establishing the accuracy of checking equipment must therefore be carried out by laboratories throughout the world

- In the context of standard requirements for monitoring checking equipment, every company with a Quality Management system is obliged to test and document its measuring equipment at regular intervals
- The refractometer calibration certificate documents the intended measuring functionality and confirms the measuring accuracy of your refractometer to you

Important

- Refractive index standard traceable to SRM¹ of NIST² and PTB³
- This service is not possible for the following refractometer models:
 - ORA 6HA
 - ORA 1GG
- Calibration of products from other manufacturers is possible on request

¹Standard reference material

²National Institute of Standards and Technology

³Physikalisch-Technische Bundesanstalt (German metrology institute)

Model	Description	Price excl. of VAT ex works €
KERN		
961-290	Calibration certificate for refractometers on initial calibration	99,-
961-290R	Calibration certificate for refractometers on recalibration	99,-

KERN & SOHN GmbH
Microscopes and Refractometers

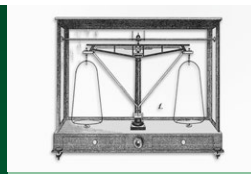
Ziegelei 1
 72336 Balingen
 Germany

Tel. +49 7433 9933-0
 Fax +49 7433 9933-149

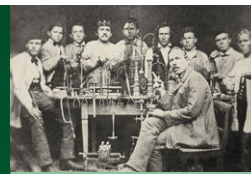
info@kern-sohn.com
 www.kern-sohn.com



1769
 Ancestor Johann Jakob Sauter built the Hahn inclination scale out of iron, a foundation stone for weighing for the balance industry in Southern Germany



1844
 KERN is founded - precision balances are produced



1863
 A proud Gottlieb Kern with his staff



1880
 Pharmaceutical balance with Aesculap



1923
 Inflation - KERN wages are paid with self printed currency



1980
 The electronic balance ousts mechanical devices



1994
 Accredited DKD laboratory (ISO 17025)



2000
 New premises in Balingen



2002
 Existing QM system certification in accordance with DIN EN ISO 9001:2000 standards



2007
 Approval for the manufacture of medical products (DIN EN 13485 and 93/42/EEC)



2008
 Authorisation for initial verification by the manufacturer (2009/23/EC)



2009
 Approval for the manufacture and sale of height rods (DIN EN 13485 and 93/42/EEC)



2012
 Verification point for non-automatic balances and test weights.

New customer portal www.kern-sohn.com goes live



2014
 Expansion of the product range to include optical instruments (microscopes and refractometers)



2015
 Inauguration of Ziegelei 2.0 with computer-controlled high-bay warehouse



2017
 Come with KERN into the digital future: Expansion of the model ranges compatible with Industry 4.0, as well as the related services



2019
 Significant anniversary year for KERN
 25 years of accredited DKD laboratory
 175 years of KERN & SOHN
 250 years of balance manufacture in the Sauter family-owned company