

# MICROSCOPES & REFRACTOMETERS

PROFESSIONAL MEASURING



## It's so easy to order from KERN:

📞 Tel. + 49 7433 9933-0

✉ E-Mail  
optics@kern-sohn.com

🛒 Online Shop  
www.kern-sohn.com

We look forward to meeting you in our online shop – simply use the QR Code:

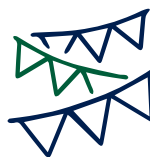


## 180 Years KERN & SOHN Interested? See ...

on page 4 → How it all began

on page 60 → The KERN family today

on page 112 → Sneak peek into the future



**180 YEARS**  
since 1844  
**KERN & SOHN**

## Your Advantages – our Philosophy. All KERN Advantages at a Glance

### ONLINE SHOP WWW.KERN-SOHN.COM

Convenient ordering or just to be inspired. You will find a huge selection of products and services in our KERN online shop, 24/7.

### ADVICE FROM THE EXPERTS

Our KERN experts will offer you individual advice in a range of languages and will be pleased to assist you:

Mon - Fri from 8.00 am to 5.00 pm

### 100 % PRODUCT AVAILABILITY AND DISPATCH SERVICE

With KERN you can be sure that you will have immediate access to the products you need – provided that they are in stock. Our 24-hour dispatch service will send your products immediately. Ordered today, on their way tomorrow!

### WARRANTY

We offer you as the customer up to 3 years warranty on all products in our entire range, as an option the warranty can be extended for a small fee. Because our products deliver on their promises!

### CUSTOMER SERVICE

Our customer service is personally available by telephone, e-mail or video call. We speak more than 7 languages and we will be happy to help with your requests.

### TRUST THROUGH EXPERIENCE

Experience counts: We are professionals when it comes to precision: A heavyweight in terms of weighing and measuring technology and this has been the case for 180 years – for the benefit of our customers. Put us to the test!

### ACCREDITATIONS/ CERTIFICATION

- DAkkS accreditation  
DIN EN ISO/IEC 17025
- Certified QM system DIN EN ISO 9001
- Conformity assessment in accordance with NAWID 2014/31/EU
- Medical certifications DIN EN ISO 13485 and 93/42/EEC or VO (EU) 2017/745

### DAKKS CALIBRATIONS

In the modern, accredited KERN calibration laboratory, we perform DAkkS calibrations for balances, test weights as well as for numerous other measuring devices.

In addition we can offer calibrations on your premises. Of course, all services are in accordance with international standards.

### VERIFICATION SERVICE

Our professional verification service offers conformity assessments and verification of balances and weights – for a feeling of security in compliance with legal requirements.

### INDIVIDUAL CUSTOMER SOLUTIONS

We are the right partner for special customer requirements. KERN offers numerous modular system solutions for your very individual weighing requirements. Please contact us!

### SERVICE PORTAL

You can find aftersales support in our online service portal: Technical Support, help with questions or problems, etc. [www.kern-sohn.com/shop/en/Serviceportal/](http://www.kern-sohn.com/shop/en/Serviceportal/)

### SPARE PARTS AND REPAIR SERVICE

In spite of reliable KERN quality: If you should ever need to make a complaint about our products, we will help you quickly, flexibly and in an unbureaucratic manner.

### NO STORAGE COSTS

You have no storage costs – we maintain the storage. Direct dispatch of ordered goods to your customer is available, invoice will be issued to you (third party business).

### STILL GOT QUESTIONS?

[You can find all KERN Service Hotlines on the inside flap](#)

## KERN Pictograms

 360°	<b>360° rotatable microscope head</b>	 FL-HBO	<b>Fluorescence illumination for compound microscopes</b> With 100 W mercury lamp and filter	 SCALE	<b>Integrated scale</b> In the eyepiece	 BATT	<b>Battery operation</b> Ready for battery operation. The battery type is specified for each device.
 MONO	<b>Monocular Microscope</b> For the inspection with one eye	 FL-LED	<b>Fluorescence illumination for compound microscopes</b> With 3 W LED illumination and filter	 SD	<b>SD card</b> For data storage	 RECHARGE	<b>Battery operation rechargeable</b> Prepared for a rechargeable battery operation
 BINO	<b>Binocular Microscope</b> For the inspection with both eyes	 PH	<b>Phase contrast unit</b> For a higher contrast	 USB 2.0	<b>USB 2.0 interface</b> For data transmission	 230 V	<b>Plug-in power supply</b> 230V/50Hz in standard version for EU. On request GB, AUS or USA version.
 TRINO	<b>Trinocular Microscope</b> For the inspection with both eyes and the additional option for the connection of a camera	 DF	<b>Darkfield condenser/unit</b> For a higher contrast due to indirect illumination	 USB 3.0	<b>USB 3.0 interface</b> For data transmission	 230 V	<b>Integrated power supply unit</b> Integrated in microscope. 230V/50Hz standard EU. More standards e.g. GB, AUS or USA on request.
 ABBE	<b>Abbe Condenser</b> With high numerical aperture for the concentration and the focusing of light	 POLAR	<b>Polarising unit</b> To polarise the light	 WIFI	<b>WIFI data interface:</b> For transmitting of the picture to a mobile display device		
 HAL	<b>Halogen illumination</b> For pictures bright and rich in contrast	 INFINITY	<b>Infinity system</b> Infinity corrected optical system	 HDMI	<b>HDMI digital camera</b> For direct transmitting of the picture to a display device		
 LED	<b>LED illumination</b> Cold, energy-saving and especially long-life illumination	 ZOOM	<b>Zoom magnification</b> For stereomicroscopes	 SOFTWARE	<b>PC software</b> To transfer the measurements from the device to a PC.	 1 DAY	<b>Package shipment</b> The time required to manufacture the product internally is shown in days in the pictogram.
 IL	<b>Incident illumination</b> For non-transparent objects	 AF	<b>Auto-focus</b> For automatic control of the focus level	 AUTO ATC	<b>Automatic temperature compensation</b> For measurements between 10 °C and 30 °C	 2 DAYS	<b>Pallet shipment</b> The time required to manufacture the product internally is shown in days in the pictogram.
 TL	<b>Transmitting illumination</b> For transparent objects	 PARALLEL	<b>Parallel optical system</b> For stereomicroscopes, enables fatigue-proof working	 IP	<b>Protection against dust and water splashes IPxx:</b> The type of protection is shown in the pictogram cf. DIN EN 60529:2000-09, IEC 60529:1989+A1:1999 +A2:2013		
 FL	<b>Fluorescence illumination</b> For stereomicroscopes						

## Abbreviations

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

## KERN Models A – Z

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## KERN Customer Consultants

With questions about our products and services, we will be happy to advise you:

UK, IE, IS, FR, Maghreb, BE, LUX



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## KERN Hotlines

Technical questions about our products?

You will find assistance here quickly: **+49 7433 9933 - ...**



### Service Hotline

→ 199

for general technical questions about your KERN product

### Optical Devices

→ 777

for all technical questions concerning our microscopes, microscope cameras, refractometers, etc.

### Laboratory and Analytical Balances

→ 444

for all technical questions concerning our high quality precision balances, analytical balances (especially with electromagnetic force-compensated measuring systems, tuning fork and high application density)

### SAUTER Measuring Instruments

→ 555

for all technical questions concerning our SAUTER measuring instruments, test benches, force measuring accessories (clamps etc.), SAUTER software

### System Solutions Industry 4.0

→ 200

for all technical questions concerning the interlocking of the latest information and communication technology with our scales, load cells and measuring devices as well as questions about KERN software

### Calibration and Verification Service

→ 196

for any questions concerning our calibration and verification service



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## EIGHT GENERATIONS – WHAT A PASSION

Our history as the oldest German precision balance manufacturer started over 250 years ago. In 1769 in the tranquil setting of Onstmettingen in the Swabian mountains, the village blacksmith, Johann Jakob Sauter I, forged an automatic balance. This had been developed by the pastor and inventor Philipp Matthäus Hahn, with whom he worked. Sauter divided up the scale and aligned the Hahn balance to the correct weight. Every balance was a one-off and adapted to suit the customers' requirements. Johann Jakob Sauter I was the family's first balance manufacturer.

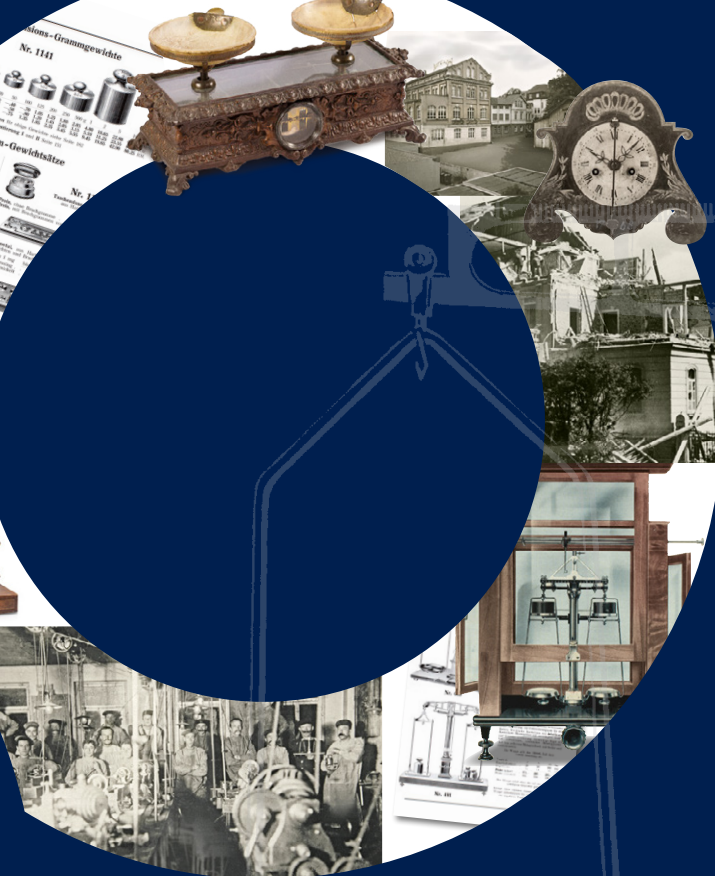
He had no idea that the Sauter family would still be producing and selling balances over 250 years later, albeit from 1844 under the company name of KERN & SOHN.

### Tradition, innovation and precision

Competence and handcrafted quality characterise the work of the Sauter family and this has carried the company through the toughest of times. The fate of the company hung by a thread through great misfortune on more than one occasion. Several times, an untimely death in the Sauter family shook the succession of the company. For one generation, the namesake of our company, Gottlieb Kern stepped in. This is how the KERN brand was created in 1844, and his successor Councillor of Commerce Albert Sauter was either unable or unwilling to change it.

In spite of all the highs and lows, KERN balance manufacturing has maintained a stable course – for over 250 years. This has only been and remains possible due to constant regeneration and further development. A path for which we are extremely grateful, because it was not a given.



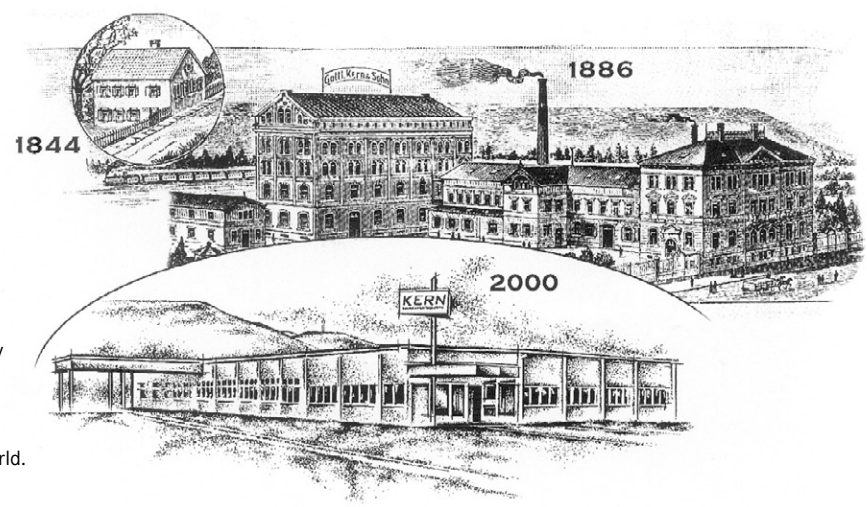


# 180 YEARS

since 1844

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## KERN & SOHN



Throughout the world we could only find one other family which had been continuously involved with balance manufacture like KERN.

According to our research, there is also no other workshop or company that has been manufacturing precision balances continuously for 200 years. This means that KERN is not only the oldest German precision balance manufacturer, but probably also the oldest in the world.

**Our story continues to move forward! On page 60 read more about today's generation of KERN and look to the future with us on page 112.**



# MICROSCOPES

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# WHY YOU SHOULD CHOOSE A KERN MICROSCOPE?

For 180 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

Use our practical “Check lists for **microscopes** and **refractometers**”, which may help you to quickly determine specifications for the future instrument. Together with our KERN product specialist you can choose the right product for you.

If there is no suitable product in the standard range, for example, then we will of course configure an individual microscope for you.

Our aim is to develop a market-driven product solution, so with our microscope and refractometer range, the saying holds true: good quality at a competitive price! This is what we stand for and work towards, every day!

Do you have any questions about our range of microscopes and refractometers?

Your KERN customer consultants are available at any time to help you further.

I hope that you enjoy working efficiently with our KERN Optics products.



Albert Sauter, Managing Director



1



# COMPOUND MICROSCOPES

Compound, Phase contrast, Digital, Fluorescence and Inverted microscopes

## 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

#### 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 WxDxH 130x300x310 mm
- Net weight approx. 3 kg

STANDARD



not  
OBS 101, 102

Model	Standard configuration						Price excl. of VAT ex works €
	Tube	Eyepiece	Objective quality	Objectives	Illumination	Stage	
<b>OBS 101</b>	Monocular	WF 10×/∅ 18 mm	Achromatic	4×/10×/40×	0,5W LED (transmitted) (battery incl., rechargeable)	fix	<b>195,-</b>
<b>OBS 102</b>	Monocular	WF 10×/∅ 18 mm	Achromatic		0,5W LED (transmitted) (battery incl., rechargeable)	fix	<b>205,-</b>
<b>OBS 103</b>	Monocular	WF 10×/∅ 18 mm	Achromatic		0,5W LED (transmitted) (battery incl., rechargeable)	fix	<b>215,-</b>
<b>OBS 104</b>	Binocular	WF 10×/∅ 18 mm	Achromatic		0,5W LED (transmitted) (battery incl., rechargeable)	fix	<b>295,-</b>
<b>OBS 105</b>	Monocular	WF 10×/∅ 18 mm	Achromatic		0,5W LED (transmitted) (battery incl., rechargeable)	mechanical	<b>255,-</b>
<b>OBS 106</b>	Binocular	WF 10×/∅ 18 mm	Achromatic		0,5W LED (transmitted) (battery incl., rechargeable)	mechanical	<b>340,-</b>



Model outfit	Model KERN						Order number	Price/piece excl. of VAT ex works €	
	OBS 101	OBS 102	OBS 103	OBS 104	OBS 105	OBS 106			
<b>Eyepieces</b> (23,2 mm)	WF 10×/∅ 18 mm	✓	✓	✓	✓✓	✓	✓✓	OBB-A1473	35,-
	WF 16×/∅ 13 mm	○	○	○	○○	○	○○	OBB-A1474	35,-
	WF 20×/∅ 11 mm	○	○	○	○○	○	○○	OBB-A1475	35,-
	WF 10×/∅ 18 mm (with Pointer)	○	○	○	○	○	○	OBB-A1561	35,-
<b>Achromatic objectives</b>	4×/0,10 W.D. 18,0 mm	✓	✓	✓	✓	✓	✓	OBB-A1476	40,-
	10×/0,25 W.D. 7,0 mm	✓	✓	✓	✓	✓	✓	OBB-A1477	45,-
	40×/0,65 (spring-loaded) W.D. 0,53 mm	✓	✓	✓	✓	✓	✓	OBB-A1478	50,-
	60×/0,85 (spring-loaded) W.D. 0,1 mm	○	○	○	○	○	○	OBB-A1479	65,-
	100×/1,25 (oil) (spring-loaded) W.D. 0,07 mm	○	○	○	○	○	○	OBB-A1480	70,-
<b>E-Plan objectives</b>	4×/0,10 W.D. 14,5 mm	○	○	○	○	○	○	OBB-A1562	45,-
	10×/0,25 W.D. 5,65 mm	○	○	○	○	○	○	OBB-A1563	60,-
	40×/0,65 (spring-loaded) W.D. 0,85 mm	○	○	○	○	○	○	OBB-A1564	90,-
	100×/1,25 (oil) (spring-loaded) W.D. 0,07 mm	○	○	○	○	○	○	OBB-A1565	95,-
	100×/0,80 (dry) (spring-loaded) W.D. 0,15 mm	○	○	○	○	○	○	OBB-A1442	190,-
	Plan 100×/1,0 (water) (spring-loaded) W.D. 0,18 mm	○	○	○	○	○	○	OBB-A1441	205,-
<b>Monocular tube</b>	45° inclined/360° rotatable	✓	✓	✓		✓		OBB-A1471	
<b>Binocular tube</b>	<ul style="list-style-type: none"> <li>45° inclined/360° rotatable</li> <li>Interpupillary distance 55-75 mm</li> <li>Diopter adjustment: Both-sided</li> </ul>				✓		✓	OBB-A1472	
<b>Fixed stage</b>	<ul style="list-style-type: none"> <li>Stage size W×D 110×120 mm</li> <li>Coaxial coarse and fine focusing knobs, scale: 2,5 µm</li> </ul>	✓	✓	✓	✓				
<b>Mechanical stage</b>	<ul style="list-style-type: none"> <li>Stage size W×D 115×125 mm</li> <li>Travel 75×18 mm</li> <li>Coaxial coarse and fine focusing knobs, scale: 2,5 µm</li> </ul>						✓	✓	
<b>Condenser</b>	Simple condenser N.A. 0,65	✓							
	Simple condenser N.A. 0,65 (aperture diaphragm)		✓						
	Abbe N.A. 1,25 (aperture diaphragm)			✓	✓	✓	✓		
<b>Illumination</b>	0,5 W LED illumination system (transmitted) (rechargeable)	✓	✓	✓	✓	✓	✓		
<b>Colour filters for transmitted illumination</b>	Blue			✓	✓	✓	✓	OBB-A1466	25,-
	Green			○	○	○	○	OBB-A1467	25,-
	Yellow			○	○	○	○	OBB-A1468	25,-
	Grey			○	○	○	○	OBB-A1184	25,-

✓ = Included with delivery

○ = Option



### Note

Please request special conditions for a classroom set



Monocular version



Objectives OBT

## Educational Line

### The modern compound microscope for teaching in your class room

#### Features

- The KERN OBT range is a high-quality school microscope, which will impress you with its intuitive control elements, sturdy construction and modern design
- The infinitely dimmable 1W LED guarantees optimum illumination of the samples and also ensures long service life. Mobile use is also no problem through optional battery operation
- The simple 0.65 condenser lens with adjustable aperture diaphragm on the OBT 101 ensures the very best concentration of light and illumination of the sample. The OBT 102, 103, 104, 105, 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 accurately, all models have a coarse and fine focusing knob on both sides. The mechanical angle table enables you to work with the samples and move them rapidly (for OBT 103, 104, 105, 106 models)
- A large selection of different eyepieces and objectives is also available
- 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

- 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 (OBT 101) or quadplex (OBT 102, 103, 104, 105, 106) nosepiece
- Tube 45° inclined/360° rotatable
- Diopter adjustment: Both-sided (for binocular models)
- Overall dimensions W×D×H 195×147×325 mm
- Net weight approx. 2,5 kg

#### STANDARD



not OBT 101

#### OPTION



Model	Standard configuration						Price excl. of VAT ex works €
	Tube	Eyepiece	Objective quality	Objectives	Illumination	Stage	
<b>KERN</b>							
<b>OBT 101</b>	Monocular	HWF 10×/ø 18 mm	Achromatic	4×/10×/40×	1W LED (transmitted)	fix	<b>230,-</b>
<b>OBT 102</b>	Monocular	HWF 10×/ø 18 mm	Achromatic		1W LED (transmitted)	fix	<b>250,-</b>
<b>OBT 103</b>	Monocular	HWF 10×/ø 18 mm	Achromatic		1W LED (transmitted)	mechanical	<b>285,-</b>
<b>OBT 104</b>	Binocular	HWF 10×/ø 18 mm	Achromatic	4×/10×/40×/100×	1W LED (transmitted)	mechanical	<b>380,-</b>
<b>OBT 105</b>	Monocular	HWF 10×/ø 18 mm	Achromatic		1W LED (transmitted)	mechanical	<b>310,-</b>
<b>OBT 106</b>	Binocular	HWF 10×/ø 18 mm	Achromatic		1W LED (transmitted)	mechanical	<b>390,-</b>

Model outfit		Model KERN						Order number	Price/piece excl. of VAT ex works €
		OBT 101	OBT 102	OBT 103	OBT 104	OBT 105	OBT 106		
<b>Eyepieces</b> (23,2 mm)	WF 10×/∅ 18 mm	✓	✓	✓	✓✓	✓	✓✓	OBB-A3200	35,-
	WF 10×/∅ 18 mm (with Pointer)	○	○	○	○	○	○	OBB-A3201	35,-
	WF 10×/∅ 18 mm (reticule 0,1 mm)	○	○	○	○	○	○	OBB-A3202	35,-
<b>Achromatic objectives</b>	4×/0,10 W.D. 27 mm	✓	✓	✓	✓	✓	✓	OBB-A3203	30,-
	10×/0,25 W.D. 7 mm	✓	✓	✓	✓	✓	✓	OBB-A3204	35,-
	40×/0,65 (spring-loaded) W.D. 0,6 mm	✓	✓	✓	✓	✓	✓	OBB-A3205	45,-
	100×/1,25 (oil) (spring-loaded) W.D. 0,2 mm	○	○	○	○	✓	✓	OBB-A3207	65,-
	60×/0,85 (spring-loaded) W.D. 0,4 mm	○	○	○	○	○	○	OBB-A3206	55,-
<b>Monocular tube</b>	45° inclined/360° rotatable	✓	✓	✓	○	✓	○	OBB-A3221	
<b>Binocular tube</b>	<ul style="list-style-type: none"> <li>• Siedentopf 45° inclined/360° rotatable</li> <li>• Interpupillary distance 48–75 mm</li> <li>• Diopter adjustment: One-sided</li> </ul>	○	○	○	✓	○	✓	OBB-A3222	
<b>Fixed stage</b>	<ul style="list-style-type: none"> <li>• Stage size W×D 115×110 mm</li> <li>• Coaxial coarse and fine focusing knobs, scale: 2 µm</li> </ul>	✓	✓						
<b>Mechanical stage</b>	<ul style="list-style-type: none"> <li>• Stage size W×D 115×110 mm</li> <li>• Travel 52×20 mm</li> <li>• Coaxial coarse and fine focusing knobs, scale: 2 µm</li> <li>• One slide holder</li> </ul>				✓	✓	✓	✓	
<b>Condenser</b>	Simple condenser N.A. 0,65	✓							
	Abbe N.A. 1,25 (aperture diaphragm)		✓	✓	✓	✓	✓		
<b>Illumination</b>	1 W LED spare bulb (transmitted)	✓	✓	✓	✓	✓	✓	OBB-A3208	30,-
<b>Colour filters for transmitted illumination</b>	Blue	○	○	○	○	○	○	OBB-A3212	25,-
	Green	○	○	○	○	○	○	OBB-A3210	25,-
	Yellow	○	○	○	○	○	○	OBB-A3211	25,-
	Grey	○	○	○	○	○	○	OBB-A3209	25,-

✓ = Included with delivery

○ = Option



### Note

Please request special conditions for a classroom set



Monocular version



Trinocular version



Butterfly tube

## Educational Line

# Elegant, dynamic and impressive – the new all-round compound microscope for schools, training and laboratories

### Features

- The brand new OBE-12/13 range stands out through its exclusive, dynamic device, which is second to none in terms of sturdy construction and ergonomics. The clever storage compartment on the back will enable quick practical storage for your power cable. Thanks to the USB connection technology, it is also possible to supply power using an external powerbank
- The impressive, infinitely dimmable 3 W LED guarantees bright illumination of your sample
- A further highlight is the butterfly lens barrel which enables you to achieve the ideal viewing angle and is integrated as standard on all binocular and trinocular models. The height-adjustable and thereby focusable 1.25 Abbe condenser with aperture diaphragm is a further quality feature of the OBE range and guarantees 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 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)

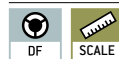
### Technical data

- Finite optical system
- Quadplex nosepiece
- Butterfly 30° inclined
- Monocular lens barrel 30° inclined
- Diopter adjustment: One-sided (for binocular and trinocular models)
- Overall dimensions W×D×H 360×150×320 mm
- Net weight approx. 4,6 kg

#### STANDARD



#### OPTION



Model	Standard configuration					Price excl. of VAT ex works €
	Tube	Eyepiece	Objective quality	Objectives	Illumination	
<b>KERN</b> <b>OBE 121</b>	Monocular	HWF 10×/ø 18 mm	Achromatic		3W LED (transmitted)	<b>490,-</b>
<b>OBE 122</b>	Binocular	HWF 10×/ø 18 mm	Achromatic	4×/10×/40×	3W LED (transmitted)	<b>580,-</b>
<b>OBE 124</b>	Trinocular	HWF 10×/ø 18 mm	Achromatic		3W LED (transmitted)	<b>690,-</b>
<b>OBE 131</b>	Monocular	HWF 10×/ø 18 mm	Achromatic		3W LED (transmitted)	<b>540,-</b>
<b>OBE 132</b>	Binocular	HWF 10×/ø 18 mm	Achromatic	4×/10×/40×/100×	3W LED (transmitted)	<b>640,-</b>
<b>OBE 134</b>	Trinocular	HWF 10×/ø 18 mm	Achromatic		3W LED (transmitted)	<b>760,-</b>



Model outfit		Model KERN						Order number	Price/piece excl. of VAT ex works €
		OBE 121	OBE 122	OBE 124	OBE 131	OBE 132	OBE 134		
<b>Eyepieces</b> (23,2 mm)	HWF 10×/∅ 18 mm	✓	✓✓	✓✓	✓	✓✓	✓✓	OBB-A1403	50,-
	WF 16×/∅ 13 mm	○	○○	○○	○	○○	○○	OBB-A1354	50,-
	HWF 10×/∅ 18 mm (with pointer)	○	○	○	○	○	○	OBB-A1348	45,-
	HWF 10×/∅ 18 mm (reticule 0,1 mm) (non-adjustable)	○	○	○	○	○	○	OBB-A1349	65,-
<b>Achromatic objectives</b>	4×/0,10 W.D. 18,6 mm	✓	✓	✓	✓	✓	✓	OBB-A1111	40,-
	10×/0,25 W.D. 6,5 mm	✓	✓	✓	✓	✓	✓	OBB-A1108	50,-
	40×/0,65 (spring-loaded) W.D. 0,47 mm	✓	✓	✓	✓	✓	✓	OBB-A1112	80,-
	100×/1,25 (oil) (spring-loaded) W.D. 0,07 mm	○	○	○	✓	✓	✓	OBB-A1109	115,-
	20×/0,40 (spring-loaded) W.D. 1,75 mm	○	○	○	○	○	○	OBB-A1110	95,-
	60×/0,85 (spring-loaded) W.D. 0,1 mm	○	○	○	○	○	○	OBB-A1113	115,-
	E-Plan 100×/0,80 (dry) (spring-loaded) W.D. 0,15 mm	○	○	○	○	○	○	OBB-A1442	190,-
	Plan 100×/1,0 (water) (spring-loaded) W.D. 0,18 mm	○	○	○	○	○	○	OBB-A1441	205,-
<b>Monocular tube</b>	30° inclined	✓			✓				
<b>Binocular tube</b>	<ul style="list-style-type: none"> <li>• Butterfly 30° inclined</li> <li>• Interpupillary distance 48 – 75 mm</li> <li>• Diopter adjustment: One-sided</li> </ul>		✓			✓			
<b>Trinocular tube</b>	<ul style="list-style-type: none"> <li>• See binocular tube</li> <li>• Light distribution 20:80</li> </ul>			✓			✓		
<b>Mechanical stage</b>	<ul style="list-style-type: none"> <li>• Stage size W×D 125×115 mm</li> <li>• Travel 50×70 mm</li> <li>• Coaxial coarse and fine focusing knobs, scale: 2 μm</li> </ul>	✓	✓	✓	✓	✓	✓		
<b>Condenser</b>	Abbe N.A. 1,25 (aperture diaphragm)	✓	✓	✓	✓	✓	✓	OBB-A1101	95,-
<b>Darkfield unit</b>	Usable for 4× – 40× objectives	○	○	○	○	○	○	OBB-A1148	95,-
<b>Illumination</b>	3 W LED illumination system (transmitted)	✓	✓	✓	✓	✓	✓		
<b>Colour filters</b> for transmitted illumination	Blue	○	○	○	○	○	○	OBB-A1466	25,-
	Green	○	○	○	○	○	○	OBB-A1467	25,-
	Yellow	○	○	○	○	○	○	OBB-A1468	25,-
	Grey	○	○	○	○	○	○	OBB-A1184	25,-
<b>C-Mount</b>	0,5× (focus adjustable)			○			○	OBB-A1137	175,-
	1×			○			○	OBB-A1139	110,-

✓ = Included with delivery

○ = Option



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
- 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, sewage treatment plants and breweries

### Applications/Samples

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

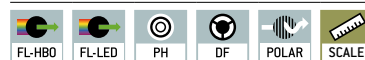
### Technical data

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

#### STANDARD



#### OPTION



### Model

Standard configuration

Price  
excl. of VAT  
ex works  
€

	Tube	Eyepiece	Objective quality	Objectives	Illumination	
<b>KERN</b>						
<b>OBL 127</b>	Binocular	HWF 10×/ø 20 mm	Infinity E-Plan	4×/10×/40×/100×	3 W LED (transmitted)	<b>1060,-</b>
<b>OBL 137</b>	Trinocular	HWF 10×/ø 20 mm	Infinity E-Plan	4×/10×/40×/100×	3 W LED (transmitted)	<b>1200,-</b>

Model outfit		Model KERN		Order number	Price/piece excl. of VAT ex works €
		OBL 127	OBL 137		
<b>Eyepieces</b> (23,2 mm)	HWF 10×/∅ 20 mm	✓✓	✓✓	OBB-A1404	105,-
	WF 16×/∅ 13 mm	○○	○○	OBB-A1354	50,-
<b>Infinity E-Plan objectives</b>	HWF 10×/∅ 20 mm (with Pointer)	○	○	OBB-A1448	90,-
	4×/0,10 W.D. 12,1 mm	✓	✓	OBB-A1161	100,-
	10×/0,25 W.D. 2,1 mm	✓	✓	OBB-A1159	165,-
	40×/0,65 (spring-loaded) W.D. 0,58 mm	✓	✓	OBB-A1160	290,-
	100×/1,25 (oil) (spring-loaded) W.D. 0,19 mm	✓	✓	OBB-A1158	365,-
	Plan 20×/0,40 (spring-loaded) W.D. 2,41 mm	○	○	OBB-A1250	290,-
	Plan 60×/0,80 (spring-loaded) W.D. 0,33 mm	○	○	OBB-A1270	390,-
	Plan 100×/1,15 (water) (spring-loaded) W.D. 0,18 mm	○	○	OBB-A1437	490,-
<b>Binocular tube</b>	<ul style="list-style-type: none"> <li>• Butterfly 30° inclined/360° rotatable</li> <li>• Interpupillary distance 50 – 75 mm (for infinity system)</li> <li>• Diopter adjustment: One-sided</li> </ul>	✓	○	OBB-A1578	
<b>Trinocular tube</b>	<ul style="list-style-type: none"> <li>• Butterfly 30° inclined/360° rotatable</li> <li>• Interpupillary distance 50 – 75 mm</li> <li>• Light distribution 20:80 (for infinity system)</li> <li>• Diopter adjustment: One-sided</li> </ul>	○	✓	OBB-A1580	
<b>Mechanical stage</b>	<ul style="list-style-type: none"> <li>• Stage size W×D 145×130 mm</li> <li>• Travel 76×52 mm</li> <li>• Coaxial coarse and fine focusing knobs, scale: 2 µm</li> <li>• Two slide holder</li> </ul>	✓	✓		
<b>Condenser</b>	Abbe N.A. 1,25 precentered (aperture diaphragm)	✓	✓	OBB-A1103	95,-
<b>Darkfield condenser</b>	N.A. 0,85 – 0,91 (dry, paraboloid)	○	○	OBB-A1422	250,-
<b>Illumination</b>	20 W Halogen spare bulb (transmitted)			OBB-A1643	60,-
	3 W LED illumination system (transmitted) (non-rechargeable)	✓	✓		
<b>Polarising unit</b>	Analyser/Polariser	○	○	OBB-A1277	290,-
<b>Phase contrast units</b> (including PH-condenser and PH-slides)	Single unit with ∞ PH-Plan objective 10×	○	○	OBB-A1215	340,-
	Single unit with ∞ PH-Plan objective 20×	○	○	OBB-A1217	390,-
	Single unit with ∞ PH-Plan objective 40×	○	○	OBB-A1219	470,-
	Single unit with ∞ PH-Plan objective 100×	○	○	OBB-A1213	570,-
	If required, there are several magnification levels, please contact our OPTICS-Team				
<b>Fluorescence unit</b>	100 W HBO Epi Fluorescence unit, three-hole slide (B/G) including centering objective	○	○	OBB-A1153	3490,-
	3 W LED Epi Fluorescence unit, three-hole slide (B/G) including centering objective	○	○	OBB-A1157	3550,-
<b>Colour filters</b> for transmitted illumination	Blue (built-in)	✓	✓		
	Green	○	○	OBB-A1188	25,-
	Yellow	○	○	OBB-A1165	25,-
	Grey	○	○	OBB-A1183	25,-
<b>C-Mount</b>	0,5× (focus adjustable)		○	OBB-A1515	200,-
	1×		○	OBB-A1514	130,-

✓ = Included with delivery

○ = Option

1



Mounted phase contrast condenser



Simple PH condenser with 40× PH slide

Lab Line

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

Features

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

- A protective dust cover, eye cups, as well as multi-lingual user instructions are included in the scope of delivery
- A C-mount adapter is required to connect a camera to the trinocular version. You can select this adapter from the following model outfit list
- Please find detailed information in the following model outfit list

Scope of application

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

Applications/Samples

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

Technical data

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

STANDARD										OPTION		

Model	Standard configuration					Price excl. of VAT ex works €
	Tube	Eyepiece	Objective quality	Objectives	Illumination	
<b>KERN</b>						
<b>OBL 146</b>	Binocular	HWF 10×/ø 20 mm	Infinity E-Plan/ Plan		3 W LED (transmitted)	<b>1660,-</b>
<b>OBL 155</b>	Trinocular	HWF 10×/ø 20 mm	Infinity E-Plan/ Plan	4×/PH10×/ PH40×/100×	20 W Halogen (transmitted)	<b>1490,-</b>
<b>OBL 156</b>	Trinocular	HWF 10×/ø 20 mm	Infinity E-Plan/ Plan		3 W LED (transmitted)	<b>1780,-</b>



Model outfit		Model KERN			Order number	Price/piece excl. of VAT ex works €
		OBL 155	OBL 146	OBL 156		
<b>Eyepieces</b> (23,2 mm)	HWF 10×/∅ 20 mm	✓✓	✓✓	✓✓	OBB-A1404	105,-
	WF 16×/∅ 13 mm	○○	○○	○○	OBB-A1354	50,-
<b>Infinity E-Plan objectives</b>	HWF 10×/∅ 20 mm (with Pointer)	○	○	○	OBB-A1448	90,-
	4×/0,11 W.D. 12,1 mm	✓	✓	✓	OBB-A1161	100,-
	10×/0,25 W.D. 2,1 mm	○	○	○	OBB-A1159	165,-
	40×/0,65 (spring-loaded) W.D. 0,58 mm	○	○	○	OBB-A1160	290,-
	100×/1,25 (oil) (spring-loaded) W.D. 0,19 mm	✓	✓	✓	OBB-A1158	365,-
	Plan 20×/0,40 (spring-loaded) W.D. 2,41 mm	○	○	○	OBB-A1250	290,-
	Plan 60×/0,80 (spring-loaded) W.D. 0,33 mm	○	○	○	OBB-A1270	390,-
	Plan 100×/1,15 (water) (spring-loaded) W.D. 0,18 mm	○	○	○	OBB-A1437	490,-
<b>Binocular tube</b>	<ul style="list-style-type: none"> <li>• Butterfly 30° inclined/360° rotatable</li> <li>• Interpupillary distance 50 – 75 mm (for infinity system)</li> <li>• Diopter adjustment: One-sided</li> </ul>	○	✓	○	OBB-A1578	
<b>Trinocular tube</b>	<ul style="list-style-type: none"> <li>• Butterfly 30° inclined/360° rotatable</li> <li>• Interpupillary distance 50 – 75 mm</li> <li>• Light distribution 20:80 (for infinity system)</li> <li>• Diopter adjustment: One-sided</li> </ul>	✓	○	✓	OBB-A1582	
<b>Mechanical stage</b>	<ul style="list-style-type: none"> <li>• Stage size W×D 145×130 mm</li> <li>• Travel 76×52 mm</li> <li>• Coaxial coarse and fine focusing knobs, scale: 2 μm</li> <li>• Two slide holder</li> </ul>	✓	✓	✓		
<b>PH condenser</b>	Abbe N.A. 1,25 precentered, for bright field and phase contrast	✓	✓	✓	OBB-A1398	165,-
<b>Phase contrast units</b>	Infinity PH-Plan objective 10×	✓	✓	✓	OBB-A1390	185,-
	Infinity PH-Plan objective 20×	○	○	○	OBB-A1391	220,-
	Infinity PH-Plan objective 40×	✓	✓	✓	OBB-A1392	285,-
	Infinity PH-Plan objective 100×	○	○	○	OBB-A1393	375,-
	PH slide 10×	✓	✓	✓	OBB-A1399	85,-
	PH slide 20×	○	○	○	OBB-A1400	85,-
	PH slide 40×	✓	✓	✓	OBB-A1401	85,-
	PH slide 100×	○	○	○	OBB-A1402	85,-
<b>Darkfield condenser</b>	Centering eyepiece	✓	✓	✓		
	N.A. 0,85 – 0,91 (dry, paraboloid)	○	○	○	OBB-A1422	250,-
<b>Illumination</b>	20 W Halogen spare bulb (transmitted)	✓			OBB-A1643	60,-
	3 W LED illumination system (transmitted) (non-rechargeable)		✓	✓		
<b>Colour filters</b> for transmitted illumination	Blue (built-in)	✓	✓	✓		
	Green	✓	✓	✓	OBB-A1188	25,-
	Yellow	○	○	○	OBB-A1165	25,-
	Grey	○	○	○	OBB-A1183	25,-
<b>C-Mount</b>	0,5× (focus adjustable)	○		○	OBB-A1515	200,-
	1×	○		○	OBB-A1514	130,-

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

✓ = Included with delivery

○ = Option

1



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 microscope 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 contrast procedures
- 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
- The centring eyepiece for adjusting the phase contrast (OBN-15), a protective dust cover, eye cups as well as multi-lingual user instructions are included with the 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)

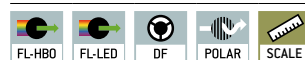
#### Technical data

- 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



#### Model

#### Standard configuration

KERN	Standard configuration					Price excl. of VAT ex works €
	Tube	Eyepiece	Objective quality	Objectives	Illumination	
OBN 132	Trinocular	HWF 10×/ø 20 mm	Infinity Plan	4×/ 10×/20×/	20 W Halogen (transmitted)	1680,-
OBN 135	Trinocular	HWF 10×/ø 20 mm	Infinity Plan	40×/ 100×	3 W LED (transmitted)	1690,-
OBN 158	Trinocular	HWF 10×/ø 20 mm	Infinity Plan	4×/PH10×/PH20×/	20 W Halogen (transmitted)	2970,-
OBN 159	Trinocular	HWF 10×/ø 20 mm	Infinity Plan	PH40×/PH100×	3 W LED (transmitted)	2990,-

Model outfit		Model KERN				Order number	Price/piece excl. of VAT ex works €
		OBN 132	OBN 135	OBN 158	OBN 159		
<b>Eyepieces</b> (23,2 mm)	HWF 10×/∅ 20 mm	✓✓	✓✓	✓✓	✓✓	OBB-A1404	105,-
	WF 16×/∅ 13 mm	○○	○○	○○	○○	OBB-A1354	50,-
<b>Infinity Plan achromatic objectives</b>	4×/0,11 W.D. 12,1 mm	✓	✓	✓	✓	OBB-A1263	120,-
	10×/0,25 W.D. 4,64 mm	✓	✓	○	○	OBB-A1243	215,-
	20×/0,40 (spring-loaded) W.D. 2,41 mm	✓	✓	○	○	OBB-A1250	290,-
	40×/0,66 (spring-loaded) W.D. 0,65 mm	✓	✓	○	○	OBB-A1257	315,-
	100×/1,25 (oil) (spring-loaded) W.D. 0,19 mm	✓	✓	○	○	OBB-A1240	340,-
	Plan 60×/0,80 (spring-loaded) W.D. 0,33 mm	○	○	○	○	OBB-A1270	390,-
	Plan 100×/1,15 (water) (spring-loaded) W.D. 0,18 mm	○	○	○	○	OBB-A1437	490,-
<b>Trinocular tube</b>	<ul style="list-style-type: none"> <li>• Butterfly 30° inclined/360° rotatable</li> <li>• Interpupillary distance 50 – 75 mm</li> <li>• Light distribution 100:0</li> <li>• Diopter adjustment: Both-sided</li> </ul>	✓	✓	✓	✓		
<b>Mechanical stage</b>	<ul style="list-style-type: none"> <li>• Stage size W×D 175×145 mm</li> <li>• Travel 78×55 mm</li> <li>• Coaxial coarse and fine focusing knobs</li> <li>• Two slide holder</li> </ul>	✓	✓	✓	✓		
<b>Condenser</b>	Abbe N.A. 1,25 center-adjustable (aperture diaphragm)	✓	✓	○	○	OBB-A1102	95,-
	Swing-out condenser N.A. 0,9/0,13 center-adjustable (aperture diaphragm)	○	○	○	○	OBB-A1104	240,-
<b>Darkfield condenser</b>	N.A. 0,85 – 0,91 (dry, paraboloid)	○	○	○	○	OBB-A1421	290,-
	N.A. 1,3 (oil, cardioid)	○	○	○	○	OBB-A1538	660,-
<b>Koehler illumination</b>	20 W Halogen spare bulb (transmitted)	✓		✓		OBB-A1643	60,-
	3 W LED illumination system (transmitted) (non-rechargeable)		✓		✓		
<b>Polarising unit</b>	Analyser/Polariser	○	○	○	○	OBB-A1283	290,-
<b>Phase contrast units</b>	Quintuple hole turret with 10×/20×/40×/100× Infinity-PH-Plan objectives (complete set)	○	○	✓	✓	OBB-A1237	1790,-
	Single unit with ∞ PH-Plan objective 10×	○	○			OBB-A1214	340,-
	Single unit with ∞ PH-Plan objective 20×	○	○			OBB-A1216	390,-
	Single unit with ∞ PH-Plan objective 40×	○	○			OBB-A1218	470,-
	Single unit with ∞ PH-Plan objective 100×	○	○			OBB-A1212	570,-
	Centering eyepiece	○	○	✓	✓		
	If required, there are several magnification levels, please contact our OPTICS-Team						
<b>C-Mount</b>	1×	○	○	○	○	OBB-A1140	110,-
	0,57× (focus adjustable)	○	○	○	○	OBB-A1136	175,-
<b>Fluorescence unit</b>	100 W HBO Epi Fluorescence unit 6-filter disc (UV/V/B/G) including centering objective	○	○	○	○	OBB-A1155	4970,-
	100 W HBO Epi Fluorescence unit, two-hole slide (B/G) including centering objective	○	○	○	○	OBB-A1153	3490,-
	3 W LED Epi Fluorescence unit (B/G) including centering objective	○	○	○	○	OBB-A1156	3550,-
<b>Colour filters for transmitted illumination</b>	Blue	✓		✓	✓		
	Green	○	○	✓	✓	OBB-A1188	25,-
	Yellow	○	○	○	○	OBB-A1165	25,-
	Grey	○	○	○	○	OBB-A1183	25,-

✓ = Included with delivery

○ = Option

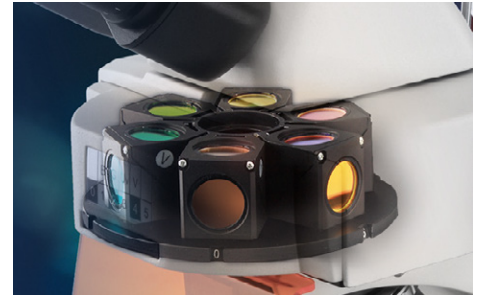


### Note

Semi apochromatic objectives available as accessories (see model outfit list page 27)



Illumination unit



Sextuple filter wheel OBN 148

## Professional Line

### The fluorescence microscope for the professional user

#### Features

- The fluorescence microscope in the OBN-14 series is based on the usual high quality and versatility of the OBN series. The outstanding, stable design in combination with high-quality optics set the standard in fluorescence microscopy in this class
- The powerful, dimmable 20W halogen illumination unit (Philips) and a 100W Epi fluorescence incident illumination unit on the OBN 147/OBN 148 models ensure perfect illumination and stimulation of your fluorescence samples
- As an alternative, with the OBN 141 model we can offer you a fluorescence microscope with a 3W LED transmitted illumination unit and 3W LED Epi fluorescence incident illumination unit
- 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
- As standard, the filter wheel which has up to 6 fittings is fitted with a B/G fluorescence filter (OBN 141/OBN 147) or B/G/UV/V fluorescence filter (OBN 148)
- A large selection of eyepieces, objectives, colour filters, darkfield condensers as well as a Butterfly tube, polarising and phase contrast units can easily be integrated thanks to the modular construction system
- The centring objective for adjusting the fluorescence, 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

- Specially for translucent, thin, low-contrast, challenging samples (e.g. immunofluorescence, FISH, DAPI staining, etc.)

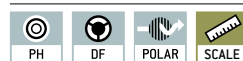
#### Technical data

- Infinity optical system
- Quintuple nosepiece
- Siedentopf 30° inclined/360° rotatable
- Diopter adjustment: Both-sided
- Overall dimensions W×D×H 530×220×490 mm
- Net weight approx. 16 kg

#### STANDARD



#### OPTION



Model	Standard configuration					Price excl. of VAT ex works €
	Tube	Eyepiece	Objective quality	Objectives	Illumination	
<b>KERN</b>						
<b>OBN 141</b>	Trinocular	HWF 10×/ø 20 mm	Infinity Plan	4×/10×/20×/	LED + 3 W LED Epi Fluorescence (B/G)	<b>5190,-</b>
<b>OBN 147</b>	Trinocular	WF 10×/ø 20 mm	Infinity Plan	40×/100×	Halogen + 100 W Epi Fluorescence (B/G)	<b>5170,-</b>
<b>OBN 148</b>	Trinocular	HWF 10×/ø 20 mm	Infinity Plan		Halogen + 100 W Epi Fluorescence (B/G/UV/V)	<b>6550,-</b>



Model outfit	Model KERN			Order number	Price/piece excl. of VAT ex works €	
	OBN 141	OBN 147	OBN 148			
<b>Eyepieces</b> (23,2 mm)	HWF 10×/∅ 20 mm	✓✓		✓✓	OBB-A1404	105,-
	WF 10×/∅ 20 mm		✓✓		OBB-A1351	95,-
	WF 16×/∅ 13 mm	○○	○○	○○	OBB-A1354	50,-
	WF 10×/∅ 20 mm (reticule 0,1 mm) (adjustable)	○	○	○	OBB-A1352	155,-
<b>Infinity Plan achromatic objectives</b>	4×/0,10 W.D. 12,1 mm	✓	✓	✓	OBB-A1263	120,-
	10×/0,25 W.D. 4,64 mm	✓	✓	✓	OBB-A1243	215,-
	20×/0,40 (spring-loaded) W.D. 2,41 mm	✓	✓	✓	OBB-A1250	290,-
	40×/0,66 (spring-loaded) W.D. 0,65 mm	✓	✓	✓	OBB-A1257	315,-
	100×/1,25 (oil) (spring-loaded) W.D. 0,19 mm	✓	✓	✓	OBB-A1240	340,-
	Plan 60×/0,80 (spring-loaded) W.D. 0,33 mm	○	○	○	OBB-A1270	390,-
<b>Infinity Plan Semi Apochromatic objectives</b>	10×/0,3 W.D. 7,68 mm	○	○	○	OBB-A1634	395,-
	20×/0,5 W.D. 1,96 mm	○	○	○	OBB-A1635	690,-
	40×/0,75 (spring-loaded) W.D. 0,78 mm	○	○	○	OBB-A1636	1050,-
	100×/1,3 (oil) (spring-loaded) W.D. 0,15 mm	○	○	○	OBB-A1637	1370,-
<b>Trinocular tube</b>	<ul style="list-style-type: none"> <li>• Butterfly 30° inclined/360° rotatable</li> <li>• Interpupillary distance 50 – 75 mm</li> <li>• Light distribution 100:0</li> <li>• Diopter adjustment: Both-sided</li> </ul>	✓	✓	✓		
<b>Mechanical stage</b>	<ul style="list-style-type: none"> <li>• Stage size W×D 175×145 mm</li> <li>• Travel 78×55 mm</li> <li>• Coaxial coarse and fine focusing knobs</li> <li>• Two slide holder</li> </ul>	✓	✓	✓		
<b>Condenser</b>	Abbe N.A. 1,25 center-adjustable (aperture diaphragm)	✓	✓	✓	OBB-A1102	95,-
	Swing-out condenser N.A. 0,9/0,13 center-adjustable (aperture diaphragm)	○	○	○	OBB-A1104	240,-
<b>Darkfield condenser</b>	N.A. 0,85 – 0,91 (dry, paraboloid)	○	○	○	OBB-A1421	290,-
	N.A. 1,3 (oil, cardioid)	○	○	○	OBB-A1538	660,-
<b>Koehler illumination</b>	20 W Halogen spare bulb (transmitted)		✓	✓	OBB-A1643	60,-
	3 W LED illumination system (transmitted) (non-rechargeable)	✓				
<b>Polarising unit</b>	Analyser/Polariser	○	○	○	OBB-A1283	290,-
<b>Phase contrast units</b>	Quintuple hole turret with 10×/20×/40×/100× Infinity-PH-Plan objectives (complete set)	○	○	○	OBB-A1237	1790,-
	Single unit with ∞ PH-Plan objective 10×	○	○	○	OBB-A1214	340,-
	Single unit with ∞ PH-Plan objective 20×	○	○	○	OBB-A1216	390,-
	Single unit with ∞ PH-Plan objective 40×	○	○	○	OBB-A1218	470,-
	Single unit with ∞ PH-Plan objective 100×	○	○	○	OBB-A1212	570,-
	If required, there are several magnification levels, please contact our OPTICS-Team					
<b>C-Mount</b>	1×	○	○	○	OBB-A1140	110,-
	0,57× (focus adjustable)	○	○	○	OBB-A1136	175,-
<b>Fluorescence unit</b>	100 W HBO Epi Fluorescence unit 6-filter disc (UV/V/B/G) including centering objective			✓		
	100 W HBO Epi Fluorescence unit, 6-filter-disc (B/G) including centering objective		✓			
	3 W LED Epi Fluorescence unit (B/G) including centering objective	✓				
<b>Colour filters for transmitted illumination</b>	Blue	✓	✓	✓		
	Green	○	○	○	OBB-A1188	25,-
	Yellow	○	○	○	OBB-A1165	25,-
	Grey	○	○	○	OBB-A1183	25,-

✓ = Included with delivery      ○ = Option



OCM 161



OCM 165-168



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. In addition, either an Osram 100 W-HBO- (OCM 165/166) or a 5 W-LED Epi fluorescence incident illumination unit (OCM 167/168) are available to you as a fluorescence microscope for perfect illumination and stimulation 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 (∅ 110 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 165-168

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

STANDARD



Model

Standard configuration

	Tube	Eyepiece	Objective quality	Objectives	Illumination	Price excl. of VAT ex works €
<b>KERN</b>						
<b>OCM 161</b>	Trinocular	HWF 10×/∅ 22 mm	Infinity Plan		30 W Halogen (transmitted)	<b>3790,-</b>
<b>OCM 165</b>	Trinocular	HWF 10×/∅ 22 mm	Infinity Plan		30 W Halogen + 100 W Epi Fluorescence (B/G)	<b>9180,-</b>
<b>OCM 166</b>	Trinocular	HWF 10×/∅ 22 mm	Infinity Plan	LWD10×/LWD20×/LWD40×/LWD20×PH	30 W Halogen + 100 W Epi Fluorescence (UV/V/B/G)	<b>10790,-</b>
<b>OCM 167</b>	Trinocular	HWF 10×/∅ 22 mm	Infinity Plan		5W-LED + 5W Epi Fluorescence (B/G)	<b>9180,-</b>
<b>OCM 168</b>	Trinocular	HWF 10×/∅ 22 mm	Infinity Plan		5W-LED + 5W Epi Fluorescence (UV/V/B/G)	<b>10790,-</b>

Model outfit		Model KERN					Order number	Price/piece excl. of VAT ex works €
		OCM 161	OCM 165	OCM 166	OCM 167	OCM 168		
<b>Eyepieces</b> (30 mm)	HWF 10×/∅ 22 mm (adjustable)	✓✓	✓✓	✓✓	✓✓	✓✓	OBB-A1491	100,-
	HWF 10×/∅ 22 mm (reticule 0,1 mm) (adjustable)	○	○	○	○	○	OBB-A1523	155,-
<b>Infinity Plan achromatic Fluor objectives</b> for long working distance	4×/0,11 W.D. 12,1 mm	○	○	○	○	○	OBB-A1600	140,-
	10×/0,25 W.D. 10,3 mm	✓	✓	✓	✓	✓	OBB-A1601	210,-
	20×/0,45 W.D. 5,8 mm	✓	✓	✓	✓	✓	OBB-A1602	290,-
	40×/0,65 W.D. 5,1 mm	✓	✓	✓	✓	✓	OBB-A1603	360,-
<b>Trinocular tube</b>	<ul style="list-style-type: none"> <li>• 45° inclined</li> <li>• Interpupillary distance 48-76 mm</li> <li>• Light distribution 100:0</li> <li>• Diopter adjustment: Both-sided</li> </ul>	✓	✓	✓	✓	✓		
<b>Mechanical stage</b>	<ul style="list-style-type: none"> <li>• Stage size W×D 210×241 mm</li> <li>• Travel 128×80 mm</li> <li>• Coaxial coarse and fine focusing knobs</li> <li>• The x/y control knobs can be fitted either left or right</li> <li>• Suitable for attaching a 96-hole microtitre plate</li> </ul>	✓	✓	✓	✓	✓		
	Drop specimen holder (∅ 110)	✓	✓	✓	✓	✓	OBB-A1503	35,-
	Specimen holder for 35 mm culture dish	○	○	○	○	○	OBB-A1507	65,-
	Specimen holder for 54 mm culture dish	✓	✓	✓	✓	✓	OBB-A1506	65,-
	Specimen holder for 65 mm culture dish	○	○	○	○	○	OBB-A1505	65,-
<b>Condenser</b>	Abbe N.A. 0,3 (aperture diaphragm), LWD 72 mm	✓	✓	✓	✓	✓		
<b>Illumination</b>	30 W Halogen spare bulb (transmitted)	✓	✓	✓			OBB-A1372	40,-
	5 W LED spare bulb (transmitted)				✓	✓	OBB-A1589	90,-
<b>Phase contrast units</b>	Phase contrast slide 4×	○	○	○	○	○	OBB-A1608	95,-
	Phase contrast slide 10×	✓	✓	✓	✓	✓	OBB-A1609	95,-
	Phase contrast slide 20×/40×	✓	✓	✓	✓	✓	OBB-A1610	95,-
	Infinity PH-Plan Fluor objective 4×	○	○	○	○	○	OBB-A1604	680,-
	Infinity PH-Plan Fluor objective 10×	○	○	○	○	○	OBB-A1605	260,-
	Infinity PH-Plan Fluor objective 20×	✓	✓	✓	✓	✓	OBB-A1606	360,-
	Infinity PH-Plan Fluor objective 40×	○	○	○	○	○	OBB-A1607	410,-
	Centering eyepiece	○	○	○	○	○	OBB-A1544	120,-
<b>Fluorescence unit</b>	100 W HBO Epi Fluorescence unit, two-hole slide (B/G)		✓					
	100 W HBO Epi Fluorescence unit, four-hole slide (UV/V/B/G)			✓				
	5 W HBO Epi Fluorescence unit, two-hole slide (B/G)				✓			
	5 W HBO Epi Fluorescence unit, four-hole slide (UV/V/B/G)					✓		
<b>Colour filters</b> for transmitted illumination	Blue	✓	✓	✓	✓	✓	OBB-A1510	25,-
	Green	✓	✓	✓	✓	✓	OBB-A1511	25,-
	Yellow	○	○	○	○	○	OBB-A1512	25,-
	Grey	○	○	○	○	○	OBB-A1513	25,-
<b>C-Mount</b>	0,5×	○	○	○	○	○	OBB-A1515	200,-
	1×	○	○	○	○	○	OBB-A1514	130,-

✓ = Included with delivery

○ = Option

2



# METALLURGICAL MICROSCOPES





Illumination unit with filter disc



Stage and objectives

2

## Lab Line MET

# The metallurgical reflected light microscope for material testing and surface testing, as well as quality assurance in industry

### Features

- The KERN OKM is an excellent metallurgical reflected light microscope, e.g. for surface quality testing of raw materials and finished products in industry
- The strong, continuously dimmable 5 W LED incident illumination unit ensures excellent, high-contrast images
- The illumination unit with an integrated 5-slot filter wheel for blue, green, yellow, grey and blank means that you can quickly change the colour filter for different contrast views
- A large mechanical stage for reflected illumination applications is configured as standard. The coarse and fine focusing knob on both sides guarantees optimal adjustment and focusing of your sample

- A simple polarising unit (analyser and polariser) is included with delivery
- A large selection of different eyepieces, objectives and a polarising unit are also available
- 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

- Metallurgy, material testing, quality assurance

### Applications/Samples

- Opaque and thick samples, workpieces (surfaces, fold lines, coatings)

### Technical data

- Infinity optical system
- Quadplex nosepiece
- Siedentopf 30° inclined/360° rotatable
- Diopter adjustment: One-sided
- Overall dimensions W×D×H 440×200×460 mm
- Net weight basic configuration approx. 8 kg

STANDARD



Model	Standard configuration					Price excl. of VAT ex works €
	Tube	Eyepiece	Objective quality	Objectives	Illumination	
<b>KERN</b>						
<b>OKM 173</b>	Trinocular	HWF 10×/ø 18 mm	Infinity Plan	5×/10×/ LWD 20×/ LWD40×	5 W LED (incident)	<b>2220,-</b>

Model outfit	Model KERN		Order number	Price/piece excl. of VAT ex works €
	OKM 173			
<b>2</b> Eyepieces (23,2 mm)	HWF 10×/∅ 18 mm	✓	OBB-A1403	50,-
	HWF 10×/∅ 18 mm (reticule 0,1 mm) (non-adjustable)	✓	OBB-A1349	65,-
	WF 5×/∅ 20 mm	○	OBB-A1355	60,-
	WF 12,5×/∅ 14 mm	○	OBB-A1353	85,-
	WF 16×/∅ 13 mm	○	OBB-A1354	50,-
<b>Infinity Plan achromatic objectives</b>	5×/0,11 W.D. 6,80 mm	✓	OBB-A1268	115,-
	10×/0,25 W.D. 4,3 mm	✓	OBB-A1244	215,-
	20×/0,40 (spring-loaded) W.D. 2,14 mm	○	OBB-A1251	290,-
	40×/0,65 (spring-loaded) W.D. 0,45 mm	○	OBB-A1258	315,-
<b>Infinity Plan achromatic objectives for long working distance</b>	20×/0,40 W.D. 8,35 mm	✓	OBB-A1252	315,-
	40×/0,65 W.D. 3,90 mm	✓	OBB-A1259	440,-
	50×/0,70 (spring-loaded) W.D. 1,95 mm	○	OBB-A1266	490,-
	80×/0,80 (spring-loaded) W.D. 0,85 mm	○	OBB-A1271	550,-
<b>Trinocular tube</b>	<ul style="list-style-type: none"> <li>• Siedentopf 30° inclined/360° rotatable</li> <li>• Interpupillary distance 50 - 75 mm</li> <li>• Light distribution 80:20</li> <li>• Diopter adjustment: One-sided</li> </ul>	✓	OBB-A1346	
<b>Mechanical stage</b>	<ul style="list-style-type: none"> <li>• Stage size W×D 200×140 mm</li> <li>• Travel 76×52 mm</li> <li>• Coaxial coarse and fine focusing knobs</li> </ul>	✓		
<b>Reflected illumination unit</b>	5-filter unit (Blue, Green, Yellow, Grey, Empty)	✓		
	Polarising unit (Incl. analyser and polariser slide)	✓		
<b>C-Mount</b>	1×	○	OBB-A1514	130,-
	0,5× (focus adjustable)	○	OBB-A1515	200,-

✓ = Included with delivery

○ = Option



Stage OKO



Illumination unit

## Professional Line MET

### The fully-equipped reflected and transmitted light microscope for numerous applications in metallurgy

#### Features

- This device is a professional, versatile, metallurgical microscope, which is used in testing metals and analysing surfaces
- The KERN OKO 178 is a combi variant of LED incident illumination and LED transmitted illumination. A height-adjustable 1.25 Abbe condenser which can be centred as well as a field diaphragm for complete professional Köhler illumination are part of the standard version.
- An open, mechanical angle table is integrated as standard
- A simple polarising unit (analyser and polariser) is included with delivery
- A large selection of accessories, such as, for example, eyepieces and further objectives are available for longer working distances
- 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

- Metallurgy, material testing, quality assurance

#### Applications/Samples

- Opaque and thick samples, workpieces (surfaces, fold lines, coatings)

#### Technical data

- Infinity optical system
- Quintuple nosepiece
- Siedentopf 30° inclined/360° rotatable
- Diopter adjustment: Both-sided
- Overall dimensions W×D×H  
550×200×460 mm
- Net weight basic configuration approx. 14,5 kg

STANDARD



Model	Standard configuration					Price excl. of VAT ex works €
	Tube	Eyepiece	Objective quality	Objectives	Illumination	
<b>KERN</b>						
<b>OKO 178</b>	Trinocular	HWF 10×/ø 22 mm	Infinity Plan	5×/10×/20×/50×	5 W LED (incident + transmitted)	<b>3350,-</b>

Model outfit		Model KERN		Order number	Price/piece excl. of VAT ex works €
		OKO 178			
<b>Eyepieces</b> (30 mm)	HWF 10×/∅ 22 mm (adjustable)	✓		OBB-A1491	100,-
	HWF 10×/∅ 22 mm (reticule 0,1 mm) (adjustable)	✓		OBB-A1523	155,-
<b>Infinity Plan Semi Apochromatic objectives</b> for long working distance	5×/0,15 W.D. 21,0 mm	✓		OBB-A1619	180,-
	10×/0,3 W.D. 20,0 mm	✓		OBB-A1620	275,-
	20×/0,40 W.D. 15,0 mm	✓		OBB-A1621	335,-
	50×/0,75 W.D. 4,25 mm	✓		OBB-A1641	480,-
	100×/0,85 (dry) W.D. 3,00 mm	○		OBB-A1623	1260,-
<b>Infinity Plan objectives</b> for long working distance	80×/0,80 (spring-loaded) W.D. 0,85 mm	○		OBB-A1530	520,-
<b>Trinocular tube</b>	<ul style="list-style-type: none"> <li>• Siedentopf 30° inclined/360° rotatable</li> <li>• Interpupillary distance 48 – 76 mm</li> <li>• Light distribution 100:0</li> </ul>	✓			
<b>Mechanical stage</b> for transmitted illumination	<ul style="list-style-type: none"> <li>• Stage size W×D 182×140 mm</li> <li>• Travel 77×52 mm</li> <li>• Coaxial coarse and fine focusing knobs</li> </ul>	✓			
<b>Reflected illumination unit</b>	Polarising unit (Incl. analyser, polariser and blue filter slide)	✓			
<b>Condenser</b>	Abbe N.A. 1,25 (aperture diaphragm)	✓		OBB-A1380	110,-
<b>Koehler illumination</b>	5 W LED spare bulb (transmitted)	✓			
<b>Illumination polarising unit</b>	5 W LED spare bulb (incident)	✓		OBB-A1589	90,-
<b>Polariser</b>	For transmitted illumination	✓		OBB-A1470	150,-
<b>Colour filters</b> for transmitted illumination	Blue	✓		OBB-A1170	25,-
	Green	○		OBB-A1188	25,-
	Yellow	○		OBB-A1165	25,-
	Grey	○		OBB-A1183	25,-
<b>C-Mount</b>	1×	○		OBB-A1514	130,-
	0,75×	○		OBB-A1590	200,-
	0,5× (focus adjustable)	○		OBB-A1515	200,-

✓ = Included with delivery

○ = Option

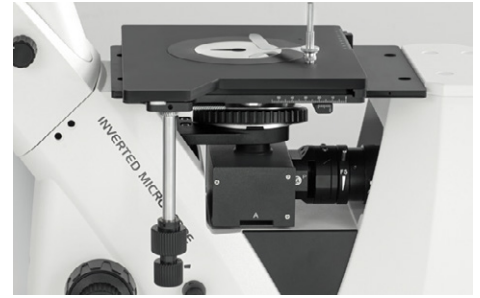




OLM 171



OLM 170



Specimen stage and illumination unit (OLM 171)



Analyser/Polariser

## LAB LINE MET

### The inverted metallurgical microscope for professional applications

#### Features

- The KERN OLM range is part of the range of inverted microscopes and stands out through its design which is ergonomic, robust and extremely stable. This range, with its large working distance is, for example, particularly suitable for surface quality testing of raw materials and finished products in industry
- Depending on the application, you can choose from models with a powerful, continuously dimmable 5W LED or a 50W halogen incident light illumination, which ensure optimum illumination of the materials to be tested
- As standard, the OLM range is fitted with a trinocular eyepiece tube
- A simple polarising unit (analyser and polariser) is included with delivery

- The compact design of the OLM 170 means that handling is even easier and more flexible for the user, so this model can also be considered for mobile applications. In the same way, the pre-installed C-Mount Adapter (on the back of the microscope) also makes operation easier, as connecting the camera is even easier
- Further options such as, for example, a large selection of objectives 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

- Metallurgy, material testing, quality assurance

#### Applications/Samples

- Opaque and thick samples, workpieces (surfaces, fold lines, coatings)

#### Technical data

- Infinity optical system

#### OLM 170

- 4-fold lens revolving unit
- Butterfly 45° angled
- Diopter adjustment: one-sided
- Overall dimensions W×D×H 470×240×330 mm
- Net weight approx. 7 kg

#### OLM 171

- 5-fold lens revolving unit
- Siedentopf 30° inclined
- Diopter adjustment: both-sided
- Overall dimensions W×D×H 271×379×747 mm
- Net weight approx. 12,5 kg

STANDARD



Model	Standard configuration					Price excl. of VAT ex works €
KERN	Tube	Eyepiece	Objective quality	Objectives	Illumination	
OLM 170	Trinocular	HWF 10×/ø 20 mm	Infinity Plan	LWD5×/LWD10×/ LWD20×/LWD50×	5W LED (incident)	3000,-
OLM 171	Trinocular	HWF 10×/ø 22 mm	Semi Apochromatic		50W Halogen (incident)	4200,-

Model outfit		Model KERN		Order number	Price/piece excl. of VAT ex works €
		OLM 170	OLM 171		
<b>Eyepieces</b> (23,2 mm)	HWF 10×/∅ 20 mm	✓		OBB-A1404	105,-
	WF 10×/∅ 20 mm (reticule 0,1 mm) (adjustable)	✓		OBB-A1532	26,-
<b>Eyepieces</b> (30 mm)	HWF 10×/∅ 22 mm (adjustable)		✓	OBB-A1491	100,-
	HWF 10×/∅ 22 mm (reticule 0,1 mm) (adjustable)		✓	OBB-A1523	155,-
<b>Infinity Plan achromatic objectives</b> for long working distance	5×/0,13 W.D. 16,04 mm	✓	○	OBB-A1525	135,-
	10×/0,25 W.D. 18,48 mm	✓	○	OBB-A1526	200,-
	20×/0,40 W.D. 8,35 mm	✓	○	OBB-A1527	265,-
	50×/0,70 (spring-loaded) W.D. 1,95 mm	✓	○	OBB-A1528	350,-
	80×/0,80 (spring-loaded) W.D. 0,85 mm	○	○	OBB-A1530	520,-
<b>Infinity Plan Semi Apochromatic objectives</b> for long working distance	5x / 0,15 W.D. 21 mm		✓	OBB-A1619	1260,-
	10x / 0,30 W.D. 20 mm		✓	OBB-A1620	
	20x / 0,40 W.D. 15 mm	○	✓	OBB-A1621	
	50x / 0,55 W.D. 10 mm		✓	OBB-A1622	
	100×/0,85 (dry) W.D. 3,00 mm		○	OBB-A1623	
<b>Trinocular tube</b>	<ul style="list-style-type: none"> <li>• Butterfly 45° inclined</li> <li>• Interpupillary distance 48-76 mm</li> <li>• Light distribution 20:80</li> <li>• Diopter adjustment: One-sided</li> </ul>	✓			
	<ul style="list-style-type: none"> <li>• Siedentopf 30° inclined</li> <li>• Interpupillary distance 48-76 mm</li> <li>• Light distribution 100:0</li> <li>• Diopter adjustment: Both-sided</li> </ul>		✓		
<b>Mechanical stage</b>	<ul style="list-style-type: none"> <li>• Stage size B×T 155×180 mm</li> <li>• Travel 75×40 mm</li> <li>• Coaxial coarse and fine focusing knobs</li> </ul>	✓			
	<ul style="list-style-type: none"> <li>• Stage size W×D 210×180 mm</li> <li>• Travel 50×50 mm</li> <li>• Coaxial coarse and fine focusing knobs</li> </ul>		✓		
<b>Illumination</b>	5 W LED spare bulb (incident)	✓		OBB-A1589	90,-
<b>Illumination</b>	50 W Halogen spare bulb (incident)		✓	OBB-A1207	25,-
<b>Reflected illumination unit</b>	Polarising unit (Incl. analyser, polariser and colour filter slide)	✓	✓		
<b>Colour filters</b> for transmitted illumination	Blue		✓	OBB-A1510	25,-
	Green		○	OBB-A1511	25,-
	Yellow		○	OBB-A1512	25,-
	Grey	✓	○	OBB-A1513	25,-
<b>C-Mount</b>	0,5× (built-in)	✓			
	0,5×		○	OBB-A1515	200,-
	1×		○	OBB-A1514	130,-

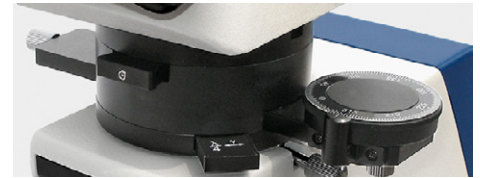
✓ = Included with delivery

○ = Option

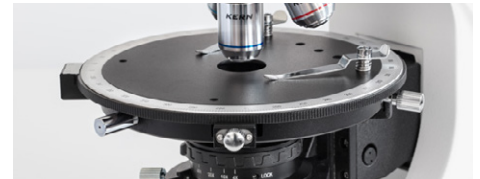
3



# POLARISING MICROSCOPES



Bertrand lens,  $\lambda$  Slip, 360° rotatable analyser (removable)



Center-adjustable and turnable polarisation stage



"Swing-Out" condenser

3



## Professional Line POL

### The flexible and powerful polarising microscope for all professional applications with reflected and transmitted light

#### Features

- This device is a professional, fully-equipped polarising microscope, which uses the polarisation of light to analyse minerals, crystals and isotropic materials
- The KERN OKO 185 is a combi variant of LED incident illumination and LED transmitted illumination. A height-adjustable 0.9/0.13 Swing-out Abbe condenser which can be centred for complete Köhler illumination are part of the standard version
- A 360° revolving stage with 1° division, 6' fine division and locking function is integrated into all series as standard

- As standard all series are fitted with a complete polarising unit with scale, a Bertrand lens, a  $\lambda + \frac{1}{4} \lambda$  Slip as well as a quartz wedge
- A large selection of accessories such as, for example, a mechanical stage attachment as well as further objectives for a long working distance and filter units are also available
- 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

- Mineralogy, texture observations, material testing, observation of crystals

#### Applications/Samples

- More complex samples with polarising properties

#### Technical data

- Infinity optical system
- Quintuple nosepiece
- Siedentopf 30° inclined
- Diopter adjustment: Both-sided
- Overall dimensions W×D×H 500×200×500 mm
- Net weight approx. 14,5 kg

STANDARD



Model	Standard configuration					Price excl. of VAT ex works €
	Tube	Eyepiece	Objective quality	Objectives	Illumination	
<b>KERN</b>						
<b>OPO 185</b>	Trinocular	HWF 10×/ø 20 mm	Infinity Plan	Non-stress 4×/10×/20×/40×/50×	5W LED (incident + transmitted)	<b>5740,-</b>



Model outfit		Model KERN	Order number	Price/piece excl. of VAT ex works €
		OPO 185		
<b>Eyepieces</b> (23,2 mm)	HWF 10×/20 mm	✓	OBB-A1591	95,-
	HWF 10×/20 mm (reticule 0,1 mm) (adjustable)	✓	OBB-A1592	130,-
<b>Non-stress Infinity Plan objectives</b> (transmitted)	4×/0,10 W.D. 12,1 mm	✓	OBB-A1294	115,-
	10×/0,25 W.D. 4,64 mm	✓	OBB-A1289	220,-
	20×/0,40 (spring-loaded) W.D. 2,41 mm	✓	OBB-A1290	290,-
	40×/0,66 (spring-loaded) W.D. 0,65 mm	✓	OBB-A1292	335,-
<b>Non-stress Infinity Plan objectives</b> (incident) for long working distance	5×/0,13 W.D. 16,04 mm	○	OBB-A1593	110,-
	10×/0,25 W.D. 18,48 mm	○	OBB-A1594	220,-
	20×/0,40 W.D. 8,35 mm	○	OBB-A1291	375,-
	Semi apochromatic 50×/0,75 W.D. 4,25 mm	✓	OBB-A1642	480,-
	100×/0,85 (dry) (spring-loaded) W.D. 3,00 mm	○	OBB-A1595	1260,-
<b>Trinocular tube</b>	<ul style="list-style-type: none"> <li>• Siedentopf 30° inclined</li> <li>• Interpupillary distance 48 - 76 mm</li> <li>• Light distribution 100:0</li> </ul>	✓		
<b>Analyser unit with scale</b>	360° rotatable, lockable	✓		
<b>Bertrand lens</b>	Insertable, center-adjustable	✓	OBB-A1121	330,-
<b>λ + ¼ λ Slip</b>	λ Slip and ¼ λ Slip (combination)	✓	OBB-A1316	155,-
<b>Quartz wedge</b>	I - IV Class	✓	OBB-A1321	260,-
<b>Revolving round stage</b>	360° rotatable, center-adjustable, division 1°, Vernier division 6'	✓		
<b>Polarising attached mechanical stage</b>	Polarising attached mechanical stage	○	OBB-A1337	295,-
<b>Swing-out condenser</b>	N.A. 0,9/0,13 swing-out achromatic condenser (aperture diaphragm)	✓	OBB-A1107	255,-
<b>Polarising unit with scale</b> (transmitted)	360° rotatable, lockable	✓		
<b>Koehler illumination</b>	5 W LED spare bulb (transmitted)	✓		
<b>Illumination polarising unit</b>	5 W LED spare bulb (incident)	✓	OBB-A1589	90,-
<b>Colour filters</b> for transmitted illumination	Blue	✓	OBB-A1170	25,-
	Green	○	OBB-A1188	25,-
	Yellow	○	OBB-A1165	25,-
	Grey	○	OBB-A1183	25,-
<b>C-Mount</b>	1×	○	OBB-A1514	130,-
	0,75×	○	OBB-A1590	200,-
	0,5× (focus adjustable)	○	OBB-A1515	200,-

✓ = Included with delivery

○ = Option



## Cleaning sets for microscopes

### Features

- This economical and fully equipped 7-piece cleaning set contains everything you need for the very best care of your microscope
- A silicon hand blower, dust brush, 60 ml of cleaning liquid, lint-free duster, optical cleaning cloths and cleaning swabs. You get all that in a high-quality KERN storage bag which you can also easily fix onto your belt
- You can use this set not only to gently clean your microscope, but also for example your camera, binoculars or all other optical surfaces

Model	Description	Price excl. of VAT ex works €
KERN		
OCS 901	7-piece cleaning sets for microscopes und other optical instruments	35,-

4



# STEREOMICROSCOPES

Stereo, Stereo-Zoom, Coaxial and Gem Microscopes



Side view

## 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 is also no problem due to the integrated battery compartment
- 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
- Brightness adjustable
- Tube 45° inclined
- Interpupillary distance 55 – 75 mm
- Diopter adjustment: Both-sided
- Overall dimensions W×D×H 200×180×300 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	
<b>KERN</b> <b>OSE 421</b>	Binocular	WF 10×/ø 20 mm	ø 20	2×/4×	Arm curved	1 W LED (incident); 1 W LED (transmitted)	<b>310,-</b>

## 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  
€

		OSE 421		
Eyepieces (30,5 mm)	WF 5×/∅ 16,2 mm	○○	OZB-A4101	40,-
	WF 10×/∅ 20 mm	✓✓	OZB-A4102	35,-
	WF 15×/∅ 15 mm	○○	OZB-A4103	35,-
	WF 20×/∅ 10 mm	○○	OZB-A4104	40,-
	WF 10×/∅ 20 mm (reticule 0,1 mm)	○	OZB-A4151	50,-
Stand	Arm curved, with 1 W LED illumination (transmitted + incident)	✓		
Stage plate	Frosted glass/∅ 59,5 mm	✓	OZB-A4815	25,-
	Black-white/∅ 59,5 mm	✓	OZB-A4816	25,-
External illumination	Please find the information about external illumination units in the catalogue on page 83 and on our website <a href="http://www.kern-sohn.com">www.kern-sohn.com</a>			

✓ = 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-43 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	
<b>KERN</b>							
<b>OSF 438</b>	Binocular	WF 10×/ø 20 mm	ø 20	1×/2×/3×	Arm curved	1 W LED (incident); 0,35 W LED (transmitted)	<b>410,-</b>
<b>OSF 439</b>	Binocular	WF 10×/ø 20 mm	ø 20	1×/2×/4×	Arm curved	1 W LED (incident); 0,35 W LED (transmitted)	<b>410,-</b>

## 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

4

## 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	40,-
	WF 10×/∅ 20 mm	✓ ✓	✓ ✓	OZB-A4102	35,-
	WF 15×/∅ 15 mm	○ ○	○ ○	OZB-A4103	35,-
	WF 20×/∅ 10 mm	○ ○	○ ○	OZB-A4104	40,-
	WF 10×/∅ 20 mm (reticule 0,1 mm)	○	○	OZB-A4151	50,-
Stand	Arm curved, incl. handle, with LED illumination (0,35 W transmitted + 1 W incident)	✓	✓		
Stage plate	Frosted glass/∅ 59,5 mm	✓	✓	OZB-A4815	25,-
	Black-white/∅ 59,5 mm	✓	✓	OZB-A4816	25,-
External illumination	Please find the information about external illumination units in the catalogue on page 83 and on our website <a href="http://www.kern-sohn.com">www.kern-sohn.com</a>				

✓ = Included with delivery

○ = Option



## Lab Line

### The affordable and flexible stereo zoom microscope for laboratories, inspection authorities and quality controls

#### Features

- The products in the KERN OZL-44 series are stereo zoom microscopes, which will impress you with their 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
- 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
- As standard this microscope offers you continuous total magnification of 7,5× – 36×
- The OZL-44 series is available as a binocular version. The eyepieces are fixed in the eyepiece tube, to stop them getting damaged or lost
- 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
- 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
- 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

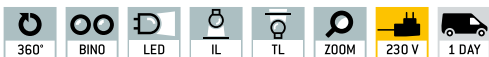
#### Applications/Samples

- 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: 4,8:1
- Interpupillary distance 55 – 75 mm
- Diopter adjustment: Both-sided
- Overall dimensions W×D×H  
330×235×380 mm
- Net weight approx. 5 kg

STANDARD



Model	Standard configuration						Price excl. of VAT ex works €
	Tube	Eyepiece	Field of view mm	Objective Zoom	Stand	Illumination	
<b>KERN</b>							
<b>OZL 445</b>	Binocular	WF 10×/ø 20 mm	ø 26,7 – 5,6	0,75× – 3,6×	Pillar style	1 W LED (incident); 0,35 W LED (transmitted)	<b>550,-</b>

OZL 445		Specifications - Objectives				
Eyepiece	Magnification	Standard	Auxiliary objectives			
		1,0×	0,5×	0,75×	1,5×	2,0×
WF 5×	Total magnification	3,75× - 18×	1,875× - 9×	2,81× - 13,5×	5,625× - 27×	7,5× - 36×
	Field of view mm	∅ 26 - 6	∅ 60 - 13	∅ 32 - 7	∅ 16 - 4	∅ 12,5 - 3
WF 10×	Total magnification	7,5× - 36×	3,75× - 18×	5,625× - 27×	11,25× - 54×	15× - 72×
	Field of view mm	∅ 26,7 - 5,6	∅ 53,3 - 11,1	∅ 35,5 - 7,4	∅ 17,8 - 3,7	∅ 13,3 - 2,8
WF 15×	Total magnification	11,25× - 54×	5,625× - 27×	8,44× - 40,5×	16,875× - 81×	22,5× - 108×
	Field of view mm	∅ 19 - 4,5	∅ 43 - 9,5	∅ 24 - 5,5	∅ 12 - 3	∅ 9,5 - 2
WF 20×	Total magnification	15× - 72×	7,5× - 36×	56,25× - 54×	22,5× - 108×	30× - 144×
	Field of view mm	∅ 12,5 - 3	∅ 28 - 6	∅ 16 - 3,5	∅ 8 - 2	∅ 6 - 1,5
<b>Working distance</b>		86 mm	178 mm	96 mm	42,5 mm	25,5 mm
<b>Maximum sample height</b>		100 mm	10 mm	60 mm	120 mm	135 mm

Model outfit		Model KERN	Order number	Price/piece excl. of VAT ex works €
		OZL 445		
Eyepieces (30,5 mm)	WF 5×/∅ 16,2 mm	○ ○	OZB-A4101	40,-
	WF 10×/∅ 20 mm	✓ ✓	OZB-A4102	35,-
	WF 15×/∅ 15 mm	○ ○	OZB-A4103	35,-
	WF 20×/∅ 10 mm	○ ○	OZB-A4104	40,-
	WF 10×/∅ 20 mm (reticule 0,1 mm)	○	OZB-A4151	50,-
Auxiliary objectives	0,5×	○	OZB-A4201	85,-
	0,75×	○	OZB-A4202	85,-
	1,5×	○	OZB-A4204	85,-
	2,0×	○	OZB-A4205	90,-
	Soldering protection lens	○	OZB-A4251	25,-
Stand	Pillar style, with LED illumination (0,35 W transmitted + 1 W incident)	✓		
Stage plate	Frosted glass/∅ 95 mm	✓	OZB-A4805	25,-
	Black-white/∅ 95 mm	✓	OZB-A4806	25,-
External illumination	Please find the information about external illumination units in the catalogue on page 83 and on our website <a href="http://www.kern-sohn.com">www.kern-sohn.com</a>			

✓ = Included with delivery

○ = Option

4



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
- As standard this microscope offers you continuous total magnification of 7x-45x

- 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 OZL 464/466/468: 100:0
- Interpupillary distance 55 – 75 mm
- Diopter adjustment: Both-sided
- Overall dimensions WxDxH 300x240x420 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	
<b>KERN</b>							
<b>OZL 463</b>	Binocular	HWF 10x/φ 20 mm	φ 28,6 – 4,4	0,7x – 4,5x	Pillar style	3 W LED (incident); 3 W LED (transmitted)	<b>600,-</b>
<b>OZL 464</b>	Trinocular	HWF 10x/φ 20 mm	φ 28,6 – 4,4	0,7x – 4,5x	Pillar style	3 W LED (incident); 3 W LED (transmitted)	<b>670,-</b>
<b>OZL 465</b>	Binocular	HWF 10x/φ 20 mm	φ 28,6 – 4,4	0,7x – 4,5x	Pillar style	3 W LED (incident); 3 W LED (transmitted)	<b>640,-</b>
<b>OZL 466</b>	Trinocular	HWF 10x/φ 20 mm	φ 28,6 – 4,4	0,7x – 4,5x	Pillar style	3 W LED (incident); 3 W LED (transmitted)	<b>690,-</b>
<b>OZL 467</b>	Binocular	HWF 10x/φ 20 mm	φ 28,6 – 4,4	0,7x – 4,5x	Arm curved	3 W LED (incident); 3 W LED (transmitted)	<b>600,-</b>
<b>OZL 468</b>	Trinocular	HWF 10x/φ 20 mm	φ 28,6 – 4,4	0,7x – 4,5x	Arm curved	3 W LED (incident); 3 W LED (transmitted)	<b>660,-</b>



Eyepiece	Magnification	Specifications - Objectives				
		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× - 112,5×	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
<b>Working distance</b>		105 mm	177 mm	120 mm	47 mm	26 mm
<b>Maximum sample height</b>		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	45,-
	HSWF 15×/∅ 15 mm	○	○	○	○	○	○	OZB-A4632	55,-
	HWF 20×/∅ 10 mm	○	○	○	○	○	○	OZB-A4633	55,-
	HSWF 25×/∅ 9 mm	○	○	○	○	○	○	OZB-A4634	60,-
Auxiliary objectives	0,5×	○	○			○	○	OZB-A4641	90,-
	0,75×	○	○			○	○	OZB-A4644	90,-
	1,5×	○	○			○	○	OZB-A4642	90,-
	2,0×	○	○			○	○	OZB-A4643	90,-
	Soldering protection lens	○	○			○	○	OZB-A4645	40,-
C-Mount	1× (focus adjustable)		✓		✓		✓	OZB-A4809	55,-
	0,3× (focus adjustable)		○		○		○	OZB-A4810	95,-
	0,5× (focus adjustable)		○		○		○	OZB-A4811	105,-
Eyepiece camera adapter	1,0×; for fitting an eyepiece camera to the trinocular connection of the microscope		○		○		○	OZB-A4863	40,-
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-A4670	25,-
	Black-white/∅ 95 mm	✓	✓	✓	✓	✓	✓	OZB-A4806	25,-
External illumination	Please find the information about external illumination units in the catalogue on page 83 and on our website <a href="http://www.kern-sohn.com">www.kern-sohn.com</a>								

✓ = Included with delivery

○ = Option



OZL 473

## Lab Line

### The flexible, affordable all-rounder with flexible incident light for training companies, inspection authorities and laboratories

#### Features

- The KERN OZL-47 stereo zoom microscope series will impress you with its excellent optical characteristics, easy operation and high level of ergonomic working comfort
- A highlight is the powerful and continuously dimmable integrated LED double gooseneck illumination (incident light), which ensures an individually and quickly adjustable illumination.
- 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
- As standard this microscope offers you continuous total magnification of 7×-45×
- 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
- 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
- Tube 45° inclined
- Magnification ratio: 6,4:1
- Light distribution OZL 474: 100:0
- 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	
<b>KERN</b>							
<b>OZL 473</b>	Binocular	HWF 10×/ø 20 mm	ø 28,6 – 4,4	0,7× – 4,5×	Pillar style	3 W LED (incident)	<b>840,-</b>
<b>OZL 474</b>	Trinocular	HWF 10×/ø 20 mm	ø 28,6 – 4,4	0,7× – 4,5×	Pillar style	3 W LED (incident)	<b>930,-</b>

Eyepiece	Specifications - Objectives					
	Magnification	Standard 1,0×	Auxiliary objectives			
			0,5×	0,75×	1,5×	2×
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	∅ 25,7 - 4	∅ 17,2 - 2,7	∅ 8,6 - 1,3	∅ 6,4 - 1
<b>Working distance</b>		105 mm	177 mm	120 mm	47 mm	26 mm
<b>Maximum sample height</b>		140 mm	35 mm	80 mm	165 mm	185 mm

Model outfit	Model KERN		Order number	Price/piece excl. of VAT ex works €	
	OZL 473	OZL 474			
Eyepieces (30,0 mm)	HWF 10×/∅ 20 mm	✓✓	✓✓	OZB-A4631	45,-
	HSWF 15×/∅ 15 mm	○	○	OZB-A4632	55,-
	HWF 20×/∅ 10 mm	○	○	OZB-A4633	55,-
	HSWF 25×/∅ 9 mm	○	○	OZB-A4634	60,-
Auxiliary objectives	0,5×	○	○	OZB-A4641	90,-
	0,75×	○	○	OZB-A4644	90,-
	1,5×	○	○	OZB-A4642	90,-
	2,0×	○	○	OZB-A4643	90,-
	Soldering protection lens	○	○	OZB-A4645	40,-
C-Mount	1× (focus adjustable)		✓	OZB-A4809	55,-
	0,3× (focus adjustable)		○	OZB-A4810	95,-
	0,5× (focus adjustable)		○	OZB-A4811	105,-
Eyepiece camera adapter	1,0×; for fitting an eyepiece camera to the trinocular connection of the microscope	○	○	OZB-A4863	40,-
Stand	Pillar style, with 3 W-LED illumination (incident)	✓	✓		
Stage plate	Black-white/∅ 95 mm	✓	✓	OZB-A4806	25,-
External illumination	Please find the information about external illumination units in the catalogue on page 83 and on our website <a href="http://www.kern-sohn.com">www.kern-sohn.com</a>				

✓ = Included with delivery

○ = Option



Lab Line

**Stereo zoom microscope with halogen illumination, for the laboratory, training centres, quality control or agriculture**

**Features**

- The KERN OZL-45 stereo zoom microscope series will impress you with its excellent optical characteristics, easy operation and high level of ergonomic working comfort
- The Halogen incident and transmitted illumination included as standard guarantees the very best illumination of your sample
- The high-quality optics, together with a large working surface offers the highest level of comfort for your applications
- As standard this microscope offers you continuous total magnification of 7,5×-50×
- The KERN OZL-45 series is available as a binocular 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
- 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
- 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

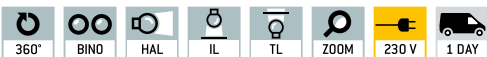
**Applications/Samples**

- 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
- Tube 45° inclined
- Magnification ratio: 6,7:1
- Interpupillary distance 55 – 75 mm
- Diopter adjustment: Both-sided
- Overall dimensions W×D×H  
330×270×460 mm
- Net weight approx. 5 kg

STANDARD



Model	Standard configuration						Price excl. of VAT ex works €
	Tube	Eyepiece	Field of view mm	Objective Zoom	Stand	Illumination	
<b>KERN</b>							
<b>OZL 451</b>	Binocular	HSWF 10×/ø 23 mm	ø 33 – 5	0,75× – 5,0×	Pillar style	10 W Halogen (incident) 10 W Halogen (transmitted)	<b>760,-</b>

Eyepiece	Specifications - Objectives				
	Magnification	Standard	Auxiliary objectives		
		1,0×	0,5×	0,75×	2,0×
HWF 5×	Total magnification	3,75× - 25×	1,875× - 12,5×	2,813× - 18,75×	7,5× - 50×
	Field of view mm	∅ 31 - 4,6	∅ 61,3 - 9,2	∅ 41,3 - 6,1	∅ 16 - 2,5
HSWF 10×	Total magnification	7,5× - 50×	3,75× - 25×	5,625× - 37,5×	15× - 100×
	Field of view mm	∅ 33 - 5	∅ 65 - 10	∅ 44 - 6,7	∅ 16 - 2,5
HWF 15×	Total magnification	11,25× - 75×	5,625× - 37,5×	8,438× - 56,25×	22,5× - 150×
	Field of view mm	∅ 24 - 4,2	∅ 48 - 8,5	∅ 32 - 5,6	∅ 12 - 2
HSWF 20×	Total magnification	15× - 100×	7,5× - 50×	11,25× - 75×	30× - 200×
	Field of view mm	∅ 20 - 3,5	∅ 40 - 7	∅ 26,7 - 4,7	∅ 10 - 1,8
HWF 25×	Total magnification	18,75× - 125×	9,375× - 62,5×	14,063× - 93,75×	37,5× - 255×
	Field of view mm	∅ 15,8 - 2,4	∅ 31,5 - 4,8	∅ 24,1 - 3,2	∅ 7,9 - 1,2
<b>Working distance</b>		113 mm	177 mm	117 mm	35 mm
<b>Maximum sample height</b>		120 mm	60 mm	90 mm	165 mm

Model outfit	Model KERN		Order number	Price/piece excl. of VAT ex works €
	OZL 45 1			
Eyepieces (30,0 mm)	HWF 5×/∅ 23,2 mm	○ ○	OZB-A4112	45,-
	HSWF 10×/∅ 23 mm	✓ ✓	OZB-A4118	45,-
	HWF 15×/∅ 15 mm	○ ○	OZB-A4119	45,-
	HSWF 20×/∅ 14,5 mm	○ ○	OZB-A4120	70,-
	HWF 25×/∅ 11,7 mm	○ ○	OZB-A4121	70,-
Auxiliary objectives	0,5×	○	OZB-A4209	135,-
	0,75×	○	OZB-A4210	135,-
	2,0×	○	OZB-A4206	130,-
Stand	Pillar style, with 12 V/10 W Halogen Illumination (transmitted + incident)	✓		
Stage plate	Frosted glass/∅ 95 mm	✓	OZB-A4805	25,-
	Black-white/∅ 95 mm	✓	OZB-A4806	25,-
Illumination	10 W spare bulb (transmitted + incident)	✓	OZB-A4804	25,-
Mechanical stage (Pre-assembling on request)	Stage size W×D 180×155 mm, Travel 75×55 mm, for transmitted and incident illumination	○	OZB-A4605	260,-
External illumination	Please find the information about external illumination units in the catalogue on page 83 and on our website <a href="http://www.kern-sohn.com">www.kern-sohn.com</a>			

✓ = Included with delivery

○ = Option





Dimmable, integrated LED ring illumination

### Lab Line

## The practical and flexible stereo zoom microscope with integrated LED ring illumination and large zoom range

#### Features

- The KERN OZL-456 stereo zoom microscope series will impress you with its excellent optical characteristics, easy operation and its integrated LED ring illumination unit
- The highlight of the KERN OZL-456 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.
- With its built-in, top-quality optics and powerful, integrated LED illumination unit, this model is a special all-rounder for all areas of application.
- As standard, this microscope offers you continuous total magnification of 7,5x – 50x

- As standard, the KERN OZL-45R series is provided as a binocular version with 10x eyepieces with a field of view with a diameter of 23 mm
- The arm curved stand gives you a large working area as well as a precise adjustment mechanism
- A large selection of eyepieces 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
- 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

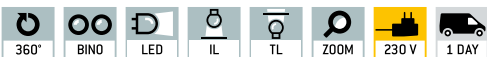
#### Applications/Samples

- 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
- Incident illumination dimmable
- Tube 45° inclined
- Magnification ratio: 6,7:1
- Interpupillary distance 55 – 75 mm
- Diopter adjustment: Both-sided
- Overall dimensions WxDxH 320x275x420 mm
- Net weight approx. 4,5 kg

STANDARD



Model	Standard configuration						Price excl. of VAT ex works €
	Tube	Eyepiece	Field of view mm	Objective Zoom	Stand	Illumination	
<b>KERN</b>							
<b>OZL 456</b>	Binocular	HSWF 10x/φ 23 mm	φ 33 – 5	0,75x – 5,0x	Arm curved	1 W LED (incident); 0,21 W LED (transmitted)	<b>870,-</b>

Eyepiece	Specifications - Objectives	
	Magnification	Standard 1,0×
HWF 5×	Total magnification	3,75× - 25×
	Field of view mm	∅ 31 - 4,6
HSWF 10×	Total magnification	7,5× - 50×
	Field of view mm	∅ 33 - 5
HWF 15×	Total magnification	11,25× - 75×
	Field of view mm	∅ 24 - 4,2
HSWF 20×	Total magnification	15× - 100×
	Field of view mm	∅ 20 - 3,5
HWF 25×	Total magnification	18,75× - 125×
	Field of view mm	∅ 15,8 - 2,4
<b>Working distance</b>		113 mm
<b>Maximum sample height</b>		45 mm

Model outfit	Model KERN		Order number	Price/piece excl. of VAT ex works €
	OZL 456			
Eyepieces (30,0 mm)	HWF 5×/∅ 23,2 mm	○ ○	OZB-A4 112	45,-
	HSWF 10×/∅ 23 mm	✓ ✓	OZB-A4 118	45,-
	HWF 15×/∅ 15 mm	○ ○	OZB-A4 119	45,-
	HSWF 20×/∅ 14,5 mm	○ ○	OZB-A4 120	70,-
	HWF 25×/∅ 11,7 mm	○ ○	OZB-A4 121	70,-
Stand	Arm curved, with LED illumination (0,21 W transmitted + 1 W incident)	✓		
Stage plate	Frosted glass/∅ 95 mm	✓	OZB-A4805	25,-
	Black-white/∅ 95 mm	✓	OZB-A4806	25,-
Mechanical stage (Pre-assembling on request)	Stage size W×D 180×155 mm, Travel 75×55 mm, for transmitted and incident illumination	○	OZB-A4605	260,-
External illumination	Please find the information about external illumination units in the catalogue on page 83 and on our website <a href="http://www.kern-sohn.com">www.kern-sohn.com</a>			

✓ = 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: 100:0
- 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



#### OPTION



Model	Standard configuration						Price excl. of VAT ex works €
	Tube	Eyepiece	Field of view mm	Objective Zoom	Stand	Illumination	
<b>KERN</b>							
<b>OZM 542</b>	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)	<b>1390,-</b>
<b>OZM 544</b>	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)	<b>1730,-</b>

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
<b>Working distance</b>		110 mm	195 mm	145 mm	50 mm	35 mm
<b>Maximum sample height</b>		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	70,-
	SWF 15×/∅ 17 mm	○	○	OZB-A5504	75,-
	SWF 20×/∅ 14 mm	○	○	OZB-A5505	85,-
	SWF 30×/∅ 9 mm	○	○	OZB-A5506	120,-
	HSWF 10×/∅ 23 mm (reticule 0,1 mm)	○	○	OZB-A5512	125,-
	SWF 15×/∅ 17 mm (reticule 0,05 mm)	○	○	OZB-A5513	140,-
	SWF 20×/∅ 14 mm (reticule 0,05 mm)	○	○	OZB-A5514	140,-
Achromatic auxiliary objectives	0,5×	○	○	OZB-A5612	160,-
	0,7×	○	○	OZB-A5613	160,-
	1,5×	○	○	OZB-A5615	160,-
	2,0×	○	○	OZB-A5616	165,-
	Soldering protection lens	○	○	OZB-A5614	50,-
C-Mount	0,3× (focus adjustable)		○	OZB-A5701	140,-
	0,5× (focus adjustable)		○	OZB-A5702	140,-
	1,0× (focus adjustable)		○	OZB-A5703	105,-
	1,0× (with micrometer) only in combination with OZB-A5703		○	OZB-A5704	295,-
	For SLR cameras (Nikon)		○	OZB-A5706	295,-
	For SLR cameras (Olympus)		○	OZB-A5707	295,-
	For SLR cameras (Canon)		○	OZB-A5708	295,-
<b>Darkfield unit</b>	Darkfield unit	○	○	OZB-A4601	80,-
<b>Object clamp</b>	Object clamp	○	○	OBB-A6205	75,-
<b>Stand</b>	Pillar style, without illumination				
	Pillar style, with 3 W LED illumination (transmitted + incident)	✓	✓		
	Please find more stands in the catalogue on page 80 and on our website <a href="http://www.kern-sohn.com">www.kern-sohn.com</a>				
<b>Stage plate</b>	Frosted glass/∅ 94,5 mm	✓	✓	OZB-A5192	25,-
	Black-white/∅ 94,5 mm	✓	✓	OZB-A5191	25,-
	Clear glass/∅ 94,5 mm	○	○	OZB-A5190	25,-
<b>Mechanical stage</b> (Pre-assembling on request)	Stage size W×D 188×160 mm, Travel 76×65 mm, for transmitted and incident illumination	○	○	OZB-A5781	240,-
	Stage size W×D 180×175 mm, Travel 100×86 mm, for incident illumination only	○	○	OZB-A5782	270,-
<b>External illumination</b>	Please find the information about external illumination units in the catalogue on page 83 and on our website <a href="http://www.kern-sohn.com">www.kern-sohn.com</a>				

✓ = Included with delivery

○ = Option



## Lab Line

### Professional and powerful – thanks to its extremely large magnification range, strong illumination and first-class optics

#### Features

- The KERN OZP stereo zoom microscope stands out through its above-average magnification range and its robust shape which is also ergonomic, it enables effortless, simple working over a period of several hours
- The KERN OZP series is available as a strong, continuously adjustable 3 W LED reflected and transmitted light variant for the very best illumination of your sample
- With its large working distance, an extra large field of view and brilliant resolution, the KERN OZP provides sharp, high-contrast and colour-true images
- As standard this microscope offers you continuous total magnification of 6× - 55×
- 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

- Zoology and botany, 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: 35° inclined
- Magnification ratio: 9,2:1
- Light distribution OZP 557/558: 100:0
- Interpupillary distance 52 – 76 mm
- Diopter adjustment: Both-sided
- Overall dimensions W×D×H  
330×285×470 mm
- Net weight approx. 4,5 kg

#### STANDARD



#### OPTION



Model	Standard configuration						Price excl. of VAT ex works €
	Tube	Eyepiece	Field of view mm	Objective Zoom	Stand	Illumination	
<b>KERN</b>							
<b>OZP 556</b>	Binocular	HSWF 10×/ø 23 mm	ø 38,3 - 4,2	0,6× - 5,5×	Pillar style	3 W LED (incident); 3 W LED (transmitted)	<b>1530,-</b>
<b>OZP 558</b>	Trinocular	HSWF 10×/ø 23 mm	ø 38,3 - 4,2	0,6× - 5,5×	Pillar style	3 W LED (incident); 3 W LED (transmitted)	<b>1880,-</b>



Eyepiece	Specifications - Objectives					
	Magnification	Standard 1,0×	Auxiliary objectives			
			0,5×	0,7×	1,5×	2×
HSWF 10×	Total magnification	6× - 55×	3× - 27,5×	4,2× - 38,5×	9× - 82,5×	12× - 110×
	Field of view mm	∅ 38,3 - 4,2	∅ 76,7 - 8,4	∅ 54,8 - 6	∅ 25,6 - 2,8	∅ 19,2 - 2,1
SWF 15×	Total magnification	9× - 82,5×	4,5× - 41,25×	6,3× - 57,75×	13,5× - 123,75×	18× - 165×
	Field of view mm	∅ 28,3 - 3,1	∅ 56,7 - 6,2	∅ 40,5 - 4,4	∅ 18,9 - 2,1	∅ 14,2 - 1,5
SWF 20×	Total magnification	12× - 110×	6× - 55×	8,4× - 77×	18× - 165×	24× - 220×
	Field of view mm	∅ 23,3 - 2,5	∅ 46,7 - 5,1	∅ 33,3 - 3,6	∅ 15,6 - 1,7	∅ 11,7 - 1,3
SWF 30×	Total magnification	18× - 165×	9× - 82,5×	12,6× - 115,5×	27× - 247,5×	36× - 330×
	Field of view mm	∅ 15 - 1,6	∅ 30 - 3,3	∅ 21,4 - 2,3	∅ 10 - 1,1	∅ 7,5 - 0,8
<b>Working distance</b>		108 mm	195 mm	145 mm	50 mm	35 mm
<b>Maximum sample height</b>		110 mm	10 mm	45 mm	140 mm	150 mm

Model outfit	Model KERN		Order number	Price/piece excl. of VAT ex works €	
	OZP 556	OZP 558			
Eyepieces (30,0 mm)	HSWF 10×/∅ 23 mm	✓✓	✓✓	OZB-A5503	70,-
	SWF 15×/∅ 17 mm	○	○	OZB-A5504	75,-
	SWF 20×/∅ 14 mm	○	○	OZB-A5505	85,-
	SWF 30×/∅ 9 mm	○	○	OZB-A5506	120,-
	HSWF 10×/∅ 23 mm (reticule 0,1 mm)	○	○	OZB-A5512	125,-
	SWF 15×/∅ 17 mm (reticule 0,05 mm)	○	○	OZB-A5513	140,-
	SWF 20×/∅ 14 mm (reticule 0,05 mm)	○	○	OZB-A5514	140,-
Achromatic auxiliary objectives	0,5×	○	○	OZB-A5612	160,-
	0,7×	○	○	OZB-A5613	160,-
	1,5×	○	○	OZB-A5615	160,-
	2,0×	○	○	OZB-A5616	165,-
	Soldering protection lens	○	○	OZB-A5614	50,-
C-Mount	0,3× (focus adjustable)		○	OZB-A5701	140,-
	0,5× (focus adjustable)		○	OZB-A5702	140,-
	1,0× (focus adjustable)		○	OZB-A5703	105,-
	1,0× (with micrometer) only in combination with OZB-A5703		○	OZB-A5704	295,-
	For SLR cameras (Nikon)		○	OZB-A5706	295,-
	For SLR cameras (Olympus)		○	OZB-A5707	295,-
	For SLR cameras (Canon)		○	OZB-A5708	295,-
<b>Darkfield unit</b>	Darkfield unit	○	○	OZB-A4601	80,-
<b>Object clamp</b>	Object clamp	○	○	OBB-A6205	75,-
<b>Stand</b>	Pillar style, without illumination				
	Pillar style, with 3 W LED illumination (transmitted + incident)	✓	✓		
	Please find more stands in the catalogue on page 80 and on our website <a href="http://www.kern-sohn.com">www.kern-sohn.com</a>				
<b>Stage plate</b>	Frosted glass/∅ 94,5 mm		✓	OZB-A5192	25,-
	Black-white/∅ 94,5 mm	✓	✓	OZB-A5191	25,-
	Clear glass/∅ 94,5 mm		○	OZB-A5190	25,-
<b>Mechanical stage</b> (Pre-assembling on request)	Stage size W×D 188×160 mm, Travel 76×65 mm, for incident and transmitted illumination	○	○	OZB-A5781	240,-
	Stage size W×D 180×175 mm, Travel 100×86 mm, for incident illumination only	○	○	OZB-A5782	270,-
<b>External illumination</b>	Please find the information about external illumination units in the catalogue on page 83 and on our website <a href="http://www.kern-sohn.com">www.kern-sohn.com</a>				

✓ = Included with delivery

○ = Option



Professional Line

Professional stereo zoom microscope with parallel optics for excellent images, depth of field, contrast and fatigue-free working

Features

- The KERN OZS series is a special, high-quality stereo zoom microscope with parallel optics for demanding analyses
- The KERN OZS series is available as a strong, continuously adjustable 3 W LED reflected and transmitted light variant for the very best illumination of your sample
- The parallel optical system is a high-quality optical system and provides excellent images with the best contrast, colour and depth of field with fatigue-free working. Refocusing is also only necessary in very few cases when magnifying the zoom
- The continuously adjustable magnification range from 8 to 50 times magnification means that you can work quickly and effectively
- As standard this microscope offers you continuous total magnification of 8× - 80×

- 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: Parallel optics
- Brightness adjustable (separate)
- Tube 45° inclined
- Magnification ratio: 10:1
- Light distribution 100:0
- Interpupillary distance 52 - 76 mm
- Diopter adjustment: Both-sided
- Overall dimensions W×D×H 305×300×540 mm
- Net weight approx. 5,5 kg

STANDARD



OPTION



Model	Standard configuration						Price excl. of VAT ex works €
	Tube	Eyepiece	Field of view mm	Objective Zoom	Stand	Illumination	
<b>KERN</b>							
<b>OZS 574</b>	Trinocular	HWF 10×/φ 22 mm	φ 27,5-2,75	0,8× - 8×	Pillar style	3 W LED (incident); 3 W LED (transmitted)	<b>3640,-</b>

Eyepiece	Specifications - Objectives				
	Magnification	Standard Plan 1,0×	Achr. objective 0,5×	Achr. objective 0,7×	Achr. objective 1,5× (Auxiliary)
HWF 10×	Total magnification	8× - 80×	4× - 40×	5,6× - 56×	12× - 120×
	Field of view mm	∅ 27,5 - 2,75	∅ 55 - 5,5	∅ 39,3 - 3,93	∅ 18,33 - 1,83
SWF 15×	Total magnification	12× - 120×	6× - 60×	8,4× - 84×	18× - 180×
	Field of view mm	∅ 21,25 - 2,13	∅ 42,5 - 4,25	∅ 30,36 - 3,04	∅ 14,17 - 1,42
SWF 20×	Total magnification	16× - 160×	8× - 80×	11,2× - 112×	24× - 240×
	Field of view mm	∅ 17,5 - 1,75	∅ 35 - 3,5	∅ 25 - 2,5	∅ 11,67 - 1,17
SWF 30×	Total magnification	24× - 240×	12× - 120×	16,8× - 168×	36× - 360×
	Field of view mm	∅ 11,25 - 1,13	∅ 22,5 - 2,25	∅ 16,1 - 1,61	∅ 7,5 - 0,75
<b>Working distance</b>		91 mm	186 mm	135 mm	40 mm
<b>Maximum sample height</b>		100 mm	30 mm	80 mm	125 mm

Model outfit	Model KERN		Order number	Price/piece excl. of VAT ex works €
	OZS	574		
Eyepieces (30,0 mm)	HWF 10×/∅ 22 mm	✓✓	OZB-A5502	75,-
	SWF 15×/∅ 17 mm	○ ○	OZB-A5504	75,-
	SWF 20×/∅ 14 mm	○ ○	OZB-A5505	85,-
	SWF 30×/∅ 9 mm	○ ○	OZB-A5506	120,-
	HWF 10×/∅ 22 mm (reticule 0,1 mm)	○	OZB-A5511	130,-
	SWF 15×/∅ 17 mm (reticule 0,05 mm)	○	OZB-A5513	140,-
	SWF 20×/∅ 14 mm (reticule 0,05 mm)	○	OZB-A5514	140,-
<b>Plan achromatic objective</b>	1,0×	✓	OZB-A5603	640,-
<b>Achromatic objectives</b>	0,5×	○	OZB-A5601	230,-
	0,7×	○	OZB-A5602	230,-
	1,5× Only in combination with OZB-A5603	○	OZB-A5604	300,-
<b>Trinocular beamsplitter</b>	Division 100:0	✓	OZB-A5401	660,-
	Division 50:50	○	OZB-A5402	660,-
<b>C-Mount</b>	0,3× (focus adjustable)	○	OZB-A5701	140,-
	0,5× (focus adjustable)	○	OZB-A5702	140,-
	1,0× (focus adjustable)	○	OZB-A5703	105,-
	1,0× (with micrometer) only in combination with OZB-A5703	○	OZB-A5704	295,-
	For SLR cameras (Nikon)	○	OZB-A5706	295,-
	For SLR cameras (Olympus)	○	OZB-A5707	295,-
	For SLR cameras (Canon)	○	OZB-A5708	295,-
<b>Darkfield unit</b>	Darkfield unit	○	OZB-A4601	80,-
<b>Object clamp</b>	Object clamp	○	OBB-A6205	75,-
<b>Stand</b>	Pillar style, with 3 W LED illumination (transmitted + incident)	✓		
<b>Stage plate</b>	Frosted glass/∅ 94,5 mm	✓	OZB-A5192	25,-
	Black-white/∅ 94,5 mm	✓	OZB-A5191	25,-
	Clear glass/∅ 94,5 mm	○	OZB-A5190	25,-
<b>Mechanical stage</b> (Pre-assembling on request)	Stage size W×D 188×160 mm, Travel 76×65 mm, for incident and transmitted illumination	○	OZB-A5781	240,-
	Stage size W×D 180×175 mm, Travel 100×86 mm, for incident illumination only	○	OZB-A5782	270,-
<b>External illumination</b>	Please find the information about external illumination units in the catalogue on page 83 and on our website <a href="http://www.kern-sohn.com">www.kern-sohn.com</a>			

✓ = Included with delivery

○ = Option



Side view

4



## Lab Line

### The specialist for jewellers and the gem industry

#### Features

- The KERN OZG series has been specially developed for jewellers and mineral observations in the gem industry. Precious stones and gems can be checked and handled with this stereo zoom microscope
- You have a choice of a strong halogen transmitted illumination unit as well as halogen reflected and transmitted illumination variants, each with an additional frontal illumination
- As standard this microscope offers you continuous total magnification of 7x - 36x

- As well as very good optical characteristics, this model forms an ideal package with its dark field unit with object clamp which is included in the scope of delivery
- The KERN OZG 493 is fitted with a pole stand which has both integrated bright halogen light units with incident and transmitted illumination, as well as additional front lighting
- 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

- Jewellers and gem industry

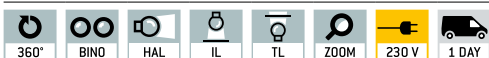
#### Applications/Samples

- Samples with focus on three-dimensional impression (depth, thickness), zoom for variable magnification, special stand for processing workpieces e.g. gems, components, precious stones

#### Technical data

- Optical system: Greenough optics
- Brightness adjustable
- Tube 45° inclined
- Interpupillary distance 55 - 75 mm
- Diopter adjustment: Both-sided
- Magnification ratio: 5,1:1
- Overall dimensions WxDxH  
310x170x350 mm
- Net weight approx. 5 kg

STANDARD



Model	Standard configuration						Price excl. of VAT ex works €
	Tube	Eyepiece	Field of view mm	Objective Zoom	Stand	Illumination	
<b>KERN</b>							
<b>OZG 493</b>	Binocular	WF 10x/ø 20 mm	ø 26,7 - 5,6	0,7x - 3,6x	Pillar style	10 W Halogen (incident) 10 W Halogen (transmitted) 10 W Fluorescence (front illumination)	<b>610,-</b>

OZG 493 Specifications – Objectives		
Eyepiece	Magnification	Standard 1,0×
WF 5×	Total magnification	3,75× – 18×
	Field of view mm	∅ 26 – 6
WF 10×	Total magnification	7,5× – 36×
	Field of view mm	∅ 26,7 – 5,6
WF 15×	Total magnification	11,25× – 54×
	Field of view mm	∅ 19 – 4,5
WF 20×	Total magnification	15× – 72×
	Field of view mm	∅ 12,5 – 3
<b>Working distance</b>		86 mm

Model outfit		Model KERN	Order number	Price/piece excl. of VAT ex works €
		OZG 493		
Eyepieces (30,5 mm)	WF 5×/∅ 16,2 mm	○ ○	OZB-A4 101	40,-
	WF 10×/∅ 20 mm	✓ ✓	OZB-A4 102	35,-
	WF 15×/∅ 15 mm	○ ○	OZB-A4 103	35,-
	WF 20×/∅ 10 mm	○ ○	OZB-A4 104	40,-
<b>Darkfield unit</b>	Darkfield unit	✓	OZB-A4601	80,-
<b>Object clamp</b>	Object clamp (steel wire)	✓	OZB-A4604	35,-
<b>Stand</b>	Pillar style, with 12 V/10 W Halogen (transmitted + incident) and 10 W Fluorescent illumination (front)	✓		
<b>Stage plate</b>	Frosted glass/∅ 95 mm	✓	OZB-A4805	25,-
	Black-white/∅ 95 mm	✓	OZB-A4806	25,-
<b>Illumination</b>	10 W spare bulb (transmitted + incident)	✓	OZB-A4804	25,-

✓ = Included with delivery

○ = Option





## IN THE HERE AND NOW



Today the company is in the eighth generation of its story, and is wholly informed and up to speed: with products which can be networked and tailor-made for you, specialised software and a fully-automated high-bay warehouse. The only way in which we will be able to continue to write this success story is with ongoing innovation, further development and sustainable management.

### **Digital and interconnected**

Nowadays it is becoming increasingly common for measuring and weighing data to be transferred directly from the balance or measuring device to the computer for processing. Weighing, counting and measuring results are shown in stock entries and on delivery notes. We are taking this development into account through products which can be integrated into company networks in a simple and straightforward manner. And the accompanying software is also becoming more important, to meet individual customer requirements.

### **Made to measure**

Our range now covers around 5,000 products and a myriad of services. Nevertheless, there are often requests for an individual, tailor-made solution. Our Customized Solution Service (CUSOS) will develop this for you at our premises in Balingen. In our development department at our Balingen site, market feedback and ideas are also fed into our product development which go above and beyond individual customer requests.

### **Highly automated, quick service for customers**

A 25 metre high (3 metres of which are underground) and 22 × 90 metre wide, fully-automated high-bay warehouse ensures a high level of availability and rapid dispatch of products all around the world. It accommodates approx. 80,000 packages and 3,500 pallets. On a daily basis, between 500 and 800 packages and between 30 and 50 pallets leave the warehouse. It was built in 2014, and will soon reach its limits, however.



# 180 YEARS

since 1844

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## KERN & SOHN



Martin Sauter, Senior Managing Director



Albert Sauter, Managing Director

### Sustainable

We are already heating and cooling our modern industrial buildings in a largely climate-neutral way using geothermal power. The work on the roof of our high-bay warehouse is now complete and our photovoltaic system has been successfully installed. By doing this we have reached a significant milestone in our sustainability strategy.

With an impressive output of 244.36 kWp the system could power 50 to 60 family homes. The solar module's innovative east/west orientation enables the system to make optimum use of the solar energy. This not only saves considerable costs, but also significantly reduces CO<sub>2</sub> emissions. We are proud to have made another step in the direction of a creating a greener and more sustainable future.



We focus on using recyclable materials in our packaging. By creating attractive and secure jobs, we are also making an important contribution to strengthening the economic power of the region.

**Our story started over 250 years ago and it continues to move forward. Go back to page 4 to find out more about our history and look to the future with us on page 112!**

5



## VIDEO MICROSCOPES





Zoom wheel with click-stop

5

## The beginner's video microscope with the simplest handling for applications of all kinds

### Features

- The Kern OIV-3 is a video microscope which has been constructed to optimise digital stereo microscopy. Our well-conceived, comprehensive solution with axial optical unit enables immediate, simple display of your samples on the screen.
- The LED incident illumination unit (ring) included as standard guarantees the very best illumination of your sample.
- Combined with the large working surface, recording objects on the screen is ideally suited for monitoring, analysis and documentation in industrial environments.
- The excellent optical unit enables continuous sharp image tracking across the entire zoom range from 0,7x–4,5x
- The powerful 5.0 megapixel camera of the microscope without eyepieces offers, thanks to the HDMI output, smooth live monitoring of your samples from the HD monitor. In addition, the software which is easy to use, the USB wireless mouse which are integral components of the delivery, mean you can process and store your results digitally.

- An additional HDMI interface makes it possible to connect an external monitor and thus enable live observation on two devices operated in parallel
- A special feature of this microscope series are the zoom wheels with integrated click-stop. This offers precise selection of the magnification level and supports the user in calibrating the documentation functions in the software
- A protective dust cover, as well as multi-lingual user instructions are included in the scope of the delivery

### Technical data

- Optical system: Axial
- Brightness adjustable
- Screen: 12", 1920×1080 HD, -5°– 90° inclination
- Magnification ratio: 6,4:1
- Stand: arm curved
- Illumination: 3 W LED ring (incident)
- Data storage: External using USB (Max 128 GB)
- Working distance: 100 mm
- Maximum sample height: 110 mm
- Overall dimensions W×D×H 260×320×450 mm
- Net weight approx. 4,4 kg

### Accessories

- Conversion objective lens 0,5x, KERN OBB-A3225, € 195,-
- Conversion objective lens 2,0x, KERN OBB-A3226, € 195,-

STANDARD



Model	Standard configuration						Price excl. of VAT ex works €
	Resolution camera	Interface	Sensor	Field of view mm	Objective Zoom	Software functions	
<b>KERN</b>							
<b>OIV 345</b>	5 MP	HDMI (60 FPS)	CMOS 1/2,8"	∅ 16 – 2,5	0,7x–4,5x	Images and videos, documentation	<b>2520,-</b>



OIV 254 Snapshot button

5



## The comprehensive digital solution for increased working comfort when carrying out continuous monitoring work in industry.

### Features

- The Kern OIV-2 is a video microscope which has been constructed to optimise digital stereo microscopy. Our well-conceived, comprehensive solution with axial optical unit enables immediate, simple display of your samples on the screen
- The LED incident illumination unit (ring) included as standard guarantees the very best illumination of your sample
- Combined with the large working surface, recording objects on the screen is ideally suited for monitoring, analysis and documentation in industrial environments
- The excellent optical unit enables continuous sharp image tracking across the entire zoom range from 0.7×–5×

- The powerful 2.0 megapixel camera of the microscope without eyepieces offers, thanks to the HDMI output, smooth live monitoring of your samples from the HD monitor. In addition, the software which is easy to use, the USB stick as well as the USB mouse which are integral components of the delivery, mean you can process and store your results digitally
- With the OIV 254 model, there is the option of image capture at the push of a button, without having to detour via the software. Whereas the OIV 255 guarantees software-controlled taking of images and videos with additional, documentation functions
- A protective dust cover, as well as multi-lingual user instructions are included in the scope of the delivery

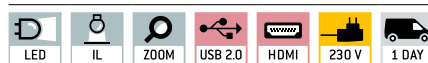
### Technical data

- Optical system: Axial
- Brightness adjustable
- Screen: 12", 1920×1080 HD, -5°–15° inclination
- Magnification ratio: 7,1:1
- Stand: arm curved
- Illumination: 2 W LED ring (incident)
- Data storage: External using USB (Max 128 GB)
- Working distance: 105 mm
- Maximum sample height: 100 mm
- Overall dimensions W×D×H 320×260×483 mm
- Net weight approx. 6 kg

### Accessories

- Auxiliary objective 0,5×, KERN OZB-A2101, € 310,-

STANDARD



Model	Standard configuration						Price excl. of VAT ex works €
	Resolution camera	Interface	Sensor	Field of view mm	Objective Zoom	Software functions	
<b>KERN</b>							
<b>OIV 254</b>	2 MP	HDMI (60 FPS)	CMOS 1/2"	∅ 29,82–4,18	0,7×–5×	Image capture	<b>3100,-</b>
<b>OIV 255</b>	2 MP	HDMI (60 FPS)	CMOS 1/2"	∅ 29,82–4,18	0,7×–5×	Images and videos, documentation	<b>3580,-</b>





Side view with screen connected  
(not included with delivery)



## The professional video microscope with auto-focus

### Features

- The Kern OIV-6 is a video microscope which has been constructed to optimise digital stereo microscopy. Our well-conceived, comprehensive solution with axial optical unit enables immediate, simple display of your samples on the screen
- The LED incident illumination unit (ring) included as standard guarantees the very best illumination of your sample
- Combined with the large working surface, recording objects on the screen is ideally suited for monitoring, analysis and documentation suitable in the industrial sector
- The excellent optical unit enables continuous sharp image tracking across the entire zoom range from 0,7×-4,5×
- Through the integrated auto-focus, the focus level can also be optimised within a defined image section

- The powerful 2.0 megapixel camera of the microscope without eyepieces offers, thanks to the HDMI output, smooth live monitoring of your samples using an external monitor (not included with delivery). In addition, the software which is easy to use, the USB stick as well as the USB mouse which are integral components of the delivery, mean you can process and store your results digitally
- The OIV 656 guarantees software-controlled taking of images and videos with additional, documentation functions
- Multi-lingual user instructions are included in the scope of the delivery

### Technical data

- Optical system: Axial
- Brightness adjustable
- Magnification ratio: 6,5:1
- Stand: arm curved
- Illumination: 3 W LED ring (incident)
- Data storage: External using USB (Max 128 GB)
- Working distance: 91 mm
- Maximum sample height: 85 mm
- Overall dimensions W×D×H 372×285×482 mm
- Net weight approx. 7 kg

### Accessories

- Auxiliary objective 0,5×, KERN OZB-A6101, € 310,-
- Auxiliary objective 2,0×, KERN OZB-A6102, € 310,-

STANDARD



Model	Standard configuration						Price excl. of VAT ex works €
	Resolution camera	Interface	Sensor	Field of view mm	Objective Zoom	Software functions	
<b>KERN</b>							
<b>OIV 656</b>	2 MP	HDMI (30 FPS)	CMOS 1/2,8"	∅ 12,64-2,65	0,7×-4,5×	Images and videos, documentation	<b>5380,-</b>

**I** \*ONLY WHILE STOCKS LAST

6



## DIGITAL MICROSCOPE SETS



OBE-1 with camera

OBE-1 with tablet

## Our all-round compound microscope as a comprehensive digital solution for schools, training and laboratories

### Features

- Laboratory microscopes from the OBE range are now also available to you as a comprehensive digital solution for your live investigations. Optionally available with an mounted tablet or C-mount camera. Naturally, the appropriate C-mount adapter is included with the delivery
- The mounted KERN ODC 241 tablet-camera has been specially developed for simple, convenient and direct investigation of the sample on the screen. Ideally suited for school pupils and students in education or for demonstration purposes in the laboratory

- The mounted C-mount camera is available in different versions and can be used anywhere
- For detailed information on the individual components, see the relevant product description of the individual item
- A protective dust cover, eye cups, as well as multi-lingual user instructions are included in the scope of the delivery

### Technical data

- Finite optical system
- Quadplex nosepiece
- Siedentopf 30° inclined/360° rotatable
- Diopter adjustment: One-sided
- Eyepiece: HWF 10×/∅ 18 mm
- Objective quality: Achromatic
- Objectives OBE 124: 4×/10×/40×
- Objectives OBE 134: 4×/10×/40×/100×
- Illumination: 3 W LED (transmitted)
- Overall dimensions W×D×H 320×180×365 mm
- Net weight approx. 5,5 kg

Model	Standard configuration (camera)					Price excl. of VAT ex works €
	Included camera	Resolution camera	Interface	Sensor	Details microscope, camera	
<b>KERN</b>						
<b>OBE 124C825</b>	ODC 825	5 MP	USB 2.0 (6,8 - 55 FPS)	CMOS 1/2,5"	www.kern-sohn.com, KERN Optics catalogue Page 14, 85	<b>1250,-</b>
<b>OBE 134C825</b>						<b>1310,-</b>
<b>OBE 124C832</b>	ODC 832	5 MP	USB 3.0 (14,2 - 101,2 FPS)	CMOS 1/2,5"	www.kern-sohn.com, KERN Optics catalogue Page 14, 85	<b>1410,-</b>
<b>OBE 134C832</b>						<b>1470,-</b>
<b>OBE 124T241</b>	ODC 241	5 MP	WiFi, USB 2.0, HDMI, SD (15 - 30 FPS)	CMOS 1/2,5"	www.kern-sohn.com, KERN Optics catalogue Page 14, 89	<b>1950,-</b>
<b>OBE 134T241</b>						<b>2020,-</b>



OBL-1 with camera



OBL-1 with tablet



OBN-1 with camera



OBN-1 with tablet

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## The digital laboratory assistant with infinity optical unit and fixed, Köhler illumination

### Features

- Laboratory microscopes from the OBL and OBN range are now also available to you as a comprehensive digital solution for your live investigations. Optionally available with an mounted tablet or C-mount camera. Naturally, the appropriate C-mount adapter is included with the delivery
- The mounted KERN ODC 241 tablet-camera has been specially developed for simple, convenient and direct investigation of the sample on the screen. Ideally suited for school pupils and students in education or for demonstration purposes in the laboratory
- The mounted C-mount camera is available in different versions and can be used anywhere
- For detailed information on the individual components, see the relevant product description of the individual item

- A protective dust cover, eye cups, as well as multi-lingual user instructions are included in the scope of the delivery

### Technical data

- Infinity optical system
- Siedentopf 30° inclined/360° rotatable
- Eyepiece: HWF 10×/ø 20 mm

### OBL-1

- Quadplex nosepiece
- Diopter adjustment: One-sided
- Overall dimensions W×D×H 395×200×380 mm
- Net weight approx. 7,7 kg
- Objective quality: Infinity E-Plan
- Objectives: 4×/10×/40×/100×
- Illumination OBL 137: 3 W LED (transmitted)

### OBN-1

- Quintuple nosepiece
- Diopter adjustment: Both-sided
- Overall dimensions W×D×H 390×200×400 mm
- Net weight approx. 10 kg
- Objective quality: Infinity Plan
- Objectives: 4×/10×/20×/40×/100×
- Illumination OBN 132: 20 W Halogen (transmitted)
- Illumination OBN 135: 3 W LED (transmitted)

Model	Standard configuration (camera)					Price excl. of VAT ex works €
	Included camera	Resolution camera	Interface	Sensor	Details microscope, camera	
<b>OBL 137C825</b>	ODC 825	5 MP	USB 2.0 (6,8 – 55 FPS)	CMOS 1/2,5"	KERN Optics catalogue Page 16, 85	<b>1770,-</b>
<b>OBL 137C832</b>	ODC 832	5 MP	USB 3.0 (14,2 – 101,2 FPS)	CMOS 1/2,5"	KERN Optics catalogue Page 16, 85	<b>1930,-</b>
<b>OBL 137T241</b>	ODC 241	5 MP	WiFi, USB 2.0, HDMI, SD (15 – 30 FPS)	CMOS 1/2,5"	KERN Optics catalogue Page 16, 89	<b>2480,-</b>
<b>OBN 132C825</b>	ODC 825	5 MP	USB 2.0 (6,8 – 55 FPS)	CMOS 1/2,5"	KERN Optics catalogue Page 20, 85	<b>2230,-</b>
<b>OBN 135C825</b>						<b>2160,-</b>
<b>OBN 132C832</b>	ODC 832	5 MP	USB 3.0 (14,2 – 101,2 FPS)	CMOS 1/2,5"	KERN Optics catalogue Page 20, 85	<b>2390,-</b>
<b>OBN 135C832</b>						<b>2320,-</b>
<b>OBN 132T241</b>	ODC 241	5 MP	WiFi, USB 2.0, HDMI, SD (15 – 30 FPS)	CMOS 1/2,5"	KERN Optics catalogue Page 20, 89	<b>2940,-</b>
<b>OBN 135T241</b>						<b>2870,-</b>



OZL 464 with camera



OZL 466 with camera



OZL 468 with camera



OZL 464 with tablet



OZL 466 with tablet



OZL 468 with tablet

## The flexible, affordable all-rounder with zoom function as a digital solution for schools, training companies, inspection authorities and laboratories

### Features

- The flexible, cost-effective OZL-46 range is now also available to you as a comprehensive digital solution for your live investigations. Optionally available with an mounted tablet or C-mount camera. Naturally, the appropriate C-mount adapter is included with the delivery
- The mounted KERN ODC 241 tablet-camera has been specially developed for simple, convenient and direct investigation of the sample on the screen. Ideally suited for school pupils and students in education or for demonstration purposes in the laboratory

- The mounted C-mount camera is available in different versions and can be used anywhere
- For detailed information on the individual components, see the relevant product description of the individual item
- A protective dust cover, eye cups, as well as multi-lingual user instructions are included in the scope of the delivery

### Technical data

- Optical system: Greenough optics
- Brightness adjustable (separate)
- Tube 45° inclined
- Magnification ratio: 6,4:1
- Light distribution 100:0
- Interpupillary distance 55 – 75 mm
- Diopter adjustment: Both-sided
- Overall dimensions WxDxH 300x240x420 mm
- Net weight approx. 5 kg
- Eyepiece: HWF 10x/φ 20 mm
- Field of view: φ 28,6 – 4,4 mm
- Objective: 0,7x – 4,5x
- Stand OZL 464/466: Pillar style
- Stand OZL 468: Arm curved
- Illumination: 3 W LED (incident + transmitted)

Model	Standard configuration (camera)				Price excl. of VAT ex works €
	Included camera	Resolution camera	Interface	Sensor	
<b>KERN</b>					
<b>OZL 464C825</b>					<b>1160,-</b>
<b>OZL 466C825</b>	ODC 825	5 MP	USB 2.0 (6,8 – 55 FPS)	CMOS 1/2,5"	<b>1180,-</b>
<b>OZL 468C825</b>					<b>1160,-</b>
<b>OZL 464C832</b>					KERN Optics catalogue Page 44, 85
<b>OZL 466C832</b>	ODC 832	5 MP	USB 3.0 (14,2 – 101,2 FPS)	CMOS 1/2,5"	<b>1320,-</b>
<b>OZL 468C832</b>					<b>1320,-</b>
<b>OZL 464T241</b>					<b>1870,-</b>
<b>OZL 466T241</b>	ODC 241	5 MP	WiFi, USB 2.0, HDMI, SD (15 – 30 FPS)	CMOS 1/2,5"	KERN Optics catalogue Page 44, 89
<b>OZL 468T241</b>					<b>1860,-</b>





OZM-5 with camera



OZP-5 with camera



OZP-5 with tablet

6

## First-class optics as well as strong illumination combined with a high level of flexibility and digital tools

### Features

- Stereomicroscopes from the OZM and OZP range are now also available to you as a comprehensive digital solution for your live investigations. Optionally available with an mounted tablet or C-mount camera. Naturally, the appropriate C-mount adapter is included with the delivery
- The mounted KERN ODC 241 tablet-camera has been specially developed for simple, convenient and direct investigation of the sample on the screen. Ideally suited for school pupils and students in education or for demonstration purposes in the laboratory
- The mounted C-mount camera is available in different versions and can be used anywhere
- For detailed information on the individual components, see the relevant product description of the individual item
- A protective dust cover, eye cups, as well as multi-lingual user instructions are included in the scope of the delivery

### Technical data

- Optical system: Greenough optics
- Brightness adjustable (separate)
- Light distribution: 100:0
- Diopter adjustment: Both-sided
- Net weight approx. 5,5 kg
- Eyepiece: HSWF 10x/∅ 23 mm
- Stand: Pillar style
- Illumination: 3 W LED (incident + transmitted)

### OZM-5

- Tube 45° inclined
- Magnification ratio: 6,4:1
- Interpupillary distance 52 – 76 mm
- Overall dimensions WxDxH 330x285x440 mm
- Field of view: ∅ 32,8 – 5,1 mm
- Objective: 0,7x – 4,5x

### OZP-5

- Tube: 35° inclined
- Magnification ratio: 9,2:1
- Interpupillary distance 52 – 76 mm
- Overall dimensions WxDxH 330x285x470 mm
- Field of view: ∅ 38,3 – 4,2 mm
- Objective: 0,6x – 5,5x

Model	Standard configuration (camera)					Price excl. of VAT ex works €
	Included camera	Resolution camera	Interface	Sensor	Details microscope, camera	
<b>KERN OZM 544C825</b>	ODC 825	5 MP	USB 2.0 (6,8 – 55 FPS)	CMOS 1/2,5"	KERN Optics catalogue Page 52, 85	<b>2250,-</b>
<b>OZM 544C832</b>	ODC 832	5 MP	USB 3.0 (14,2 – 101,2 FPS)	CMOS 1/2,5"	KERN Optics catalogue Page 52, 85	<b>2410,-</b>
<b>OZP 558C825</b>	ODC 825	5 MP	USB 2.0 (6,8 – 55 FPS)	CMOS 1/2,5"	KERN Optics catalogue Page 54, 85	<b>2400,-</b>
<b>OZP 558C832</b>	ODC 832	5 MP	USB 3.0 (14,2 – 101,2 FPS)	CMOS 1/2,5"	KERN Optics catalogue Page 54, 85	<b>2560,-</b>
<b>OZP 558T241</b>	ODC 241	5 MP	WiFi, USB 2.0, HDMI, SD (15 – 30 FPS)	CMOS 1/2,5"	KERN Optics catalogue Page 54, 89	<b>3110,-</b>



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## STEREO MICROSCOPE SETS



OZM 912/913



OZM 932/933



OZM 952/953



OZM 982/983



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

### Features

- Sets which have already been defined, consisting of a stereo microscope head (p. 75), a universal stand (p. 80/81), a holder (p. 82), a ring illumination (p. 84) and a dust cover (p. 82) from our range
- Simple – convenient – affordable

- This saves you spending time on configuration and being spoiled 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				
<b>OZM 912</b>	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-A6102)	<b>1750,-</b>
<b>OZM 913</b>	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-A6102)	<b>2090,-</b>
<b>OZM 932</b>	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-A6102)	<b>2080,-</b>
<b>OZM 933</b>	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-A6102)	<b>2420,-</b>
<b>OZM 952</b>	Binocular (OZM 546)	0,7× - 4,5×	Jointed arm with clamp (OZB-A5212)	With coarse focusing knob Adjustable torque of the hand wheels (OZB-A5301)	4,5 W LED ring light (OBB-A6102)	<b>1750,-</b>
<b>OZM 953</b>	Trinocular (OZM 547)	0,7× - 4,5×	Jointed arm with clamp (OZB-A5212)	With coarse focusing knob Adjustable torque of the hand wheels (OZB-A5301)	4,5 W LED ring light (OBB-A6102)	<b>2090,-</b>
<b>OZM 982</b>	Binocular (OZM 546)	0,7× - 4,5×	Spring loaded arm with clamp (OZB-A6302)	With coarse focusing knob Adjustable torque of the hand wheels	4,5 W LED ring light (OBB-A6102)	<b>1870,-</b>
<b>OZM 983</b>	Trinocular (OZM 547)	0,7× - 4,5×	Spring loaded arm with clamp (OZB-A6302)	With coarse focusing knob Adjustable torque of the hand wheels	4,5 W LED ring light (OBB-A6102)	<b>2210,-</b>



OSE 409



OZL 961/963



OZM 902/903



OZM 922/923

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

### Features

- Sets which have already been defined (except OSE 409), consisting of a stereo microscope head (p. 75), a universal stand (p. 80/81), a holder (p. 82), a ring illumination (p. 84) and a dust cover (p. 82) from our range
- Simple – convenient – affordable
- This saves you spending time on configuration and being spoiled 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				
<b>KERN</b>						
<b>OSE 409</b>	Binocular (WF 10×/ ø 20 mm)	1× (WD: 230 mm)	Swivel arm with block pedestal	With coarse focusing knob Adjustable torque of the hand wheels	3W LED goose neck (integrated)	<b>440,-</b>
<b>OZL 961</b>	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-A6102)	<b>1010,-</b>
<b>OZL 963</b>	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-A6102)	<b>1090,-</b>
<b>OZM 902</b>	Binocular (OZM 546)	0,7× - 4,5×	Telescopic arm with plate (OZB-A1201)	With coarse focusing knob Adjustable torque of the hand wheels (OZB-A5301)	4,5 W LED ring light (OBB-A6102)	<b>1560,-</b>
<b>OZM 903</b>	Trinocular (OZM 547)	0,7× - 4,5×	Telescopic arm with plate (OZB-A1201)	With coarse focusing knob Adjustable torque of the hand wheels (OZB-A5301)	4,5 W LED ring light (OBB-A6102)	<b>1900,-</b>
<b>OZM 922</b>	Binocular (OZM 546)	0,7× - 4,5×	ball-bearing double telescopic arm with plate (OZB-A1203)	With coarse focusing knob Adjustable torque of the hand wheels (OZB-A5301)	4,5 W LED ring light (OBB-A6102)	<b>1610,-</b>
<b>OZM 923</b>	Trinocular (OZM 547)	0,7× - 4,5×	ball-bearing double telescopic arm with plate (OZB-A1203)	With coarse focusing knob Adjustable torque of the hand wheels (OZB-A5301)	4,5 W LED ring light (OBB-A6102)	<b>1950,-</b>



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# STEREOMICROSCOPES MODULAR SYSTEM

! You can find sample diagrams of showing the configuration of a modular system like this on pages 80, 81 and 82 below.





Head of the microscope series OZL-46  
(OZL 461, 462)



Head of the microscope series OZM-5  
(OZM 546, 547)



Head of the microscope series OZP-5  
(OZP 551, 552)



Head of the microscope series OZO-5  
(OZO 556, 557)

## Individuality, variety and flexible working through our modular construction system ▶ Stereo microscope heads

### Features

- To enable the highest level of flexibility for your special requirements and applications, we have a large selection of stereo microscope heads, universal stands and external illumination units, which are easy to combine
- Through the different properties of the stereo microscope heads, as well as the flexibility of the universal stands and the professional fixing of our brackets, we can configure your ideal microscope to suit your needs

- There are various microscope heads available from our product range for this purpose, both as binocular or trinocular versions
- A C-mount adapter is required to connect a camera to the trinocular version. You can select this adapter from the corresponding model outfit lists on the following pages

### Technical data

- Optical system: Greenough optics
- Further technical data and model features is located in the tables below on the following pages
  - OZL-46: p. 76
  - OZM-5: p. 77
  - OZP-5: p. 78
  - OZO-5: p. 79

Model	Tube	Tube angle	Eyepieces (included)	Interpupillary distance	Objective	Magnification ratio	Diopter adjustment	Price excl. of VAT ex works €
<b>KERN</b>					Zoom	Zoom		
<b>OZL 516*</b>	Binocular	45°	HSWF 10×/∅ 23 mm	52–76 mm	2×/4×	-	One-sided (-6/6)	<b>190,-</b>
<b>OZL 461</b>	Binocular	45°	HWF 10×/∅ 20 mm	55–75 mm	0,7× – 4,5×	6,4:1	Both-sided (-5/5)	<b>470,-</b>
<b>OZL 462</b>	Trinocular	45°	HWF 10×/∅ 20 mm	52–76 mm	0,7× – 4,5×	6,4:1	Both-sided (-5/5)	<b>540,-</b>
<b>OZM 546</b>	Binocular	45°	HSWF 10×/∅ 23 mm	52–76 mm	0,7× – 4,5×	6,4:1	Both-sided (-6/6)	<b>930,-</b>
<b>OZM 547</b>	Trinocular	45°	HSWF 10×/∅ 23 mm	52–76 mm	0,7× – 4,5×	6,4:1	Both-sided (-6/6)	<b>1280,-</b>
<b>OZP 551</b>	Binocular	35°	HSWF 10×/∅ 23 mm	52–76 mm	0,6× – 5,5×	9,2:1	Both-sided (-6/6)	<b>1090,-</b>
<b>OZP 552</b>	Trinocular	35°	HSWF 10×/∅ 23 mm	52–76 mm	0,6× – 5,5×	9,2:1	Both-sided (-6/6)	<b>1450,-</b>
<b>OZO 556*</b>	Binocular	35°	HSWF 10×/∅ 23 mm	52–76 mm	0,8× – 7×	8,8:1	Both-sided (-6/6)	<b>1610,-</b>

■ \*ONLY WHILE STOCKS LAST

Fittings and accessories for the heads for microscope OSF-516

**Eyepiece**

Specifications - Objectives

	Magnification	1×	2×	3×	4×
<b>HSWF 10×</b>	Total magnification	10×	20×	30×	40×
	Field of view mm	∅ 23	∅ 11,5	∅ 7,67	∅ 5,75
<b>SWF 15×</b>	Total magnification	15×	30×	45×	60×
	Field of view mm	∅ 17	∅ 8,5	∅ 5,67	∅ 4,25
<b>SWF 20×</b>	Total magnification	20×	40×	60×	80×
	Field of view mm	∅ 14	∅ 7	∅ 4,67	∅ 3,5
<b>SWF 30×</b>	Total magnification	30×	60×	90×	120×
	Field of view mm	∅ 9	∅ 4,5	∅ 3	∅ 2,25
<b>Working distance</b>		105 mm	105 mm	105 mm	105 mm

**Model outfit**

**Model KERN**

**Order number**

Price/piece  
excl. of VAT  
ex works  
€

**OSF 516**

<b>Eyepieces</b> (30,0 mm)	HSWF 10×/∅ 23 mm	✓✓	OZB-A5503	<b>70,-</b>
	SWF 15×/∅ 17 mm	○○	OZB-A5504	<b>75,-</b>
	SWF 20×/∅ 14 mm	○○	OZB-A5505	<b>85,-</b>
	SWF 30×/∅ 9 mm	○○	OZB-A5506	<b>120,-</b>
	HSWF 10×/∅ 23 mm (reticule 0,1 mm)	○	OZB-A5512	<b>125,-</b>
	SWF 15×/∅ 17 mm (reticule 0,05 mm)	○	OZB-A5513	<b>140,-</b>
	SWF 20×/∅ 14 mm (reticule 0,05 mm)	○	OZB-A5514	<b>140,-</b>

✓ = Included with delivery

○ = Option

Fittings and accessories for the heads for the OZL-46 microscope range (OZL 461, OZL 462)

**Eyepiece**

Specifications - Objectives

	Magnification	Standard	Auxiliary objectives			
		1,0×	0,5×	0,75×	1,5×	2,0×
<b>HSWF 10×</b>	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
<b>HWF 15×</b>	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
<b>HSWF 20×</b>	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
<b>HWF 25×</b>	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
<b>Working distance</b>		105 mm	177 mm	120 mm	47 mm	26 mm

**Model outfit**

**Model KERN**

**Order number**

Price/piece  
excl. of VAT  
ex works  
€

**OZL 461**

**OZL 462**

<b>Eyepieces</b> (30,0 mm)	HWF 10×/∅ 20 mm	✓✓	✓✓	OZB-A4631	<b>45,-</b>
	HSWF 15×/∅ 15 mm	○○	○○	OZB-A4632	<b>55,-</b>
	HWF 20×/∅ 10 mm	○○	○○	OZB-A4633	<b>55,-</b>
	HSWF 25×/∅ 9 mm	○○	○○	OZB-A4634	<b>60,-</b>
<b>Auxiliary objectives</b>	0,5×	○	○	OZB-A4641	<b>90,-</b>
	0,75×	○	○	OZB-A4644	<b>90,-</b>
	1,5×	○	○	OZB-A4642	<b>90,-</b>
	2,0×	○	○	OZB-A4643	<b>90,-</b>
<b>C-Mount</b>	1× (focus adjustable)		✓	OZB-A4809	<b>55,-</b>
	0,3× (focus adjustable)		○	OZB-A4810	<b>95,-</b>
	0,5× (focus adjustable)		○	OZB-A4811	<b>105,-</b>

✓ = Included with delivery

○ = Option

## Fittings and accessories for the heads for the OZM-5 microscope range (OZM 546, OZM 547)

Eyepiece	Specifications - Objectives						
	Magnification	Standard 1,0×	Auxiliary objectives				
			0,37×	0,5×	0,7×	1,5×	2×
HSWF 10×	Total magnification	7× - 45×	2,59× - 16,65×	3,5× - 22,5×	4,9× - 31,5×	10,5× - 67,5×	14× - 90×
	Field of view mm	∅ 32,8 - 5,1	∅ 88,8 - 13,8	∅ 65,7 - 10,2	∅ 46,9 - 7,3	∅ 21,9 - 3,4	∅ 16,4 - 2,6
SWF 15×	Total magnification	10,5× - 67,5×	3,89× - 25×	5,3× - 33,8×	7,4× - 47,2×	15,8× - 101,3×	21× - 135×
	Field of view mm	∅ 24,3 - 3,8	∅ 65,6 - 10,2	∅ 48,6 - 7,6	∅ 34,7 - 5,4	∅ 16,2 - 2,5	∅ 12,1 - 1,9
SWF 20×	Total magnification	14× - 90×	5,18× - 33,3×	7× - 45×	9,8× - 63×	21× - 135×	28× - 180×
	Field of view mm	∅ 20 - 3,1	∅ 54,1 - 8,4	∅ 40 - 6,2	∅ 28,6 - 4,4	∅ 13,3 - 2,1	∅ 10 - 1,6
SWF 30×	Total magnification	21× - 135×	7,77× - 50×	10,5× - 67,5×	14,7× - 94,5×	31,5× - 202,5×	42× - 270×
	Field of view mm	∅ 12,9 - 2	∅ 34,7 - 5,4	∅ 25,7 - 4	∅ 18,4 - 2,9	∅ 8,6 - 1,6	∅ 6,4 - 1
Working distance		110 mm	275 mm	195 mm	145 mm	50 mm	35 mm

Model outfit	Model KERN		Order number	Price/piece excl. of VAT ex works €	
	OZM 546	OZM 547			
Eyepieces (30,0 mm)	HSWF 10×/∅ 23 mm	✓✓	✓✓	OZB-A5503	70,-
	SWF 15×/∅ 17 mm	○ ○	○ ○	OZB-A5504	75,-
	SWF 20×/∅ 14 mm	○ ○	○ ○	OZB-A5505	85,-
	SWF 30×/∅ 9 mm	○ ○	○ ○	OZB-A5506	120,-
	HSWF 10×/∅ 23 mm (reticule 0,1 mm)	○	○	OZB-A5512	125,-
	SWF 15×/∅ 17 mm (reticule 0,05 mm)	○	○	OZB-A5513	140,-
	SWF 20×/∅ 14 mm (reticule 0,05 mm)	○	○	OZB-A5514	140,-
Achromatic auxiliary objectives	0,37× only in combination with a universal stand	○	○	OZB-A5611	170,-
	0,5×	○	○	OZB-A5612	160,-
	0,7×	○	○	OZB-A5613	160,-
	1,5×	○	○	OZB-A5615	160,-
	2,0×	○	○	OZB-A5616	165,-
	Soldering protection lens	○	○	OZB-A5614	50,-
C-Mount	0,3× (focus adjustable)		○	OZB-A5701	140,-
	0,5× (focus adjustable)		○	OZB-A5702	140,-
	1,0× (focus adjustable)		○	OZB-A5703	105,-
	1,0× (with micrometer) only in combination with OZB-A5703		○	OZB-A5704	295,-
	For SLR cameras (Nikon)		○	OZB-A5706	295,-
	For SLR cameras (Olympus)		○	OZB-A5707	295,-
	For SLR cameras (Canon)		○	OZB-A5708	295,-

✓ = Included with delivery      ○ = Option

### Functionality of our Stereomicroscope Modular System

#### Step 1:

Select a microscope head (from page 78), a universal stand (page 80), a bracket (page 82) and a ring illumination unit (page 84), in order to generate a customised model.



## Fittings and accessories for the heads for the OZP-5 microscope range (OZP 551, OZP 552)

Eyepiece	Magnification	Specifications - Objectives					
		Standard 1,0×	Auxiliary objectives				
			0,37×	0,5×	0,7×	1,5×	2×
HSWF 10×	Total magnification	6× - 55×	2,96× - 25,9×	3× - 27,5×	4,2× - 38,5×	9× - 82,5×	12× - 110×
	Field of view mm	∅ 38,3 - 4,2	∅ 74,3 - 8,5	∅ 76,7 - 8,4	∅ 54,8 - 6	∅ 25,6 - 2,8	∅ 19,2 - 2,1
SWF 15×	Total magnification	9× - 82,5×	4,44× - 38,9×	4,5× - 41,25×	6,3× - 57,75×	13,5× - 123,75×	18× - 165×
	Field of view mm	∅ 28,3 - 3,1	∅ 57,4 - 6,6	∅ 56,7 - 6,2	∅ 40,5 - 4,4	∅ 18,9 - 2,1	∅ 14,2 - 1,5
SWF 20×	Total magnification	12× - 110×	5,92× - 51,8×	6× - 55×	8,4× - 77×	18× - 165×	24× - 220×
	Field of view mm	∅ 23,3 - 2,5	∅ 47,3 - 5,4	∅ 46,7 - 5,1	∅ 33,3 - 3,6	∅ 15,6 - 1,7	∅ 11,7 - 1,3
SWF 30×	Total magnification	18× - 165×	8,88× - 77,7×	9× - 82,5×	12,6× - 115,5×	27× - 247,5×	36× - 330×
	Field of view mm	∅ 15 - 1,6	∅ 30,4 - 3,5	∅ 30 - 3,3	∅ 21,4 - 2,3	∅ 10 - 1,1	∅ 7,5 - 0,8
<b>Working distance</b>		108 mm	275 mm	195 mm	145 mm	50 mm	35 mm

Model outfit	Model KERN		Order number	Price/piece excl. of VAT ex works €	
	OZP 551	OZP 552			
Eyepieces (30,0 mm)	HSWF 10×/∅ 23 mm	✓✓	✓✓	OZB-A5503	70,-
	SWF 15×/∅ 17 mm	○ ○	○ ○	OZB-A5504	75,-
	SWF 20×/∅ 14 mm	○ ○	○ ○	OZB-A5505	85,-
	SWF 30×/∅ 9 mm	○ ○	○ ○	OZB-A5506	120,-
	HSWF 10×/∅ 23 mm (reticule 0,1 mm)	○	○	OZB-A5512	125,-
	SWF 15×/∅ 17 mm (reticule 0,05 mm)	○	○	OZB-A5513	140,-
	SWF 20×/∅ 14 mm (reticule 0,05 mm)	○	○	OZB-A5514	140,-
Achromatic auxiliary objectives	0,37× only in combination with a universal stand	○	○	OZB-A5611	170,-
	0,5×	○	○	OZB-A5612	160,-
	0,7×	○	○	OZB-A5613	160,-
	1,5×	○	○	OZB-A5615	160,-
	2,0×	○	○	OZB-A5616	165,-
	Soldering protection lens	○	○	OZB-A5614	50,-
C-Mount	0,3× (focus adjustable)		○	OZB-A5701	140,-
	0,5× (focus adjustable)		○	OZB-A5702	140,-
	1,0× (focus adjustable)		○	OZB-A5703	105,-
	1,0× (with micrometer) only in combination with OZB-A5703		○	OZB-A5704	295,-
	For SLR cameras (Nikon)		○	OZB-A5706	295,-
	For SLR cameras (Olympus)		○	OZB-A5707	295,-
	For SLR cameras (Canon)		○	OZB-A5708	295,-

✓ = Included with delivery      ○ = Option

## Functionality of our Stereomicroscope Modular System

### Step 2:

Further illumination units (page 84) and a suitable protective dust cover (page 82) give you the opportunity to adapt the configuration, expansion and field of application of your ideal microscope individually to suit your own requirements.

Fiber illumination



Polarising ring light



Dust cover



## Fittings and accessories for the heads for the OZO-5 microscope range (OZO 556)

Eyepiece	Specifications – Objectives						
	Magnification	Standard 1,0×	Auxiliary objectives				
			0,37×	0,5×	0,7×	1,5×	2×
HSWF 10×	Total magnification	8× – 70×	2,96× – 25,9×	4× – 35×	5,6× – 49×	12× – 105×	16× – 140×
	Field of view mm	∅ 28,75 – 3,3	∅ 74,3 – 8,5	∅ 57,5 – 6,6	∅ 41,1 – 4,7	∅ 19,2 – 2,2	∅ 14,4 – 1,6
SWF 15×	Total magnification	12× – 105×	4,44× – 38,9×	6× – 52,5×	8,4× – 73,5×	18× – 157,5×	24× – 210×
	Field of view mm	∅ 21,25 – 2,4	∅ 57,4 – 6,6	∅ 42,5 – 4,9	∅ 30,4 – 3,5	∅ 14,2 – 1,6	∅ 10,6 – 1,2
SWF 20×	Total magnification	16× – 140×	5,92× – 51,8×	8× – 70×	11,2× – 98×	24× – 210×	32× – 280×
	Field of view mm	∅ 17,5 – 2	∅ 47,3 – 5,4	∅ 35 – 4	∅ 25 – 2,9	∅ 11,7 – 1,3	∅ 8,75 – 1
SWF 30×	Total magnification	24× – 210×	8,88× – 77,7×	12× – 105×	16,8× – 147×	36× – 315×	48× – 420×
	Field of view mm	∅ 11,25 – 1,3	∅ 30,4 – 3,5	∅ 22,5 – 2,6	∅ 16,1 – 1,8	∅ 7,5 – 0,9	∅ 5,625 – 0,6
<b>Working distance</b>		108 mm	275 mm	195 mm	145 mm	50 mm	35 mm

Model outfit	Model KERN		Order number	Price/piece excl. of VAT ex works €
	OZO 556			
Eyepieces (30,0 mm)	HSWF 10×/∅ 23 mm	✓✓	OZB-A5503	70,-
	SWF 15×/∅ 17 mm	○○	OZB-A5504	75,-
	SWF 20×/∅ 14 mm	○○	OZB-A5505	85,-
	SWF 30×/∅ 9 mm	○○	OZB-A5506	120,-
	HSWF 10×/∅ 23 mm (reticule 0,1 mm)	○	OZB-A5512	125,-
	SWF 15×/∅ 17 mm (reticule 0,05 mm)	○	OZB-A5513	140,-
	SWF 20×/∅ 14 mm (reticule 0,05 mm)	○	OZB-A5514	140,-
Achromatic auxiliary objectives	0,37× only in combination with a universal stand	○	OZB-A5611	170,-
	0,5×	○	OZB-A5612	160,-
	0,7×	○	OZB-A5613	160,-
	1,5×	○	OZB-A5615	160,-
	2,0×	○	OZB-A5616	165,-
	Soldering protection lens	○	OZB-A5614	50,-
C-Mount	0,3× (focus adjustable)		OZB-A5701	140,-
	0,5× (focus adjustable)		OZB-A5702	140,-
	1,0× (focus adjustable)		OZB-A5703	105,-
	1,0× (with micrometer) only in combination with OZB-A5703		OZB-A5704	295,-
	For SLR cameras (Nikon)		OZB-A5706	295,-
	For SLR cameras (Olympus)		OZB-A5707	295,-
	For SLR cameras (Canon)		OZB-A5708	295,-

✓ = Included with delivery      ○ = Option

## Functionality of our Stereomicroscope Modular System

### Step 3:

When using a trinocular microscope configuration, select the microscope camera (from page 85) which meets your requirements. To find the appropriate C-mount adapter, which is essential to correctly connect the camera, please see the fitting lists of the selected microscope head (from page 75).







OZB-A5201



OZB-A5203



OZB-A5211



OZB-A5212



OZB-A5213



OZB-A5221



OZB-A5222



OZB-A5223

8

## Individuality, variety and flexible working through our modular construction system ► PREMIUM universal stands

### Features

- With our universal stands and basic stands, as well as microscope heads and external illumination units, you can configure your microscope to your own specifications and adapt it to your application
- Thanks to the versatile, adjustable universal stands it is possible to work in the very best way in all areas with the most varied of samples

- Large universal stands are available as stand base variants as well as with the option of a clamp for the edge or the centre of a bench. Depending on the model, you have the choice of a telescopic arm stand, a jointed arm stand or a telescopic double arm universal stand with ball bearings

### Technical data

- Column height: 515 mm

#### OZB-A5201/OZB-A5211/OZB-A5221

- Length telescopic arm: 614 mm

#### OZB-A5212/OZB-A5222

- Length jointed arm: 553 mm

#### OZB-A5203/OZB-A5213/OZB-A5223

- Length double arm: 545 mm

Model	Description	Price excl. of VAT ex works €
<b>KERN</b>		
OZB-A5201	Telescopic arm – Plate – excl. holder	590,-
OZB-A5211	Telescopic arm – Clamp Edge of bench (Range: max. 62 mm) – excl. holder	550,-
OZB-A5221	Telescopic arm – Clamp Centre of bench (hole required) – excl. holder	590,-
OZB-A5212	Jointed arm – Clamp Edge of bench (Range: max. 62 mm) – excl. holder	590,-
OZB-A5222	Jointed arm – Clamp Centre of bench (hole required) – excl. holder	620,-
OZB-A5203	Telescopic double arm with ball bearings – Plate – excl. holder	920,-
OZB-A5213	Telescopic double arm with ball bearings – Clamp Edge of bench (Range: max. 62 mm) – excl. holder	890,-
OZB-A5223	Telescopic double arm with ball bearings – Clamp Centre of bench (hole required) – excl. holder	930,-



OZB-A1201



OZB-A1203



OZB-A6302



OZB-A1211



OZB-A1213



OZB-A6303



OZB-A6301



## Individuality, variety and flexible working through our modular construction system ► ECO universal stands

### Features

- With our universal stands and basic stands, as well as microscope heads and external illumination units, you can configure your microscope to your own specifications and adapt it to your application
- Thanks to the versatile, adjustable universal stands it is possible to work in the very best way in all areas with the most varied of samples

- Small universal stands are available as stand base variants as well as with the option of a clamp for the edge of a bench. Depending on the model, you have the choice of a telescopic arm stand or a telescopic double arm universal stand with ball bearings
- The spring loaded universal stands including bench clamp will make your daily work with your stereo microscope easier. Now including coarse adjustment knob for easy, flexible focussing

### Technical data

#### OZB-A1201/OZB-A1211

- Column height: 430 mm
- Length telescopic arm: 385 mm

#### OZB-A1203/OZB-A1213

- Column height: 430 mm
- Length telescopic arm: 480 mm

#### OZB-A6302

- Height spring loaded arm: 525 mm
- Length spring loaded arm: 620 mm

#### OZB-A6301

- Column height: 300 mm

#### OZB-A6303

- Height spring loaded arm: 400 mm
- Length spring loaded arm: 850 mm

Model	Description	Price excl. of VAT ex works €
<b>KERN</b>		
OZB-A1201	Telescopic arm – Plate – excl. holder	400,-
OZB-A1211	Telescopic arm – Clamp Edge of bench (Range: max. 40 mm) – excl. holder	370,-
OZB-A1203	Jointed arm – Plate – excl. holder	445,-
OZB-A1213	Jointed arm – Clamp Edge of bench (Range: max. 40 mm) – excl. holder	420,-
OZB-A6302	Spring loaded arm (Pneumatic spring) – Clamp (Range: max. 50 mm) – with holder (Coarse focusing knob)	860,-
OZB-A6303	Spring loaded arm (Compression spring) – Clamp (Range: max. 50 mm) – with holder (Coarse focusing knob)	540,-
OZB-A6301	Pillar style stand with “C”-shape base – excl. holder	360,-



OZB-A5301



OZB-A5306

## Individuality, variety and flexible working through our modular construction system ▶ Holders

### Features

- There are two microscope head holders available for these flexible, modular systems. These brackets are suitable for all stereo microscope stands and universal stands (excluding spring loaded arm), to make focusing possible
- The first variant available is a holder with adjustable handwheel as well as adjustment of the torque for your configuration

- For professional applications you have the choice of a mount with coarse and fine focusing knob for the very best focusing operation
- Diameter of the connector for the microscope head: 76 mm
- Diameter of the connector for the stand: 25 mm

Model	Description	Price excl. of VAT ex works €
<b>KERN</b>		
OZB-A5301	Holder with adjustable torque of the hand wheel. Suitable for all universal stands (except of spring loaded arm) and for all basic stands as possible accessories.	180,-
OZB-A5306	Holder with coaxial coarse and fine focusing knob and adjustable torque of the hand wheel. Suitable for all universal stands (except of spring loaded arm) and for all basic stands as possible accessories.	300,-



## Individuality, variety and flexible working through our modular construction system ▶ Dust covers

### Features

- When working with microscopes, we offer dust covers to give greater ease of use. By using these, you can easily avoid the time-consuming cleaning work which is necessary with routine use of your microscope

- Depending on the size of your microscope set or your microscope configuration you can select between three different models
- Please find detailed information in the following model outfit list

Model	Description	Suitable for	Price excl. of VAT ex works €
<b>KERN</b>			
OBB-A 1387	Size 1: 485×450 mm	Stereo microscope heads	35,-
OBB-A 1388	Size 2: 600×650 mm	Stereo microscope heads in combination with basic stands	35,-
OBB-A 1389	Size 3: 700×900 mm	Stereo microscope sets, stereo microscope heads in combination with universal stands	35,-



# 9

## EXTERNAL LIGHT SOURCES FOR STEREOMICROSCOPES

Ring illumination and cold light sources

## 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



OZB-A4571



OZB-A4572



OBB-A6102



OZB-A7101



### 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

Model	Illuminance	Inner $\varnothing$	Colour temperature	Brightness adjustable	Illumination by segments	Polarising filter	Price excl. of VAT ex works €
<b>KERN</b>		mm	K				
<b>OZB-A4571</b>	4W-LED	60	7000 - 11000	✓			<b>100,-</b>
<b>OZB-A4572</b>	4W-LED	60	6500 - 7000	✓	✓		<b>155,-</b>
<b>OBB-A6102</b>	4,5W-LED	63	approx. 7600	✓			<b>150,-</b>
<b>OZB-A7101</b>	4,5W-LED	62	6500 - 7000	✓		✓	<b>690,-</b>

✓ = Included with delivery

## Goose Neck Illumination KERN OZB-IF



OZB-A4516



OZB-A4515



Application example

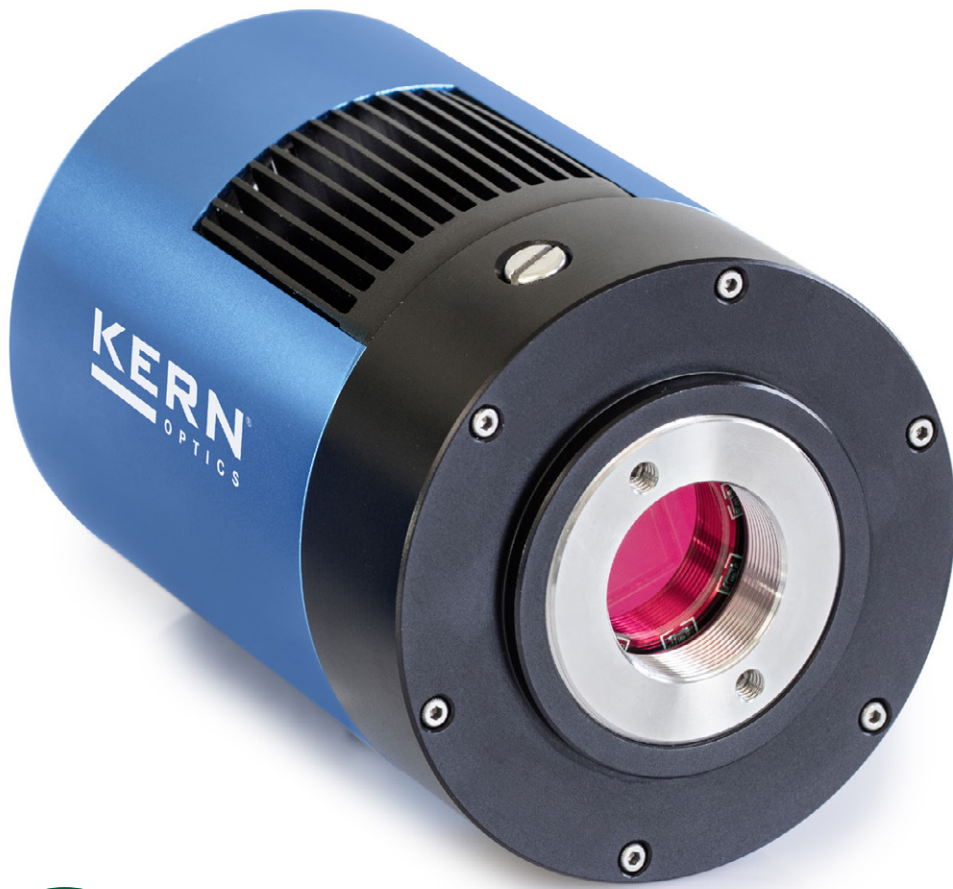
### Features

- 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

Model	Description	Length	Illuminance	Colour temperature	Brightness adjustable	Price excl. of VAT ex works €
<b>KERN</b>		mm		K		
<b>OZB-A4515</b>	Dual Goose Neck Illumination LED Unit	300	6W	5600 - 6300	✓	<b>165,-</b>
<b>OZB-A4516</b>	Dual Goose Neck Illumination LED Cold Light Source	540	20W	6400	✓	<b>720,-</b>

✓ = Included with delivery





# 10

## **MICROSCOPE CAMERAS & SOFTWARE**

## 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 in the catalogue (page 95) or see [www.kern-sohn.com](http://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

### Accessories

- Object micrometer, for calibrating the software measuring function, division 0,1 mm + 0,01 mm, KERN ODC-A2404, € 40,-

### 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, an USB cable (length: 2 m), various eyepiece adapters and an object micrometre 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 €
<b>KERN</b>								
<b>ODC 825</b>	5,1 MP	USB 2.0	6,8 – 55	CMOS	1/2,5"	colour	Win XP, Vista, 7, 8, 10	<b>430,-</b>
<b>ODC 831</b>	3,1 MP	USB 3.0	27,3 – 53,3	CMOS	1/3"	colour	Win XP, Vista, 7, 8, 10	<b>570,-</b>
<b>ODC 832</b>	5,1 MP	USB 3.0	14,2 – 101,2	CMOS	1/2,5"	colour	Win XP, Vista, 7, 8, 10	<b>590,-</b>

### C-Mount Camera – High Resolution KERN ODC-84



### Features

- The high-resolution, professional ODC-84 range offers you an impressive 20 megapixel resolution which will give you bright detailed views of your sample. By using the integrated USB 3.0 interface, live images are transferred to the KERN OXM 902 for processing and documentation
- Power supply is through the USB interface so that there is no requirement for an external power source.

- As well as the camera, the delivery includes our multi-lingual camera software, an USB cable (length: 2 m), various eyepiece adapters and an object micrometre to calibrate the software
- Please order the appropriate C-mount adapter (only 1,0x possible) to fit your KERN microscope now

! Can only be used in combination with compound microscopes

#### STANDARD



Model	Resolution	Interface	FPS	Sensor	Sensor size	Colour/ Monochrome	Supported operating system	Price excl. of VAT ex works €
<b>KERN</b>								
<b>ODC 841</b>	20 MP	USB 3.0	15 – 60	CMOS	1"	colour	Win XP, Vista, 7, 8, 10	<b>1270,-</b>



**Features**

- The ODC 851 HDMI microscope camera has been specially developed for direct HDMI connection to your HDMI compatible display device. The images can be stored straight onto the SD card which is delivered with the product or can be transferred to your PC or laptop for further processing using the USB 2.0 cable in combination with the OXM 902 software
- The HDMI autofocus camera ODC 852 offers you a perfect, effective solution for modern microscopy. The autofocus function automatically detects and adjusts the focus level so that you always have a razor-sharp image. Ideal for all applications in connection with a KERN stereo microscope
- Realtime images can be transferred to an HDMI-compatible display device using the HDMI connection and they can also be stored on the SD card which was delivered with the product. As an alternative, data can also be transferred using the

- WiFi module (ODC 852) to a PC or laptop in combination with the KERN OXM 902 software which is included with the delivery
- Power supply is from an external 12 V power unit
- Scope of delivery ODC 851: Camera, USB mouse, USB 2.0 cable (length: 2 m), HDMI cable (length: 2 m), SD card (16 GB) and camera software Microscope VIS Basic KERN OXM 902
- Scope of delivery ODC 852: Camera, USB mouse, HDMI cable (length: 2 m), SD card (16 GB), WiFi adapter and camera software Microscope VIS Pro KERN OXM 902
- 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 €
<b>KERN</b>								
ODC 851	2 MP	HDMI, USB 2.0, SD	60	CMOS	1/2"	colour	Win XP, Vista, 7, 8, 10	1150,-
ODC 852*	5 MP	HDMI, SD, WLAN	25 – 60	CMOS	1/1,8"	colour	Win XP, Vista, 7, 8, 10	1170,-

\*can only be used in combination with stereo microscopes

C-Mount Camera – High Resolution KERN ODC-86



**The cooled camera for professional fluorescence examinations**

**Features**

- The ODC 861 camera with Peltier cooling technology has been specially designed for fluorescent applications. It is able to significantly compensate for image noise associated with weak lighting. Due to its high resolution and light-sensitive Sony CMOS colour sensor it proves first-class images. The practical, sturdy storage box serves as protection and for transportation of this premium camera

- Realtime images can be transferred straight to a PC or laptop using the integrated USB 3.0 interface. As an alternative, 2 USB 2.0 interfaces are available, to operate the camera with the KERN OXM 902 software which is included with the delivery
- Power supply is from an external 12 V power unit
- Please order the appropriate C-mount adapter (only 1,0x possible) to fit your KERN microscope now
- Black balance possible



STANDARD



Model	Resolution	Interface	FPS	Sensor	Sensor size	Colour/ Monochrome	Supported operating system	Price excl. of VAT ex works €
<b>KERN</b>								
ODC 861	20 MP	USB 3.0	5 – 30	CMOS	1"	colour	Win XP, Vista, 7, 8, 10	2400,-

! Can only be used in combination with compound microscopes



ODC-87, ODC-88



Eyepiece camera fixed into the tube

**Features**

- With the KERN eyepiece cameras you can convert your standard microscope to a digital microscope, by replacing one eyepiece of your non-digital microscope with an eyepiece camera and connect this to your computer via USB
- The universal eyepiece can be connected to the microscope as well as to a laptop or PC using the USB cable (2.0 or 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 software

- As well as the camera, the delivery includes our multi-lingual camera software Microscope VIS 2.0 Pro, a USB cable (length: 1,5m), two eyepiece adapters and an object micrometer to calibrate the software
- Possible tube diameters:  
23,2 mm (Standard)  
30,0 mm (Eyepiece adapter)  
30,5 mm (Eyepiece adapter)

STANDARD

Model	Resolution	Interface	FPS	Sensor	Sensor size	Colour/ Monochrome	Supported operating system	Price excl. of VAT ex works €
<b>KERN</b>								
ODC 874	3 MP	USB 2.0	3 – 7,5	CMOS	1/2,7"	colour	Win XP, Vista, 7, 8, 10	240,-
ODC 881	5 MP	USB 3.0	15 – 30	CMOS	1/2,5"	colour	Win XP, Vista, 7, 8, 10	320,-

USB Microscope – USB 2.0 KERN ODC-89

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**The digital USB microscope for rapid testing or for hobby use**



ODC 895

**Features**

- The USB hand-held microscope is designed for rapid and simple observations. Ideally suited for coins, plants, insects and skin samples for all hobby scientists, children and students
- With the USB microscope you can easily adjust the magnification to suit all conventional samples. The zoom range can be adjusted to a magnification of 10× as well as 200×
- The eight LEDs fitted in the ring shape ensure strong and effective illumination of your sample. Use the adjustment wheel on the cable to control the illumination setting
- As well as the camera, you will also find our multi-lingual camera software Microscope VIS 2.0 Pro included with delivery
- Cable length: 1,4 m

**Stand with focus wheel:**

- Work area: 150×80mm
- Focus range: 60 mm
- Overall dimensions: 150×80×135 mm

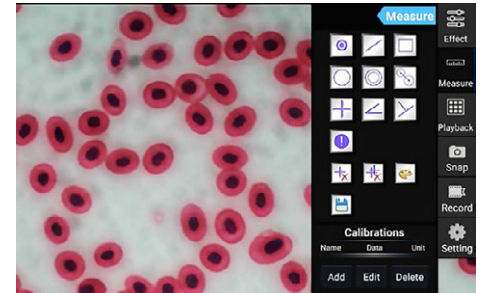
STANDARD

Model	Resolution	Interface	FPS	Sensor	Sensor size	Supported operating system	Magnification levels	Focusing stand	Illumination	Price excl. of VAT ex works €
<b>KERN</b>										
ODC 895	2 MP	USB 2.0	15 – 30	CMOS	1/3,2"	Win XP, Vista, 7, 8, 10	10×, 200×	Focus wheel	8× LED	220,-





ODC 241



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 as a live transfer of the image to the Android tablet, 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 WiFi
- The delivery includes the tablet camera with pre-installed software as well as the mains adapter

### Technical data

- 9.7" LCD-Touchscreen
- Screen resolution: 2048x1536 pixels
- CPU: Quad Core Cortex-A17; 1,8 GHz
- Overall dimensions WxDxH 238x51x206 mm
- Net weight approx. 0,65 kg

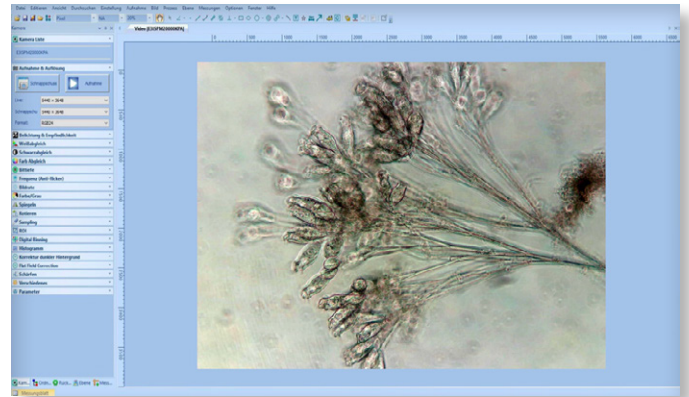
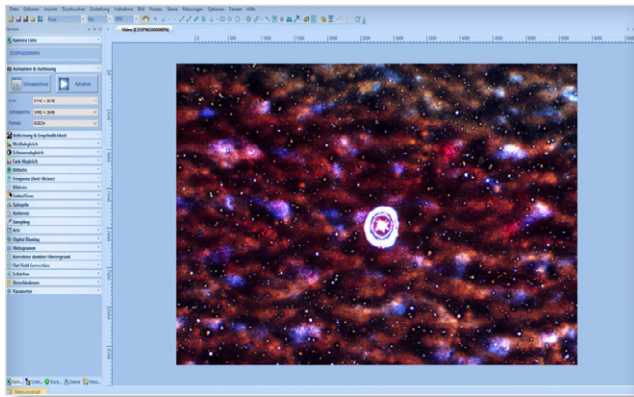
Cannot be combined with the following microscopes:  
series OZM-5, OLM 170

STANDARD



Model	Resolution Camera	Interface	FPS	Sensor	Sensor size	Supported operating system	Price excl. of VAT ex works €
<b>KERN</b> ODC 241	5 MP	WiFi, USB 2.0, HDMI, SD	15 - 30	CMOS	1/2,5"	Android 5.1	<b>1110,-</b>





## The digital specialist for measurement, counting and archiving – free of charge with all KERN microscope cameras

### Features

- As well as the streaming function for the object to be viewed, the software OXM 902 also offers you an image snapshot function, as well as a video function
- Various measuring functions such as, for example, functions for measuring distance, surfaces and angles and a manual counting function are available. In addition there are extensive image processing and documentation functions available, and of course an exporting function to Microsoft Office applications Word® and Excel®
- With the display settings you can display different measurements, grid sizes, scales and rulers for the very best measuring procedure

- Automatic white balance and automatic contrast adjustment can be performed quickly and easily, which enables efficient working procedures
- The following highlights are included:
  - Image Stitching
  - Image Stacking
  - DShow and TWAIN support
  - Software development kit
- With this software it is possible operate all available KERN microscope cameras

### Technical data

- Can be used for Microsoft Windows 7, 8, 10 and 11
- Depending on the language setting of your Windows operating system the software KERN microscope VIS Basic & Pro will be identified and installed in the current language. This can be changed manually at any time
- The software is available in the following languages: German, English, Spanish, Italian, French, Portuguese, Polish, Russian, Turkish, Chinese, Japanese, Korean
- As well as the software CD, a USB cable and an object micrometer are included with all KERN cameras as well as all digital microscopes. Please refer to the documentation for the software in the download area of our website [www.kern-sohn.com](http://www.kern-sohn.com) for further details

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# REFRACTOMETERS POLARIMETERS

# 11 - 14



<b>11 Analogue Refractometers – Type: Hand-held</b>	<b>94</b>
<b>12 Digital Refractometers – Type: Hand-held</b>	<b>101</b>
<b>13 Digital Refractometers – Type: Desktop</b>	<b>107</b>
<b>14 Polarimeters</b>	<b>109</b>



**Ralf Gutbrod**  
Technical Sales KERN Optics

Tel. +49 7433 9933-306  
optics@kern-sohn.com





! Also available with calibration certificate, see page 108!

## 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
  - Screwdriver
  - Cleaning tissue
- Further accessories are optionally available

### 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)

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## Scope of application: Sugar

The following models are particularly suitable for the measurement of the “BRIX” value. They are used to determine the sugar content in food, especially in fruit, vegetables, juice and soft drinks. In the same ideal way these refractometers serve for monitoring processes in the industry (coolant monitoring, oils, water-based mixtures).

The main scope of applications is:

- Industry: Monitoring of lubricants for process and quality control
- Food industry: Beverages, fruits and sweets
- Agriculture: Determination of the degree of ripeness of fruits for quality control in harvesting
- Restaurants and large-scale catering establishment



Model	Scales	Measuring range	Division	ATC	Price excl. of VAT ex works €
<b>KERN</b>					
ORA 10BB	Brix	0 – 10 %	0,1 %		90,-
ORA 10BA	Brix	0 – 10 %	0,1 %	✓	95,-
ORA 20BB	Brix	0 – 20 %	0,1 %		90,-
ORA 20BA	Brix	0 – 20 %	0,1 %	✓	95,-
ORA 32BB	Brix	0 – 32 %	0,2 %		90,-
ORA 32BA	Brix	0 – 32 %	0,2 %	✓	95,-
ORA 62BB	Brix	28 – 62 %	0,2 %		90,-
ORA 62BA	Brix	28 – 62 %	0,2 %	✓	95,-
ORA 82BB	Brix	45 – 82 %	0,5 %		90,-
ORA 80BB	Brix	0 – 80 %	0,5 %		90,-

## Scope of application: Honey

The following models are particularly suitable for the measurement of the “BRIX” value, as well as the water content in honey and “degrees Baumé” to determine the relative density of liquids.

The main scope of applications is:

- Beekeeping
- Honey production

Model	Scales	Measuring range	Division	ATC	Price excl. of VAT ex works €
<b>KERN</b>					
ORA 3HB	Brix Baumé Water content	58 – 92 % 38 – 43 °Bé 12 – 27 %	0,5 % 0,5 °Bé 1 %		99,-
ORA 3HA	Brix Baumé Water content	58 – 92 % 38 – 43 °Bé 12 – 27 %	0,5 % 0,5 °Bé 1 %	✓	105,-
ORA 6HB*	Water content according to AOAC standard	12 – 30 %	0,1 %		110,-
ORA 6HA*	Water content according to AOAC standard	12 – 30 %	0,1 %	✓	115,-

\*no calibration certificate possible



## Scope of application: Salt

The following models are particularly suitable for the measurement and concentration control of the mass fraction of sodium chloride in water as well as of the content of NaCl (salt) in water. This is often used in the preparation and the cooking of sauces, bases for pastries, the production of brines (e.g. for white cheese) and the preparation of seafood and marinades for meat.

The main scope of applications is:

- Food industry
- Restaurants and large-scale catering establishment
- Aquaristic: Fishkeepers/Fishfarmers in sea and sweetwater



Model	Scales	Measuring range	Division	ATC	Price excl. of VAT ex works €
<b>KERN</b>					
<b>ORA 1SB</b>	Salt content (NaCl) % specific gravity	0 – 100 ‰ 1,000 – 1,070 sg	1 ‰ 0,001 sg		<b>90,-</b>
<b>ORA 1SA</b>	Salt content (NaCl) % specific gravity	0 – 100 ‰ 1,000 – 1,070 sg	1 ‰ 0,001 sg	✓	<b>95,-</b>
<b>ORA 3SB</b>	Salt content (NaCl) % Brix	0 – 28 % 0 – 32 %	0,2 % 0,2 %		<b>90,-</b>
<b>ORA 3SA</b>	Salt content (NaCl) % Brix	0 – 28 % 0 – 32 %	0,2 % 0,2 %	✓	<b>95,-</b>

## Scope of application: Wine

The following models are particularly suitable for the measurement of the content of sugar in fruits. It indicates the expected °Alcohol of the fruit. The degree of ripeness of fruit (fruit-sugar) can also be determined, such as e.g. grapes.

The main scope of applications is:

- Agriculture: Wine-growing and fruit-growing
- Wine-production
- Must and alcohol production

°Oe = Degree Oechsle, °KMW = Klosterneuburger Must balance

Model	Scales	Measuring range	Division	ATC	Price excl. of VAT ex works €
<b>KERN</b>					
<b>ORA 1WB</b>	Oechsle KMW (Babo) Brix	0 – 140 °Oe 0 – 25 °KMW 0 – 32 %	1 °Oe 0,25 °KMW 0,2 %		<b>90,-</b>
<b>ORA 1WA</b>	Oechsle KMW (Babo) Brix	0 – 140 °Oe 0 – 25 °KMW 0 – 32 %	1 °Oe 0,25 °KMW 0,2 %	✓	<b>95,-</b>
<b>ORA 3WB</b>	Oechsle Brix	30 – 140 °Oe 0 – 32 %	1 °Oe 0,2 %		<b>90,-</b>
<b>ORA 3WA</b>	Oechsle Brix	30 – 140 °Oe 0 – 32 %	1 °Oe 0,2 %	✓	<b>95,-</b>



## Scope of application: Beer/alcohol

The following models are particularly suitable for determining the sugar content of the original wort of beer in its unfermented state. The value can be read straightaway, without having to be converted, using the SG Wort and Degrees Plato scales. In addition, the percent by volume and percent by mass scales can be used to determine the alcohol content of clear spirits.

The main scope of applications is:

- Beer brewers
- Alcohol production



Model	Scales	Measuring range	Division	ATC	Price excl. of VAT ex works €
<b>KERN</b>					
<b>ORA 3AB</b>	Brix Original gravity (specific weight)	0 – 32 % 1,000 – 1,130	0,2 % 0,001		<b>90,-</b>
<b>ORA 3AA</b>	Brix Original gravity (specific weight)	0 – 32 % 1,000 – 1,130	0,2 % 0,001	✓	<b>95,-</b>
<b>ORA 4AB</b>	Plato	0 – 18° P	0,1° P		<b>90,-</b>
<b>ORA 4AA</b>	Plato	0 – 18° P	0,1° P	✓	<b>95,-</b>
<b>ORA 1AB</b>	Percentage by volume	0 – 50 % (v/v)	1 % (v/v)		<b>90,-</b>
	Percentage by volume	50 – 80 % (v/v)	2,5 % (v/v)		
<b>ORA 2AB</b>	Percentage by mass	0 – 50 % (w/w)	1 % (w/w)		<b>90,-</b>
	Percentage by mass	50 – 80 % (w/w)	2,5 % (w/w)		



## 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 €
<b>KERN</b>					
<b>ORA 2PB</b>	Serum protein Urine (spec. gravity) Refractive index	0 – 12 g/100 ml 1,000 – 1,050 1,3330 – 1,3600 nD	0,2 g/100 ml 0,002 0,0005 nD		<b>90,-</b>
<b>ORA 2PA</b>	Serum protein Urine (spec. gravity) Refractive index	0 – 12 g/100 ml 1,000 – 1,050 1,3330 – 1,3600 nD	0,2 g/100 ml 0,002 0,0005 nD	✓	<b>95,-</b>
<b>ORA 5PB</b>	Serum protein Urine (s. g. dog) Urine (s. g. cat)	2 – 14 g/100 ml 1,000 – 1,060 1,000 – 1,060	0,1 g/100 ml 0,001 0,001		<b>90,-</b>



## 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 windscreen wash water (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, in accordance with the VW standards G11/G12 and G13
- Chemical industry
- Solar industry: Antifreeze monitoring



Model	Scales	Measuring range	Division	ATC	Price excl. of VAT ex works €
<b>KERN</b>					
<b>ORA 4FB</b>	Ethylene glycol (G11/ 12)	-50 - 0 °C	1 °C		<b>90,-</b>
	Propylene glycol (G13)	-50 - 0 °C	1 °C		
	Windshield washer fluid	-40 - 0 °C	5 °C		
	Battery fluid	1,10 - 1,40 kg/l	0,01 kg/l		
<b>ORA 4FA</b>	Ethylene glycol (G11/ 12)	-50 - 0 °C	1 °C		<b>95,-</b>
	Propylene glycol (G13)	-50 - 0 °C	1 °C		
	Windshield washer fluid	-40 - 0 °C	5 °C	✓	
	Battery fluid	1,10 - 1,40 kg/l	0,01 kg/l		
<b>ORA 1UB</b>	Urea	0 - 40 %	0,2 %		<b>90,-</b>
<b>ORA 1UA</b>	Urea	0 - 40 %	0,2 %	✓	<b>95,-</b>
<b>ORA 4UB</b>	Urea	30 - 35 %	0,2 %		<b>90,-</b>
	Ethylene glycol (G11/ 12)	-50 - 0 °C	1 °C		
	Propylene glycol (G13)	-50 - 0 °C	1 °C		
	Windshield washer fluid	-40 - 0 °C	5 °C		
<b>ORA 4UA</b>	Urea	30 - 35 %	0,2 %		<b>95,-</b>
	Ethylene glycol (G11/ 12)	-50 - 0 °C	1 °C		
	Propylene glycol (G13)	-50 - 0 °C	1 °C	✓	
	Windshield washer fluid	-40 - 0 °C	5 °C		
	Battery fluid	1,10 - 1,40 kg/l	0,01 kg/l		



## Scope of application: Expert applications

The following models have a special large measuring range for the refractive index and large divided scales for the measurement and clear reading of Brix values.

The main scope of applications is:

- Universal application, especially when extra large measuring ranges are required

Model	Scales	Measuring range	Division	ATC	Price excl. of VAT ex works €
<b>KERN</b>					
<b>ORA 80BE</b>	Brix	0 - 50 % 50 - 80 %	0,5 % 0,5 %		<b>160,-</b>
<b>ORA 90BE</b>	Brix	0 - 42 % 42 - 71 % 71 - 90 %	0,2 % 0,2 % 0,2 %		<b>360,-</b>
<b>ORA 1RE*</b>	Refractive index	1,333 - 1,405 nD 1,405 - 1,468 nD 1,468 - 1,517 nD	0,005 nD 0,005 nD 0,005 nD		<b>360,-</b>
<b>ORA 4RR*</b>	Refractive index	1,440 - 1,520 nD	0,001 nD		<b>95,-</b>

\*no calibration certificate possible



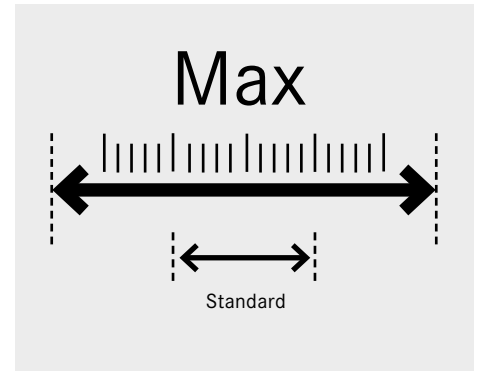
ORA 4RR



ORA 90 BE/ORA 1RE



ORA 80BE



## Scope of application: Gemmology/Jewellery

The Gem models have a special refracting-index range for jewellery. For this refractometer there is a nice leather bag in the scope of delivery included.

The main scope of applications is:

- Jewellers
- Training/Education
- Jewellery industry

Model	Scales	Measuring range	Division	ATC	Price excl. of VAT ex works €
<b>KERN</b>					
<b>ORA 1GG*</b>	Refractive index	1,30 - 1,81 nD	0,01 nD		<b>250,-</b>

\*no calibration certificate possible



ORA 1GG





## Accessory parts: Analogue refractometer – ORA



Prism coverplate with LED  
ORA-A1101



Calibration liquid/  
Contact liquid



Leather bag  
ORA-A2103



Calibration block



Model	Description	Price excl. of VAT ex works €
<b>KERN</b>		
<b>ORA-A1101</b>	Prism coverplate with integrated LED illumination	<b>25,-</b>
<b>ORA-A2103</b>	Leather bag for analog refractometers	<b>25,-</b>
<b>ORA-A2107</b>	Leather bag for Gem refractometers (Spare part)	<b>35,-</b>
<b>ORA-A1010</b>	Calibration liquid – distilled water – Set of 5 Volume: 5× approx. 3 ml	<b>25,-</b>
<b>ORA-A1002</b>	Contact liquid – Clove oil (for Calibration value 19,6%) Volume: approx. 2 ml	<b>25,-</b>
<b>ORA-A1003</b>	Calibration liquid – saturated salt solution Volume: approx. 2 ml	<b>25,-</b>
<b>ORA-A1004</b>	Contact liquid – Clove oil (for Calibration value 78,8%) Volume: approx. 2 ml	<b>25,-</b>
<b>ORA-A1005</b>	Calibration block for models ORA 82BB, ORA 3HA, ORA 3HB, ORA 6HA, ORA 6HB, ORA 4RR	<b>25,-</b>
<b>ORA-A1007</b>	Contact liquid – Diiodomethane “Standard” (Refractive index: 1,74 nD) Volume: approx. 2 ml	<b>25,-</b>
<b>ORA-A3001</b>	Contact liquid – Diiodomethane “Pro” (Refractive index: 1,79 nD) Volume: approx. 2 ml	<b>40,-</b>
<b>ORA-A1008</b>	Calibration block for model ORA 1GG	<b>25,-</b>
<b>ORA-A2001</b>	Prism coverplate (spare part)	<b>22,-</b>

### Relationship overview – refractometer calibration (analogue)

Model refractometer	Calibration value	Calibration liquid	Article number liquid	Calibration block	Article number calibration block
ORA 10BA; ORA 10BB; ORA 18BB; ORA 1WA; ORA 1WB; ORA 20BA; ORA 20BB; ORA 32BA; ORA 32BB; ORA 3SA; ORA 3SB; ORA 3WA; ORA 3WB; ORA 7WA; ORA 80BB; ORA 80BE; ORA 3AB; ORA 3AA	0 % Brix	distilled water	ORA-A1010	-	-
ORA 4AA; ORA 4AB	0 ° Plato	distilled water		-	
ORA 1UA; ORA 1UB	0 % Urea	distilled water		-	
ORA 4FA; ORA 4FB; ORA 4UA; ORA 4UB	0 °C EG/PG/CW	distilled water		-	
ORA 1SA; ORA 1SB	0 ‰ Salinity	distilled water	ORA-A1010	-	-
ORA 2SA; ORA 2SB	0 % Salt (NaCl)	distilled water		-	
ORA 2AB	0 % Vol (weight)	distilled water		-	
ORA 2PA; ORA 2PB; ORA 5PB	1,000 sg Urine	distilled water		-	
ORA 62BA; ORA 62BB	29,6 % Brix	saturated salt solution	ORA-A1003	-	-
ORA 3HA; ORA 3HB; ORA 82BB	78,8 % Brix	Clove oil CAS 8000-34-8	ORA-A1004	yes	ORA-A1005
ORA 4RR	1,4875 nD	Clove oil CAS 8000-34-8	ORA-A1004	yes	ORA-A1005
ORA 6HA; ORA 6HB	19,6 % Water content	Clove oil CAS 8000-34-8	ORA-A1002	yes	ORA-A1005
ORA 1GG	1,515 nD	Diiodomethane CAS 90-11-9	ORA-A1007	yes	ORA-A1008



Transport and storage case



Rear view, screw-on battery compartment cover

## Digital measurement of refraction index for universal application

### Features

- The KERN ORM refractometers are accurate and universal maintenance free digital handheld refractometers
- They are characterized by their easy-using and robustness
- The typical and practical design is suitable for a quick and convenient everyday use
- The large, easy-to-read display with integrated temperature display supports the user to reliably determine the measurement
- The integrated automatic temperature compensation (ATC), avoids the manual conversion of the measurement. This allows a quick and efficient usage of the instrument
- Rapid, user-friendly calibration of the refractometer is possible at any time using standard commercial distilled water
- The refractometers from the KERN ORM range are protected to international IP65 protection class, against dust and water splashes. After use, you can rinse the refractometer under running water
- Mean value measurements possible
- The following accessory-parts are included:
  - Prism cover lid
  - Pipette
  - Storage box
  - 1 x AAA battery
  - Screwdriver

### Technical data

- Measurement temperature: 0 °C – 40 °C
- Overall dimensions W×D×H 121×58×25 mm
- Net weight approx. 289 g
- Power supply: 1 x AAA (1,5 V)
- Lifetime of the battery: approx. 10.000 measurements
- ATC (Automatic Temperature Compensation)
- Minimum sample volume: 4 drops
- Automatic energy management (AUTO-OFF after 60 seconds)
- Mean value measurement (15 measurements)

### Accessories

- Calibration liquid

! Also available with calibration certificate, see page 108!

#### STANDARD

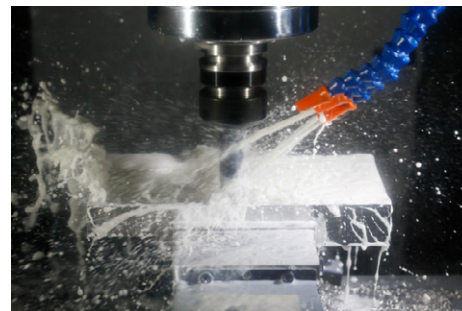


## Scope of application: Basic measurements for Brix and refractive index

The following models are particularly suitable for basic measurement where the result is required in Brix or refractive index. They are used to determine the sugar content in food or for monitoring processes in the industry (coolant monitoring, water-based mixtures). Alternatively the display can be switched to show Brix or the refractive index.

The main scope of applications is:

- Industry: Monitoring of lubricants in machines and quality control
- Food industry: Beverages, fruits and sweets
- Agriculture: Determination of the degree of ripeness of fruit for quality control in harvesting
- Restaurants and large-scale catering establishment



Model	Scales	Measuring range	Accuracy	Division	Price excl. of VAT ex works €
<b>KERN</b>					
<b>ORM 50BM</b>	Brix	0 – 50 %	± 0,2 %	0,1 %	<b>370,-</b>
	Refractive index	1,3330 – 1,4200 nD	± 0,0003 nD	0,0001 nD	
<b>ORM 1RS</b>	Brix	0 – 90 %	± 0,2 %	0,1 %	<b>470,-</b>
	Refractive index	1,3330 – 1,5177 nD	± 0,0003 nD	0,0001 nD	

## Scope of application: Sugar

The following models are particularly suitable for direct measurement of different types of sugar. These are used to determine the content of the respective type of sugar in water-based liquids. It is possible to switch between the four different scales.

The main scope of applications is:

- Food industry: Beverages, fruits and sweets
- Agriculture: Determination of the degree of ripeness of fruit for quality control in harvesting
- Restaurants and large-scale catering establishment



Model	Scales	Measuring range	Accuracy	Division	Price excl. of VAT ex works €
<b>KERN</b>					
<b>ORM 1SU</b>	Fructose	0 – 69 %	± 0,2 %	0,1 %	<b>470,-</b>
	Glucose	0 – 60 %	± 0,2 %	0,1 %	
	Brix	0 – 90 %	± 0,2 %	0,1 %	
	Refractive index	1,3330 – 1,5177 nD	± 0,0003 nD	0,0001 nD	
<b>ORM 2SU</b>	Lactose	0 – 17 %	± 0,2 %	0,1 %	<b>370,-</b>
	Maltose	0 – 16 %	± 0,2 %	0,1 %	
	Dextran	0 – 11 %	± 0,2 %	0,1 %	
	Brix	0 – 50 %	± 0,2 %	0,1 %	

## Scope of application: Honey

The following model is particularly suitable for the measurement of the water content in honey according to the International Honey Commission (IHC2002) and “degrees Baumé” to determine the relative density of liquids. Alternatively the display can be switched to show Brix or the refractive index.

The main scope of applications is:

- Beekeeping
- Honey production



Model	Scales	Measuring range	Accuracy	Division	Price excl. of VAT ex works €
<b>KERN</b>					
<b>ORM 1HO</b>	Brix	5 – 38 %	± 0,2 %	0,1 %	<b>470,-</b>
	Baumé	33 – 48 °Bé	± 0,2 °Bé	0,1 °Bé	
	Water content	0 – 90 %	± 0,2 %	0,1 %	
	Refractive index	1,3330 – 1,5177 nD	± 0,0003 nD	0,0001 nD	

## Scope of application: Salt

The following models are particularly suitable to determine the concentration of NaCl (salt) in water and seawater. This is often used for the preparation and for the cooking of sauces, bases for pastries, the production of brines (e.g. for white cheese) and the preparation of seafood and marinades for meat. Alternatively the display can be switched to show Brix or the refractive index.

The main scope of applications is:

- Food industry
- Restaurants, and large-scale catering establishment, canteens
- Fisch farm



Model	Scales	Measuring range	Accuracy	Division	Price excl. of VAT ex works €
<b>KERN</b>					
<b>ORM 1NA</b>	Salt content (NaCl) %	0 – 28 %	± 0,2 %	0,1 %	<b>370,-</b>
	Salt content (NaCl) ‰	0 – 280 ‰	± 2 ‰	1 ‰	
	Salt content (specific gravity)	1,000 – 1,220	± 0,002	0,001	
	Brix	0 – 50 %	± 0,2 %	0,1 %	
<b>ORM 1SW</b>	Refractive index	1,3330 – 1,4200 nD	± 0,0003 nD	0,0001 nD	<b>370,-</b>
	Salt content seawater	0 – 100 ‰	± 2 ‰	1 ‰	
	Chlorine content seawater	0 – 57 ‰	± 2 ‰	1 ‰	
	Salt content (specific gravity)	1,000 – 1,070	± 0,002	0,001	
	Brix	0 – 50 %	± 0,2 %	0,1 %	
	Refractive index	1,3330 – 1,4200 nD	± 0,0003 nD	0,0001 nD	

## Scope of application: Beer/alcohol

The following models are particularly suitable for determining the sugar content of the original wort of beer in its unfermented state. The value can be read straightaway, without having to be converted, using the Original gravity (specific weight) and Degrees Plato scales. In addition, the percent by volume and percent by mass scales can be used to determine the alcohol content of clear spirits.

The main scope of applications is:

- Beer brewers
- Alcohol production



Model	Scales	Measuring range	Accuracy	Division	Price excl. of VAT ex works €
<b>KERN</b>					
<b>ORM 1AL</b>	Percentage by mass	0 – 72 %	± 1 %	1 %	<b>370,-</b>
	Percentage by volume	0 – 80 %	± 1 %	1 %	
	Brix	0 – 50 %	± 0,2 %	0,1 %	
	Refractive index	1,3330 – 1,4200 nD	± 0,0003 nD	0,0001 nD	
<b>ORM 1BR</b>	Plato	0 – 31 °P	± 0,3 °P	0,1 °P	<b>370,-</b>
	Original gravity (specific weight)	1,000 – 1,130	± 0,002	0,001	
	Brix	0 – 50 %	± 0,2 %	0,1 %	
	Refractive index	1,3330 – 1,4200 nD	± 0,0003 nD	0,0001 nD	

## Scope of application: Wine

The following models are particularly suitable for the measurement of the sugar content in fruit. It indicates the expected °Alcohol of the fruit. The degree of ripeness of fruit (fruit-sugar) can also be determined, such as e.g. grapes. Alternatively the display can be switched to show Brix.

The main scope of applications is:

- Agriculture: Wine-growing (viticulture) and fruit-growing
- Wine-production
- Must and alcohol production



°Oe = Degree Oechsle, °KMW = Klosterneuburger Most Waage

Model	Scales	Measuring range	Accuracy	Division	Price excl. of VAT ex works €
<b>KERN</b>					
<b>ORM 1WN</b>	Oechsle	0 – 150 °Oe	± 2 °Oe	1 °Oe	<b>370,-</b>
	Percentage by volume	0 – 22 %	± 0,2 %	0,1 %	
	KMW (Babo)	0 – 25 °KMW	± 0,2 °KMW	0,1 °KMW	
	Brix	0 – 50 %	± 0,2 %	0,1 %	
<b>ORM 2WN</b>	Oechsle France	0 – 230 °Oe	± 2 °Oe	1 °Oe	<b>370,-</b>
	Percentage by volume	0 – 22 %	± 0,2 %	0,1 %	
	KMW (Babo)	0 – 25 °KMW	± 0,2 °KMW	0,1 °KMW	
	Brix	0 – 50 %	± 0,2 %	0,1 %	



## Scope of application: Coffee

The following models are particularly suitable for measuring the dissolved solids (TDS) in coffee to determine or compare the strength of a cup of coffee. For roasting plants, the TDS% value is used to determine the solubility level of a roast and to control the quality. Alternatively the display can be switched to show Brix or the refractive index.



The main scope of applications is:

- Coffee industry
- Coffee roasting plants
- Coffee competitions



Modell	Scales	Measuring range	Accuracy	Division	Price excl. of VAT ex works €
<b>KERN</b>					
<b>ORM 1CO</b>	Coffee TDS 1	0 – 25 %	± 0,2 %	0,1 %	<b>370,-</b>
	Brix	0 – 50 %	± 0,2 %	0,1 %	
	Refractive index	1,3330 – 1,4200 nD	± 0,0003 nD	0,0001 nD	
<b>ORM 2CO</b>	Coffee TDS 2	0,00 – 25,00 %	± 0,2 %	0,01 %	<b>370,-</b>
	Brix	0,00 – 30,00 %	± 0,2 %	0,01 %	
	Refractive index	1,3330 – 1,4200 nD	± 0,0003 nD	0,0001 nD	

## 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	Accuracy	Division	Price excl. of VAT ex works €
<b>KERN</b>					
<b>ORM 1UN</b>	Urine (spec. gravity)	1,000 – 1,050	± 0,002	0,001	<b>370,-</b>
	Serum protein	0 – 12 g/100 ml	± 0,2 g/100 ml	0,1 g/100 ml	
	Brix	0 – 50 %	± 0,2 %	0,1 %	
	Refractive index	1,3330 – 1,4200 nD	± 0,0003 nD	0,0001 nD	
<b>ORM 2UN</b>	Urine (s. g. dog)	1,000 – 1,060	± 0,002	0,001	<b>370,-</b>
	Urine (s. g. cat)	1,000 – 1,060	± 0,002	0,001	
	Brix	0 – 50 %	± 0,2 %	0,1 %	
	Refractive index	1,3330 – 1,4200 nD	± 0,0003 nD	0,0001 nD	

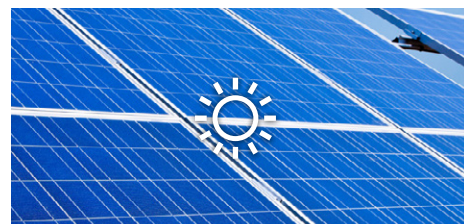


## Scope of application: Industry/Automotive

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 windscreen wash water (CW). Furthermore these models are suitable for the measurement of thermal exchange systems. Alternatively the display can be switched to show Brix or the refractive index.

The main scope of applications is:

- Automotive industry: Car-workshops and producers
- Chemical industry
- Solar industry: Antifreeze monitoring



Model	Scales	Measuring range	Accuracy	Division	Price excl. of VAT ex works €
<b>KERN</b>					
<b>ORM 1CA</b>	Wash water	(-60) - 0 °C	± 0,5 °C	0,1 °C	<b>370,-</b>
	AdBlue®	0 - 51 %	± 0,2 %	0,1 %	
	Battery fluid	1,000 - 1,500 kg/l	± 0,005 kg/l	0,001 kg/l	
	Brix	0 - 50 %	± 0,2 %	0,1 %	
	Refractive index	1,3330 - 1,4200 nD	± 0,0003 nD	0,0001 nD	
<b>ORM 2CA</b>	Ethylene glycol (%)	0 - 100 %	± 0,5 %	0,1 %	<b>470,-</b>
	Ethylene glycol (°C)	(-50) - 0 °C	± 0,5 °C	0,1 °C	
	Propylene glycol (%)	0 - 100 %	± 0,5 %	0,1 %	
	Propylene glycol (°C)	(-60) - 0 °C	± 0,5 °C	0,1 °C	
	Brix	0 - 90 %	± 0,2 %	0,1 %	





Transport and storage case



Rear view, screw-on battery compartment cover

## Digital refractive index measurement for laboratories and the industry for multi-application ► Laboratory refractometer

### Features

- The models in the KERN ORL range are accurate, universal and maintenance-free digital desktop refractometers
- Other key features are the extra-large measuring range and a high degree of accuracy
- With their handy design, they are ideal for convenient and rapid everyday use
- The large, easy-to-read multi-function display with integrated temperature display supports the user to reliably determine the measurement
- The integrated automatic temperature compensation (ATC), avoids the manual conversion of the measurement. This allows a quick and efficient usage of the instrument

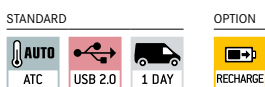
- Rapid, user-friendly calibration of the refractometer is possible at any time using standard commercial distilled water
- Mean value measurement (15 measurements)
- The following accessory-parts are included:
  - Pipette
  - Storage box
  - USB cable
  - Power adapter
  - Screwdriver

### Technical data

- Measurement temperature: 0 °C – 40 °C
- Overall dimensions W×D×H 180×100×55 mm
- Net weight approx. 365 g (without battery)
- Power supply: USB connection, as an alternative 1 × battery 3.7 V 3000 mA (not included with delivery)
- ATC (Automatic Temperature Compensation)
- Minimum sample volume: 0,3–0,4 ml
- Automatic energy management (AUTO-OFF after 3 Minutes)
- Mean value measurement (15 measurements)

### Accessories

- Rechargeable Battery 3,7 V 3000 mA, KERN ORL-A2007, € 65,-
- ORA-A1010 Calibration liquid



Model	Scales	Measuring range	Accuracy	Division	Price excl. of VAT ex works €
<b>KERN</b>					
<b>ORL 94BS</b>	Brix Refractive index	0 – 94 % 1,3330 – 1,5290 nD	± 0,1 % ± 0,0002 nD	0,1 % 0,0001 nD	<b>920,-</b>

! Also available with calibration certificate, see page 108!



## 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 SRM<sup>1</sup> of NIST<sup>2</sup> and PTB<sup>3</sup>
- This service is not possible for the following refractometer models:
  - ORA 6HA / 6HB
  - ORA 1RE
  - ORA 4RR
  - ORA 1GG / 2GG
- Calibration of products from other manufacturers is possible on request

<sup>1</sup>Standard reference material  
<sup>2</sup>National Institute of Standards and Technology  
<sup>3</sup>Physikalisch-Technische Bundesanstalt (German metrology institute)

Model	Description	Price excl. of VAT ex works €
KERN 961-290	Calibration certificate for refractometers on initial calibration	129,-
KERN 961-290R	Calibration certificate for refractometers on recalibration	129,-



14

# POLARIMETERS





## The ideal helper for getting started with the analysis of your optically active solutions in the laboratory

### Features

- The models of the serie KERN OAB-L are manual polarimeters which are characterised by its ergonomic design and easy handling
- The powerful 589 nm sodium vapour lamp is the optimum light source to produce a linear, polarised beam of light
- The 1° scale division including Nonius (0.05°) enables precise definition of the angle of rotation of the substance to be observed
- To hold liquid samples, two glass cuvettes (100 mm/200 mm) are included with the delivery
- Included with delivery:  
Sodium vapour lamp, 100 mm glass cuvette, 200 mm glass cuvette, replacement lenses and sealing rings for cuvettes

### Technical data

- Light source: Sodium vapour lamp (589 nm)
- Stabilisation time: 10 mins after switching on
- Total dimensions W×D×H  
430×140×310 mm
- Net weight approx. 3,5 kg

STANDARD



## Scope of application: Laboratory/Education

The reliable polarimeters in the OAB-L range have been designed for simple laboratory applications as well as practical training. You can evaluate liquid, optically-active samples with chiral characteristics with this device. Typical applications are determining kinetics in cane sugar inversion, determining mutarotation of glucose and investigation of starch hydrolysis. The optical rotation is measured in degrees.

The main scope of applications is:

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



Cuvette in measuring chamber

Model	Scales	Measuring range	Division	Vernier	Wave length	Price excl. of VAT ex works €
<b>KERN</b>						
<b>OAB 10LN*</b>	Optical rotation	± 180°	1°	0,05°	589 nm	<b>920,-</b>

**I** \*ONLY WHILE STOCKS LAST

## Accessory parts: OAB

Model	Description	Price excl. of VAT ex works €
<b>KERN</b>		
<b>OAB-A2501</b>	Glass cuvette, Length: 100 mm (Spare part)	<b>110,-</b>
<b>OAB-A2502</b>	Glass cuvette, Length: 200 mm (Spare part)	<b>110,-</b>
<b>OAB-A2581*</b>	Sodium vapour lamp, Wave length: 589 mm (Spare part)	<b>120,-</b>

\*For model OAB 10LN only



Cuvette 10 and 20 cm

# 180 YEARS

since 1844

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## KERN & SOHN



## THE STORY CONTINUES

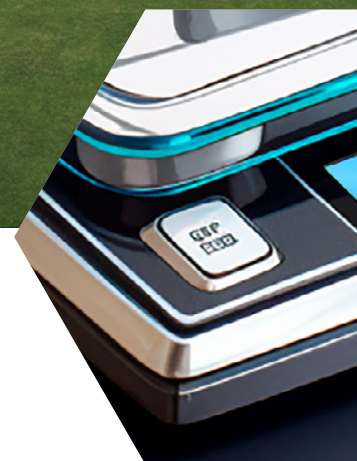
Even after 180 or 250 years, time doesn't stand still for the company's story – and even today, KERN is already setting its course for tomorrow. A glimpse into the future:

### **The range continues to grow**

As we have done in recent years we will continue to expand our range of products and services thanks to our knowledgeable colleagues. Our workforce has already more than doubled. In addition to our headquarters in Balingen, we will be opening a second site in Southern Germany with a high-bay warehouse. International customers will also be supported by several European branches.

### **Even more accurate, more compact and more flexible**

Thanks to technological advances, our balances and measuring devices achieve ever higher resolution and measuring accuracy. Many of them have also become more compact and can be used in a flexible way in different environments. Networking has long since become reality and is an essential feature for the future. Measuring and weighing systems communicate with each other and exchange data in real time with other systems, such as ERP systems. In this way they make a contribution to controlling processes automatically and highly efficiently, as well as being able to detect errors long before the costs explode. At the same time, staff shortages do not pose a problem either.







### Software is the key to success

Our software division has become an important driver in terms of company development and will also be expanded in the future. Measuring and weighing software which has been tailored to particular industries will simplify and speed up measuring processes. It also supports our customers by analysing data automatically, detecting patterns and identifying anomalies. This enables our customers to make accurate predictions and thus improve their decision-making processes.

### Is this all still just a dream? No.

The developments outlined here are already coming through. Our plans for a new company site have gone way beyond a mere vision. This also applies to technological development. Come and be amazed by KERN.

**Our story started over 180 years ago and it continues to move forward. Go back to page 4 to find out more about our history and read more about today's generation of KERN on page 60.**



## STRAIGHT TO THE TARGET!

Get straight to the right product. Use our new topic area search. Here you will quickly find products which suit your particular area of expertise...

The screenshot shows the kern-sohn.com website interface. At the top, there is a search bar with the text "Search term" and a magnifying glass icon. To the right of the search bar are icons for a user profile and a shopping cart with "0" items, and the text "EN". Below the search bar is a navigation menu with the following items: PRODUCTS, SERVICE, TECHNICAL SERVICE, DOWNLOADS, KERN INTERNAL, PAYMENTS | DISPATCH, and SPECIAL OFFERS. A dropdown menu is open under "PRODUCTS", listing various categories: Optical instruments, Compound microscopes, Fluorescence Microscopes, Inverted Microscopes (highlighted with a hand cursor), Metallurgical microscopes, Polarising microscopes, Stereomicroscopes, Stereomicroscope sets, Stereomicroscope accessories, Digital microscope sets, Video microscopes, External illumination, and Microscope cameras. Below the navigation menu, there is a main content area with the heading "Microscope or refractometer you need?". This area contains two checklist cards: "Checklist for 'My ideal microscope'" and "Checklist for 'My ideal refractometer'". Below the checklist cards, there is a grid of six product categories, each with an image of a microscope and a caption: COMPOUND MICROSCOPES, FLUORESCENCE MICROSCOPES, INVERTED MICROSCOPES, METALLURGICAL MICROSCOPES, POLARISING MICROSCOPES, and STEREO MICROSCOPES.



## Retailer Information

### SALES CONDITIONS

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All prices are valid as of January 1st 2024, Subject to change without notice. Current prices at [www.kern-sohn.com](http://www.kern-sohn.com). In Europe, all prices do not include the applicable V.A.T.

### Delivery Conditions

We supply ex works Balingen, e.g. the transport costs are invoiced. With our contract logistics partners we always offer you shipping at a good rate. When shipping to islands or other more distant areas, or areas which are difficult to access, the transport costs may possibly be higher, please ask for details. Any goods supplied remain KERN's property until complete payment for the goods sold has been received.



Delivery is usually via courier service.



When you see this symbol by truck, please ask for prices.n.

### Extract from general terms and conditions

#### Court of jurisdiction/Legal domicile:

72336 Balingen, Germany;  
Commercial register N°: HRB 400865, AG Stuttgart;  
Managing director: Albert Sauter  
For the full Terms and Conditions, please refer to the website.

<https://www.kern-sohn.com/shop/en/IMPRESSUM/AGB2/>

All dimensions are approximate. Technical changes in the course of further development, printing faults, price changes and product changes are likely in individual cases, due to product modifications as well as error.

### Sale or return

within 14 days of purchase. Not valid for order-specific adaptations such as special productions, cable extensions, special weights, etc. or test services such as calibration, verification, etc.  
Depending on the time and effort involved, there may be processing and storage costs, please ask for details.

### Warranty

→ 3 years for products with list price  $\geq$  € 500.00  
→ 2 years for components as well as products with list price  $<$  € 500.00

Does not apply to consumables such as batteries, rechargeable battery packs, etc.

### SERVICE

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#### KERN DirectCash

The quick, secure COD procedure for protection against non-payment. With the KERN DirectCash COD system, you can safely deliver orders to end customers with unknown credit rating, with no risk of non-payment. Please request further details on this procedure.

#### Hire Purchase

Financing is available using KERN hire purchase – easy and convenient. Hire Purchase gives you the option of purchasing any product from our range against a simple monthly installment. The product value is financed over the period of the agreement. On payment of the last installment, the ownership of the contract item automatically transfers from the contractor to the contractee. The Hire Purchase Agreement can – if you so choose – be set for a period of between one and five years. This package includes the transfer of items as well as the guarantee for the entire transfer period.

Compared with buying the product, KERN hire purchase offers the advantage that the initial financial investment is largely unnecessary. This is particularly relevant when purchasing a number of products, for example when refitting a laboratory, a company department or a hospital ward. In addition the monthly installments constitute a direct cost and the item does not have to be capitalised by the purchaser.

### AFTER-SALES-SERVICE

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#### Repair service

Within 1 week at our plant in Balingen, transportation costs are additional. In urgent cases, if requested by customer, a replacement device will be provided until all repairs are completed; please ask.

#### Price reduction for a new device

If repair costs exceed the current value of the defective device, a new device will be offered for a discount price. This offer is valid only up to 2 years after warranty expiration.

#### Spare parts service

Usually within 48 hours, transportation costs are additional.

### MARKETING SUPPORT

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#### KERN catalogues, brochures, branch prospectuses – your own personalised marketing tools

This catalogue and branch prospectuses are available free of charge. A neutral version of the catalogue, without the KERN address imprint, is also available free of charge for your marketing activities, larger quantities on request.

On demand, your company logo and address can be printed on the back of the KERN catalogue free of charge, larger quantities on request. In this way you have got your own individual marketing tool. The KERN catalogue and branch prospectuses are available in the following languages: DE, EN, FR, IT, ES.

### IMPORTANT NOTICE

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#### Explosion hazard / Humidity

Our models are not suitable for rooms with a risk of explosion. Our models are also not suitable for rooms with a high level of air humidity (condensing). Please observe the applicable electrical regulations.

### FACTORY CALIBRATION CERTIFICATE

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Upon request, you will receive a factory calibration certificate for your KERN refractometers according to NIST (National Institute of Standards and Technology) and PTB (Physikalisch-Technische Bundesanstalt), which documents the metrological correctness of your refractometer in detail and is valid as a test equipment monitoring certificate in a quality management system according to ISO 9001.

### ACCESSORIES

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Further extensive accessories for all our models can also be found in the KERN online shop [www.kern-sohn.com](http://www.kern-sohn.com)

**KERN & SOHN GmbH**

Balances, Test Weights, Microscopes,  
DAkkS Calibration Laboratory  
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www.kern-sohn.com

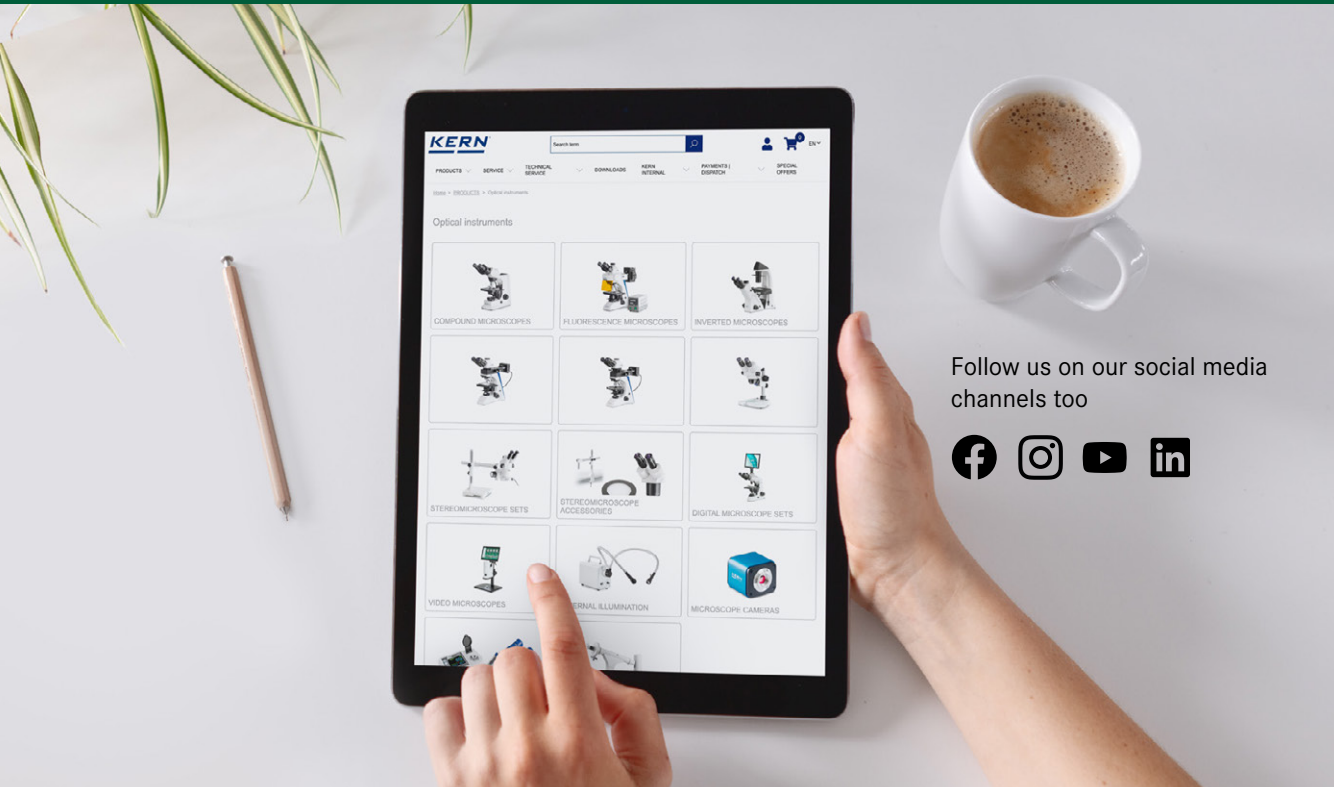
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