



OZL 445

### 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.
- Depending on the model, the zoom objective gives you either continuous magnification of 10× – 40× (OZL 441) or continuous magnification of 7,5× – 36× (OZL 445).
- The OZL-44 series is available as a binocular or trinocular 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.
- 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 charts.

#### 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 OZL 441: 4:1
- Light distribution 50:50
- Magnification ratio OZL 445: 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					
	Tube	Eyepiece	Field of view mm	Objective Zoom	Stand	Illumination
<b>KERN</b>						
<b>OZL 441 *</b>	Trinocular	WF 10×/ø 22 mm	ø 23 – 5,5	1× – 4×	Pillar style	1 W LED (incident); 0,35 W LED (transmitted)
<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)

**!** \* ONLY WHILE STOCKS LAST

OZL 441		Specifications - Objectives				
Eyepiece	Magnification	Standard 1,0×	Auxiliary objectives			
			0,5×	0,75×	1,5×	2,0×
WF 5×	Total magnification	5× - 20×	2,5× - 10×	3,75× - 15×	7,5× - 30×	10× - 40×
	Field of view mm	∅ 20 - 5	∅ 40 - 11	∅ 25 - 6,5	∅ 13 - 3,5	∅ 10 - 2,5
WF 10×	Total magnification	10× - 40×	5× - 20×	7,5× - 30×	15× - 60×	20× - 80×
	Field of view mm	∅ 23 - 5,5	∅ 52 - 12	∅ 30 - 7	∅ 15 - 4,8	∅ 11,5 - 3
WF 15×	Total magnification	15× - 60×	7,5× - 30×	11,25× - 45×	22,5× - 90×	30× - 120×
	Field of view mm	∅ 15,5 - 4	∅ 36 - 8,5	∅ 21 - 5	∅ 10,5 - 2,5	∅ 8 - 2
WF 20×	Total magnification	20× - 80×	10× - 40×	15× - 60×	30× - 120×	40× - 160×
	Field of view mm	∅ 10,5 - 3	∅ 25 - 5,8	∅ 14 - 3,5	∅ 7 - 1,8	∅ 5,5 - 1,5
Working distance		91 mm	170 mm	100 mm	42 mm	28 mm

OZL 445		Specifications - Objectives				
Eyepiece	Magnification	Standard 1,0×	Auxiliary objectives			
			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
Working distance		86 mm	178 mm	96 mm	42,5 mm	25,5 mm

Model outfit		Model KERN		Order number	
		OZL 441	OZL 445		
Eyepieces (30,5 mm)	WF 5×/∅ 16,2 mm	○ ○	○ ○	OZB-A4101	
	WF 10×/∅ 22 mm	✓ ✓		OZB-A4102	
	WF 10×/∅ 20 mm		✓ ✓	OZB-A4106	
	WF 15×/∅ 15 mm	○ ○	○ ○	OZB-A4103	
	WF 20×/∅ 10 mm	○ ○	○ ○	OZB-A4104	
Auxiliary objectives	0,5×	○	○	OZB-A4201	
	0,75×	○	○	OZB-A4202	
	1,5×	○	○	OZB-A4204	
	2,0×	○	○	OZB-A4205	
	Soldering protection lens	○	○	OZB-A4251	
C-Mount	1× (focus adjustable)	○		OZB-A4809	
	0,3× (focus adjustable)	○		OZB-A4810	
	0,5× (focus adjustable)	○		OZB-A4811	
Stand	Pillar style, with LED illumination (0,35 W transmitted + 1 W incident)	✓	✓		
	Stage plate				
Stage plate	Frosted glass/∅ 95 mm	✓	✓	OZB-A4805	
	Black-white/∅ 95 mm	✓	✓	OZB-A4806	
External illumination	Please find the information about external illumination units in the catalogue from page 87 and on our website <a href="http://www.kern-sohn.com">www.kern-sohn.com</a>				

✓ = Included with delivery

○ = Option

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

## Abbreviations

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

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