KERN OZM-5 Stereo Zoom Microscope Instruction Manual

Contents

KERN OZM-5 Stereo Zoom Microscope

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-dimesnional impression, zoom with variable magnification (depth, thickness), e.g. insects, seeds, circuit boards, components

Technical data

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

STANDARD

Model **KERN**	Standard configuration						
	Tube	Eyepiece	Field of view mm	Objective Zoom	Stand	Illumination	
OZM 542	Binocular	HSWF 10×/ ∅ 23 mm	∅ 32,8 – 5,1	0,7× – 4,5×	Pillar style	3 W LED (incident); 3 W LED (transmitted)	
OZM 544	Trinocular	HSWF 10×/ ∅ 23 mm	∅ 32,8 – 5,1	0,7× – 4,5×	Pillar style	3 W LED (incident); 3 W LED (transmitted)	

Stereo zoom microscope KERN OZM-5

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

Model outfit		**Model KERN**		**Order number**	
		OZM 542	**OZM 544**		
Eyepieces (30,0 mm)	HSWF 10×/∅ 23 mm			OZB-A5503	
	SWF 15×/∅ 17 mm			OZB-A5504	
	SWF 20×/∅ 14 mm			OZB-A5505	
	SWF 30×/∅ 9 mm			OZB-A5506	
	HSWF 10×/∅ 23 mm (reticule 0,1 mm)			OZB-A5512	
	SWF 15×/∅ 17 mm (reticule 0,05 mm)			OZB-A5513	
	SWF 20×/∅ 14 mm (reticule 0,05 mm)			OZB-A5514	

Achromatic auxiliary objectives	0,5×			OZB-A5612	
	0,7×			OZB-A5613	
	1,5×			OZB-A5615	
	2,0×			OZB-A5616	
	Soldering protection lens			OZB-A5614	
C-Mount	0,3× (focus adjustable)			OZB-A5701	
	0,5× (focus adjustable)			OZB-A5702	
	1,0× (focus adjustable)			OZB-A5703	
	1,0× (with micrometer) only in combination with OZB-A5703			OZB-A5704	
	for SLR cameras (Nikon)			OZB-A5706	
	for SLR cameras (Olympus)			OZB-A5707	
	for SLR cameras (Canon)			OZB-A5708	
Darkfield unit	Darkfield unit			OZB-A4601	
Object clamp	Object clamp			OBB-A6205	
Stand	Pillar style, without illumination				
	Pillar style, with 3 W LED illumination (transmitted + incident)				
	Please find more stands in the catalogue on page 79 and on the internet				
Stage plate	Frosted glass/∅ 94,5 mm			OZB-A5192	
	Black-white/∅ 94,5 mm			OZB-A5191	
	Clear glass/∅ 94,5 mm			OZB-A5190	
Mechanical stage (Pre-ass	Stage size W×D 188×160 mm, Travel 76×65 mm, for transmitted and incident illumination			OZB-A5781	

embling on re quest)	Stage size W×D 180×175 mm, Travel 100 ×86 mm, for incident illumination only			OZB-A578 2	
External illu mination	Please find the information about external illumination units in the catalogue on page 83 and on the internet				

Pictograms

360° rotatable microscope head

Monocular Microscope
For the inspection with one eye

Binocular Microscope
For the inspection with both eyes

Trinocular Microscope
For the inspection with both eyes and the additional option for the connection of a camera

Abbe Condenser
With high numerical aperture for the concentration and the focusing of light

Halogen illumination
For pictures bright and rich in contrast

LED illumination
Cold, energy-saving and especially long-life illumination

Incident illumination
For non-transparent objects

Transmitting illumination
For transparent objects

Fluorescence illumination
For stereomicroscopes

Fluorescence illumination for compound microscopes
With 100 W mercury lamp and filter

Fluorescence illumination
for compound microscopes With 3 W LED illumination and filter

Phase contrast unit
For a higher contrast

Darkfield condenser/unit
For a higher contrast due to indirect illumination

Polarising unit
To polarise the light

Infinity system
Infinity corrected optical system

Zoom magnification
For stereomicroscopes

Auto-focus
For automatic control of the focus level

Parallel optical system
For stereomicroscopes, enables fatigue-proof working

Integrated scale
In the eyepiece

SD card
For data storage

USB 2.0 digital camera
For direct transmitting of the picture to a PC

USB 3.0 digital camera
For direct transmitting of the picture to a PC

WLAN data interface
For transmitting of the picture to a mobile display device

HDMI digital camera
For direct transmitting of the picture to a display device

PC software
To transfer the measurements from the device to a PC

Automatic temperature compesation
For measurements between 10 °C and 30 °C

Protection against dust and water splashes IPxx: The type of protection is shown in the pictogram cf. DIN EN 60529:2000-09,
IEC 60529:1989+A1:1999+A2:2013

Battery operation
Ready for battery operation. The battery type is specified for each device.

Battery operation rechargeable
Prepared for a rechargeable battery operation

Plug-in power supply
230V/50Hz in standard version for EU.
On request GB, AUS or USA version.

Integrated power supply unit
Integrated in microscope. 230V/50Hz standard EU. More standards e.g. GB, AUS or USA on request.

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

Abbreviations

C-Mount: Adapter for the connection of a camera to a trinocular microscope
FPS: Frames per second
H(S)WF: High (Super) Wide Field (Eyepiece with high eye point for wearers of glasses)

LWD: Long Working Distance
N.A.: Numerical Aperture
SLR: Single-Lens Reflex camera
camera
SWF: Super Wide Field (Field number at least ∅ 23 mm for 10× eyepiece)
W.D: Working Distance
WF: Wide Field (Field number up to ∅ 22 mm for 10× eyepiece)

Your KERN specialist dealer

Documents / Resources

	**KERN OZM-5 Stereo Zoom Microscope** [pdf] Instruction Manual OZM-5 Stereo Zoom Microscope, OZM-5, Stereo Zoom Microscope, Zoom Microscope, Microscope