



#### LAB LINE

# The high-contrast and flexible stereo zoom microscope for professional applications which require high levels of magnification

#### **Features**

- The KERN OZO series will stand out through its large magnification range in higher magnifications as well as its sturdy construction and the fact that it is easy to use.
- · The ergonomic shape allows a simple, effortless working over a period of several
- The KERN OZO series is available as a strong, continuously adjustable 3 W LED reflected and transmitted light variant for the very best illumination of your sample or as a variant without illumination.
- · With its large working distance, an extra large field of view and brilliant resolution, the KERN OZO provides sharp, high-contrast and colour-true images.
- · The large, continuously adjustable magnification radius from 8 to 70 times magnification means that you can work quickly and efficiently.
- · There is a choice of two binocular models as well as two trinocular models 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
- · Please find detailed information in the following charts.

## Scope of application

 Zoology and botany, 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: 35° inclined
- · Magnification ratio: 8,8:1
- Light distribution OZO 553/554: 50:50
- Interpupillary distance 52 76 mm
- · Diopter adjustment: Both-sided
- Overall dimensions W×D×H 330×285×470 mm
- · Net weight approx. 4,5 kg





































| Model   | Standard configuration |                  |               |           |              |   |   |
|---------|------------------------|------------------|---------------|-----------|--------------|---|---|
|         | Tube                   | Eyepiece         | Field of view | Objective | Stand        | Illumination                              |   |
| KERN    |                        |                  | mm            | Zoom      |              |   |   |
| OZO 551 | Binocular              | HSWF 10×/Ø 23 mm | Ø 28,75 – 3,3 | 0,8×-7×   | Pillar style | -   | • |
| OZO 552 | Binocular              | HSWF 10×/Ø 23 mm | Ø 28,75 – 3,3 | 0,8×-7×   | Pillar style | 3 W LED (incident); 3 W LED (transmitted) | • |
| OZO 553 | Trinocular             | HSWF 10×/Ø 23 mm | Ø 28,75 – 3,3 | 0,8×-7×   | Pillar style | -   | • |
| OZO 554 | Trinocular             | HSWF 10×/Ø 23 mm | Ø 28,75 – 3,3 | 0,8×-7×   | Pillar style | 3 W LED (incident); 3 W LED (transmitted) | • |

III ONLY WHILE STOCKS LAST



| Eyepiece         | Specifications - Objectives |               |                      |              |              |              |               |  |  |  |  |
|------------------|-----------------------------|---------------|----------------------|--------------|--------------|--------------|---------------|--|--|--|--|
|                  | Magnification               | Standard      | Auxiliary objectives |              |              |              |               |  |  |  |  |
|                  |                             | 1,0×          | 0,37×                | 0,5×         | 0,7×         | 1,5×         | 2×            |  |  |  |  |
| HCWE 10v         | Total magnification         | 8×-70×        | 2,96× - 25,9×        | 4×-35×       | 5,6×-49×     | 12× - 105×   | 16× - 140×    |  |  |  |  |
| HSWF 10×         | Field of view mm            | Ø 28,75 – 3,3 | Ø 74,3 - 8,5         | Ø 57,5 – 6,6 | Ø 41,1 - 4,7 | Ø 19,2 – 2,2 | Ø 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            | Ø 21,25 – 2,4 | Ø 57,4 - 6,6         | Ø 42,5 - 4,9 | Ø 30,4 - 3,5 | Ø 14,2 – 1,6 | Ø 10,6 - 1,2  |  |  |  |  |
| 014/5 00         | Total magnification         | 16× - 140×    | 5,92×-51,8×          | 8×-70×       | 11,2×-98×    | 24× - 210×   | 32× - 280×    |  |  |  |  |
| SWF 20×          | Field of view mm            | ø 17,5 - 2    | Ø 47,3 - 5,4         | Ø 35 - 4     | Ø 25 – 2,9   | ø 11,7 - 1,3 | Ø 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            | Ø 11,25 - 1,3 | Ø 30,4 - 3,5         | Ø 22,5 – 2,6 | Ø 16,1 – 1,8 | Ø 7,5 – 0,9  | Ø 5,625 - 0,6 |  |  |  |  |
| Working distance |                             | 108 mm        | 275 mm               | 195 mm       | 145 mm       | 50 mm        | 35 mm         |  |  |  |  |

| Model outfit                                       |  | _          | Model      | KERN       | _          | Order number |  |  |  |
|--|--|------------|------------|------------|------------|--------------|--|--|--|
|  |  | OZO<br>551 | OZO<br>552 | OZO<br>553 | OZO<br>554 |              |  |  |  |
|  | HSWF 10×/Ø 23 mm   | 44         | 44         | 44         | 44         | OZB-A5503    |  |  |  |
| Eyepieces<br>(30,0 mm)                             | SWF 15×/Ø 17 mm  | 00         | 00         | 00         | 00         | OZB-A5504    |  |  |  |
|  | SWF 20×/Ø 14 mm  | 00         | 00         | 00         | 00         | OZB-A5505    |  |  |  |
|  | SWF 30×/ø 9 mm   | 00         | 00         | 00         | 00         | OZB-A5506    |  |  |  |
|  | HSWF 10×/ø 23 mm (reticule 0,1 mm)   | 0          | 0          | 0          | 0          | OZB-A5512    |  |  |  |
|  | SWF 15×/ø 17 mm (reticule 0,05 mm)   | 0          | 0          | 0          | 0          | OZB-A5513    |  |  |  |
|  | SWF 20×/Ø 14 mm (reticule 0,05 mm)   | 0          | 0          | 0          | 0          | OZB-A5514    |  |  |  |
|  | 0,37× only in combination with a universal stand   | 0          | 0          | 0          | 0          | OZB-A5611    |  |  |  |
|  | 0,5×   | 0          | 0          | 0          | 0          | OZB-A5612    |  |  |  |
| Achromatic   | 0,7×   | 0          | 0          | 0          | 0          | OZB-A5613    |  |  |  |
| auxiliary objectives                               | 1,5×   | 0          | 0          | 0          | 0          | OZB-A5615    |  |  |  |
|  | 2,0×   | 0          | 0          | 0          | 0          | OZB-A5616    |  |  |  |
|  | Soldering protection lens  | 0          | 0          | 0          | 0          | OZB-A5614    |  |  |  |
|  | 0,3× (focus adjustable)  |            |            | 0          | 0          | OZB-A5701    |  |  |  |
|  | 0,5× (focus adjustable)  |            |            | 0          | 0          | OZB-A5702    |  |  |  |
|  | 1,0× (focus adjustable)  |            |            | 0          | 0          | OZB-A5703    |  |  |  |
| C-Mount  | 1,0× (with micrometer) only in combination with OZB-A5703  |            |            | 0          | 0          | OZB-A5704    |  |  |  |
|  | for SLR cameras (Nikon)  |            |            | 0          | 0          | OZB-A5706    |  |  |  |
|  | for SLR cameras (Olympus)  |            |            | 0          | 0          | OZB-A5707    |  |  |  |
|  | for SLR cameras (Canon)  |            |            | 0          | 0          | OZB-A5708    |  |  |  |
| Darkfield unit                                     | Darkfield unit   | 0          | 0          | 0          | 0          | OZB-A4601    |  |  |  |
| Object clamp                                       | Object clamp   | 0          | 0          | 0          | 0          | OBB-A6205    |  |  |  |
|  | Pillar style, without illumination   | ✓          |            | ✓          |            |              |  |  |  |
| Stand  | Pillar style, with 3 W LED illumination (transmitted + incident)   |            | ~          |            | ✓          |              |  |  |  |
|  | Please find more stands in the catalogue on page 84 and on our website www.kern-sohn.com   |            |            |            |            |              |  |  |  |
|  | Frosted glass/Ø 94,5 mm  |            | ✓          |            | ✓          | OZB-A5192    |  |  |  |
| Stage plate  | Black-white/Ø 94,5 mm  | ✓          | ✓          | ✓          | ✓          | OZB-A5191    |  |  |  |
|  | Glass/Ø 94,5 mm  |            | 0          |            | 0          | OZB-A5190    |  |  |  |
| Mechanical stage<br>(Pre-assembling on<br>request) | Stage size W×D 188×160 mm, Travel 76×65 mm, for transmitted and incident illumination  | 0          | 0          | 0          | 0          | OZB-A5781    |  |  |  |
|  | Stage size W×D 180×175 mm, Travel 100×86 mm, for incident illumination only  | 0          | 0          | 0          | 0          | OZB-A5782    |  |  |  |
| External<br>illumination                           | Please find the information about external illumination units in the catalogue from page 87 and on our website www.kern-sohn.com |            |            |            |            |              |  |  |  |

KERN Optics Catalogue 2017

## **KERN Pictograms:**





360° rotatable microscope head



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



SD card For data storage



Monocular Microscope

For the inspection with one eye



Phase contrast unit For a higher contrast



PC software

To transfer the measurements from the device to a PC.



Binocular Microscope

For the inspection with both eyes



Darkfield condenser/unit

For a higher contrast due to indirect illumination



Automatic temperature compesation

For measurements between 10 °C and 30 °C



Trinocular Microscope

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



Polarising unit

To polarise the light



Protection against dust and water splashes IPxx

The type of protection is shown by the pictogram.



**Abbe Condenser** 

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



Infinity system

Infinity corrected optical system



**Battery operation** 

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



Halogen illumination

For pictures bright and rich in contrast



Zoom magnification

For stereomicroscopes



**Battery operation rechargable** 

Prepared for a rechargable battery operation



**LED** illumination

Cold, energy saving and especially long-life illumination



Parallel optical system

For stereomicroscopes, enables fatigue-proof working



Mains adapter

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



Incident illumination

SCALE

USB 2.0

Integrated scale In the eyepiece

-230 V Power supply

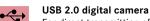
Integrated in balance. 230V/50Hz standard EU. More standards e.g. GB. AUS or USA on request.



Transmitting illumination

For non-transparent objects

For transparent objects



For direct transmitting of the picture to a PC



Package shipment

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



Fluorescence illumination

For stereomicroscopes



USB 3.0 digital camera

For direct transmitting of the picture to a PC



WF

Warranty

The warranty period is shown in the pictogram.



Fluorescence illumination for compound microscopes

With 100W mercury lamp and filter



**HDMI** digital camera

For direct transmitting of the picture to a display device

#### **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 Kamera Single-Lens Reflex camera

**SWF** Super Wide Field

(Field number at least Ø 23 mm

for 10× eyepiece)

Working Distance W.D.

Wide Field (Field number up to Ø 22 mm for 10× eyepiece)

# Your KERN specialist dealer: