

**OLYMPUS**<sup>®</sup>

Your Vision, Our Future

Zoom Stereomicroscope

**SZ61/SZ51**

For **B**iological Use



# Comfort at work: the key to consistent, accurate results

User comfort has always been an Olympus priority. Even so, the standards set by the new SZ61 and SZ51 are a revelation. The smoothly contoured finish, the newly designed "ComfortView" eyepiece, and the accessible, responsive controls make operation easier and less fatiguing than ever before.

The compact design owes much to the incorporation of the Greenough optical system, which delivers excellent flatness and ample depth of field as well as clarity, detail, accurate color and the least possible distortion. Dependable, high-performance optics are central to the achievement of consistent, accurate results in today's widening range of biological microscopy applications — as are ergonomic features which make even long-duration tasks easier and less demanding to perform.

Welcome to the comfort zone.





**SZ61**



**SZ61TR**



**SZ61-60**

## High-performance optics in a compact, comfortable design

Incorporating new improvements to the highly-regarded Greenough optical system, the SZ61 and SZ51 successfully meet the demand for a variety of observation and documentation options in a genuinely compact microscope design. Clear, sharp image reproduction is matched by new ergonomic design elements which maximize comfort and ease of use.

The SZ61 and SZ51 microscope bodies are manufactured using newly developed lead-free optics, demonstrating Olympus commitment to protect the environment.

### 6.7:1 — High zoom ratio

The SZ61's class-leading magnification range extends from 6.7x through 45x (using 10x eyepieces), with a zoom ratio of 6.7:1. This derives from a newly developed optical system and allows quick, comfortable observations at the most appropriate magnification. The SZ51 provides a magnification range from 8x through 40x (using 10x eyepieces), with a zoom ratio of 5:1.

### Outstanding depth of field and flatness

The 10-degree angle of convergence in the Greenough optical system secures excellent image flatness with large depth of field.

### High fidelity color reproduction

The careful selection of lens surface coatings and glass materials in the entire optical system makes it possible to observe and document specimen in their original, authentic colors.

### Sharp, clear, high-contrast images

High contrast images and field flatness ensure accurate reproduction and documentation of original specimen shapes.

### “ComfortView” eyepieces for greater comfort and faster work

Quick, comfortable observation and documentation are ensured by this completely new eyepiece design featuring Pupil Aberration Control and Appropriate Positioning in the eye point. The result is a field of view that is easy to find, comfortable to view, and easy to keep.



*The Greenough optical system has two zoom optical paths inclined at a 10° angle. This enables a compact microscope design with high performance.*



### Five variations in zoom performance

The SZ61 and SZ51 provide five system configuration choices. First, they can both be equipped with an ergonomically designed 45° inclination tube when mounted on standard stands. Second, operators can attach a 60° inclination tube (SZ61-60/SZ51-60) for special applications where the zoom body has to be tilted for use with other equipment or mounting on a universal stand. And for documentation purposes, Olympus also offers the SZ61TR, which incorporates a trinocular tube for easy attachment of digital and video cameras.

### Convenient front-access operation

Improved ease of access to the most frequently used knobs and controls maximizes operator comfort and reduces neck and back strain.



# The right accessory for every application

## Digital camera DP22

The DP22 stand-alone digital camera for microscopes allows easy observation, focusing, framing and saving while enabling smooth, live image display of high-definition images for highly professional presentations.

\*DP22 digital camera is not for clinical diagnostic use.

## Various universal stands

A variety of universal stands are available for the observation of large size specimens. No matter how big the samples are or how much they vary in size, Olympus has the right choice of stands to suit any requirements.



SZ61TR+DP22



SZ61+SZ2-STU2



SZ61+SZ2-STU3



**Wide choice of auxiliary objectives and eyepieces**

A wide choice of auxiliary objectives enables observation at the optimum working distance (W.D.) for a variety of applications. W.D. can be changed between 250 mm-350 mm (0.3x objective) and 180 mm-250 mm (0.4x objective). Eyepieces are available ranging from 10x to 30x to optimize system magnification.



Auxiliary Objectives



Eyepieces

## Choose the illumination source that suits the task at hand



### LED illuminator stand / SZ2-ILST

The world's first LED stand features a thin design to keep sample positions low and to optimize operability. Simultaneous transmitted and reflected light are available on this stand. LED light offers both long lifetime and constant color temperature at any intensity.



### Transmitted illumination attachment / SZ2-ILA

Used with the SZ2-ST stand, this cost-effective illumination stand provides bright, uniform illumination from low to high magnifications. Tilttable mirror provides direct and oblique illumination for low contrast specimen. Available 22 W and 100 W lamphouses provide necessary power for a variety of illumination needs.



### High-level transmitted light illumination base / SZX2-ILLB

Provides effective contrast from oblique illumination and easily selected "High" and "low" contrast settings. Light volume and color temperature are adjusted by means of built-in filters (LBD/ND).



### Slim LED transmitted light illumination base / SZX2-ILLT

With a slim design of 41 mm, this transmitted light illumination base has a lower height to enable a low eyepoint and easy access to base-mounted samples during observation and operation. The LED 4-position turret enables contrast adjustment between brightfield, oblique, and darkfield illumination with a simple turn.





**Flexible light guide / SZ2-LGSF**

A single fiber optic guide is fixed at the back of the objective so as not to disturb microscope operation.



**Interlock dual light guide / SZ2-LGDI**

Standard oblique semi-rigid fiber optic light guide. The light source position on the rear side of the stand saves desk space.



**Ring light guide / SZ2-LGR**

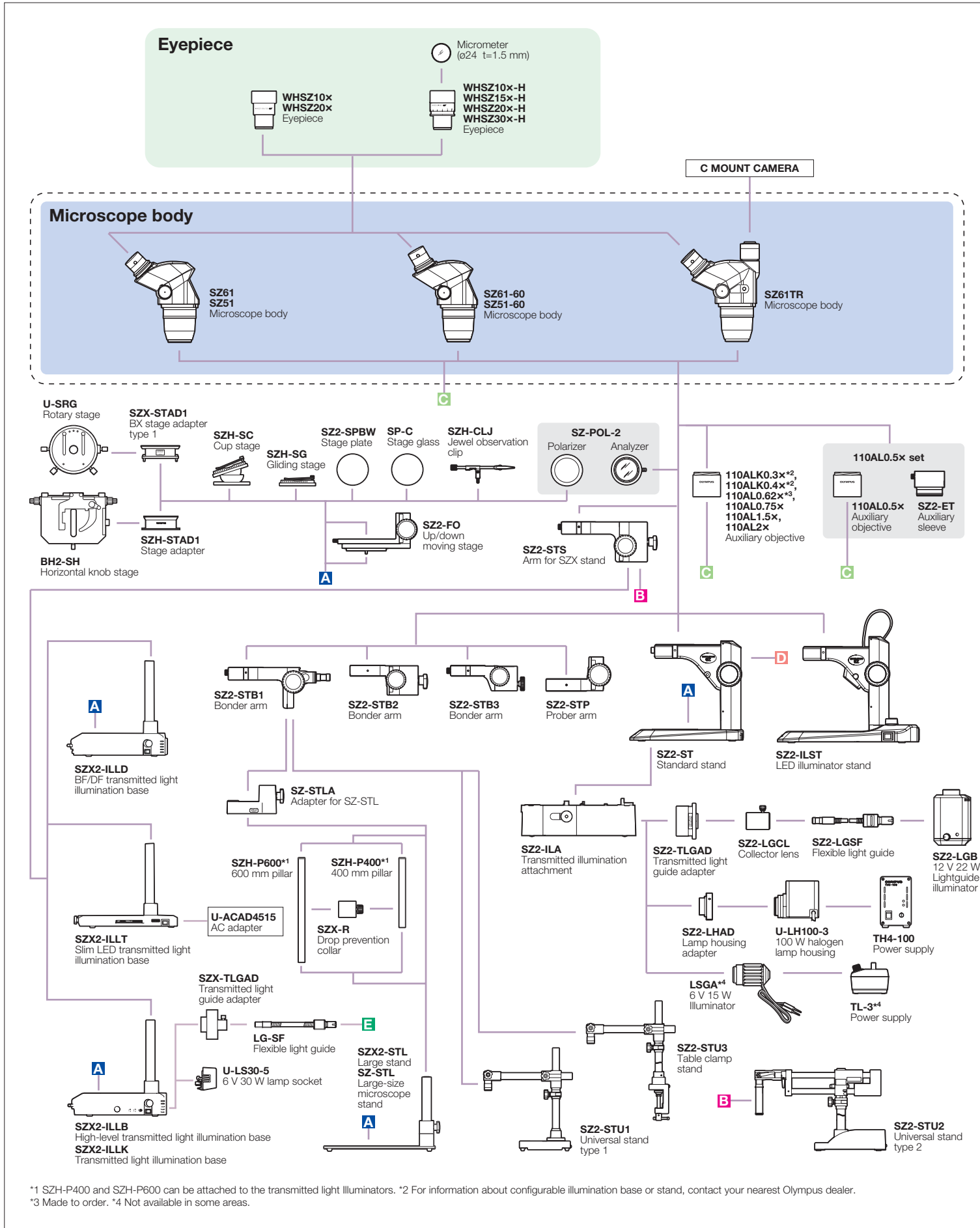
Used with LGB illumination system, this ring light guide provides bright and uniform images.



**Coaxial reflected light illuminator / SZ2-ILLC**

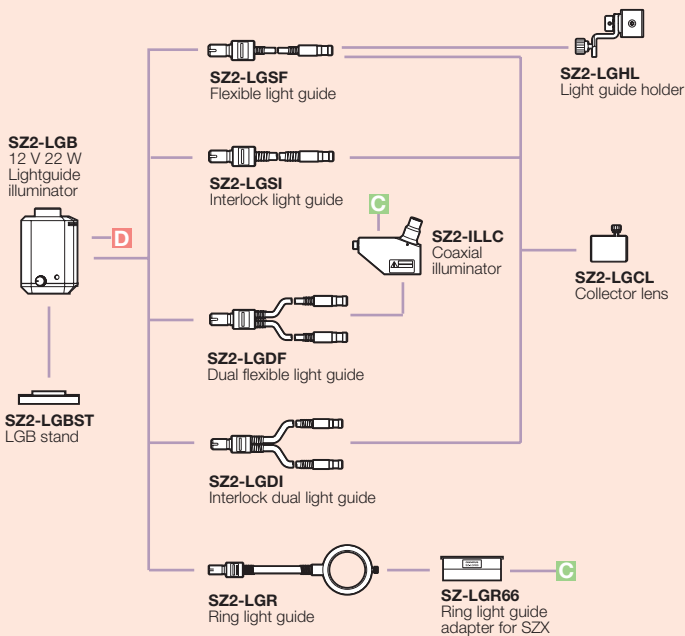
It combines a polarizer and a  $1/4\lambda$  plate, for easier viewing of specimens which are difficult to examine under oblique reflected light illumination.

■ SZ61/SZ51 system diagram

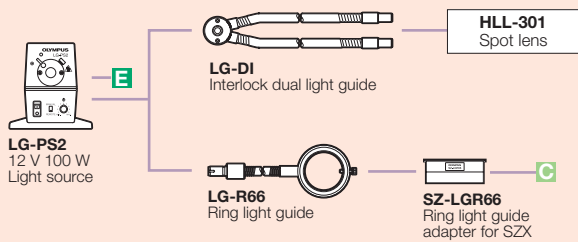


\*1 SZH-P400 and SZH-P600 can be attached to the transmitted light illuminators. \*2 For information about configurable illumination base or stand, contact your nearest Olympus dealer.  
\*3 Made to order. \*4 Not available in some areas.

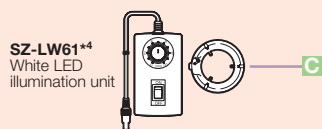
## Compact fiber optics system/SZ2-LGB



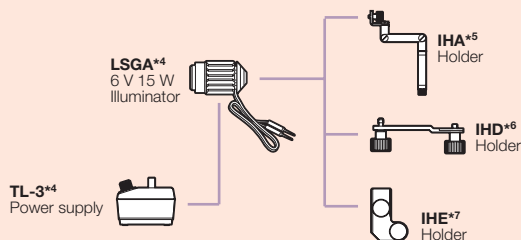
## High power fiber optics system/LG-PS2



## LED illumination



## Reflected illumination/LSGA



\*5 IHA is mountable to SZ2-ST, SZ2-STB1, SZ2-STB3, SZ2-ST5 and TL-3.

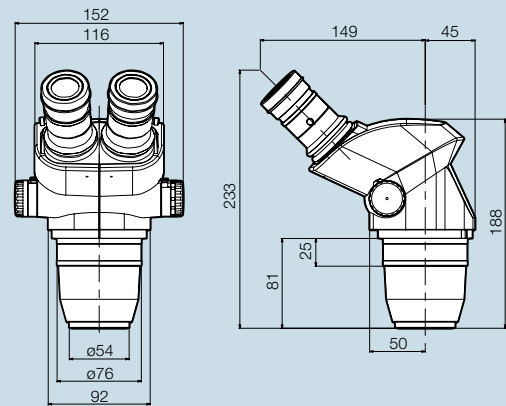
\*6 IHD is mountable to SZ2-STB1 and SZ2-ST5.

\*7 IHE is mountable to SZ2-ST.

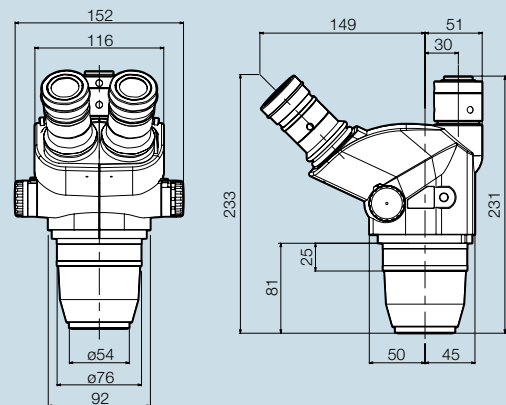
## SZ61/SZ51 dimensions

(Unit: mm)

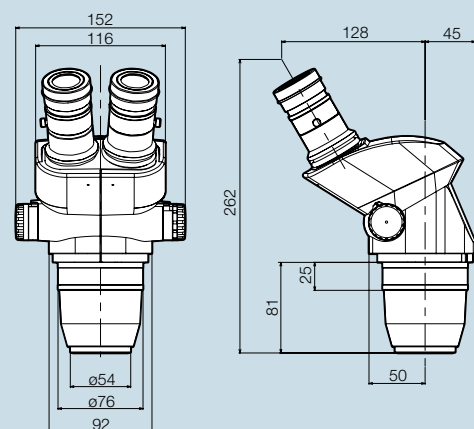
### SZ61 / SZ51



### SZ61TR



### SZ61-60 / SZ51-60



## ■ SZ61/SZ51 specifications

| Item                       |                                    | Specifications  |                |                         |  |                |  |         |  |
|----------------------------|------------------------------------|---|----------------|-------------------------|--|----------------|--|---------|--|
| <b>Microscope body</b>     |                                    | <b>SZ61</b>   | <b>SZ61-60</b> | <b>SZ61TR</b>           | <b>SZ51</b>  | <b>SZ51-60</b> |  |         |  |
| SZ61                       | Magnification                      | 0.67x to 4.5x   |                |                         | 0.8x to 4x   |                |  |         |  |
| SZ61-60                    | Zoom ratio                         | 6.7:1   |                |                         | 5:1  |                |  |         |  |
| SZ61TR                     | Working distance                   | 110 mm  |                |                         |  |                |  |         |  |
| SZ51                       | Tube inclination angle             | 45°   | 60°            | 45°                     |  | 60°            |  |         |  |
| SZ51-60                    | Interpupillary distance adjustment | Left/right interlocked<br>Adjustment range: 52 to 76 mm (using the WHSZ10X eyepieces)   |                |                         |  |                |  |         |  |
|                            | Video camera adaptability          | —   |                | C mount (0.5x built in) | —  |                |  |         |  |
|                            | Zoom adjustment knob               | Left/right single-shaft horizontal knob<br>Interpupillary distance high/low magnification stopper incorporated.                         |                |                         |  |                |  |         |  |
|                            | Optical components                 | Lead-free   |                |                         |  |                |  |         |  |
| <b>Auxiliary objective</b> |                                    | Mounting by screwing into the thread at the bottom of frame (M48 thread X0.75)  |                |                         |  |                |  |         |  |
| <b>Eyepiece</b>            |                                    | "ComfortView" WHSZ series<br>Lead-free  |                |                         |  |                |  |         |  |
| <b>Stand</b>               |                                    | <b>SZ2-ST</b>   |                |                         | <b>SZ2-ILST</b>  |                |  |         |  |
| SZ2-ST                     |                                    | Standard stand  |                |                         | LED reflected/transmitted illumination stand   |                |  |         |  |
| SZ2-ILST                   | Frame installation                 | Mounting diameter: 76 mm  |                |                         |  |                |  |         |  |
|                            | Focusing adjustment                | Focusing stroke: 120 mm   |                |                         |  |                |  |         |  |
|                            | Stage plate                        | SZ2-SPBW (Black & white for anti-ESD)<br>SP-C (Clear glass plate)   |                |                         | The dedicated glass plate in<br>100 mm dia. included   |                |  |         |  |
|                            | Light source                       | Fiber optic illumination system SZ2-LGB mountable (option)<br>Transmitted light illumination attachment<br>(SZ2-ILA) mountable (option) |                |                         | Transmitted illumination: LED<br>Reflected illumination: LED<br>Average LED life span: 6000 hrs.<br>Input rating: 100–120 V/200–240 V<br>~0.15/0.1 A, 50/60 Hz |                |  |         |  |
| <b>Weight</b>              |                                    | Zoom body only  |                | 1,300 g                 |  | 1,500 g        |  | 1,300 g |  |
|                            |                                    | Configuration 3   |                | 3,520 g                 |  | 3,720 g        |  | 3,520 g |  |

Configuration3: Zoom body + WHSZ10X-H(2) + SZ2-ST

## ■ SZ61/SZ51 optical performance

| Microscope body | Zoom magnification | WHSZ10X-H<br>WHSZ10X |                    | WHSZ15X-H           |                    | WHSZ20X-H<br>WHSZ20X |                    | WHSZ30X-H           |                    |
|-----------------|--------------------|----------------------|--------------------|---------------------|--------------------|----------------------|--------------------|---------------------|--------------------|
|                 |                    | FN 22                |                    | FN 16               |                    | FN 12.5              |                    | FN 7                |                    |
|                 |                    | Total magnification  | Field of view (mm) | Total magnification | Field of view (mm) | Total magnification  | Field of view (mm) | Total magnification | Field of view (mm) |
| SZ61            | 0.67x              | 6.7                  | 32.8               | 10.1                | 23.9               | 13.4                 | 18.7               | 20.1                | 10.4               |
|                 | 1x                 | 10                   | 22                 | 15                  | 16                 | 20                   | 12.5               | 30                  | 7.0                |
|                 | 2x                 | 20                   | 11                 | 30                  | 8                  | 40                   | 6.3                | 60                  | 3.5                |
|                 | 3x                 | 30                   | 7.3                | 45                  | 5.3                | 60                   | 4.2                | 90                  | 2.3                |
|                 | 4.5x               | 45                   | 4.9                | 67.5                | 3.6                | 90                   | 2.8                | 135                 | 1.6                |
| SZ51            | 0.8x               | 8                    | 27.5               | 12                  | 20                 | 16                   | 15.6               | 24                  | 8.8                |
|                 | 1x                 | 10                   | 22                 | 15                  | 16                 | 20                   | 12.5               | 30                  | 7.0                |
|                 | 2x                 | 20                   | 11                 | 30                  | 8.0                | 40                   | 6.3                | 60                  | 3.5                |
|                 | 3x                 | 30                   | 7.3                | 45                  | 5.3                | 60                   | 4.2                | 90                  | 2.3                |
|                 | 4x                 | 40                   | 5.5                | 60                  | 4.0                | 80                   | 3.1                | 120                 | 1.8                |

\* No auxiliary objective is attached

## ■ Auxiliary objective for SZ61/SZ51

|             | Working distance (mm) |
|-------------|-----------------------|
| 110ALK0.3X  | 250–350               |
| 110ALK0.4X  | 180–250               |
| 110AL0.5X   | 200                   |
| 110AL0.62X* | 160                   |
| 110AL0.75X  | 130                   |
| 110AL1.5X   | 61                    |
| 110AL2X     | 38                    |

\* Made to order

## ■ "ComfortView" WHSZ eyepiece

|           | FN   | Diopter adjustment | Reticle | Focal magnification |
|-----------|------|--------------------|---------|---------------------|
| WHSZ10X   | 22   | —                  | N.A.    | —                   |
| WHSZ20X   | 12.5 | —                  | N.A.    | —                   |
| WHSZ10X-H | 22   | -8+5               | Yes*    | —                   |
| WHSZ15X-H | 16   | -8+5               | Yes*    | —                   |
| WHSZ20X-H | 12.5 | -8+5               | Yes*    | 1.3x                |
| WHSZ30X-H | 7    | -8+5               | Yes*    | 2x                  |

\* Applicable reticle size: 24 mm diameter, t1.5



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