OLYMPUS®

Your Vision, Our Future

Stereo Microscope System

SZX7

For Life Science Use

Comfort and High Quality for Life Science Imaging

Easy on the Eyes: User Comfort is Where Precision Performance Begins

The SZX7 stereo microscope from Olympus is easy to use and delivers outstanding optical performance so that users are comfortable performing imaging tasks from advanced research to routine inspections.

The microscope's Galilean optical system, previously restricted to more specialized microscopes, offers the best zoom ratio in this class, as well as outstanding image clarity, true color, and accurate reproduction of the original specimen in crisp, well-defined detail.

The SZX7 can be customized using a range of accessories to accommodate a variety of specimen types and sizes.


OLYMPUS
SZX7
OLYMPUS
SZ
OLYMPUS
OLYMPUS

Quality Optics for Consistently Superior Image Reproduction

Clear, accurate specimen observation without strain. With its smooth finish, apochromatic zoom optics, Comfort*View* eyepieces, and easy adjustability, the SZX7 minimizes strain and fatigue while fulfilling the key mission of Olympus microscope designers—to provide the optimal image for any specimen. The performance of the high-level Galilean optical system is complemented by much less distortion than before with high numerical aperture.

The SZX7 microscope body is manufactured using newly developed lead-free optics, demonstrating Olympus' commitment to protect the environment.

7:1 Wide Zoom Ratio

With a magnification range of 8X–56X (using a 1X objective/10X eyepieces), the SZX7 offers a zoom ratio of 7:1. This is the best in its class and enables a specimen to be observed at the most appropriate magnification.

Excellent Resolving Power

High-quality objectives deliver accurate, high-resolution images that show specimens in minute detail.

A Range of Objectives to Suit Every Specimen and Every Application

- **Superior Image quality with high resolution and excellent flatness:** The new DFPLAPO1X-4 objective provides excellent optical performance, with plan apochromat correction and an NA of 0.10.
- **Longest working distance (W.D.) in this class:** Objectives range from the SZX-ACH1X (90 mm W.D.) to the DFPL0.5X-4 (171 mm W.D.). As a result, difficult to access surfaces can be easily observed.

Accurate Color Reproduction

Careful selection of lens surface coatings and apochromatic zoom optics make it possible to observe and document specimens with accurate color reproducibility.

Observation tubes

Galilean optics feature two (right/left) independent and parallel zoom optical paths. This system enables high optical performance as well as system modularity.

"Comfort*View*" Eyepieces for Greater Comfort and Faster Work

New Comfort*View* eyepieces feature pupil aberration control and appropriate positioning in the eye point for fast and comfortable observations. The result is a field of view that is easy to find, comfortable to view, and easy to keep.

Convenient Front-Access Operation

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

Quickly Recall Magnification Settings via Click-Stop Mechanism

Many inspection and documentation tasks require the use of a known zoom magnification setting to ensure consistent and comparable results. The integrated click-stop mechanism provides quick and easy access to this important function.

Objectives

Eyepieces

Tilting binocular head / SZX-TBI

Fluorescence Unit with Coaxial Illumination Enables Clear, Bright Observation Even with Weakly Emitting Specimens

This reflected light fluorescence unit is used to observe fluorescence in living cells under a stereo microscope. The high-performance fluorescence filter sets have sharp cutoffs and high transmission to capture even faint emissions from fluorescent proteins.

Reflected Light Fluorescence Unit SZX-RFL2

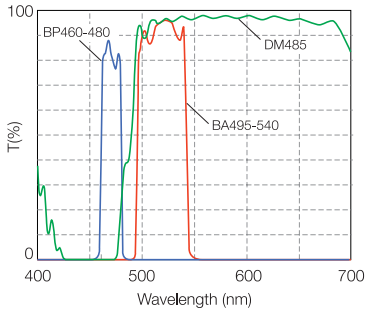
Three fluorescence filter blocks can be mounted in a 4-position slider. An open position is provided for easy access to transmitted light observation. The light source is a 100 W mercury lamp, for bright fluorescence observation with high contrast. A total of six filter sets are available, depending on the purpose.

High-Performance Filters for GFP/YFP

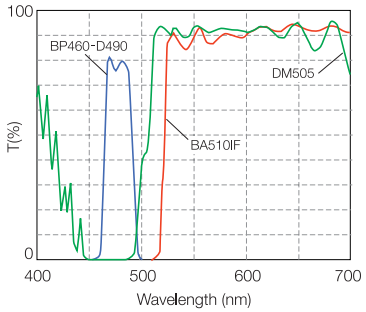
Two different types of high-performance filter sets are available for GFP/YFP. Optimized for the characteristics of GFP/YFP wavelengths, they have high transmission rates of 90% to 95% and sharp cutoffs for efficient detection of even weak fluorescence.

Filter cubes

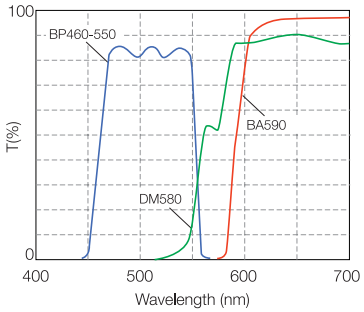
SZX-MGFPHQ



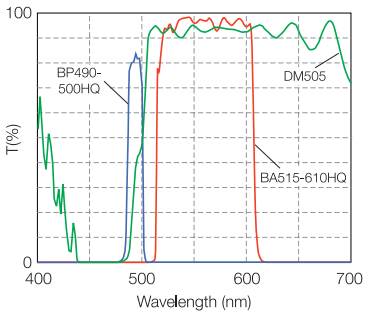
SZX-MGFP



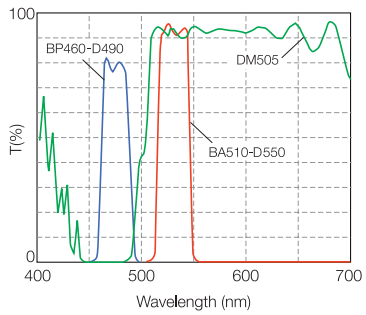
SZX-MG



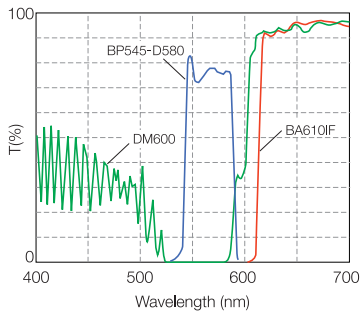
SZX-MYFPHQ



SZX-MGFPA



SZX2-MRFP




OLYMPUS
DP73
GFP
GFPHQ
YFPHQ
1
2
3
OLYMPUS
SZX7
3.2
4
5
5.6
6

Choose the Illumination Source That Suits Your Sample

LED Illuminator Stand / SZ2-ILST

The LED stand features a thin design to keep sample positions low and to optimize usability. 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 this cost-effective illumination stand provides bright, uniform illumination from low to high magnifications. An adjustable mirror provides direct and oblique illumination for low contrast specimens. Available LED light source (SZ2-CLS) and a 100 W light source (LG-PS2) provide the necessary power for a variety of illumination needs.

Brightfield/Darkfield Transmitted Light Illumination Base / SZX2-ILLD

Enables darkfield observation under illumination twice as bright as previous Olympus stereo microscope models. Flat and thin specimens, such as brain tissue slices, are vividly displayed on a black background.

Slim LED Transmitted Light Illumination Base / SZX2-ILLT

With a slim 41 mm design, 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.

A variety of fiber guide illumination systems are available.

Flexible light guide / SZ2-CLGSF

Dual interlock light guide / SZ2-CLGDI

Six-point ring light guide / SZ2-CLGR

Coaxial reflected light illuminator / SZX2-ILLC10

Flexible for a Variety of Applications, from Digital Imaging to Observing Large Specimens

Digital Camera / DP73

By combining Olympus digital camera technology with high-speed processing hardware, images with up to 17.28 megapixels can be captured at high speed while maintaining image quality, accuracy, and color fidelity. Images can be captured at resolutions up to 4800 × 3600 pixels.

Light Beam Splitter / SZX2-LBS

Two digital cameras can be attached simultaneously. The light path can be changed between three different settings: 100% observation, 100% digital camera, and 50% observation and 50% to both left and right cameras.

Photo Adapter / SZX-PHA

Various adapters are available for different kinds of CCD cameras, and can be used with the beam splitter.

Ergonomic Tilting Trinocular Tube/SZX2-LTTR

Extendable Eyepoint Adjuster/SZX2-EEPA

Tilting trinocular tube and eyepoint adjuster enable comfortable microscope work even over long periods. Users can adjust the tilting tube angle from 5 to 45 degrees and move the height of the eyepoint within a 120 mm range to maximize comfort. Moreover, attaching a digital camera enables users to obtain high resolution images at 1920 × 1440 pixels, which exceeds standard high-definition resolution .

Side by Side Discussion Tube / SZX-SDO2

Ample distance (650 mm) is provided between the primary and secondary observers, making observations easy without disturbing microscope operation. The color of the built-in pointer can be selected to contrast the specimen.

Various Universal Stands

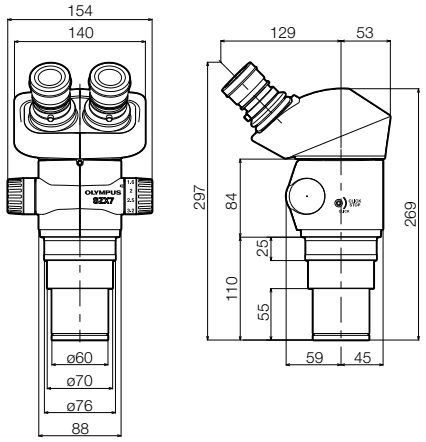
A variety of universal stands are available for the observation of large size specimens. No matter the size of your sample, Olympus has the right choice of stands to suit any requirements.

Specimens and images are courtesy of the following institutions:
Drosophila melanogaster
Institute of Molecular and Cellular Biosciences, University of Tokyo, Kei Ito, Ph.D.
(page 9,top left; page 10)

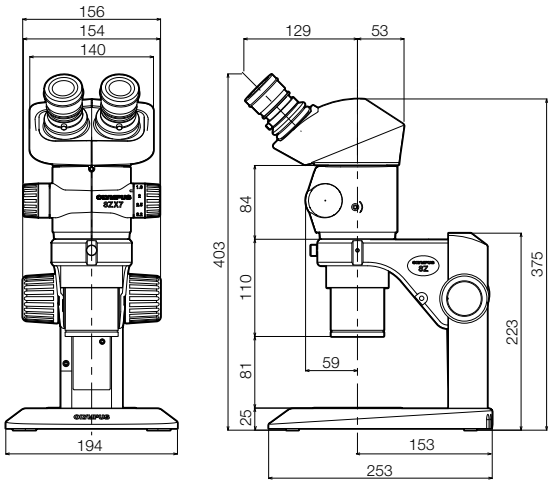
SZX7 dimensions

(Unit: mm)

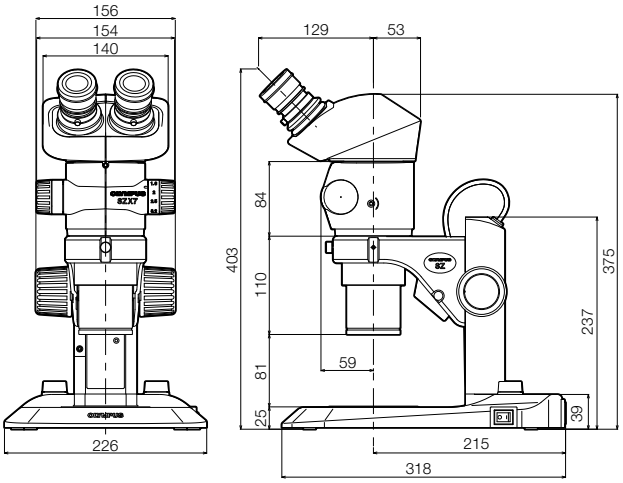
SZX7



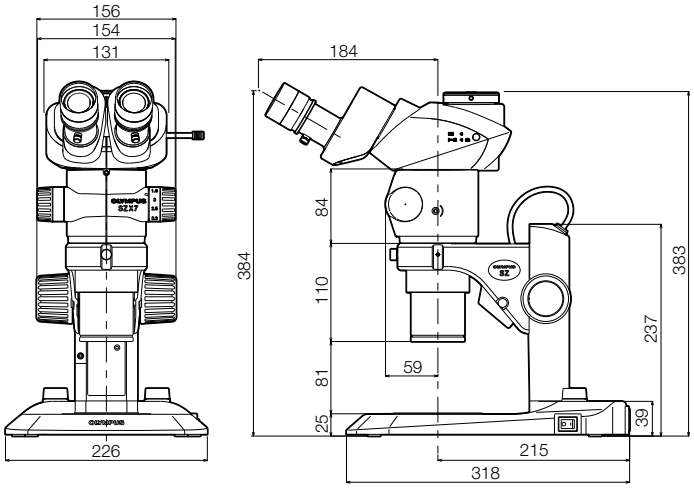
SZX7+SZ2-ST



SZX7+SZ2-ILST



SZX7 (SZX2-TR30 configuration) +SZ2-ILST



SZX7 specifications

Item		Specifications			
Zoom microscope body SZX-ZB7		Zoom drive: Horizontal knob system Click stop for each zoom magnification: ON-OFF switching possible Zoom ratio values: 7:1 (0.8X to 5.6X) Zoom magnification indication: 0.8, 1, 1.25, 1.6, 2, 2.5, 3.2, 4, 5, 5.6 Objective mounting: screw mounting into thread Lead-free			
		Aperture iris diaphragm control: The AS unit (SZX-AS) is mountable			
Observation tube **SZX-BI45** **SZX2-TR30** **SZX2-TR30PT** **SZX2-LTTR**		**SZX-BI45**	**SZX2-TR30**	**SZX2-TR30PT**	**SZX2-LTTR*1**
		View inclination angle 45˚	Tilting binocular tube View inclination angle 30˚ Light path selection: 2 steps (Binocular 100%, Binocular 50%/Photo 50%)	Trinocular tube View inclination angle 30˚ Light path selection: 2 steps (Binocular 100%, Photo 100%)	Ergonomic Long Tilting Trinocular View tilting angle 5˚ to 45˚, Light path selection: 2 steps (Binocular 100%, Video 50%/Binocular 50%)
		All observation tubes: Lead-free			
	Interpupillary distance adjustable range	52 to 76 mm Eyepiece clamping knob provided			57 to 80 mm Eyepiece clamping knob provided
Extendable Eyepoint adjuster		SZX2-EEPA: Height adjustment range: 30–150mm, (with a scale attached)			
Stand **SZ2-ST** **SZ2-ILST**		**SZ2-ST**	**SZ2-ILST**		
		Standard stand	LED reflected/transmitted illumination stand		
	Frame installation	Mounting diameter 76 mm			
	Focusing adjustment	Knob rotation tension adjustment Focusing stroke 120 mm			
	Stage plate	SZ2-SPBW (Black & white) SP-C (Glass clear transparent)	The dedicated glass plate in 100 mm dia. included		
	Light source	Compact light guide illuminator (SZ2-CLS) mountable (option) Transmitted light illumination attachment (SZ2-ILA) mountable (option)	Transmitted illumination: LED Reflected illumination: LED Average LED life span: 6000 hrs. Input rating: 100–120 V/200–240 V~0.15/0.1 A, 50/60 Hz		

Objectives	Model	NA	Working distance
	DFPL0.5X-4*2	0.05	171 mm
	DFPL0.75X-4	0.075	116 mm
	DFPLAPO1X-4	0.10	81 mm
	SZX-ACH1X	0.10	90 mm
	DFPLAPO1.25X-2	0.125	60 mm
	SZX-ACH1.25X	0.125	68 mm
	DFPL1.5X-4	0.15	45.5 mm
	DFPL2X-4	0.20	33.5 mm
	All objectives: Lead-free		

Eyepieces	"Comfort*View*" WHSZ series All eyepieces: Lead-free

Weight				
	Configuration 1	4,360 g	5,200 g	5,300 g
	Configuration 2	5,160 g	6,000 g	6,100 g

*1 SZX2-LTTR: intermediate magnification is 1.25X

*2 The SZ2-ET auxiliary sleeve is required when the SZ2-ST/SZ2-ILST is used

Configuration 1: SZX-ZB7 + DFPLAPO1X-4 + individual observation tube + WHSZ10X-H (2) + SZ2-ST

Configuration 2: SZX-ZB7 + DFPLAPO1X-4 + individual observation tube + WHSZ10X-H (2) + SZ2-ILST

■ SZX7 optical performance*3

Eyepiece	WHSZ10X-H WHSZ10X		WHSZ15X-H		WHSZ20X-H WHSZ20X		WHSZ30X-H	
FN	22		16		12.5		7	
Objective	Total magnification	Field of view (mm)	Total magnification	Field of view (mm)	Total magnification	Field of view (mm)	Total magnification	Field of view (mm)
0.5X	4X–28X	55–7.8	6X–42X	40.0–5.7	8X–56X	31.3–4.5	12X–84X	17.5–2.5
0.75X	6X–42X	36.7–5.2	9X–63X	26.7–3.8	12X–84X	20.8–3.0	18X–126X	11.7–1.7
1X	8X–56X	27.5–3.9	12X–84X	20.0–2.9	16X–112X	15.6–2.2	24X–168X	8.8–1.3
1.25X	10X–70X	22–3.1	15X–105X	16.0–2.3	20X–140X	12.5–1.8	30X–210X	7.0–1.0
1.5X	12X–84X	18.3–2.6	18X–126X	13.3–1.9	24X–168X	10.4–1.5	36X–252X	5.8–0.83
2X	16X–112X	13.8–1.9	24X–168X	10.0–1.4	32X–224X	7.8–1.1	48X–336X	4.4–0.63

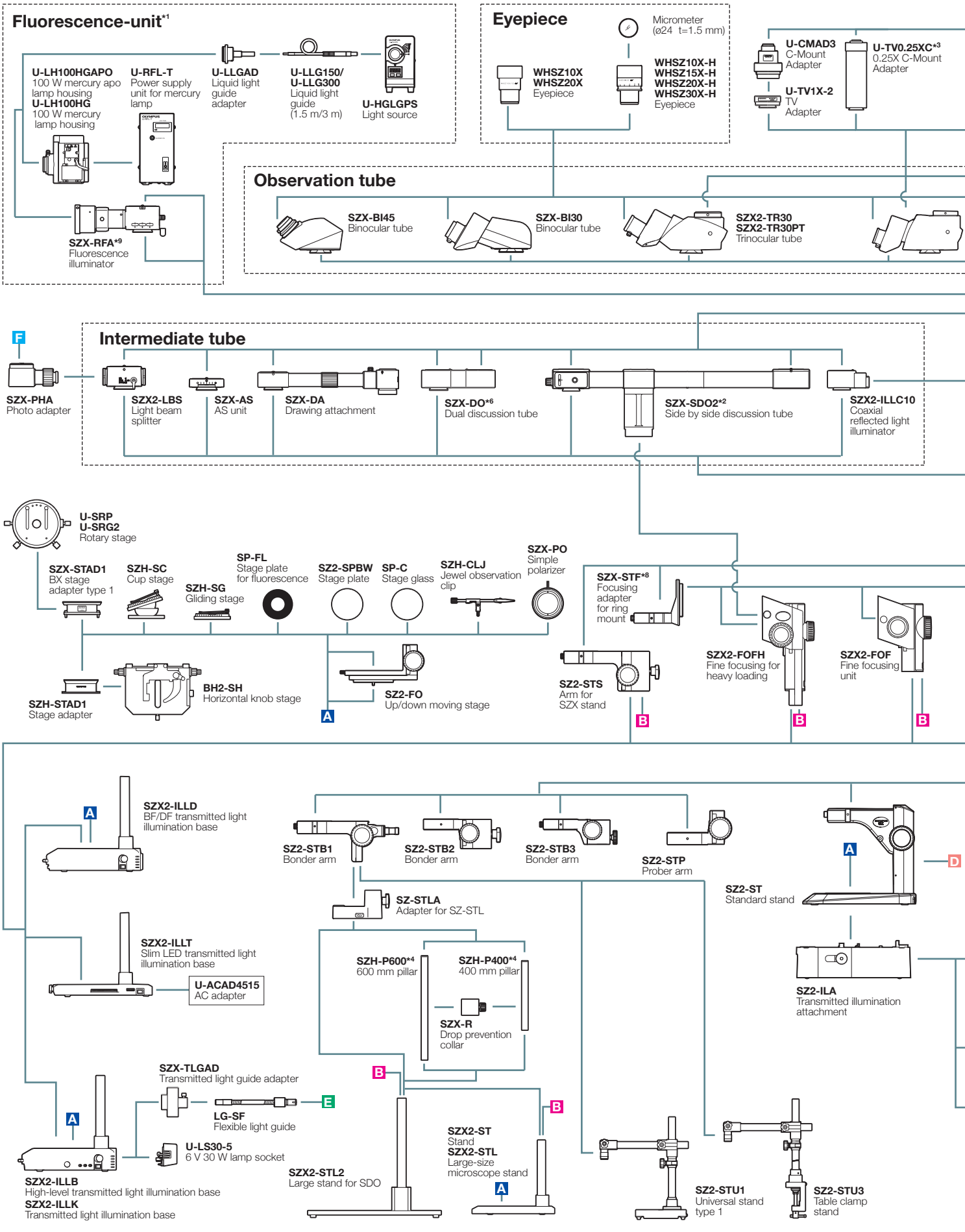
*3 SZX2-LTTR: Intermediate magnification is 1.25X SZX2-ILLC10: Intermediate magnification is 1.5X

■ "Comfort*View*" WHSZ eyepiece

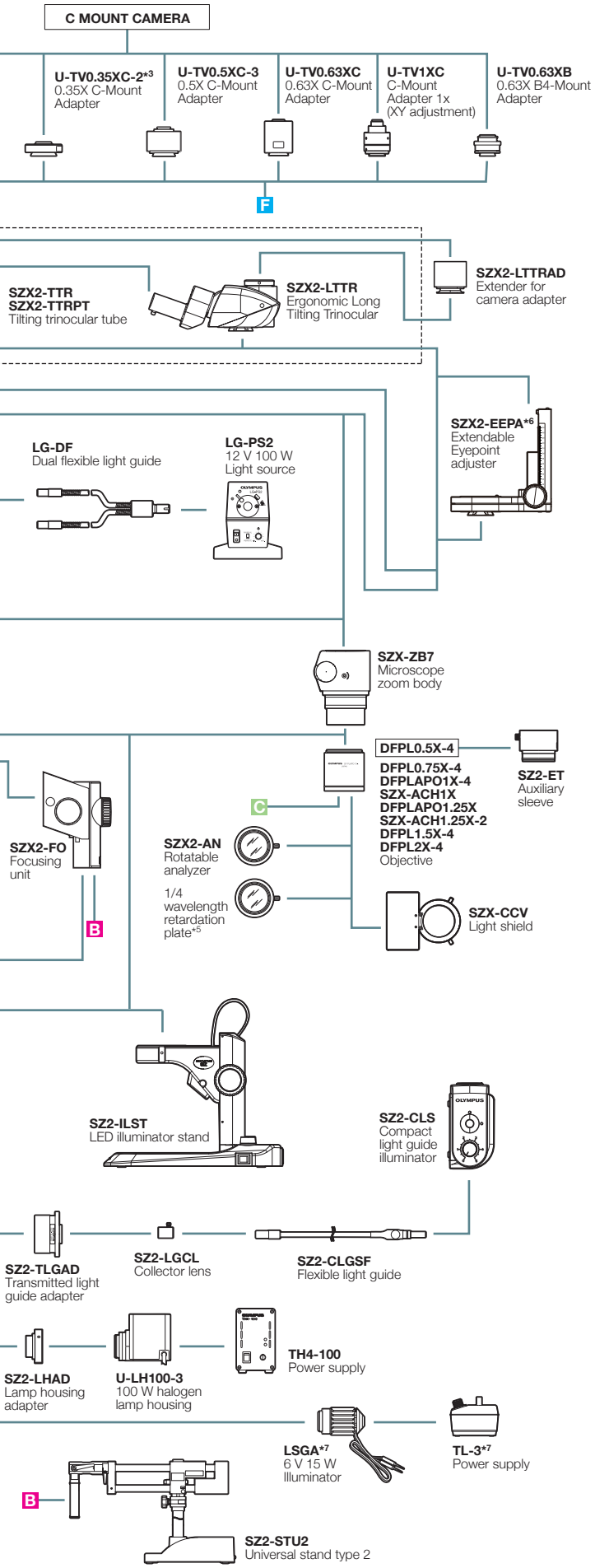
	FN	Diopter adjustment	Reticle	Focal magnification
WHSZ10X	22	—	NA	—
WHSZ20X	12.5	—	NA	—
WHSZ10X-H	22	-8–+5	Yes*4	—
WHSZ15X-H	16	-8–+5	Yes*4	—
WHSZ20X-H	12.5	-8–+5	Yes*4	1.3X
WHSZ30X-H	7	-8–+5	Yes*4	2X

*4Applicable reticle size: 24 mm diameter, t1.5

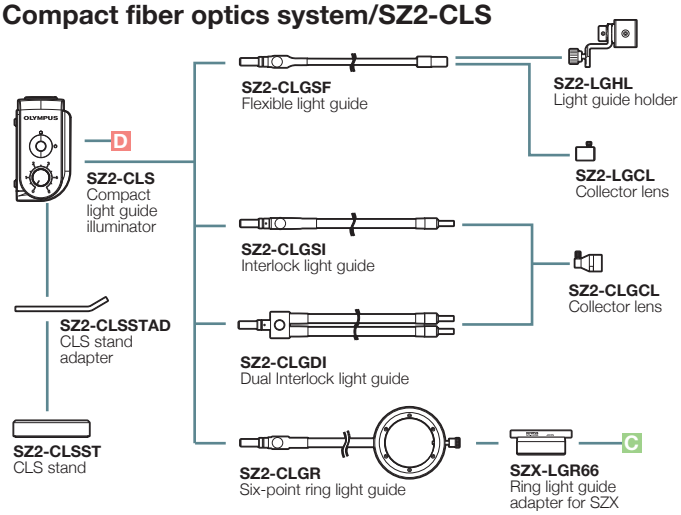
SZX7 System Diagram



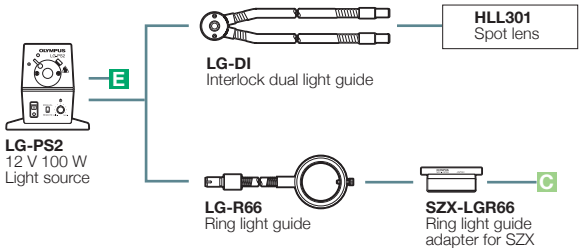
*1 Focusing unit (SZX2-FOF, SZX-FOFH or SZX-FO) and SZX-STF are required when mounting fluorescent unit. *2 SZX2-FOFH and SZX2-STL2 are required when using SZX-SDO2.
*3 Please contact your nearest Olympus dealer for applicable cameras. *4 SZH-P400 and SZH-P600 can be attached to the transmitted light Illuminators. *5 Equipped to SZX2-ILLC10.



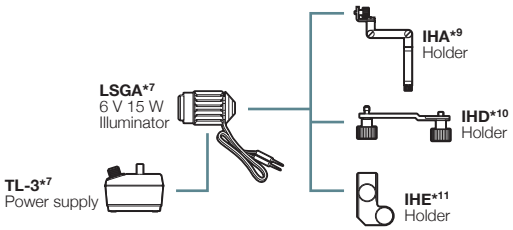
Compact fiber optics system/SZ2-CLS



High power fiber optics system/LG-PS2

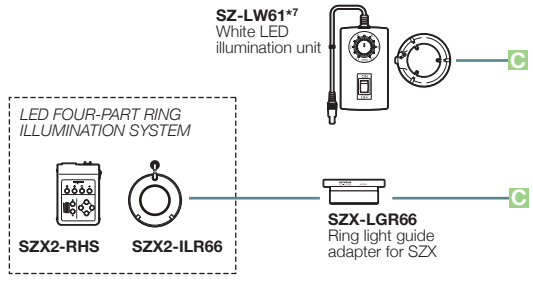


Reflected illumination/LSGA



*9 IHA is mountable to SZ2-ST, SZ2-STB1, SZ2-STB3, SZ2-STS and TL-3.
*10 IHD is mountable to SZ2-STB1 and SZ2-STS.
*11 IHE is mountable to SZ2-ST.

LED illumination



*6 Please contact your nearest Olympus dealer for applicable combination. *7 Not available in some areas. *8 SZX-ACH1.25X and DFPLAPO1.5X-4 cannot be combined with SZX-STF.
*9 SZX2-ST, SZ2-ILST, SZ2-ST and SZX2-ILLT cannot be combined with SZX-RFA.

- **OLYMPUS CORPORATION is ISO14001 certified.**
- **OLYMPUS CORPORATION is ISO9001 certified.**
- **OLYMPUS CORPORATION is ISO13485 certified.**
- **Illumination devices for microscope have suggested lifetimes. Periodic inspections are required. Please visit our website for details.**

www.olympus-lifescience.com

OLYMPUS®

OLYMPUS CORPORATION
Shinjuku Monolith, 2-3-1 Nishi-Shinjuku, Shinjuku-ku, Tokyo 163-0914, Japan

Printed in Japan M1622E-112017