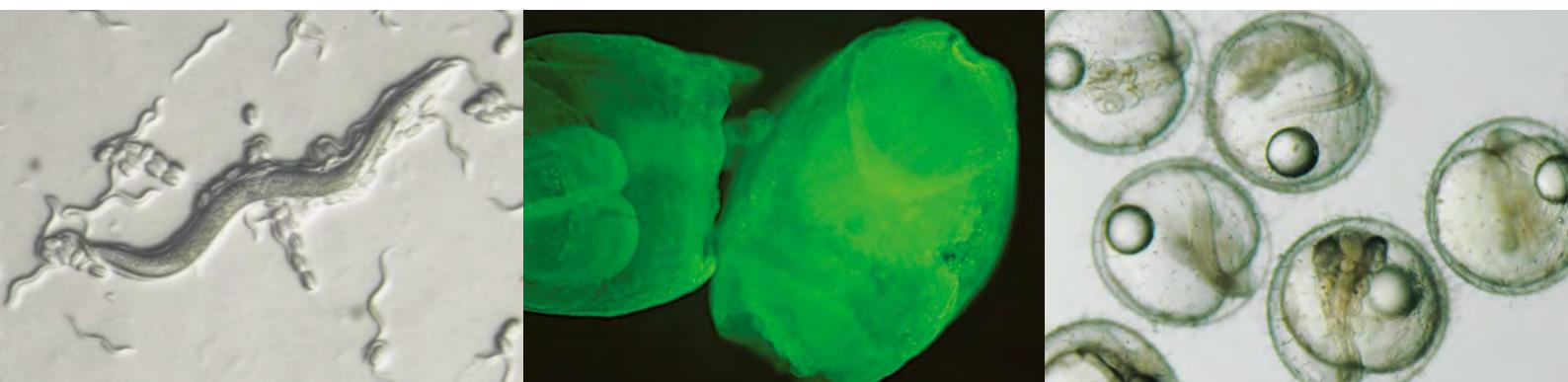


OLYMPUS

Stereo Microscope System

SZX7

Comfortable, High-Quality Life Science Imaging



User Comfort Is Critical for Precision Performance

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

Its Galilean optical system, previously restricted to more specialized microscopes, offers a high zoom ratio, as well as high image clarity, true-to-life color, and accurate reproduction of the specimen in crisp, well-defined detail.

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



Quality Optics for Consistently Superior Image Reproduction

View your specimens clearly and accurately without straining your eyes. With its smooth finish, apochromatic zoom optics, 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 a high numerical aperture (NA).

The SZX7 microscope body is manufactured using 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 microscope offers a zoom ratio of 7:1. This high zoom ratio enables a specimen to be observed at the 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 Your Specimens and Applications

- **Superior Image quality with high resolution and excellent flatness:**

The DFPLAPO1X-4 objective provides excellent optical performance with plan apochromat correction and an NA of 0.10.

- **Long working distance (WD):**

Objectives range from the SZX-ACH1X (90 mm WD) to the DFPL0.5X-4 (171 mm WD). 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.



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 the Click-Stop Mechanism

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



Objectives



Tilting trinocular tube



Achieve Clear, Bright Observation of Weakly Emitting Specimens

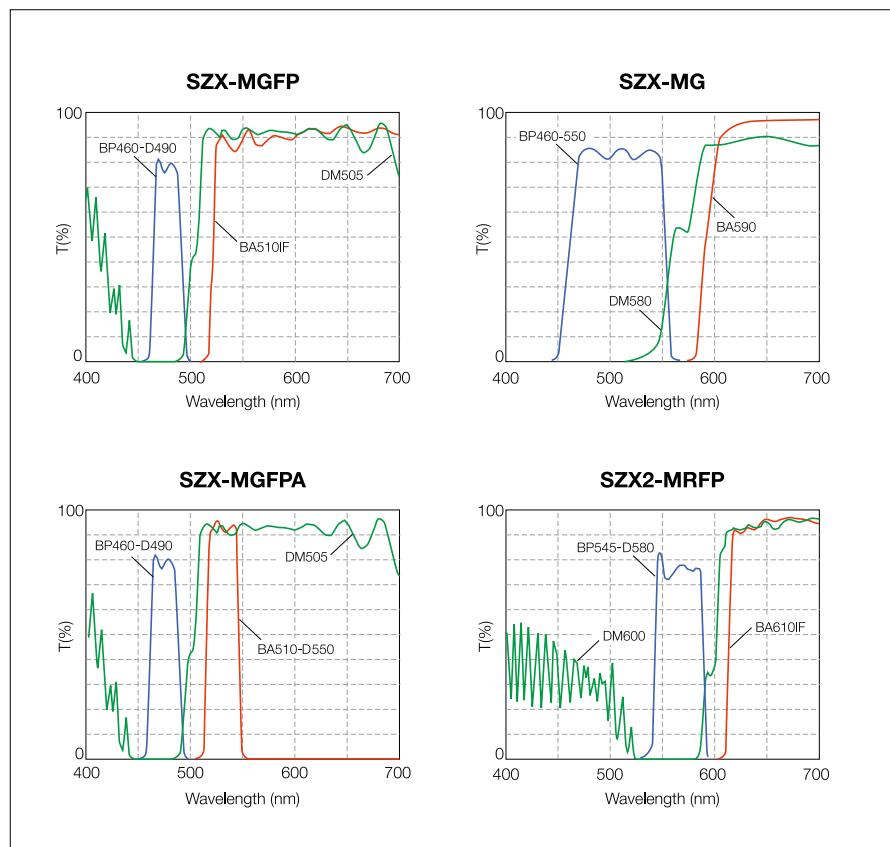
This reflected light fluorescence unit is used to observe fluorescence in living cells under a stereo microscope. The high-performance fluorescence filter sets have sharp cutoffs and high transmission to capture even faint emissions from fluorescent proteins.

Reflected Light Fluorescence Unit SZX-RFA

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 four filter sets are available, depending on the purpose.



Filter cubes



OLYMPUS

DP74



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 is available on this stand. LED light offers both a long lifetime and consistent 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. An available LED light source (SZ2-CLS or BX3M-LEDT) provides the necessary power for a variety of illumination needs.



Choose Between Multiple Observation and Contrast Methods / SXZ2-ILLTQ/SXZ2-ILLTS

With a slim 41.5 mm (1.6 in.) design that is approximately half the thickness of previous halogen lamp transmitted light illumination bases, the LED transmitted light illumination bases have a lower height to enable a low eyepoint and easy access to base-mounted samples during observation and operation. The LED illumination base SXZ2-ILLTQ with quad-position turret enables you to choose cartridges and to switch between brightfield (standard/high/low), oblique (standard/high/low), darkfield, polarized illumination, and the shutter with a simple turn. A one-position LED illumination base is also an option (SXZ2-ILLTS). This makes the SXZ2 series a flexible all-in-one microscope for various samples and observation tasks. Another advantage of LED illumination is a cooler base surface, which is suitable for long duration manipulation of live specimens. Power consumption is lower than a conventional 30 W halogen light source. A lifetime of over 60,000 hours significantly reduces operation costs.



Product	Observation Methods and Contrasts
① SZX2-CBFL	Brightfield, low-contrast
② SZX2-CBF	Brightfield, standard
③ SZX2-CBFH	Brightfield, high-contrast
④ SZX2-COBL	Oblique, low-contrast
⑤ SZX2-COB	Oblique, standard
⑥ SZX2-COBH	Oblique, high-contrast
⑦ SZX2-CSH	Shade plate
⑧ SZX2-CDF	Darkfield
⑨ SZX2-CPO	Polarization plate



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

Flexibility from Digital Imaging to Observing Large Specimens



DP74 Digital Camera

The DP74 color fluorescence camera captures realistic, high-quality images and has features that enable users to make their observations easily. With a wide field of view, operators can quickly capture images that show more of their sample.



Ergonomic Tilting Trinocular Tube / SZX2-LTTR

Extendable Eyepoint Adjuster / SZX2-EEPA

The 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.



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 changed to contrast with the specimen.



Various Universal Stands

A variety of universal stands are available for the observation of large 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 :

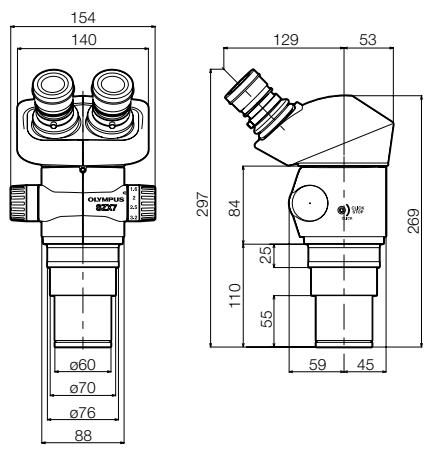
Drosophila melanogaster

Institute of Molecular and Cellular Biosciences, University of Tokyo, Kei Ito, Ph.D.
(page 9,top left; page 10)

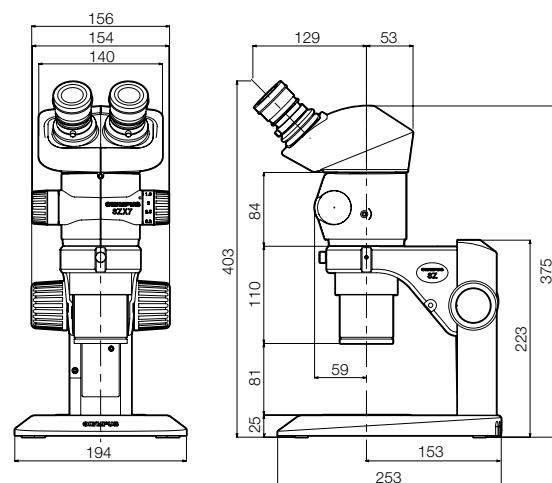
SZX7 dimensions

(Unit: mm)

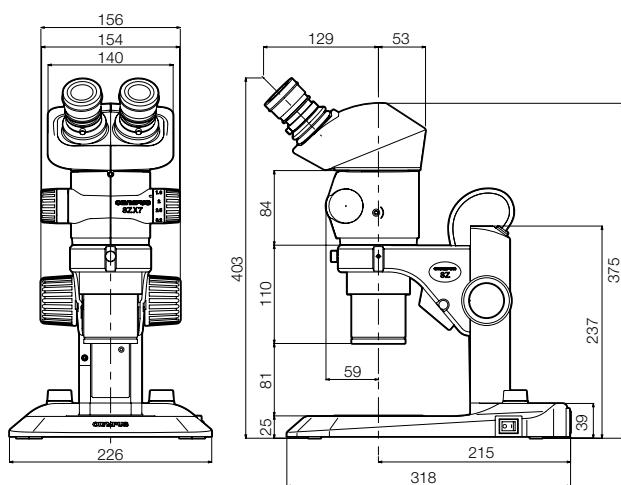
SZX7



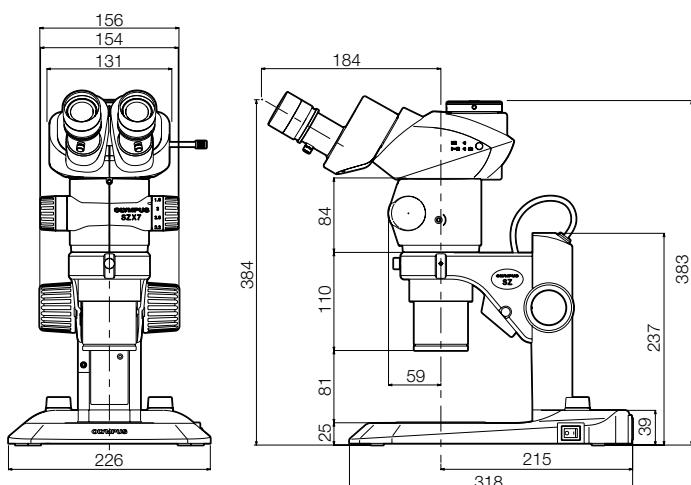
SZX7+SZ2-ST



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*
	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: 30–150 mm, (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		
Objectives	Stage plate	SZ2-SPBW (Black & white) SP-C (Glass clear transparent)	100 mm diameter dedicated glass plate is 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	
	Model		NA	Working distance
	DFPL0.5X-4 ^{**} DFPL0.75X-4 DFPLAPO1X-4 SZX-ACH1X SZX-ACH1.25X DFPL1.5X-4 DFPL2X-4 All objectives: Lead-free		0.05 0.075 0.10 0.10 0.125 0.15 0.20	171 mm 116 mm 81 mm 90 mm 68 mm 45.5 mm 33.5 mm
Eyepieces		WHSZ series All eyepieces: Lead-free		
Weight	Configuration 1	4,360 g (9.6 lb)	5,200 g (11.5 lb)	5,300 g (11.7 lb)
	Configuration 2	5,160 g (11.4 lb)	6,000 g (13.2 lb)	6,100 g (13.4 lb)

*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

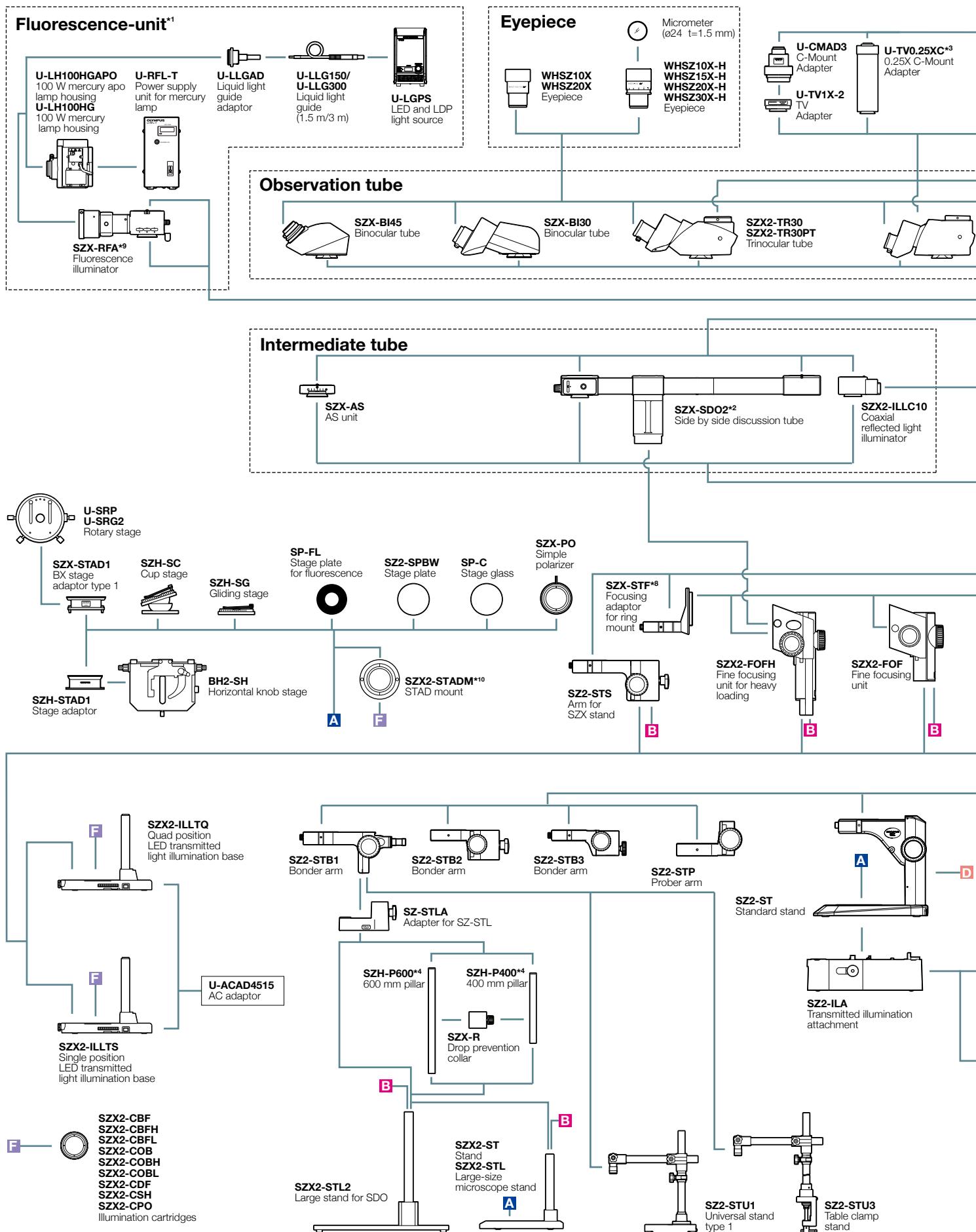
*³ SZX2-LTTR: Intermediate magnification is 1.25X SZX2-ILLC10: Intermediate magnification is 1.5X

■ 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

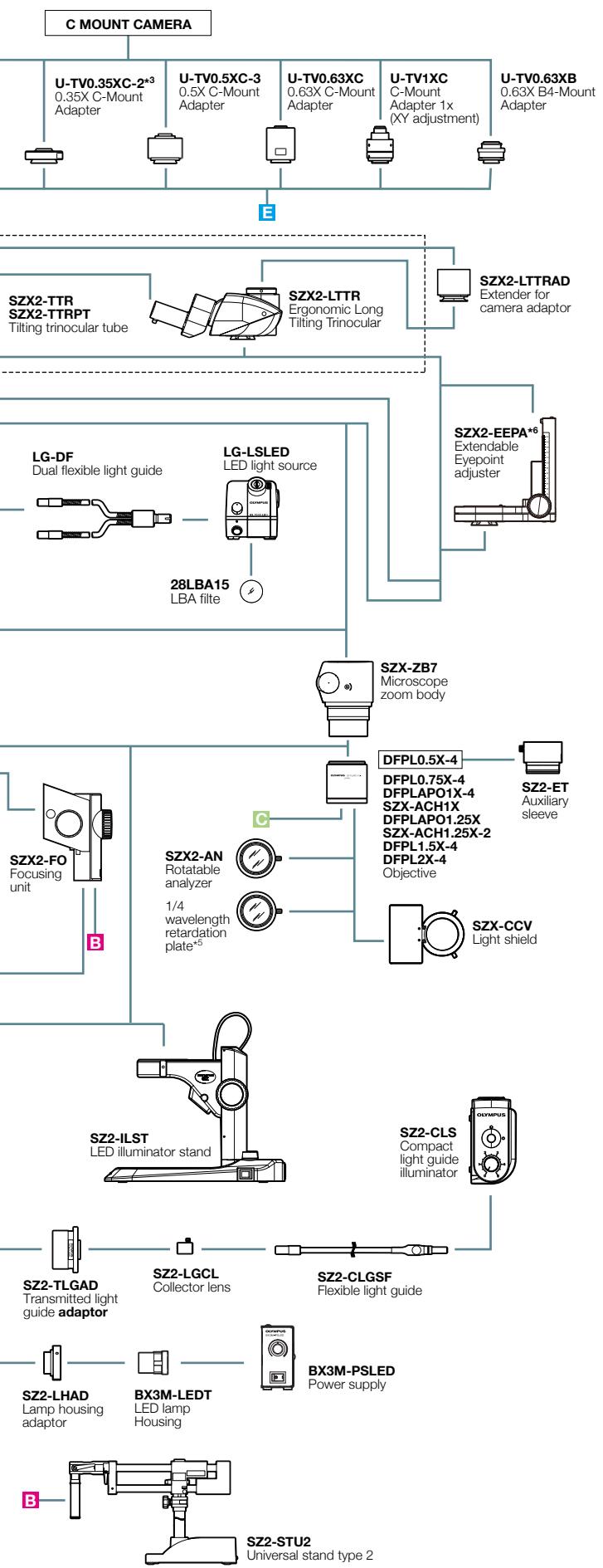
*⁴Applicable reticle size: 24 mm diameter, t1.5

SZX7 System Diagram

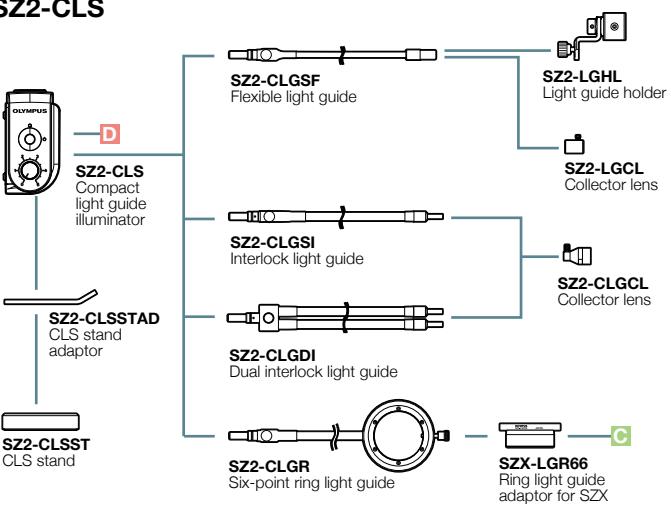


*1 Focusing unit (S ZX2-FOF, S ZX2-FOFH or S ZX2-FO) and S ZX2-STF are required when mounting fluorescent unit. *2 S ZX2-FOFH and S ZX2-STL2 are required when using S ZX2-SDO2.

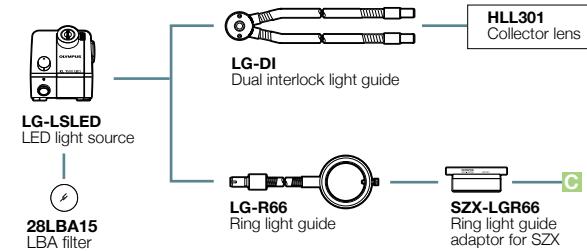
*3 Please contact your nearest Olympus dealer for applicable cameras. *4 S ZH-P400 and S ZH-P600 can be attached to the transmitted light illuminators. *5 Equipped to S ZX2-ILLC10.



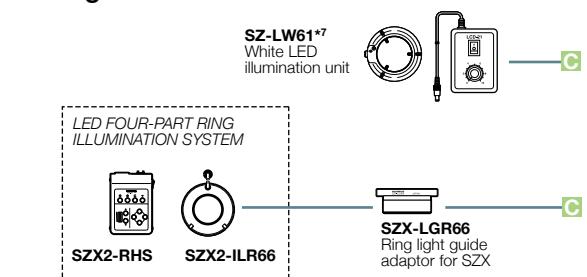
SZ2-CLS



LG-LSLED



LED ring illumination



⁶ Please contact your nearest Olympus dealer for applicable combination. ⁷ Not available in some areas. ⁸ SZX-ACH1.25X cannot be combined with SZX-STF. ⁹ SZX2-ST, SZ2-ILST and SZ2-ST cannot be combined with SZX-RFA. ¹⁰ SZX2-STADM cannot be combined with SP-FL, SZ2-SPBW, SP-C and SZX-PO.

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National Institute for Basic Biology, Spectrography and Bioimaging
Facility, Joe Sakamoto Ph.D., Yasuhiro Kamei Ph.D.

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