

SZX7/SZ61/SZ51

For Life Sciences



User Comfort Is Essential for Consistent, Accurate Results

User comfort is a priority for Olympus, and the SZ61 and SZ51 microscopes set a new standard.

The smoothly contoured finish, eyepiece, and the accessible, responsive controls make the microscopes easier and more comfortable to use.

The compact design is facilitated by the microscope's Greenough optical system, which delivers good flatness and ample depth of field along with clarity, detail, good color rendering, and minimal distortion.

Dependable, high-performance optics enable consistent, accurate results while ergonomic features make long-duration tasks easier and less demanding to perform.

The SZ61/SZ51 microscopes deliver the comfort and functionality that are critical for modern biological microscope applications.





SZ61

High-performance optics in a compact, comfortable design

The microscopes' improved Greenough optical system enable the SZ61 and SZ51 microscopes to successfully meet the demand for a variety of observation and documentation options in a compact design. Clear, sharp image reproduction is matched by ergonomic design elements that maximize comfort and ease of use.

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

High 6.1:1 zoom ratio

The SZ61 microscope's magnification range extends from $6.7\times$ through $45\times$ (using $10\times$ eyepieces), with a zoom ratio of 6.7:1. The advanced optical system enables quick, comfortable observations at appropriate magnification. The SZ51 provides a magnification range from $8\times$ through $40\times$ (using $10\times$ 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 produces excellent image flatness with a large depth of field.

High-fidelity color reproduction

Carefully selected lens surface coatings and glass materials throughout the optical system make it possible to observe and document specimens in their original, authentic colors.

Sharp, high-contrast images

High-contrast images and field flatness help achieve accurate reproduction and documentation of original specimen shapes.



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 microscopes 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, so you can easily attach 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

DP22 digital camera

The DP22 stand-alone digital camera enables easy observation, focusing, framing, and saving while enabling smooth, live display of high-definition images for professional-looking presentations. The dedicated control box provides smooth and intuitive operation using a touch screen monitor or a mouse (no PC required).

*DP22 digital camera is not for clinical diagnostic use.

Various universal stands

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



SZ61TR+DP22



SZ61+SZ2-STU2





Wide range of auxiliary objectives and eyepieces

Auxiliary objectives enable you to make observations at the suitable working distance (W.D.) for a variety of applications. W.D. can be changed between 250 mm-350 mm (0.3× objective) and 180 mm-250 mm (0.4× objective). Eyepieces are available ranging from 10× to 30× to optimize system magnification.



Auxiliary Objectives



Eyepieces

Choose the right illuminator for your work

LED illuminator stand / SZ2-ILST

The LED stand features a thin design to maintain a low sample position and sample positions low and to optimize operability. Simultaneous transmitted and reflected light are 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 stand, this cost-effective illumination stand provides bright, uniform illumination from low to high magnifications. A tiltable mirror provides direct and oblique illumination for low-contrast specimens. Available LED light sources (SZ2-CLS or BX3M-LEDT) provide the necessary power for a variety of illumination needs.



Choice of Your Suitable Contrast and Observation Method / SZX2-ILLTQ/SZX2-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, our LED transmitted light illumination bases have a lower height to enable a low eyepoint and easy access to basemounted samples during observation and operation. The LED illumination base SZX2-ILLTQ with quad position turret enables the user to choose cartridges and to switch from brightfield (standard/ high/low), oblique (standard/high/low), darkfield, polarized illumination, and shutter with a simple turn. A one position LED illumination base is also an option (SZX2-ILLTS). This makes the SZ2 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
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

Flexible light guide / SZ2-CLGSF

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



Six-point ring light guide / SZ2-CLGR

Used with the SZ2-CLS illumination system, this ring light guide provides bright and uniform images.



Dual interlock light guide / SZ2-CLGDI

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

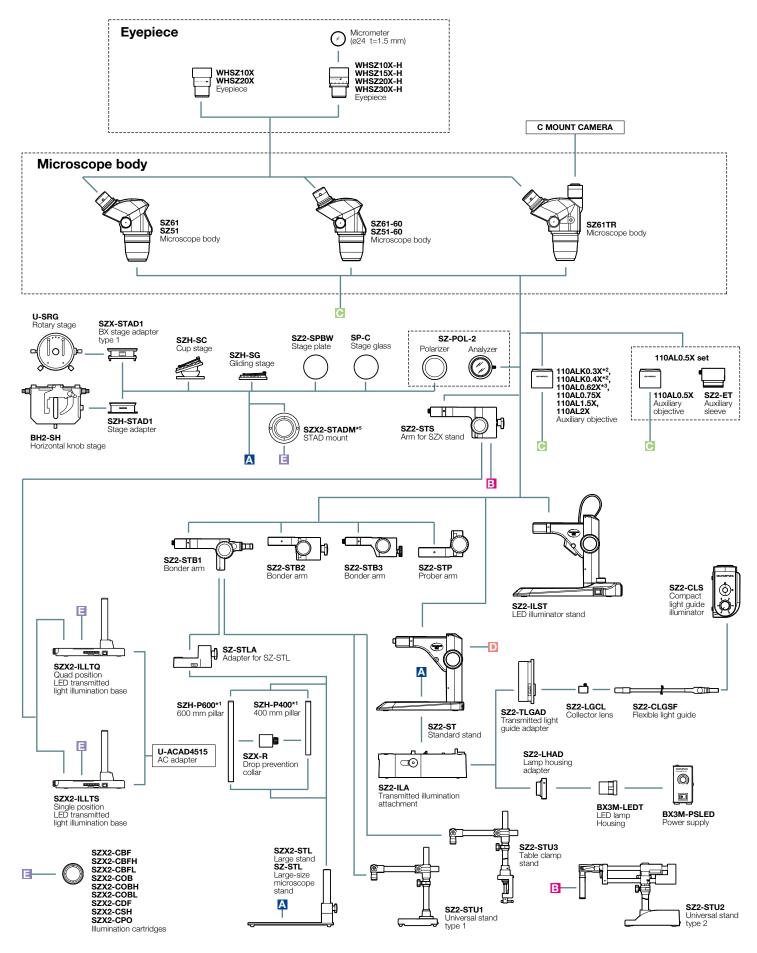


Coaxial reflected light illuminator / SZ2-ILLC

It combines a polarizer and a 1/4 λ plate, making it easier to view samples that are difficult to examine under oblique reflected light illumination.

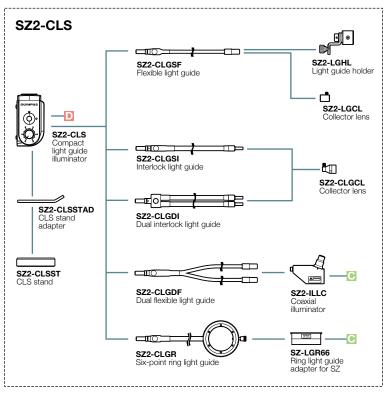


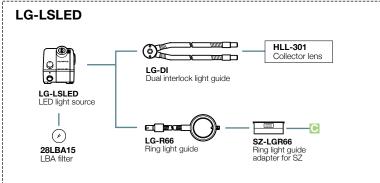
■ SZ61/SZ51 system diagram

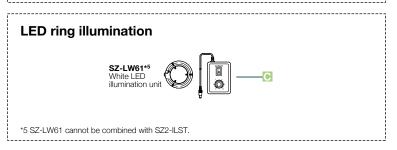


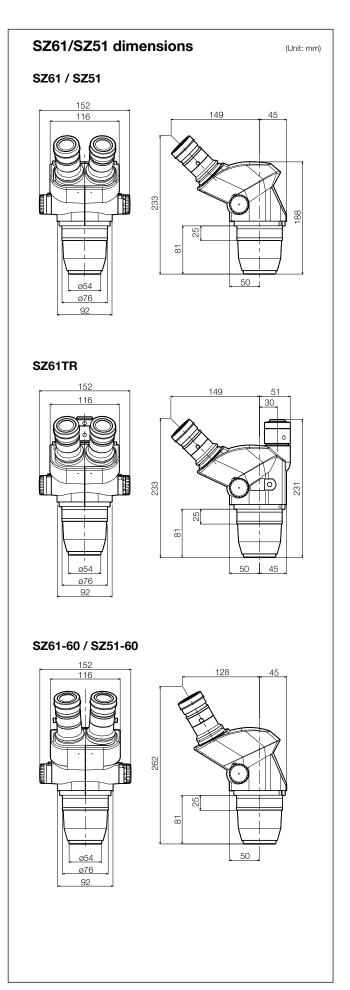
^{*1} SZH-P400 and SZH-P600 can be attached to the transmitted light Illuminators. *2 For information about configurable illumination base or stand, contact your nearest Olympus dealer.

^{*3} Made to order. *4 Not available in some areas. *5 SZX2-STADM cannot be combined with SZ2-SPBW, SP-C and SZ-POL-2.









■ SZ61/SZ51 specifications

Item		Specifications								
Microscope body		SZ61	SZ61 SZ61-60 SZ61TR SZ51							
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	j°	60°			
SZ51-60	Interpupillary	Left/right interlocked	'				'			
	distance adjustment	Adjustment range: 52 to	o 76 mm (using the WHS)	Z10X eyepiec	es)					
	Video camera adaptability	-	_	C mount (0	.5X built in)	-	_			
	Zoom adjustment knob	Left/right single-shaft he	orizontal knob							
		Interpupillary distance h	Interpupillary distance high/low magnification stopper incorporated.							
	Optical components	Lead-free								
Auxiliary objectiv	e	Mount by screwing into the thread at the bottom of frame (M48 thread X0.75)								
Eyepiece		WHSZ series								
		Lead-free								
Stand		SZ2-ST SZ2-ILST								
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 & wh	nite for anti-ESD)	100 mm dia	ameter dedicated glass p	late is included				
		SP-C (Clear glass plate)								
	Light source	Compact light guide illu	minator SZ2-CLS mounta	able (option)	Transmitted illumination: LED					
		Transmitted light illumination attachment (SZ2-ILA)			Reflected illumination: LED					
		mountable (option)			Average LED life span: 6000 hrs.					
					Input rating: 100-120V/200-240V					
		<i>ہ</i> ا			~0.15/0.1 A; 50/60 Hz					
Weight	Zoom body only	1,300 g	(2.9 lb)	1,500 g) g (3.3 lb) 1,300 g (2.9 lb)					
	Configuration 3	3,520 g (7.8 lb) 3,720			(8.2 lb)	3,520 g	g (7.8 lb)			

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

■ SZ61/SZ51 optical performance

Microscope body	Zoom	_	Z10X-H SZ10X	WHSZ	:15X-H	WHSZ20X-H WHSZ20X		WHSZ30X-H	
	magnification	FN	122	FN	16	FN	12.5	FN	17
	magninication	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
	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
	0.8X	8	27.5	12	20	16	15.6	24	8.8
SZ51	1X	10	22	15	16	20	12.5	30	7
	2X	20	11	30	8	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	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*1	160
110AL0.75X	130
110AL1.5X	61
110AL2X	38

^{*1} Made to order

■ WHSZ eyepiece

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

^{*2} Applicable reticle size: 24 mm diameter, t1.5

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- EVIDENT CORPORATION is ISO13485 certified.
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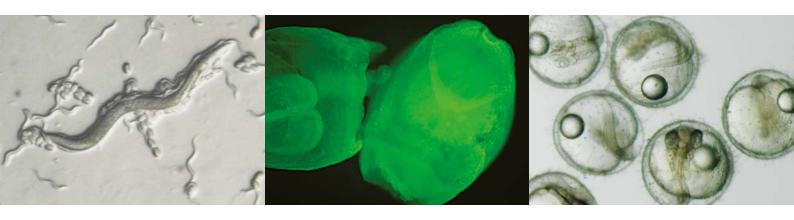


OLYMPUS





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 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.



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

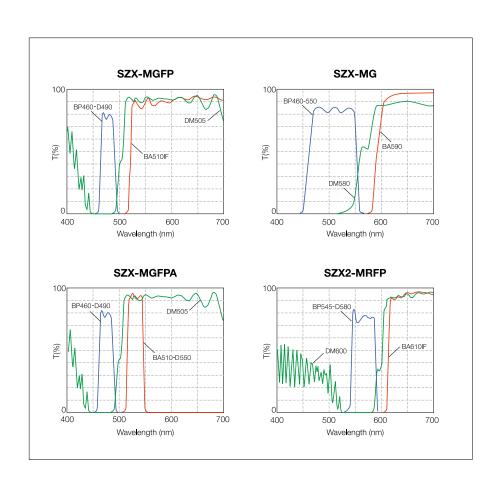
This reflected light fluorescence unit is used to observe fluorescence in living cells under a stereo microscope. The high-performance fluorescence filter sets have sharp cutoffs and high transmission to capture even faint emissions from fluorescent proteins.

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





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 / SZX2-ILLTQ/SZX2-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 basemounted samples during observation and operation. The LED illumination base SZX2-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 oneposition LED illumination base is also an option (SZX2-ILLTS). This makes the SZX2 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.





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① SZX2-CBFL	Brightfield, low-contrast
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③ SZX2-CBFH	Brightfield, high-contrast
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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, highquality 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.



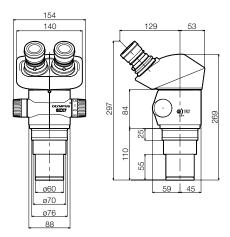
Various Universal Stands

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.

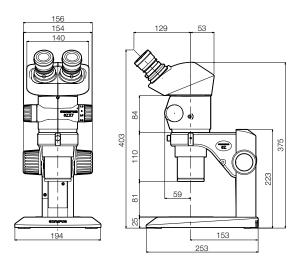


SZX7 dimensions (Unit: mm)

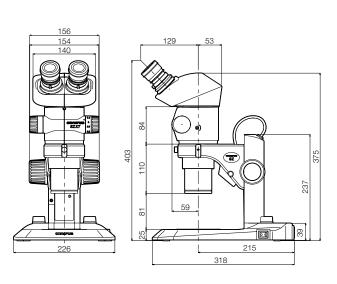
SZX7



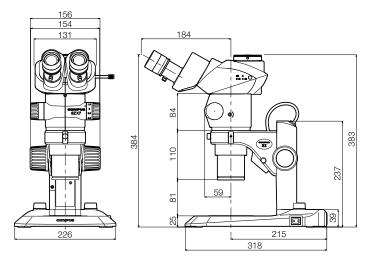
SZX7+SZ2-ST



SZX7+SZ2-ILST



SZX7 (SZX2-TR30 configuration) +SZ2-ILST



SZX7 specifications

Item		Specifications							
Zoom mic SZX-ZB7	roscope body	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: T	he AS unit (SZX-AS) is mountable	е					
Observation	on tube	SZX-BI45	SZX2-TR30	SZX2-TR30PT	SZX2-LTTR*1				
SZX-BI45 SZX2-TR3 SZX2-TR3 SZX2-LTT	0PT	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° View inclination angle 30° View tilting angle 5° to Light path selection: 2 steps (Binocular 100%, (Binocular 100%, Video 50%/Binocular						
		All observation tubes: Lead-free							
	Interpupillary distance adjustable range	52 to 76 mm 57 to 80 mm Eyepiece clamping knob provided 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						
F	Frame installation	Mounting diameter 76 mm							
	Focusing adjustment	Knob rotation tension adjustment Focusing stroke 120 mm	it						
	Stage plate	SZ2-SPBW (Black & white) SP-C (Glass clear transparent)	100 mm diameter dedicated gla	ass plate is included					
	Light source	Compact light guide illuminator (SZ2-CLS) mountable (option) Transmitted light illumination attachment (SZ2-ILA) mountable (option)	Reflected illumination: LED Average LED life span: 6000 hrs.						
Objectives	S	Model		NA	Working distance				
		DFPL0.5X-4*2 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	1	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)				
				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		10X-H Z10X	WHSZ	'15X-H	WHSZ20X-H WHSZ20X		WHSZ30X-H	
FN	22		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

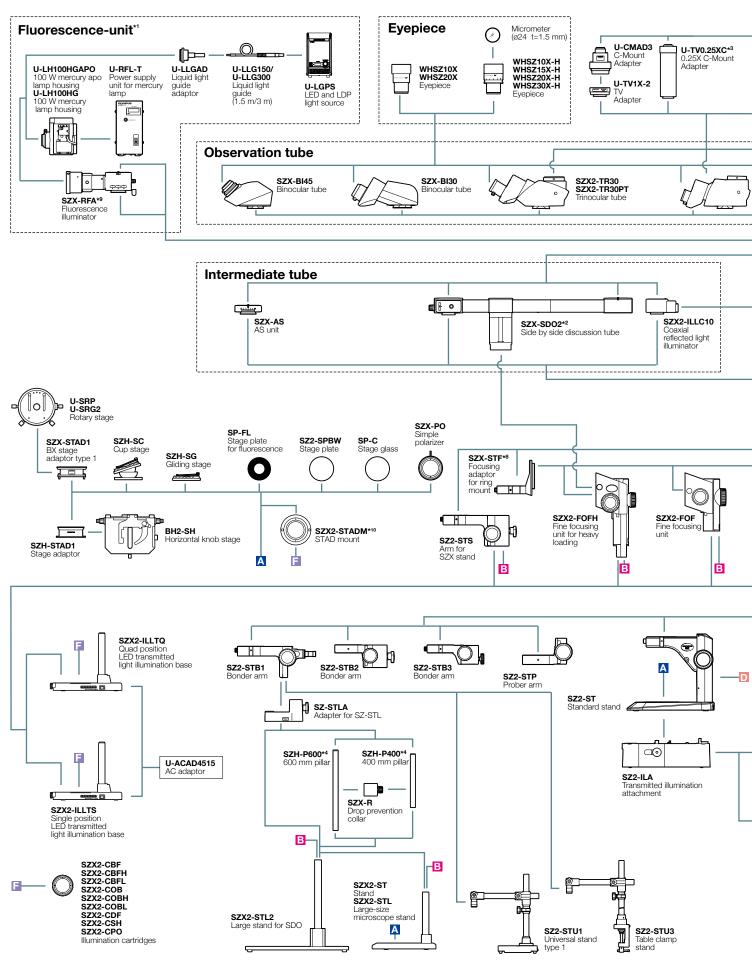
^{*3} SZX2-LTTR: Intermediate magnification is 1.25X SZX2-ILLC10: Intermediate magnification is 1.5X

■ WHSZ eyepiece

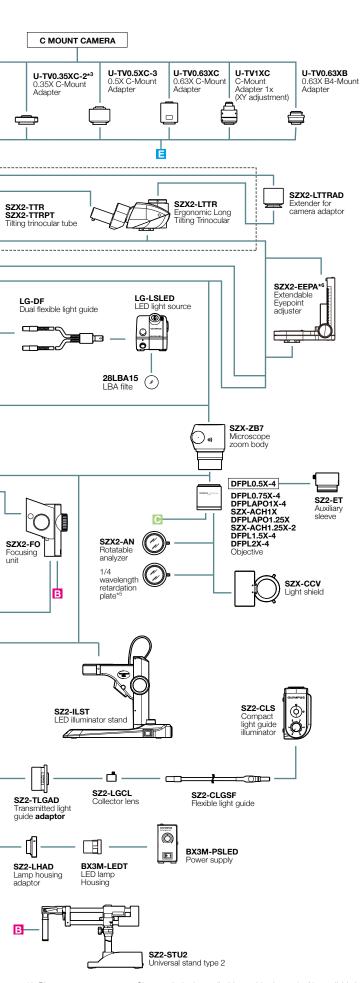
, i									
	FN	Diopter adjustment	Reticle	Focal magnification					
WHSZ10X	22	_	NA	_					
WHSZ20X	12.5	_	NA	_					
WHSZ10X-H	22	-8-+5	Yes*4	_					
WHSZ15X-H	16	-8-+5	Yes*4	_					
WHSZ20X-H	12.5	-8-+5	Yes*4	1.3X					
WHSZ30X-H	7	-8-+5	Yes*4	2X					

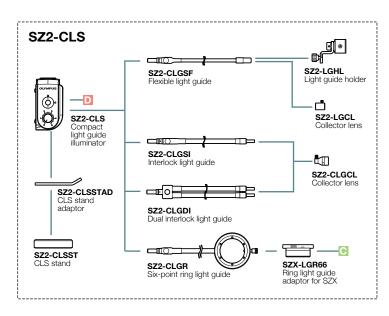
^{*4}Applicable reticle size: 24 mm diameter, t1.5

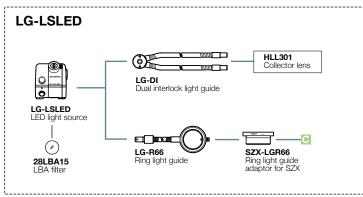
SZX7 System Diagram

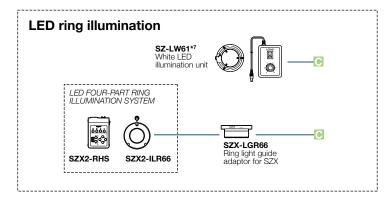


- *1 Focusing unit (SZX2-FOF, SZX-FOFH or SZX-FO) and SZX-STF are required when mounting fluorescent unit.
 *2 SZX2-FOFH and SZX2-STL2 are required when using SZX-SDO2.
 *3 Please contact your nearest Olympus dealer for applicable cameras.
 *4 SZH-P400 and SZH-P600 can be attached to the transmitted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









^{*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-RFA. *10 SZX2-STADM cannot be combined with SP-FL, SZ2-SPBW, SP-C and SZX-PO. *8 SZX-ACH1.25X cannot be combined with SZX-STF.

Images are (cover page and top right) courtesy of National Institute for Basic Biology, Spectrography and Bioimaging Facility, Joe Sakamoto Ph.D., Yasuhiro Kamei Ph.D.

- EVIDENT CORPORATION is ISO14001 certified.
 EVIDENT CORPORATION is ISO9001 certified.
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