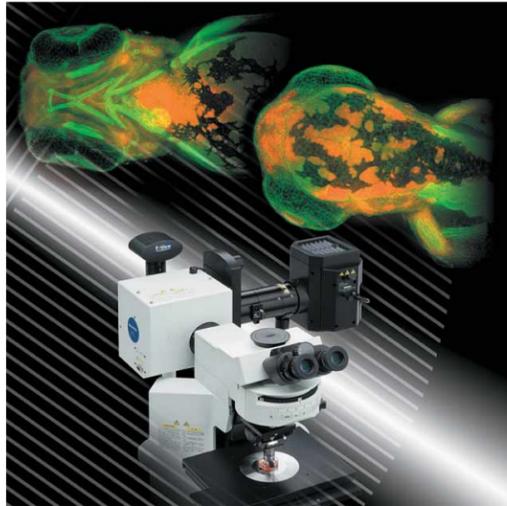
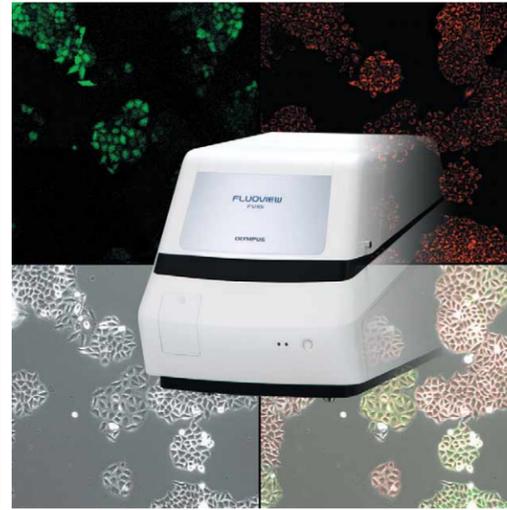


Macro Imaging



Confocal Imaging



Live-cell Confocal Microscopy



Patch Clamping

Image data courtesy of:

Pr. Kentaro Arikawa, Ms. Mituyo Kinoshita, Laboratory of Neuroethology, Graduate School of Integrated Science, Yokohama City University (cover page left top)  
 Atsushi Miyawaki M.D., Ph.D., Ms. Ryoko Ando, RIKEN Brain Science Institute Laboratory for Cell Function Dynamics (cover page above middle)  
 Mark Ellisman Ph.D., Hiroyuki Hakozaki M.S., Natalie Maclean M.S., University of California, San Diego, NCMIR (back page left top)  
 Tohru Murakami M.D., Ph.D., Department of Neuromuscular and Developmental Anatomy, Gunma University Graduate School of Medicine (back page left bottom)



Products with Olympus Eco-products mark in this catalog are environmentally conscious products made according to OLYMPUS standard.

**ECO-PRODUCTS** This does not apply to some accessories.

Please visit our web site for further information: <http://www.olympus.co.jp/en/eco-products/>

- OLYMPUS CORPORATION is ISO14001 certified.
- OLYMPUS CORPORATION is FM553994/ISO9001 certified.
- Illumination devices for microscope have suggested lifetimes. Periodic inspections are required. Please visit our web site for details.
- All company and product names are registered trademarks and/or trademarks of their respective owners.
- Images on the PC monitors are simulated.
- Specifications and appearances are subject to change without any notice or obligation on the part of the manufacturer.





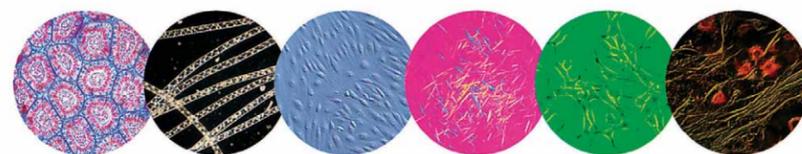
New avenues of research are opening in biological and medical fields. As research demands become more specialized and diversified, biological microscopes must offer the capabilities to meet these needs.

Olympus microscopes and their accessories are developed to meet the ever-changing needs of research applications.

Our accomplishments in microscope development date back more than three-quarters of a century. Olympus has accumulated a broad range of advanced optical and precision technologies and we are renowned for our innovative approach to microscopy.

An outstanding example of Olympus ingenuity is the superior UIS2 infinity-corrected optical system employed on the BX3 and IX2 microscopes. Olympus has also won acclaim for its system versatility and broad range of advanced accessories.

Our microscopes are evolving with enhanced performance and operational ease. Olympus continues to answer research demands in the biological and medical field of today and pave the way for future advances with increasingly sophisticated research equipment.



## Contents

Fluoview FV1000MPE Multiphoton Laser Scanning Biological Microscope ... 3

Fluoview FV1000 Confocal Laser Scanning Biological Microscope ... 3

Fluoview FV10i Confocal Laser Scanning Biological Microscope ... 4

IX2-DSU/BX-DSU Biological Disk Scanning Microscope ... 4

FSX100 Biol Imaging Navigator ... 5

BX63 Intelligent Microscope ... 5

BX53 System Microscope ... 6

BX43 System Microscope ... 6

BX46 Laboratory Microscope ... 7

BX51WI Fixed Stage Upright Microscope/  
BX61WI Fixed Stage Upright Microscope with Motorized Focusing ... 7

Accessories for BX3 ... 8

CX41 System Microscope/CX31 Biological Microscope ... 9

CX21LED/CX21 Biological Microscopes ... 9

IX81 Motorized Inverted System Microscope ... 10

IX71 Research Inverted System Microscope/  
IX51 Inverted System Microscope ... 10

Accessories for IX2 ... 11

ON3 Series Micromanipulators ... 12

CKX41/CKX31 Inverted Microscopes ... 13

Accessories for CKX41/CKX31 ... 13

BX53-P Polarizing Microscopes ... 14

CX31-P Polarizing Microscope ... 14

SZX16/SZX10 Research Stereomicroscope System ... 15

SZX7 Stereomicroscope System ... 16

SZ61/SZ51 Stereomicroscope System ... 16

Accessories for SZX/SZ ... 17

Macro View MVX10 Research macro zoom system microscope ... 18

cellSens Imaging Software ... 18

DP72 Digital Camera ... 19

DP25 Digital Camera ... 19

DP20 Digital Camera ... 19

E330M1.2x E-330 Micro Imaging System ... 19

UIS2 Series Objectives ... 20-22

UIS Series Objectives ... 20, 22



# FLUOVIEW FV1000MPE

## MULTIPHOTON LASER SCANNING BIOLOGICAL MICROSCOPE



FV1000MPE basic system, BX61WI configuration

The FV1000MPE allows outstanding fluorescence imaging down into deep regions of the specimens. Using pulsed IR (infrared) lasers in combination with our long working distance objectives, the FV1000MPE is able to image hundreds of microns into living tissues, providing the highest penetration depths on the market. Beside the ability to penetrate deep into a specimen, long wavelength IR light has another advantageous property; its lower energy content reduces phototoxicity and the risk of photodamage thus making long range and time-lapse studies possible. The FV1000MPE provides cutting-edge technology for various areas of scientific research such as neuroscience and cell biology and is available in three configurations.

\*FV1000MPE is a class 4 laser product.

Laser unit	IR pulsed laser with negative chirp	Mode-locked Ti:sapphire laser (femtosecond laser (equipped with a group velocity dispersion correction/control device)), laser power unit, water-cooled circulating chiller
	Visible light laser AOTF laser combiner **	LD laser: 405 nm (50 mW), 473 nm (15 mW), 559 nm (15 mW), 635 nm (20 mW) Multi Ar laser (458 nm, 488 nm, 515 nm, Total 30 mW) HeNe (G) laser (543 nm, 1 mW) Visible light laser platform with implemented AOTF system
	Single laser for visible light **	LD473 laser (15 mW)
Scanning unit	Confocal detector module **	3 channels for fluorescence detection (photomultipliers), optional 4CH detector for expansion
	Scanning method	2 galvanometer scanning mirrors
	Scanning modes	Pixel size: 64 x 64 – 4096 x 4096 pixels Scanning speed: (pixel time): 2 μs – 200 μs Dimensions: Time, Z, (wavelength) (or any combination thereof) Line scanning: straight line, free line, point XY scan
	Field Number	18
	Optical Zoom	1X – 50X in 0.1X increment
Detector for multi-photon imaging	Reflected light fluorescent detector	Photomultiplier (2 or 4 channels), Fluorescence wavelength can be selected with the dedicated filter cube (replaceable)
	Transmitted light fluorescent detector	Photomultiplier (2 channels), Exclusive equipment for the BX61WI upright microscope
Microscope		Inverted IX81, Upright BX61, Upright focussing nosepiece & fixed stage BX61WI
Z-drive		A motorized focus module inside the microscope is used Minimum increment: 0.01 μm

\*\*The M scanner does not have an optional confocal detector

\*Please refer to FV1000MPE catalog for further details

# FLUOVIEW FV10i

## CONFOCAL LASER SCANNING BIOLOGICAL MICROSCOPE



Fluoview FV10i is the world's first self-contained Confocal Laser Scanning Microscope. The FV10i has the same functionality of a high end confocal laser scanning microscope with easy-to-use software delivering it in a compact design.

- The system is equipped with 4 wavelength diode lasers. The system is equipped with four lasers. Multi-stained specimens can be imaged with up to four fluorescence dyes. Maintenance-free and power-saving diode laser with longer operating lives are employed in all the laser units, and operate with low noise levels.

- Detector utilizes a newly developed spectrum method. The detecting mechanism has two fluorescence channels, and one phase contrast channel. The fluorescent channels use a newly developed spectrum method comprising grating, beam splitter, and slit. In addition, they are equipped with the variable barrier filter function where the most suitable wavelength width is set automatically in accordance with the characteristics of the fluorescence dye.

\*FV10i is a class 1 laser product.

Laser unit	Ultraviolet / Visible light LD lasers	405 nm (22 mW), 473 nm (15 mW), 559 nm (18 mW), 635 nm (12 mW)
	Modulation	Continuously Variable by the LD direct modulation (0.1% – 100%, 0.1% increment) Line return period - laser OFF
Scanning unit	Confocal detector module	Fluorescence: 2 channels, Phase Contrast: 1 channel Variable barrier filter mechanism for fluorescence channel by diffraction grating and slit
	Scanning method	2 galvanometer scanning mirrors
	Scanning modes	Pixel size: 256 x 256 – 1024 x 1024 Scanning speed: 1.1 s / frame (for pixel size 512 x 512, High Speed scanning mode) Dimension: XYT, XYZ, XYZT Rotation scanning: 0 – 359.9° in 0.1° increments
	Field Number	18
	Optical Zoom	10x objectives: 1x – 6x (adjustable in 0.1X increments) 60x objectives: 1x – 10x (adjustable in 0.1X increments)
Z-drive		Motorized focus Minimum increment: 0.01 μm

\*Please refer to FV10i catalog for further details

# FLUOVIEW FV1000

## CONFOCAL LASER SCANNING BIOLOGICAL MICROSCOPE



FV1000+IX81

The FV1000 has an original spectral detection system which uses a high speed diffraction grating combined with a variable slit to deliver superior linear spectral distribution. This enables high-precision, high-resolution, high-speed spectroscopy in observations ranging from milliseconds to hours. SIM (SIMultaneous) Scanner System synchronizes laser light stimulation and confocal imaging. The FV1000 incorporates 2 laser scanners for simultaneous observation and laser light stimulation. The FV1000 is the most suitable choice of microscope for FRAP, FLIP and photo activation.

\*FV1000 is a class 3B laser product.

Laser unit	Ultraviolet/Visible light laser	Spectral type fluorescence detector	Filter type fluorescence detector
	AOTF laser combiner	LD lasers: 405 nm (50 mW), 473 nm (15 mW), 559 nm (15 mW), 635 nm (20 mW) Multi-line Ar laser (458 nm, 488 nm, 515 nm, Total 30 mW), HeNe(G) laser (543 nm, 1 mW)	
	Fiber	Visible light laser platform with implemented AOTF system	
Scanning unit	Detector module	Standard 3 confocal Channels. Spectral detection: CH1 and CH2 equipped with independent grating, CH3 with 6 position barrier filter turret	Standard 3 confocal Channels. CH1 to CH3 each with 6 position barrier filter turret.
	Scanning method	Dual galvano mirror scanner (X, Y)	
	Scanning modes	pixel size: 64 x 64 – 4096 x 4096 Pixel Dwell time: 2 to 200 microsec with unidirectional 0.5 or 1 microsec with fast bidirectional scanning X,Y,T,Z,λ (any combination) Line scanning: Straight line with free orientation, free line	
	Field Number (N.A.)	18	
	Optical Zoom	1X – 50X in 0.1X increment	
	Z-drive	Motorized focus module of the microscope, minimum increment 10 nm	
	Transmitted light detector unit	External transmitted photomultiplier detector	
Microscope	Motorized microscope	Inverted IX81, Upright BX61, Upright focussing nosepiece & fixed stage BX61WI	
Optional unit	SIM Scanner	2 Galvano scanning mirrors, pupil projection lens, built-in laser shutter, 1 laser port Fiber introduction of near UV laser diode or visible light laser, Optional: 2nd AOTF laser combiner	

\*Please refer to FV1000 catalog for further details

# IX2-DSU/BX-DSU

## BIOLOGICAL DISK SCANNING MICROSCOPE



IX2-DSU

The DSU (Disk Scanning Unit) is compatible with both inverted and upright microscopes, including the motorized IX81 and BX61 making it an ideal imaging system for automated Z-stack, 3-D image analysis.

- The DSU system also supports DAPI excitation in the near UV without modification. Filter-mirror sets for GFP and DsRED are included.
- The DSU is excellent for live-cell applications where speed of acquisition and minimal phototoxicity is paramount.
- Five disks are available of varying slit width and spacing allowing the user to optimize disk performance to different objective numerical apertures and specimen thicknesses.

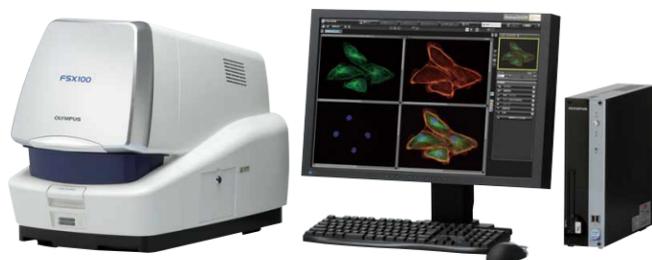
Confocal scan method	Disk rotation method
Maximum scan speed	Image acquisition less than 33 msec/frame
Excitation wavelength	350 nm - 700 nm. Wavelengths of less than 430 nm at naked eye observation and DSU observation may reduce the confocal effects.
Fluorescence wavelength	At less than 450 nm, use our HQ filter for observation at observation
Observation mode	Exchange between confocal and non-confocal modes can be performed through the software
ND filter for excitation	An ND filter will be inserted automatically at the exchange of confocal and non-confocal modes
Electromagnetic shutter for excitation	Can be controlled through the software
Microscope attachment	Intermediate attachment method (other cameras can be mounted on C-mount intermediate attachment)

\*Please refer to IX2-DSU/BX-DSU catalog for further details

# FSX100

## BIO IMAGING NAVIGATOR

**UIS2**  
World-leading optics



Crisp microscope images, consistently captured using only a computer mouse. FSX100 make three major innovation "Super-easy operation", "Superb image quality" and "Labor-saving work flow"

- The FSX100 is a fully motorized system. Specimen movement and all microscope imaging modes are motorized and operated via a host computer/mouse.
- Centered around our world leading 40x dry objective with an unprecedented numerical aperture 0.95, the FSX100 captures high resolution and contrast fluorescence images of even weakly labeled specimens.
- Incorporating a unique external shape and a proprietary internal optical design, the FSX100 is designed to be incorporated into your lab space easily.

Observation mode	Fluorescence/Phase contrast, Phase contrast, and Bright field
Acquisition mode	Single, Time Lapse, Z-stack, and Stitching (fluorescence multi color imaging possible for all)
Automatic focus (AF)	Automatic during the screen transition with one click operation
Standard objectives	Capture: 40x, NA 0.95 (17x to 80x with optical zoom) Macro: 10x, NA 0.40 (4.2x fixed with optical zoom)
Motorized correction collar	with focusing assist
Fluorescence filter	U excitation (BP 360-370, BA 420-460, DM400) B excitation (BP 460-495, BA 510-550, DM505) G excitation (BP 530-550, BA 575IF)
Camera type	Single-panel color CCD pixel shift type
Effective image resolution	4080 x 3072 (12.5 megapixels), 2040 x 1536 (3.1 megapixels), 1360 x 1024 (1.4 megapixels), 680 x 512 (350,000 pixels), 2 x 2 binning: 680 X 510 (350,000 pixels), 4 x 4 binning: 340 x 250 (85,000 pixels)

\*Please refer to FSX100 catalog for further details

# BX53

## SYSTEM MICROSCOPE

**UIS2**  
World-leading optics



**eco**  
eco-products

The BX53 is a versatile system microscope that can be configured to meet virtually any research need. It supports a wide range of fluorescence imaging applications, and has a range of advanced features for enhanced operating ease and process flexibility.

Illumination	Built-in Koehler illumination for transmitted light, Light preset switch, Light intensity LED indicator, Built-in filters (LBD-IF, ND6, ND25, optional) 12 V 100 W halogen bulb (pre-centered)	
Focusing	Vertical stage movement: 25 mm stage stroke with coarse adjustment limit stopper, Torque adjustment for coarse adjustment knobs, Stage mounting position variable, High sensitivity fine focusing knob (minimum adjustment gradations: 1 μm)	
Observation tube	Widefield (F.N. 22)	<ul style="list-style-type: none"> <li>• Widefield tilting trinocular</li> <li>• Widefield erect image trinocular</li> <li>• Widefield tilting binocular</li> <li>• Widefield tilting, telescopic, lifting binocular</li> <li>• Widefield ergo binocular</li> <li>• Widefield binocular</li> </ul>
	Super widefield (F.N. 26.5)	<ul style="list-style-type: none"> <li>• Super widefield trinocular</li> <li>• Super widefield erect image trinocular</li> </ul>
Nosepiece	Interchangeable reversed quintuple/coded quintuple/sextuple/septuple/coded septuple nosepiece	
Stage	Ceramic-coated coaxial stage with left or right hand low drive control: with rotating mechanism and torque adjustment mechanism, optional rubber grips available (Non stick grooved coaxial, plain, rotatable stages are also available)	
Condenser	<ul style="list-style-type: none"> <li>• Abbe (N.A. 1.1), for 4x-100x</li> <li>• Swing out Achromatic (N.A. 0.9), for 1.25x-100x (swing-out: 1.25x-4x)</li> <li>• Achromatic Aplanatic (N.A. 1.4), for 10x-100x</li> <li>• Phase contrast, darkfield (N.A. 1.1), [phase contrast: for 10x-100x, darkfield: for 10x-100x (up to N.A. 0.80)]</li> <li>• Universal (N.A. 0.9), for 1.25x-100x [swing-out: 1.25x-4x, with oil top lens: (N.A. 1.4)]</li> <li>• Low (N.A. 0.75), for 2x-100x (Dry)</li> <li>• Ultra low (N.A. 0.16), for 1.25x-4x</li> <li>• Darkfield dry (N.A. 0.8-0.92), for 10x-100x</li> <li>• Darkfield oil (N.A. 1.20-1.40), for 10x-100x</li> </ul>	
Other features	Multi-purpose coded fluorescence illuminator, economical fluorescence illuminator	

\*The U-CBM is designed for the BX3 use in industrial environments for the EMC performance (IEC61326-1 Class A device). Using it in a residential environment may affect other equipment in the environment.

\*Please refer to BX43/BX46/BX53 catalog for further details

# BX63

## INTELLIGENT MICROSCOPE

**UIS2**  
World-leading optics



The BX63 offers outstanding stability and imaging precision for research applications, with the convenience of a touch screen interface for easy operation. Additionally, it features a detachable controller that can be positioned to suit the operator's preference or workflow requirements.

Illumination	Built-in Koehler illumination for transmitted light, Light intensity LED indicator, Built-in motorized field stop • High color reproductivity LED light source • 12 V 100 W halogen bulb (pre-centered)	
Focusing	Built-in motorized nosepiece focus Stroke: 20 mm, minimum increment: 0.01 μm, maximum nosepiece movement speed: 5 mm/s	
Observation tube	Widefield (F.N. 22)	<ul style="list-style-type: none"> <li>• Widefield tilting trinocular</li> <li>• Widefield trinocular</li> <li>• Widefield erect image trinocular</li> <li>• Widefield tilting binocular</li> <li>• Widefield tilting, telescopic, lifting binocular tube</li> <li>• Widefield ergo binocular</li> <li>• Widefield binocular</li> </ul>
Nosepiece	<ul style="list-style-type: none"> <li>• Motorized septuple revolving nosepiece</li> <li>• Interchangeable reversed coded septuple nosepiece</li> </ul>	
Stage	<ul style="list-style-type: none"> <li>• Ultrasonic stage (Stage stroke: X:76 mm x Y: 52 mm, maximum stage movement speed: 30 mm/s)</li> <li>• Ceramic-coated coaxial stage with left or right hand low drive control: with rotating mechanism and torque adjustment mechanism, optional rubber grips available</li> <li>• Cross stage with short left handle</li> </ul>	
Condenser	<ul style="list-style-type: none"> <li>• Motorized universal condenser (N.A. 0.9, motorized 8-position turret, Aperture stop, polarizing filter in/out mechanism and top lens swing out mechanism), for 1.25x-100x [swing-out 1.25x-4x, with oil top lens: (N.A. 1.4)]</li> <li>• Swing out Achromatic (N.A. 0.9), for 1.25x-100x (swing-out: 1.25x-4x)</li> <li>• Achromatic Aplanatic (N.A. 1.4), for 10x-100x</li> <li>• Universal (N.A. 0.9), for 1.25x-100x [swing-out: 1.25x-4x, with oil top lens: (N.A. 1.4)]</li> <li>• Ultra low (N.A. 0.16), for 1.25x-4x</li> <li>• Darkfield dry (N.A. 0.8-0.92), for 10x-100x</li> <li>• Darkfield oil (N.A. 1.20-1.40), for 10x-100x</li> </ul>	
Other features	Motorized multi-purpose coded fluorescence illuminator, multi-purpose coded fluorescence illuminator, motorized 9-position ND filter wheel, high-performance control box	

\*This device is designed for the BX3 use in industrial environments for the EMC performance (IEC61326-1 Class A device). Using it in a residential environment may affect other equipment in the environment.

\*Please refer to BX63/BX53 catalog for further details

# BX43

## SYSTEM MICROSCOPE

**UIS2**  
World-leading optics



**eco**  
eco-products

The BX43 supports brightfield, phase contrast, simple polarized light, and darkfield observation. New LED illumination assures a constant color temperature for consistent and accurate color imaging.

- Supports a wide range of observation methods.
- Special features for enhanced operator comfort.
- Optimal LED lighting and UIS2 optics

Illumination	Built-in Koehler illumination for transmitted light, light intensity manager switch High color reproductivity LED light source, 6 V 30 W halogen bulb (pre-centered)	
Focusing	Vertical stage movement: 25 mm stage stroke with coarse adjustment limit stopper, Torque adjustment for coarse adjustment knobs, Stage mounting position variable, High sensitivity fine focusing knob (minimum adjustment gradations: 1 μm)	
Observation tube	Widefield (F.N. 22)	<ul style="list-style-type: none"> <li>• Widefield tilting, telescopic and lifting binocular</li> <li>• Widefield tilting trinocular</li> <li>• Widefield trinocular</li> <li>• Widefield erect image trinocular</li> <li>• Widefield tilting binocular</li> <li>• Widefield ergo binocular</li> <li>• Widefield binocular</li> </ul>
	Super widefield (F.N. 26.5)	<ul style="list-style-type: none"> <li>• Super widefield trinocular</li> <li>• Super widefield erect image trinocular</li> </ul>
Nosepiece	Interchangeable reversed quintuple/coded quintuple/sextuple/septuple/coded septuple nosepiece	
Stage	Ceramic-coated coaxial stage with left or right hand low drive control: with rotating mechanism and torque adjustment mechanism, optional rubber grips available (Non stick grooved coaxial, plain, rotatable stages are also available)	
Condenser	<ul style="list-style-type: none"> <li>• Abbe (N.A. 1.1), for 4x-100x</li> <li>• Swing out Achromatic (N.A. 0.9), for 1.25x-100x (swing-out: 1.25x-4x)</li> <li>• Achromatic Aplanatic (N.A. 1.4), for 10x-100x</li> <li>• Phase contrast, darkfield (N.A. 1.1), [phase contrast: for 10x-100x, darkfield: for 10x-100x (up to N.A. 0.80)]</li> <li>• Universal (N.A. 0.9), for 1.25x-100x [swing-out: 1.25x-4x, with oil top lens: (N.A. 1.4)]</li> <li>• Low (N.A. 0.75), for 2x-100x (Dry)</li> <li>• Ultra low (N.A. 0.16), for 1.25x-4x</li> <li>• Darkfield dry (N.A. 0.8-0.92), for 10x-100x</li> <li>• Darkfield oil (N.A. 1.20-1.40), for 10x-100x</li> </ul>	

\*Please refer to BX43/BX46/BX53 catalog for further details

# BX46 CLINICAL MICROSCOPE

**UIS2**  
World-leading optics



The BX46 offers outstanding brightfield clarity for screening and other routine laboratory work. Ergonomic design and energy-efficient LED illumination help reduce eyestrain and operator fatigue during extended use.

- Supports brightfield and simple polarized light observation methods
- Special features to support high-volume cytology and pathology workflows
- Optimal LED lighting and UIS2 optics

Illumination	Built-in Koehler illumination for transmitted light, light intensity manager switch High color reproductivity LED light source
Focusing	Fixed low stage nosepiece focus 15 mm focus stroke with coarse adjustment limit stop Torque adjustment for coarse adjustment knobs High sensitivity fine focusing knob (adjustment gradations: 1 μm)
Observation tube	Widefield (F.N. 22) <ul style="list-style-type: none"> <li>• Widefield tilting trinocular</li> <li>• Widefield trinocular</li> <li>• Widefield tilting, telescopic, lifting binocular</li> <li>• Widefield ergo binocular</li> <li>• Widefield binocular</li> </ul>
Nosepiece	Fixed reversed coded quintuple nosepiece
Stage	Ceramic-coated coaxial stage with left or right hand low drive control, rotating mechanism and torque adjustment mechanism (Low torque, Plain, Rotating stages are also available)
Condenser	Built-in condenser (N.A. 0.9) 1.25x-100x (swing out: 1.25x-2x)

\*Please refer to BX43/BX46/BX53 catalog for further details

## Accessories for BX3



### BX3-RFAA Motorized fluorescence illuminator

The flexibility of the motorized fluorescence illuminator accommodates multi-color stained specimens. The 8-position mirror units permit quick changeover of fluorescence colors.



### BX3-URA, BX3-RFAS Universal reflected illuminator Coded fluorescence illuminator

A total of eight fluorescence mirror units can be attached for comfortable multi-color fluorescence observations. High-performance filters provide efficient, bright and even fluorescence observations.



### U-AW Motorized attenuator wheel

The Olympus BX63 has a motorized ND filter wheel for fluorescence and transmitted light intensity adjustments.  
• Special adapters are required for mounting (U-LHEAD for fluorescence, and U-LH100ADP for transmitted light).



### BX3-UCD8A Motorized universal condenser

By integrating with designated optical components, the motorized universal condenser accommodates various kinds of transmitted light observation, from brightfield to differential interference contrast and phase contrast.



### U-UCD8-2 8-position universal condenser

The universal condenser simultaneously accepts up to 6 DIC prisms and 2 other optical components at maximum. The condenser numerical aperture of 0.9 or 1.4 (oil) can be selected through interchangeable top elements.



### U-PCD2 Phase/darkfield condenser

High contrast phase imaging allows close observation of the cell interior and of live bacteria. Standard brightfield and dry darkfield as well as simultaneous reflected light fluorescence observations are possible.

# BX51WI/BX61WI FIXED STAGE UPRIGHT MICROSCOPE/ FIXED STAGE UPRIGHT MICROSCOPE WITH MOTORIZED FOCUSING

**UIS2**  
World-leading optics



Designed for neuroscience and cell biology applications, the BX51WI offers front focus operation and a complete absence of vibration, even when switching the objectives on the nosepiece and filters on the turret and in the optical path of the intermediate tubes. The availability of two-wavelength IR-DIC (775 nm and 900 nm) has huge advantages for researchers performing electrophysiological work using brain slice samples. Our unique two-position nosepiece can easily switch between objectives, and prevent air bubbles forming. To avoid having to change objectives, Olympus offers a single objective (XLUMPLFLN20XW) for low to high magnifications, combined with an intermediate magnification changer. The BX51WI provides dramatically bright fluorescence images, equivalent to our BX2 models.

Illumination	Transmitted light 12 V 100 W halogen Koehler illumination (BX51WI) Transmitted light 12 V 100 W halogen Koehler illumination; Light adjustment: less than DC2 V~12 V (continuous adjustment) Brightness adjustment, light preset switch (BX61WI)
Focusing	Nosepiece focus by roller guide (rack & pinion): Stroke per rotation: fine: 0.1 mm, coarse: 15 mm; Maximum stroke: 25 mm; Coarse lower limit stopper mechanism, Torque adjustment mechanism for coarse focus (BX51WI) Motorized focusing using stepping motor and ball screw Nosepiece focus by cross roller guide: Minimum graduation: fine: 1 μm (sensitivity 1 μm) Resolution 0.01 μm; Maximum stage movement speed 3 mm/s Stroke: 25 mm, stage escape mechanism (BX61WI)
Observation tube	Trinocular (F.N.22), erect image trinocular (F.N.22), double port magnification change unit (F.N.22)
Nosepiece	Swing, Slide, Single position, Swing-slide
Stage	Mechanical, bridge
Condenser	8-position universal, long working distance oblique, long working distance DIC, swing-out

\*Please refer to BX51WI/BX61WI catalog for further details



### U-D7REA Motorized Seven Position Nosepiece

Equipped with a DIC slider slot, this revolving nosepiece allows simultaneous attachment of seven objectives. It is especially suitable for continuous observations from low to high magnifications and combining specific objectives, such as polarized light observations.



### BX3-SSU Scanning stage with ultrasonic

The ultrasonic stage delivers high-precision XY control. The XY-controller can be mounted on the controller/U-MCZ for the BX63 and worked like conventional stage handles.



### U-KPO Simple polarizing attachment

Simple polarizing observation can be accomplished with the combination of U-KPA intermediate attachment for simple polarizing observation, U-ANT analyzer for transmitted light and U-POT polarizer.

### U-SDO3, U-MDO10B3 Group observation systems

Olympus discussion systems are invaluable for lab training and education. There is a wide choice, designed for 2 to 10 participants. The pointer is powered by LED, so there is no concern for sudden lamp failure.  
• Also available for five persons and two persons in face-to-face.



## CX41/CX31 SYSTEM MICROSCOPE/ BIOLOGICAL MICROSCOPE

**UIS2**  
World-leading optics



The CX41/CX31 offer extended capabilities to match a wide range of applications from routine clinical work to educational use. They not only feature an ergonomically designed frame for maximum operating comfort and enhanced rigidity, but also offer the convenience of extra-bright illumination.

### CX41

Featuring powerful 6V30W halogen Koehler illumination and outstanding flat images in this class of microscope, the CX41 is applicable for a wide range of observation methods and photomicroscopy.

### CX31

An ergonomically designed frame and bright 6V30W halogen illumination make the CX31 ideal for routine clinical work and educational applications.

Illumination	Built-in transmitted Koehler illuminator 6V30W halogen bulb 100-120 V/220-240 V~ 0.85/0.45 A 50/60 Hz
Focusing	Stage height movement by roller guide (rack & pinion) Stroke per rotation: 36.8 mm Full stroke range: 25 mm Tension adjustment on coarse focus adjustment knob Upper limit stopper (CX41) Upper limit stopped by simplified pre-focusing dial (CX31)
Observation tube	Binocular/Tilting binocular/Trinocular
Nosepiece	Fixed quadruple nosepiece with inward tilt
Stage	Size: 188(W) X 134 (Y) mm Traveling range: 76mm(X) x 50mm(Y) Specimen holder: Double slide holder
Condenser	Abbe condenser, with built-in daylight filter(CX31 only)
Accessories	Dual-observation attachment, phase-contrast attachment, drawing attachment, simple polarizing attachment, digital camera adapter etc.

\*Please refer to CX41, CX31 catalogs for further details

## IX81 MOTORIZED INVERTED SYSTEM MICROSCOPE

**UIS2**  
World-leading optics



This model allows researchers to customize the motorized system according to their own specific purpose, with operating control handled from the front. By using special software via a personal computer, it is also possible to exercise accurate control of multi-dimensional analyses, ranging from 2D to 6D. The full range of IX81 performance functions, including observations, measurements and manipulation, can be monitored via the numerous input/output ports, which allow connection of various kind of light sources and motorized modules.

- Purpose-selectable motorized units and easy operation right by the operator's hand.
- Multi-dimensional analysis by PC control.
- Maximum installation of experimental equipment and minimum layout limitations.
- Sharp, fade-free fluorescent images and faster observations.
- Optimized resolution and contrast in Nomarski DIC observation, for both thick- and thin-cell specimens.
- Combining different light sources and video systems to obtain even clearer images.
- Prolonged active-cell observation with highly reliable data.
- Special microscope body for FV1000 is available.

Illumination	Transmitted Koehler light 12V100W halogen
Focusing	Motorized focus: Stroke: 9mm Resolution: 0.1µm
Observation tube	Tilting binocular (F.N. 22), trinocular (F.N. 22)
Nosepiece	Motorized sextuple with simple waterproof mechanism
Stage	Cross with flexible right handle, plain, mechanical
Condenser	Motorized long working distance universal, long working distance universal, DIC, mid long working distance, 8-position universal, ultra long working distance universal
Other features	Video port for primary image, integrated magnification change lens
Accessories	Motorized/manual reflected light fluorescence attachment, DIC attachment, external power supply unit, side-viewing attachment, incubator, heat stage, micromanipulator, etc.

\*Please refer to IX71/IX81 catalog for further details

## CX21LED/CX21 BIOLOGICAL MICROSCOPES

**UIS2**  
World-leading optics



The CX21 series microscopes demonstrate the ideal combination of advanced performance and operability for multiple inspection and educational purposes in the medical field. Incorporating the UIS2 optical system and employing Plan objective lenses as standard, it delivers class-leading standards of image clarity and flatness in a wide range of observation methods.

Other characteristics include excellent durability, and ergonomic design features to reduce fatigue during long observations.

To maintain performance in any working environment, an effective anti-fungal treatment is applied to the objectives, eyepieces and microscope tube.

Optical system	UIS2 (Universal Infinity System) optical system
Illumination System	Built-in transmitted illumination system 0.5 W LED (CX21LED)/6 V 20 W halogen bulb (CX21)
Focusing	Stage height movement (coarse movement stroke 20 mm) Fine focus graduation: 2.5 µm
Revolving nosepiece	Fixed quadruple nosepiece
Stage	Wire movement mechanical fixed stage: 120 X 132mm Traveling range: 76 mm (X) X 30 mm (Y) Single specimen holder
Observation tube	30° inclined binocular tube Interpupillary distance adjustment range 48-75 mm
Condenser	Abbe type with aperture iris diaphragm N.A.: 1.25
Objective lens	Plan Achromatic objectives (anti-fungus) 4X N.A.: 0.10 W.D.: 18.5 mm 10X N.A.: 0.25 W.D.: 10.6 mm 40X N.A.: 0.65 W.D.: 0.6 mm 100X Oil N.A.: 1.25 W.D.: 0.13 mm (option)
Eyepiece (10X)	Field Number (F.N.): 18 (anti-fungus)
Optional accessories	Mirror unit, 15X eyepiece (F.N. 12, anti-fungus), wooden storage box, filar micrometer, wire pointer, filter holder, darkfield stop, cord rest (CX21 only)

\*Please refer to CX21LED/CX21 catalog for further details

## IX71/IX51 RESEARCH INVERTED SYSTEM MICROSCOPE/ INVERTED SYSTEM MICROSCOPE

**UIS2**  
World-leading optics



Designed to provide the high performance and versatility needed by researchers involved in live cell experiments, the IX71 offers highly precise temperature control and resistance to heat and vibration, enabling work on live cells with much less risk of damage and reducing the incidence of failure in prolonged experiments.

A 30W illumination pillar type IX51, which has no intermediate magnification changer, is also available.

- More free space and a better working environment, with flexible use of several cameras and light sources.
- Easy front operation allows auxiliary equipment to be placed near the microscope.
- Flexible system expansion allows many different fluorescence applications without major remodeling.
- Obtaining high-quality, purpose-specific images with different cells and different types of container.
- Rigid construction and comprehensive system features to analyze time lapse changes in highly active cell conditions.

Illumination	Transmitted light 12V100W HAL for IX71, 6V30W HAL for IX51
Focusing	Vertical movement of nosepiece (stage fixed): coarse & fine coaxial handle: full stroke: 9mm; minimum fine adjustment: 1.2µm
Observation tube	Tilting binocular (F.N.22), binocular (F.N.22), trinocular (F.N.22)
Nosepiece	Sextuple, simple waterproof mechanism
Stage	Cross with flexible right handle, cross with short left handle, plain, mechanical
Condenser	Motorized long working distance universal, long working distance universal, DIC, mid long working distance, 8-position universal ultra long working distance universal
Other features	Video port for primary image, integrated magnification change lens
Accessories	Reflected light fluorescence attachment, DIC attachment, external power supply unit, side-viewing attachment, incubator, heat stage, micromanipulator, etc.

\*Please refer to IX71/IX81 catalog and IX51 catalog for further details

## Accessories for IX2

### TIRFM

#### Total internal reflected fluorescence microscopy

An exclusive high N.A. (1.65, 1.49) objective and reflected light illuminator are provided, allowing exchange between evanescent wave and normal fluorescence observation.

*\*TIRFM is a class 3B laser product.*



IX71 TIRFM version



### U-DPCAD Dual port with C-mount adapter

This double port tube allows the attachment of two cameras (both primary images).



### IX2-RFA Fluorescence illuminator

Can be mounted with six different mirror units. An original mirror unit can be tailor-made from generic mirror units. UV cut filter integrated.



### IX2-RFAL L-shaped fluorescence illuminator

Allows easy centering and AS/FS operation from the front and also permits attachment of a large format camera to the back port.



### IX2-GS Gliding stage

To follow the quick movement of *caenorhabditis elegans*, this stage is designed to move smoothly and freely throughout the plane.



### IX2-LWUCD Long working distance universal condenser

The new DIC system is especially effective in obtaining high-contrast, high-resolution images in 20X and 40X DIC observations.



### IX2-MLWCD Mid long working distance condenser

The relief contrast condenser is designed to produce contrast and shading effects, similar to DIC, yet within the confines of plastic sample vessels.



### IX2-DICD+IX2-TLW DIC condenser + water top lens for DICD

By combining the IX2-TLW top lens, DIC prism and DIC slider, this model provides excellent operability in injection and patch clamping operations.



### IX2-TVRAC Motorized bottom port unit with C-mount

Entirely aberration-free primary images from UIS2 objectives are directed to C-mount CCD camera.



### IX2-RFACA Motorized fluorescent cube turret

Accepts up to 6 fluorescence filter cubes, making it easy to switch between them during fluorescence observation of multi stained specimens. (Manual shutter included.)



### IX2-LWUCDA2 Motorized long working distance universal condenser

Simultaneously accepts up to 6 optical components at maximum. Motorized exchange through PC possible.

## ON3 Series MICROMANIPULATORS

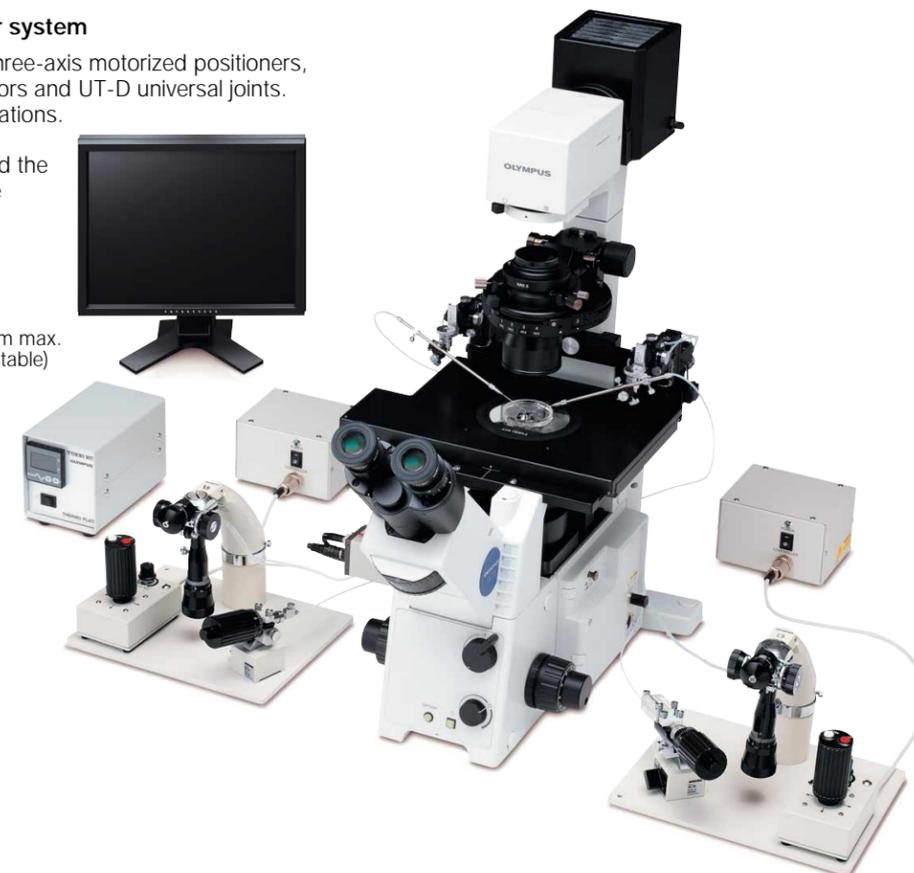
As a joint development with Narishige Scientific lab, the ON3 micromanipulators offer high-precision and easy operation for IVF, injection and physiological experiments.

### ON3-99D (1:1) Oil-hydraulic micromanipulator system

The ON3-99D consists of a pair of three-axis motorized positioners, drop handle joystick micromanipulators and UT-D universal joints. The ON3-99D is ideal for ICSI applications. Two types of injectors, the IM-9B microinjector (for sperm injection) and the IM-9C pneumatic injector (for oocyte holding) are available separately.

Drop handle joystick  
 • Fine movement range: 10 mm  
 • Full rotation of knob: 250 μm  
 • Minimum graduation: 2.5 μm  
 • Joystick (for X and Y movement): 400 μm max. (movement ratio and lever tension adjustable)

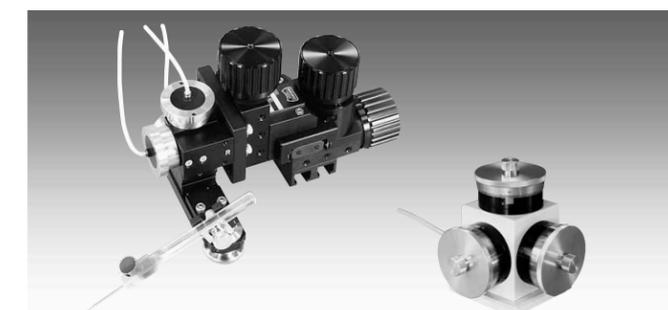
Motorized positioner  
 • Coarse movement range: 23 mm (movement speed adjustable)



### ONO-301D Drop handle joystick micromanipulator (1:1)

Thanks to its symmetrical design, this micromanipulator can be attached on either the right or the left side. In combination with the optional universal joint (UT-D) and return mechanism (UT-R), it also provides a pipette return function.

• Accessory: IP plate  
 • Fine movement range: X, Y and Z axes 10 mm  
 • Full rotation of knob: 250 μm  
 • Minimum graduation: 2.5 μm  
 Photo: ONM-2D, ONO-301D, UT-D and UT-R configuration



### MHW-3 Three-axis water hydraulic drum type micromanipulator

The MHW-3 is useful for physiological experiments as well as fine injection or suction. The solid design including mechanical coarse positioner provides reliable stability and precise movement. The optional MHW-4 single axis micromanipulator is mountable.

• Fine movement range: 2 mm  
 • Coarse movement range: 30 mm  
 • Full rotation of knob: 50 μm  
 • Minimum graduation: 0.2 μm

## CKX41/CKX31 INVERTED MICROSCOPES

**UIS2**  
World-leading optics



CKX41/CKX31 are designed to check the viability of cultured cells more quickly and efficiently. Its unique, centering-free phase annulus (common for 10X, 20X and 40X) provides faster phase contrast observations with no need for adjustment. The solid frame has a compact, space-saving design which is ideal for standard workbench surfaces.

### CKX41

Observation tube is exchangeable, a trinocular tube is also mountable. A glass stage insert plate provides quick recognition of objectives.

### CKX31

The CKX31 is a standard type with a fixed binocular tube and a powerful 6V30W halogen illumination and ideal for routine cultured cell observation.

Illumination	Transmitted light 6V30W halogen illumination
Focusing	Vertical movement of nosepiece (stage fixed); coarse & fine coaxial handle; full stroke: 9mm; minimum fine adjustment: 1.2µm
Observation tube	Binocular (CKX31 frame/CKX41 frame with tilting binocular tube) Trinocular (CKX41 frame with trinocular tube)
Nosepiece	Fixed quintuple
Stage	Plain stage (160mm X 240mm), attachable mechanical stage
Condenser	Detachable long working distance condenser (N.A. 0.3, W.D. 72mm)
Accessories	Glass stage insert plate, eyepoint adjuster, relief contrast system, Terasaki holder, 35mm dia., petri dish holder, slide glass holder, etc.

\*Please refer to CKX41/CKX31 catalog for further details

## BX53-P POLARIZING MICROSCOPES

**UIS2**  
World-leading optics



Orthoscopic version

Conoscopic/  
orthoscopic version

This series employs UIS2 optics to achieve unsurpassed performance in polarized light observation. These units deliver optimum compensation for optical aberrations to achieve images of unprecedented sharpness. Six compensators are available to allow observation and measurement at various retardation levels.

- Conoscopic/orthoscopic version and orthoscopic version available.
- 6 different kinds of compensators are available for BX53-P.
- Accessories and video/camera system of BX3 Series mountable on BX53-P.

Illumination	Transmitted light 12 V 100 W halogen Koehler illumination
Polarizing intermediate tube	Swing-out focusable Bertrand lens with slot for 360° rotatable analyzer for conoscopic & orthoscopic observation (U-CPA)
Test plate	1 wavelength (1λ), 1/4 wavelength (1/4λ)
Compensators	Berek, Senarmont, Brace-Koehler, quartz wedge, etc. (6 types available)
Focusing	Coarse & fine coaxial handle; full stroke: 25 mm; minimum fine adjustment: 1 µm
Observation tube	Trinocular (F.N. 22)
Nosepiece	Detachable quadruple nosepiece with centering adjustment function
Stage	Circular rotatable stage with centering adjustment function and attachable mechanical stage. 360° graduated in 1° increments, lockable in any position
Condenser	Achromat strain-free condenser with built-in 360° rotatable polarizer (N.A. 0.18-0.9)

\*Please refer to BX53-P catalog for further details

## Accessories for CKX41/CKX31



### IX2-SLP Phase contrast slider (pre-centered)

Centering-free type phase slider. A common phase annulus for 10x, 20x and 40x enables fast and easy operation for routine use.



### IX2-SL Phase contrast slider (centerable)

Centerable type phase slider. The centering unit for phase annuli is available for precise adjustment.



### CKX-RCD Relief Contrast condenser

The reduced halo of the relief contrast improves information on the cell's interior. Maintains the same shadow direction even if the magnification is changed.



### CKX-RFA Fluorescence illuminator

Provides fluorescence observation (B and G excitation) for CKX41.



### CK40-CPG30 Glass stage insert plate

Easy recognition of objectives. An insert with ø30mm opening is available (CKX41 only).



### IX2-BCTP Hemacytometer holder

The mechanical stage offers excellent inspection performance with hemacytometer holder or other micro plates.

## CX31-P POLARIZING MICROSCOPE

**UIS2**  
World-leading optics



The CX31-P is a high-quality polarizing microscope that's ideal for training, with the wide-ranging functions and superior durability required in every field of research.

Its excellent optical performance is matched with the versatility to meet the demands of many different kinds of applications, from double-refraction examination of the structure and characteristics of transparent specimens to complex analyses of rocks, fibers, macromolecules and new materials.

Optics	Objective Eyepiece	ACHN-P series, UPLFLN-P series WHN10X, WHN10X-H, CROSSWHN10X, WHB10X3, WHB10X2-H
Observation tube	Binocular Trinocular	U-BI30P, U-CBI30-2 U-TR30-2, U-CTR30-2
Conoscopic intermediate tube (U-PA)	Bertrand lens Changeover between orthoscopic/conoscopic observation Analyzer	Incorporated, detachable, focusable Engage or disengage of Bertrand lens Position: ● IN Position: ○ OUT Incorporated, detachable, 180° rotatable, lockable in any position, 2° increments, minimum retardation resolution 6', using vernier scale
	Slot for compensators	Tint plate (U-TP530), 1/4 wavelength retardation plate (U-TP137) and various compensators attachable

\*Please refer to CX31-P catalog for further details

# SZX16/SZX10

## RESEARCH STEREO MICROSCOPE SYSTEM



SZX16 with fluorescence system

SZX10

The system modularity allows users to create the application dedicated configurations they need. Offering optical and mechanical excellence and stability, and a wide range of modularity components, the SZX2 Series is today's first choice in research stereo microscopy.

### SZX16

Offering a zoom ratio of 1:16.4, the SZX16 is ideal for the most demanding applications. New SDF objective lenses provide a high NA with 900lp/mm resolution. Optimum specimen viewing from large field overview to microstructure, along with instant zoom function to select observation points, is assured.

### SZX10

A zoom ratio of 1:10 is suitable for operations like specimen selection or dissection. SZX10 provides wide viewing and assures fewer oversights while relieving fatigue. Choose from a wide range of accessories to suit your sample needs.

	SZX16	SZX10
Optical system	Telescope type system	
Zoom range	0.7x-11.5x (zoom ratio 1: 16.4), Click stop equipped (releasable)	0.63x-6.3x (zoom ratio 1: 10.0)
Aperture diaphragm	Built-in	
Total mag. range	2.1x-690x	3.15x-378x
Working distance	141 (with SDFPLFLO.3x) - 20mm (with SDFPLAPO2xPFC)	171 (with DFPL 0.5x) - 33.5mm (with DFPL2x-4)
Observation tube	SZX2-TTR/SZX2-TTRPT: tilting trinocular, 5 - 45° variable inclination SZX2-TR30/SZX2-TR3OPT: 30 degree trinocular, 30° inclination	
Objective	SDFPLFLO.3x, SDFPLAPO0.5xPF, SDFPLAPO0.8x, SDFPLAPO1xPF, SDFPLAPO1.6xPF, SDFPLAPO2xPFC	DFPLO.5x-4, DFPL0.75x-4 DFPLAPO1x-4, SZX-ACH1x, DFPLAPO1.25x, SZX-ACH1.25x-2 DFPL1.5x-4, DFPL2x-4
Eyeiece	WHN10x-H (FN 22) WHSZ15x-H (FN 16), WHSZ20x-H (FN 12.5), WHSZ30x-H (FN 7)	WHSZ10x-H (FN 22)
Focusing	SZX2-FO: Focusing unit, coarse handle stroke 80mm SZX2-FOF: Fine focusing unit, coarse handle stroke 80mm, fine handle stroke 80mm SZX2-FOFH: Fine focusing unit for heavy loading, stroke 80mm fine handle stroke 80mm SZX2-FOA: Motorized focus unit, focusing stroke 78mm	
Accessories	Fluorescence illuminator, coaxial illuminator, light beam splitter, revolving nosepiece, large stage plate, stage adapter, etc.	Eyepoint adjuster, arrow pointer, drawing attachment, side by side discussion tube, etc.

\*Please refer to SZX16/SZX10 catalog for further details

### SZX2-ILLB

#### High-level transmitted light illumination base

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).



### SZX2-ILLD

#### Brightfield/darkfield transmitted light illumination base

Enables darkfield observation under illumination twice as bright as conventional models. Flat and thin specimens like brain tissue slices are vividly displayed on a black background.



### SZX2-ILLT

#### Slim LED transmitted light illumination base

With a slim design of 41mm, 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.



# SZX7

## STEREO MICROSCOPE SYSTEM



The SZX7 minimizes strain and fatigue while fulfilling the key mission of Olympus microscope designers — to provide the optimal image for any specimen. The clear, accurate performance of the high-level Galilean optical system is complemented by a distortion free objective lens series with maximum numerical aperture. The SZX7 microscope body is manufactured using newly developed lead-free optics, demonstrating Olympus' commitment to protect the environment.

Optical system	Galilean type optical system
Zoom microscope body	Zoom range 0.8x-5.6x (zoom ratio 1:7), Lead-free
Observation tube	1. SZX-BI45: Binocular, 45° inclination 2. SZX-TBI: Binocular, 5°-45° variable inclination 3. SZX2-TR30: Trinocular, 30° inclination 4. SZX2-TR3OPT: Trinocular, 30° inclination All observation tubes: Lead-free Interpupillary distance adjustable range: 50 to 76 mm
Objective	DFPLO.5x-4, DFPL0.75x-4, DFPLAPO1x-4, SZX-ACH1x, DFPLAPO1.25x, SZX-ACH1.25x-2, DFPL1.5x-4, DFPL2x-4 All objectives: lead-free
Eyepieces	"ComfortView" WHSZ series All eyepieces: Lead-free

\*Please refer to SZX7 catalog for further details

# SZ61/SZ51

## ZOOM STEREO MICROSCOPE



SZ61/SZ51

SZ61TR

SZ61-60/SZ51-60

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.

	SZ61	SZ61-60	SZ61TR	SZ51	SZ51-60
Optical system	Greenough type optical system				
Zoom ratio	1:6.7			1:5	
Working distance	110mm				
Tube inclination angle	45°	60°	45°	60°	
Video camera adaptability	—		C-mount (0.5x built in)	—	
Optical component	Lead-free				
Auxiliary objective	Mounting by screwing into the thread at the bottom of frame (M48 thread x0.75)				
Eyepieces	"ComfortView" WHSZ series All eyepieces: Lead-free				

\*Please refer to SZ61/SZ51 catalog for further details

## Accessories for SZX/SZ

### SZ2-ILST LED illuminator stand

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.



### SZ2-ILA Transmitted illumination attachment

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



### SZ2-LGDI Interlock dual light guide

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



### SZ2-LGSF Flexible light guide

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



### SZ2-LGR Ring light guide

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



### SZ2-STU3 Table clamp stand

The versatile SZ2-STU3 can be fixed to the side of a desk to expand the working area. Also, this stand exhibits operational versatility in anatomical and electrophysiological experimentation.

• For use with SZ2-STB1 bonder arm



### SZ2-STU2 Universal stand type 2

This versatile stand allows smooth adjustment of both arm angle and length. This stand is perfect for photomicrography and video mounting of large specimens.

• For use with SZ2-STS arm



## Macro View MVX10 RESEARCH MACRO ZOOM SYSTEM MICROSCOPE

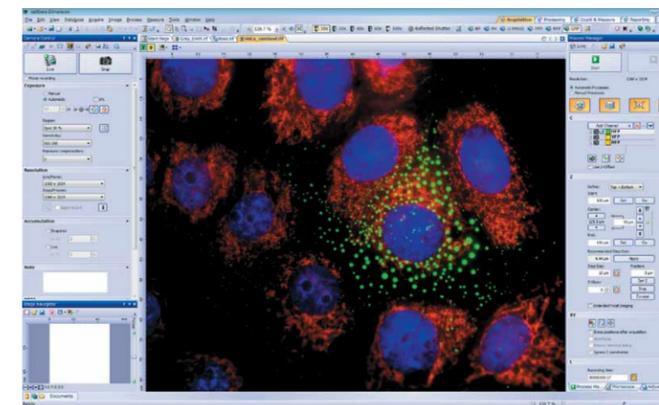


Developed as a system specially designed for macro fluorescence imaging, the MVX10 employs a single-zoom optical system, and has world-class features including a high resolution of 1500 lines/mm, a zoom ratio of 10, and NA of 0.5 (with 2x objective). This enables seamless observation of bright fluorescence images, from macro to micro, and provides extraordinarily high resolution.

Zoom microscope body MVX-ZB10	Optical system	Mono-zoom variable magnification system		
	Zoom range	0.63x-6.3x (zoom ratio 1:10)		
	Aperture iris diaphragm	Built-in		
Observation head MVX-TTRS	Features	Tilting binocular head that allows switching between standard and stereo observation		
	Field number (FN)	22		
	Tilting angle	0 — 23° continuously variable system		
	Light path selection	2-step binocular 100%/photo 100%		
Reflected light fluorescence unit MVX-RFA	Illumination mode	Coaxial reflected light		
	Filter selection	Turret 3 filter + BF		
	Fluorescence mirror unit	For CFP, GFP, YFP, RFP separation high quality mirror unit		
	Light source	100W mercury apo lamp housing and power source, 100W mercury lamp housing and power source, or 75W xenon apo lamp housing and power source		
Magnification changer MVX-CA2X	Magnification	1x, 2x selection		
Objectives (when used with eyepiece WHN10X)	MVPLAPO 0.63X	MVPLAPO 1X	MVPLAPO 2XC	
	Total magnification	4.0 — 40x	6.3 — 63x	12.5 — 125x
	Working distance (WD)	87mm	65mm	20mm
	Numerical aperture (NA)	0.15	0.25	0.5
	Field of view	55 — 5.5mm	34.9 — 3.5mm	17.6 — 1.7mm
Stands, transmitted illuminators	Stands, transmitted illuminators	High-level transmitted light illumination base SZX2-ILLB, Brightfield/darkfield transmitted light illumination base SZX2-ILLD, Large stand SZX2-STL		
	Focusing unit	Fine focusing unit SZX2-FOFH, motorized focusing unit SZX2-FOA		
	Stage	Large stage plate, thermoplate, CO <sub>2</sub> incubator		

\*Please refer to MVX10 catalog for further details

## cellSens IMAGING SOFTWARE



cellSens is an imaging software available in three versions to meet individual workflow needs. "Entry" is used for simple image acquisition. "Standard" provides simple operation for imaging documentation. "Dimension" allows for the control of the complete workflow from image capture to analysis. With GUI customization, working environments for both Standard and Dimension can be optimized according to workflow. cellSens frees the researcher to concentrate on his/her creative work.

\*cellSens versions 1.4.1 and later support the BX3 series.

cellSens functions		Dimension	Standard	Entry
Layout	User experience customization	✓	✓	✓
View	Overlay multiple images	✓	✓	✓
	Tile view (Multiple images in a single data set shown side by side)	✓	✓	✓
	Slice view for orthogonal plane viewing 3D or time-lapse data sets	✓		
Image acquisition	Snap/Movie acquisition	✓	✓	✓
	Multi-dimensional (xyzt and wavelength)	Multichannel 5D		
	Automated multiple image alignment (Requires motorized stage)	Multiposition		
	Instantly create EFI image (Manual or motorized Z)	✓		
Image processing	Geometry/combine/filter processing	✓	✓	
	Fluorescence unmixing	Multichannel 5D		
	3D deconvolution (Constrained iterative deconvolution)	CI Deconvolution		
Image analysis	Region and line measurements	✓	✓	
	Object analysis and classification	Count & Measure		
	Colocalization	Multichannel 5D		
Documentation and collaboration	Automatically compose Word reports	✓		
	Database image and data management solution for microscopy	Database		
	Remote viewing (live image data transmission over the internet)	NetCam	NetCam*	

\*1: Not available in some area.

\*Please refer to cellSens catalog for further details

## DP72 DIGITAL CAMERA

By combining Olympus digital technologies together with high-speed processing hardware, even an image of 12.8 million pixels can be captured at high speed, around 2.5 seconds, while fully maintaining image quality, accuracy and color fidelity. High sensitivity and low noise ensure that even images derived from relatively faint fluorescence can be acquired clearly.

\* Please refer to DP72 catalog for further details



DP72+BX63+PC

## DP25 DIGITAL CAMERA

The DP25 is an easy-to-operate digital color camera system for a broad range of scientific microscopy image acquisition uses, mainly focused on image documentation, reporting and analysis. Its high resolution, fast frame rates and excellent color fidelity all guarantee an efficient microscopy workday.

\* Please refer to DP25 catalog for further details



DP25+BX53+laptop PC

## DP21 DIGITAL CAMERA

The DP21 is a stand-alone digital camera with a convenient handset for simple operations from observations to imaging. Its accurate color reproductions and smooth, high-definition live image displays are ideal for small discussion groups and conferences. Optional cellSens imaging software platform also allows operation via computers.

\* Please refer to DP21 catalog for further details



DP21+BX53

## E330M1.2x E-330 MICRO IMAGING SYSTEM

A simple adapter enables an Olympus E-330 digital camera to be attached to the trinocular observation tube of an erect microscope or a stereo microscope — an easy, practical and cost-efficient means of obtaining digital images.

\* Please refer to E330M1.2x leaflet for further details



E330M1.2x+CX41

E330M1.2x+SZX10

# UIS2/UIS Series Objectives

## Universal objectives



### UPLSAPO series

The top-performance universal Plan Super Apochromat objectives offer an unbeatable solution to every kind of digital imaging need.



### UPLFLN series

These affordable Semi-Apochromat universal objectives deliver superb resolution, contrast and flatness for any microscopic technique.



### UPLFLN-P series

These strain-free Semi-Apochromat universal objectives reduce internal strain to an absolute minimum and are best suited for polarizing and Nomarski DIC microscopies.

## Brightfield objectives



### PLAPON series

Designed for unsurpassed resolution and contrast, these Plan Apochromat objectives keep chromatic aberration to down to a minimum. The PLAPON6XOSC objective has two improvements, chromatic aberration compensation at 405–650 nm and image-forming performance at 405 nm.



### PLN series

These cost-effective Achromat objectives ensure field flatness up to F.N. 22 and are widely used in research, educational and routine work applications.

## Objectives for special purpose



### UPLFLN-PH series

The newly designed phase annuli reduce flare and halo to a minimum and ensure high resolution and contrast for unstained specimens, e.g. living cells and microorganisms.



### No cover objectives

The coverglass-free objectives are designed for glass slides without a cover slip. This feature is largely designed for observation of blood smear specimens.



### UAPO/340 series

These objectives feature a highest transmission of 340nm wavelength light, ensuring maximum performance in fluorescence microscopy through UV excitation including CA<sup>2+</sup> photometry.

## Objectives for BX51WI/BX61WI



### LUMPLFLN-W series

This is a series of water immersion objectives developed for experiments in electrophysiology. The UW multi-coating displays flat images with a high transmission factor up to the near infrared region, while also achieving excellent DIC and fluorescence from the visible range to infrared.



### XLFLUOR/340 series, XLUMPLFLN20XW

XLFLUOR/340 series objectives are designed for low magnification fluorescence observation. High N.A. long W.D. XLUMPLFLN20XW objective allows the measurement of cell membrane electric potential.

## Objectives for inverted microscopes



### LUCPLFLN-PH series

These objectives are exclusively designed for culture specimens. An excellent phase-contrast image is assured regardless of the thickness and material of the vessel.



### LUCPLFLN series

These Semi-Apochromat objectives are dedicated for tissue culture and offer excellent contrast and resolution in brightfield, Nomarski DIC and fluorescence observations.



### LCACHN series

These Achromat phase-contrast objectives are designed for cell culture observations and are best suited for various clinical examinations and cell testing.

UIS2 objectives \*

\* All UIS2 objectives and WHN eyeieces: lead-free eco-glass

	Description	N.A.	W.D. (mm)	F.N.	Cover glass	Immersion	Spring	Correction ring	Iris diaphragm	Water proof & oil proof function	For upright microscope	For inverted microscope
UPLSAPO	UPLSAPO 4X	0.16	13	26.5	—						○	○
	UPLSAPO 10X2	0.4	3.1	26.5	0.17						○	○
	UPLSAPO 20X	0.75	0.6	26.5	0.17		○				○	○
	UPLSAPO 20XO	0.75	0.6	26.5	0.17		○				○	○
	UPLSAPO 40X2	0.95	0.18	26.5	0.11-0.23		○	○			○	○
	UPLSAPO 60XW	1.2	0.28	26.5	0.13-0.21	Water	○	○		○	○	○
	UPLSAPO 60XO	1.35	0.15	26.5	0.17	Oil	○			○	○	○
	UPLSAPO 100XO	1.4	0.13	26.5	0.17	Oil	○			○	○	○
PLAPON	PLAPON 1.25X	0.04	5	26.5	—						○	
	PLAPON 2X	0.08	6.2	26.5	—						○	
	PLAPON 60XO	1.42	0.15	26.5	0.17	Oil	○			○	○	○
	PLAPON 60XOSC	1.4	0.12	22	0.17	Oil	○			○	○	○
UPLFLN	UPLFLN 4X	0.13	17	26.5	—						○	○
	UPLFLN 10X2	0.3	10	26.5	—						○	○
	UPLFLN 20X	0.5	2.1	26.5	0.17		○				○	○
	UPLFLN 40X	0.75	0.51	26.5	0.17		○				○	○
	UPLFLN 40XO	1.3	0.2	26.5	0.17	Oil	○			○	○	○
	UPLFLN 60X	0.9	0.2	26.5	0.11-0.23		○	○			○	○
	UPLFLN 60XOI	1.25-0.65	0.12	26.5	0.17	Oil	○		○	○	○	○
	UPLFLN 100XO2	1.3	0.2	26.5	0.17	Oil	○			○	○	○
	UPLFLN 100XO12	1.3-0.6	0.2	26.5	0.17	Oil	○		○	○	○	○
UPLFLN-PH	UPLFLN 4XPH	0.13	17	26.5	—						○	
	UPLFLN 10X2PH	0.3	10	26.5	—						○	
	UPLFLN 20XPH	0.5	2.1	26.5	0.17		○				○	
	UPLFLN 40XPH	0.75	0.51	26.5	0.17		○				○	
	UPLFLN 60XOIPH	1.25-0.65	0.2	26.5	0.17	Oil	○		○		○	
	UPLFLN 100XO2PH	1.3	0.2	26.5	0.17	Oil	○				○	
UPLFLN-PHP	UPLFLN 4XPHP	0.13	16.4	22	—						○	
UPLFLN-P	UPLFLN 4XP	0.13	17	26.5	—						○	
	UPLFLN 10XP	0.3	10	26.5	—						○	
	UPLFLN 20XP	0.5	2.1	26.5	0.17		○				○	
	UPLFLN 40XP	0.75	0.51	26.5	0.17		○				○	
	UPLFLN 100XOP	1.3	0.2	26.5	0.17	Oil	○			○	○	
PLFLN	PLFLN 100X	0.95	0.2	26.5	0.14-0.2		○	○			○	
PLN	PLN 2X	0.06	5.8	22	—						○	
	PLN 4X	0.1	18.5	22	—						○	
	PLN 10X	0.25	10.6	22	—						○	
	PLN 20X	0.4	1.2	22	0.17		○				○	
	PLN 40X	0.65	0.6	22	0.17		○				○	
	PLN 50XOI	0.9-0.5	0.2	22	—	Oil	○		○		○	
	PLN 100XO	1.25	0.15	22	—	Oil	○				○	
	PLN-PH	PLN 10XPH	0.25	10.6	22	—						○
PLN 20XPH		0.4	1.2	22	0.17						○	
PLN 40XPH		0.65	0.6	22	0.17		○				○	
PLN 100XOPH		1.25	0.15	22	—	Oil	○				○	
PLN & ACHN-P	PLN 4XP	0.1	18.5	22	—						○	
	ACHN 10XP	0.25	6	22	—						○	
	ACHN 20XP	0.4	3	22	0.17						○	
	ACHN 40XP	0.65	0.45	22	0.17		○				○	
	ACHN 100XOP	1.25	0.13	22	—	Oil	○				○	
PLFLN-CY	PLFLN10XCY	0.3	10	26.5							○	

	Description	N.A.	W.D. (mm)	F.N.	Cover glass	Immersion	Spring	Correction ring	Iris diaphragm	Water proof & oil proof function	For upright microscope	For inverted microscope
PLN-CY	PLN 2XCY	0.06	5.8	22							○	
	PLN 4XCY	0.1	18.5	22							○	
	PLN 10XCY	0.25	10.6	22							○	
	PLN 20XCY	0.4	1.2	22	0.17		○				○	
LUCPLFLN	LUCPLFLN 20X	0.45	6.6-7.8	22	0-2			○				○
	LUCPLFLN 40X	0.6	2.7-4	22	0-2			○				○
	LUCPLFLN 60X	0.7	1.5-2.2	22	0.1-1.3			○				○
	LUCPLFLN 20XPH	0.45	6.6-7.8	22	0-2			○				○
	LUCPLFLN 20XRC	0.45	6.6-7.8	22	0-2			○				○
	LUCPLFLN 40XPH	0.6	3.0-4.2	22	0-2			○				○
	LUCPLFLN 40XRC	0.6	3.0-4.2	22	0-2			○				○
CPLFLN	CPLFLN 10XPH	0.3	9.5	22	1							○
	CPLFLN 10XRC	0.3	9	22	1.5							○
	LCACHN	LCACHN 20X PH	0.4	3.2	22	1						
LCACHN 20X PHP		0.4	3.2	22	1							○
LCACHN 20XRC		0.4	2.8	22	1.5							○
LCACHN 40XPH		0.55	2.2	22	1							○
LCACHN 40XPHP		0.55	2.2	22	1							○
LCACHN 40XPH		0.55	1.9	22	1.5							○
CACHN & CPLN		CACHN 10XPHP	0.25	8.8	22	1						
	CPLN 10XPH	0.25	10	22	1							○
	CPLN 10XRC	0.25	9.7	22	1.5							○
LUMPLFLN-W	UMPLFLN 10XW	0.3	3.5	26.5	—	Water					○	
	UMPLFLN 20XW	0.5	3.5	26.5	0	Water					○	
	LUMPLFLN 40XW	0.8	3.3	26.5	0	Water					○	
	LUMPLFLN 60XW	1	2	26.5	0	Water					○	
	LUMPLFLN 60XW	1.1	1.5	26.5	0	Water			○		○	
	XLUMPLFLN-W	XLUMPLFLN 20XW	1	2	22	0	Water					○
No cover objective	MPLAPON 60X	0.90	0.4	26.5	0		○				○	
	MPLAPON 100XO	1.4	0.1	26.5	0	Oil	○			○	○	
	MPLFLN 20X	0.45	3.1	26.5	0						○	
	MPLFLN 40X	0.75	0.63	26.5	0						○	
	MPLFLN 100X	0.9	1	26.5	0		○				○	
UAPON340	UAPON 40XO 340	1.35	0.1	22	0.17	Oil	○			○	○	○
	UAPON 20XW 340	0.70	0.35	22	0.17	Water	○			○	○	○
	UAPON 40XW 340	1.15	0.25	22	0.13-0.25	Water	○	○		○	○	○
TIRFM	APON 60XOTIRF	1.49	0.1	22	0.13-0.19	Oil		○		○	○	○
	UAPON 100XOTIRF	1.49	0.1	22	0.13-0.19	Oil		○		○	○	○
	UAPON 150XOTIRF	1.45	0.08	22	0.13-0.19	Oil		○		○	○	○

UIS objectives

	Description	N.A.	W.D. (mm)	F.N.	Cover glass	Immersion	Spring	Correction ring	Iris diaphragm	Water proof & oil proof cap	For upright microscope	For inverted microscope
TIRFM	AP0 100XOHR	1.65	0.1	22	0.15	Oil	○			○		○

\* Include 5 mm water