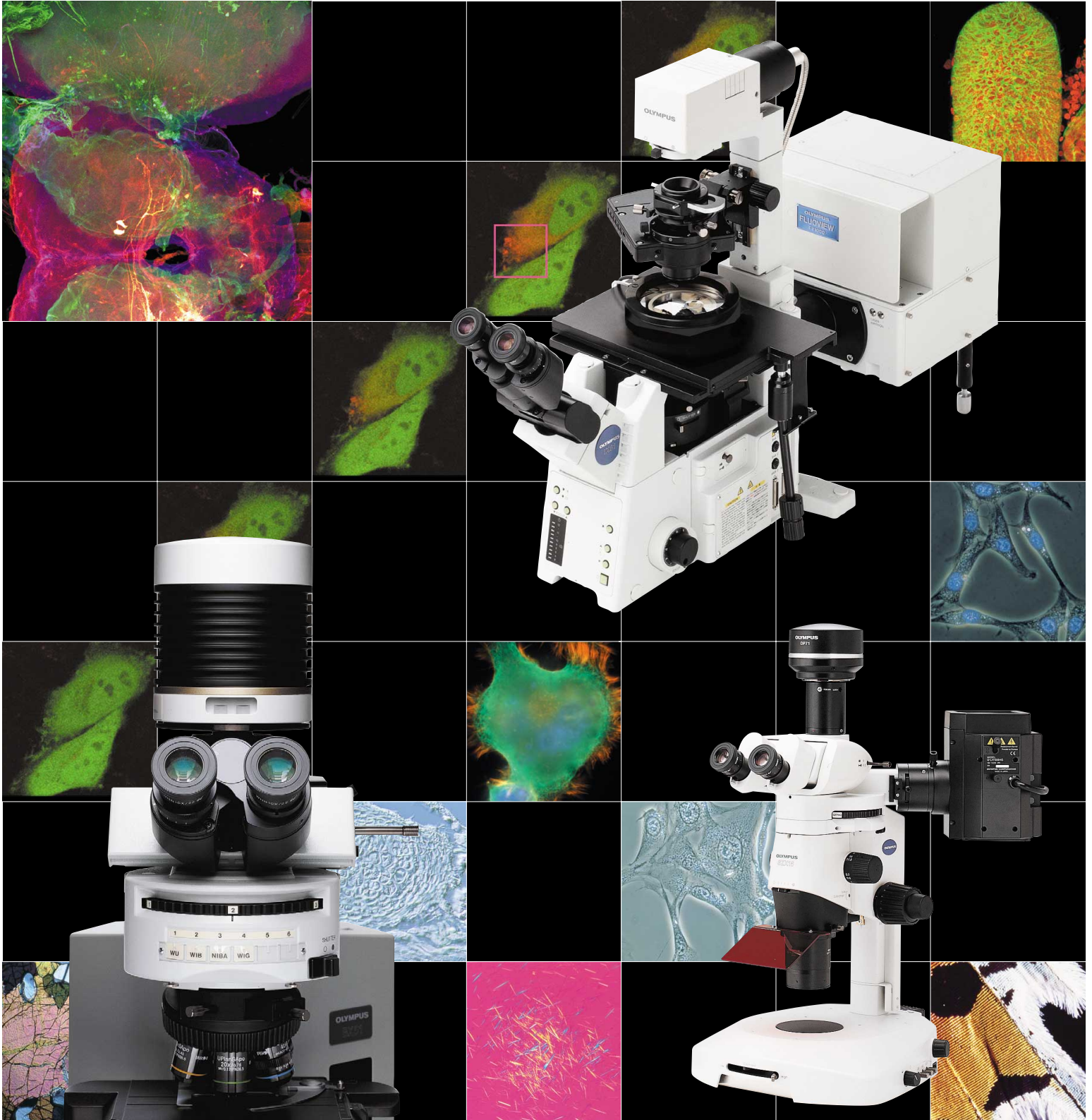


2006-09





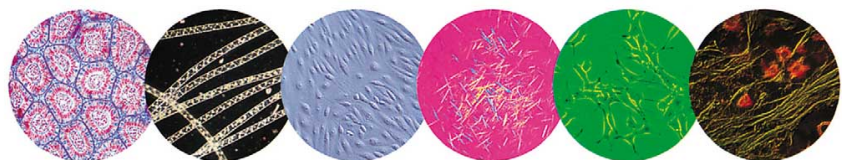
New avenues of research are opening in biological and medical fields. As research demands become more specialized and diversified, biological microscopes must offer the capabilities to meet these needs.

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 BX2 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 FV1000 Confocal Laser Scanning Biological Microscope ... 3

Fluoview FV300 Confocal Laser Scanning Biological Microscope ... 3

BX61 Motorized System Microscope ... 4

BX51 System Microscope ... 4

BX41 Laboratory Microscope ... 5

BX45 Ergonomic Laboratory Microscope/
BX45A Automated Ergonomic Laboratory Microscope ... 5

Accessories for BX2 ... 6-7



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

CX41 System Microscope/CX31 Biological Microscope ... 8

CX21 Biological Microscope ... 8

IX81 Motorized Inverted System Microscope ... 9

IX71 Research Inverted System Microscope/
IX51 Inverted System Microscope ... 9

Accessories for IX2 ... 10

CKX41/CKX31 Inverted Microscopes ... 11

Accessories for CKX41/CKX31 ... 11

ON3 Series Micromanipulators ... 12

BX51-P Polarizing Microscope ... 13

CX31-P Polarizing Microscope ... 13

SZX16/SZX10 Research Stereomicroscope System ... 14

SZX7 Stereomicroscope System ... 15

SZ61/SZ51 Stereomicroscope System ... 15

Accessories for SZX/SZ ... 16

Macro View MVX10 Research macro zoom system microscope ... 17

DP30BW High Sensitivity cooled CCD camera ... 18

DP71 Digital Camera ... 18

DP20 Digital Camera ... 18

DP12 Digital Camera ... 18

UIS2 Series Objectives ... 19-21

UIS Series Objectives ... 20, 22



FLUOVIEW FV1000

CONFOCAL LASER SCANNING BIOLOGICAL MICROSCOPE

UIS2
World-leading optics



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.

		Spectral type fluorescence detector	Filter type fluorescence detector
Laser light	Visible light laser	Multi-line Ar laser, HeNe(G) laser, HeNe (R) laser HeNe(G) laser (543nm, 1mW), HeNe (R) laser(633nm, 10mW) Visible light laser platform with implemented AOTF system	
	Violet laser (option)	Laser Diode 405nm, 440nm	
		Laser port: Standard 3 laser ports, VIS - UV - IR	
Scanning and Detection	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 0.5X 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

3

FLUOVIEW FV300

CONFOCAL LASER SCANNING BIOLOGICAL MICROSCOPE

UIS2
World-leading optics



FV300+BX61WI

The FV300 gives both individual and group users the right solution to match their research needs and budget.

The system is compatible with the Olympus research range of microscopes offering high resolution confocal sectioning with the ability to conduct time-lapse experiments.

The FV300 offers a wider number of options with the ability to upgrade the systems for the future.

- Highest image quality (12 bit, 2048x2048 pixel resolution) with economical cost.
- Simultaneous capturing of 2 fluorescence and 1 transmitted light detector images.
- Simple, straight optical systems for easy system construction.

Up to 3 channel *2-channel fluorescence (+1-channel transmitted light)	
Visible light laser, *Ar laser, *Multi laser, *Green HeNe laser, *Red HeNe laser, Helium Cadmium laser	
1 laser port for visible light laser	
Manual operating scanning unit	
5-position single pinhole turret	
Scanning unit, *Galvanometer mirror scanner (both X and Y), *Photo detector: PMT	
Automatic laser control/laser combiner	
*Each laser light path is equipped with continuously variable neutral density filters or AOTF and a shutter	
All laser lines are combined and introduced into via a single fiber optic	
Intuitive user friendly software	
Scanning mode:	1-dimension: Point scanning 2-dimension (space): X-Y, rect, X-Z, linear line-Z and free line-Z 2-dimension (time): X-t, linear line-t and free line-t 3-dimension (space): X-Y-Z and rect-Z 3-dimension (time): X-Y-t, X-Z-t and rect-t 4-dimension: X-Y-Z-t and rect-Z-t
Image size and scanning speed:	256X256(0.45s) - 2048X2048(10.835s)
*High speed mode:	512X512(0.25s)
Image acquisition:	12bit
Image analysis:	2D measurement, image filtering, various image display mode, 3D animation display etc.
Microscope Upright microscope (BX50, BX51, BX61), Inverted microscope (IX70, IX71, IX81), Fixed stage upright microscope (BX61WI)	

*Please refer to FV300 catalog for further details

BX61

MOTORIZED SYSTEM MICROSCOPE

UIS2
World-leading optics



Motorized system microscope BX61 in the BX2 series features outstanding reliability in highly advanced microscopy such as three dimensional imaging capture with high-end fluorescence imaging and confocal microscope. Standard features include motorized focusing and light adjustment and a stage escape mechanism. Several key macro microscope operations are available by software-controlled setting, and executed by hand switch, personal computer.

- Uses flexible software which can easily be customized for specific purposes.
- Many operating procedures (including switching between observation methods) are stored as individual macros and allotted to buttons on the microscope, hand switches and keys on the monitor of the personal computer.
- A wide variety of separate modules make expansion very easy.

illumination	Transmitted light 12V100W halogen Koehler illumination
Focusing	Motorized focus Full stroke: 14mm, minimum fine adjustment: 0.01µm
Observation tube	Widefield binocular (F.N.22), widefield tilting binocular (F.N.22), widefield trinocular (F.N.22), widefield tilting/telescoping binocular (F.N.22), super widefield trinocular (F.N.26.5)
Nosepiece	Interchangeable reversed quintuple/sextuple/septuple, motorized sextuple with slider slot for DIC, septuple for DIC/simple POL
Stage	Ceramic-coated coaxial with left or right hand low drive control, non-stick grooved coaxial, plain, rotatable
Condenser	Abbe (N.A.1.1), swing out Achromatic (N.A.0.9), Achromatic Aplanatic (N.A.1.4), Universal (N.A.1.4/0.9)
Other features	Coarse/fine changeover button, stage shunting button, stage up/down button, built-in filters (LBD-IF, ND6, ND25, option)
Accessories	Motorized fluorescence illuminator, motorized universal condenser, motorized transmitted filter wheel, motorized reflected filter wheel, motorized observation filter wheel, hand switch, control unit, etc.

*Please refer to BX51/BX61 catalog for further details

BX51

SYSTEM MICROSCOPE

UIS2
World-leading optics



This leading model from the BX2 series offers improved ergonomic and system performance, and is widely used in both routine work and specialized research. It is equipped with Olympus' original UIS2 optic system, and a high-rigidity Y-shape frame with newly refined ergonomics. Excellent features provide the flexibility needed for compliance with a variety of applications. In addition, many kinds of filter sliders and accessories are all designed with multiple openings on the bodies and illuminators.

- Can be combined with a swing-out condenser and a septuple revolving nosepiece with DIC slider to enable continuous observations from 1.25X to 100X.
- A newly developed 8-position universal condenser gives even greater freedom to combine observation methods.

illumination	Transmitted light 12V100W halogen Koehler illumination
Focusing	Coarse & fine coaxial handle: full stroke: 25mm, minimum fine adjustment: 1µm
Observation tube	Widefield binocular (F.N.22), widefield tilting binocular (F.N.22), widefield trinocular (F.N.22), widefield tilting/telescoping binocular (F.N.22), super widefield trinocular (F.N.26.5)
Nosepiece	Interchangeable reversed quintuple/sextuple/septuple
Stage	Ceramic-coated coaxial with left or right hand low drive control, non-stick grooved coaxial, plain, rotatable
Condenser	Abbe (N.A.1.1), swing out Achromatic (N.A.0.9), Achromatic Aplanatic (N.A.1.4), Universal (N.A.1.4/0.9)
Other features	Coarse/fine changeover button, stage shunting button, stage up/down button, built-in filters (LBD-IF, ND6, ND25, option)
Accessories	Reflected light fluorescence attachment, DIC attachment, phase-contrast attachment, multi-viewing attachment, polarizing attachment, etc.

*Please refer to BX51/BX61 catalog for further details

BX41

LABORATORY MICROSCOPE

UIS2
World-leading optics



This key model in the BX2 series offers excellent cost-performance and meets a wide variety of needs in the routine inspection of laboratories and clinics. The extensive range of features benefits from consistently simple operation, enhanced by Olympus' original and ergonomically-advanced Y-shape frame design and UIS2 optical system. This model allows easy system expansion: by combining multiple units together, it can meet the majority of general working requirements.

- Newly developed 30W halogen light source provides as much brightness as a conventional 50W halogen lamp.
- Equipped with an easy-to-operate rackless stage with no protrusion of the X-axis guide.
- The front-located power switch and light intensity volume control make it possible to operate the microscope with the arms resting on the desk.
- A 3-filter cassette enables quick, easy exchange.
- The detachable revolving nosepiece allows quick exchange of objectives to suit different observation methods.

Illumination	Transmitted light 6V30W halogen Koehler illumination
Focusing	Vertical stage movement: 25mm; Stage stroke with coarse adjustment limit stop; Torque adjustment for coarse adjustment knobs; Stage mounting position variable; High sensitivity fine focusing knob (adjustment graduations 1µm)
Observation tube	Widefield binocular (F.N.22), widefield tilting binocular (F.N.22), widefield trinocular (F.N.22), widefield ergo binocular (F.N.22) super widefield trinocular (F.N.26.5)
Nosepiece	Interchangeable reversed sextuple/quintuple
Stage	Ceramic coated coaxial with right or left hand low drive control and rotating mechanism, non stick grooved coaxial, plain, rotatable
Condenser	Abbe(N.A.1.1), swing-out Achromat (N.A.0.9), Achromatic Aplanat (N.A.1.4), phase-contrast/darkfield (N.A.1.1), darkfield dry (N.A.0.8-0.92), darkfield oil (N.A.1.20-1.40), ultra low (N.A.0.16)
Other feature	Light pre-set switch
Accessories	Reflected light fluorescence attachment, DIC attachment, phase-contrast attachment, multi-viewing attachment, etc.

*Please refer to BX41/BX45/BX45A/BX51 catalog for further details

5

BX45/BX45A

ERGONOMIC LABORATORY MICROSCOPE AUTOMATED ERGONOMIC LABORATORY MICROSCOPE

UIS2
World-leading optics



These high-performance laboratory microscopes are equipped with UIS2 optics that provide excellent image quality, and the same ergonomically advanced Y-shape frame as other models in the BX2 series.

- Use no-cover objectives which are suitable for observing smear specimens (e.g. blood) with no cover glass.
- 2x, 4x, 10x and 20x objectives equipped with ND filter enable the same level of brightness even if the magnification is changed from 2x to 40x. No brightness adjustment (e.g. of light intensity) is required.
- Employ a rackless stage providing precise movement and smooth stopping with no protrusion of the X-axis guide.
- A convenient marking unit is provided.

BX45

Equipped with a 3-position universal condenser which complies with brightfield, phase-contrast and darkfield observations, and a gout inspection analyzer that uses simple polarizing observation. Enables optimum illumination for observations from 1.25X to 40X.

BX45A

Equipped with a low stage position fixed at 128mm from the desktop, a revolving nosepiece with variable up/down movement, and a motorized 2-position revolving nosepiece which can make quick changes between objectives.

Illumination	Transmitted light 6V30W halogen Koehler illumination
Focusing	Fixed low stage nosepiece focus
Observation tube	Widefield binocular (F.N.22), widefield tilting binocular (F.N.22), widefield trinocular (F.N.22), widefield ergo binocular (F.N.22)
Nosepiece	Fixed motorized 2-position (BX45A) Fixed reversed quintuple (BX45)
Stage	Ceramic-coated coaxial with right or left hand low drive control, rotating and torque adjustment mechanism, plain, rotation
Condenser	Brightfield N.A.0.9 (BX45A) Fixed 3-position universal condenser N.A.0.9 (BX45)
Other features	One-touch marking unit, Light preset switch, Torque adjustment

*Please refer to BX41/BX45/BX45A/BX51 catalog for further details

Accessories for BX2



BX-RFAA Motorized fluorescence illuminator

Up to 6 fluorescence mirror units can be attached simultaneously. Mirror unit can be exchanged automatically with corresponding shutter adjustment.



U-FWR, U-FWO, U-FWT Filter wheels

Motorized exchange of 6 filters. Three kinds of filters can be attached simultaneously: U-FWR (ø32, 25) for excitation, U-FWO (ø32, 25) for absorption and U-FWT (ø32) for transmitted light.



U-UCD8A-2 Motorized universal condenser

Different combinations of designated optical components allow correspondence with various kinds of transmitted light observations. Automatic control of optical component exchange, top lens swing in/out and aperture iris diaphragm.



U-AFP1 Auto focus unit

Maintains steady auto focusing with 1.25X to 100X objectives. All observation methods are applicable except phase-contrast. Combined with BX61TRF and BX62TRF. Personal computer and adapter (BX2-UCB) are necessary to use this unit.



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.



BX-RFA, BX-URA2 BX fluorescence illuminator BX reflected light illuminator

Fully integrated into the microscope arm, two illuminators add to the stability of the imaging platform. BX-RFA for research needs and BX-URA2 for routine observation.



U-RFSS Rectangular field stop

Designed for use with CCD cameras, prevents photobleaching of the specimen outside of the imaging area.



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-RSL6, U-RSL6EM 6-position filter slider

Equipped with three single, two dual and one triple band exciter, the 6-position filter slider provides all excitation modes typically wanted with just one filter set.



U-EXBABG, U-EXBAUB, U-EXBAUG Excitation balancer

Used singly or in tandem, the excitation balancer curtails the individual excitation bandwidths of the fluorochromes under observation.

Accessories for BX2

U-SDO3, U-MDO10B3

Multi observation body

A single image can be viewed with the same orientation and brightness by up to ten persons simultaneously to facilitate discussion between researchers, and for training and education. No additional power unit is required since the power unit of the arrow pointer is incorporated in the main body.

•Also available for five persons (U-MDO) and two persons in face-to-face (U-BDO).



BX51+U-SDO3

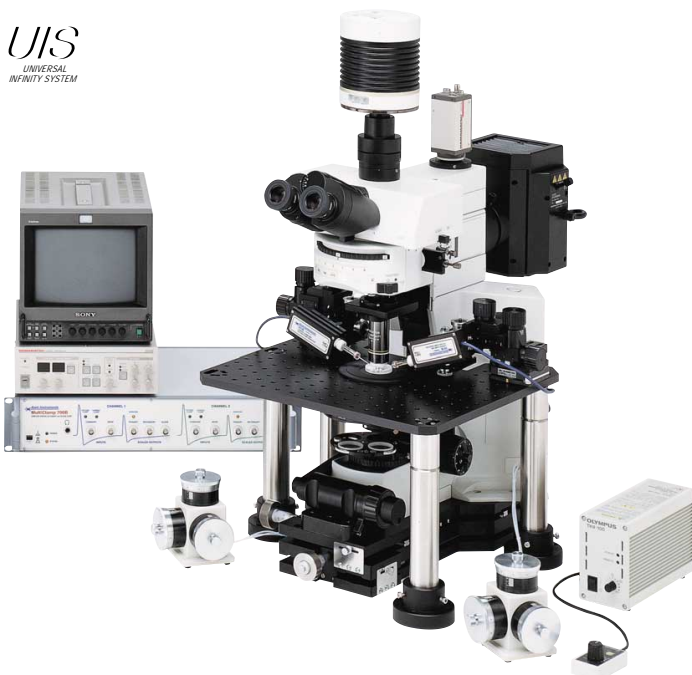
BX51+U-MDO10B3

7

BX51WI/BX61WI

FIXED STAGE UPRIGHT MICROSCOPE/ FIXED STAGE UPRIGHT MICROSCOPE WITH MOTORIZED FOCUSING

UIS
UNIVERSAL
INFINITY SYSTEM



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 (775nm and 900nm) 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 (XLUMPLFL20X/W) 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 12V100W halogen Koehler illumination (BX51WI) Transmitted light 12V100W halogen Koehler illumination; Light adjustment: less than DC2V~12V (continuous adjustment) Brightness adjustment, light preset switch (BX61WI)
Focusing	Nosepiece focus by roller guide (rack & pinion); Stroke per rotation: fine: 0.1mm, coarse:15mm; Maximum stroke: 25mm; 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: 1µm (Sensitivity 1µm) Resolution 0.01µm: Maximum stage movement speed 3mm/s Stroke: 25mm, 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

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 100-120V/220-240V~ 0.85/0.45A 50/60Hz
Focusing	Stage height movement by roller guide (rack & pinion) Stroke per rotation: 36.8mm Full stroke range: 25mm 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

CX21

BIOLOGICAL MICROSCOPE

UIS2
World-leading optics



The CX21 demonstrates 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 6V20W halogen bulb 100-240V 50/60Hz universal voltage
Focusing	Stage height movement (coarse movement stroke 20mm) Fine focus graduation: 2.5µm
Revolving nosepiece	Fixed quadruple nosepiece
Stage	Wire movement mechanical fixed stage: 120 X 132mm Traveling range: 76mm(X) X 30mm(Y) Single specimen holder
Observation tube	30° inclined binocular tube Interpupillary distance adjustment range 48-75mm
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.: 18.5mm 10X N.A.: 0.25 W.D.: 10.6mm 40X N.A.: 0.65 W.D.: 0.6mm 100X N.A.: 1.25 W.D.: 0.13mm (option)
Eyepiece (10X)	Field Number (F.N.): 18 (anti-fungus)
Optional accessories	Mirror unit, 15X eyepiece (F.N. 12, anti-fungus), cord rest, wooden storage box, filar micrometer, wire pointer, filter holder, darkfield stop

*Please refer to CX21 catalog 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 FV1000/300 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

IX71/IX51

RESEARCH INVERTED SYSTEM MICROSCOPE/ INVERTED SYSTEM MICROSCOPE

UIS2
World-leading optics

eco
ECO-PRODUCTS
IX51



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.
- Special microscope body for FV1000/300 is available.

Illumination	Transmitted light 12V100WHAL for IX71, 6V30WHAL 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, 1.45) objective and reflected light illuminator are provided, allowing exchange between evanescent wave and normal fluorescence observation.



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 DIC

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.

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

11

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 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.

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.

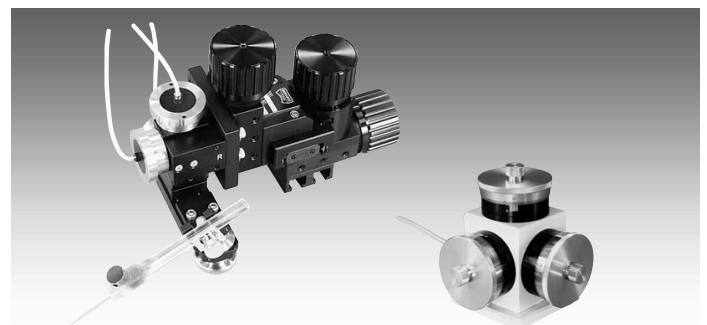
Two types of injectors, the IM-9B microinjector (for sperm injection) and the IM-9C pneumatic injector (for oocyte holding) are available separately.

Drop handle joystick

- Fine movement range: 10mm
- Full rotation of knob: 250 μ m
- Minimum graduation: 2.5 μ m
- Joystick (for X and Y movement): 400 μ m max. (movement ratio and lever tension adjustable)

Motorized positioner

- Coarse movement range: 23mm (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 10mm
- Full rotation of knob: 250 μ m
- Minimum graduation: 2.5 μ m

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: 2mm
- Coarse movement range: 30mm
- Full rotation of knob: 50 μ m
- Minimum graduation: 0.2 μ m

BX51-P

POLARIZING MICROSCOPES

UIS2
World-leading optics



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 BX51-P.
- Accessories and video/camera system of BX2 Series mountable on BX51-P.

Illumination	Transmitted light 12V100W 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: 25mm; minimum fine adjustment: 1μm
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 BX51-P catalog for further details

13

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	ACHN-P series, UPLFL-P series
	Eyepiece	WHN10X, WHN10X-H, CROSSWHN10X, WHB10X3, WHB10X2-H
Observation tube	Binocular	U-BI30P, U-CBI30-2
	Trinocular	U-TR30-2, U-CTR30-2
Conoscopic intermediate tube (U-PA)	Bertrand lens	Incorporated, detachable, focusable
	Changeover between orthoscopic/conoscopic observation	Engage or disengage of Bertrand lens Position: ● IN Position: ○ OUT
	Analyzer	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 BX31-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 the highest 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-TR30PT: 30 degree trinocular, 30° inclination	SZX-BI30: 30° binocular, 30° inclination SZX-BI45: 45° binocular, 5 - 45° variable inclination SZX-TBI: tilting binocular, 5 - 45° variable 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
Eyepiece	WHN10x-H (FN 22) WHSZ15x-H (FN 16), WHSZ20x-H (FN 12.5), WHSZ30x-H (FN 7)	WHSZ10x-H (FN 22)
Focusing	SZX2-F0: 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 SZX-FOA2: Motorized focus unit, focusing stroke 75mm	
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

STEREOMICROSCOPE 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-TR30PT: Trinocular, 30° inclination All observation tubes: Lead-free Interpupillary distance adjustable range: 50 to 76 mm
Objective	DFPL0.5x-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 STEREOMICROSCOPE



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/SZ51

SZ61TR

SZ61-60/SZ51-60

	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 threadx0.75)				
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 stand 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-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-LGR Ring light guide

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



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 SZX-FOA2		
	Stage	Large stage plate, thermoplate, CO ₂ incubator		

*Please refer to MVX10 catalog for further details

DP30BW

HIGH SENSITIVITY
COOLED CCD CAMERA

Using its Peltier-cooled system, the DP30BW offers quiet, vibration-free operation. Combined with the built-in shutter and new background subtract function (noise at long exposures is reduced by using this), these features enable high-quality recording of even weak fluorescence images.

* Please refer to DP30BW catalog for further details



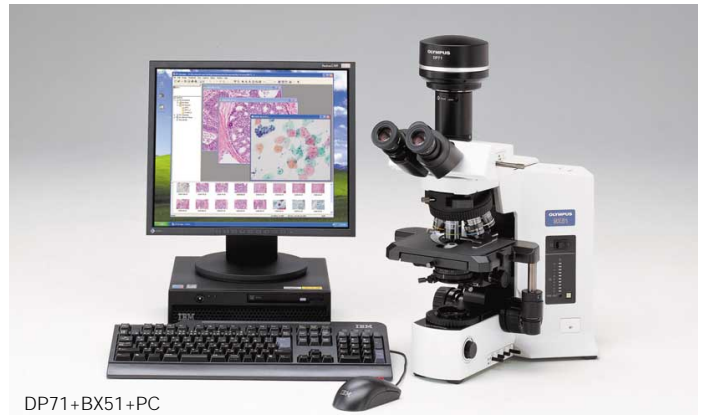
DP30BW+BX51

DP71

DIGITAL CAMERA

By combining Olympus digital technologies together with high-speed processing hardware, even an image of 12.5 million pixels can be captured at high speed, around 3 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 DP71 catalog for further details



DP71+BX51+PC

DP20

DIGITAL CAMERA

Image display, storage, and simple measurement can be done from a compact, palm-size handset control unit. The outstanding operability of the functional key layout allows starting up quickly and continuously shoot images at 1 second intervals. The UXGA (1600 x 1200 pixel) compatible monitor enables real-time 15 fps display, and the system is also ideal for high-resolution monitoring applications without a PC.

* Please refer to DP20 catalog for further details



DP20+BX51

DP12

DIGITAL CAMERA

The overall design is compact, with a palm-size multi function control unit integrating a 3.5" LCD monitor with 200,000-pixel display, and a small footprint that makes it easy to install and lay out any necessary auxiliary equipment. The 3.34 million-pixel and 1/1.8 inch progressive scanning CCD system ensures highly precise digital images which can be stored at a maximum resolution of 2048x 1536.

* Please refer to DP12 catalog for further details



DP12+BX51+PC



UIS2 optics inherit high expandability

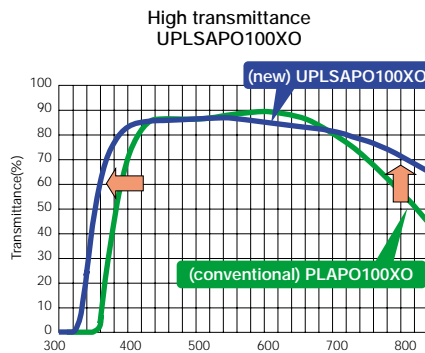
As heir to Olympus' infinity-corrected optical system, in which the tube lens is built into the observation tube, UIS2 optics display no image deterioration even when many different optical components or equipment are inserted in the parallel light path. This inherent expandability gives users ample freedom to construct the system in a way that meets their specific requirements.

UW (Ultra wideband) multi-coatings reduce autofluorescence and improves S/N ratio

By using carefully selected raw materials for glass, and applying advanced UW multi-coatings technology, Olympus has reduced objective autofluorescence and significantly improved the S/N ratio.

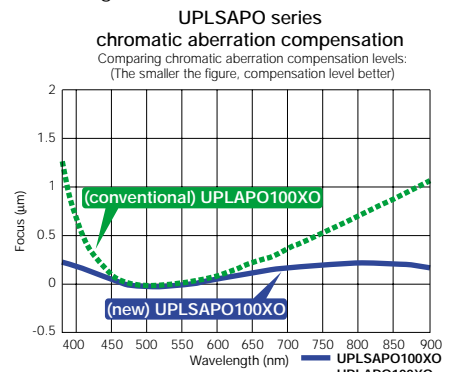
Flat, high transmission over wide wavelength range from UV to IR

UW multi-coatings also yield flat, high transmission over a wide wavelength range, ensuring high performance in research tasks using different types of fluorochromes.



Complete chromatic aberration compensation up to near infrared region

UPLSAPO objectives completely eliminate chromatic aberration up to the near infrared region, matching the ability of Super Apochromat objectives to provide clear images without overlapping colors or color shift. As a result, a single objective can perform imaging from UV to IR wavelengths.



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.



UPLFL-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 down to an absolute minimum.



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

These no cover objectives are specially designed for microscopy without a cover slip such as for 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 CA²⁺ photometry.

Objectives for BX51WI/BX61WI



UMPLFLW, LUMPLFLW series

These objectives address the need for high transmission from the near UV to visible light. For ratio imaging (fura-2, 340nm transmission requirement) fluorescence and DIC observation.



LUMPLFLW/IR series

These objectives are specially designed for visible band near IR spectral regions. Near IR-DIC imaging deep within thick brain sections can be observed.



XLFLUOR/340 series, XLUMPLFL20XW

XLFLUOR/340 series objectives are designed for low magnification fluorescence observation. High N.A. long W.D. XLUMPLFL20XW 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 eyepieces: 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 10X	0.40	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 40X	0.90	0.18	26.5	0.11-0.23		○	○			○	○
	UPLSAPO 60XW	1.20	0.28	26.5	0.15-0.2	Water	○	○		○	○	○
	UPLSAPO 60XO	1.35	0.15	26.5	0.17	Oil	○			○	○	○
UPLSAPO 100XO	1.40	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 60XOTIRFM	1.45	0.1	26.5	0.13-0.19	Oil	○	○		○	○	○
UPLFLN	UPLFLN 4X	0.13	17	26.5	—						○	○
	UPLFLN 10X	0.30	10	26.5	—						○	○
	UPLFLN 20X	0.50	2.1	26.5	0.17		○				○	○
	UPLFLN 40X	0.75	0.51	26.5	0.17		○				○	○
	UPLFLN 40XO	1.30	0.2	26.5	0.17	Oil	○			○	○	○
	UPLFLN 60X	0.90	0.2	26.5	0.11-0.23		○	○			○	○
	UPLFLN 60XOI	1.25-0.65	0.12	26.5	0.17	Oil	○		○	○	○	○
	UPLFLN 100XO2	1.30	0.2	26.5	0.17	Oil	○			○	○	○
	UPLFLN 100XOI2	1.3-0.6	0.2	26.5	0.17	Oil	○		○	○	○	○
	UPLFLN 4XPH	0.13	0.17	26.5	—						○	
	UPLFLN 10XPH	0.30	10	26.5	—						○	
	UPLFLN 20XPH	0.50	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	1.30	0.2	26.5	0.17	Oil	○				○		
PLN	PLN 2X	0.06	5.8	22	—						○	
	PLN 4X	0.10	18.5	22	—						○	
	PLN 10X	0.25	10.6	22	—						○	
	PLN 20X	0.40	1.2	22	0.17		○				○	
	PLN 40X	0.65	0.6	22	0.17		○				○	
	PLN 50XOI	0.90-0.50	0.2	22	—	Oil	○		○		○	
	PLN 100XO	1.25	0.15	22	—	Oil	○				○	
PLN-PH	PLN 10XPH	0.25	10.6	22	—						○	
	PLN 20XPH	0.40	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	0.10	18.5	22	—						○	
	ACHN 10XP	0.25	6	22	—						○	
	ACHN 20XP	0.40	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							○	
PLN-CY	PLN2XCY	0.06	5.8	22							○	
	PLN4XCY	0.1	18.5	22							○	
	PLN10XCY	0.25	10.6	22							○	
	PLN20XCY	0.4	1.2	22	0.17		○				○	
LUCPLFLN	LUCPLFLN 20X	0.45	6.6-7.8	22	0-2			○				○
	LUCPLFLN 40X	0.60	2.7-4	22	0-2			○				○
	LUCPLFLN 60X	0.70	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	0.60	3.0-4.2	22	0-2			○				○
	LUCPLFLN 40XRC	0.60	3.0-4.2	22	0-2			○				○
	LUCPLFLN 60XPH	0.70	1.5-2.2	22	0.1-1.3			○				○
UPLFLN-PH	UPLFLN 4XPH	0.13	17	26.5	—							○
	UPLFLN 10XPH	0.30	10	26.5	—							○
UPLFLN-PHP	UPLFLN 4XPHP	0.13	16.4	22	—							○
CPLFLN	CPLFLN 10XPH	0.30	9.5	22	1							○
	CPLFLN 10XRC	0.30	9	22	1.5							○
LCACHN	LCACHN 20X PH	0.40	3.2	22	1							○
	LCACHN 20X PHP	0.40	3.2	22	1							○
	LCACHN 20XRC	0.40	2.8	22	1.5							○
	LCACHN 40XPH	0.55	2.2	22	1							○
	LCACHN 40XPHP	0.55	2.2	22	1							○
	LCACHN 40XPHP	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							○

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
UPLAPO	UPLAPO 10XO3	0.40	0.24	26.5	0.17	Oil	○			○	○	○
	UPLAPO 10XW3	0.40	0.43	26.5	0.17	Water	○			○	○	○
	UPLAPO 40XOI3	1.00-0.50	0.12	26.5	—	Oil	○		○	(○)	○	○
PLAPO	PLAPO 40X	0.95	0.13	26.5	0.11-0.23		○	○			○	○
UPLFL-P	UPLFL 4XP	0.13	13	26.5	—						○	
	UPLFL 10XP	0.30	3.1	26.5	—						○	
	UPLFL 20XP	0.50	1.6	26.5	0.17		○				○	
	UPLFL 40XP	0.75	0.51	26.5	0.17		○				○	
	UPLFL 100XO3P	1.30	0.1	26.5	0.17	Oil	○				○	
PLFL	PLFL 100X	0.95	0.2	26.5	0.14-0.2		○	○			○	
UAPO	UAPO 10X/340											
	UAPO 20X3/340	0.75	0.55	22	0.17		○			○		○
	UAPO 40X3/340	0.90	0.2	22	0.11-0.23		○	○		○		○
	UAPO 40XOI3/340	1.35-0.65	0.1	22	0.17	Oil	○		○	○		○
	UAPO 20XW3/340	0.70	0.4	22	0.17	Water	○			○		○
	UAPO 40XW3/340	1.15	0.25	22	0.13-0.25	Water	○	○		○		○
APO	APO 100XOHR	1.65	0.1	22	0.15	Oil	○			○		○
Low magnification fluorescence	XLFLUOR 2X/340	0.14	21**	22	0-5 (Water)							
	XLFLUOR 4X/340	0.28	29.5**	22	0-5 (Water)							
Super high N.A.	XLUMPLFL 20XW	0.95	2	22		Water						
No cover objective	MPLAPO 50X	0.95	0.3		0		○				○	
	MPLAPO 60X	0.90	0.4		0		○				○	
	MPLAPO 100XO	1.40	0.1		0	Oil	○				○	
	UMPLFL 40X	0.75	0.63		0		○				○	
	UMPLFL 50X	0.80	0.66		0		○				○	
	UMPLFL 100X	0.95	0.31		0		○				○	
	UMPLFL 10XW	0.30	3.3	26.5	—	Water					○	
	UMPLFL 20XW	0.50	3.3	26.5	—	Water					○	
	UMPLFL 40XW	0.80	3.3	26.5	0	Water					○	
	UMPLFL 60XW	0.90	2	26.5	0	Water					○	
	LUMPLFL 40XW/IR2	0.80	3.3	26.5	0	Water					○	
	LUMPLFL 60W/IR2	0.90	2	26.5	0	Water					○	
	LUMPLFL 100XW	1.00	1.5	26.5	0	Water					○	
	LSM objective	PLAPO 40XWLSM	0.90	0.16	22	0.17	Water	○			○	○
PLAPO 60XWLSM		1.00	0.15	22	0.17	Water	○			○	○	○
PLAPO 40XOLSM		1.10	0.13	22	0.17	Oil	○			○	○	○

** Include 5mm water (○): oil proof cap applicable

Macro Imaging



Time Lapse



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. This does not apply to some accessories. Please visit our website for more information:

ECO-PRODUCTS <http://www.olympus.co.jp/en/eco-products>



ISO9001 Certification
OLYMPUS CORPORATION Micro-Imaging System Division



ISO14001 Certification
OLYMPUS CORPORATION Ina-Plant



ISO9001/ISO14001 Certification
Olympus Optical Technology Philippines Inc.

OLYMPUS CORPORATION has obtained ISO9001/ISO14001

Specifications are subject to change without any obligation on the part of the manufacturer.

OLYMPUS

OLYMPUS CORPORATION
Shinjuku Monolith, 3-1, Nishi Shinjuku 2-chome, Shinjuku-ku, Tokyo, Japan
OLYMPUS LIFE AND MATERIAL SCIENCE EUROPA GMBH
Postfach 10 49 08, 20034, Hamburg, Germany
OLYMPUS AMERICA INC.
3500 Corporate Parkway, Center Valley, Pennsylvania 18034-0610, U.S.A.
OLYMPUS SINGAPORE PTE LTD.
491B River Valley Road, #12-01/04 Valley Point Office Tower, Singapore 248373
OLYMPUS AUSTRALIA PTY. LTD.
31 Gilby Road, Mt. Waverley, VIC 3149, Melbourne, Australia.

OLYMPUS LATIN AMERICA, INC.
5301 Blue Lagoon Drive, Suite 290 Miami, FL 33126, U.S.A.
OLYMPUS (BEIJING) SALES & SERVICE CO., LTD.
12-13F, NCI Tower, A12 Jianguomenwai Avenue, Chaoyang District,
Beijing, 100022, China

www.olympus.com



This catalog is printed by environmentally-friendly waterless printing system with soy ink.

Printed in Japan M05E-0906B