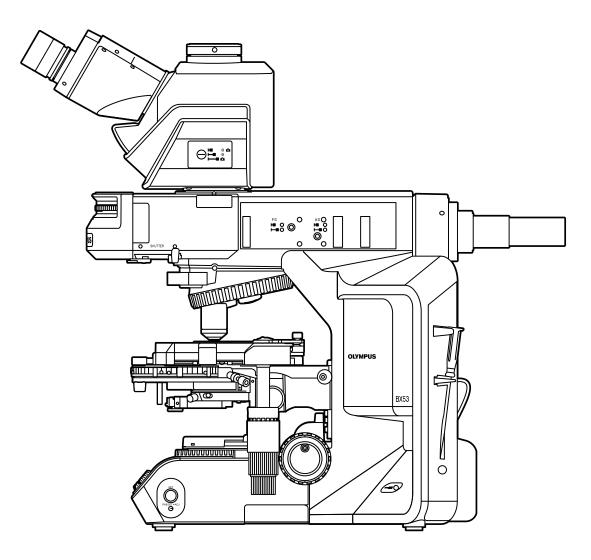


System Microscope



BX3 Series

BX3 Microscope Unit Guide



Olympus' BX3 series can be configured to meet the needs of your research. The combination of leading-edge imaging capabilities with the flexibility to customize the system to your specific application makes BX3 series microscopes powerful research tools.

Accessories

Objective Lens

UPLXAPO Series

Thanks to novel manufacturing technology, Olympus UPLXAPO high-performance objectives offer improved optical performance in three critical areas – a larger numerical aperture (NA), better image flatness, and a wider range of chromatic correction. These advances enable high-quality, large field of view (FOV) imaging for versatility in numerous applications.

Series	Objective Lens	NA	W.D. (mm)	OFN	Cover Glass Thickness (mm)	Chromatic Correction Range	Spring Loaded
X Line	UPLXAP04X	0.16	13	26.5	-	400-1000 nm	
	UPLXAP010X	0.40	3.1	26.5	0.17	400-1000 nm	
	UPLXAP020X	0.80	0.6	26.5	0.17	400-1000 nm	1
	UPLXAP040X	0.95	0.18	26.5	0.11-0.23	400-1000 nm	1
	UPLXAP040X0	1.40	0.13	26.5	0.17	400-1000 nm	1
	UPLXAP060X0	1.42	0.15	26.5	0.17	400-1000 nm	1
	UPLXAP0100X0	1.45	0.13	26.5	0.17	400-1000 nm	1
	UPLXAP060X0PH	1.42	0.15	26.5	0.17	400-1000 nm	1
	UPLXAP0100X0PH	1.45	0.13	26.5	0.17	400-1000 nm	1



PLN (PLN-PH) Series

Appropriate for a range of biological applications, these high-quality objectives offer flatness up to OFN 22 in transmitted brightfield (phase contrast) observation. The PLN-PH series is designed for phase contrast observation.

UPLFLN (UPLFLN-PH) Series

These Plan objectives provide flat images with high transmission up to the nearinfrared region of the spectrum. With their high signal-to-noise ratio, high resolution, and high contrast images, the objectives are especially effective in brightfield and Nomarski DIC observations. The UPLFLN-PH series is optimized for phase contrast observation.

PLAPON Series

Designed for high resolution and contrast, Plan Apochromat objectives reduce chromatic aberration to low levels.

Objective Lens	NA	W.D. (mm)	OFN	Cover Glass Thickness (mm)	Immersion	Spring Loaded
PLN2X	0.06	5.8	22	-		
PLN4X	0.10	18.5	22	-		
PLN10X	0.25	10.6	22	-		
PLN20X	0.40	1.2	22	0.17		1
PLN40X	0.65	0.6	22	0.17		1
PLN50X0I	0.9-0.5	0.2	22	-	Oil	1
PLN100X0	1.25	0.15	22	-	Oil	1
LPLN40X	0.60	3.4-4.1	22	0-1		
PLN10XPH	0.25	10.6	22	-		
PLN20XPH	0.40	1.2	22	0.17		1
PLN40XPH	0.65	0.6	22	0.17		1
PLN100X0PH	1.25	0.15	22	-	Oil	1
UPLFLN4X	0.13	17	26.5	-		
UPLFLN10X2	0.30	10	26.5	-		
UPLFLN20X	0.50	2.1	26.5	0.17		
UPLFLN40X	0.75	0.51	26.5	0.17		1

Objective Lens	NA	W.D. (mm)	OFN	Cover Glass Thickness (mm)	Immersion	Spring Loaded
UPLFLN100X02	1.30	0.2	26.5	0.17	Oil	1
UPLFLN100X0I2	1.3-0.6	0.2	26.5	0.17	Oil	1
UPLFLN10X2PH	0.30	10	26.5	-		
UPLFLN20XPH	0.50	2.1	26.5	0.17		
UPLFLN40XPH	0.75	0.51	26.5	0.17		1
UPLFLN100X02PH	1.30	0.2	26.5	0.17	Oil	1
PLAPON1.25X	0.04	5.0	26.5	-		
PLAPON2X	0.08	6.2	26.5	-		
MPLFLN10X	0.30	11	26.5	-		
MPLFLN20X	0.45	3.1	26.5	0		
MPLFLN40X	0.75	0.63	26.5	0		1
MPLFLN100X	0.90	1	26.5	0		
MPLAPON60X	0.90	0.4	26.5	0		1
MPLAPON100X	0.95	0.35	26.5	0		1
MPLAPON100X02	1.45	0.10	26.5	0	Oil	1

Microscope Frames

Main	Туре	Brightness	
BX43F	Manual	2W LED Light Source (30W Halogen Equivalent)	
BX46F	Manual	2W LED Light Source (30W Halogen Equivalent)	
BX53F2	Manual / Motorized	14W LED Light Source (100W Halogen Equivalent)	
BX63F	Motorized	2W LED Light Source or 12V 100W Halogen Light Source	



Observation Tubes

Observation Tube	FN	Туре	Angle Type	Feature
U-BI30-2	22	Binocular	Fixing	-
U-TBI-3	22	Binocular	Tilting	High Eye Point
U-TBI-3-CLI	22	Binocular	Tilting	Low Eye Point
U-TTBI	22	Binocular	Tilting	Telescopic
U-TTLBI	22	Binocular	Tilting	Lift Adjustment, Telescopic
U-ETR-4	22	Trinocular	Fixing	Erected Image
U-TR30-2	22	Trinocular	Fixing	-
U-TTR-2	22	Trinocular	Tilting	-
U-SWTR-3	26.5	Trinocular	Fixing	Super Widefield
U-SWETTR-5	26.5	Trinocular	Tilting	Erected Image, Super Widefield



Eyepieces

Eyepieces	FN	Reticle	Helicoid
WHN10X	22	-	
WHN10X-H	22	-	1
CROSSWHN10X	22	Crosshair	1
SWH10X-H	26.5	-	1



Accessories

Illumination Tubes

Illumination Tube	# of FL Cube	Turret Type	Illumination Pattern
BX3-URA	8	Manual	Normal
BX3-RFAS	8	Coded	FlyEye
BX3-RFAA	8	Motorized	FlyEye

Motorized Controller

Motorized Controller	Description	
U-HSCBM	Hand Switch for CBM	
U-HSEXP	Hand Switch for Exposure	
BX3M-HSRE	Hand Switch	
U-MCZ	Controller	
BX3-CBH	Control Box	
BX3-CBM	Control Box	
U-CBS	Control Box for Coded Function	
U-IFRES	Interface for Coded Nosepiece	





Fluorescence Light Sources

Fluorescence Light Source	Description
U-HGLGPS	Light Source
U-LH100HG	100 W Mercury Lamp Housing
U-LH100HGAPO	100 W Mercury Apo Lamp Housing

Bright Field Light Sources

Bright Field Light Source	Bulb	Brightness
U-LH100-3	Halogen	12V100W
U-LHLEDC	LED	2W (30W Halogen Equivalent)
U-LHLEDC100	LED	14W (100W Halogen Equivalent)



Intermediate Tubes

Intermediate Tube	Description		
U-EPA2	Eyepoint Adjuster		
U-EPAL-2	Eyepoint Adjuster		
U-CA	Magnification Changer		
U-KPA	Intermediate Attachment for Simple Polarizing Observation		
U-TRU	Trinocular Intermediate Unit		
U-TRUS	Trinocular Intermediate Unit		
U-DP	Dual Port		
U-DP1XC Dual Port 1X			



Nosepieces

Nosepieces	Туре	# of Objectives	Working Slot
U-5RE-2	Manual	5	
BX43-5RES	Coded	5	
U-D6RE	Manual	6	1
U-D6RES	Coded	6	1
U-D7RES	Coded	7	1
U-D7REA	Motorized	7	1



Stages

Stage	Control Handle	Туре	Applicable System
U-SVLB-4	Left	Manual	All
U-SVRB-4	Right	Manual	All
U-SVRC	Right	Manual	Only BX46
U-SVRC-CY	Right	Manual	Only BX46
BX3-SSU	Motorized	Motorized	Only BX63
U-SP	No Handle	Manual	All
IX-SVL2	Left	Manual	Only BX63



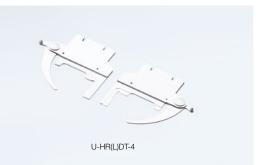
Stage Accessories

Stage Accessories	Description
BX3-SHEA	Stage Handle Extention Adaptor
U-SHG	Rubber Grip
U-SHGT	Rubber Grip (Thick)



Sample Holders

Sample Holder	Handle	# of Slide	Thickness
U-HLD-4	Left	Double	Thin
U-HLDT-4	Left	Double	Thick
U-HLS-4	Left	Single	Thin
U-HLST-4	Left	Single	Thick
U-HRD-4	Right	Double	Thin
U-HRDT-4	Right	Double	Thick



TV Adaptors

TV Adaptor	Description
U-TV0.35XC-2	0.35X C-Mount Adaptor
U-TV0.5XC-3	0.5X C-Mount Adaptor
J-TV0.63XC	0.5X C-Mount Adaptor
J-TV1XC	1X C-Mount Adaptor (XY adjustment)
J-TV1X-2	TV Adaptor
J-CMAD3	C-Mount Adaptor
-BMAD	Bayonet-Mount Adaptor
-SMAD	Sony Mount Adaptor
J-TMAD	T-Mount Adaptor
I-FMT	F-Mount Adaptor
J-CMT	C-Mount Adaptor
-DPCAD	Double Port Tubes with C Mounts



Condensers

Condenser	NA	Туре	Contrast Method	
U-AC2	1.1	Manual	BF	
U-SC3	0.9	Manual	BF/P0	
U-LC	0.75	Manual	BF/PO	
U-AAC	1.4	Manual	BF	
U-PCD2	1.1	Manual	BF/PH/DF	
U-DCD	0.92	Manual	DF	
U-DCW	1.4	Manual	DF	
U-UCD8-2	Oil Top Lens 1.4 / Dry Top Lens 0.9	Manual	BF/PH/DIC/DF/PO	
BX3-UCD8A	Oil Top Lens 1.4 / Dry Top Lens 0.9	Motorized	BF/PH/DIC/DF/PO	









Polarizer/Analyzer/DIC Slider

-	
Polarizer/Analyzer/DIC Slider	Description
U-POT	Polarizer
BX45-PO	Polarizer
U-ANT	Analyzer for Transmitted Light
U-AN-2	Analyzer Slider
U-GAN	Analyzer for Urate Crystals Observation
U-DFA	Darkfield Ring
U-PH1-S	Phase Contrast Ring (small)
U-PH2-S	Phase Contrast Ring (small)
U-PH3-S	Phase Contrast Ring (small)
U-DIC10	DIC Prism
U-DIC10S	DIC Prism (small)
U-DIC20	DIC Prism
U-DIC40	DIC Prism
U-DIC60	DIC Prism
U-DIC100	DIC Prism
U-DICT	DIC Slider for Transmitted Light
U-DICTS	Shift DIC Slider for Transmitted Light
U-FDICT	DIC Mirror Unit



Mirror Units

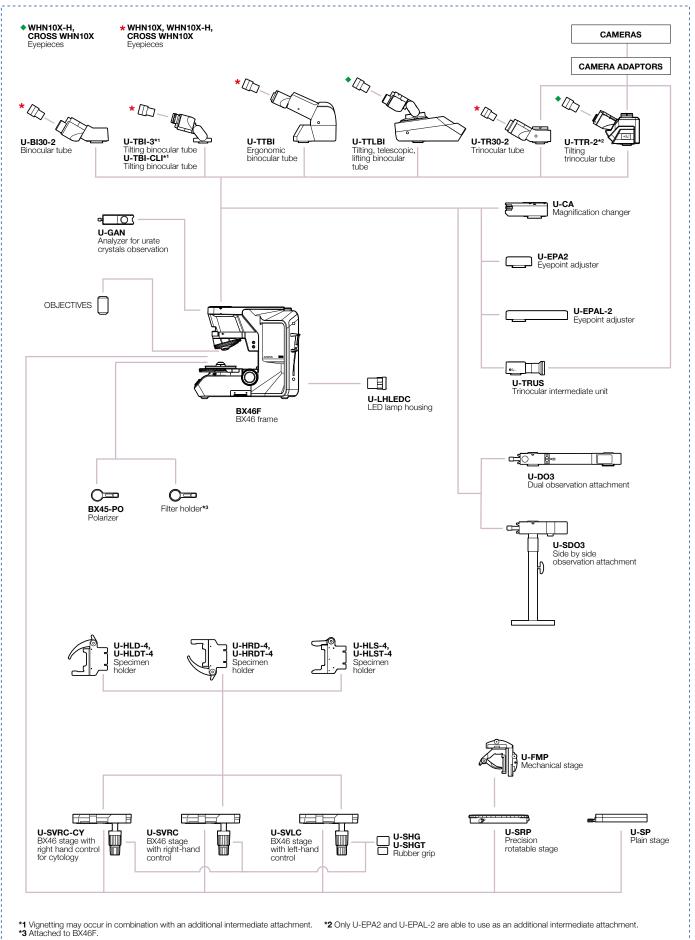
Mirror Unit	Excitation Filter	Emission Filter	Dichroic Mirror	
U-FF	No Filter	No Filter	No Mirror	
U-FUW	BP340-390	BA420IF	DM410	
U-FUN	BP360-370	BA420IF	DM410	
U-FUNA	BP360-370	BA420-460	DM410	
U-FBVW	BP400-440	BA460IF	DM455	
U-FBW	BP460-495	BA510IF	DM505	
U-FBWA	BP460-495	BA510-550	DM505	
U-FBN	BP470-495	BA510IF	DM505	
U-FBNA	BP470-495	BA510-550	DM505	
U-FGW	BP530-550	BA575IF	DM570	
U-FGWA	BP530-550	BA575-625	DM570	
U-FGNA	BP540-550 BA575-625		DM570	
U-FYW	BP540-585	BA600IF	DM595	
U-FCFP	BP425-445CFP	BA460-510CFP	DM455CFP	
U-FGFP	BP460-480GFP	BA495-540GFP	DM490GFP	
U-FYFP	BP490-500YFP	BA515-560YFP	DM515YFP	
U-FRFP	BP535-555HQ	BA570-625HQ	DM565HQ	
U-FMCHE	BP565-585	BA600-690	DM595	

Multi-head discussion systems are invaluable for lab training and education. Olympus offers discussion systems for as few as two or as many as 26 people. With our BX3 series multi-discussion observation (MDO) system, every participant can see the same highquality image. The integrated LED arrow pointer helps instructors highlight key features in the teaching specimen.

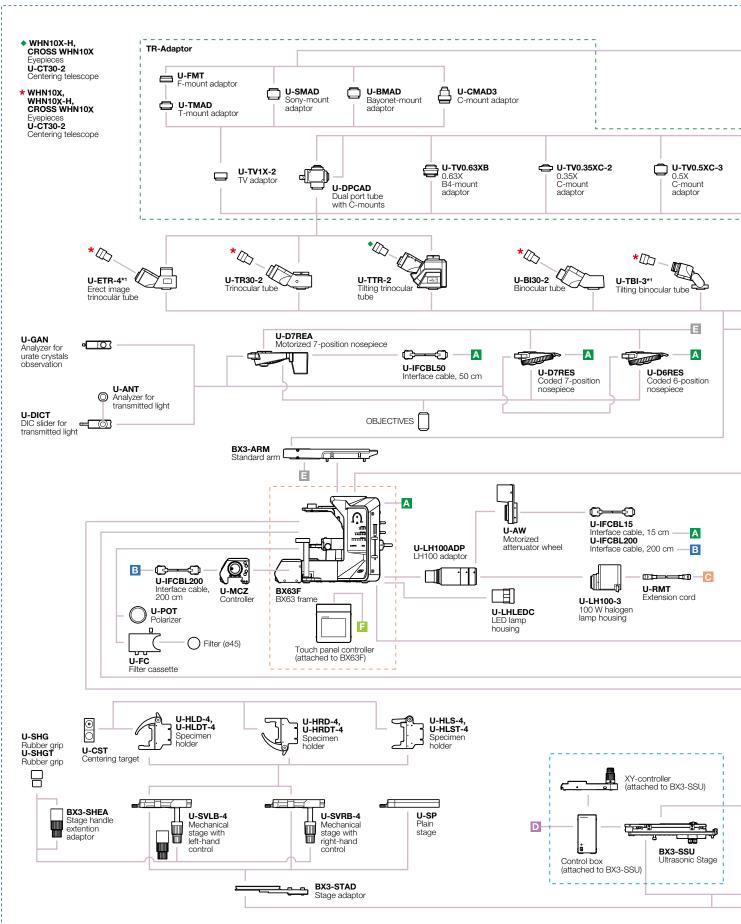
Heads	2	2	3	5	9	10	18	26
Shape	Front to Back	Side by Side	Linear	Linear	Linear	H-Shape	H-Shape	H-Shape
U-D03	1							
U-SD03		1						
U-MDOB3			1	1	1			
U-MD010B3						1	1	1
U-MD010R3						1		
U-MDOSV			1	2	4	4	8	12
BX3-MD018R							1	1
BX3-MD0E					2		4	8



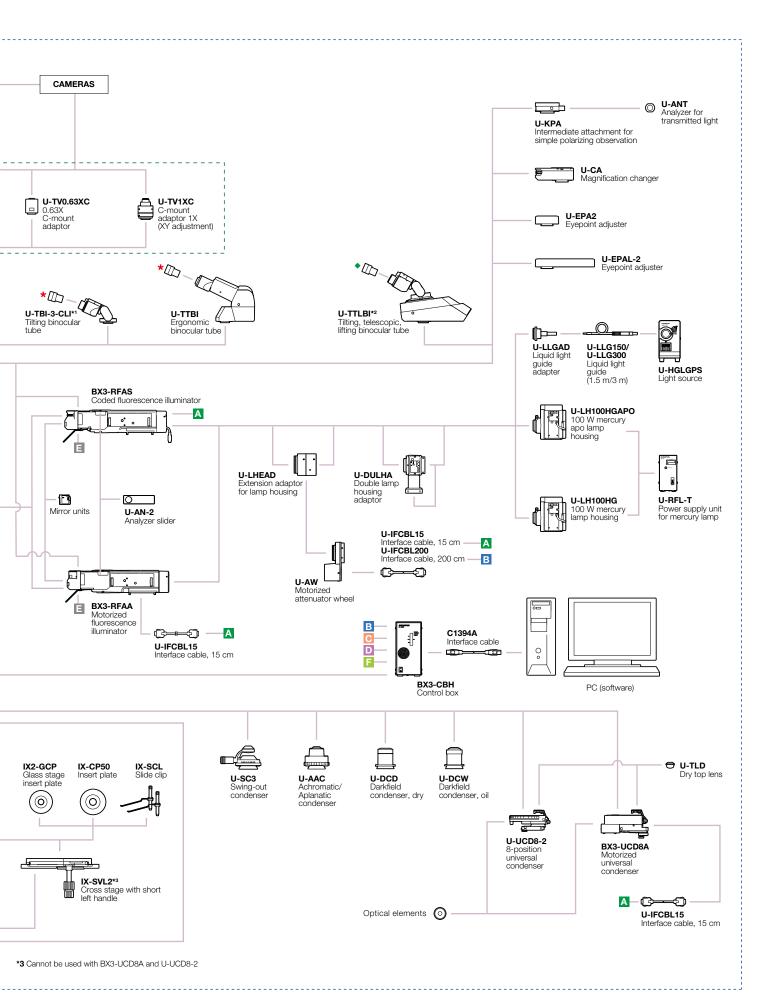
BX46 SYSTEM DIAGRAM



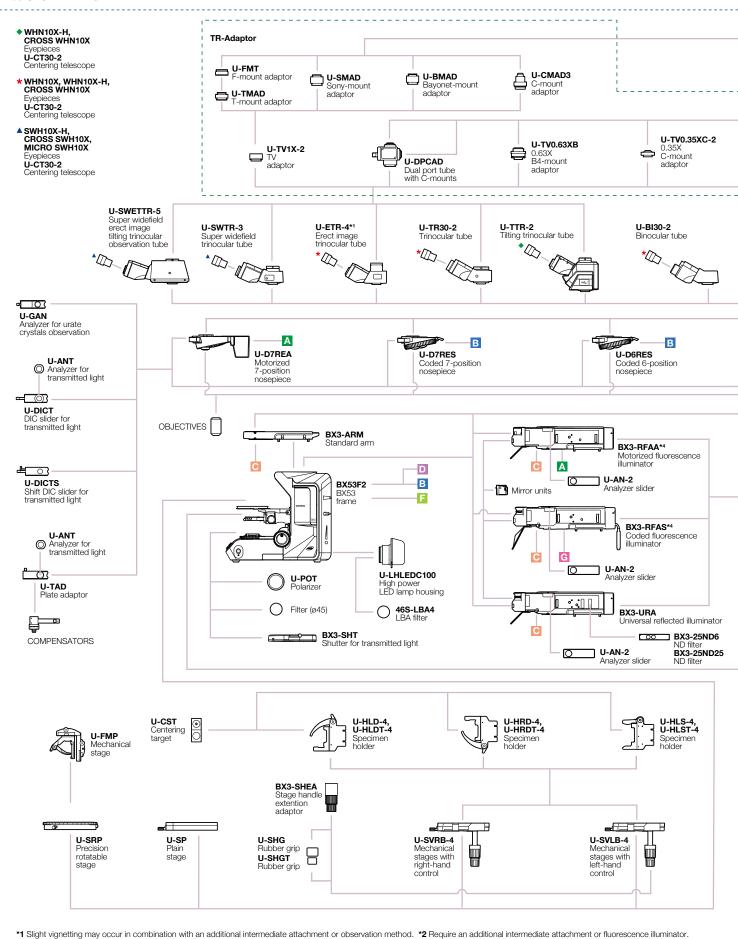
BX63 SYSTEM DIAGRAM



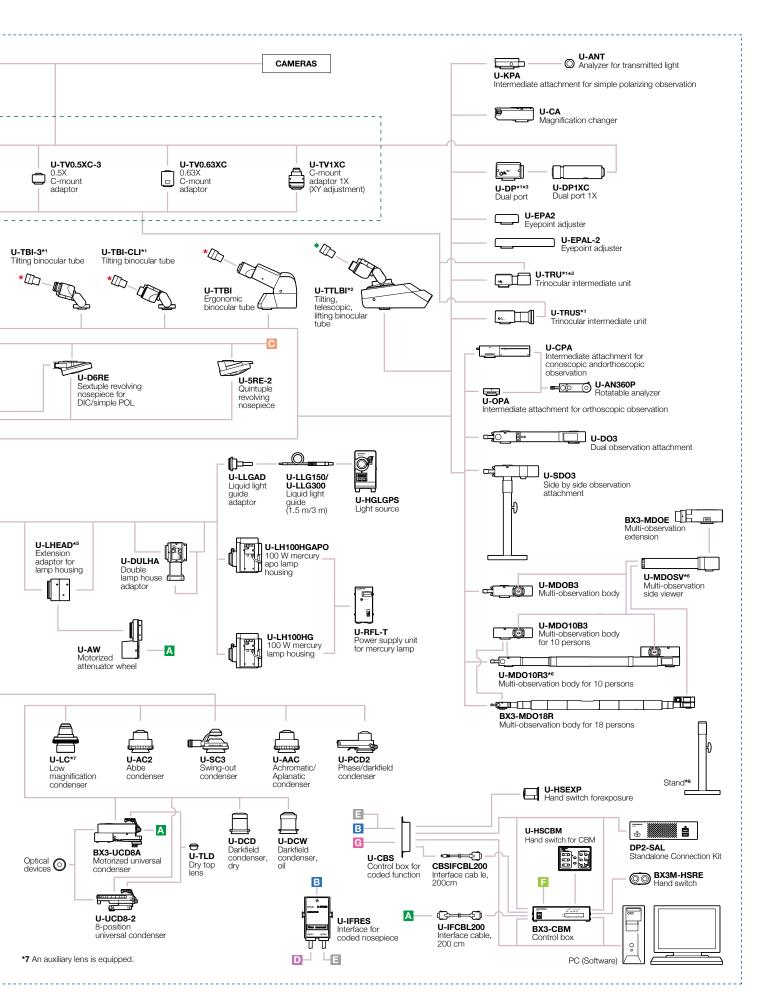
*1 Slight vignetting may occur in combination with an additional intermediate attachment or fluorescence illuminator. *2 Require an additional intermediate attachment or fluorescence illuminator.



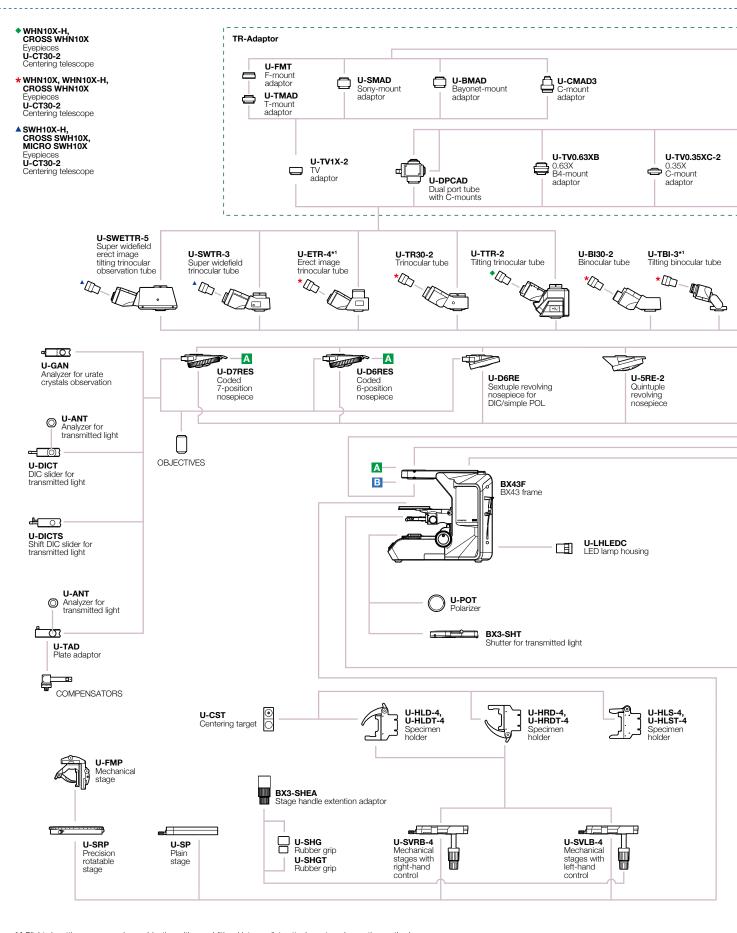
BX53 SYSTEM DIAGRAM



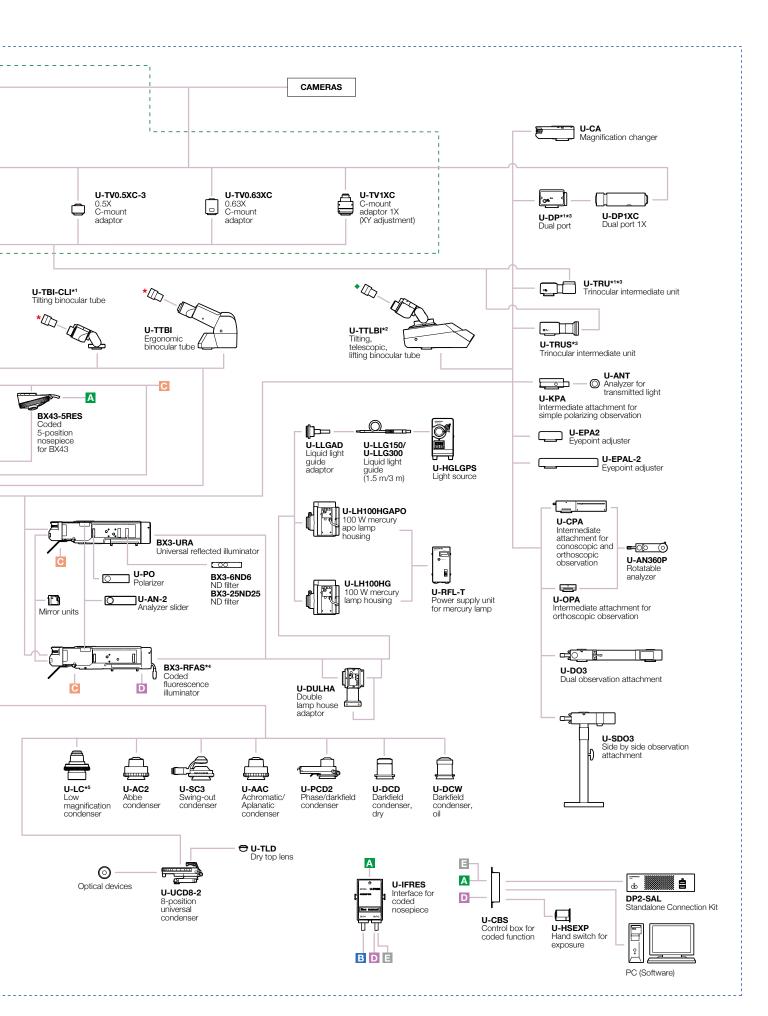
*3 Cannot be used with U-TTLBI. *4 Compatible with FN 22. *5 Cannot be used with BX3-URA. *6 Stand is a standard equipment of the U-MDOSV, BX3-MDO18R, and U-MDO10R3.



BX43 SYSTEM DIAGRAM



*1 Slight vignetting may occur in combination with an additional intermediate attachment or observation method.
 *2 Require an additional intermediate attachment or fluorescence illuminator.
 *3 Cannot be used with U-TTLBI.
 *4 Compatible with FN 22.
 *5 An auxiliary lens is equipped.



BX63 SPECIFICATIONS

	Optical System	UIS2 optical system
Microscope Frame	Focus	Built-in motorized nosepiece focus Stroke: 20 mm; minimum increment: 0.01 µm; maximum nosepiece movement speed: 5 mm/s
	Illuminator	Built-in Köhler 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)
Revolving Nosepiece)	Motorized septuple revolving nosepiece Interchangeable reversed coded sextuple/coded septuple nosepiece
Observation Tube	Widefield (FN 22)	 Widefield tilting trinocular Widefield trinocular Widefield erect image trinocular Widefield tilting binocular Widefield tilting, telescopic, lifting binocular Widefield ergo binocular Widefield binocular
Stage		 Ultrasonic stage (Stage stroke: X: 76 mm × Y: 52 mm; maximum stage movement speed: 30 mm/s Ceramic-coated coaxial stage with left or right hand low drive control: with rotating mechanism and torque adjustment mechanism, optional rubber grips, and available stage handle extension adaptor Cross stage with short left handle
Condenser		 Motorized universal condenser (NA 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: (NA 1.4)] Swing out Achromatic (NA 0.9), for 1.25X-100X (swing-out: 1.25X-4X) Achromatic Aplanatic (NA 1.4), for 10X-100X Universal (NA 0.9), for 1.25X-100X [swing-out: 1.25X-4X, with oil top lens: (NA 1.4)] Darkfield dry (NA 0.8-0.92), for 10X-100X Darkfield oil (NA 1.20-1.40), for 20X-100X
ND Filter Wheel		Motorized 6-position ND filter wheel
Fluorescence Illuminator		Motorized multi-purpose coded type (FN 22, motorized 8-position mirror unit turret, 4-position ND slider) Multi-purpose coded type (FN 22, 8-position mirror unit turret, 4-position ND slider)
Fluorescence Light S	Source	 130 W mercury light guide illumination 100 W mercury apo lamp housing and power supply unit 100 W mercury lamp housing and power supply unit
Controller	High-performance control box (I/F: FireWire)	

BX53 SPECIFICATIONS

	Optical System	UIS2 optical system			
Microscope Frame	Focus	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)			
	Illuminator	Built-in Koehler illumination for transmitted light, light preset switch, light intensity manager switch, high colo reproductivity 14 W LED light source (Brightness: equivalent to or brighter than a 100W halogen lamp, LED light emission method: 405nm excited RGB fluorescence substance)			
Revolving Nosepiece)	Interchangeable reversed quintuple/sextuple/septuple/coded sextuple/coded septuple nosepiece			
Observation Tube	Widefield (FN 22)	 Widefield tilting trinocular Widefield trinocular Widefield tilting binocular Widefield tilting, telescoping and lifting binocular Widefield ergo binocular Widefield binocular 			
	Super Widefield (FN 26.5)	Super widefield trinocular Super widefield erect image tilting trinocular			
Stage		Ceramic-coated coaxial stage with left or right hand low drive control: with rotating mechanism and torque adjustment mechanism, optional rubber grips and stage handle extension adaptor available (non stick grooved coaxial, plain, rotatable stages are also available)			
Condenser		 Abbe (NA 1.1), for 4X–100X Swing out Achromatic (NA 0.9), for 1.25X–100X (swing-out: 1.25X–4X) Achromatic Aplanatic (NA 1.4), for 10X–100X Phase contrast, darkfield (NA 1.1), [phase contrast: for 10X–100X, darkfield: for 10X–100X (up to NA 0.80)] Universal (NA 0.9), for 1.25X–100X [swing-out: 1.25X–4X, with oil top lens:(NA 1.4)] Low (NA 0.75), for 2X–100X (Dry) Darkfield dry (NA 0.8–0.92), for 10X–100X Darkfield oil (NA 1.20–1.40), for 20X–100X 			
Fluorescence Illuminator		 Multi-purpose coded type (FN 22, 8-position mirror unit turret, 4-position ND slider) Economical type (FN 26.5, 8-position mirror unit turret) 			
Fluorescence Light Source		100 W mercury apo lamp housing and power supply unit, 100 W mercury lamp housing and power supply unit, or 130 W mercury light guide illumination			

BX43 SPECIFICATIONS

	Optical System	UIS2 optical system
Microscope Frame	Focus	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)
	Illuminator	Built-in Koehler illumination for transmitted light, light intensity manager switch high color reproductivity 2 W LED light source
Revolving Nosepiece)	Interchangeable reversed quintuple/coded quintuple/sextuple/septuple/coded sextuple/coded septuple nosepiece
Observation Tube	Widefield (FN 22)	Widefield tilting, telescopic and lifting binocular Widefield tilting trinocular Widefield trinocular Widefield erect image trinocular Widefield tilting binocular Widefield tilting binocular Widefield ergo binocular Widefield binocular
	Super Widefield (FN 26.5)	Super widefield trinocular Super widefield erect image tilting trinocular
Stage		Ceramic-coated coaxial stage with left or right hand low drive control: with rotating mechanism and torque adjustment mechanism, optional rubber grips and stage handle extension adaptor available (non stick grooved coaxial, plain, rotatable stages are also available)
Condenser		 Abbe (NA 1.1), for 4X–100X Swing out Achromatic (NA 0.9), for 1.25X–100X (swing-out: 1.25X–4X) Achromatic Aplanatic (NA 1.4), for 10X–100X Phase contrast, darkfield (NA 1.1), [phase contrast: for 10X–100X, darkfield: for 10X–100X (up to NA 0.80)] Universal (NA 0.9), for 1.25X–100X [swing-out: 1.25X–4X, with oil top lens:(NA 1.4)] Low (NA 0.75), for 2X–100X (Dry) Darkfield dry (NA 0.8–0.92), for 10X–100X Darkfield oil (NA 1.20–1.40), for 20X–100X

BX46 SPECIFICATIONS

	Optical System	UIS2 optical system	
Microscope Frame	Focus	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)	
	Illuminator	Built-in Koehler illumination for transmitted light, light intensity manager switch High color reproductivity 2 W LED light source	
Revolving Nosepiece	Revolving Nosepiece Fixed reversed coded quintuple nosepiece		
Observation Tube	Widefield (FN 22)	 Widefield tilting trinocular Widefield trinocular Widefield tilting binocular Widefield tilting, telescopic, lifting binocular Widefield ergo binocular Widefield binocular 	
Stage		Ceramic-coated coaxial stage with left or right hand low drive control, rotating mechanism and torque adjustment mechanism (low torqe, plain, rotating stages are also available)	
Condenser		Built-in condenser (NA 0.9) 1.25X–100X (swing out: 1.25X–2X)	

BX53/BX43/BX46 SPECIFICATIONS

Operating Environment	Indoor use Ambient temperature Maximum relative humidity	: 5° to 40°C (41° to 104° F) : 80% for temperatures up to 31°C (88°F), decreasing linearly through 70% at 34°C (93°F), 60% at 37°C (99°F), to 50% relative humidity at 40°C (104°F) : not to exceed ±10 % of the normal voltage
	• Supply voltage incluations	. Not to exceed ±10 % of the normal voltage

Dimensions

BX63 FL DIMENSIONS

BX53 FL DIMENSIONS

220

90

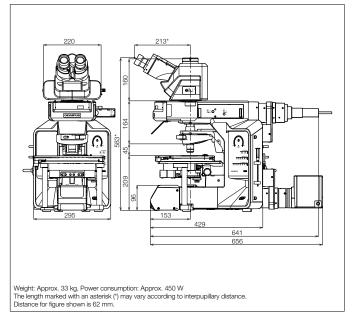
275

BX43 DIMENSIONS

(unit: mm)

(unit: mm)

\$N ||



210*

92

362

383

482

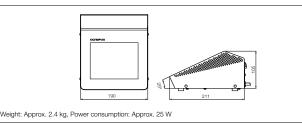
541* 538 124

45

209

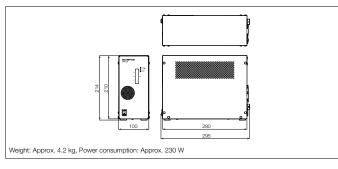
TOUCH PANEL CONTROLLER DIMENSIONS

(unit: mm)



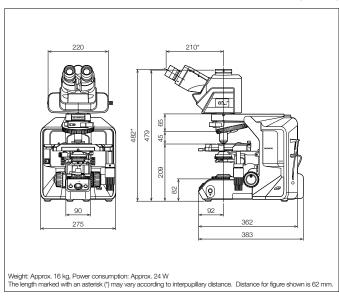
BX3-CBH DIMENSIONS

(unit: mm)



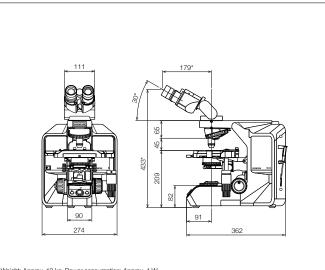
BX53 DIMENSIONS

(unit: mm)



BX46 DIMENSIONS

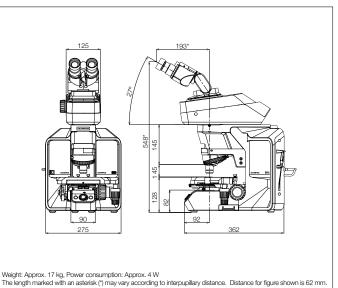




Weight: Approx. 21 kg, Power consumption: Approx. 330 W The length marked with an asterisk (*) may vary according to interpupillary distance. Distance for figure shown is 62 mm.

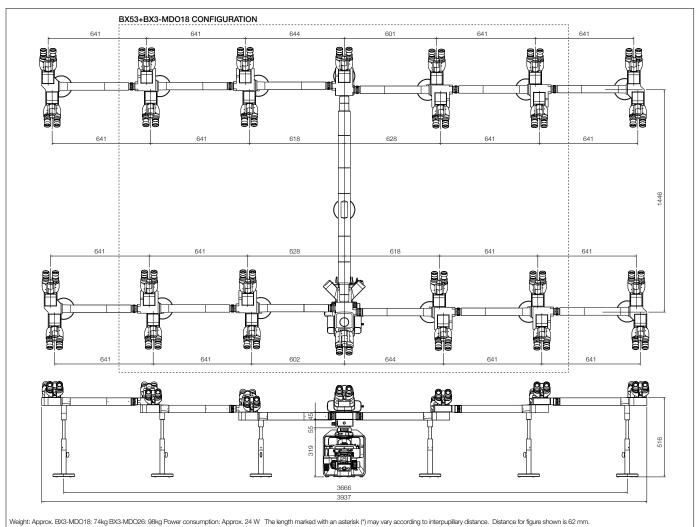
Weight: Approx. 13 kg, Power consumption: Approx. 4 W The length marked with an asterisk (*) may vary according to interpupillary distance. Distance for figure shown is 62 mm.



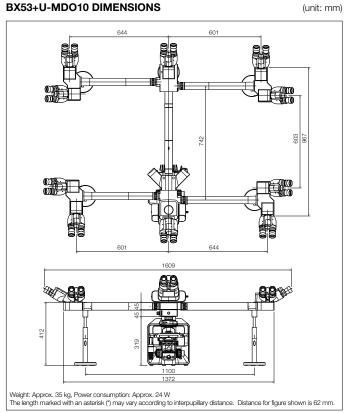


BX53+BX3-MDO18/MDO26 DIMENSIONS

(unit: mm)

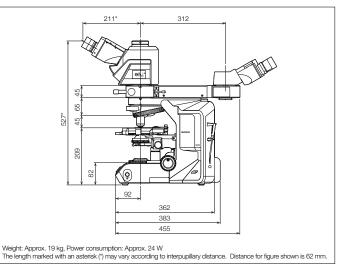


BX53+U-MDO10 DIMENSIONS



BX53+U-DO DIMENSIONS

(unit: mm)



• OLYMPUS CORPORATION is IS014001 certified.

OLYMPUS CORPORATION is ISO14601 certified.
 OLYMPUS CORPORATION is ISO13485 certified.

Illumination devices for microscope have suggested lifetimes. Periodic inspections are required. Please visit our website for details.

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