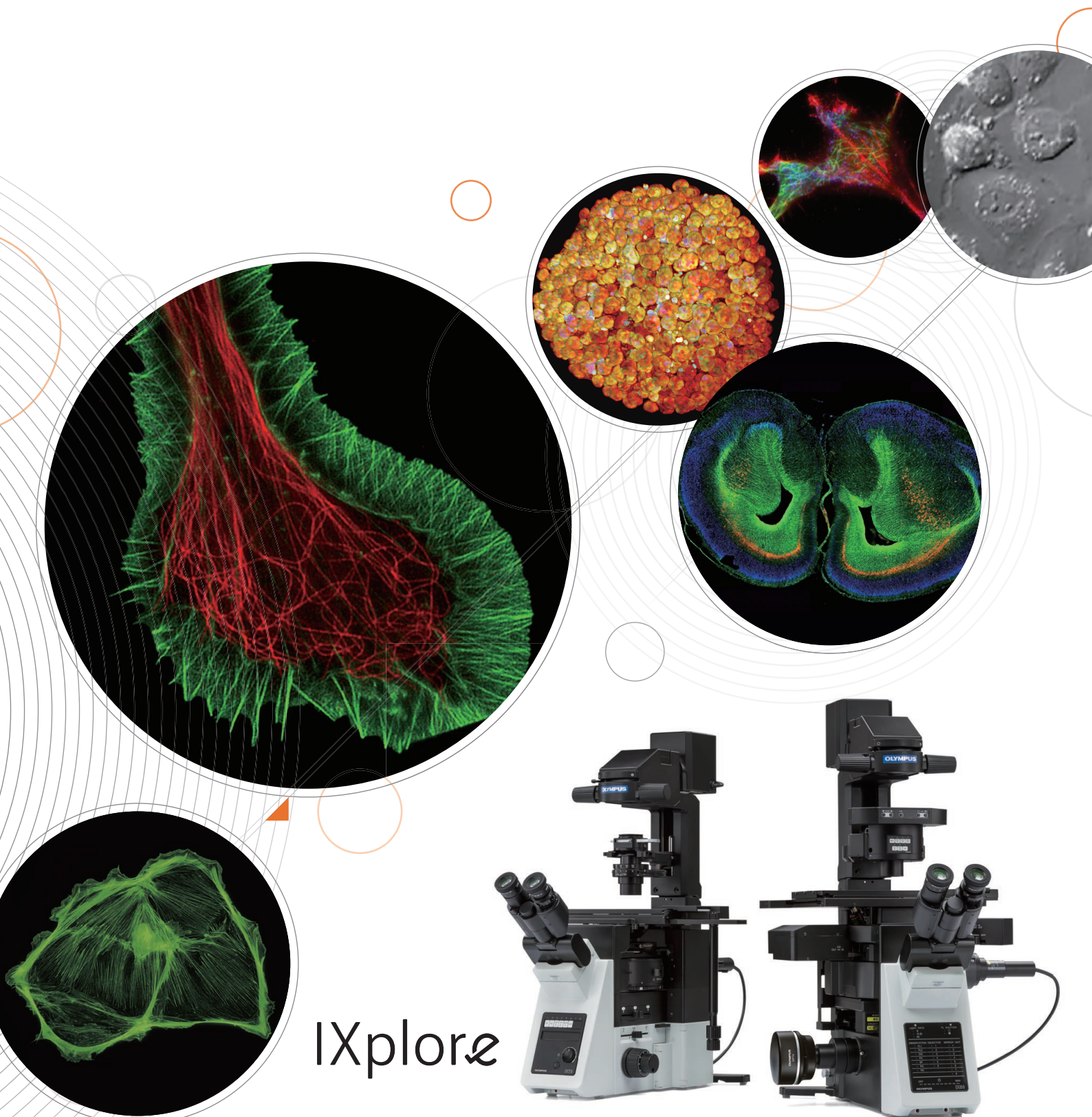


### Solutions-Based Microscopy



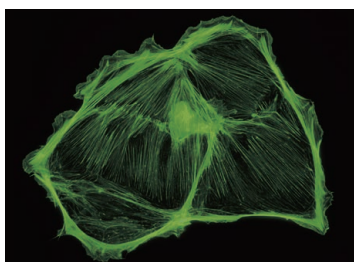
IXplore

# IXplore™ Series Comparison Chart

Whether working with fixed samples or imaging live cells, discovery is challenging. Each system in the IXplore series is tailored to fit a specific research application in order to help scientists more efficiently accomplish their goals. IXplore systems provide accurate, reproducible images and data, and can be adapted as experimental needs evolve or become increasingly complex over time.

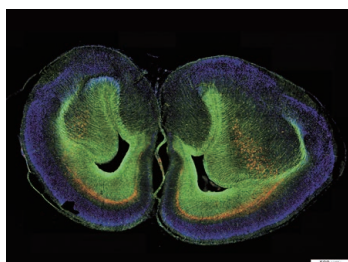
## IXplore Standard

High-quality imaging



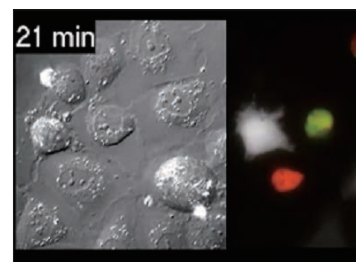
## IXplore Pro

Automated imaging for accurate and efficient experiments



## IXplore Live

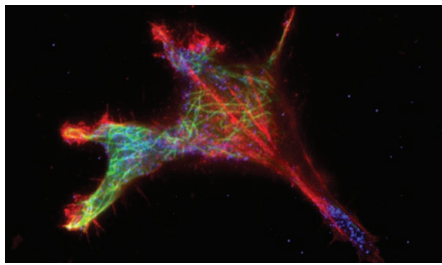
Precise live-cell imaging



	Unstained Contrast	✓	✓	✓
	Stained Sample	✓	✓	✓
	Multichannel Fluorescence	✓	✓	✓
	Automated Microscopy		✓	✓
	Z-Stacks		✓	✓
	Stitching		✓	✓
	Live Cell/Time-Lapse			✓
	3D Samples			
	TIRF			
	Photo Manipulation			
	Low Phototoxicity			
	High-Speed Confocal			
	Super Resolution			

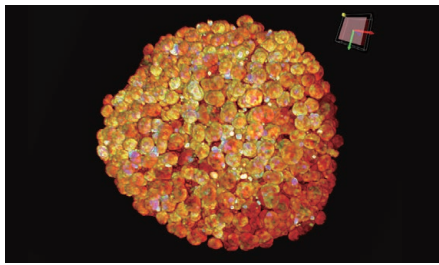
## IXplore TIRF

Excellent multicolor  
TIRF imaging



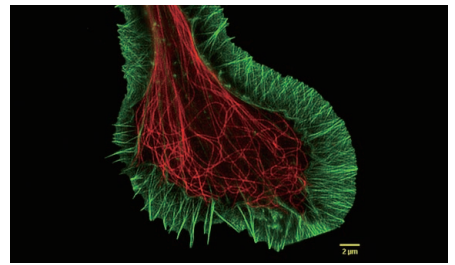
## IXplore Spin\*

Confocal imaging  
of rapid cell dynamics



## IXplore SpinSR\*

Confocal super resolution  
for all live cell samples



✓		✓
✓		✓
✓		✓
✓		✓
✓		✓
✓		✓
✓		✓
✓		✓
✓		✓
✓		✓
	✓	
	✓	
		✓
		✓
		✓

\*This product is not available in some areas.



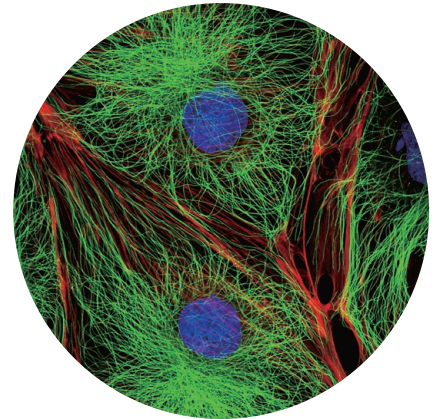
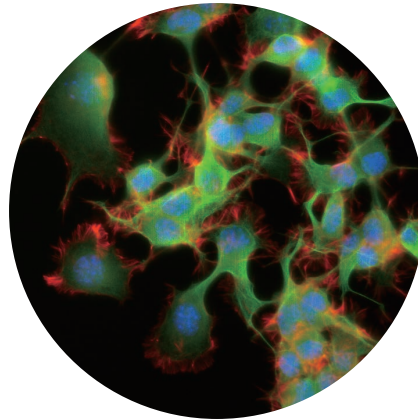
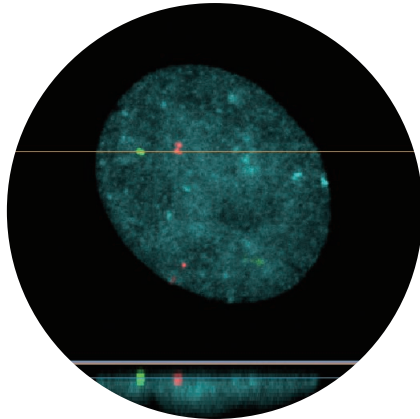
# Our Most Advanced Optical Technology

With a rich history in optics, we design high-quality objectives that enable our customers to advance their research. Our X Line™ high-performance objectives and A Line application-driven objectives demonstrate our commitment to continuously developing innovative optical technologies.

## Extended Apochromat Objectives



The UPLXAPO extended apochromat objectives have a high numerical aperture (NA), wide, homogenous image flatness, and chromatic aberration compensation from 400 nm to 1000 nm. Built with our advanced lens manufacturing technology, these objectives provide precision images in a range of applications including brightfield, fluorescence, confocal, and super-resolution microscopy.

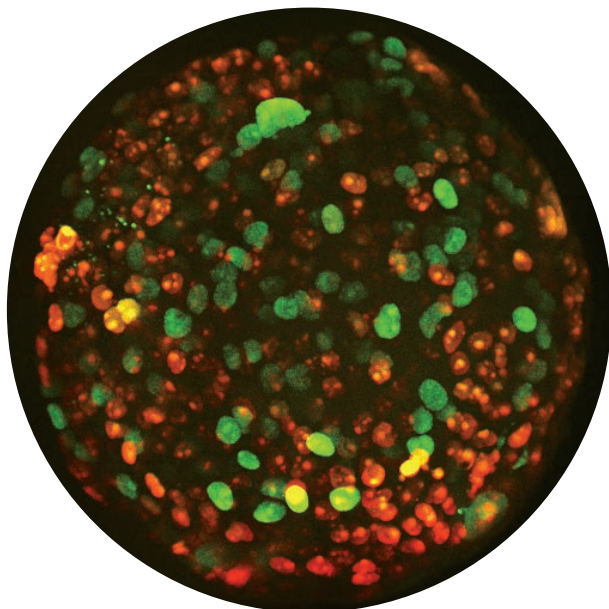


## High-Resolution Objectives for Super Resolution/TIRF



Our pioneering TIRF objectives provide tight control over the evanescent wave produced in TIRF imaging with magnifications ranging from 60X to 150X. From the APON100XHOTIRF objective with the world's highest NA of 1.7\* to the world's first plan apochromat objectives with an NA of 1.5\* (UPLAPO60XOHR and UPLAPO100XOHR), our TIRF objectives deliver outstanding performance for real-time, super-resolution imaging of live cells and micro-organelles.

\*As of November 2018; according to Evident research.



## Silicone Oil Objectives\*<sup>2</sup> —Unparalleled Visibility Deep into Live Cells



The refractive index of silicone oil ( $n_e \approx 1.40$ ) is close to that of living tissue ( $n_e \approx 1.38$ ), enabling high-resolution observations deep inside living tissue with minimal spherical aberration caused by refractive index mismatch. Silicone oil does not dry out or harden, so there is never a need to refill oil, making it ideal for extended time-lapse observations.

\*<sup>2</sup> Uses dedicated silicone oil.

## Objective Specifications

UIS2 Objective		X/A line	NA	W.D. (mm)	OFN	Cover glass thickness (mm)	Immersion medium	Spring loaded	Correction collar	Iris	TruFocus
UPLXAPO	UPLXAPO4X	X Line	0.16	13	26.5	–					
	UPLXAPO10X	X Line	0.4	3.1	26.5	0.17					✓
	UPLXAPO20X	X Line	0.8	0.6	26.5	0.17		✓			✓
	UPLXAPO40X	X Line	0.95	0.18	26.5	0.11–0.23		✓	✓		✓
	UPLXAPO40XO	X Line	1.4	0.13	26.5	0.17	Oil	✓			✓
	UPLXAPO60XO	X Line	1.42	0.15	26.5	0.17	Oil	✓			✓
	UPLXAPO100XO	X Line	1.45	0.13	26.5	0.17	Oil	✓			✓
	UPLXAPO60XOPH	X Line	1.42	0.15	26.5	0.17	Oil	✓			✓
UPLXAPO100XOPH	X Line	1.45	0.13	26.5	0.17	Oil	✓				
UPLSAPO	UPLSAPO30XS	A Line	1.05	0.8	22	0.13–0.19	Silicone oil		✓		✓
	UPLSAPO40XS	A Line	1.25	0.3	22	0.13–0.19	Silicone oil	✓	✓		✓
	UPLSAPO60XW		1.2	0.28	26.5	0.13–0.21	Water	✓	✓		✓
	UPLSAPO60XS2	A Line	1.3	0.3	22	0.15–0.19	Silicone oil	✓	✓		✓
	UPLSAPO100XS	A Line	1.35	0.2	22	0.13–0.19	Silicone oil	✓	✓		✓
PLAPON	PLAPON60XOSC2	A Line	1.4	0.12	22	0.17	Oil	✓			✓
UPLFLN	UPLFLN4X		0.13	17	26.5	–					
	UPLFLN10X2		0.3	10	26.5	–					✓
	UPLFLN20X		0.5	2.1	26.5	0.17		✓			✓
	UPLFLN40X		0.75	0.51	26.5	0.17		✓			✓
	UPLFLN60X		0.9	0.2	26.5	0.11–0.23		✓	✓		✓
	UPLFLN60XOI		1.25–0.65	0.12	26.5	0.17	Oil	✓		✓	✓
	UPLFLN100XO2		1.3	0.2	26.5	0.17	Oil	✓			✓
	UPLFLN100XOI2		1.3–0.6	0.2	26.5	0.17	Oil	✓		✓	✓
	UPLFLN4XPH		0.13	17	26.5	–					
	UPLFLN10X2PH		0.3	10	26.5	–					✓
	UPLFLN20XPH		0.5	2.1	26.5	0.17		✓			✓
	UPLFLN40XPH		0.75	0.51	26.5	0.17		✓			✓
	UPLFLN60XOIPH		1.25–0.65	0.12	26.5	0.17	Oil	✓		✓	
UPLFLN100XO2PH		1.3	0.2	26.5	0.17	Oil	✓			✓	
PLFLN	PLFLN100X		0.95	0.2	26.5	0.14–0.2		✓	✓		
UCPLFLN	UCPLFLN20X	A Line	0.7	0.8–1.8	22	0–1.6			✓		✓
	UCPLFLN20XPH	A Line	0.7	0.8–1.8	22	0–1.6			✓		✓
LUCPLFLN	LUCPLFLN20X		0.45	6.6–7.8	22	0–2			✓		✓
	LUCPLFLN40X		0.6	2.7–4	22	0–2			✓		✓
	LUCPLFLN60X		0.7	1.5–2.2	22	0.1–1.3			✓		✓
	LUCPLFLN20XPH		0.45	6.6–7.8	22	0–2			✓		✓
	LUCPLFLN40XPH		0.6	3.0–4.2	22	0–2			✓		✓
	LUCPLFLN60XPH		0.7	1.5–2.2	22	0.1–1.3			✓		✓
CPLFLN	CPLFLN10XPH		0.3	9.5	22	1					✓
LCACHN	LCACHN20XPH		0.4	3.2	22	1					
	LCACHN40XPH		0.55	2.2	22	1					
CPLN	CPLN10XPH		0.25	10	22	1					
UAPON 340	UAPON20XW340		0.7	0.35	22	0.17	Water	✓			✓
	UAPON40XO340-2		1.35	0.1	22	0.17	Oil	✓			✓
	UAPON40XW340		1.15	0.25	22	0.13–0.25	Water	✓	✓		✓
TIRF	UPLAPO60XOHR	A Line	1.5	0.11	22	0.13–0.19	Oil		✓		✓
	UPLAPO100XOHR	A Line	1.5	0.12	22	0.13–0.19	Oil		✓		✓
	APON100XHOTIRF*	A Line	1.7	0.08	22	0.15	Oil		✓		✓
	UAPON150XOTIRF	A Line	1.45	0.08	22	0.13–0.19	Oil		✓		

\*HIGHINDEX-CG cover glass and dedicated immersion oil required.

# Recommended Configurations

IXplore Standard	
Microscope frame	IX73 (IX73P2F)
Transmitted Köhler illumination	12 V 100 W halogen (U-LH100L)
Stage	Mechanical stage with right handle (IX3-SVR)
Condenser	Long working distance universal (IX3-LWUCD)
Fluorescence illuminator	L-shaped fluorescence illuminator with fly-eye lens (IX3-RFALFE)
Fluorescence mirror turret	Coded fluorescence mirror turret (IX3-RFACS)
Fluorescence mirror unit	UIS2 mirror units
Fluorescence light source	130 W mercury light guide illumination (U-HGLGPS)
Objective	UPLFLN, LUCPLNFLN-PH, UCPLNFLN-PH, UPLXAPO
Camera	DP74
Imaging software	cellSens Standard

IXplore Live	
Microscope frame	IX83 (IX83P2ZF)
Transmitted Köhler illumination	High color rendering LED (IX3-LHLEDC)
Condenser	Motorized long working distance universal (IX3-LWUCDA)
Fluorescence illuminator	L-shaped fluorescence illuminator with fly-eye lens (IX3-RFALFE)
Fluorescence mirror turret	Motorized fluorescence mirror turret (IX3-RFACA)
Fluorescence mirror unit	UIS2 mirror units
Fluorescence light source	LED light source
Objective	UPLXAPO, UPLSAPO-S
Camera	ORCA Flash4.0 V3
Imaging software	cellSens Dimension
Accessories	TruFocus system (IX3-ZDC2) Remote correction collar controller (IX3-RCC) Real-time controller (U-RTCE) Incubation housing

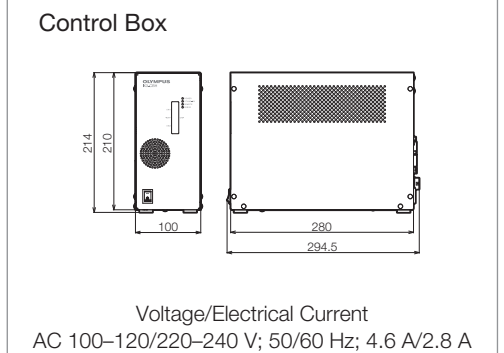
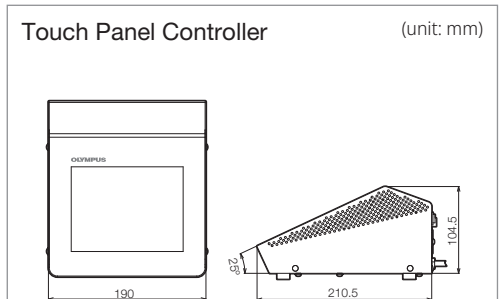
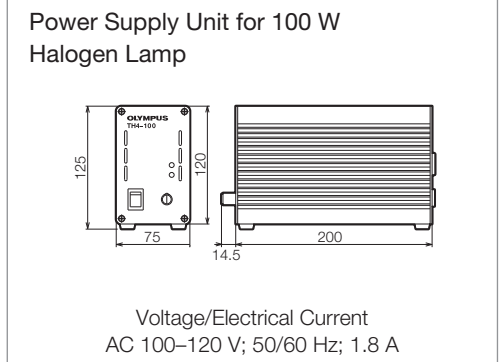
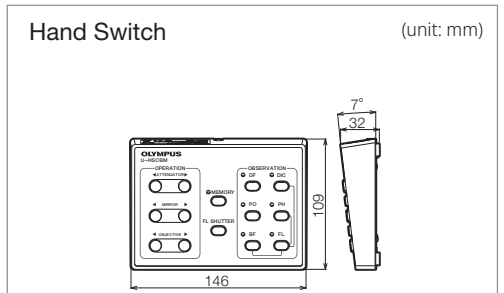
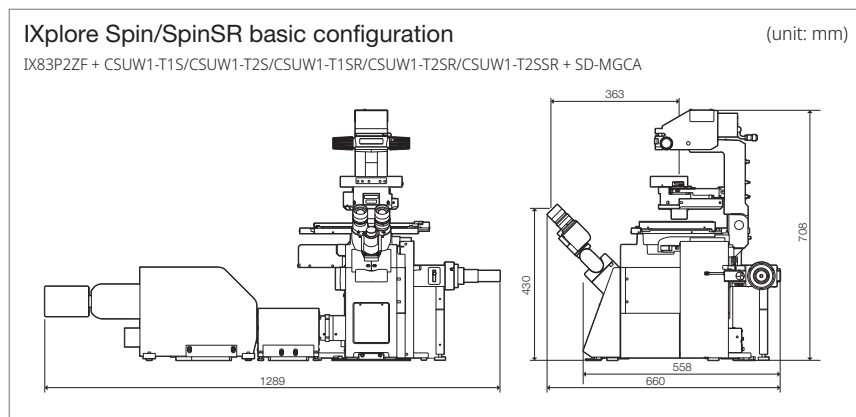
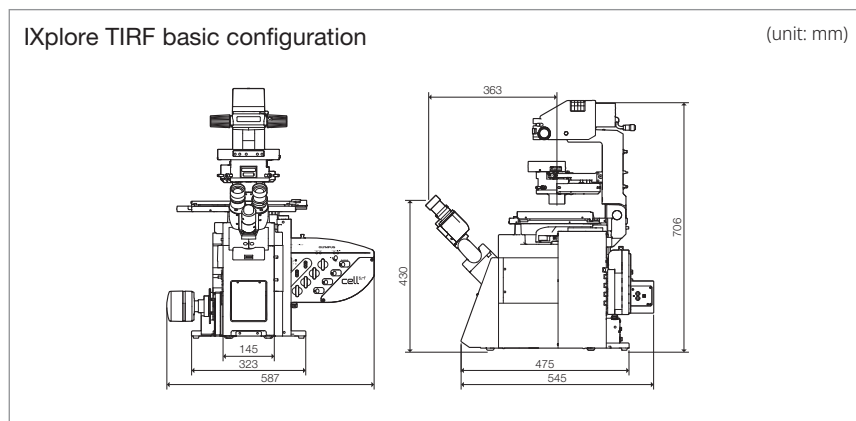
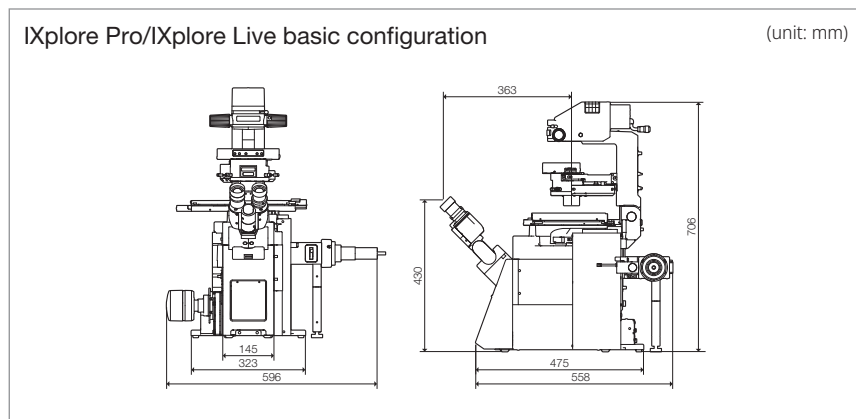
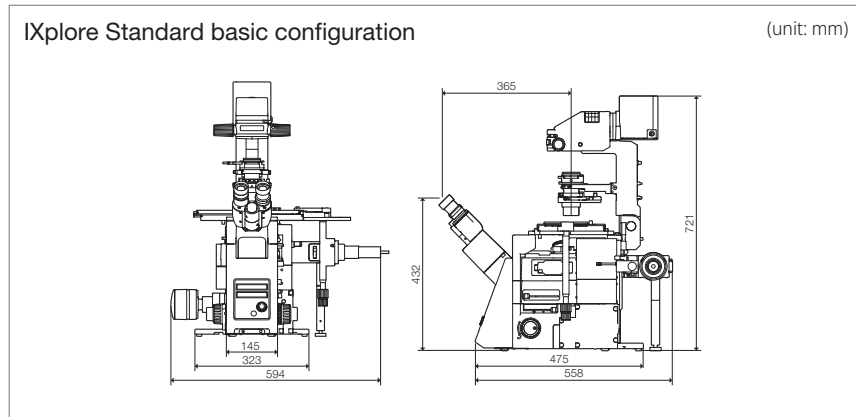
IXplore Spin	
Microscope frame	IX83 (IX83P2ZF)
Transmitted Köhler illumination	High color rendering LED (IX3-LHLEDC)
Condenser	Motorized long working distance universal (IX3-LWUCDA)
Fluorescence illuminator	L-shaped fluorescence illuminator with fly-eye lens (IX3-RFALFE)
Fluorescence mirror turret	Motorized fluorescence mirror turret (IX3-RFACA)
Fluorescence mirror unit	UIS2 mirror units
Fluorescence light source	130 W mercury light guide illumination (U-HGLGPS)
Objective	UPLXAPO, UPLAPO-HR, UPLSAPO-S
Camera	ORCA Flash4.0 V3
Imaging software	cellSens Dimension
Confocal scanner	Spinning disk confocal scanner
Accessories	TruFocus system (IX3-ZDC2) Remote correction collar controller (IX3-RCC) Real-time controller (U-RTCE) Incubation housing

IXplore Pro	
Microscope frame	IX83 (IX83P2ZF)
Transmitted Köhler illumination	High color rendering LED (IX3-LHLEDC)
Condenser	Motorized long working distance universal (IX3-LWUCDA)
Fluorescence illuminator	L-shaped fluorescence illuminator with fly-eye lens (IX3-RFALFE)
Fluorescence mirror turret	Motorized fluorescence mirror turret (IX3-RFACA)
Fluorescence mirror unit	UIS2 mirror units
Fluorescence light source	130 W mercury light guide illumination (U-HGLGPS)
Objective	UPLXAPO, LUCPLNFLN-PH, UCPLNFLN-PH
Camera	DP74 or ORCA-Fusion
Imaging software	cellSens Dimension

IXplore TIRF	
Microscope frame	IX83 (IX83P2ZF)
Transmitted Köhler illumination	High color rendering LED (IX3-LHLEDC)
Condenser	Motorized long working distance universal (IX3-LWUCDA)
Fluorescence illuminator	L-shaped fluorescence illuminator with fly-eye lens (IX3-RFALFE)
Fluorescence mirror turret	Motorized fluorescence mirror turret (IX3-RFACA)
Fluorescence mirror unit	UIS2 mirror units
Fluorescence light source	130 W mercury light guide illumination
Objective	UPLXAPO, (U)APON-TIRF, UPLAPO-HR
Camera	ORCA Flash4.0 V3
Imaging software	cellSens Dimension
TIRF illuminator	cellTIRF
Accessories	TruFocus system (IX3-ZDC2) Remote correction collar controller (IX3-RCC) Real-time controller (U-RTCE) Incubation housing

IXplore SpinSR	
Microscope frame	IX83 (IX83P2ZF)
Transmitted Köhler illumination	High color rendering LED (IX3-LHLEDC)
Condenser	Motorized long working distance universal (IX3-LWUCDA)
Fluorescence illuminator	L-shaped fluorescence illuminator with fly-eye lens (IX3-RFALFE)
Fluorescence mirror turret	Motorized fluorescence mirror turret (IX3-RFACA)
Fluorescence mirror unit	UIS2 mirror units
Fluorescence light source	130 W mercury light guide illumination (U-HGLGPS)
Objective	UPLXAPO, UPLAPO-HR, UPLSAPO-S
Camera	ORCA Flash4.0 V3
Imaging software	cellSens Dimension
Confocal scanner	Spinning disk confocal scanner
Super-resolution processing	Olympus super-resolution (OSR) filter
Accessories	TruFocus system (IX3-ZDC2) Remote correction collar controller (IX3-RCC) Real-time controller (U-RTCE) Incubation housing

# Dimensions



# Microscope Specifications

		IXplore Standard			IXplore Pro, Live, TIRF, Spin, SpinSR
Microscope frame	Frame	IX73 (IX73P2F)			IX83 (IX83P2ZF)
	Model	Manual	Coded	Semi-motorization	Full-motorization
	Observation methods	BF, PH, DIC, FL			BF, PH, DIC, FL, TIRF, CF, SR
	Optical system	UIS2 optical system			
	Revolving nosepiece	Coded sextuple revolving nosepiece (DIC slider attachable)*, simple waterproof structure		Motorized sextuple revolving nosepiece (DIC slider attachable), simple waterproof structure	
	Focus	Stroke: 10 mm			Stroke: 10.5 mm Minimum increment: 0.01µm Maximum nosepiece movement speed: 3 mm/s
	Intermediate port	2 ports			
	Light path selection	Manual 0:100/50:50/100:0 (Left side port: BI port)			Motorized 0:100/50:50/100:0 (Left side port: BI port)
	Transmitted illumination pillar	Pillar tilt mechanism (30° inclination angle with vibration reducing mechanism) Condenser holder (with 88 mm stroke, refocusing mechanism) Field iris diaphragm adjustable, 4 filter holders			
	Observation tube	Widefield tilting binocular, 10X eyepieces, field number 22			
	Controller	-	Control box for coded function	Control box for motorized function, hand switch	Control box, touch panel controller, motorized Z controller
Transmitted Köhler illumination	Halogen	12 V, 100 W halogen bulb (pre-centered)			
	LED	High color reproductive LED light source			
Stage	Mechanical stage with right handle	Stage stroke: X: 114 mm × Y: 75 mm, stage position locking function			
	Mechanical stage with left short handle	Stage stroke: X: 114 mm × Y: 75 mm, stage position locking function			
Condenser	Motorized long working distance universal	W.D. 27 mm, NA 0.55, motorized turret with 7 position slots for optical devices (3 positions for ø30 mm and 4 positions for ø38 mm), motorized aperture and polarizer			
	Long working distance universal	W.D. 27 mm, NA 0.55, manual turret with 5 positions for optical devices (3 positions for ø30 mm and 2 position for ø38 mm)			
	Ultra-long working distance	W.D. 73.3 mm, NA 0.3, manual turret with 4 positions for optical devices (for ø29 mm)			
Fluorescence illuminator	L-shaped fluorescence illuminator with fly-eye lens	L-shaped design with exchangeable FS module			
	L-shaped fluorescence illuminator	L-shaped design with exchangeable FS and AS modules			
	Fluorescence illuminator	Straight design with field iris diaphragm			
Fluorescence mirror turret	Motorized fluorescence mirror turret	Motorized turret with 8 positions, built-in shutter, simple waterproof structure			
	Coded fluorescence mirror turret	Coded 8-position turret*1, built-in shutter, simple waterproof structure			-
Fluorescence light source	130 W mercury	130 W mercury light guide illumination			
	100 W mercury	100 W mercury apo lamp housing and transformer			
Focus compensator	Z-drift compensator*2	-			Offset method (focus search, one-shot focus, continuous focus), class 1 laser product
Operating environment	Indoor use Ambient temperature: 5 °C to 40 °C (41 °F to 104 °F) Maximum relative humidity: 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) Supply voltage fluctuations: Not to exceed ± 10% of the normal voltage				

BF: Brightfield, PH: Phase Contrast, DIC: Differential Interference Contrast, TIRF: Total Internal Reflection Fluorescence, FL: Fluorescence, CF: Confocal, SR: Super Resolution

\*1Control box is required for the coded function

\*2 Z-drift compensator (TruFocus system) is a Class 1 laser product



		IXplore Spin*	IXplore SpinSR	
Laser lines		405 nm: 50 mW, 445 nm: 75 mW, 488 nm: 100 mW, 514 nm: 40 mW, 561 nm: 100 mW, 640 nm: 100 mW		
Laser combiner		Main combiner: 405 nm, 488 nm, 561 nm, 640 nm + 1 line (445 nm or 514 nm) Sub combiner: 445 nm, 514 nm 2x Interlock shutter available		
Laser light control		Direct modulation by U-RTCE, ultra-fast ON/OFF control and intensity modulation with individual laser lines, continuously variable (0% – 100%, 1% increments)		
Scanner	Yokogawa CSU-W1	Disk unit	Single 50 µm pinhole disk	SoRa disk or 50 µm pinhole disk maximally 2 disks selectable
		Camera port	1 or 2 camera model	1 or 2 camera model* <sup>2</sup>
	Super-resolution imaging	Acquisition speed (Max.)	-	5 ms/f
		Optical zoom	-	3.2X
		Optical resolution* <sup>3</sup>	-	SoRa disk: 110 nm 50 µm pinhole disk: 120 nm
	Regular confocal imaging	Objective field number	-	5.9
		Acquisition speed (Max.)	5 ms/f	
		Optical zoom	1X	
	Dichromatic mirror		3 position (motorized slider)	
	Filter wheel (emission)		10 position (motorized wheel)	
Imaging sensor		HAMAMATSU ORCA Flash 4.0 V3 (CameraLink)		
Objectives for super resolution		-	UPLSAPO60XS2, UPLSAPO100XS, UPLAPO60XOHR, UPLAPO100XOHR, UPLXAPO60XO, UPLXAPO100XO, PLAPON60XOSC2	
Super-resolution adapter		Confocal/super-resolution lightpath changer (motorized)		
Imaging software	cellSens Dimension	Multidimensional acquisition and analysis		
		-	Super-resolution imaging module	

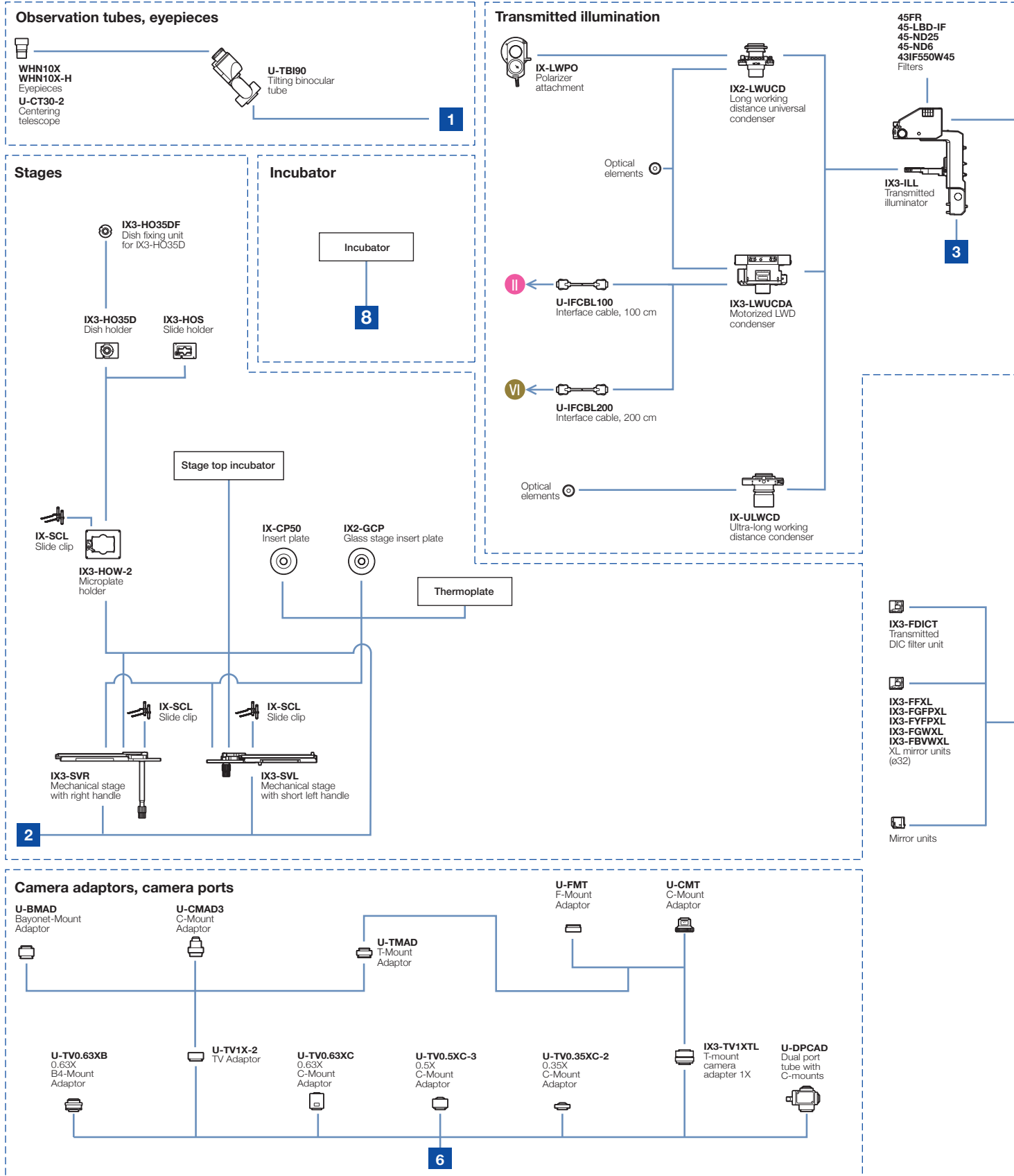
\* IXplore Spin system does not have the super-resolution function but can be upgraded to IXplore SpinSR.

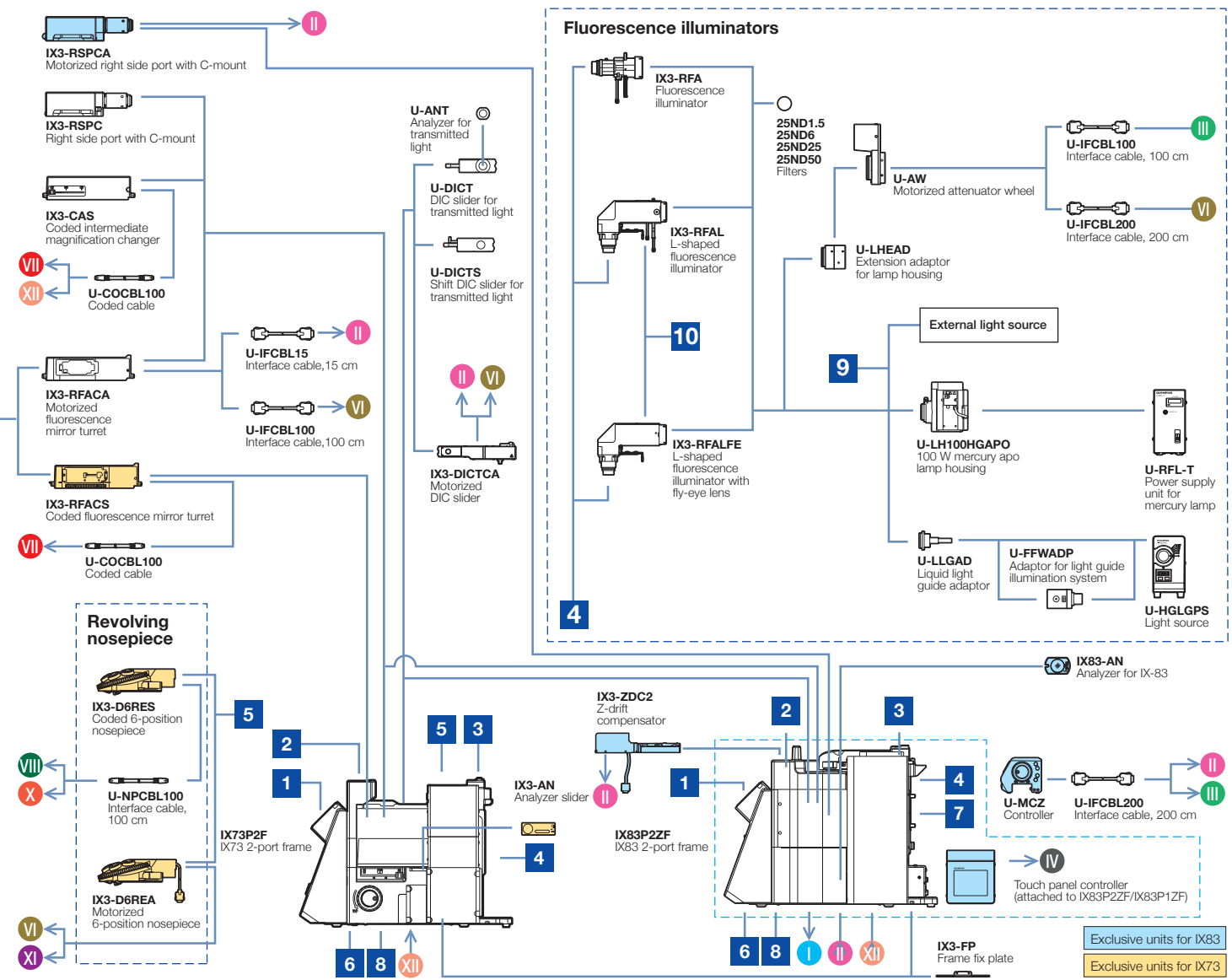
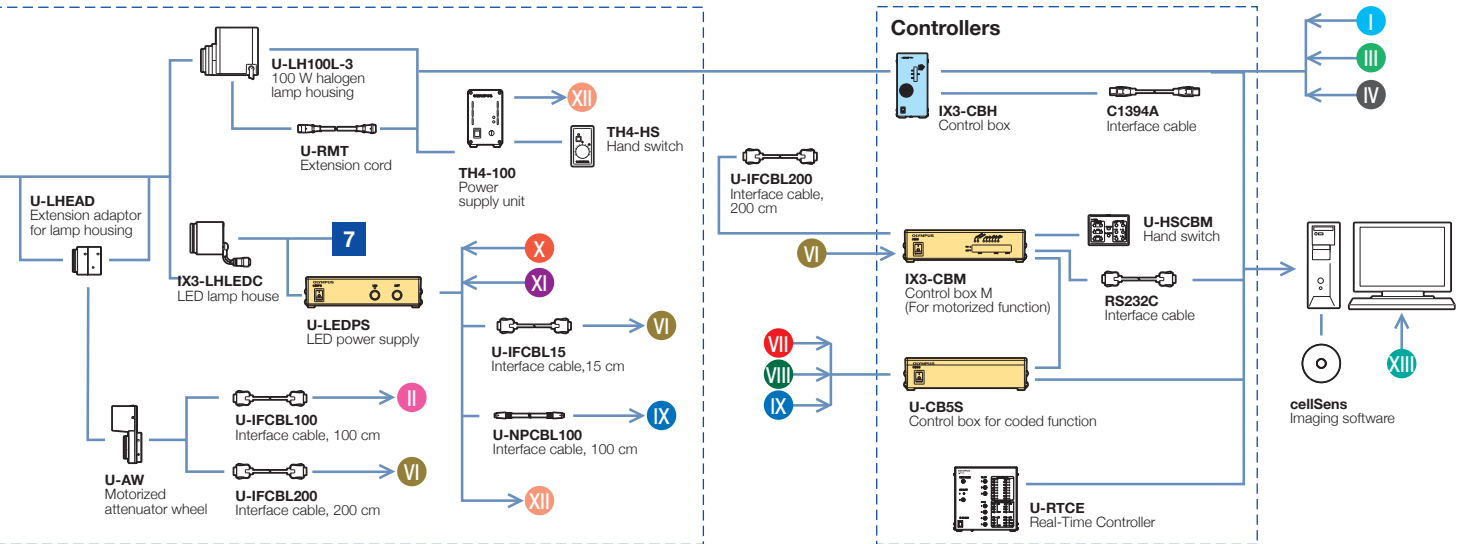
\*<sup>2</sup> Restrictions dependent on disk unit combinations.

\*<sup>3</sup> Typical experimental FWHM values with UPLSAPO100XS at 488 nm excitation. SoRa disk with 40 nm diameter beads and 50 µm pinhole disk with 100 nm diameter beads.

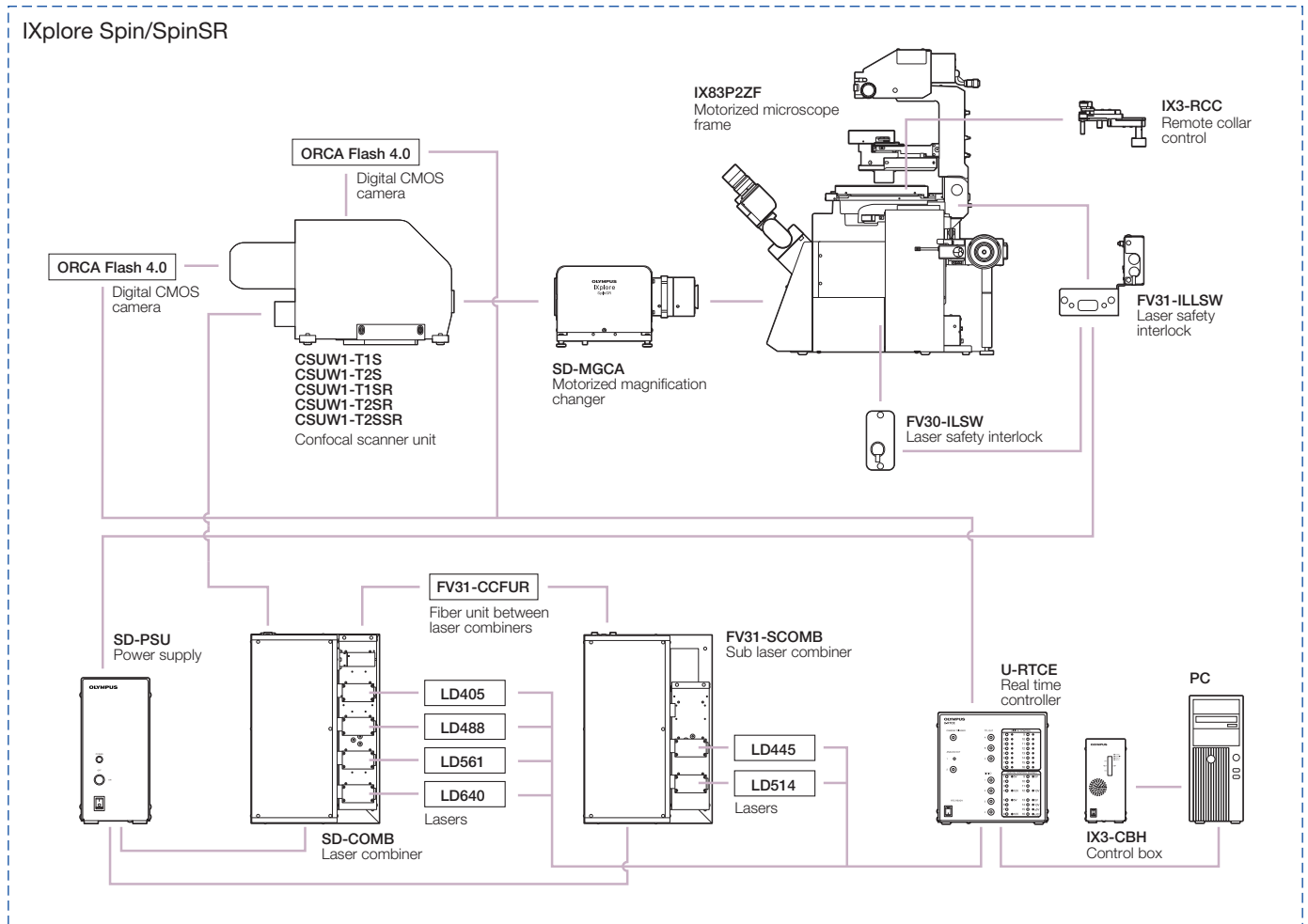


# System Diagram





IXplore Spin/SpinSR



- EVIDENT CORPORATION is ISO14001 certified.
- EVIDENT CORPORATION is ISO9001 certified.
- Illumination devices for microscope have suggested lifetimes. Periodic inspections are required. Please visit our website 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.

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