

LIFE SCIENCE

# Clearer Insights, More Discovery

IXplore™ IX85

Automated Inverted Microscope System



**EVIDENT**



## Clearer Insights, More Discovery

The IXplore™ IX85 platform delivers an unmatched level of customizability, allowing you to design or build an intelligent, high-performance imaging system that meets your specific goals. With an industry-leading field number (FN) of 26.5mm plus an array of advanced end-to-end imaging and workflow features, the IXplore™ IX85 means you can capture more than ever before while dramatically reducing your acquisition times.

# Expand Your View, Enhance Your Vision

See and capture more—and reduce your acquisition times—with an unmatched field of view (FOV) and an array of end-to-end imaging features that set a new standard in clarity and precision, including groundbreaking new objective technology.

## Unmatched Field of View


View more of your sample in each image with a 26.5mm FN on two integrated ports. Cover larger areas in fewer images, get more datapoints from each image, minimize the need for image stitching, and speed up your workflows.

## Accelerated Discoveries

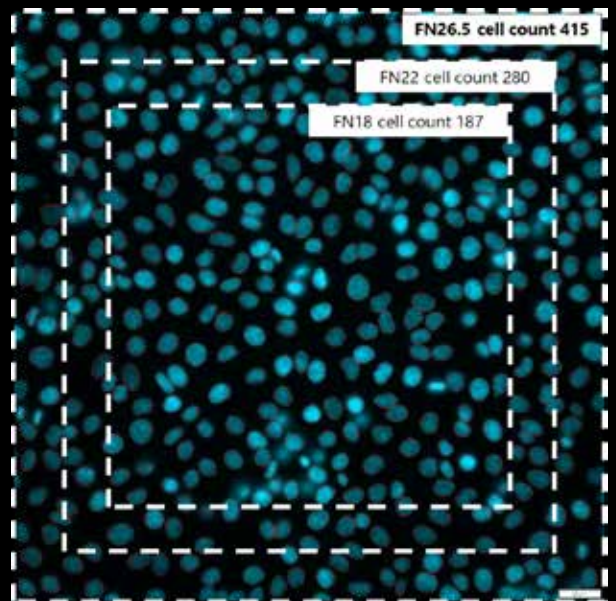
Spend more time advancing your research rather than waiting on data acquisition. With a larger field number, each image contains more data, leading to more efficient results.

## Faster Stitching

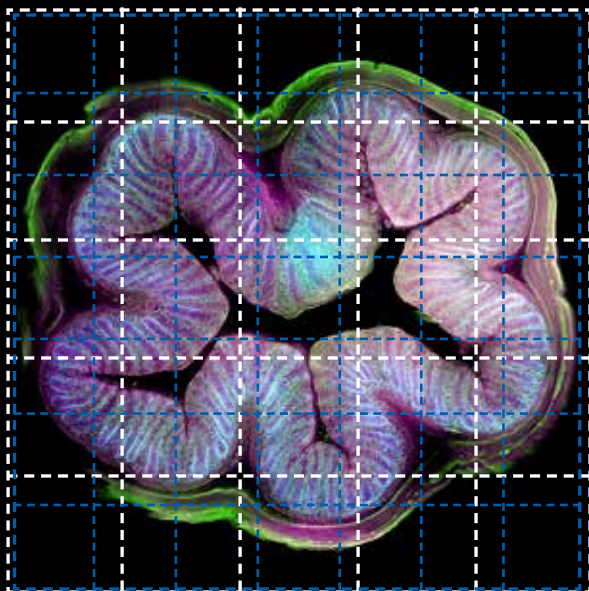
Capture your large samples in 50% fewer images compared to our previous system.

 Stitching with FN18 (7x7 images)

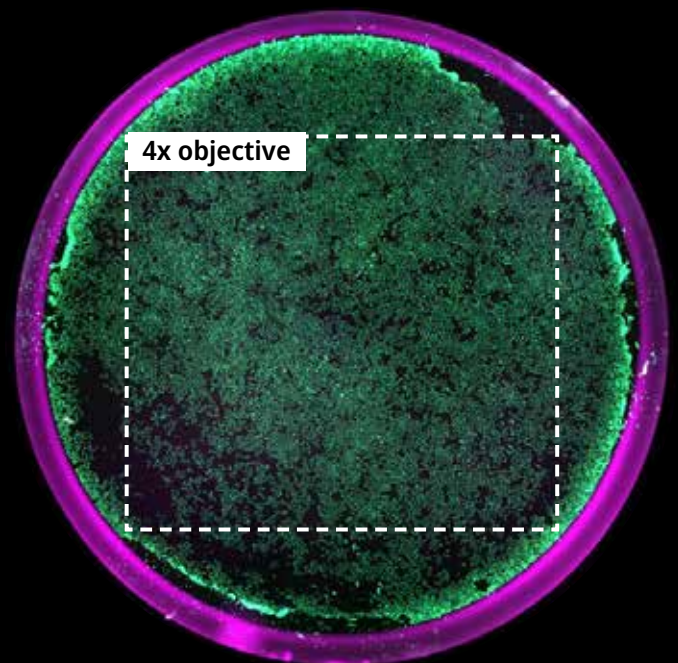
 Stitching with FN26.5 (5x5 images)



With a larger field number, each image contains more data, leading to more efficient results.



Sample provided by Luxidea, Inc.



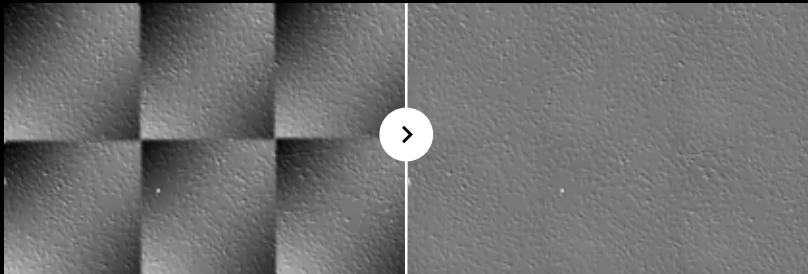
## Quickly Screen Micro Plates

See nearly the entire well at once using a 4x objective for fast 96-well plate imaging.

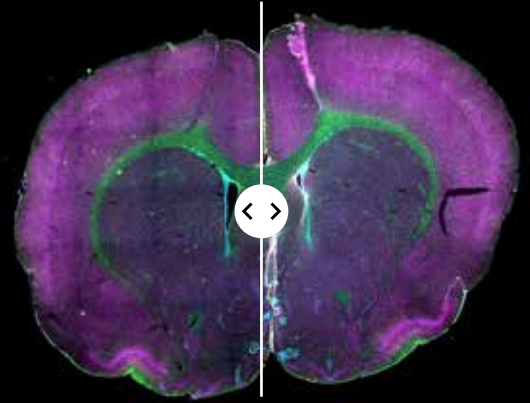
# Edge-to-Edge Clarity & Precision

An innovative combination of optical advances enables you to see fine details with clarity and precision and quickly obtain impactful images. Create publication-quality images that accurately represent your findings with less effort.

- **Even Illumination:** Collect large, uniform images with higher-power LED illumination and built-in optics that provide consistent lighting across the entire FOV—essential for large-area imaging.
- **Clear Details from Center to Edge:** Count on edge-to-edge precision with proprietary distortion correction technology and expanded flatness.
- **Seamless Stitched Images:** Automatically create seamless, high-quality stitched images with Intelligent Shading Correction.



2x3 stitched DIC image of cultured NIH 3T3 cells. Left: Raw stitching, Right: Intelligent Shading Correction applied stitching. Sample provided by EnCor Biotechnology Inc.



7x8 stitched fluorescence image of mouse brain slice. Left: Raw stitching, Right: Intelligent Shading Correction applied stitching. Sample provided by EnCor Biotechnology Inc.

## Exceptional Objective Performance

Unlock the full potential of our X Line™ high-performance objectives and get exceptional performance from our A Line applications-driven objectives.

With its expansive FN 26.5, the IXplore IX85 frame can take full advantage of our X Line™ objective's capabilities, enabling you to push the boundaries of your research with our most advanced objectives.

### X Line™ Objectives

- **Expanded Flatness for Uniform Images**  
Acquire high-quality images with greater uniformity from the center to the edge, even with a large field of view.
- **Excellent Image Quality**  
The objectives' high numerical aperture enables you to acquire high-resolution, bright images. It's especially helpful for minimizing phototoxicity/photobleaching during fluorescence live cell imaging experiments.
- **Exceptional Color Reproducibility**  
The high quality broad chromatic aberration correction from 400-1000nm results in much better color reproducibility during brightfield and multicolor fluorescence imaging.

## Enhanced Objective Usability

See deeper into your samples and reveal structures that were previously out of reach with our new multi-immersion objective (LUPLAPO25XS; NA 0.85, WD 2mm) that introduces groundbreaking new silicone gel technology. The LUPLAPO25XS combines all the quality and advantages of our silicone immersion objectives with the convenience and usability of a dry objective.



### Easy Macro-to-Micro

Seamlessly switch between low-magnification objectives and our new silicone gel immersion objective with no need to clean or reapply immersion medium.

### Simplified Well-Plate Imaging

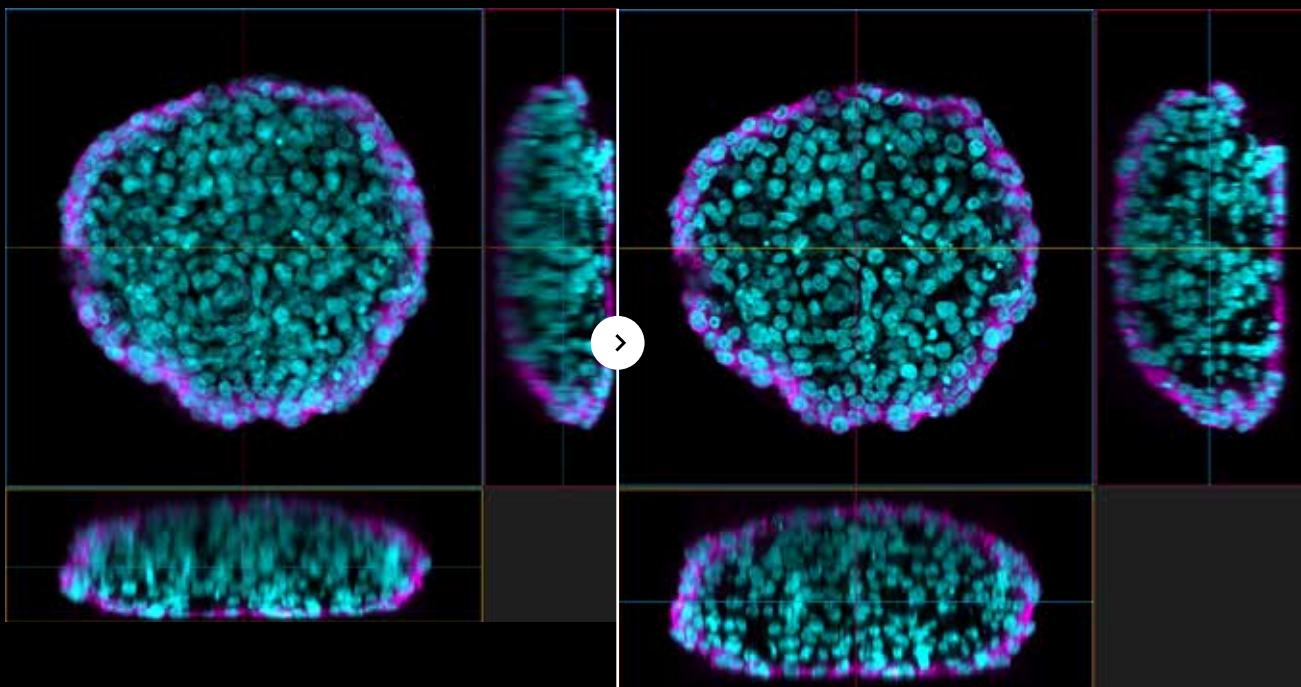
The silicone gel moves with the objective, eliminating the need to wipe or replace oil as you navigate across your sample. No more running or smearing.

### More Stable Timelapse Imaging

Our silicone gel never dries out, ensuring reliable, more stable, less complex timelapse imaging.

### Enhanced Workflows

Compatible with water, silicone oil, or a silicone gel, the LUPLAPO25XS is a timesaving game-changer for organoids, small organisms, 3D cell cultures, multi-well-plates, and a range of other applications.



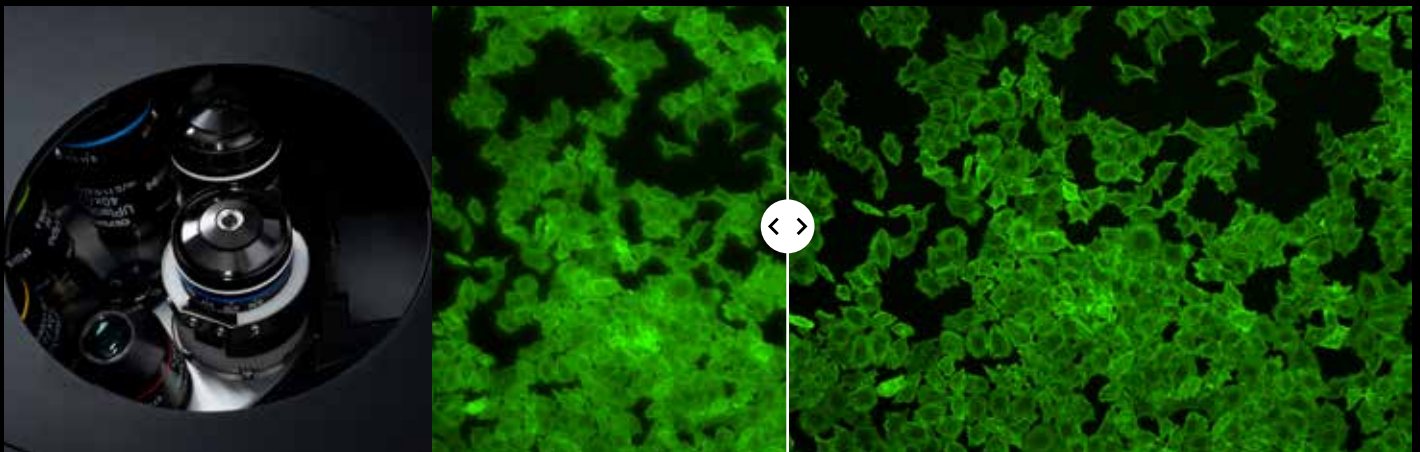
Images were taken by IX85-Spin from cleared HeLa cell spheroids. (Cyan: nuclei, Magenta: microtubules) with UPLXAPO20X dry objective (left) and LUPLAPO25XS silicone immersion objective (right). With a refractive index matching living tissue, silicone immersion objectives allow you to penetrate deeper, catch more signal, and image the real shape of cells over time.

# Optimize Your Workflow, Accelerate New Discoveries

No matter the size of your lab, make getting your best image simpler with a new automated objective correction system, customizable interfaces, efficient task management software, and advanced real-time image processing and analysis.

## New Automatic Correction Collar

Our new correction collar automatically fine-tunes your objective settings and optimizes image quality by reducing spherical aberrations caused by variations in cover glass thickness. Create sharper, more detailed images with the simple click of a button. Compatible with over 18 different objectives to meet your research needs.

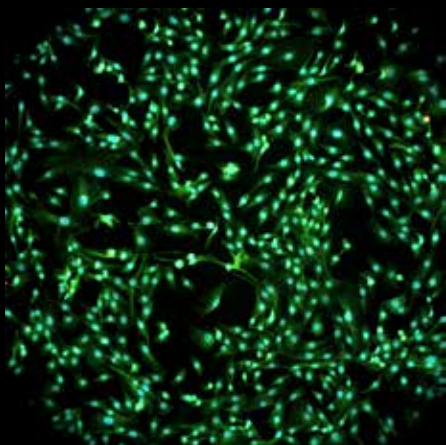


Left: without automatic correction collar adjustment.

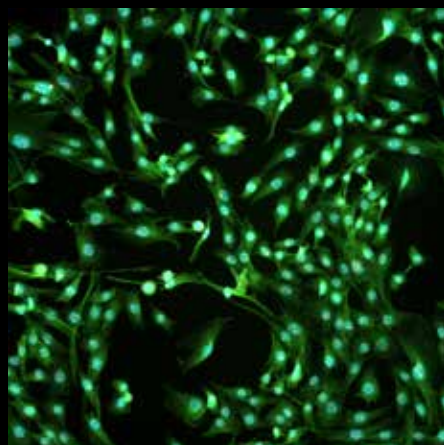
Right: with automatic correction collar adjustment.

## Multiple Magnifications

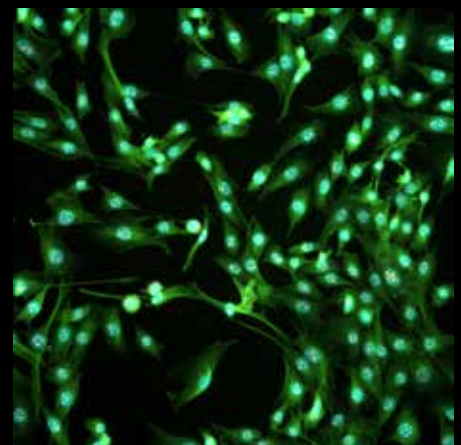
Our built-in magnification changer offers multiple options (1x, 1.6x, and 2x), enabling you to tailor imaging to your camera pixel size.



1x



1.6x



2x

# cellSens™ Software

Our intuitive cellSens™ software provides a suite of powerful features designed to streamline acquisition, processing, and analysis, enabling seamless customization to suit your unique application needs.

- **Easy Macro-to-Micro**

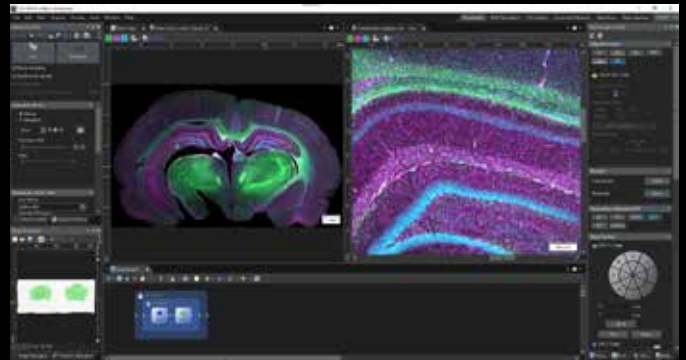
AI-based macro-to-micro workflow quickly locates samples and acquires high-magnification images.

- **Customizable Interface**

Easily design and implement custom system layouts tailored to your applications and preferences.

- **Effortless Well-Plate Acquisitions**

Our well navigator simplifies image acquisition with conditional and consistent settings across different wells.



Experiment setup with Graphical Experiment Manager, multicolor timelapse at multiple stage positions.

- **Clear Workflow Management**

Easily define your acquisition and image processing steps including 5D experiment acquisition using our Graphical Experimental Manager (GEM).

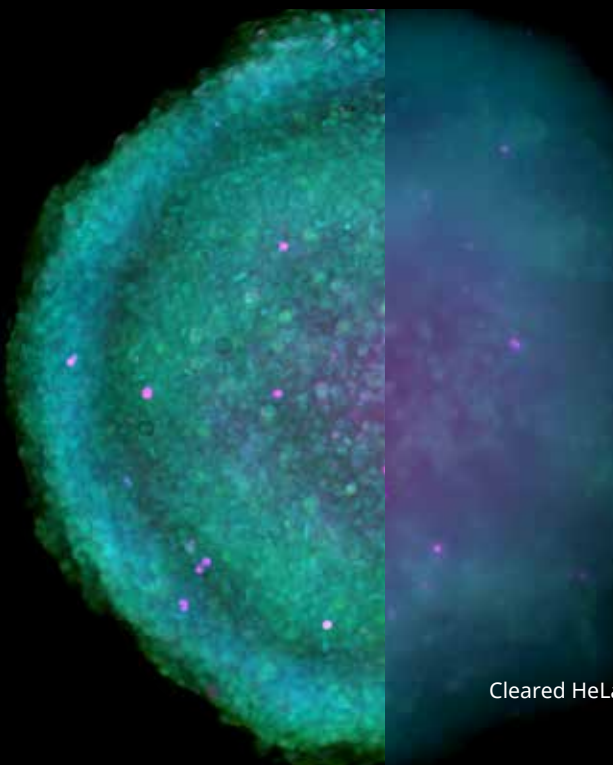
- **TruAI™ Deep-Learning Technology**

Leverage AI to automatically identify and analyze key features in your images.

## Advanced Image Processing & Analysis

### See more and see it faster.

Prepare and analyze your images with our powerful Tru suite of tools. Live 2D deblurring enables exceptional focusing on your thickest specimens. More advanced TruSight™ 3D deconvolution is also available that produces improved resolution, contrast, and dynamic range.



Cleared HeLa cell spheroid imaged and processed using TruSight 3D.

# One Platform, Infinite Possibilities

## Future-Proof Your Lab

Stay at the forefront of technology with the IXplore IX85's unmatched customizability. The IXplore IX85 supports diverse imaging modalities across a variety of applications and empowers your lab to stay prepared for whatever the future brings.

- **Dual Built-In Ports**

Two built-in ports (left and right) and an optional third port enable the capacity to create a multi-camera, multimodal configuration.

- **Open Frame Design**

Add or swap modules to customize functionality. As your research needs grow you can also upgrade from one to two decks.

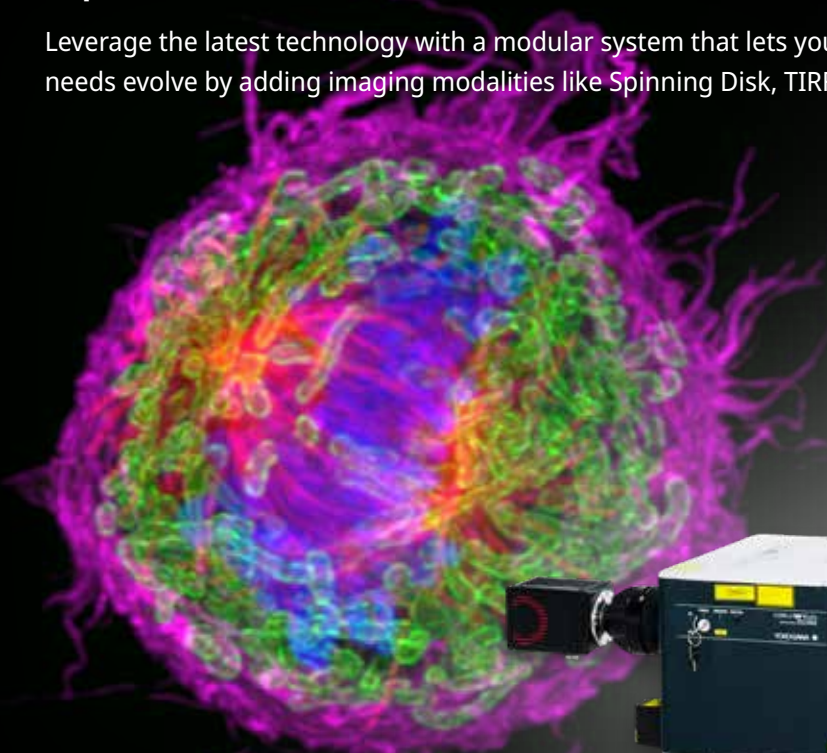
- **Built-In Threaded Holes**

Threaded holes around the camera ports turn your microscope into a canvas for innovation.



## Expansive Customization

Leverage the latest technology with a modular system that lets you upgrade and expand your platform as research needs evolve by adding imaging modalities like Spinning Disk, TIRF, photomanipulation, and SMLM.



Cultured Cos7 cell.  
Blue: nucleus, Green: mitochondria, Red: Tubulin, Magenta: actin



## IXplore™ IX85-Spin Confocal Imaging System

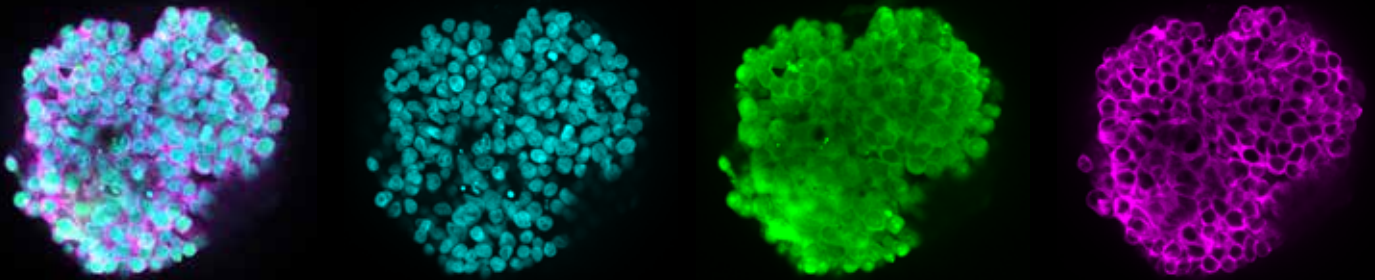
The IXplore™ IX85-Spin system combines a Yokogawa CSU-W1 spinning disk unit and high-speed, high-performance imaging tools to provide you with fast 3D confocal image acquisition with prolonged cell viability.





## Robust Reliability, Trusted Today & Tomorrow

The IXplore IX85 delivers maximum stability and consistent performance while minimizing downtime—ideal for busy lab settings and long-term imaging projects. The IX85 is backed by the same exceptional service and support that you've come to know and expect for the last 100 years.



HeLa cell spheroid, Cyan; Nuclei, Green: Actin, Magenta: Mitochondria

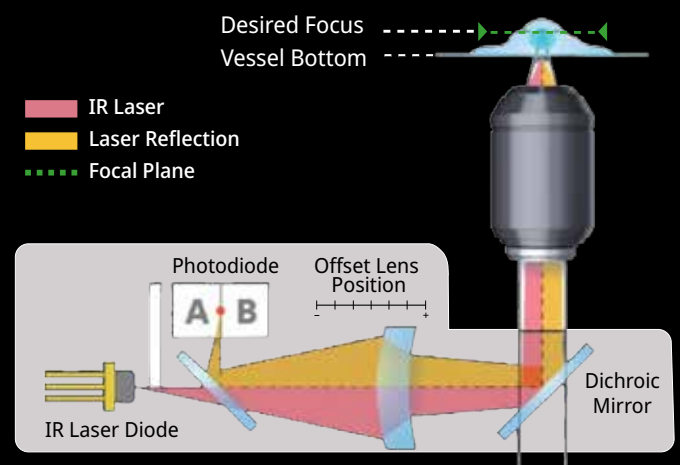
## Dependable Live-Cell Imaging

The IX85's highly stable microscope frame minimizes the small movements that can disturb delicate imaging experiments. Add high-end incubation solutions and pair with our TruFocus™ Z-drift compensator to capture cellular dynamics through high-precision multipoint timelapse images that are always aligned and in focus.

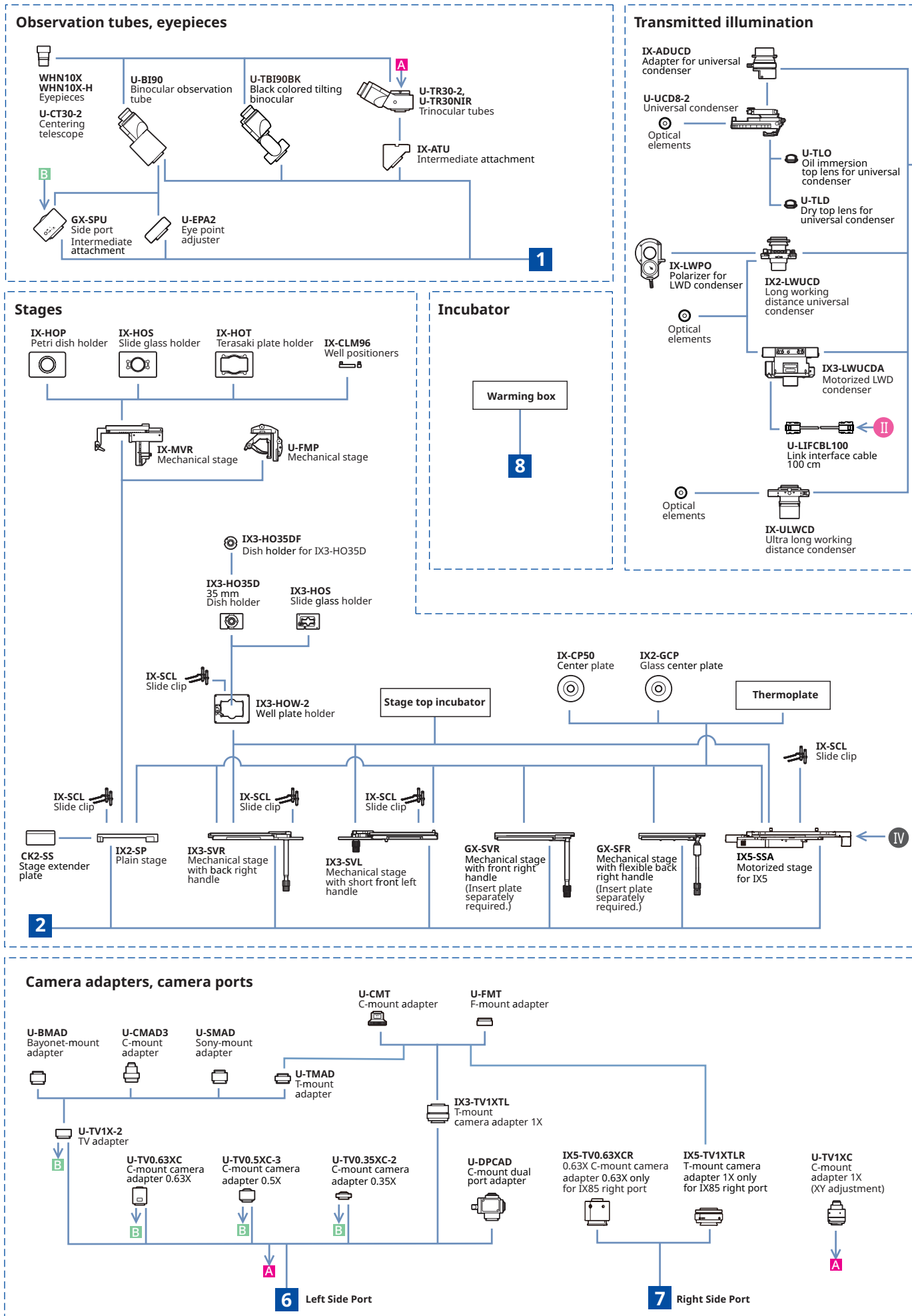
## Always in Focus

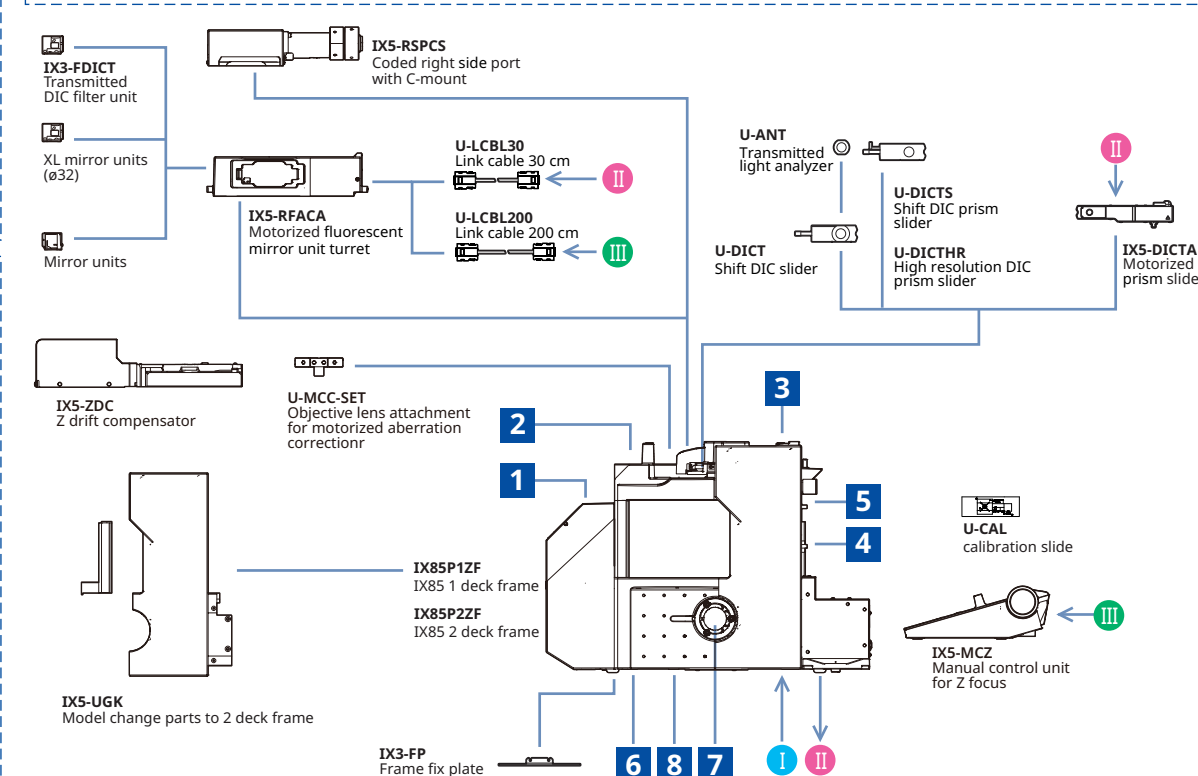
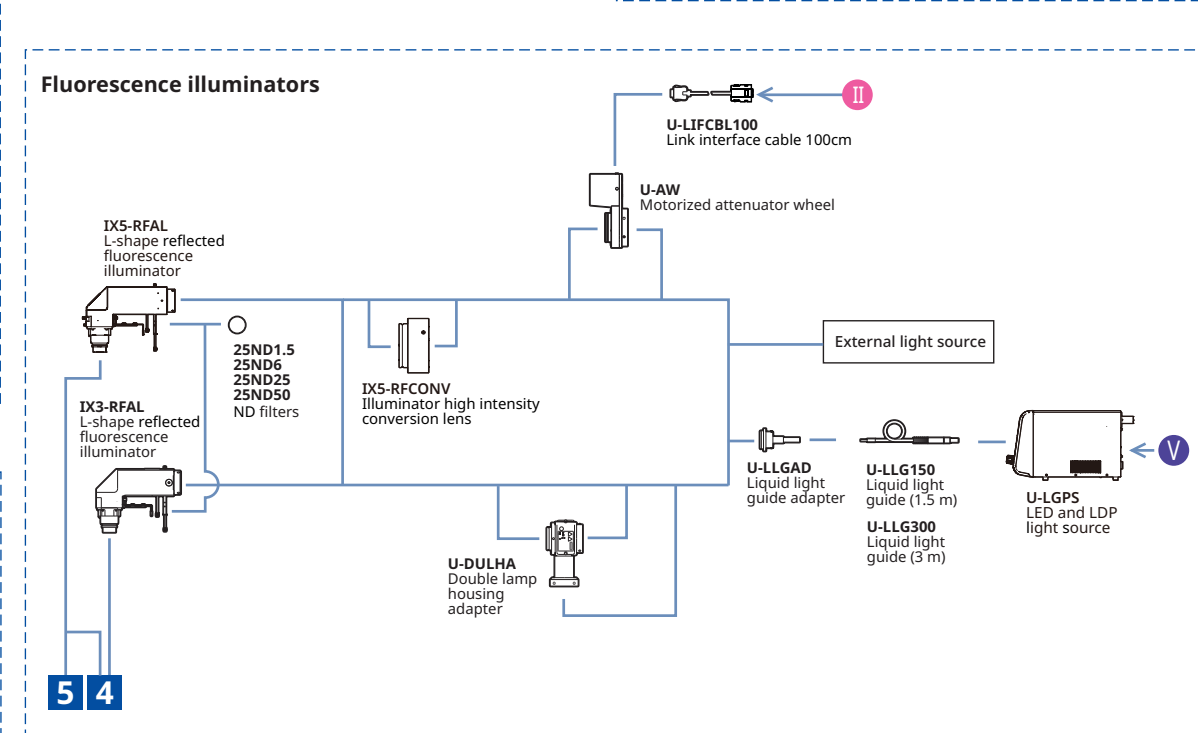
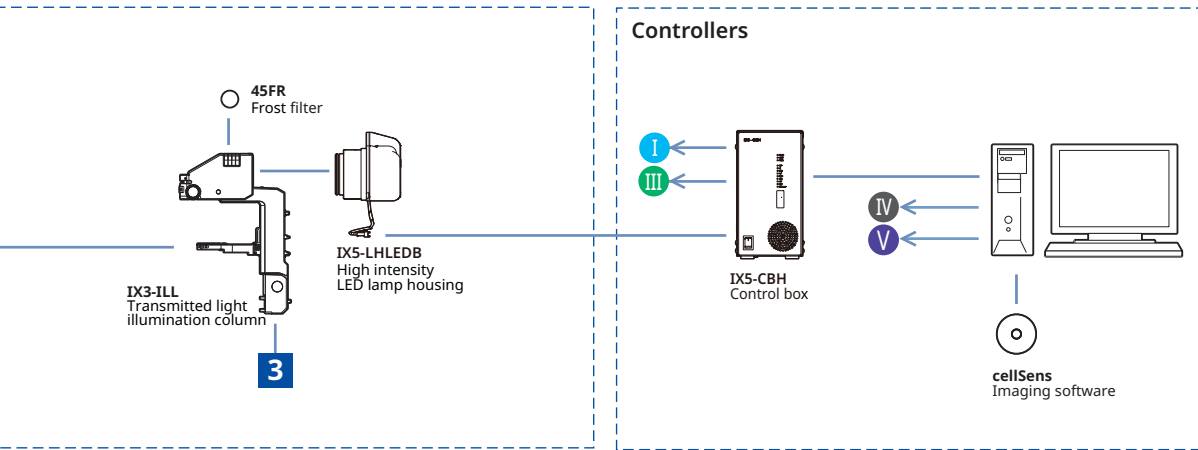
The TruFocus Z drift compensation module (ZDC) utilizes a near-infrared laser to locate the vessel interface and corresponding focal position. It supports a wide range of objectives and vessel types including plastic bottom dishes and is designed to meet cutting-edge application requirements.

- **One-shot autofocus (AF) mode**  
Enables several focus positions to be set along the Z axis for thicker samples enabling efficient Z-stack acquisition in multi-position experiments.
- **Continuous AF mode**  
Keeps the desired plane of observation precisely in focus, even when adding reagents or during changes in room temperature.



# IXplore IX85 System Chart





# Specifications

		IX85P1ZF	IX85P2ZF	
Microscope frame	Optical system	UIS2 optical system		
	Revolving nosepiece	Motorized 6-position revolving nosepiece (DIC slider attachable), One position for Automated Correction Collar Simple water proof structure		
	Focus	Stroke: 10.5 mm Minimum increment: 0.01 $\mu$ m, Maximum nosepiece movement speed: 3mm/s		
	Intermediate Magnification Changer	3 positions (Coded) 1X / 1.6X / 2X		
	Light path selection	Motorized 4 positions Eyepiece 100%, left 100%, right 100%, eyepiece 50%/left 50%		
	Deck insert layer	1 layer	2 layers	
	Maximum port field number	Left/Right side port: FN26.5 BI port: FN22 Deck right side port: FN18	Left/Right side port: FN18 BI port: FN22 Deck right side port: FN18	
	Dimensions (IX85 Microscope frame with illumination pillar)	540mm (D) x 321mm (W) x 667mm (H)		540mm (D) x 321mm (W) x 732mm (H)
Focus compensator	TruFocus Z drift compensator	Offset method (Focus search, one-shot focus, continuous focus), Class 1 laser product, laser wavelength: 830nm		
Transmitted light illuminator	Pillar tilt mechanism (30 ° inclination angle, with vibration reducing mechanism), Condenser holder (with with 88 mm stroke, refocusing mechanism), Field iris diaphragm adjustable, 4 filter holders Light source: High power LED light source			
Observation tube	Widefield (FN22)	<ul style="list-style-type: none"> <li>• U-TBI90BK Wide field tilting binocular</li> <li>• U-BI90 Wide field binocular</li> <li>• U-TR30-2/U-TR30NIR Wide field trinocular</li> </ul>		
Stage	Motorized stage	<ul style="list-style-type: none"> <li>• IX5-SSA: Stage stroke: X: 116mm x Y: 78mm, maximum stage movement speed: 40mm/s, Knob controller</li> <li>• 3rd party motorized stage</li> </ul>		
	Mechanical stage with right handle Mechanical stage with left handle	Stage stroke: X: 116mm x Y: 78mm, stage position locking function		
	Right handle stage	Stage stroke: X: 50mm x Y: 50mm		
	Gliding stage	Upper circular stage 360° rotatable, 20 mm (X/Y) travel		
	Plain stage	232 mm (X) x 240 mm (Y) stage size, stage insert plate exchangeable ( $\phi$ 110 mm)		
Condenser	Motorized long working distance condenser	W.D. 27 mm, NA 0.55, motorized turret with 7 position slots for optical devices (3 positions for $\phi$ 30 mm and 4 positions for $\phi$ 38 mm), motorized aperture and polarizer		
	Long working distance universal condenser	NA 0.55, W.D. 27 mm 5 positions for optical devices (3 positions for $\phi$ 30 mm and 2 position for $\phi$ 38 mm)		
	Ultra long working distance	NA 0.3, W.D. 73.3 mm, 4 positions for optical devices (for $\phi$ 29 mm)		
Fluorescence illuminator	L-shape-fluorescence illuminator	L-shaped design with exchangeable FS and AS modules, slider shutter and ND filter poket		
Fluorescence mirror turret	Motorized fluorescence mirror turret	Motorized turret with 8 positions, built-in shutter, simple waterproof structurer		
Fluorescence light source	<ul style="list-style-type: none"> <li>• U-LGPS: LED and LDP light source, Class 1 laser product</li> <li>• 3rd party LED light source</li> </ul>			
Control unit (IX5-MCZ)	Nosepiece position, light path selection, filter turret position, FL shutter ON/OFF, DIA LED power, DIA LED ON/OFF, 4 customizable buttons			
Control box	PC interface	USB (Type-C), RS-232C		
Operating environment	<ul style="list-style-type: none"> <li>• Indoor use</li> <li>• Ambient temperature: 5° to 40° C (41° to 104° F)</li> <li>• 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)</li> <li>• Supply voltage fluctuations: Not to exceed <math>\pm</math>10% of the normal voltage"</li> </ul>			

- EVIDENT CORPORATION is ISO14001 certified.  
For details on certification registration, visit <https://www.olympus-lifescience.com/en/support/iso/>
- EVIDENT CORPORATION is ISO9001 certified.
- Illumination devices for microscope have suggested lifetimes.
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- Specifications and appearances are subject to change without any notice or obligation on the part of the manufacturer.