



A16.1099

**Inverted Fluorescent Microscope,
Auto/Manual, Semi-APO, BF+PH+FL,
Optional PL+DIC+HMC+Confocal+SR**

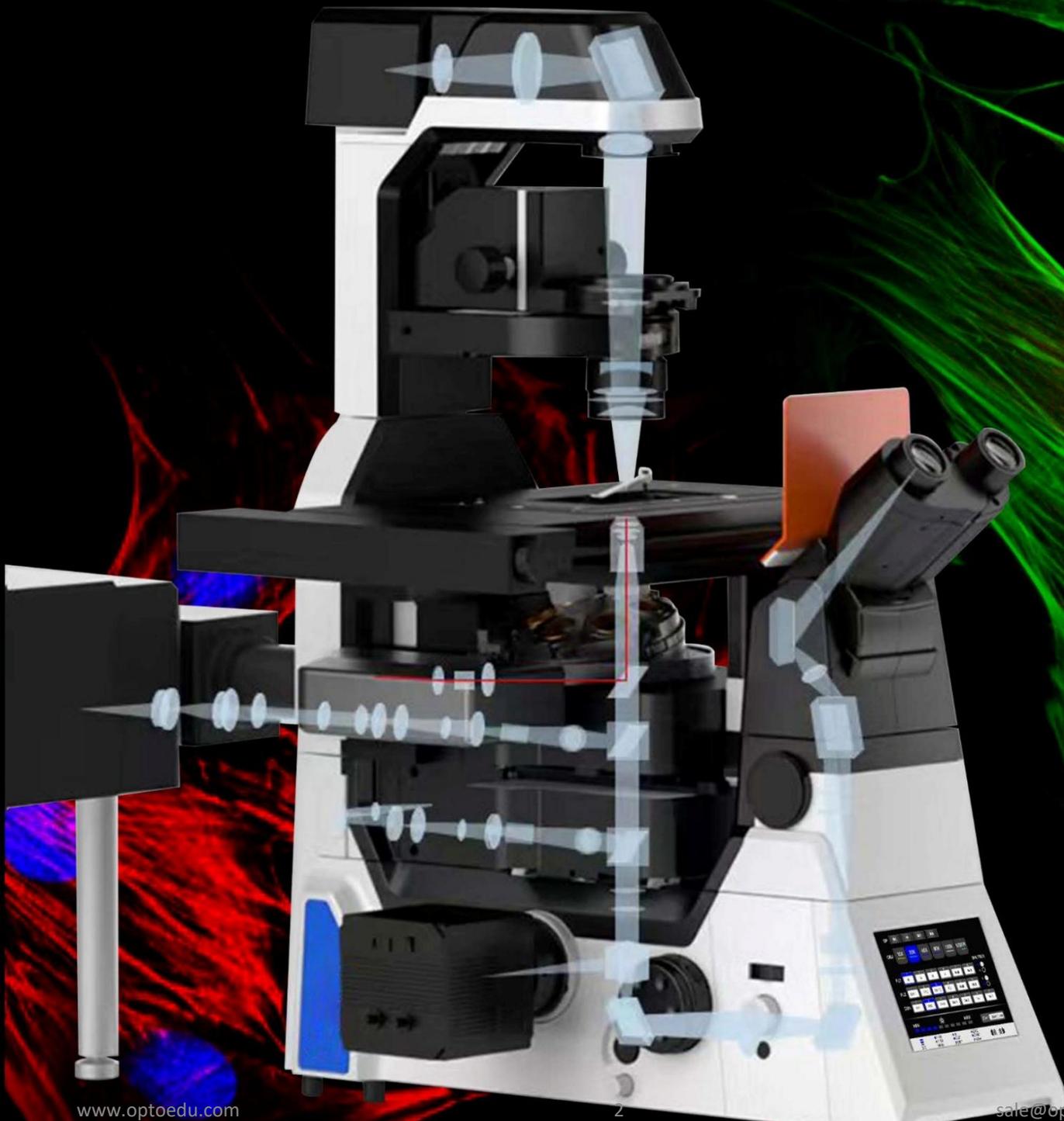


► Stable and Highly Scalable Live Cell Imaging Platform

A16.1099 provides an advanced imaging platform with 25mm field of view, to meet experimental needs of large flux observation. With high-speed full frame CMOS camera, which has greatly improved shooting efficiency. Full-motorized A16.1099-AT and coded A16.1099-M realize integration of multimodal imaging technology such as bright field, fluorescence, DIC, phase contrast and so on, both models can choose single- or double-layer optical path, anti-focus shift module can be optional which is more suitable for long-time dynamic imaging of living cells.

A16.1099 provides stable and reliable platform for Laser Confocal (A64.1099), Super Resolution (A65.1099), single molecule and other advanced microscopic imaging technology.

In addition, the touch screen could achieve smooth control of electric components while recording status of each sensor, recording user usage habits, switch application scene by one-click. Combined with powerful acquisition and analysis software, **A16.1099** is full of stability and scalability, meet a variety of experimental needs, provide reliable, repeatable data.



A16.1099-A Auto Motorized Scientific Research Grade Inverted Fluorescent Microscope

It could realize high-speed, full-automatic component linkage, compatible with adaptive focusing systems (AFS), especially suitable for high-level living cell research. double layer optical path provides more scalability possibilities, providing perfect flexible and open inverted microscopic imaging platform for advanced microteaching such as living cell, confocal, super resolution.



A16.1099-A + Single Layer Turret



A16.1099-A + Double Layer Turret

A16.1099-M Manual Coded Scientific Research Grade Inverted Fluorescent Microscope

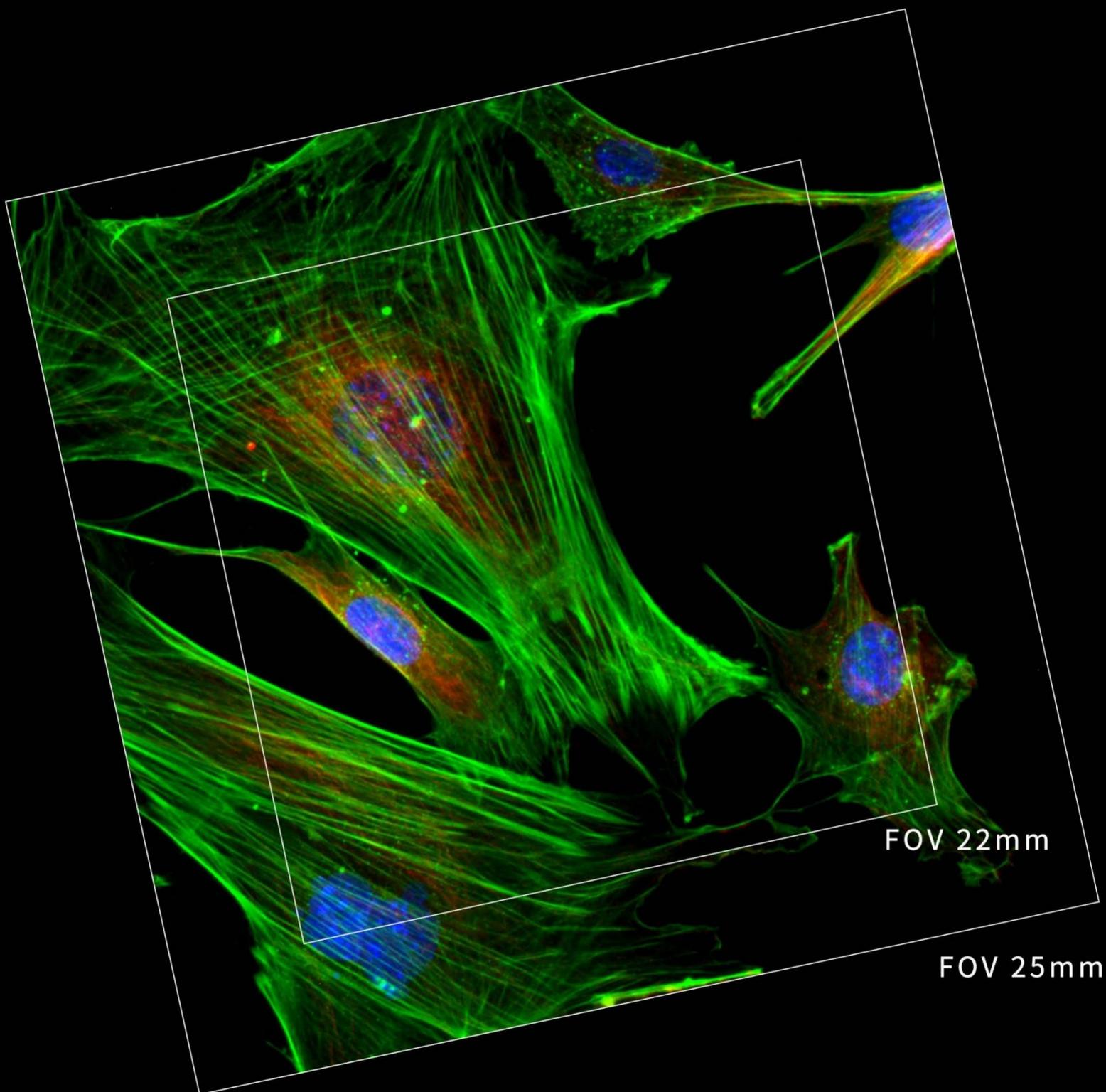
Scientific research grade inverted microscope for advanced life science research, integrating bright field, phase contrast, Hoffman, DIC, fluorescence etc. observation methods. Intelligent coding components record interactive information and workflow, Z-axis motorized focusing can simplify focusing steps, reduce visual fatigue and improve work efficiency in daily research, teaching and pathological diagnosis.



A16.1099-M + Single Layer Turret



A16.1099-M + Double Layer Turret



► Incomparable 25mm Field of View

With the research trend towards large-scale, high-flux and intelligent solutions, demand for faster data acquisition and higher throughput is increasing day by day. No matter it is bright field imaging or fluorescence imaging, A16.1099 large-area illuminator and large-field fluorescence attachment provides uniform and bright cell imaging. Large size sensors and imaging interfaces that truly maximize performance of large format detector and provide perfect imaging platform for the future as camera technology continues to evolve rapidly.

► Large field illumination module

Bright and large area transmission illumination

Transmission illumination module adopts high power LED illumination to guarantee full field of view brightness and uniform illumination, ensure get clear, consistent results from high magnification DIC applications, provide stable light source for seamless image stitching.



Large aperture reflective fluorescent illuminator

A compact optical fiber illumination device for FOV25mm fluorescence imaging is designed,, equipped with high power LED light box, provides wide spectrum high transmittance lighting including ultraviolet light, meanwhile compatible with large aperture fluorescent filters, provide fluorescence images of FOV25mm with high signal-to-noise ratio.



► Large aperture observation optical system

Equipped with large diameter tube lens to expand light flow, cooperate with large target surface CMOS sensor, both bright field and fluorescence imaging could reach FOV25mm field of view.



► FOV25 imaging objective

The objective with superior image flatness guarantees high quality images. Maximize potential of FOV25 objectives significantly speeds up data collection.



► Camera for large volume data acquisition

NEXCAM-MAX2400 High sensitivity monochrome camera, full frame sensitive Chip, target surface 36.0x23.9mm, 24 millions pixel CMOS Image sensor, maximum acquisition speed could reach 114fps, realize digital imaging of the largest field of vision.





► Ideal Living Cells Microscopic Experiments Platform

Even small changes of temperature and vibration in imaging environment can greatly affect stability of focus, adaptive anti-focus shift system (AFS) eliminates focus drift through static and dynamic measurements, high brightness LED fluorescent light source and live cell culture system enables A16.1099 realize multi-day living cell time-lapse observation, making it an ideal imaging tool for more demanding focused experiments.

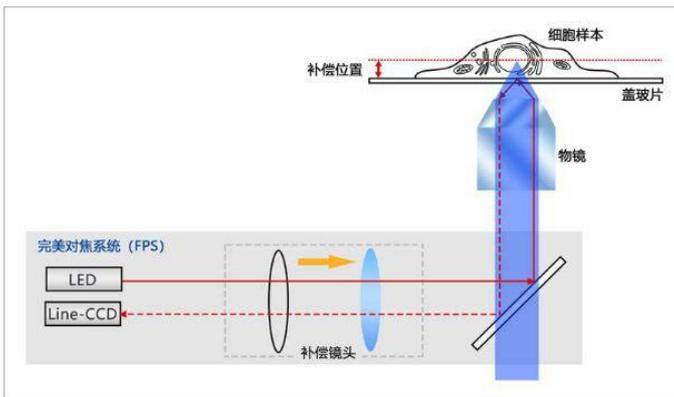
► Living Cell Culture System

Living cell culture system is designed for imaging observation of live cells. Precisely control temperature of microscope platform while maintaining the internal temperature, humidity and CO2 concentration of culture dish, providing stable cultivation environment. for long-term live cell experiments.

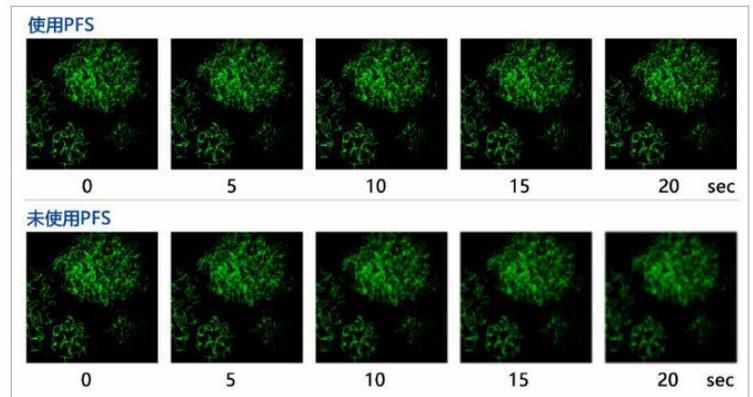


► AFS Realize Stable And Reliable Imaging Results

Focusing stability is key factor of live cell imaging, even in constant temperature and humidity environment, focus position of microscope also varies slightly because of temperature and vibration changes, which greatly affects long-term observation of living cells. A16.1099 adopt independent focusing design, maximumly reduce impact on Z axis from other mechanical components. Brand new designed APS (Adaptive Focus System), adaptive anti-focus shift system, eliminate focus shift. Even when using high-magnification, high numerical aperture objectives and advanced imaging technologies, such as super-resolution, confocal, TIRF, can still be clearly focused.



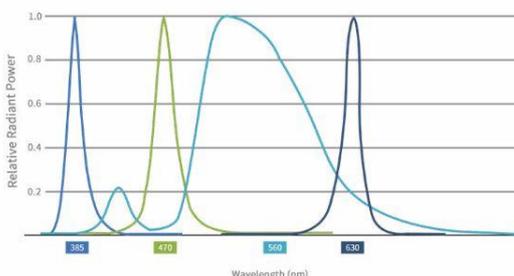
APS (Adaptive Focus System)



Correction of focal drift during long-term imaging

► High Specification LED Fluorescent Illumination System

LED 4 enables up to 4 channels LED illumination, highly matching fluorescent dye commonly used in market, excitation energy concentrated, high brightness, meet the daily experimental fluorescence imaging need. long life, do not need to change bulb. Compared to traditional mercury lamps, it reduce photobleaching and phototoxicity, which are very friendly to live cell samples. It is an ideal microscope light source which is sustainable, energy saving and low carbon, environmental protection.





► Intuitive and ergonomic control operation

A16.1099 integrates a large number of advanced human-computer interaction technologies, which enables fine control of imaging. Intuitive and easy microscope operation interface can make the complex operation procedures become very simple, so that researchers can work more efficiently and comfortably, which helps to reduce researchers' fatigue while the system minimizes damage to living cells..

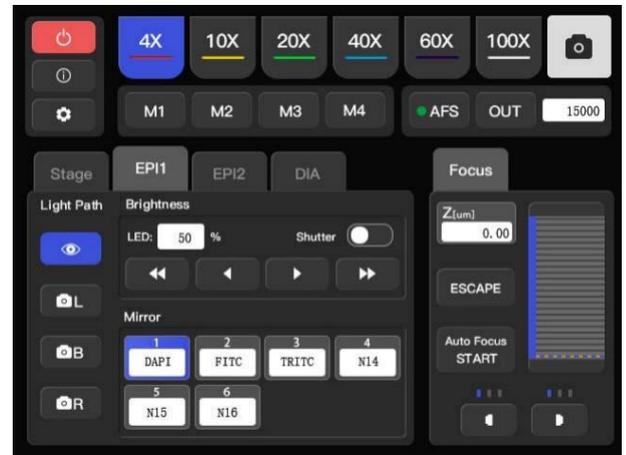
► Interactive operation

A16.1099 was creatively designed front panel as a touch screen, which makes human-computer interaction more convenient, powerful and expandable. Left and right sides reserved knobs and buttons, even in a dark lab, it is easy to control, which allows researchers to focus more on the experiment itself, rather than complex microscope operation.



Front 5.6-inch touch screen

Touch screen control movement of electric parts such as objective, double layer/single layer fluorescent turnable, condenser, motorized platform speed, motorized Z-axis speed, main body splitting port, ESC escape, FN key, objective focus. Display real-time, display objective magnification, transmitted illumination brightness, fluorescence band, output port, XYZ position and speed and other component status.



► High speed electric control

Operation and conversion speed of objectives, filters, the XY stage and the observation module are greatly improved, enabling an easy operating environment for researchers to concentrate on routine observations and images. The joystick that can control the stage freely allows the microscope working as your eyes and hands, making it easy to use.



Joystick with built-in touch panel

The joystick comes with touch screen, which can set the state of main body, motorized platform control by multi-level and also motorized focus, built-in function key and AFS focus stabilization control.



A16.1099 high quality infinity optical system, equipped with bright field, fluorescence, phase contrast, DIC, Hoffmann and other complex observation methods, no matter which observation method, you can get bright high signal-to-noise ratio of the original image, with its excellent optical performance and reliable reliability are highly valued by researchers

Phase contrast

The condenser has built-in phase contrast ring, which can be converted from bright field observation to phase contrast observation by turning the condenser turntable. Semi apochromatic phase contrast objective provides clear imaging with high contrast.



Fluorescence

Using the newly designed filter group, cutoff depth of single channel fluorescence filter reaches OD6, and the image with high signal-to-noise ratio can be obtained, which can be used for single-molecule and single-cell experiments. illumination module spectrum design covers a wide wavelength range, and six-hole filter module turntable meets needs of multi-color fluorescence. High power LED fiber optic light source is bright and safe.



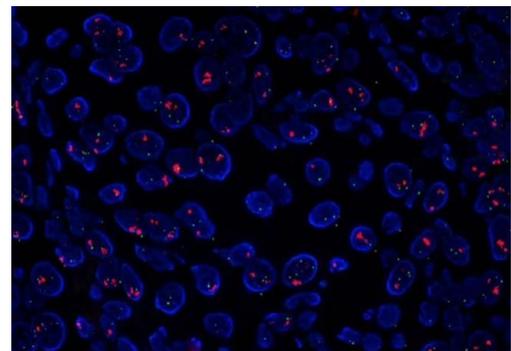
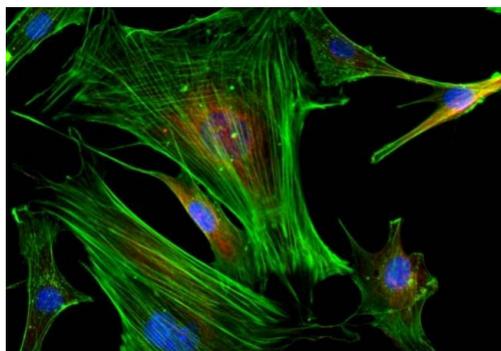
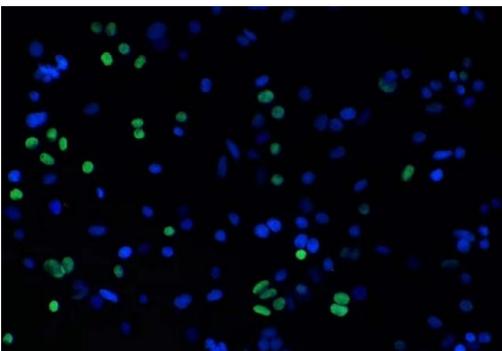
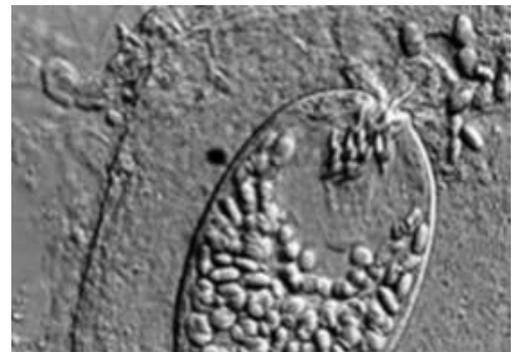
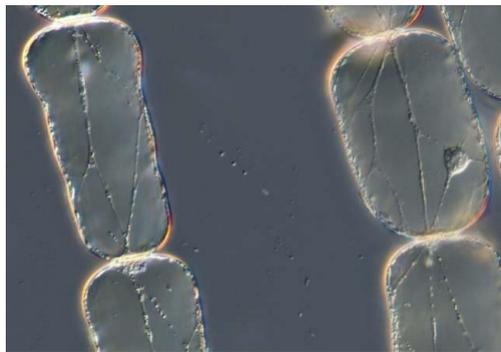
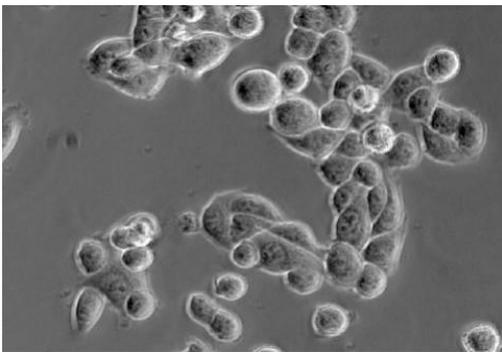
DIC(Differential interference)

High quality large field of view differential interference optics system covers all magnifications, providing uniformly clear and detailed images with high resolution and contrast for each sample.



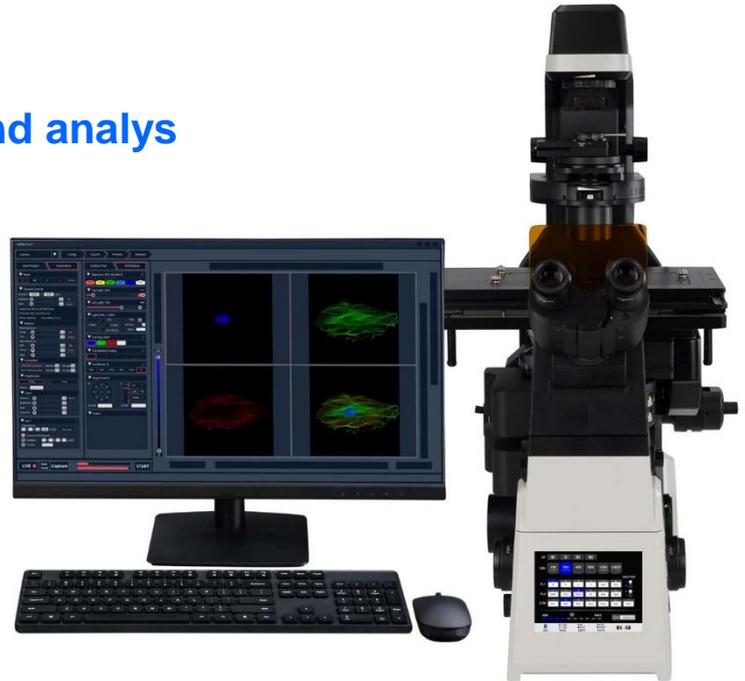
Hoffmann contrast

High contrast ratio phase contrast imaging technique for unstained, transparent samples such as egg cells. Hoffmann phase contrast components provide pseudo-three-dimensional image with the appearance of shadow casting. The contrast direction of each sample can be easily adjusted.



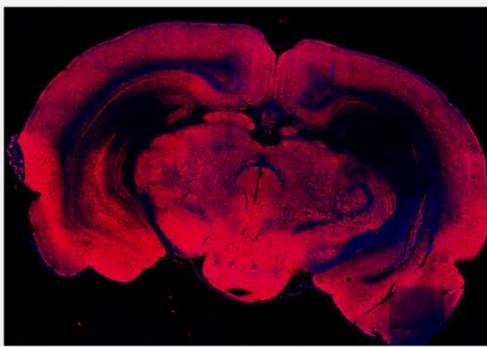
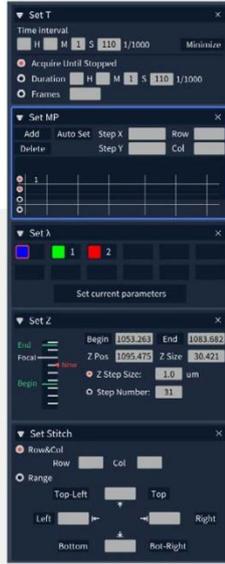
► **Nomis Pro X microscope control and analysis**

Nomis Pro X, software platform of A16.1099, integrates hardware control, image acquisition and processing into one software. Nomis Pro X makes it easier for you to use this microscope, even for various complex microscope operations. It can also be quickly realized through the linkage of hardware and software. Image processing includes image measurement, image adjustment, filtering, noise reduction, deconvolution, SIM reconstruction, etc., which can meet the needs of different work applications.



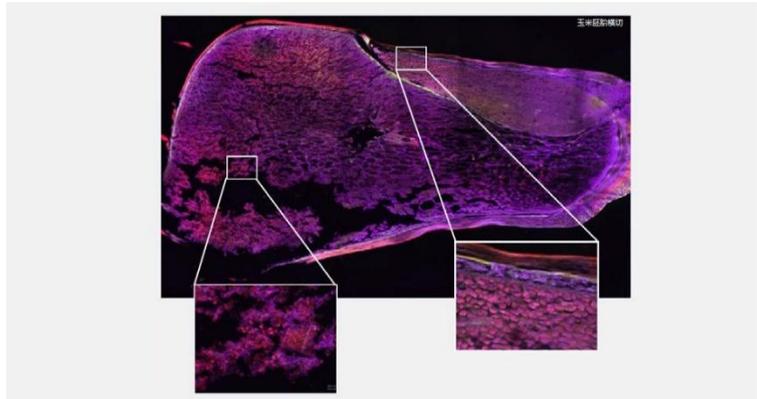
Multi-dimensional imaging

Able to remember customized viewing modes for multiple imaging needs such as multi-channel, multi-position, time-lapse imaging or large image stitching.



Multi-dimensional image display

Multi-channel situation, delay, Z-axis stacking, XY axis position and image stitching information of the image can be visually displayed in one window to improve the repeatability of experimental results.



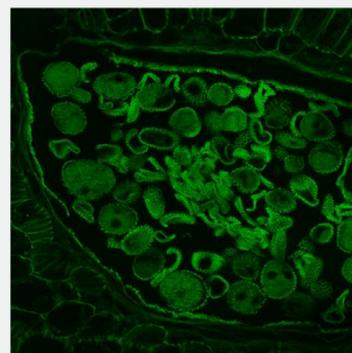
High speed hardware control

Various electric components of the microscope controlled by software, such as objective conversion, focusing, condenser conversion, fluorescence module conversion, etc.

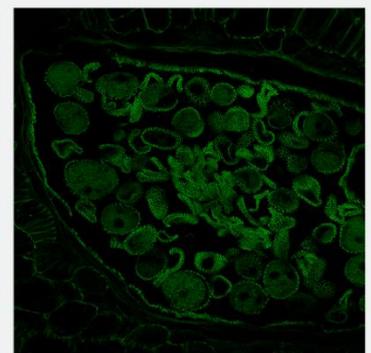


Deconvolution

The two dimensional image can be deblurred. It can be deconvolved multiple times, and results can be viewed and adjusted on screen. 3D deconvolution can also be used for multi-dimensional images.



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反卷积后



A16.1099-M



A16.1099-A

Research Level Inverted Fluorescent Microscope A16.1099		-M	-A	Cata. No.
Main Frame	Manual Frame --5.7" Touch Screen, Show All Status, Control Only Light Split --Motorized Z Axis Control --Coded Brightness Adjust Knob --Coded Manual Intermediate Magnification 1x/1.5x Switch Button --Coded Manual Bertrand Lens Switch	•	-	
	Motorized Frame --5.7" Touch Screen, Show All Status, Control All Parts --Motorized XYZ Axis Control --Coded Brightness Adjust Knob --Coded Manual Intermediate Magnification 1x/1.5x Switch Button --Coded Manual Bertrand Lens Switch --F1 Button For Customized Function --Motorized Nosepiece Objective Switch Button x2 --Motorized Condenser Button --Motorized Fluorescent Filters Switch Wheel x2	-	•	
Eyepiece	WF10x/22mm Eyepiece, Diopter Adjustable +/-5°, High Eyepoint	••	••	A51.1006-1022A
Head	10-40° Tilt Adjustable Binocular Head, IPD 47-78mm, Eyepiece Tube Dia. 30mm	•	•	A51.1099-B
Mag. Switch	Coded Manual Intermediate Magnification Switch Button 1x/1.5x On Right Side	•	•	
Nosepiece	Manual 6 Holes Nosepiece, Coded, With DIC Slot, M25×0.75	•		
	Motorized 6 Holes Nosepiece, With DIC Slot, M25×0.75		•	
Objective	Infinity Plan Semi-APO Phase Contrast 10x, N.A.0.3, W.D.15.7mm, Cover Glass 1.2mm	•	•	A5C.1099-10
	Infinity Plan Semi-APO Phase Contrast 20x, N.A.0.45, W.D.8mm, Cover Glass 1.2mm	•	•	A5C.1099-20
	Infinity Plan Semi-APO Phase Contrast 40x, N.A.0.6, W.D.3.6mm, Cover Glass 1.2mm	•	•	A5C.1099-40
Working Stage	Manual Mechanical Stage, 3 Layers, XY Moving 130×85mm, Size 340x230mm, Flexiable Long Handel, Can Fit Different Holder On Top	•	-	
	Petri Dish Holder Size 160(X)×110(Y)mm	•	-	
	Petri Dish Holder Size 81(X)×55.5(Y)mm	•	-	
	Slide Holder Size 160(X)×110(Y)mm	•	-	
	96 Holes Plate Holder Size 160(X)×110(Y)mm	•	-	
	Motorized Working Stage, Grating Type, XY Moving 130x100mm, Size 445x300mm, Max Speed 20mm/s, Moving Precision 0.1µm, Repeatability 0.5µm	-	•	
	Slide & Petri Dish Holder For Dia. 35-65mm	-	•	
4~1396 Holes Plate Holder	-	•		
Focusing	Motorized Z Axis, Grating Type, Moving Range Up 8.5mm, Down 1.5mm, Min Step 0.02um, Repeatability 0.1um, 3 Level Focusing Knob: 2um/40um/200um Per Circle	•	•	

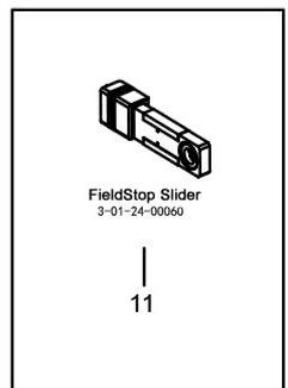
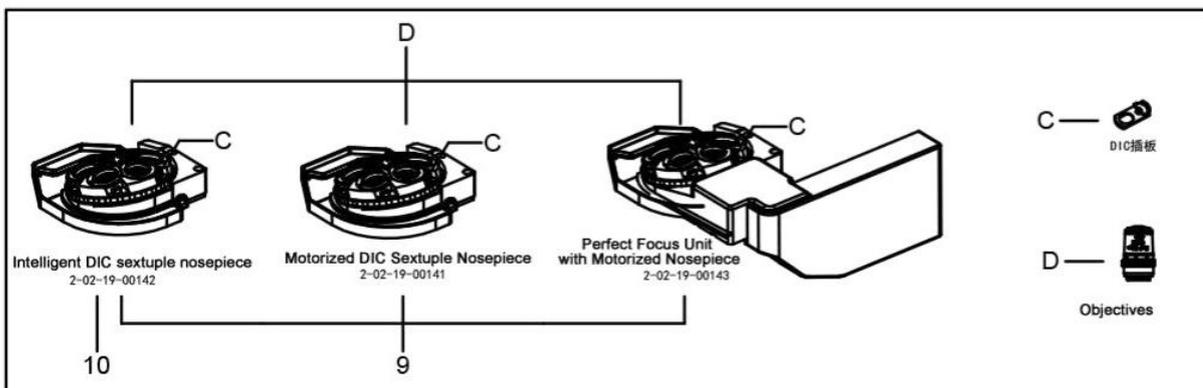
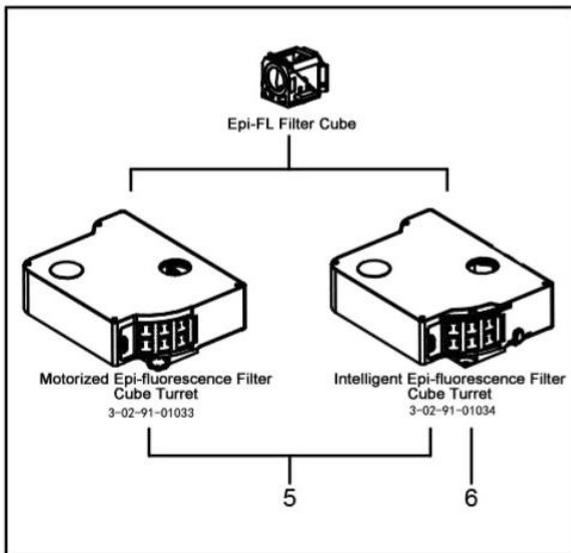
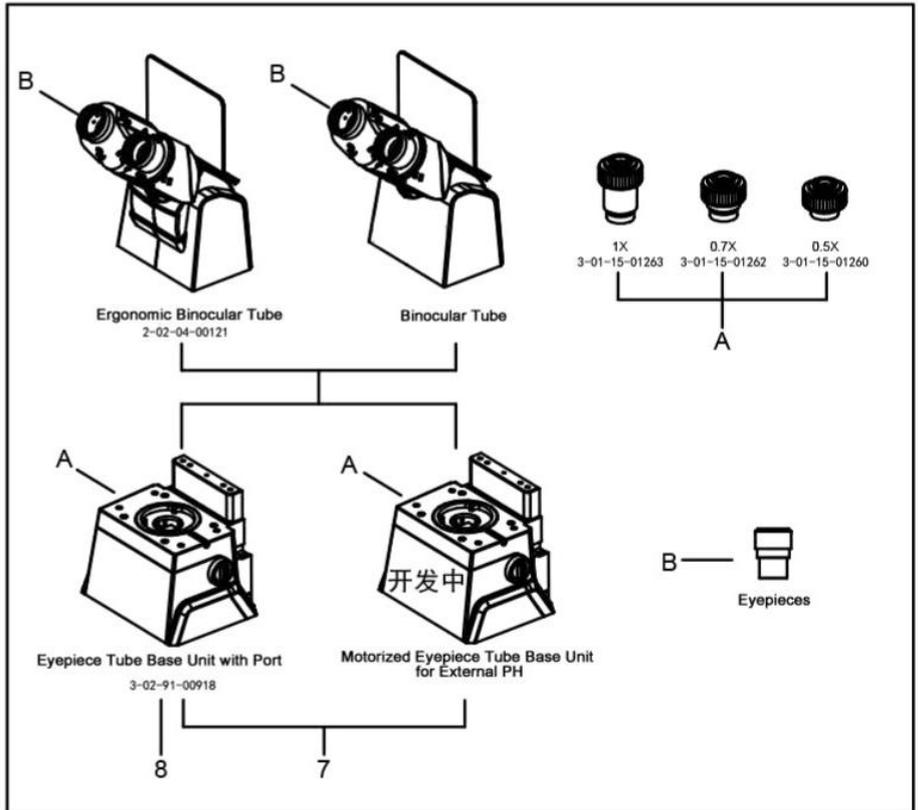
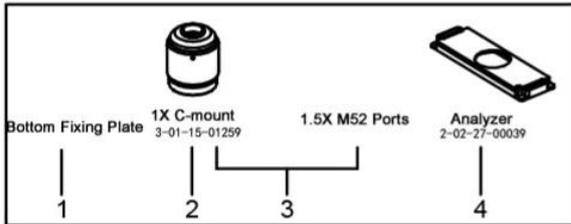
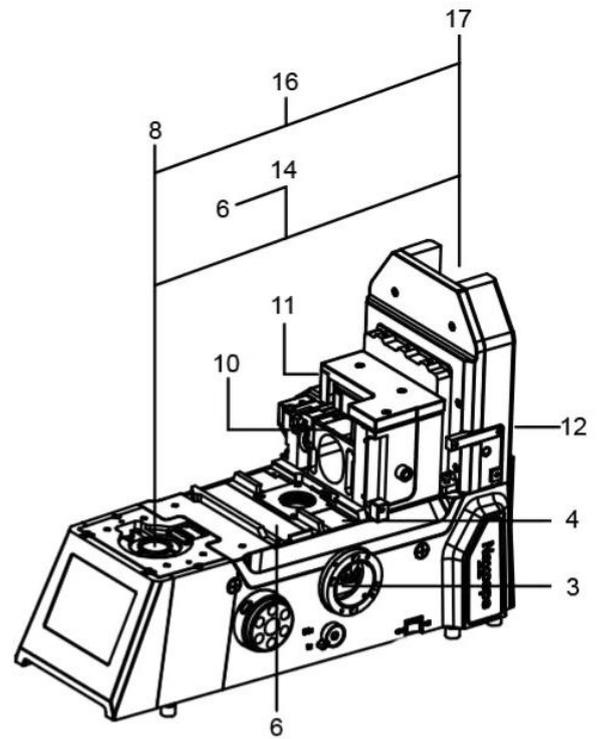
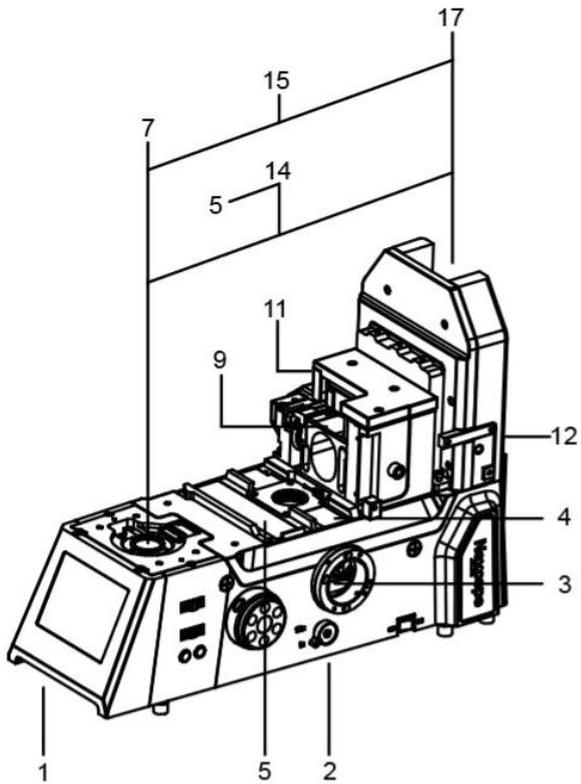


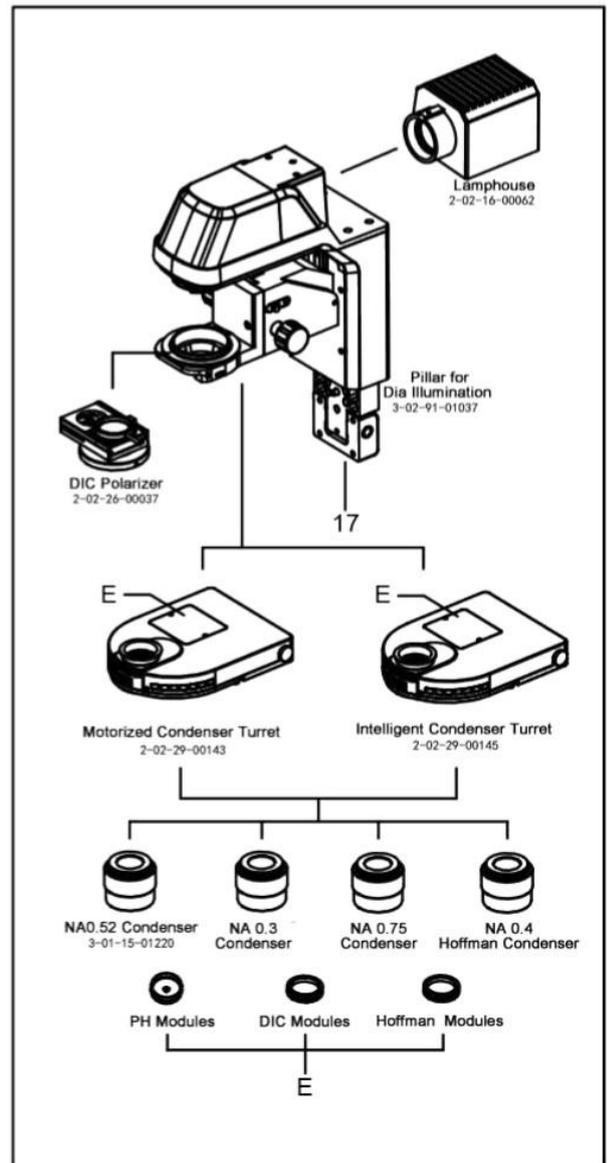
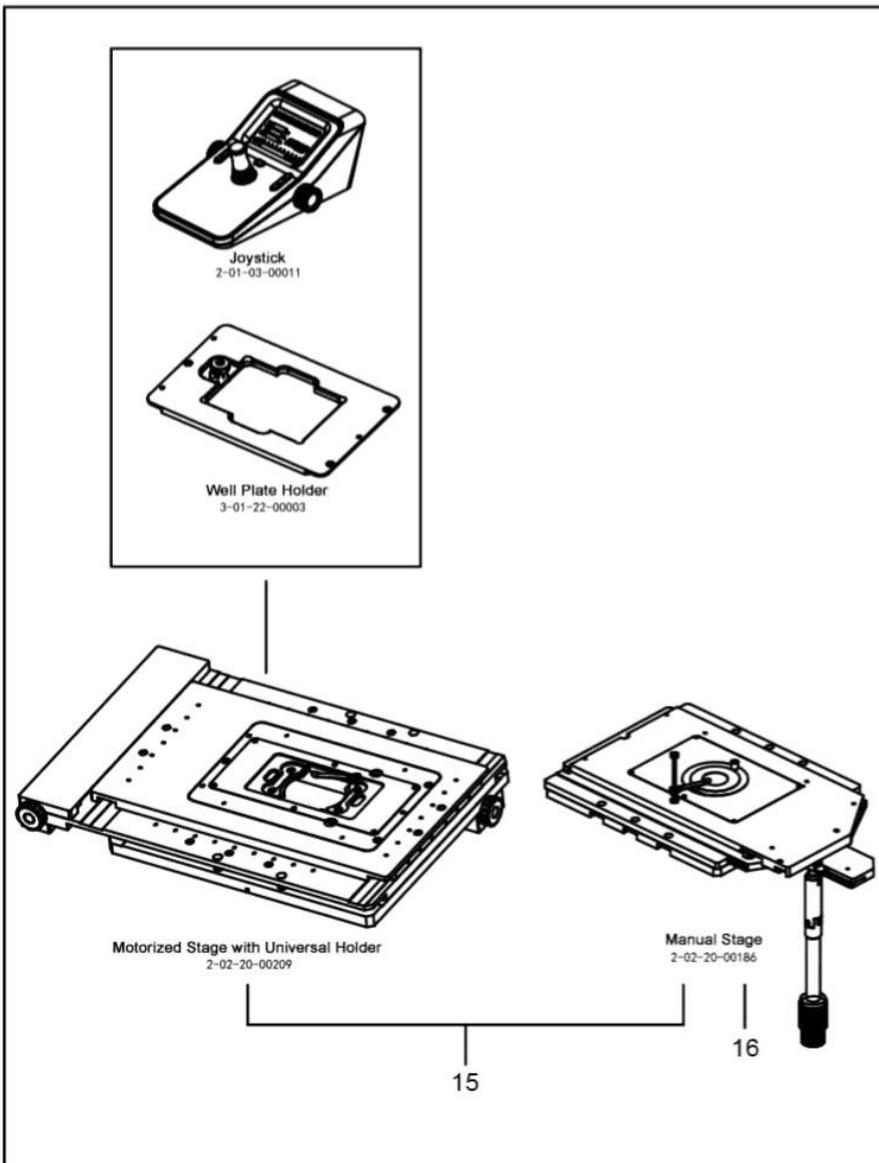
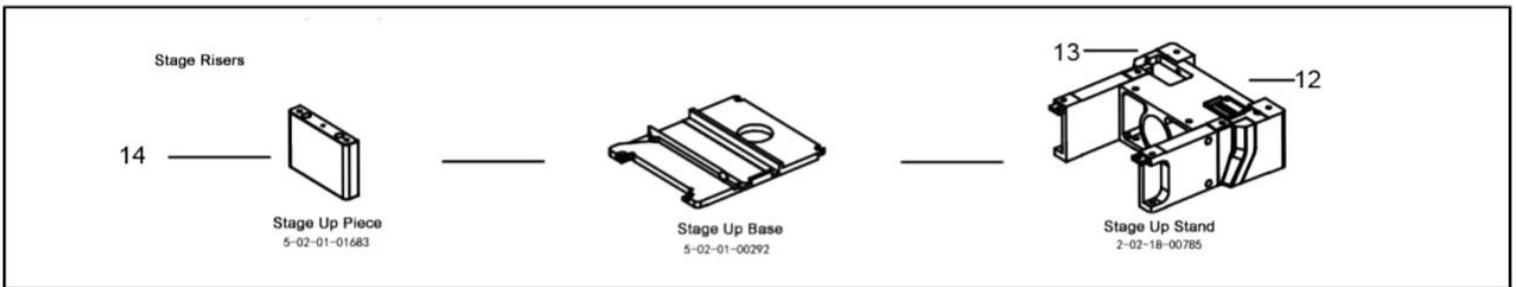
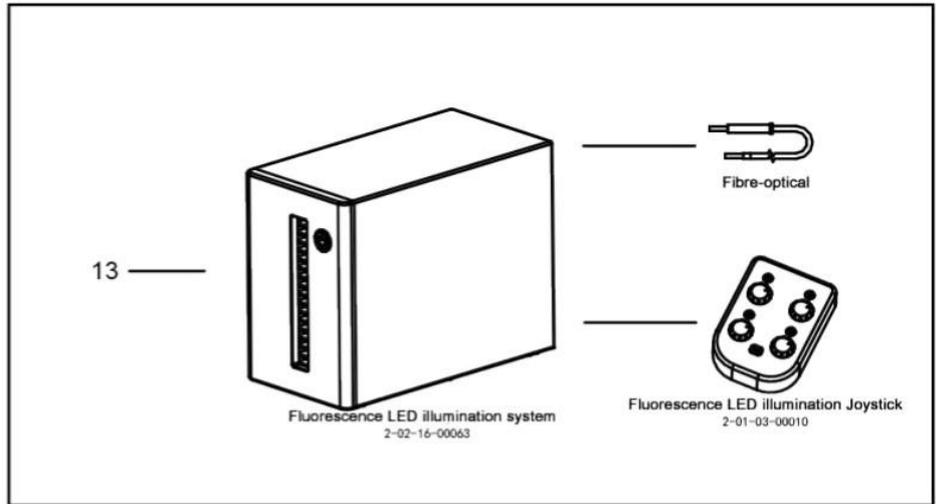
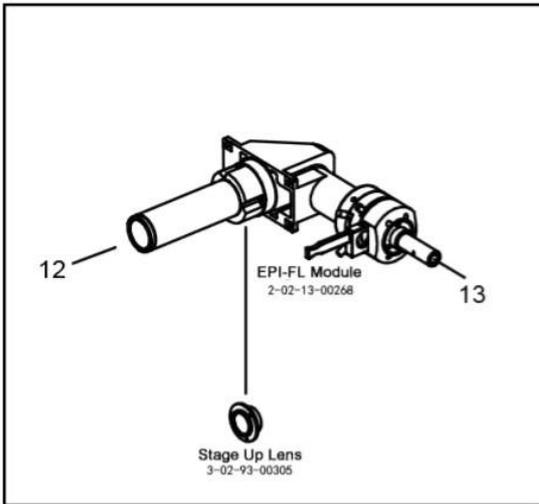
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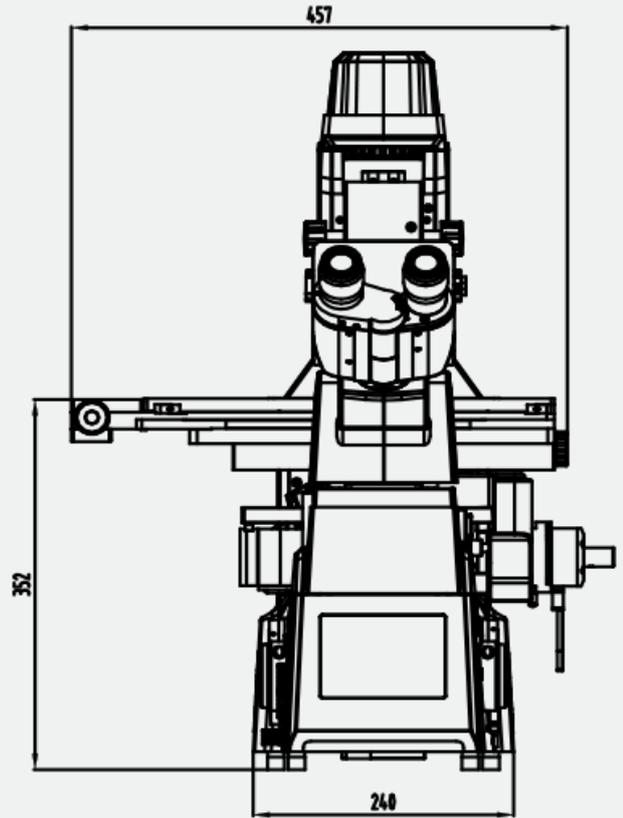
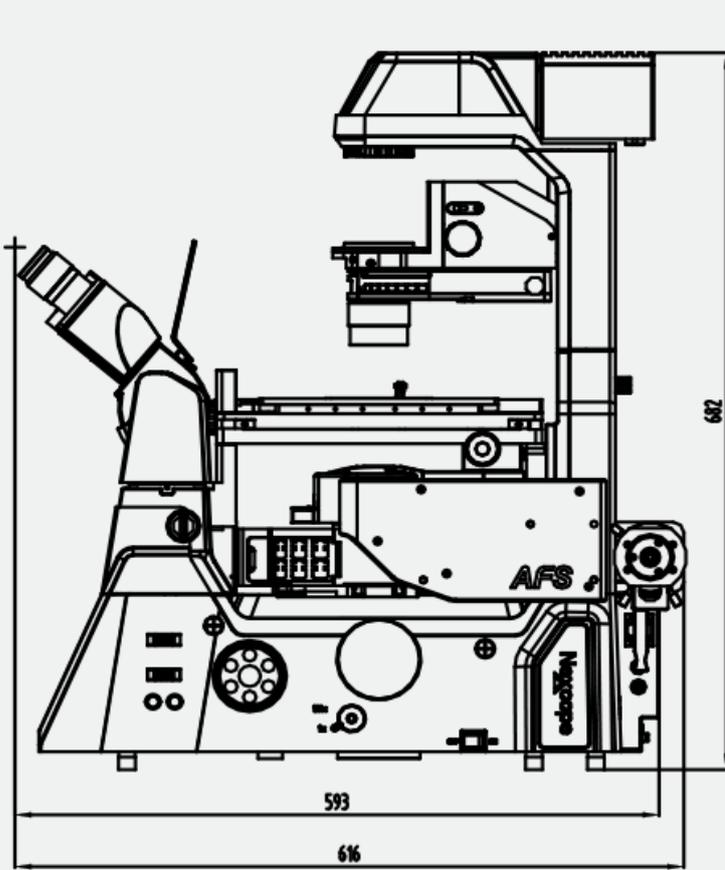
A16.1099-A

Research Level Inverted Fluorescent Microscope A16.1099		-M	-A	Cata. No.
Transmit Light	Kohler Illumination, With Field/Iris Diaphragm, 0~25° Tilt Adjustable Arm	•	•	
	Electrical Optical Brake Optional 3W S-LED Lamp House	•	•	
Condenser	Manual 7 Holes Nosepiece Turret, Coded, 4 Holes For Phase Contrast , Hoffman , ND Filter, 3 Holes For DIC , ND Filters, Up/Down Range 66mm	•		
	Motorized 7 Holes Nosepiece Turret, 4 Holes For Phase Contrast , Hoffman , ND Filter, 3 Holes For DIC , ND Filters, Up/Down Range 66mm Long Working Distance Condenser NA=0.52, WD=30mm		•	
Phase Contrast	10x-20x Phase Contrast Module	•	•	
	40x Phase Contrast Module	•	•	
DIC	Coded Manual Bertrand Lens Switch In/Out Light Path, Focus Adjustable	•	•	
	DIC Prism Slide (Into Nosepiece DIC Slot), DIC Polarizer Slide, DIC Analyzer Slide	◦	◦	A5C.1099
Reflect Light	Epi Fluorescent LED Light Source, Optical Fiber Adapter, Iris Diaphragm, 2 Holes Filter Insert Plate	•	•	
	Round Diaphragm	•	•	
	Support 4 Fluorescent LED Light Source: 385, 470, 555, 630 Light Source Controller Box	•	•	
Fluorescent Turret	Manual 6 Holes Fluorescent Turret Disc, Manual Shutter, With Cable	•		
	Motorized 6 Holes Fluorescent Turret Disc, Motorized Shutter, With Cable		•	
	FITC Filter, BP460-495, DM505, BA510-550	•	•	
	TRTC Filter, BP528-553, DM565, BA578-633	•	•	
Middle Part	DAPI Filter, BP360-390, DM415, BA435-485	•	•	
	Double Layer Fluorescent Turret Set, Including Z Axis Heighten Base, Fluorescent Turnable Heighten Seat, Stage Heighten Seat	◦	◦	A5F.1099
Photo Adapter	For Light Split Status Detection: 100/0, 0/100	•	•	
	Motorized Light Split Switch Control By Front 5.7" Touch Screen: --Eyepiece 100%, --Left Photo Port 100%, --Right Photo Port 100%, --Eyepiece 20% + Right Photo Port 80%	•	•	
	Left Photo Port, With Built-in 1x C-Mount	•	•	A55.1099-L1.0
	0.7x C-Mount For Left Photo Port	◦	◦	A55.1099-L0.7
	0.5x C-Mount For Left Photo Port	◦	◦	A55.1099-L0.5
	1x C-Mount For Right Photo Port,	-	•	A55.1099-R1.0
Confocal	Left Side Confocal Port With 1x Lens	•	•	
Joystick	Joystick For XYZ Motorized Control, Touch Screen Show Objectives, Fluorescent Filters, Customized Shortcut Button		•	
Tool Kit	Full Set Tool Kit For Installation	•	•	
Dust Cover	Dust Cover	•	•	
Cable	USB2.0 Cable 1.5m, Motorized Control Data Cable	•	•	
Software	Support Image & Video Capture, Control Microscope XYZ Stage, Objectives Switch, Image & Video Capture, Large Image Stitching, Extended Depth of Field (EDF), Not Support Slide Scan Function	•	•	

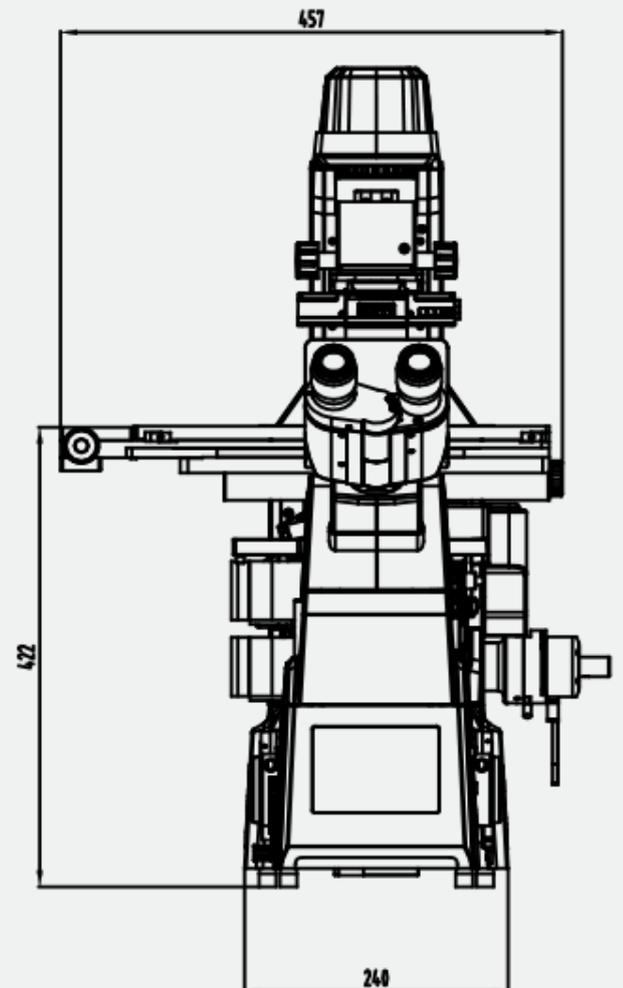
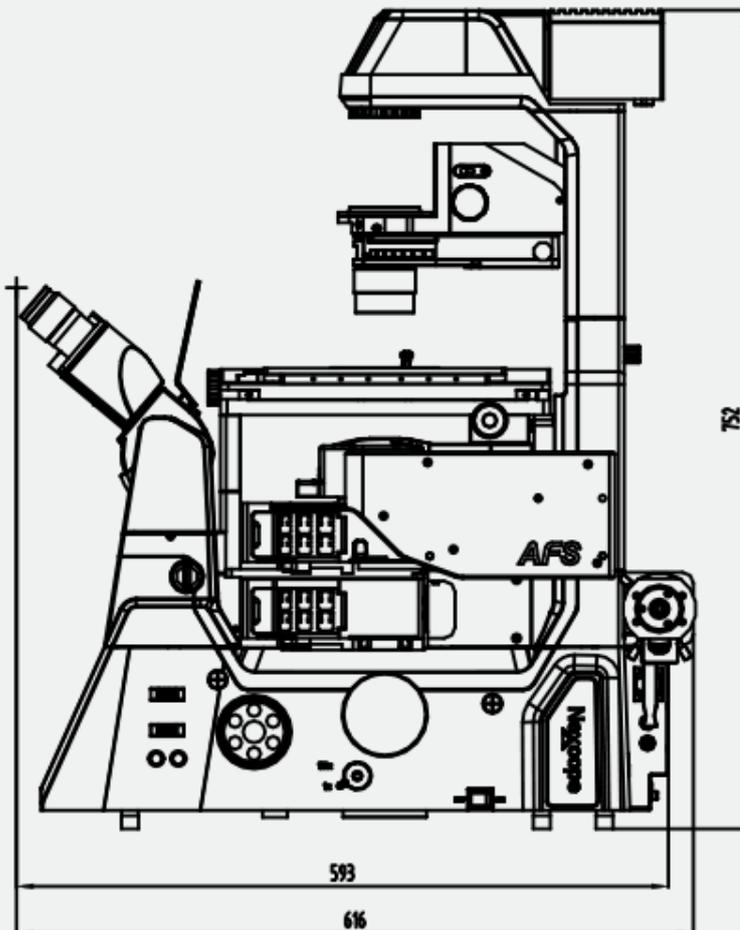




Single Layer Optical Path



Double Layer Optical Path



Adaptive Anti-Focus Shift System (AFS)

Automatically correct focus drift caused by temperature changes and mechanical vibrations.



Stage lifting position device

Stage can be raised to allow installation of a second fluorescent illuminator and filter module turntable.



Fluorescent filter module turntable

Both manual coding model and electric intelligent model are available, compatible with FOV25 wide field of view.



Electric platform

High-speed electric platform with grating ruler for accurate positioning and high repeatability.



Manual platform

Long working stroke, can be a complete observation of the entire hole plate, a variety of platform holders are available.



Live cell culture system

Provide best conditions for the survival of living cells include precise temperature, humidity and gases.



Fluorescent LED light source

With high matching with fluorescent dyes commonly used in the market, which is ready to use, long life and more environmentally friendly.



Condenser turntable

Both manual model and electric model are available, it can automatically switch between seven positions to adapt to different imaging modes



▶ A65.1099 Super Resolution Microscope

It can be used as imaging platform of A65.1099 laser confocal microscope to obtain low noise, high contrast and high quality confocal images. Equipped with SIM super resolution system, A65.1099 enables live cell imaging with twice the resolution of traditional optical microscopes.



▶ A64.1099 Laser Confocal Microscope

Integrating various microscopical techniques such as brightfield, fluorescence, differential interference contrast, and phase contrast, users can freely opt for single-layer or dual-layer optical path configurations based on their specific experimental needs to achieve optimal imaging results. The Adaptive Focus Shift System (AFS) ensures precise focal plane positioning during continuous observations, thereby enabling stable, continuous, and clear recordings of cellular dynamic behaviors.



MICROSCOPE IS OUR FOCUS

The Key To Micro World

Opto-Edu is one of the most professional supplier for microscope & educational instruments from China. We have been focusing in this field for more than 25 years, has a professional sales team who can assist our customer to find the BEST SELECTED microscope with competitive price and 3 YEARS Warranty.

25+ Year professional experience we know Microscopes the best!
150+ Microscope & accessory manufacturers supply all models from China
200+ Hot sale microscopes & Newest Models Updated Every Month
750+ Customer from all over the world & keep rising every day
1500+ Microscope products create your one-stop purchase platform
3000+ Educational Instruments For School, College And University Teaching
The Most Professional Microscope Manufacturer in China!



MICRO
WORLD

The Key To **OPTO-EDU**



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