Nikon

Nikon 100th anniversary

ECLIPSE Ci-E/Ci-L

Upright Microscope

Feel the evolution

Compact research microscope with superior optical performance

Nikon has drawn on its proven optics and mechanical design technologies to develop the compact and high-performance ECLIPSE Ci series research microscope.
High-quality objective lenses and a dedicated epi-fluorescence attachment provide bright and high contrast fluorescence images. Image capture of specimens is easy and efficient when the microscope is configured with Nikon Digital Sight series cameras. In addition, a newly developed high luminescent LED illumination and accessories that allow for a comfortable posture during observation and imaging are also available. With its high-optical performance and advanced easy control, the ECLIPSE Ci series supports the research of a broad range of user applications.

- **High-intensity, uniform LED illumination (Eco-illumination)**
- **Compact dedicated fluorescence unit**
- **Reliable high-performance objective lens**
- **Observation and image capture with comfortable posture**
- **Motorized magnification switching by the push of a button (Ci-E)**
- **Simple image capturing by the push of a button on the microscope**
- **Enables a wide variety of observations**

Configuration of Ci-L with epi-fluorescence attachment and DS-Fi3 camera

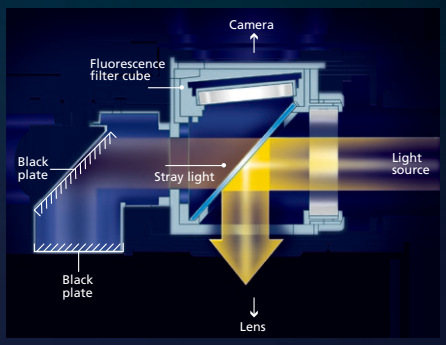
ECLIPSE Ci-E/Ci-L

High quality images powered by Nikon's reputed optical technologies

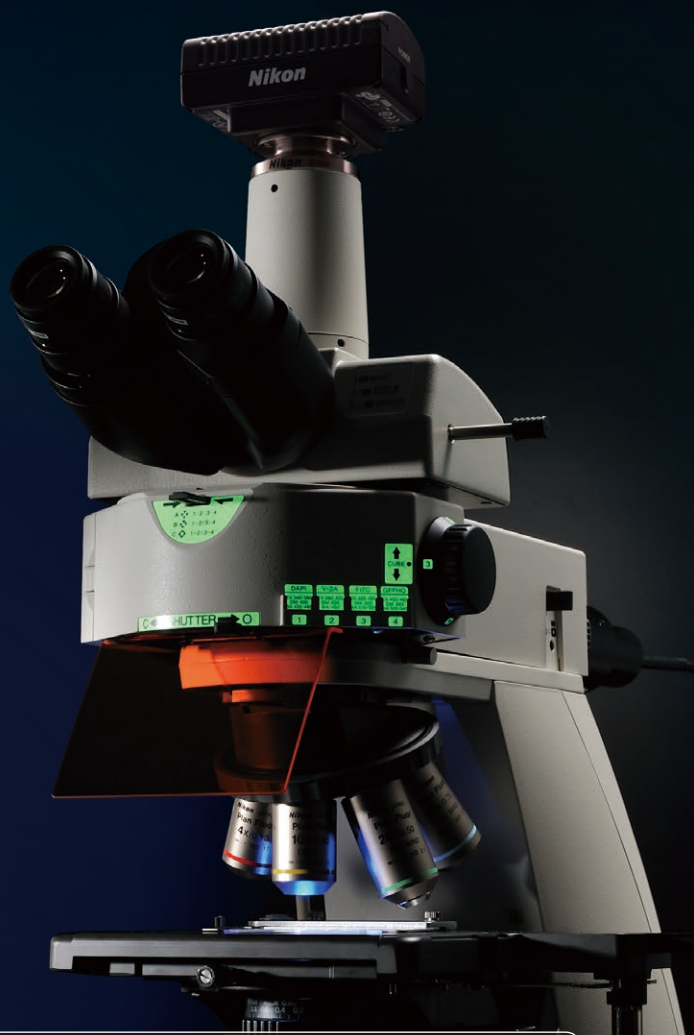
Nikon's well-reputed optical technologies enable the capture of sharp and high quality images in a wide variety of techniques, including brightfield and epi-fluorescence observations.
The epi-fluorescence attachment of the ECLIPSE Ci series allows weakly fluorescent specimens to be captured with great clarity and brightness.

Epi-fluorescence attachment

The dedicated noise terminator for the Ci series is utilized in the compact epi-fluorescence attachment and this allows bright, high-contrast and high signal to noise (S/N) ratio fluorescence image capturing.
Two epi-fluorescence attachments are available, CI-FL (four filter cubes mountable) and D-FL (six filter cubes mountable). The name and position of the filter cubes are displayed in front of the attachment with phosphorescent labels for easy identification in darkened rooms. The filters or dichroic mirrors in the filter cubes can be easily replaced to create a more specific combination



Noise terminator mechanism



High-optical performance objective lenses

CFI Plan Apochromat Lambda series

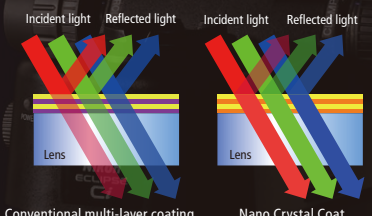
With remarkably high NA, greatly improved transmission in the long wavelength range thanks to Nikon proprietary Nano Crystal Coat, and chromatic aberration correction over wide wavelength range, these objectives are ideally suited not only to brightfield observations but also to fluorescence observations. Bright images can be captured even with a weak excitation light, thereby reducing damage to the specimen.

CFI Plan Fluor series

Featuring an extra-high transmission rate, especially in the ultraviolet wavelength, combined with flatness of field, this series is perfect for fluorescence observation and imaging. These objectives can function as multi-purpose objectives for brightfield, fluorescence and simple/sensitive color polarizing observations.

Nano Crystal Coat

This anti-reflective coating with nanometer-size particles is based on semiconductor manufacturing technology and is also used for Nikon camera lenses. The coarse structure with particles arranged in a spongy construction with uniform spaces between them enables extremely low refractive indices.



Conventional multi-layer coating | Nano Crystal Coat

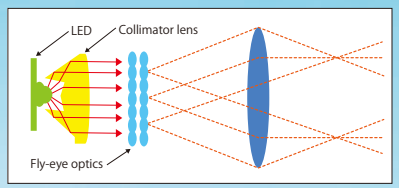
Unparalleled basic performance

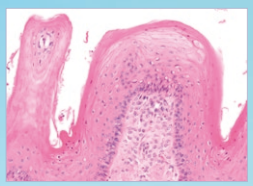
Nikon has created a highly advanced basic performance with the ECLIPSE Ci-E/Ci-L — including bright illumination, various accessories that enable comfortable observation posture, and convenient motorized operations.

Ci-E (Motorized model)

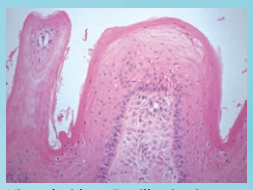
Eco-illumination

By combining a collimator lens, fly-eye optics and LED illumination, bright and uniform images up to the periphery can be obtained. The LED is a low power consumption unit that reduces lamp replacement frequency thanks to its long-life, and provides the same color temperature in every magnification.





Viewed with Eco-illumination



Viewed without Eco-illumination

*These images are captured without using the shading compensation to emphasize the vignetting.

Ergonomic design

Various accessories that allow observation and image capturing with comfortable posture.

Ergonomic binocular tube
Eyepiece angle (10° - 30°) and extension (up to 40mm) are adjustable. A camera can be mounted via the DSC port.

Eyelevel riser
Eye-point height can be raised in 25mm increments to suit your normal posture.

Stage with height-adjustable handle
Smooth stage movement is achievable with a comfortable hand position.

Lower stage positioning
Stage height can be lowered 20mm from the standard position using the nosepiece spacer for easy specimen change with comfortable posture.

Motorized model Ci-E

Equipped with motorized magnification switching and automatic intensity reproduction, it is ideally suited to applications that require frequent magnification switching.

Nosepiece rotating buttons
The nosepiece can be rotated with one-touch button control. In addition, your two favorite magnifications can be registered*, and one press of the button alternates between these two objective lenses.

* Using the remote control pad.

Remote control pad
By programming specific buttons to correspond to specific objective lenses, magnification can be easily changed with a one touch button.

Auto light intensity reproduction
The user-defined light intensity for each objective lens is automatically memorized and replicated when the objective is used again, eliminating the manual re-adjustment.

Enhanced operability for digital imaging

The ECLIPSE Ci series microscope, imaging system Digital Sight series and imaging software NIS-Elements support smart image capturing with enhanced function.

Image capture button

Imaging with the Digital Sight series cameras is possible with the one touch button located on the microscope base.

Microscope Camera Control Unit DS-L4

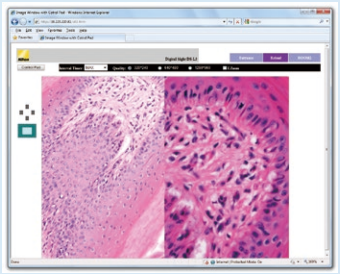
The DS-L4 tablet-style control unit eliminates the need and space requirements of a desktop PC to control DS-Ri2 and DS-Fi3 cameras. The touch panel allows the simple setting and operation of cameras by simply choosing the observation technique using scene mode icons. Simple measurement functions, such as distance measurement between two points, are available. Objective lens switching and a condenser setting of Ci-E are also possible.

Imaging software NIS-Elements

Capturing, processing, measuring, analyzing and managing images on a PC are possible with the Ci-E/Ci-L by using the NIS-Elements dedicated imaging software.

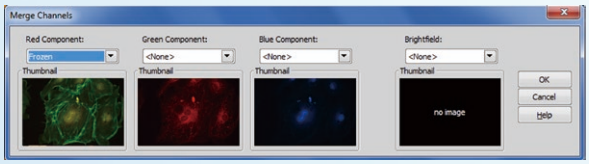
Live image comparison

Enables easy image comparison between a captured image and a live image. Live observation side by side with a paused live image is also available.



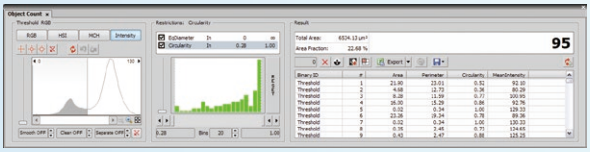
Merge channels

Multiple single channel images can be merged together to create an overlay of full depth separately scalable images.



Object counting

This measures the number or area of objects extracted from images and is achieved by the creation of a binary layer through thresholding, using RGB/HIS or intensity values.



Digital Sight series C-mount microscope camera

● Microscope Camera DS-Fi3

- 5.9-megapixels
- Up to 2880 x 2048 pixels

Equipped with a 5.9 megapixel CMOS image sensor. Enables easy acquisition of images with superior color reproduction during various observations, such as brightfield, phase contrast and epi-fluorescence.

Digital Sight series F-mount microscope cameras

● Microscope Camera DS-Ri2

- 16.25-megapixels
- Up to 4908 x 3264 pixels

Equipped with digital SLR camera FX-format CMOS sensor. Provides superior color reproduction and fast frame rates.

● Monochrome Microscope Camera DS-Qi2

- 16.25-megapixels
- Up to 4908 x 3264 pixels

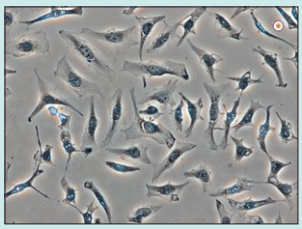
Equipped with FX-format CMOS sensor. Enables high-sensitivity, low-noise images.

Accessories for various observations

The ECLIPSE Ci-E/Ci-L uses a high-intensity Eco-illumination that provides sufficient light intensity even for phase contrast and simple polarizing observation. The wide variety of accessories enables the user to conduct various techniques including epi-fluorescence observation.

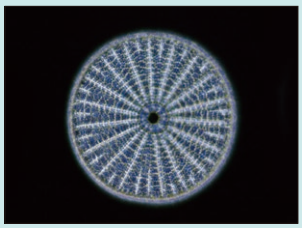
Phase contrast

High contrast images with neutral background coloration regardless of the magnification range can be acquired. This observation technique is suitable for observation of the unstained structure.



Darkfield

Enables clear observation of blood or the minute structure of flagella. Dry- and oil-type condensers are available. The expander lens is used to obtain illumination with greater brightness.



Ci-L with phase contrast accessories

Simple polarizing

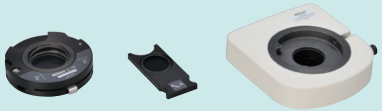
This is ideal for observing bi-refringent samples such as collagen, amyloids and crystals.

*Two types of analyzer are available: intermediate tube type and nosepiece slider type.

Sensitive color polarizing

This enables the identification of uric acid crystals forming inside an organism by changing the interference color and is ideal for gout and pseudo-gout tests.

*Two types of analyzer are available: intermediate tube type and nosepiece slider type.



ECLIPSE Ni-E/Ni-U

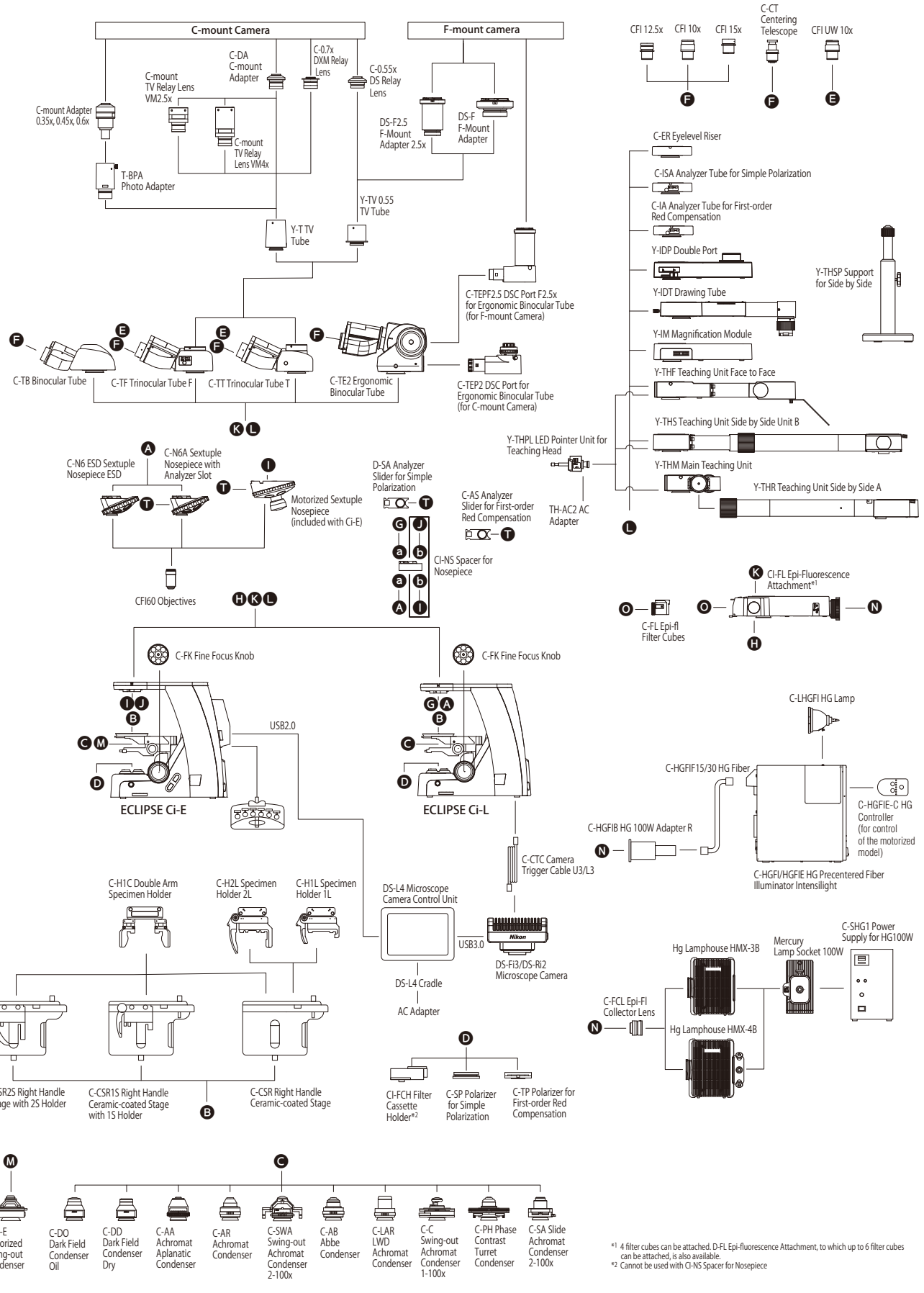
New advanced research microscopes ECLIPSE Ni series

The ECLIPSE Ni series is the flagship of Nikon's upright research microscopes. They provide high optical performance and high expandability with various motorized accessories utilizing stratum structure.

- **Manual model Ni-U with advanced basic performance**
- **Fully motorized model Ni-E with motorized focusing and auto observation technique switching.**
- **Fly-eye optics enable the capture of bright and uniform illuminated digital images.**
- **The noise terminator mechanism equipped in the epi-fluorescence system enables high S/N ratio image.**

Ni-U with motorized epi-fluorescence attachment and a Digital Sight series camera

System Diagram



*1 4 filter cubes can be attached. D-FL Epi-fluorescence Attachment, to which up to 6 filter cubes can be attached, is also available.
*2 Cannot be used with CI-NS Spacer for Nosepiece

Specifications

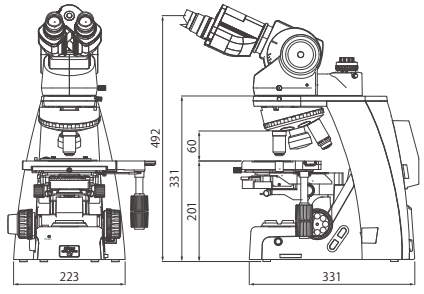
		Ci-E	Ci-L
Main body	Optical system	CFI60 Infinity Optical System	
	Illumination	High luminescent White LED Illuminator (Eco-illumination)	
		Automatic intensity reproduction function	—
	Controls	Image capture button	
		Nosepiece rotating buttons, Remote control pad	—
	Eyepieces (F.O.V. mm)	· CFI 10× (22) · CFI 12.5× (16) · CFI 15× (14.5) · CFI UW 10× (25)	
	Focusing	Coaxial Coarse/Fine focusing, Stroke: 30 mm, Coarse: 9.33 mm/rotation, Fine: 0.1 mm/rotation, Coarse motion torque adjustable, Refocusing function	
Tubes	F.O.V. 22 mm (Eyepiece/Port)	· C-TB Binocular Tube · C-TE2 Ergonomic Binocular Tube (100/0, 50/50 via optional C-TEP2 DSC Port or C-TEPF2.5 DSC Port F2.5x) Inclination angle: 10-30 degree, Extension: up to 40 mm	
	F.O.V. 25 mm (Eyepiece/Port)	· C-TF Trinocular Tube F (100/0, 0/100) · C-TT Trinocular Tube T (100/0, 20/80, 0/100)	
Nosepieces		· Motorized Sextuple Nosepiece with Analyzer Slot (Within main body) Switching between two objectives function	· C-N6 ESD Sextuple Nosepiece ESD · C-N6A Sextuple Nosepiece with Analyzer Slot
Stages		Cross travel 78 (X) × 54 (Y) mm, with vernier calibrations, stage handle height and torque adjustable for all stages C-HIC Double Arm Specimen Holder is available as an option for the below three stages. · C-SR2S Right Handle Stage with 2S Holder · C-CSR1S Right Handle Ceramic-coated Stage with 1S Holder · C-CSR Right Handle Ceramic-coated Stage (C-H2L Specimen Holder 2L and C-H1L Specimen Holder 1L can be attached)	
Condensers (NA)	Motorized	· CI-C-E Motorized Swing-out Condenser (0.9/0.22) Focusing stroke: 27 mm	—
	Manual	Focusing stroke: 27 mm · C-AB Abbe Condenser (0.9) · C-AR Achromat Condenser (0.8) · C-DO Dark Field Condenser Oil (1.2-1.43) · C-DD Dark Field Condenser Dry (0.8-0.95) · C-PH Phase Contrast Turret Condenser (0.9) · C-AA Achromat Aplanatic Condenser (1.4) · C-SA Slide Achromat Condenser 2-100× (0.9) · C-C Swing-out Achromat Condenser 1-100× (0.8/0.12) · C-SWA Swing-out Achromat Condenser 2-100× (0.9/0.22) · C-LAR LWD Achromat Condenser (0.65)	
Observation methods*		Brightfield, Epi-fluorescence, Darkfield, Phase contrast, Simple polarizing, Sensitive color polarizing	
Epi-fluorescence attachment		· CI-FL Epi-fluorescence Attachment (4 filter cubes mountable) · D-FL Epi-fluorescence Attachmennt (6 filter cubes mountable) ND4/ND8/ND16 filters, Noise Terminator mechanism	
Epi-fluorescence light source		· C-HGFI/HGFIE HG Precentered Fiber Illuminator Intensilight (130W) · Hg Lamphouse and Power Supply (100W)	
Power consumption		13W (Brightfield configuration)	6W (Brightfield configuration)
Weight (approx.)		15.4 kg (Binocular standard set)	13.4 kg (Binocular standard set)

*Observations except Brightfield require optional accessories.

Dimensional Diagram

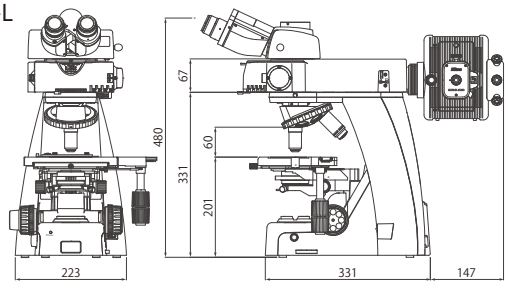
Unit: mm

Ci-E



Configured with Ergonomic Binocular Tube and DSC port

Ci-L



Configured with Fluorescence Attachment and Trinocular Tube T

WARNING TO ENSURE CORRECT USAGE, READ THE CORRESPONDING MANUALS CAREFULLY BEFORE USING YOUR EQUIPMENT.

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