



Upright Microscope  
ECLIPSE  
*Ci/Ni*

# Feel the evolution

Nikon developed the clinical and laboratory microscope ECLIPSE Ci series to meet the demands of a microscope that provides comfortable posture during observation and simple set-up, such as magnification switching, light intensity reproduction and image capturing. With its small footprint, the Ci series delivers compact and space-saving observation conditions. Nikon also developed the ECLIPSE Ni series, which offers high optical quality and a wide range of imaging possibilities. The highly-evolved Ci/Ni series microscopes enable routine analysis with more comfort and greater flexibility than ever before

## Ci

- **Eco Friendly**

High-intensity, long-life and power saving illumination

- **Ergonomic**

Flexible, adjustable design to suit the user's natural posture

- **Easy to Use**

One-touch operation for microscope\* control and image capturing

- **Versatile**

Flexible observation with a wide range of specimens

\*Ci-E

## Ni

- **High-quality**

Superior optical performance

- **Expandability**

Wide variety of optional motorized accessories

- **Automation\***

Intelligent, automatic switching of observation methods

\*Ni-E

- **Meeting user needs in clinical microscopy**

I want to easily capture images.

I want to conduct observation in comfort.

I want to observe images with bright and even illumination.

I want to simplify operation with motorized accessories.

I want to use a variety of observation techniques.

I want to reduce the number of lamp replacements.



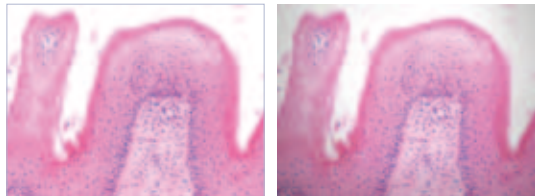
## The Ci meets all your demands.

The ECLIPSE Ci series microscopes offer a bright field of view, high durability, comfortable posture for prolonged observation, simple motorized operation, and various illumination techniques that you need for clinical and laboratory microscopy.

### Eco Friendly

- **Eco-illumination (Ci-E/Ci-L)**

The newly developed high luminescent LED is a low power consumption eco-friendly light source that produces evenly distributed illumination and reduces the cost and effort of lamp replacement thanks to its long-life.



Viewed with Eco-illumination

Viewed without Eco-illumination

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

- **Ceramic-coated stage**

The stage is coated with high durability scratch-resistant coating.



### Ergonomic

- **Ergonomic binocular tube**

Eyepiece angle and extension are adjustable. A camera can be mounted via the DSC port.



Ergonomic binocular tube

- **Eyelevel riser**

Eye-point height can be adjusted to suit your natural posture and increases flexibility for multi-users of different heights.

- **Lower stage positioning**

Lower stage height using the nosepiece spacer for easy specimen exchange.



Nosepiece spacer

- **Stage handle with height adjustment**

Smooth stage movement is possible in a comfortable hand position.

### Easy to use

- **Image capture button**

One simple click of the button during observation enables you to capture your specimen image with the Digital Sight camera.



- **Motorized magnification change (Ci-E)**

Magnification can be switched with one button control during observation, which automatically memorizes and reproduces user-defined light intensity.



- **Camera control unit DS-L3**

The DS-L3's touch panel allows you to easily set and control your cameras as well as take simple measurements. It is also possible to switch the Ci-E's objective lenses.



### Versatile

- **Flexible observation methods**

The high-intensity Eco-illumination and accessories enable you to perform phase contrast, darkfield and simple polarizing microscopy.

- **Image sharing**

The live image can be displayed on the DS-L3 monitor or via a projector. Simultaneous observation on networked PCs is also possible.



**● Ergonomic binocular tube**

**● Motorized nosepiece**

**● Ceramic-coated stage**

**● Motorized swing-out condenser**  
Automatically swing-out and swing-in top-lens element according to the objective lens that is selected via intelligent linking.

**● Image capture button**

**● 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. This eliminates the need for manual re-adjustment of light intensity.

**● Nosepiece rotating buttons**  
The nosepiece can be rotated allowing you to keep your eyes on the specimen. Your two favorite magnifications can be registered\*, and one press of the button alternates between these two objective lenses. This is useful when frequent change of magnifications is necessary, for example between 10x and 40x objectives.  
\* Magnifications can be registered using the remote control pad's toggle mode.

**● Eco-illumination**

## Provides streamlined observation with motorized operation

### Motorized model with LED illumination

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



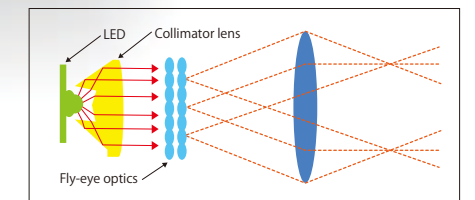
**● Ergonomic binocular tube**  
Inclination angle and extension are adjustable to ensure a comfortable observation position.

**● Ceramic-coated stage**

**● Image capture button**

**● DSC port**  
A camera can be mounted to the ergonomic binocular tube via the optional DSC port.

**● Uniform Eco-illumination**  
By combining a collimator lens, fly-eye optics and LED illumination, bright and uniform images up to the periphery can be obtained even in high magnification. The LED illuminator offers low-heat generation and provides the same color temperature in every magnification (patent pending).



## High-intensity and uniform Eco-Illumination

### Manual model with LED illumination

Featuring Eco-illumination bright enough for phase contrast and simple polarizing microscopy while reducing lamp replacement with a long-life of 60,000 hours.





● Ergonomic binocular tube

● Ceramic-coated stage

The stage is coated with an abrasion and chemical-resistant ceramic coating, allowing long-term frequent specimen changes without damaging the stage surface.

● Image capture button

● Space-saving compact design

The compact body with an extremely small footprint gives the user more desk space than ever.

● Halogen illumination

● ND4/ND8 filter, NCB11 filter

Changing light intensity is possible by inserting and removing an ND (Neutral Density) filter. The NCB filter for color temperature compensation of the light source is built-in.

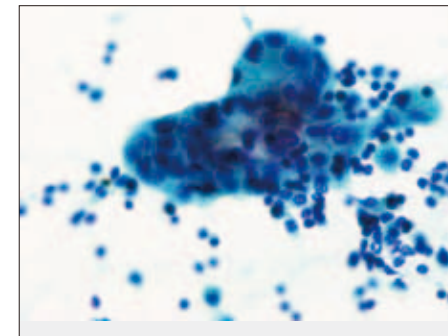
## Enhanced basic performance for observation

**Manual model with halogen illumination**

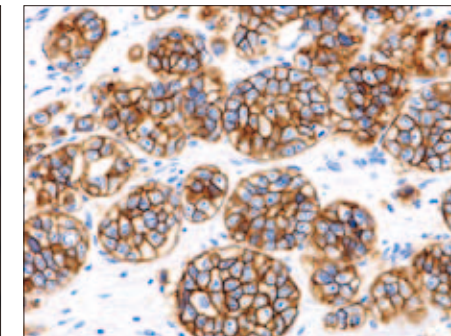
With a small footprint and superior operability the ECLIPSE Ci series offers a comfortable, ergonomic viewing position.

## Versatile observation techniques

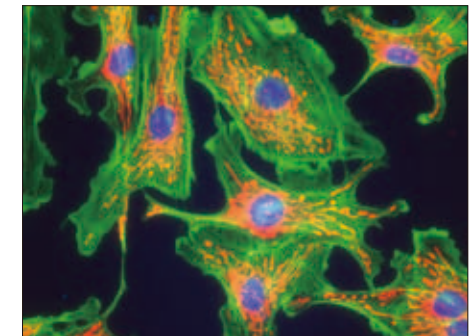
Using accessories, the Ci-E, Ci-L and Ci-S enable various observation techniques to meet the demands of a wide range of uses, from clinical examination to research.



Breast Cancer, Pleural effusion, Papanicolaou stain, CFI Plan Apo  $\lambda$  60x

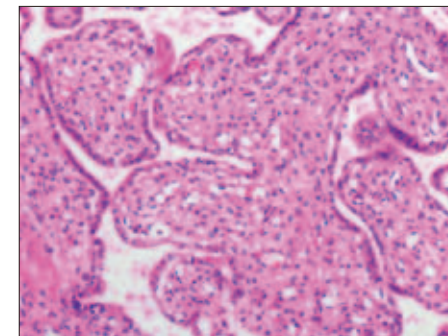


Breast Cancer, HER2/neu, Immunostaining, CFI Plan Apo  $\lambda$  40x

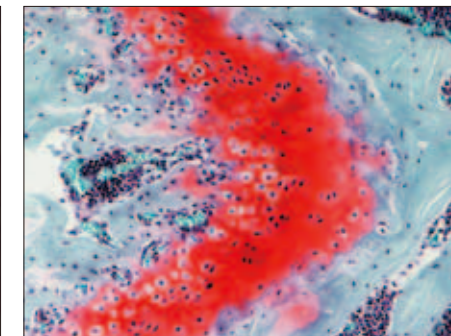


Epi-fluorescence

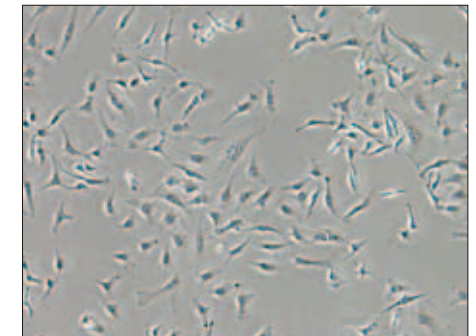
①② Yoji Urata, Department of Pathology, Kyoto City Hospital



Human Placenta, HE stain, CFI Plan Apo  $\lambda$  10x

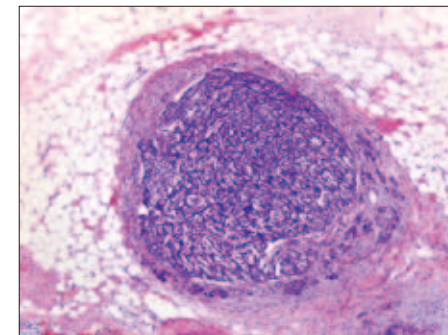


Cartilage of mouse femur, Safranin O fast green iron hematoxylin stain, CFI Plan Apo  $\lambda$  10x

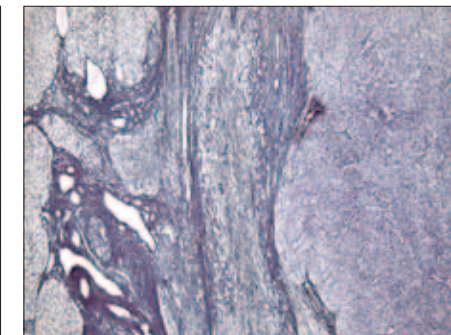


Phase contrast

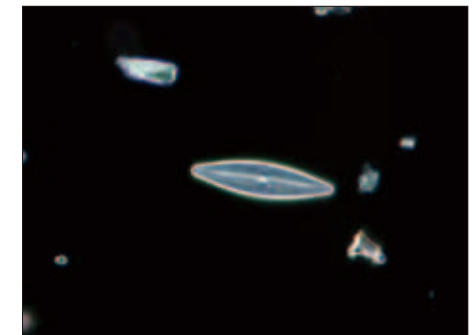
③④ Atsushi Furuhashi, Noriyoshi Sueyoshi, Division of Biomedical Imaging Research, Juntendo University Graduate School of Medicine



Pancreas Neuro-endocrine Tumor, HE stain, CFI Plan Apo  $\lambda$  4x

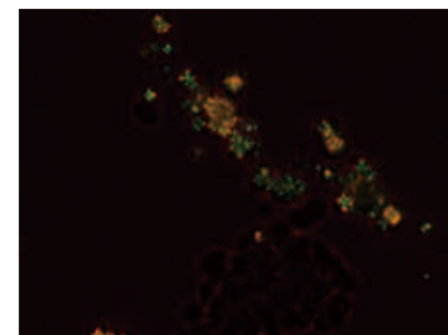


HCC, Silver stain, CFI Plan Apo  $\lambda$  4x

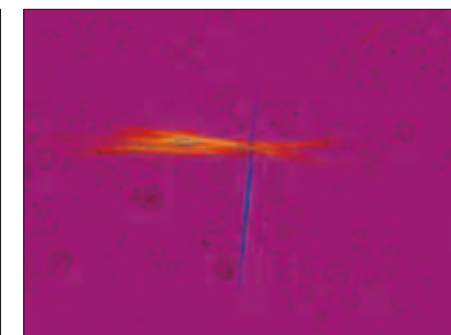


Darkfield

⑤⑥ Kazuhiro Muraoka, Imaging Information Research Center Photography Division, Tokyo Women's Medical University



2,8-Dihydroxyadenine crystals, Simple polarizing, CFI Plan Fluor 40x



Sodium urate crystals, Sensitive color polarizing, CFI Plan Fluor 40x

⑦⑧ Department of Clinical laboratory, Nihon University Itabashi Hospital



# Digital imaging evolved

In response to user demand for the easy capture of sample images, the ECLIPSE Ci series has a built-in dedicated capture button on the microscope base. An optional digital imaging system supports simple camera settings and operation including capturing, measuring and image sharing.

## Image capture button

Image capturing with the digital camera Digital Sight series is possible with the one-touch button located on the microscope base, thereby improving workload efficiency.



## Digital Sight series camera control unit DS-L3

The DS-L3 is a stand-alone controller with a large-size touch panel, which allows simple setting and operation of a Digital Sight camera without a computer. The camera control is possible with mouse operation or touch panel operation by finger touch or stylus pen. Configurations of the PC-use control unit DS-U3 and the imaging software NIS-Elements are also available.



## Scene mode icons

Optimal camera setting for each observation technique is possible by simply choosing an icon of the observation technique.



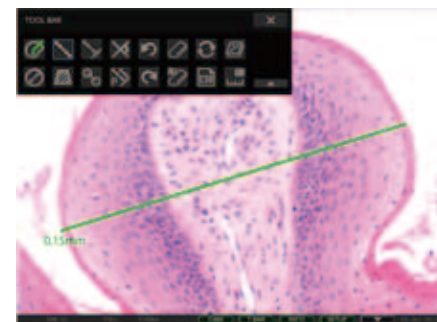
## Camera setting

Simple camera setting is possible using icons. The numbers and layout of displayed icons can be customized.



## Camera/microscope control

Objective lens switching and condenser setting of the Ci-E are possible.



## Simple measurement

Simple measurement such as distance measurement between two points is possible.

# Observation image sharing

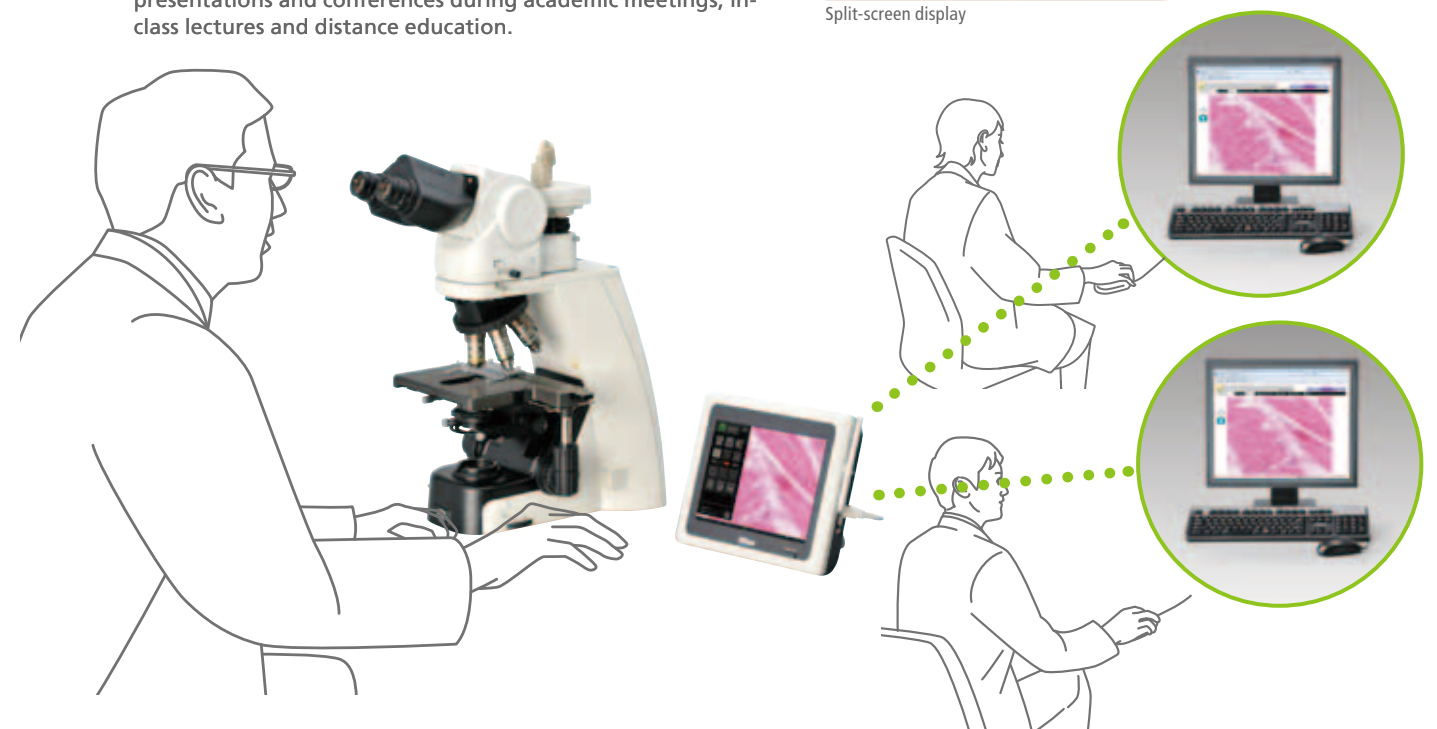
During observation using the ECLIPSE Ci series microscope, live and captured images can be easily shared via the Nikon Digital Sight DS-L3 monitor, projector, or computer monitor. In addition, connecting the ECLIPSE Ci series to a remote PC on the network via a DS-L3 easily enables remote viewing, online education, and distance collaboration.

## Digital pathology via a network

When mounting a Digital Sight series digital camera and the camera control unit DS-L3 to the ECLIPSE Ci, image sharing, consultation, and distance learning between multiple PCs is easy. This combination allows live streaming of images on the network through firmware so the capability of the network is not compromised by software. The split-screen capability for real-time comparison of low to high magnification images is an added convenience for remote consultation. In essence, this unique network addressable system is the most powerful tool for consulting in or between hospitals, presentations and conferences during academic meetings, in-class lectures and distance education.



Split-screen display



## Digital Sight series digital camera heads

Users can select the most suitable camera for their samples and observation techniques from a diverse lineup of compact, high-performance digital camera heads of the Digital Sight series imaging system. (Following is a part of the line-up.)

### High-speed color camera head DS-Vi1



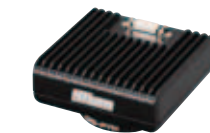
Featuring a high frame rate, a 2.0-megapixel CCD, and displaying SXGA live images (1600 x 1200 pixels max.) at 15fps (30fps max.), this camera is ideal for monitoring microscopy images at high-speed, with high-quality live image display.

### High-definition color camera head DS-Fi2



A high-definition 5-megapixel CCD faithfully captures microstructures with resolution as high as 2560 x 1920 pixels. Other advanced features include an enhanced frame rate of up to 21fps and accurate color reproduction. It can be universally used for brightfield, darkfield, or phase contrast image acquisition.

### High-definition cooled color camera head DS-Fi1c



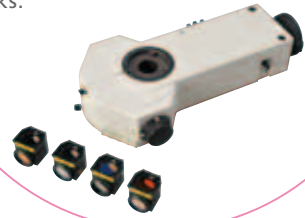
A Peltier device cooling mechanism incorporated into the 5-megapixel CCD delivers high-resolution images of up to 2560 x 1920 pixels. This mechanism keeps the CCD at 20°C below its uncooled state to produce high-contrast images with less heat-induced noise. It is ideal for imaging of weak-light structures under fluorescence and darkfield microscopy.



# Ci accessories meet additional demands of users

## I want to observe using fluorescent microscopy.

The ECLIPSE Ci series has the option of a dedicated compact epi-fluorescence attachment capable of accepting 4 filter blocks.



## I want to use phase contrast microscopy with LED illumination.

Eco-illumination has sufficient light intensity for phase contrast microscopy that is used in a wide range of applications including dermatological examinations.



Phase contrast accessories

## I want to observe the same view field simultaneously with another person

The teaching head enables multiple peoples to observe the same specimen simultaneously. A bright and long-life LED is employed in the pointer.

\* 3-person type and 5-person type are also available.



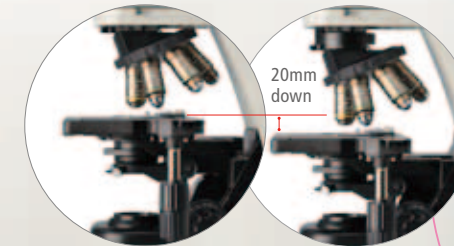
Side-by-side type

Face-to-face type

## I want to more user-friendly stage operation.

The stage height can be lowered 20mm from the standard position by adding a nosepiece spacer, facilitating frequent specimen change.

The stage handle height can be changed to ensure a comfortable hand position.



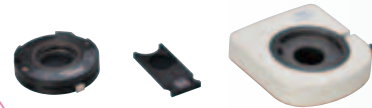
Without spacer

With spacer



## I want to perform gout tests.

Eco-illumination is compatible with sensitive color polarizing microscopy, and gout tests can be conducted by observing uric acid crystals.



Sensitive color polarizing accessories

## I want to reduce the number of times I switch the condenser.

An optional achromat swing-out condenser is compatible with a wide range of magnifications, between 1x to 100x.

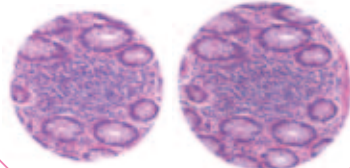


## I want to be able to quickly and safely change the specimen.

The stage height can be locked using the re-focusing knob, and this facilitates safe refocusing after changing the specimen.

## I want to observe specimens with a wider field of view.

Attaching CFI UW 10x/10M eyepiece lenses with F.N. 25mm in combination with a trinocular tube T and trinocular tube F enables wide field microscopy.



22mm

25mm

## I want to easily capture digital images of my specimens.

You can mount a camera on a trinocular tube T, trinocular tube F or an ergonomic binocular tube. Imaging in a comfortable position is possible with an ergonomic binocular tube by mounting the camera via the DSC port. Imaging is possible by simply pushing the image capture button.



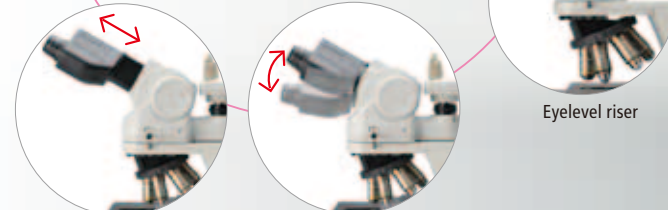
Trinocular tube T

Trinocular tube F

Ergonomic binocular tube

## I want to undertake long-term observation with minimal discomfort.

The ergonomic binocular tube can be inclined from 10° to 30° and extended up to 40mm. The eyelevel riser lifts the tube in 25mm increments (up to 100mm\*).  
\* Up to 50mm with ergonomic binocular tube.



Eyelevel riser

## I want to USE various objective lenses.

Nikon provides a broad range of objective lenses, such as the CFI Plan Achromat series, which is affordably priced and has high image flatness, the CFI Plan Fluor series, which is suitable for fluorescence microscopy, and the CFI Plan Apochromat λ series, with its superior resolution, brightness and chromatic aberration correction.



Left: Plan Achromat series; middle: Plan Fluor series; right: Plan Apochromat λ series



## Two flagship upright microscopes

The newly developed upright microscope ECLIPSE Ni series has high expandability, motorization, and superior optical performance.

Ni-E is a fully motorized model provides the most suitable observation settings without manual adjustment. The aperture and field diaphragm or condenser is automatically adjusted when the magnification is changed.

Ni-U is suitable for many observations, from clinical examination to research, and featuring motorized accessories that include nosepiece, fluorescence attachment, and shutter.

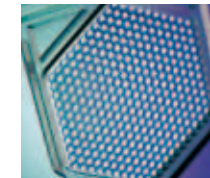


Motorized model with automatic observation switching



● **Fly-eye optics**

The fly-eye optics built into the transmitted-light illumination system provides bright and uniform illumination across the entire field of view.



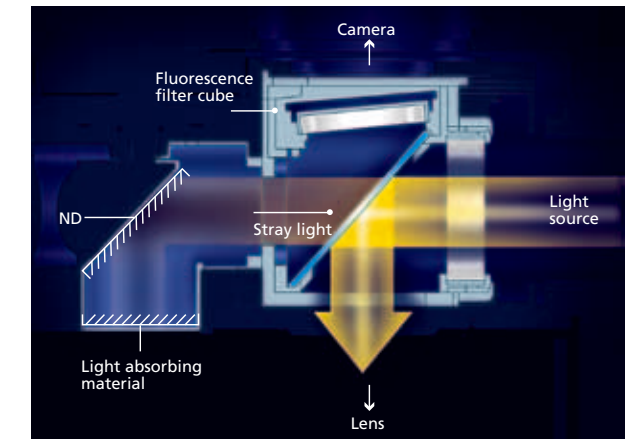
● **Superior optical performance**

Nikon offers high quality optical technologies such as exclusive low-reflective Nano Crystal Coat to produce objective lenses. The CFI Plan Apo Chromat λ series objective lenses offer remarkably high transmission and superior chromatic aberration correction throughout a broad range of wavelengths and are suitable for near-IR observation.

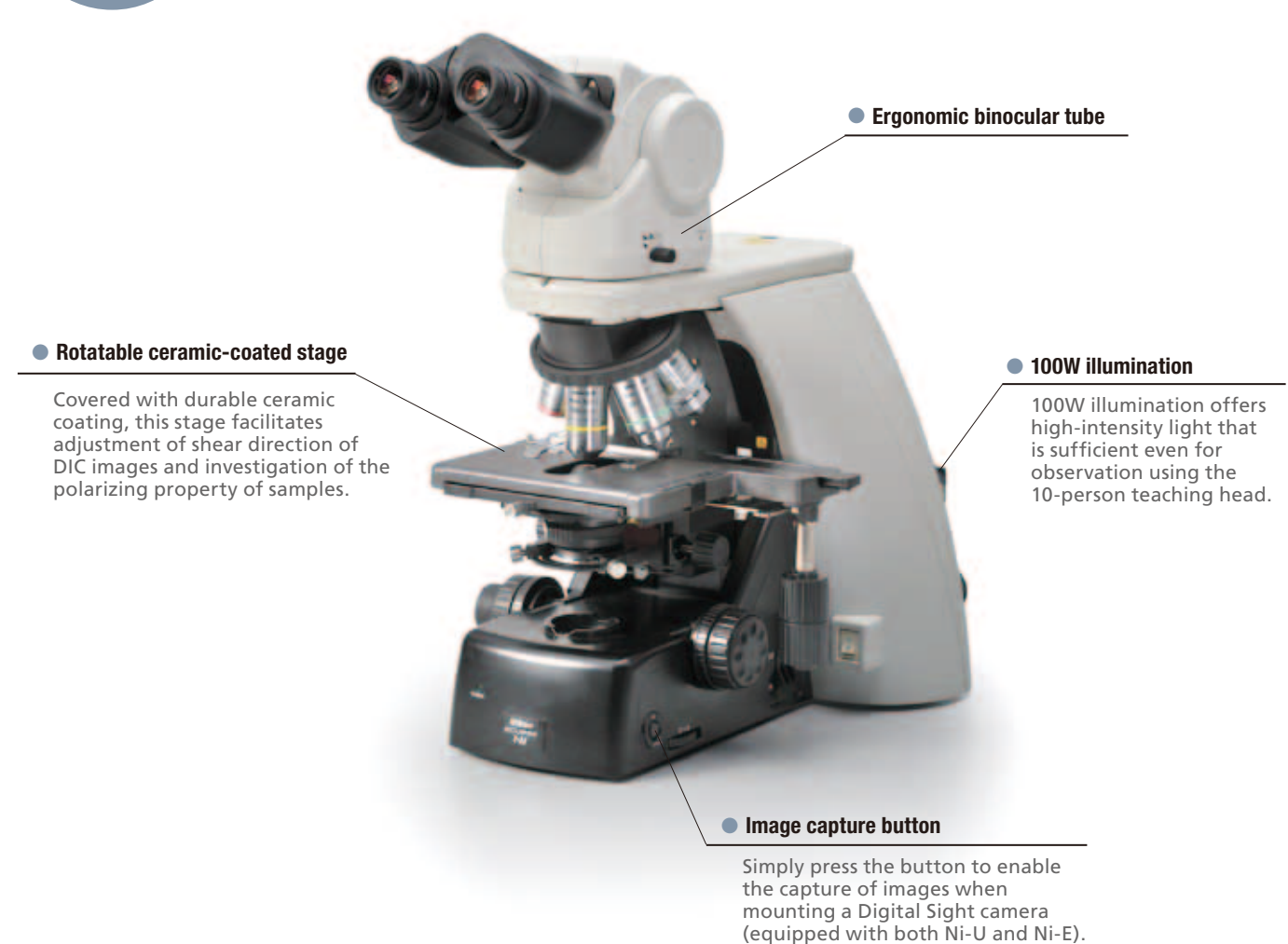


● **Noise terminator**

The noise terminator mechanism is equipped with fluorescent filter cubes and turrets that eliminate stray light, and enables you to capture high contrast fluorescence images with a high S/N ratio.

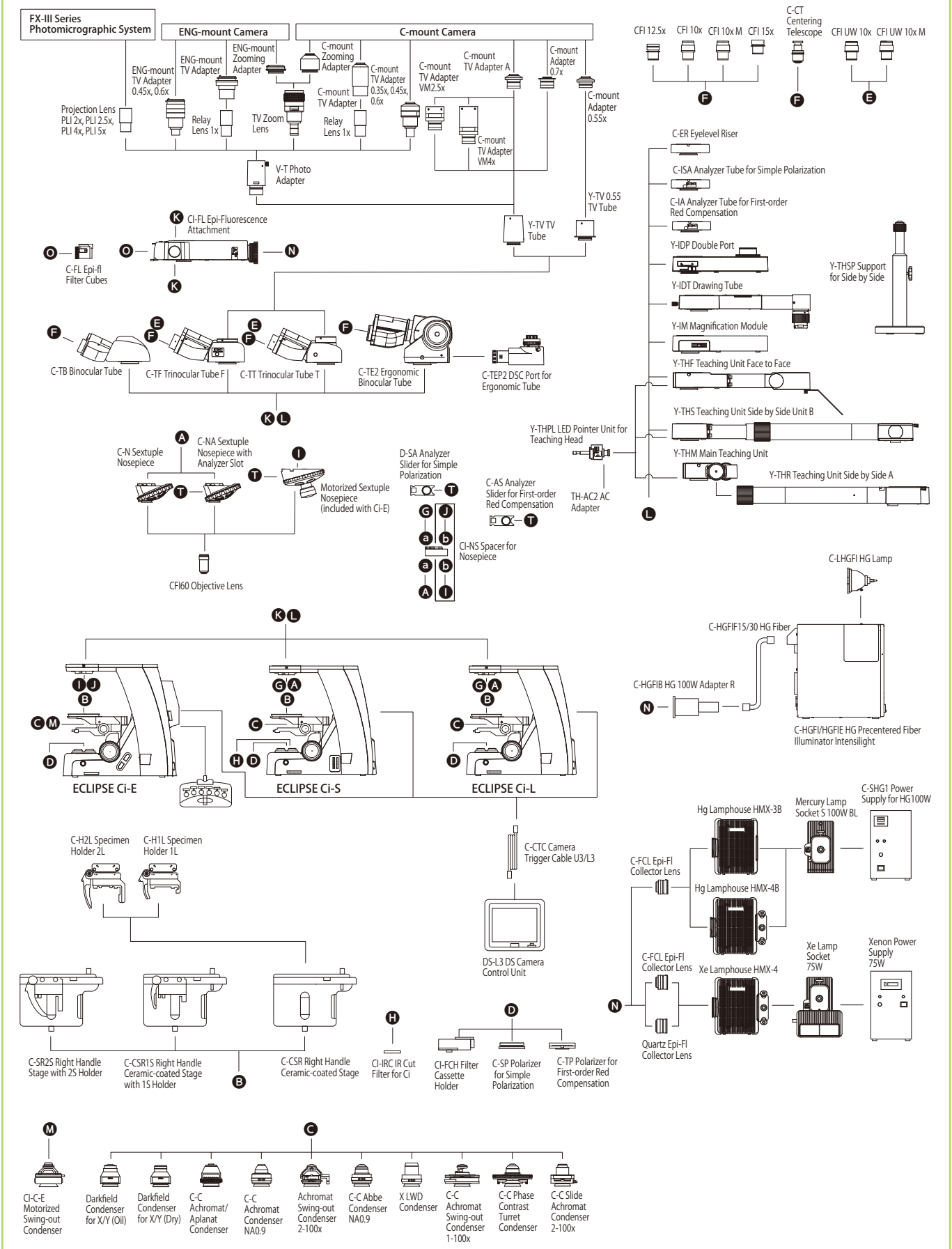


Manual model with motorization capability





# Ci System Diagram

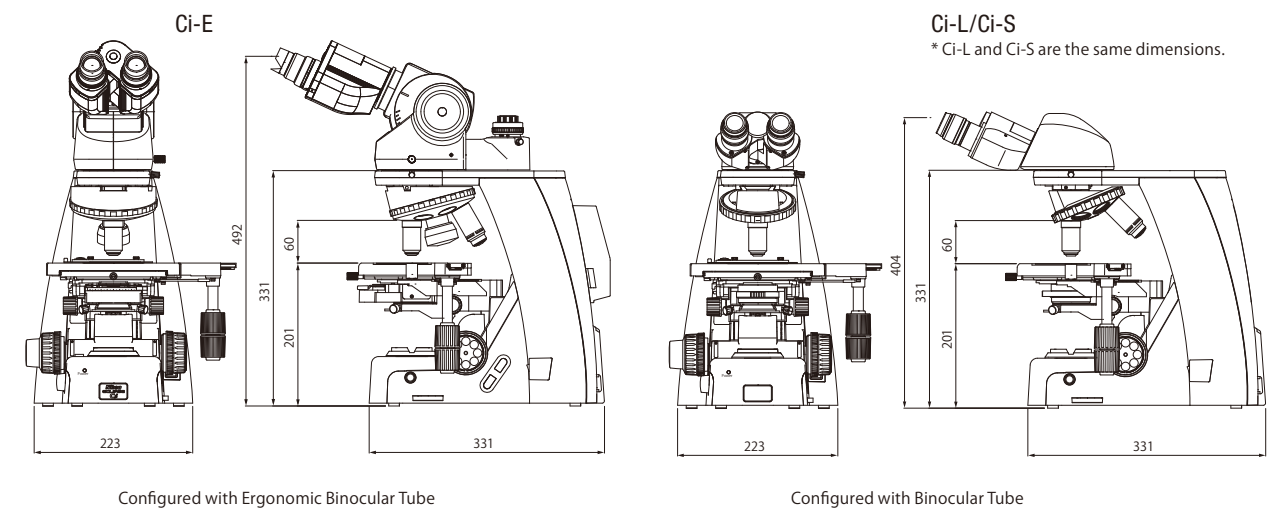


# Specifications

		Ci-E	Ci-L	Ci-S
Main body	Optical system	CFI60 Infinity Optical System		
	Illumination	High luminescent White LED Illuminator (Eco-illumination)		6V30W Halogen Lamp Built-in ND4, ND8, NCB11 filters
		Automatic intensity reproduction function		—
	Controls	Image capture button		
Nosepiece rotating buttons Remote control pad		—	ND filter IN/OUT switches	
Eyepieces (F.O.V. mm)	· CFI 10× (22) · CFI 10×M photomask (22) · CFI 12.5× (16) · CFI 15× (14.5) · CFI UW 10× (25) · CFI UW 10×M photomask (25)			
	Focusing	Coaxial Coarse/Fine focusing, 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) 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-N Sextuple Nosepiece · C-NA 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-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 or C-H1L Specimen Holder 1L can be attached)		
Condensers	Motorized	· CI-C-E Motorized Swing-out Condenser Focusing stroke: 27 mm		—
	Manual	Focusing stroke: 27 mm · C-C Abbe Condenser NA 0.9 · C-C Achromat Condenser NA 0.9 · Darkfield Condenser for X/Y (oil or dry) · C-C Phase Contrast Turret Condenser · C-C Achromat/Aplanat Condenser NA 1.4 · C-C Slide Achromat Condenser 2-100× · C-C Achromat Swing-out Condenser 1-100× · Achromat Swing-out Condenser 2-100× · X LWD Condenser		
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, ND4/ND8/ND16 filters, Noise Terminator mechanism for Ci		
Epi-fluorescence light source		· C-HGFI/HGFIE HG Precentered Fiber Illuminator Intensilight (130W) · Hg Lamphouse and Power Supply (100W) · Xe Lamphouse and Power Supply (75W)		
Power consumption		13W (Brightfield configuration)	6W (Brightfield configuration)	38W (Brightfield configuration)
Weight (approx.)		15.4 kg (Binocular standard set)	13.4 kg (Binocular standard set)	13.4 kg (Binocular standard set)

\*Observations except Brightfield require optional accessories.

# Dimensional Diagram







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\*Products: Hardware and its technical information (including software)  
Monitor images are simulated.

Specifications and equipment are subject to change without any notice or obligation on the part of the manufacturer. November 2011 ©2011 NIKON CORPORATION

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



**NIKON CORPORATION**

Shin-Yurakucho Bldg., 12-1, Yurakucho 1-chome, Chiyoda-ku, Tokyo 100-8331, Japan  
phone: +81-3-3216-2375 fax: +81-3-3216-2385  
<http://www.nikon.com/instruments/>

**NIKON INSTRUMENTS INC.**

1300 Walt Whitman Road, Melville, N.Y. 11747-3064, U.S.A.  
phone: +1-631-547-8500; +1-800-52-NIKON (within the U.S.A. only)  
fax: +1-631-547-0306  
<http://www.nikoninstruments.com/>

**NIKON INSTRUMENTS EUROPE B.V.**

Laan van Kronenburg 2, 1183 AS Amstelveen, The Netherlands  
phone: +31-20-44-96-300 fax: +31-20-44-96-298  
<http://www.nikoninstruments.eu/>

**NIKON INSTRUMENTS (SHANGHAI) CO., LTD.**

CHINA phone: +86-21-6841-2050 fax: +86-21-6841-2060  
(Beijing branch) phone: +86-10-5831-2028 fax: +86-10-5831-2026  
(Guangzhou branch) phone: +86-20-3882-0552 fax: +86-20-3882-0580

**NIKON SINGAPORE PTE LTD**

SINGAPORE phone: +65-6559-3618 fax: +65-6559-3668

**NIKON MALAYSIA SDN. BHD.**

MALAYSIA phone: +60-3-7809-3688 fax: +60-3-7809-3633

**NIKON INSTRUMENTS KOREA CO., LTD.**

KOREA phone: +82-2-2186-8400 fax: +82-2-555-4415

**NIKON CANADA INC.**

CANADA phone: +1-905-602-9676 fax: +1-905-602-9953

**NIKON FRANCE S.A.S.**

FRANCE phone: +33-1-4516-45-16 fax: +33-1-4516-45-55

**NIKON GMBH**

GERMANY phone: +49-211-941-42-20 fax: +49-211-941-43-22

**NIKON INSTRUMENTS S.p.A.**

ITALY phone: +39-055-300-96-01 fax: +39-055-30-09-93

**NIKON AG**

SWITZERLAND phone: +41-43-277-28-67 fax: +41-43-277-28-61

**NIKON UK LTD.**

UNITED KINGDOM phone: +44-208-247-1717 fax: +44-208-541-4584

**NIKON GMBH AUSTRIA**

AUSTRIA phone: +43-1-972-6111-00 fax: +43-1-972-6111-40

**NIKON BELUX**

BELGIUM phone: +32-2-705-56-65 fax: +32-2-726-66-45



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