ECLIPSE Ni/Ci
Upright Microscope for Research
See the evolution

The ECLIPSE Ni series, the ultimate in upright biological microscope evolution, supports bioscience studies with enhanced basic performance and flexible system expandability. The CFI Plan Apochromat Lambda series objectives are the key to the series’ optical performance. Nano Crystal Coat, with its ultra low refractive index, is employed for the first time in microscope objectives, providing brighter, high-resolution and high-contrast microscopy images. Nikon’s proprietary stratum structure allows various combinations of additional components to be installed. Applications using laser and fluorescent proteins, such as Kaede and PA-GFP, are possible with the addition of a two-tiered fluorescent unit and a photoactivation unit. The Ni series transcends the concept of conventional upright microscopes and expands the possibilities of advanced research in fields such as bioscience and medicine. The ECLIPSE Ci series is a compact research microscope which has highly functional and user-friendly features. Nikon provides a wide variety of research microscopes, including for shared use at research facilities and for personal use at laboratories.

System expandability
- Nikon’s proprietary stratum structure enables efficient system construction.
- The numerous accessories can be custom combined depending upon application.

Optical performance
- CFI Plan Apochromat Lambda objectives with chromatic aberration correction and high transmission throughout a broad range of wavelengths.
- Objectives with improved transmission in near IR wavelength range for multiphoton excitation imaging.

Design
- 3D ergo design combines functionality with sophistication.

Operability
- Ni-E: Motorized model with automatic change of observation conditions and adjustment of microscope accessories.
- Ni-U: Manual model with some motorized options.
- Most microscope controls can be operated with easy-to-reach buttons on the front of the Ni-E.
Expandable system broadens application possibilities

Multi-color fluorescent imaging (Ni-E)
Demand for multi-color fluorescent imaging that uses newly developed fluorescent proteins and fluorescent reagents is constantly increasing. Nikon meets such needs with diverse functions and optical technologies.

- **High-speed motorized components**
  The higher speeds of the motorized excitation and barrier filter wheel and the motorized shutter enable quick wavelength changes, reducing photobleaching of the specimen. It can be operated via easily accessible control buttons, increasing operation efficiency.

- **CFI Plan Apochromat Lambda series objectives**
  Transmission and chromatic aberration correction have been improved throughout the wide range of visible to near-IR wavelengths, allowing use of various fluorescent reagents. They provide bright, high-contrast, high S/N (signal-to-noise) ratio multi-color fluorescence images with almost no focus shift when used with any wavelength.

Photoactivation imaging (Ni-E/Ni-U)
Research into the reactions and changes of stimulated cells has become popular in recent years. Nikon has developed a photoactivation unit for upright microscopes, a first in microscopy.

- **Flexible stratum structure**
  This structure allows two-layer mounting of a photoactivation unit with an epi-fluorescence attachment.

- **Objectives for long-wavelength laser**
  With CFI Plan Apochromat Lambda objectives, chromatic aberration has been corrected up to 850 nm and transmission improved in the long-wavelength range, increasing accuracy and efficiency of laser excitation at target site.
Simultaneous multichannel imaging (Ni-E/Ni-U)
The Ni’s back port and the quadrocular tilting tube allow the user to acquire simultaneous, two-channel images on separate cameras. This feature is invaluable for applications such as FRET.

Multiphoton imaging (Ni-E)
Multiphoton microscopy in which long excitation wavelengths are used to allow less-invasive imaging of ever deeper areas of cells is gaining popularity. The design of the Ni-E model is optimized for multiphoton imaging in both optical and mechanical systems to meet the demands of today.

- Objective dedicated to multiphoton imaging
  CFI75 Apochromat 25XC W objective features chromatic aberration correction over a broad wavelength range from 405 to 950 nm, high NA (1.10) and longer working distance (2.0 mm), and compatibility with water immersion and water dipping.

- High-sensitivity multiphoton detector (NDD)
  This episcopic NDD (non-descanned detector) unit incorporates a detector that efficiently senses weak signals from deep areas of live specimens. In combination with a diascopic NDD unit, transmitted signals can also be detected.

- Retrofittable focusing nosepiece mechanism
  Microscopes can be modified by switching the focusing stage and focusing nosepiece, enabling fixed-stage configuration to meet demands of experiments such as in vivo imaging.

Simultaneous imaging with two cameras
The Ni’s flexible stratum structure enables incorporation of a back camera port unit, allowing simultaneous image acquisition of two different wavelengths with two different cameras mounted on the back port unit and the quadrocular tilting tube. This enables the capture of high-resolution images in the entire frame for each wavelength without dividing the CCD chip. The use of individual cameras for acquisition allows the user to tailor acquisition parameters for each channel independently, allowing acquisition of high-sensitivity FRET images.

In vivo imaging

Two-photon imaging

Photo activation
Versatile microscopes meet all demands

Manual and motorized models

To meet diverse user demands for operability, system expandability and motorized control, Nikon provides two Ni series models. The Ni-U, which has compatibility with some motorized accessories, is the manual model suitable for high-quality image observation and digital imaging. The Ni-E is a fully motorized model that is efficient for experiments requiring comprehensive control of various devices, such as photoactivation units and confocal systems.

Ni-U (manual model)

- Ergonomic tube and stage handle height adjustment mechanism allow comfortable viewing positions.
- Stratum structure and sturdy design improve expandability.
- Motorized nosepiece, motorized epi-fluorescence cube turret, motorized shutter can be utilized.

Ni-E (motorized model)

- High-precision motorized focusing
- Broad range of motorized accessories that can be used in combination.
- Observation conditions can be changed at a simple push of a button.
- Stratum structure and sturdy design improve expandability.
- 3D ergo design buttons with improved operability are located close together for speedy operations.
- Microscope settings in use can be verified on the display.
- Optimized for multiphoton excitation imaging
- Two focusing mechanism options: focusing stage and focusing nosepiece

Automatic adjustment with objective changeover

Condenser, aperture and field diaphragm, and ND filter are automatically set to the optimal position during objective changeover. In addition, stage XYZ travel amount per handle rotation and parfocal distance deviation correction are automatically adjusted. Microscope settings can also be manually adjusted.

Change of observation conditions

Selected observation conditions can be designated to individual buttons, enabling changes to be made at the push of a button. This is particularly convenient when reproducing specific observation conditions.

High-precision motorized focusing

High-precision Z-focus incorporated by the Ni-E provides accurate Z-position information required for use with confocal laser microscopes. Individual coarse and fine focus knobs provide enhanced ease of operation.
Nano Crystal Coat

This anti-reflective coating that consists of 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.

Supreme optical performance

As a light microscope manufacturer, Nikon has cultivated high technical capabilities and confidence. With its advanced technologies extending from optical glass production to lens design, fabrication, coating and processing, Nikon provides unsurpassed optical performance.

High-performance objective lens

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 435 to 850 nm, these objectives are ideally suited not only for brightfield and DIC observations but also for fluorescent observations. These lenses allow acquisition of bright and clear images at any wavelength for near-IR imaging and multi-color fluorescence imaging. Because bright images can be captured even with a weak excitation light, damage to a specimen is minimized.

Water dipping objective lenses

With a long working distance and high NA, these objectives provide excellent transmission in near IR wavelength range. The axial chromatic aberration of 40X and 60X objectives has been corrected to up to 850 nm, allowing high-resolution images of minute structures in thick specimens during IR-DIC observation. The 25XC W and 100X objectives feature high NA (1.1) and a long working distance (2.0 mm). With chromatic aberration corrected in the IR region, these objectives are ideal for multiphoton excitation observation. In addition, by employing a mechanism to compensate for the changes in spherical aberration that occur at different temperatures and depths of observation points, clear images of areas deep within a thick specimen can be captured.

Uniformly bright illumination

The “fly-eye” lens is ideally suited to diascopic illumination optical system. Uniform and bright illumination up to the viewfield periphery is provided at any magnification.

Fluorescence noise elimination

Nikon’s proprietary noise terminator mechanism is employed in the epi-fluorescence cube turret and filter cubes. The S/N ratio has been dramatically improved by thoroughly eliminating stray light in the filter cubes, allowing images of weak fluorescent signals to be captured with high contrast and brightness.

Excellent image acquisition with all observation methods

Epi-fluorescence observation

DIC (Differential Interference Contrary) observation

Phase contrast observation

Brightfield observation
Ultimate ease, speed and clarity in imaging

The Ni series can be controlled in conjunction with a Digital Sight series digital camera, facilitating effortless digital imaging. Images can be captured with a dedicated button on the microscope body. Camera control from the software GUI on a PC and the touchscreen on a tablet PC is also possible.

Image capture button
Images can be acquired by simply pressing the image capture button located on the microscope base.

Digital cameras for microscopes
The optimal camera for your specific imaging needs can be selected from the Digital Sight series of cameras, which offers various features such as high sensitivity, high resolution, high speed image acquisition, color reproducibility and a cooling system.

F-mount cameras

Microscope Camera
DS-Ri2
This 16.25-megapixel, high-definition camera is equipped with a Nikon FX-format CMOS sensor. The high frame rate of up to 45 fps (1636 x 1088 pixels) enables fast focusing. The image processing engine allows accurate color reproduction of microscopy images. Color fluorescent images can be clearly captured with its low-noise design.

C-mount camera

Microscope Camera
DS-Fi3
Equipped with a 5.9 megapixel CMOS image sensor. It provides high-definition imaging up to 2880 x 2048 pixels and up to 30 fps of fast imaging. With superior color reproduction and high sensitivity, images that are faithful to samples can be acquired during various observation methods, such as brightfield, DIC, phase contrast and epi-fluorescence.

Monochrome Microscope Camera
DS-Qi2
Equipped with monochrome CMOS sensor (16.25 megapixels). High-speed image capture of up to 45 fps (1636 x 1088 pixels). High sensitivity and superb S/N ratio design. Moreover, mounting a Peltier cooling device provides bright fluorescent images. Reliable quantitative analysis with excellent linearity.

NIS-Elements imaging software
Various packages are available to suit the user’s imaging applications, including NIS-Elements L, which allows easy image acquisition, and NIS-Elements Ar, Br, and D, which enable advanced image acquisition through integrated control between a camera and microscope.

NIS-Elements L imaging software
NIS-Elements L imaging software, featuring simple and user-friendly GUI, allows easy camera setting and image capturing using DS-Ri2 and DS-Fi3 microscope cameras. Enables image/movie acquisition and storage using a tablet PC*, facilitating effective sharing of images and presentations. Also supports touch screen operation.

*Nikon provides certified compatible tablet PCs with up-to-date specifications. Contact Nikon for details.

Scene modes
The scene modes function enables the optimal camera setting for each sample and imaging technique by simply choosing the type of illumination or stain.

Split-screen display
The split-screen display function enables real-time comparisons between live and captured images by displaying them side-by-side and synchronizing zooming between both images.

Measurement
Simple measurement functions, such as distance measurement between two points, area measurement and angle measurement, are available.

NIS-Elements Ar, Br, D
The NIS-Elements Ar, Br and D packages seamlessly integrate cameras, peripheral devices, and the motorized functions and accessories of Ni, serving as a powerful yet easy-to-use interface for complex imaging experiments.

NIS-Elements D allows time-lapse, Z-series and multi-point acquisition, while Ar allows multi-dimensional image acquisition of up to 6D (x, y, z, t, multichannel and multipoint) and Br allows up to 4D. Powerful tools for quick processing, measurement and acquired data management provide a one-step solution for acquisition and analysis.

Image stitching (large image)
Merge channels
Histogram
High-resolution confocal imaging systems

Combining the Ni-E’s high-precision Z-focus mechanism with a confocal scanner allows high-resolution, high-S/N-ratio imaging of 3D structures of organs and cells. The Ni-E can be configured with either a focusing stage or a focusing nosepiece, catering to specific imaging requirements. Nikon offers a wide range of confocal systems that can accommodate various needs.

Confocal microscope A1 HD25/A1R HD25
A1 HD25 incorporates a high-definition (up to 4096 x 4096 pixels) non-resonant scanner, in addition to the non-resonant scanner, enabling true simultaneous photoactivation and imaging.

Multiphoton confocal microscope A1 MP*/A1R MP*
A1 MP*/A1R MP* is high-speed (up to 420 fps) imaging capability. A combination of episcopic and diascopic GaAsP NDDs allow more efficient acquisition of emission signals. Simultaneous excitation imaging using dual beam 1300nm-compatible IR lasers is possible.

Confocal microscope C2+
C2+ features a compact design and high functionality. The C2+ allows users to acquire simultaneous 3-channel and diascopic DIC images and provides powerful imaging modalities, such as large-image stitching.

Wide array of accessories finely segmented by function

Motorized quadrangular lifting tube (Ni-E)
Motorized changeover of optical paths is possible. Eyepiece inclination can be adjusted from 10° to 35°.

Motorized DIC zooming port (Ni-E)
A digital camera can be mounted on the camera port. A motorized 0.6X – 2.0X zoom optical system is incorporated.

Motorized ND filter (Ni-E)
Brightness is automatically optimized with the changeover of the motorized nosepiece. Motorized adjustment of demagnification is also possible.

Joystick for motorized stage (Ni-E)
Makes control of motorized XY stage possible.

Ergo controller (Ni-E)
In addition to motorized microscope operation, XY control of stage is possible with similar operational ease as that of an actual microscope.

Motorized universal condenser Dry (Ni-E)
High-speed motorized changeover of condenser modules for brightfield, phase contrast, DIC and simple darkfield observations is possible.

Motorized barrier filter wheel (Ni-E)
Barrier filter positions (7 positions—using 25 mm filters) can be changed at a high speed of 0.2 sec. Between adjacent positions.

Motorized excitation filter wheel (Ni-E)
Excitation filter positions (8 positions—using 25mm filters) can be changed at a high speed of 0.15 sec. Between adjacent positions.

Motorized DIC sextuple nosepiece (Ni-E, Ni-U)
Objective magnification is automatically saved along with the captured image. Built-in prism/analyzer plate slot.

Photoactivation unit (Ni-E, Ni-U)
Laser light photoactivation and episcopic illumination are possible. Both the photoactivation unit and the vertical system can be used with a simple laser source.

Back port unit (Ni-E, Ni-U)
Enables simultaneous acquisition of images with two different wavelengths using two cameras. Dedicated cubes are optional.

Motorized shutter (Ni-E, Ni-U)
High-speed shutter control is possible. The shutter can be attached to diascopic and episcopic illumination systems.

Simple remote control pad (Ni-U)
Motorized operation of nosepiece, epifluorescence cube turret and shutter is possible.

LU-N4/N4S 4-laser unit/
LU-N3 3-laser unit
LU-N4/N4S is equipped with four lasers (405 nm, 488 nm, 561 nm, and 640 nm), while the LU-N3 has three lasers (405 nm, 488 nm, and 561 nm). The LU-N4 is compatible with spectral imaging.

Motorized epi-fluorescence cube turret (Ni-E, Ni-U)
Nineteen wavelengths provide high S/N ratio. Six filter cubes can be installed. Either an epifluorescence attachment or a photomultiplier unit can be attached.

Motorized shutter (Ni-E, Ni-U)
High-speed shutter control is possible. The shutter can be attached to diascopic and episcopic illumination systems.

Sample courtesy of: Dr. Mike Davidson, National High Magnetic Field Laboratory, Florida State University

Time-lapse images were taken with the A1R (resonant scanner). The color change indicates changes in the level of FRET. The cell was exposed to ionomycin to raise intracellular calcium and induce FRET.

A1 HD25 incorporates a high-definition (up to 4096 x 4096 pixels) non-resonant scanner, in addition to the non-resonant scanner, enabling true simultaneous photoactivation and imaging.

Laboratory, Florida State University

Simultaneous photoactivation and imaging.
Feel the evolution

Nikon has drawn on its proven optics and mechanical design technologies to develop the compact and high-performance ECLIPSE Ci series research microscope. Ci-E/Ci-L adopts Nikon’s unique, high-intensity LED as the light source for diascopic observation. 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. With its high-optical performance and advanced easy control, the ECLIPSE Ci series supports research using a broad range of illumination techniques including phase contrast, darkfield and simple polarizing.

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.

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.
  * See page 10.

・ 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.
Unparalleled basic performance

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.

Motorized model Ci-E

- **Versatile diascopic observation techniques**
  - **Phase contrast**
    - 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 high-quality 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.
  - **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 high-quality 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.
  - **Simple polarizing**
    - This is ideal for observing bio-infrangible samples such as collagen, amyloids and crystals.

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

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

Versatile diascopic observation techniques

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

- **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 high-quality 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.

- **Simple polarizing**
  - This is ideal for observing bio-infrangible samples such as collagen, amyloids and crystals.

Note 1. Objective lens
- The nosepiece can be rotated with one-touch button control. In addition, your two favorite objectives can be registered*, and one press of the button alternates between these two magnifications can be registered*, and one press of the button alternates between these two magnifications can be registered*, and one press of the button alternates between these two magnifications can be registered*, and one press of the button alternates between these two magnifications can be registered*, and one press of the button alternates between these two magnifications can be registered*, and one press of the button alternates between these two magnifications can be registered*, and one press of the button alternates between these two magnifications can be registered*, and one press of the button alternates between these two magnifications can be registered*, and one press of the button alternates between these two magnifications can be registered*. * Using the remote control pad.

Note 2. Cover glass thickness
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Note 3. Dielectric mirror
- Unparalleled basic performance Objectives for Ni/Ci
  - Objectives for Ni/Ci
    - Phase contrast
      - 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.
Epi-fluorescence light sources for Ni/Ci

**Epi-FL LED illuminator**

The LED illuminator ensures stable and quantitative brightness of illumination and operational simplicity. It is particularly suited to long periods of fluorescence time-lapse imaging.

### Stable light intensity

Stable illumination brightness ensures quantitative and reliable fluorescence intensity measurement. The LED illuminator ensures minimal output fluctuation of less than 0.1% in 100 Hz (10 ms). In addition, it maintains output fluctuation at below 3% even when the illuminator is switched on and off intermittently over 72 hours of time-lapse observation.

### Zero warm-up time

The illuminator requires zero warm-up time and enables observation immediately after it is switched on. Thus it can even be employed only when capturing images during time-lapse imaging, thereby eliminating the need for fluorescence shutters.

### Wavelength intensity control

Turning the illuminator on and off and changing wavelengths in synchronization with image acquisition is possible with NIS-Elements imaging software.

### Maintenance free

An LED has a minimum lifespan of 10,000 hours, eliminating the need for frequent lamp replacement.

### Alignment free

The LED and dichroic units do not need to be aligned each time they are changed over. Furthermore, the Epi-FL LED illuminator is connected to the microscope fluorescent attachment using a dedicated optical fiber cable, eliminating the need to center the light source.

### Control with NIS-Elements software

Turning the illuminator on and off and changing wavelengths in synchronization with image acquisition is possible with NIS-Elements imaging software.

### Maintenance free

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### Alignment free

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### Specifications

<table>
<thead>
<tr>
<th>LED unit</th>
<th>7 types, up to 4 units can be assembled (See table below)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dichroic mirror unit</td>
<td>5 types, up to 3 units can be assembled (405/455/470 nm)</td>
</tr>
<tr>
<td>Fibers</td>
<td>Two types (1.5 m or 3.0 m)</td>
</tr>
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### Shutter and light intensity control

There are six levels of light intensity to choose from depending on the specimen. The shutter allows light to the specimen to be easily shut off without the power being turned off. Therefore, photobleaching can be reduced to a minimum when observing multi-stained specimens.

### DC lighting for constant light intensity

As DC (direct current) lighting is less influenced by frequency than AC (alternating current) lighting, DC provides constant, nonfluctuating light.

### Motorized model C-HGFIE available

The light intensity and shutter can be controlled from an optional dedicated remote controller or a PC that incorporates Nikon’s NIS-Elements imaging software. The light intensity and shutter can be programmed for each application and controlled in conjunction with the microscope and peripheral equipment. This enables automatic control during excitation-light changeover and observation of multi-stained specimens.

### Specifications

- **LED unit**
  - 7 types, up to 4 units can be assembled (See table below)
- **Dichroic mirror unit**
  - 5 types, up to 3 units can be assembled (405/455/470 nm)
- **Fibers**
  - Two types (1.5 m or 3.0 m)
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### Lamp

- **Lamp type**
  - Ultrahigh pressure 110 W mercury lamp
- **Lamp life**
  - Average 2000 hours
- **Specifications**
  - 110 W (light intensity) 1 (100%), 3 (40%), 5 (25%), 8 (12%), 9 (6%), 32 (3%)
Ni Specifications

**Main body**
- **Optical system**
  - CFP8 infinity optical system
  - CFP7 and CFP5 infinity optical systems
  - CFP6 infinity optical system
- **Focusing (Substage focal point)**
  - Motorized stage up/down movement
  - Motorized stage up/down movement (up 12 mm/down 12 mm)
- **Illumination**
  - Motorized illumination (up 3 mm/down 3 mm)
- **Ports**
  - F.O.V. 25 mm
  - F.O.V. 22 mm
- **Substage**
  - C-TEP2 Ergonomic Binocular Tube (100/0, 50/50 with C-TEP2 DSC Port or C-TEP3 DSC Port C-0.55X)
  - C-TEB Binocular Tube
  - CFI 15X (14.5)
  - CFI UW10X (25)
- **Controls**
  - Illumination
  - Focusing
  - Image capture button
  - Transmitted light on/off switch, intensity control dial with preset function
  - ND2 filter (option)
  - Built-in fly-eye lens
  - Halogen lamp (12V100W)
  - Motorized escape and refocus mechanism (Up 2 mm/Down 13 mm)
- **Substage**
  - LV-NBD5 BD Quintuple Nosepiece ESD
  - LV-NU5 Universal Quintuple Nosepiece
  - C-N6 ESD Sextuple Nosepiece ESD
  - FN-MN-H CFI 75 Holder
  - FN-MN-H2 CFI 90 Holder
  - FN-S2N 2 Place Sliding Nosepiece
  - NI-SSR Substage
  - NI-SS Substage (for Non-rotatable)
  - NI-PAU Ni Photoactivation Unit (405 nm to 650 nm lasers)
  - NI-FLT6-I Intelligent Epi-fluorescence Cube Turret
  - NI-SS Substage for Fluorescence Imaging (for 16W condenser and Ni-U/Ni-U standard Motors)
  - NI-SAM Standard Arm
  - NI-U-CAM Contact Arm (for Motorized/intelligent options)
  - NI-SAM Standard Arm
  - NI-SH-E Motorized Shutter
  - Built-in linear encoder, Resolution: 0.025 μm
  - Cross travel 78(X) x 54(Y) mm
  - Cross travel 30(X) x 30(Y) mm
  - 0.012 sec between open and close state
  - 0.02 sec between open and close state

**Ni-E (for use with focusing nosepiece)**

**Ni-U (with an epi-fluorescence cube turret and quadrangular titling tube)**

**Ni-U (with an ergonomic binocular tube and DSC port)**
System diagram: Ni-E focusing nosepiece type
System diagram: Ni-U
**Ci Specifications**

**Main Body**
- **Optical System**: CI-60 Infinity Optical System

**Illumination**
- High intensity white LED Illuminator (Eco-illumination)
- Automatic intensity reproduction function

**Controls**
- Height capture button
- Nosepiece rotating button
- Remote control pad

**Eye Pieces**
- (F.O.V. mm)
  - C1 10X (22) - C1-12.5X (16) - C1 15X (14.5)
  - C1 10X (22)

**Focusing**
- Coarse Coaxial: 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-TF Binocular Tube
  - C-TF11 Epi-fluorescence Binocular Tube (100/0, 100/0 wa optional C-TEP2 DSC Port or C-TEPF2 S DSC Port 12.5X)

**Condensers**
- Cross turret (10° - 40°, Extension: up to 40 mm)
- Epi-fluorescence Attachment (6 filter cubes mountable)

**Stages**
- Cross turret (10° - 40°, Extension: up to 40 mm)
- C-SR2S Right Handle Stage with 2S Holder
- C-H1C Double Arm Specimen Holder is available as an option for the below three stages.
- Switching between two objectives function
- Motorized Sextuple Nosepiece with Analyzer

**Accessories**
- C-N6 ESD Sextuple Nosepiece ESD
- D-FL Epi-fluorescence Attachment (6 filter cubes mountable)
- N54 ESD Epi-fluorescence Attachment (6 filter cubes mountable)

**Power Consumption**
- 13W (Brightfield configuration)
- 6W (Brightfield configuration)

**Weight (approx.)**
- 13.4 kg (Binocular standard set)
- 13.4 kg (Binocular standard set)

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**Ci Dimensional Diagram**

**Ci System Diagram**