ECLIPSE Si Upright Microscope





Shedding New Light On **MICROSCOPY** 

# Pursuing stress-free ease of use

We wanted to design a microscope that would eliminate fatigue incurred by frequent specimen exchanges and provide a more comfortable user experience. The ECLIPSE Si combines innovative features and intelligent design to minimize unnecessary body movements, saving time and reducing strain on the user even when examining a large number of slides.

#### Adjusting focus and moving the stage with one hand

The coarse and fine focus knobs are located on both sides of the microscope, making it possible to focus with either hand. In addition, the stage handle is positioned close to the focus knob, allowing users to easily adjust both the stage position and focus with the same hand. With the stage movement and focus controlled by the same hand, the other hand can be dedicated to rotating the nosepiece or replacing the slides. These features provide an efficient workflow even when examining a large number of specimen slides.

# Coarse focus knob

#### **Status display**

The illumination brightness is shown in a bar graph on the LCD. You can check the magnification at a glance while maintaining your observation posture.



ECO mode: ONLIM function: ONBrightness state

Objective nameMagnification



Knob rotation direction

The direction of rotation of the focus and

display



Coarse/fine focus and stage movement can be operated with one hand

## No hesitation in choosing a knob to operate

The icon of the stage movement knob to be operated is illustrated on the travel scale of the specimen in the forward-backward and right-left directions.



#### **Changing magnifications comfortably**

The reversed-type nosepiece provides easy access and visibility to the objective lens in use. The position of the nosepiece is low to reduce strain on the arm when frequent magnification changes are required. The nosepiece features an easy grip for smooth rotation, and accommodates up to five objective lenses to provide a wide range of magnifications.



Easy-to-rotate quintuple nosepiece



# Superior Optics for High Quality Images

Nikon's advanced optical technologies, culminating from a long tradition as a microscope manufacturer, play a vital role in the ECLIPSE Si. The ability to fulfill the need for accurate observation of specimens is a source of pride for us.



## Excellent image flatness and chromatic aberration correction

The ECLIPSE Si employs CFI E Plan series objectives, which feature flat, sharp images up to the periphery of the field of view. These objectives are part of the CFI60 infinity-corrected optical system,

which achieves both high resolution and long working distances. A wide variety of Nikon CFI60 objectives are available.



CFI E Plan series objectives

#### **Observation with FOV of 22mm**

The ECLIPSE Si can enhance the efficiency of clinical observations when equipped with FOV22 tubes\* and lenses that enable a large 22mm field of view. \*C-TB, C-TF, C-TT and C-TE2 tubes



## Long-life LED with constant color temperature

The high-intensity, white LED light source, features a long life of up to 60,000 hours. Since the color temperature remains constant even when the brightness is changed, the color of the image does not change when changing magnifications.



## Uniform brightness up to the periphery of the field of view

The illumination system features an integrated fly-eye lens which provides uniform brightness over the entire field of view.





#### Blocking light from outside the field of view

The ECLIPSE Si is equipped with a field diaphragm that can be used to limit the illumination range for optimal observation and image acquisition. Adjusting the field diaphragm suppresses the occurrence of flare and ghosting, enabling high contrast image observation. During fluorescence observation, the range of photobleaching of specimens can also be limited.



Turn the field diaphragm dial until the illumination range is circumscribed to the field of view.



## **Compatible with a Wide** Variety of Observation **Methods**

Using optional accessories, the ECLIPSE Si allows for a wide variety of observation methods in addition to bright-field.

#### **Bright-field observation**

High-guality images can be acquired with bright, uniform illumination over the entire field of view, using objectives with superior image flatness and excellent chromatic aberration correction.





#### Phase contrast observation

By inserting a phase contrast slider into the condenser slot and attaching a GIF filter to the field lens, colorless and transparent specimens can be observed with high contrast without staining or labeling with dyes. 10X/20X/40X/100X phase contrast objectives are available.



hase contrast sliders Centering telescope





#### Dark-field observation

By inserting a slider for dark-field microscopy into the condenser slot and using oblique illumination, light scattered by specimens can be visualized. This method is effective for observation of unstained specimens such as live bacteria and examination of colloidal



#### Simple polarizing observation

By attaching a polarizer to the field lens and an analyzer to the eyepiece tube mount, simple polarizing observation can be performed. The polarization state can be adjusted by turning the polarizer.



#### Diascopic fluorescence observation

Nikon has developed a unique diascopic fluorescence illumination method that enables easy fluorescence observation without attaching dedicated episcopic illuminator and fluorescence observation equipment. By simply inserting an EX filter slider into the condenser slot and a BA filter slider into the nosepiece slot, fluorescence observation of specimens expressing GFP or stained with fluorescent dyes such as FITC and Alexa 488 can be performed.











### **Specifications**

Model name	Main body: ECLIPSE Si	
Optical system	CFI60 infinity optical system	
Illumination	High luminescent white LED illuminator (Eco-illumination) • Built-in fly-eye lens • Up to two 45 mm diameter filters can be installed* <sup>1</sup> • Light Intensity Management (LIM) feature included	
Focusing	Coaxial coarse/fine focusing (located on both sides), cross roller guide, Focusing stroke: Up 2 mm/Down 13 mm, coarse: 37.7 mm per rotation, fine: 0.2 mm per rotation, minimum reading: 2 µm With coarse focus knob torque adjustment ring and stage vertical movement stopper	
Eyepieces (F.O.V., mm)	With diopter adjustment • E2-CFI 10X (20)* <sup>2</sup> , E2-CFI 15X (12)* <sup>2</sup> • CFI 10X (22)* <sup>3</sup> , CFI 12.5X (16)* <sup>3</sup> , CFI 15X (14.5)* <sup>3</sup>	
Tubes	Inclination angle 45°, pupillary distance: 50-75 mm, eyepoint height: adjustable to 2 positions • EC-T-TB2 Binocular Tube 2 • EC-T-TF2 Trinocular Tube F2 (Eyepiece: Port: 50:50, built-in 0.55X relay lens in camera port, with C-mount)	
	Inclination angle 25°, pupillary distance: 50-75 mm • C-TB Binocular Tube • C-TF Trinocular Tube F (Eyepiece: Port = 100:0, 0:100) • C-TT Trinocular Tube T (Eyepiece: Port = 100:0, 20:80, 0:100) Inclination angle 10°-30°, extension: up to 40 mm • C-TE2 Ergonomic Binocular Tube (Eyepiece: Port = 100:0, 50:50 via optional C-TEP3 DSC Port C-0.55X)	
Nosepiece	Reversed-type quintuple nosepiece (within main body)	
Stage	Rectangular mechanical stage (within main body), with specimen holder 2L and vernier calibrations, cross travel: 76 (X) x 52 (Y) mm	
Objectives (NA/W.D.)	CFI E Plan Achromat 4X (0.1/30mm)     CFI E Plan Achromat 10X (0.25/7mm)     CFI E Plan Achromat 40X (0.65/0.65mm)     CFI E Plan Achromat 60X (0.8/0.3mm)     CFI E Plan Achromat 100X Oil (1.25/0.23mm)     Other CFI60 objectives can also be used.	Objectives for phase contrast observation: • CFI Achromat DL 10X (0.25/7.0mm) • CFI Achromat LWD DL 20X (0.40/3.90mm) • CFI Achromat DL 40X (0.65/0.65mm) • CFI Achromat DL 100X Oil (1.25/0.23mm)
Condenser	Abbe Condenser, NA 1.25, vertically movable and centerable	
Observation methods*4	Brightfield, phase contrast, diascopic fluorescence, dark-field, simple polarizing	
Fungus-proof treatment	Antifungal paint is applied around optical system	
Optional accessories	E2-SPH1 10X-40X PH slider/E2-SPH2 100X PH slider (used with phase contrast objectives) E2-F-FL Dia-FL set GFP-B E2-SDF dark-field slider E2-DP simple polarizer, E2-PSA simple analyzer	<ul> <li>EC-ER eye-level riser</li> <li>E2-F-BF blue light blocking filter</li> <li>Object marker</li> <li>Eyepiece pointer</li> <li>Teaching head</li> </ul>
Power supply	Uses the included AC adapter (input: 100-240 VAC, 0.48A Max., 50-60 Hz, output: 5.0 VDC, 3.0A Max.)	
Power consumption (max.)	Nominal value: 5 W	
Weight	Approx. 6.0kg (when equipped with binocular tube), approx. 6.4kg (when equipped with trinocular tube)	

\*1 When a simple polarizer is attached, only one filter can be installed \*2 Used in combination with EC-T-TB2 Binocular Tube 2 or EC-T-TF2 Trinocular Tube F2

\*3 Used in combination with C-TB Binocular Tube, C-TF/C-TT Trinocular Tubes or C-TE2 Ergonomic Binocular Tube

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\*4 Observations other than brightfield require optional accessories.

Cooperation between pathological specimens and imaging guidance Dr. Yasushi Nakamura, Pathologist, Osaka Cytopathological Laboratory

#### Digital Sight 1000 and DS-Fi3 microscope cameras, and NIS-Elements L imaging software are not for clinical use. Specifications and equipment are subject to change without any notice or obligation on the part of the manufacturer. April 2021 ©2021 NIKON CORPORATION





ECLIPSE Si product page

Nikon Healthcare Business Unit website



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WARNING

Monitor images are simulated.

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