ECLIPSE L300N/L300ND
L200N/L200ND

Microscopes for Flat Panel Display and Large Scale Integration Inspection
ECLIPSE

LV-LL LED Lamphouse

LED

Compact LED illuminators are power saving and achieve long life.

Illumination

Epi-fluorescence observation widens inspection range—including 365 nm UV excitation

• Highly beneficial when inspecting semiconductor resist residues and organic electroluminescence displays.
• Various observation methods such as brightfield, darkfield, simple polarizing, and DIC are possible on all models.
• With the L300ND/L200ND, diascopic illumination capability adds the illumination through transparent substrates.

Stronger safeguard against contamination

• Antistatic coatings applied to the body, stage, eyepiece tube and other various controls
• Prevents damage to samples and contributes to higher yields

Observation at optimum eyepoint level

• Ultra-wide 25-mm field of view and eyepiece angle adjustment between 0 ° and 30 °
• Operators can adjust eyepoint level to ensure a comfortable viewing position

Front operation with easy access

• Minimizes fatigue during lengthy observations, maintaining a safer operator distance from the sample

Target for easier focusing

• Inserting a focusing target in the optical path to easily focus on low-contrast samples, such as bare wafers.

Fixed-position X-Y fine movement control

• Allows for stage movements and focusing to be carried out with ease

Filter blocks

For epi-fluorescence observation

• EPI-FL UV-2A
• EPI-FL V-2A
• EPI-FL BV-2A

* L300N/L300ND/L200ND only.

Only one cube is attachable.

Enhanced observation performance and operation

Epi-fluorescence observation of organic substance on wafer

Brightfield observation

Darkfield observation

DIC observation

Brightfield observation of wafer pattern

Darkfield observation

DIC observation

Epi-fluorescence observation

Target for easier focusing

Front operation with easy access

For ø300 mm wafer/Episcopic optical contrast

For 17-inch FPD/Episcopic and Diascopic optical contrast

For ø200 mm wafer/Episcopic optical contrast

For ø200 mm wafer/Episcopic and Diascopic optical contrast

Episcopic/Diascopic illumination selection switch (L300ND/L200ND only)

Episcopic/Diascopic illumination selection switch (L300ND/L200ND only)

Episcopic/Diascopic illumination selection switch (L300ND/L200ND only)

Episcopic/Diascopic illumination selection switch (L300ND/L200ND only)
Nikon's CFIox optical systems are highly evaluated for their unique concept of high NA combined with a long working distance. These lenses have been developed further and evolved achieving the apex in long working distance specifications, correct chromatic aberration, and an optimized lens weight.

### Accessories

#### Objective lenses

**Standard objective lenses**

**TU Plan Fluor Series**

Enable brightfield, darkfield, simple polarizing, sensitive polarizing, differential interference, and epifluorescence observations with just one lens. Achieves superior chromatic aberration performance with long working distance for all magnifications to adapt to any application.

**Low-magnification objective lenses**

**T Plan EPI ELWD Series**

By using phase Fresnel lenses, these objective lenses achieve significantly longer operating distances while maintaining the superior chromatic aberration performance of apochromatic lenses.

**Apochromatic objective lenses**

**TU Plan Apo Series**

With the phase Fresnel lenses, these objective lenses enable long working distances while offering higher level chromatic aberration correction than conventional objective lenses. This improves operability for samples with different heights.

**Other lenses**

**Lenses with correction mechanism**

**CFI L Plan EPI CR Series**

Ten camera setting patterns for optimal color reproduction and contrast for each microscope light source, observation method and type of sample, as well as custom settings, can be selected.

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#### Microscope camera

**Digital Sight 1000**

Equipped with a 2 megapixel CMOS image sensor, it can capture full HD microscope images. By connecting a microscope to this camera and HDMI monitor, movies and images can be captured and saved onto a pre-inserted SD card in the camera.

**DS-Fi3**

Three main features of the previous models, high-resolution, high sensitivity and low noise, and high-speed live display are offered in 1 camera.

**Digital Sight 10**

This high-resolution camera captures both color and monochromatic images at up to 6,000 x 3,984 pixels. This enables the wide range of images to be captured and then many of them to be stitched together making a single and large combined image.

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#### Imaging software

**NIS-Elements**

Simply installing NIS-Elements L on a tablet PC enables setting and control of Digital Sight 1000/DS-Fi3/Digital Sight 10 microscope cameras, live image display, and image acquisition.

**Image Stitching**

Stitches together images acquired from multiple fields of view to create one image.
Wafer loader NWL200

Combined with the NWL200 wafer loader, the ECLIPSE L200N meets requirements for wafer inspections.

Support for ultra-thin 100 μm wafers
• NWL200 series provides levels of safety and reliability that meet all requirements for inspection of the latest wafers.

Improved operability and high throughput
• Setting conditions, such as sampling and inspection patterns, and checking the operating status and content of errors can easily be done with the large LCD panel
• Comprehensive file management functions for carriers and samples are useful for automating inspections
• Exceptionally fast elevator, and the loading and unloading of wafers with complete precision by the multi-arm system all contribute to an efficient wafer transfer and exchange

Dimensional diagram (Unit: mm)
## Specifications

<table>
<thead>
<tr>
<th>Feature</th>
<th>ECLIPSE L300N</th>
<th>ECLIPSE L200N</th>
<th>ECLIPSE L300ND</th>
<th>ECLIPSE L200ND</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Illumination type</strong></td>
<td>Episcopic</td>
<td>Episcopic/Diascopic</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Main body</strong></td>
<td>Power sources for motorized control built in</td>
<td>Motorized control for nosepiece, Light intensity control, Aperture diaphragm control</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Nosepiece</strong></td>
<td>Motorized universal sextuple nosepiece</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Centering Function</strong></td>
<td>Yes</td>
<td>—</td>
<td>Yes</td>
<td>—</td>
</tr>
<tr>
<td><strong>EPI/DIA changeover</strong></td>
<td>—</td>
<td>—</td>
<td>Yes</td>
<td>—</td>
</tr>
<tr>
<td><strong>Focusing mechanism</strong></td>
<td>Cross travel 29 mm</td>
<td></td>
<td>12.7 mm per rotation (torque adjustable, refocusing mechanism provided)</td>
<td>0.1 mm per rotation (in 1 µm increments)</td>
</tr>
<tr>
<td><strong>Episcopic illuminator</strong></td>
<td>12V-50W halogen lamp light source built in, LV-LL LED Lamphouse</td>
<td>Motorized aperture diaphragm (centerable), Fixed field diaphragm (with focus target)</td>
<td>Pinhole slider (optional), Four ø25 mm filters (NCB11, ND16, ND4), Polarizer and Analyzer can be mounted</td>
<td>12V-50W halogen lamp light source built in, LV-LL LED Lamphouse</td>
</tr>
<tr>
<td><strong>Diascopic illuminator</strong></td>
<td>12V-50W halogen lamp light source built in, LV-LL LED Lamphouse</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Interface</strong></td>
<td>USB x 1, RS232C (for Intensilight) x 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Eyepiece tubes</strong></td>
<td>L2-TT2A Ultra-widefield erect-image tilting trinocular eyepiece tube (tilt angle: 0-30°) FOV: 22/25, Beam split ratio 100:0:20/80</td>
<td>L2-S6A 8 x 8 stage</td>
<td>L2-S6A 8 x 8 stage</td>
<td>L2-S6A 8 x 8 stage</td>
</tr>
<tr>
<td><strong>Stages</strong></td>
<td>14 x 12 stage</td>
<td>354 x 302 mm</td>
<td>205 x 205 mm</td>
<td>354 x 268 mm</td>
</tr>
<tr>
<td><strong>Stoke</strong></td>
<td>354 x 302 mm</td>
<td>205 x 205 mm</td>
<td>354 x 268 mm</td>
<td>150 x 150 mm</td>
</tr>
<tr>
<td><strong>Diascopic observation range</strong></td>
<td>150 x 150 mm</td>
<td>150 x 150 mm</td>
<td>150 x 150 mm</td>
<td></td>
</tr>
<tr>
<td><strong>Antistatic mechanism</strong></td>
<td>Coarse/Fine-movement changeover possible Fixed-position X-Y fine-movement controls</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Power consumption</strong></td>
<td>1.2 A/90 W</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Weight (approx.)</strong></td>
<td>Body only</td>
<td>40 kg</td>
<td>30 kg</td>
<td>40 kg</td>
</tr>
<tr>
<td></td>
<td>With L2-S6A 8 x 8 stage and L2-TT2A eyepiece tube</td>
<td>45 kg</td>
<td>45 kg</td>
<td>45 kg</td>
</tr>
</tbody>
</table>

### Specifications and equipment are subject to change without any notice or obligation on the part of the manufacturer. June 2023 ©2010-2023 NIKON CORPORATION

N.B. Export of the products* in this brochure is controlled under the Japanese Foreign Exchange and Foreign Trade Law. Appropriate export procedures shall be required in case of export from Japan.

*Products: Hardware and its technical information (including software)

### WARNING

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

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