**Features**

**MA200**

- Offers high stability, durability, and a smaller footprint than conventional models, as well as easy access to the stage handle, the nosepiece, the BF/DF change lever, and diaphragms, all located on the front side.

<table>
<thead>
<tr>
<th>Compatible observation methods</th>
<th>Brightfield</th>
<th>Darkfield</th>
<th>Simple polarizing</th>
<th>DIC</th>
<th>Fluorescence</th>
</tr>
</thead>
<tbody>
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<td>△</td>
</tr>
</tbody>
</table>

* △: only available with Halogen Lamp and Fiber Illumination

<table>
<thead>
<tr>
<th>Compatible illuminators</th>
<th>LV-LH50PC 12V50W Halogen Lamp Illuminator</th>
<th>C-HGFI HG Precentered Fiber Illuminator (option)</th>
<th>LV-LL LED Lamphouse</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magnification module</td>
<td>1x/1.5x/2x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compatible stages</td>
<td>MA2-SR Mechanical Stage (stroke: 50 x 50 mm)</td>
<td></td>
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</tbody>
</table>

**MA100N**

- Designated for brightfield and simple polarizing observation, the MA100 is a cost-effective solution to manufacturing and QA/QC situations in industries such as automotive/electronic parts and industrial machinery/tools.

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<td>MA-SR-N Rectangular 3-plate Stage N (stroke: 50 x 50 mm)</td>
<td>MA-SP-N Plain Stage N</td>
</tr>
<tr>
<td></td>
<td>MA-SP-N Plain Stage N</td>
<td>TS2-S- SM Mechanical Stage (stroke: 126 x 78 mm)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>*Please use in combination with MA-SP-N Plain stage N.</td>
</tr>
</tbody>
</table>

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- High-intensity white LED Illuminator (internal power supply)

* Dedicated reflected illumination models.
Evolved Optical Performance

Provides a more ergonomic observation with clearer images.

- **Super-wide field of view**
  A sample with a diameter of just 25 mm can be observed in an one field of view by combining the ultra wide field of view eyepiece and 1x objective lens.

- **Even illumination**
  Improved uniformity of illumination delivers clear images, especially for digital imaging.

- **Combine images with the stitching feature**
  Can combines up to eight images with uniform lighting and no seams.

Box Structure

The unique box structure is 1/3 smaller than conventional models and offers improved durability.

- **Compact box structure with a depth of 315 mm**
  A box shaped microscope, not only the width but also the depth is reduced dramatically.

- **High stability and durability**
  Reduced vibration during high-power observation, offering a highly rigid microscope.

Front Operation

Delivers ease-of-use by placing all important controls at the front of MA200N.

- **Optical path changeover lever  (vertical tube/binocular tube)**
- **Nosepiece**
- **Aperture diaphragm dial**
- **Field diaphragm dial**
- **Brightness control dial**
- **Quick Status Check**
  Automatically detects the address of the objective lens currently in use and displays it on the main unit front panel.

Stage

Samples can be rotated by the stage clip. The stage delivers high durability needed to support heavy samples.

- **MA-2 SR Stage**

DIC Units

Standard and high contrast type DIC prism are available to match needs of the sample. These prisms are effective for observation of minute step heights.

- **MA2-PA Unit**
- **MA2-LPA Unit**
- **MA2-UPA Unit**

Polarizing Units

Polarizing observation is effective for birefringence samples. MA2-PA unit is suitable for observation of aluminium.

- **MA2-PA Unit**
  L-DIC DIC Prism (High Contrast)
- **MA2-LPA Unit**
  L-DIC DIC Prism

Grain Size Reticle & Scale

Overlays a pattern onto the observed image. The Grain Size Reticle is used for grain size analysis and complies with the JIS G0551 and ASTM E112 standards. The Scale displays a scale for each objective lens magnification.

- **MA2-09 Grain Size Reticle** JIS G0551/objective lenses 10x (100x magnification)
- **MA2-MR Scale**

Illumination

Expanded lineup

Added a compact LED illuminator to the existing lineup. With the use of LED, Nikon illuminators are power saving and achieve long life.

- **LV-LL LED Lamphouse**

Combination with Digital Camera

The MA200 allows detection of information and control of objective lenses, enabling optimization of the conditions vital for image acquisition.

- **Detection of objective lens information**
- **Automatic calibration conversion**

Holders

A full lineup is available that correspond to a variety of sample shapes.

- **MA2-GR Grain Size Reticle**
  JIS G0551/objective lense 10x (100× magnification)
  ASTM E112/objective lense 10x (100× magnification)
- **MA2-MR Scale**
ECLIPSE
MA100N

A durable, user-friendly Inverted Microscope with superior image quality, a small footprint and great cost performance.

**Illumination**

Employment of high-intensity LED illumination (Eco-illumination)

Compared to conventional halogen illumination, these high intensity LED sources need only about one third of consuming electricity and last approximately 30 times longer. The MA100N ensures stable sample observation with uniform color temperature even in different light intensity.

**Stage**

Controlled stability even with heavy samples/Boasts superior durability

The MA-SR-N Rectangular Stage was developed especially for the MA100N. The three-plate structure allows for observation of heavy samples, such as a grinder resin mounted samples.

**Compact Body**

Redesigned to be smaller

Designed for LED illumination, the footprint is 11% smaller than conventional models, allowing users to have more installation choices.

**Aperture Diaphragm**

Standard with MA100N

The epi illuminator comes standard with a variable aperture diaphragm to control image contrast and depth of field.

**Accessories**

**Basic stage set**

A triple-platform stage structure lets you use heavy samples.

- MA-SR-N Rectangular Stage N
- Specimen Holder (ø20/30/40 mm aperture)
- MA-SH3 Specimen Holder 3
- MA-SRBH1 Universal Specimen Holder

**Grain size reticle**

The class of grain size in a sample can be easily distinguished while observing its image.

- MA100-EPRGB Grain Size Reticle

**Digital Camera**

Redesigned with optical systems suitable for sample observations. The camera port is located on the side of MA100N to provide improved visibility of the stage.

- Microscope Camera DS-Fi3
- C-0.63x-TS2 C-mount Adapter
- TS2-P-CF Camera port 100

**Other accessories**

- Ti-SM Mechanical Stage CH
- MA-SIP-N Plain Stage N
- MA-SH2-N Specimen Holder 2N
- MA-EHJ Universal Holder
- MA-SHB Specimen Holder 3
- MA-SRBH 25-40 Holder

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- MA-SHB Specimen Holder 3
- MA-SRBH 25-40 Holder
Nikon's CFI 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.

**Standard objective lenses**

**TU Plan Fluor Series**

- 5x/10x/20x/50x/100x
- 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.

**TU Plan Apo Series**

- 50x/100x/150x
- By using phase Fresnel lenses, these objective lenses achieve significantly longer operating distances while maintaining the superior chromatic aberration performance of apochromatic lenses.

**Low-magnification objective lenses**

**T Plan EPI Series**

- 1x/2.5x
- Both clear observation using a conventional analyzer/polarizer and operability-oriented observation without the need of an analyzer/polarizer are possible.

**Apochromatic objective lenses**

**TU Plan Apo Series**

- 50x/100x/150x
- With the phase Fresnel lenses, these objective lenses achieve significantly longer operating distances while maintaining the superior chromatic aberration performance of apochromatic lenses.

**Long working distance objective lenses**

**TU Plan ELWD Series**

- 20x/50x/100x
- 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.

**Digital camera system for microscopes**

**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 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.

**Imaging software NIS-Elements**

- Using a tablet PC
- Simply installing NIS-Elements L on a tablet PC enables setting and control of Digital Sight 1000/DS-F1/Digital Sight 10 microscope cameras, live image display, and image acquisition.

- A wide variety of tools
- NIS-Elements L enables the conducting of simple measurements on images, with input of lines and comments. These can also be written onto and saved with the image, and measurement data can be output.

- Measurement function
  - Line distance
  - Area
  - Circle
  - Circle distance
  - High distance
  - Angle

- Image Stitching
  - EDF (Extended Depth of Focus)
  - Create a single, all-in-focus image from images of differing focus.

**Scene Mode**

- 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:
  - Wavelength
  - Metal, Ceramic/Plastic
  - Circuit board
  - Flat Panel Display

* See the "Digital Camera Digital Sight Series for Microscopes" brochure for details on Digital Sight features.
as well as operability-oriented observation without need for an analyzer/polarizer.

*2: T Plan EPI 1x/2.5x enable clear observation using a conventional analyzer/polarizer,

*1: Built to order.

Simple Polarizing Set N MA100-EPRGS

Lens
BD Objective
TU Plan Apo

Grain Size Reticle

Lens
ELWD Objective
TU Plan EPI

Quintuple Nosepiece
Intelligent Universal LV-NU5I

Lens
SLWD Objective
TU Plan Fluor

Lens
BD Objective
TU Plan Fluor

Software

Quintuple Nosepiece
Universal Motorized LV-LL LED Lamphouse

Lens
ELWD Objective
TU Plan BD

Nosepiece Controller

F-mount Adapter

Nosepiece Adapter M32-25

Adapter
HG Fiber (1.5m/3m)
C-HGFIF

Adapter
F-mount Adapter

F-mount Adapter

Dicing Lamp Source C-LHGFI

Digiscoping System LV-10x

12V-50W Lamp
LV-HL50W

Adapter
HG Fiber (1.5m/3m)
C-HGFIE

Adapter
F-mount Adapter

Motorized DS10-IRCF

C-mount Adapter

Computer Camera Direct Adapter CH

Digital Sight

Nosepiece Adapter M32-25

25-40 Holder MA-SRSH

25-40 Holder MA-SRSH

W Nosepiece Adapter M32-25

W Nosepiece Adapter M32-25

Nosepiece Controller

F-Mount Adapter DS-F2.5

DIC Prism High Contrast L-DIHC

DIC Prism L-DIC

Lamp Source HG Lamp C-LHGFI

Fiber Light Source C-HGFIE

Fiber Light Source C-HGFI

Fiber Light Source C-HGFI

Digital Sight 10

Microscope Camera

Dimensions

System Diagram (MA200)

System Diagram (MA100N)

Specimen Holders (attached with the stage)
Specimen Holders (attached with the stage)

C-mount Adapter

C-mount Camera MA200 (MA100N)

C-mount Camera

Digital Sight 10

Microscope Camera

Dimensions

System Diagram (MA200)

System Diagram (MA100N)

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<table>
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<th>Specifications (MA200)</th>
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<tbody>
<tr>
<td><strong>Main body</strong></td>
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<tr>
<td>Focusing mechanism</td>
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<tr>
<td>Coarse adjustment</td>
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<tr>
<td><strong>Illumination</strong></td>
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<td></td>
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<tr>
<td>Field diaphragm:</td>
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<tr>
<td>Filter:</td>
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<td>Fluorescence filter blocks:</td>
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<td><strong>Light distribution</strong></td>
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<td><strong>Optics</strong></td>
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<td><strong>Observation image</strong></td>
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<tr>
<td><strong>Observation method</strong></td>
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<tr>
<td><strong>Revolving nosepieces</strong></td>
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<tr>
<td><strong>Stage</strong></td>
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<td>Dimension:</td>
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<td><strong>Trinocular eyepiece</strong></td>
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<td><strong>Power source</strong></td>
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<td><strong>Power consumption (max.)</strong></td>
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<tr>
<td><strong>Weight</strong></td>
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<td><strong>Options</strong></td>
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<td><strong>Scale</strong></td>
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<td><strong>Observation method</strong></td>
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<td>(Coarse adjustment</td>
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<td>of 37.7 mm per rotation,</td>
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<td>fine adjustment of 0.2 mm per rotation)</td>
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<tr>
<td><strong>Nosepiece</strong></td>
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<tr>
<td><strong>Stage</strong></td>
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<tr>
<td>The 3-plate design allows</td>
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<tr>
<td>entire top surface to move.</td>
</tr>
<tr>
<td>Optional Stage inserts:</td>
</tr>
<tr>
<td>MA-SRSH1 Specimen Holder 1 with (ø15 mm opening or MA-SH3 Specimen Holder 3 with 2 mm to 32 mm adjustable opening)</td>
</tr>
<tr>
<td><strong>Nosepiece</strong></td>
</tr>
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<td></td>
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<tr>
<td>Optional stage inserts:</td>
</tr>
<tr>
<td>MA-SRSH1 Specimen Holder 1 with 15 mm opening or MA-SH3 Specimen Holder 3 with 2 mm to 32 mm adjustable opening</td>
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<tr>
<td>Accepts Attachable Mechanical Stage TI-SM</td>
</tr>
<tr>
<td>TS2-S-SM Mechanical Stage: 126 mmx78 mm stroke, handle can be attached on the right or left side of the plain stage</td>
</tr>
<tr>
<td>Optional Specimen Holders to fit Attachable Mechanical stage: MA-SH1-N Specimen Holder 1N (ø15 mm opening)</td>
</tr>
<tr>
<td>MA-SH2-N Specimen Holder 2N (ø30 mm opening), or C-S-HU Universal Holder (30 mm to 65 mm adjustable opening)</td>
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<tr>
<td><strong>Illuminator</strong></td>
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<tr>
<td><strong>Binocular body</strong></td>
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NIKON CORPORATION
Shinagawa Intercity Tower C, 2-15-3, Kōan, Minato-ku, Tokyo 108-6290, Japan
phone: +81-3-6433-3701 fax: +81-3-6433-3784
https://industry.nikon.com/