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.

Model 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 at front side.

- **Compatible observation methods**
  - Brightfield: ✓
  - Darkfield: ✓
  - Simple polarizing: ✓
  - DIC: ✓
  - Fluorescence: ✗
  - *DIA illuminator is available for transmitted light observation.*
  - ✓ only available with Halogen Lamp and Fiber Illumination

- **Compatible illuminators**
  - LV-LH50PC 12V50W Halogen Lamp Illuminator
  - C-HGFI HG Precentered Fiber Illuminator (*option)
  - LV-LL LED Lamphouse

- **Magnification module**
  - 1x/1.5x/2x

- **Compatible stages**
  - MA2-SR Mechanical Stage (stroke: 50 x 50 mm)

---

**MA100N**

- **Compatible observation methods**
  - Brightfield: ✓
  - Darkfield: —
  - Simple polarizing: —
  - DIC: ✓
  - Fluorescence: —
  - *Dedicated reflected illumination models.*

- **Compatible illuminators**
  - High-intensity white LED Illuminator (internal power supply)

- **Magnification module**
  - —

- **Compatible stages**
  - MA-SR-N Rectangular 3-plate Stage N (stroke: 50 x 50 mm)
  - MA-SP-N Plain Stage N
  - TS2-S- SM Mechanical Stage (stroke: 126 x 78 mm)
  - *Please use in combination with MA-SP-N Plain stage N.*
Front Operation
Delivers ease-of-use by placing all important controls at the front of MA200N.

Evolved Optical Performance
Provides a more ergonomic observation with clearer images.

- Super-wide field of view
- Even illumination
- Brightness control dial
- Field diaphragm dial
- Aperture diaphragm dial
- Nosepiece (vertical tube/binocular tube)
- Optical path changeover lever
- BD field changeover lever
- Quick Status Check

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

- Compact structure with a depth of 315 mm
- High stability and durability

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

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

Accessories

- Stage
- DIC Units
- Nosepiece & Magnification Module

Digital Camera
- Detection of objective lens information
- Automatic calibration conversion

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

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.

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

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.

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.

Redesigned to be smaller

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

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

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The class of grain size in a sample can be easily distinguished while observing its image.
Nikon’s CFI60 optical system, highly evaluated for its unique concept of high NA and long working distance, has achieved the apex in long working distance, chromatic aberration correction, and weight.

**Standard objective lenses**

**TU Plan Fluor Series**

Enable brightfield, darkfield, simple polarizing, sensitive polarizing, differential interference, and epi-fluorescence 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 1×/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**

By using 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**

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**

**DS-R2**

Capable of expressing images as is. DS-R2 offers high resolution, color reproduction, and frame rate. The Stand-Alone Model enables high-definition image acquisition without a control unit.

**DS-Fi3**

Features high-resolution, high sensitivity/low noise, and high-speed live display, all in one camera.

**DS-L4**

DS-Fi3 can be connected to the DS-L4 tablet-style control unit, eliminating the need and space requirements of a desktop PC. DS-L4 has a large number of built-in security for network connectivity.

**Image Stitching**

Stitches together images acquired from multiple fields of view to create one image.
*1: Built to order.
*2: T Plan EPI 1x/2.5x enable clear observation using a conventional analyzer/polarizer, as well as operability-oriented observation without need for an analyzer/polarizer.
## Specifications (MA200)

<table>
<thead>
<tr>
<th>Main body</th>
<th>MA200</th>
</tr>
</thead>
<tbody>
<tr>
<td>Focusing mechanism</td>
<td>Focusing nosepiece (Fixed stage) Coaxial coarse/ fine adjustment knob (torque adjustable)</td>
</tr>
<tr>
<td></td>
<td>Coarse adjustment of 4.0 mm per rotation, fine adjustment of 0.1 mm per rotation</td>
</tr>
<tr>
<td>Illumination</td>
<td>With flare prevention, Built in UV cut filter</td>
</tr>
<tr>
<td></td>
<td>Field diaphragm: dialing continuous variable (centerable), Aperture diaphragm: dialing continuous variable (centerable)</td>
</tr>
<tr>
<td></td>
<td>Filter: Double turret (ND16, ND4/GIF, NCB, Additional option available), Polarizing block (Selectadable with or without 1/4 JPlate)</td>
</tr>
<tr>
<td></td>
<td>Fluorescence filter blocks: B/G/UVB</td>
</tr>
<tr>
<td>Light distribution</td>
<td>Eyepiece tube/Back port: 100/0, 55/45</td>
</tr>
<tr>
<td>Optics</td>
<td>CFI/CfCf/c-2 system</td>
</tr>
<tr>
<td>Observation image</td>
<td>Surface Image</td>
</tr>
<tr>
<td>Observation method</td>
<td>Bright/Darkfield/Polarizing/DIC/Epi-Fluorescence</td>
</tr>
<tr>
<td>Revolving nosepieces</td>
<td>LV-NUSL: Bright/Darkfield/DIC 5 position nosepiece, LV-NUSA: Motorized Bright/Darkfield/DIC 5 position nosepiece</td>
</tr>
<tr>
<td></td>
<td>MA-N7: Brightfield 7 position nosepiece (Intelligent)</td>
</tr>
<tr>
<td>Stage</td>
<td>MA2-SR Mechanical Stage (X/Y flexible handle)</td>
</tr>
<tr>
<td></td>
<td>Dimension: 295x215mm, Stroke: 50mmx50mm (with distance graduation), Standard accessory: o22 universal specimen holder (with sample clip)</td>
</tr>
<tr>
<td>Trinocular eyepiece</td>
<td>Siedentopf interocular distance adjustment 50-75mm</td>
</tr>
<tr>
<td>Power input</td>
<td>100-240V, 50-60Hz</td>
</tr>
<tr>
<td>Power consumption</td>
<td>1.2A 75W</td>
</tr>
<tr>
<td>Weight</td>
<td>Approx. 28 kg (depends on combination)</td>
</tr>
<tr>
<td>Options</td>
<td>Intermediate magnification: Turret (1x, 1.5x, 2x), Status detection (Output magnification information to main unit)</td>
</tr>
<tr>
<td></td>
<td>Scale</td>
</tr>
<tr>
<td></td>
<td>MA-GR Grain Reticle (ASTM E112-63 grain sizing numbers 1 to 8), Grid Reticle(20 lines, 0.5mm)</td>
</tr>
<tr>
<td></td>
<td>MA-GR Scale Reticle (compatible with 5-100x, Read in um, Dialing System)</td>
</tr>
</tbody>
</table>

## Specifications (MA100N)

| Optics                  | CFI/CfCf/c-2 system                                                 |
| Observation image       | Reversed image                                                     |
| Observation method      | Brightfield and polarization (with MA P/A simple polarizer/analyzer set) |
| Focusing                | Focusing nosepiece (Fixed stage), coaxial coarse/ fine adjustment knob with 8.5-mm stroke |
|                         | (Coarse adjustment of 37.7mm per turn, fine adjustment of 0.2 mm per turn) |
| Nosepiece               | Brightfield 5-position nosepiece                                   |
| Stage                   | MA-SR-N Rectangular 3-plate Stage N. 50x50 mm stroke (includes two stage inserts (ø20 mm and 40 mm opening) and coaxial control handle on the right side |
|                         | The 3-plane design allows entire top surface to move. Optional Stage inserts: MA-SRSH1 Specimen Holder 1 with ø15mm opening or MA-SH3 Specimen Holder 3 with 2 mm to 32 mm adjustable opening |
|                         | MA-SP-N Plain Stage N. 188x310 mm - Includes two stage inserts (1) clear acrylic stage insert with ø30mm opening, (2) clear acrylic stage insert with crescent opening (width 30 mm) to allow clearance for rotation of high magnification objectives |
|                         | Optional stage inserts: MA-SRSH1 Specimen Holder 1 with ø15mm opening or MA-SH3 Specimen Holder 3 with 2 mm to 32 mm adjustable opening |
|                         | Accepts Attachable Mechanical Stage TI-SM |
|                         | TS2-S-SM Mechanical Stage: 126 mmx78 mm stroke, handle can be attached on the right or left side of the plain stage |
|                         | Optional Specimen Holders to fit Attachable Mechanical stage: MA-SHT-N Specimen Holder 1N (ø15 mm opening) |
|                         | MA-SH2-N Specimen Holder 2N (ø30 mm opening), or C-S-HU Universal Holder (30 mm to 65 mm adjustable opening) |
| Illuminator             | Internal power supply white LED light source, condenser built-in (lever operated), ø25 mm filter can be inserted |
| Binocular body          | Built-in Siedentopf binocular, 45 inclination angle and 50 to 75-mm interocular adjustment, attachable camera port, eyepiece/Port: 100/0/0/100 |
| Power consumption       | 15W                                                                |
| External dimensions     | 229 x 552 x 404 mm (WxDxH)                                         |
| Weight                  | Approx. 10 kg                                                      |

Specifications and equipment are subject to change without any notice or obligation on the part of the manufacturer. May 2018 ©2006-2018 NIKON CORPORATION

N.B. Export of the products* in this catalog 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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