



ECLIPSE MA200 LED MA100N

Inverted Metallurgical Microscopes



ECLIPSE

MA200 LED / MA100N

Features



MA200 LED

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.



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.

Compatible observation methods	Brightfield	Darkfield	Simple polarizing	DIC	Fluorescence
	○	○	○	○	—
	Compatible illuminators				
	● High color-rendering LED Illuminator (built-in)				
Magnification module	● 1x/1.5x/2x				
Compatible stages	● MA2-SR Mechanical Stage (stroke: 50 x 50 mm)				
	<ul style="list-style-type: none"> ● 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) <p>*Please use in combination with MA-SP-N Plain stage N.</p>				

Brightfield	Darkfield	Simple polarizing	DIC	Fluorescence
○	—	○	—	—

*Dedicated reflected illumination models.

● High-intensity white LED Illuminator (built-in)

ECLIPSE MA200 LED

An ideal inverted microscope offered only by Nikon



Front Operation

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



- | | |
|--|--|
| 1 Optical path changeover lever (vertical tube/binocular tube) | 6 Operation port for polarizer/analyzer unit |
| 2 Nosepiece | 7 Display |
| 3 Aperture diaphragm dial | 8 BD field changeover lever |
| 4 Field diaphragm dial | 9 Scale slider slot |
| 5 Brightness control dial | 10 Flexible handle stage |

Quick Status Check



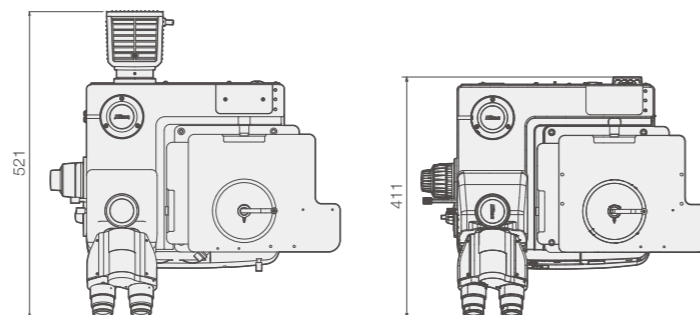
Automatically detects the address of the objective lens currently in use and displays it on the main unit front panel.

The observation position of the objective lens and sample can be checked easily from the microscope's front panel.

Illumination

The built-in LED light source makes the footprint 100 mm smaller than previous models, allowing MA200 LED to be installed in compact spaces.

The newly developed high color-rendering LED light source offers improved brightness, color, and color rendering properties. Lamp life has significantly extended from 1,100 hours to 50,000 hours, achieving a longer lifespan.



Previous model (MA200)

MA200 LED

Evolved Optical Performance

Provides a more ergonomic observation with clearer images.

Super-wide field of view

By using the ultra wide field of view eyepiece and 1x objective lens, a sample with a diameter of 25 mm can be observed in an one field of view.

• T Plan EPI 1x
Wide field of view



Even Illumination

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

Combine images with the stitching feature

Can combine up to eight images with uniform lighting and no seams.



Combination with Digital Camera

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



Note: Information detection and control of accessories are not available with NIS-Elements LE, L, and F. Please use NIS-Elements D for these functions.

Accessories

Stage

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

1 MA-2 SR Stage



HOLDERS

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



Polarizing Units

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



Single-action operation

Links the attachment/release of the analyzer/polarizer.

- 1 MA2-PA Unit
- 2 MA2-UPA Unit*
- 3 MA2-λP λ Plate

Aluminium sample



*It is suitable for inspecting aluminium sample.

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.



- 1 MA2-PA Unit
- 2 L-DIHC DIC Prism (High Contrast)
- 3 L-DIC DIC Prism

Nosepiece & Magnification Module

Enables communication of objective lens position, magnification and intermediate magnification module information with the NIS-Elements image software.

- 1 MA2-MC Magnification Module
- 2 LV-NU5IN Nosepiece



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.

1 MA2-GR Grain Size Reticle

JIS G0551/objective lens 10x (100x magnification)
ASTM E112/
objective lens 10x
(100x magnification)

2 MA2-MR Scale



ECLIPSE MA100N

Brightfield and simple polarized observation can be done on samples such as metallic structures and electronic components. This compact inverted microscope features a robust and compact design, user-friendly operation, maintenance-free LED illumination, and high-contrast observation and image acquisition.



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

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.



Accessories

Basic stage set

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

- 1 MA-SR-N Rectangular Stage N Specimen Holder (ø20/30/40 mm aperture)
- 2 MA-SH3 Specimen Holder 3
- 3 MA-SRSH1 Universal Specimen Holder



Grain size reticle

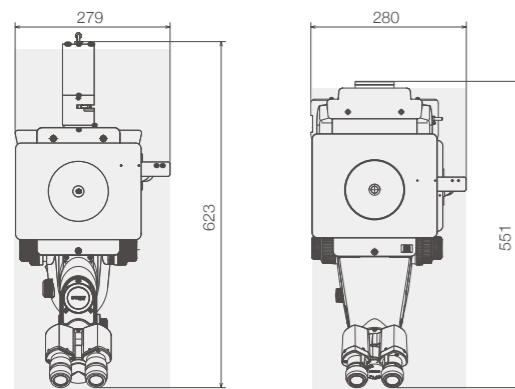
The class of grain size in a sample can be easily distinguished while observing its image.

- 1 MA100-EPRGS Grain Size Reticle



Compact

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



Previous model (MA100L)

MA100N

Aperture Diaphragm

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



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.

- 1 Microscope Camera Digital Sight 100
- 2 C-0.63x-TS2 C-mount Adapter
- 3 TS2-P-CF Camera port 100



Other accessories

- 1 TI-SM Mechanical Stage CH
- 2 MA-SP-N Plain Stage N
- 3 MA-SH2-N Specimen Holder 2N
- 4 MA-S-HU Universal Holder
- 5 MA-SH3 Specimen Holder 3
- 6 MA-SRSH 25-40 Holder
- 7 MA-SRSH1 Universal Specimen Holder
- 8 MA-SH1-N Specimen Holder 1N
- 9 MA-P/A Simple Polarizer



Objective Lens

CFI60-2

Nikon's CFI60 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

EPI/BD 5x/10x/20x/50x/100x

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.



*Brightfield observation (EPI) objective lens

Model	Magnification	NA	Working Distance (mm)
TU Plan Fluor EPI (brightfield type)	5x	0.15	23.5
	10x	0.30	17.5
	20x	0.45	4.5
	50x	0.80	1.0
TU Plan Fluor BD (brightfield/darkfield type)	10x	0.30	15.0
	20x	0.45	4.5
	50x	0.80	1.0
	100x	0.90	1.0

Long working distance objective lenses TU Plan ELWD Series

EPI/BD 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.



*Brightfield observation (EPI) objective lens

Model	Magnification	NA	Working Distance (mm)
TU Plan EPI ELWD (brightfield type)	20x	0.4	19.0
	50x	0.6	11.0
	100x	0.8	4.5
TU Plan BD ELWD (brightfield/darkfield type)	20x	0.4	19.0
	50x	0.6	11.0
	100x	0.8	4.5

Low-magnification objective lenses T Plan EPI

EPI 1x/2.5x

Supports both conventional observations using an analyzer/polarizer and work-efficiency-focused observations without an analyzer/polarizer.



Model	Magnification	NA	Working Distance (mm)
T Plan EPI (brightfield type)	1x	0.03	3.8
	2.5x	0.075	6.5

Apochromatic objective lenses TU Plan Apo Series

EPI/BD 50x/100x/150x

Using Fresnel lenses, these lenses achieve significantly longer operating distances while maintaining the superior chromatic aberration performance of apochromatic lenses.



*Brightfield observation (EPI) objective lens

Model	Magnification	NA	Working Distance (mm)
TU Plan Apo EPI (brightfield type)	50x	0.8	2.0
	100x	0.9	2.0
	150x	0.9	1.5
TU Plan Apo BD (brightfield/darkfield type)	50x	0.8	2.0
	100x	0.9	2.0
	150x	0.9	1.5

Other Lenses

Brightfield objective lens CFI L Plan EPI 40x

A 40x objective lens is best for metal analysis.
NA: 0.65 W.D.: 1.0 mm

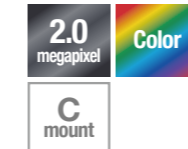


Digital Sight series

Microscope Camera

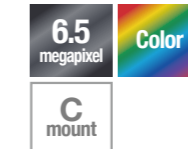
Digital Sight 1000

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.



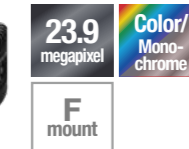
Digital Sight 100

Combined with industrial microscopes, the camera delivers 6.5-megapixel resolution (2944x2208 pixels). HDMI monitor output enables on-site observation without a PC.



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.



MaxFrame Rate	30 fps (1920x1080)	60 fps (1600x900)	55 fps (2000x1328)
Max Recordable Pixels	1920x1080	2944x2208	6000x3984

*Digital Sight 100, standalone, delivers up to 17.7-megapixel resolution (4864 x 3648 pixels).

Imaging software NIS-Elements

Using a desktop PC



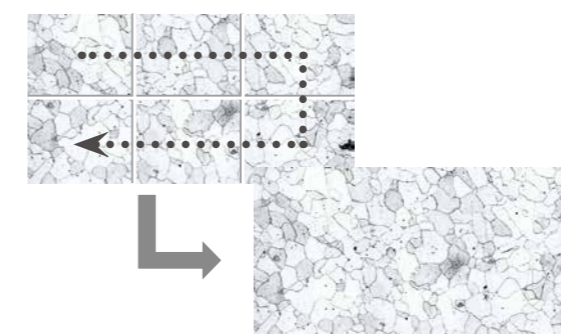
Using a desktop PC / tablet PC



Free software that allows intuitive control of microscope cameras from the PC. Supports Wi-Fi connectivity when used with the Digital Sight 100.

Image Stitching

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



EDF (Extended Depth of Focus)

Create a single, all-in-focus image from images of differing focus.



Wide variety of tools

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.

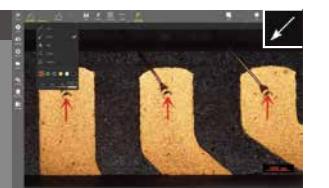
Measurement function

- Line distance
- Area
- Circle
- Angle
- Circle distance
- Pitch distance



Annotate function

- Line
- Arrow
- Text
- Marker
- Polyline



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.

- Wafer/IC
- Circuit board
- Metal, Ceramic/Plastic
- Flat Panel Display

Specifications

MA200 LED

Main body	Focusing mechanism	Focusing nosepiece (Fixed stage) Coaxial coarse/fine adjustment knob (torque adjustable) Coarse adjustment of 4.0 mm per rotation, fine adjustment of 0.1 mm per rotation
	Illumination	With flare prevention, Built in UV cut filter, Field diaphragm: dialing continuous variable (centerable) Aperture diaphragm: dialing continuous variable (centerable) Polarizing block (Selectable with or without 1/4 λ Plate), C-LL-I LED Lamphouse
	Light distribution	Eyepiece tube/Back port: 100/0, 55/45
	Optics	CFI60/CFI60-2 system
Observation image	Surface Image	
Observation method	Bright/Darkfield/Simple Polarizing/DIC	
Revolving nosepieces	LV-NU5IN: Bright/Darkfield/DIC 5 position nosepiece, LV-NU5A: Motorized, Bright/Darkfield/DIC 5 position nosepiece MA-N7-I Brightfield 7 position nosepiece (Intelligent)	
Stage	MA2-SR Mechanical Stage (X/Y flexible handle), Dimension: 295x215 mm, Stroke: 50 mmx50 mm (with distance graduation) Standard accessory: ϕ 22 universal specimen holder (with sample clip)	
Trinocular eyepiece	Siedentopf interpupillary distance adjustment 50-75 mm	
Power source	100-240 V, 50-60 Hz	
Power consumption (max.)	1.2 A 75 W	
Weight	Approx. 25 kg (depends on combination)	
Options	Intermediate magnification	Turret (1x, 1.5x, 2x), Status detection (Output magnification information to main unit)
	Scale	MA2-GR Grain Reticle (ASTM E112-63 grain sizing numbers 1 to 8), Grid Reticle (20 lines, 0.5 mm)
		MA2-MR Scale Reticle (compatible with 5-100x, Read in μ m, Dialing System)

MA100N

Optics	CFI60/CFI60-2 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 37.7 mm per rotation, fine adjustment of 0.2 mm per rotation)
Nosepiece	Brightfield 5-position nosepiece
Stage	MA-SR-N Rectangular 3-plate Stage N: 50x50 mm stroke (includes two stage inserts (ϕ 20 mm and 40 mm opening) and coaxial control handle on the right side, The 3-plate design allows entire top surface to move. Optional Stage inserts: MA-SRSH1 Specimen Holder 1 with (ϕ 15 mm 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 ϕ 30 mm 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 15 mm 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-SH1-N Specimen Holder 1N (ϕ 15 mm opening) MA-SH2-N Specimen Holder 2N (ϕ 30 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)
Binocular body	Built-in Siedentopf binocular, 45 inclination angle and 50 to 75-mm interpupillary adjustment, attachable camera port, eyepiece/Port: 100/0:0/100
Power consumption (max.)	15W
Weight	Approx. 10 kg

Specifications and equipment are subject to change without any notice or obligation on the part of the manufacturer. June 2026 ©2006-2026 NIKON CORPORATION

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



WARNING

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



NIKON CORPORATION

1-5-20, Nishi-ku, Shinagawa-ku, Tokyo 140-8601, Japan

Tel: +81 3 6743 5742

<https://industry.nikon.com/>

ISO 14001 Certified
for NIKON CORPORATION

NIKON METROLOGY EUROPE NV

Interleuvenlaan 86, 3001 Leuven, Belgium

Tel: +32 16 74 01 01

Sales.NM@nikon.com

NIKON METROLOGY UK LTD.

UNITED KINGDOM Tel: +44 1332 811 349

Sales.UK.NM@nikon.com

NIKON METROLOGY SARL

FRANCE Tel: +33 1-60 86 09 76

Sales.France.NM@nikon.com

NIKON METROLOGY GMBH

GERMANY Tel: +49 211 4544 6951

Sales.Germany.NM@nikon.com

NIKON METROLOGY, LLC

12701 Grand River Road, Brighton, MI 48116 U.S.A.

Tel: +1 810 220 4360

Sales.NM-US@nikon.com

NIKON METROLOGY - MEXICO

Sales.NM-US@nikon.com

NIKON PRECISION (SHANGHAI) CO., LTD.

CHINA Tel: +86 21 6841 2050 (Shanghai)

CHINA Tel: +86 10 5831 2028 (Beijing branch)

CHINA Tel: +86 20 3882 0551 (Guangzhou branch)

Web.Nis@nikon.com

NIKON INSTRUMENTS KOREA CO., LTD.

KOREA Tel: +82 2 6288 1900

NIK.Sales@nikon.com

NIKON SINGAPORE PTE LTD.

SINGAPORE Tel: +65 6559 3651

NSG.Industrial-sales@nikon.com

PT. NIKON INDONESIA

INDONESIA Tel: +62 213 873 5005

PTN.Instruments@nikon.com

NIKON SALES (THAILAND) CO., LTD.

THAILAND Tel: +66 2633 5100

NST.Inst@nikon.com

En

IM-MA2606EN