ECLIPSE LV-N

Industrial Microscopes

Together with new optics, ECLIPSE is evolving to the next stage.

Modularized to meet industrial microscope applications in diverse fields of industry, including semiconductor devices, packaging, FPDs, electronic components, materials, and precision molds.

The ECLIPSE LV Series continues to evolve while offering various stand and illumination units selectable according to the observation method and purpose.

Four types – motorized and manual types plus dedicated reflected illumination and combined reflected/transmitted illumination types – are available to meet any application.

Illuminators

Expanded lineup

Added a high color-rendering light source to the existing lineup.
With the use of LED, Nikon illuminators are power saving and achieve long life.

CFI60-2

Evolved optical performance

Nikon's CFI60 optical system, highly evaluated for its unique concept of high NA combined with long working distance has further evolved to achieve the apex in long working distance, chromatic aberration correction, and light weight.

Easy Operation

Combination with digital camera

Detection of microscope information, including objective lens information, and motorized unit microscope operation are now possible using imaging software, for more efficient observation and image capture.

Observation Methods

Diverse observation / optical contrast methods

Combinations of a full range of accessories expand the observation methods available when using transmitted illumination, allowing adaptability to a greater diversity of samples.
All models enable brightfield, darkfield, differential interference, fluorescence, polarizing, and two-beam interferometry observation, while the LV100ND LED and LV100NDA LED also allow transmission-type differential interference, darkfield, polarizing, and phase contrast observation.

Darkfield

Brightfield

Episcopic DIC

Epi-fluorescence

Polarizing

Diascopic Brightfield

Phase Contrast

Diascopic Darkfield

Diascopic DIC

Two-Beam Interferometry

Nikon

LV-N Series

Model features

| LV150N LED | LV150NA LED | LV100ND LED | LV100NDA LED |

| Dedicated reflected illumination models | | Combined reflected/transmitted illumination models | |

| **Microscope type** | Manual type | Motorized type (Nosepiece) | Manual type | Motorized type (Nosepiece / light intensity / aperture stop / observation method selector) |

Compatible observation methods

	Brightfield	Darkfield	DIC	Fluorescence	Polarizing	Two-beam Interferometry
Episcopic	○	○	○	○	△	○

• Use an objective lens appropriate to the observation method.
△ : only simple polarizing observation

	Brightfield	Darkfield	DIC	Fluorescence	Polarizing	Two-beam Interferometry	Phase-contrast
Episcopic	○	○	○	○	○	○	—
Diascopic	○	○	○	—	○	—	○

• Use an objective lens appropriate to the observation method.

Compatible stages

- LV-S32 3x2 stage (Stroke: 75 x 50 mm with glass plate)
  - Can be fitted with LV-S32SPL ESD plate
- LV-S6 6x6 stage (Stroke: 150 x 150 mm)
  - Can be fitted with LV-S6WH wafer holder / LV-S6PL ESD plate
- LV-SRP P revolving stage

- LV-S32 3x2 stage (Stroke: 75 x 50 mm with glass plate)
  - Can be fitted with LV-S32SGH slide glass holder
- LV-S64 6x4 stage (Stroke: 150 x 100 mm with glass plate)
- LV-SRP P revolving stage
- NIU-CSRR2 Ni-U right handle rotatable ceramic stage (Stroke: 78 x 54 mm)
- C-CSR2S right handle stage (Stroke: 78 x 54 mm: Used with stage adapter LV-SAD)

Integration with cameras for microscopes

Digital Sight 10, Digital Sight 100, Digital Sight 1000*

- Objective lens information detection** (when used with combination of Intelligent Nosepiece LV-NU5IN and LV-INAD)
- Objective lens information detection and control**

Digital Sight 10, Digital Sight 100, Digital Sight 1000*

- Objective lens information detection** (when used with combination of Intelligent Nosepiece LV-NU5IN and LV-INAD)
- Information detection and control of objective lens, light intensity, aperture stop, and observation method (brightfield / darkfield / fluorescence)**

NIS-Elements
Imaging Software
Advanced Solutions for your Imaging World

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.
**Excluding Digital Sight 1000

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.

T Plan & TU Plan Fluor & TU Plan Apo Lenses
Standard Plan objective lenses

Standard objective lenses
TU Plan Fluor Series
EPI/BD 5x/10x/20x/50x/100x

| Long WD | Semi-apo |
| Light weight | Fly-eye lens |

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)	5×	0.15	23.5
	10×	0.30	17.5
	20×	0.45	4.5
	50×	0.80	1.0
	100×	0.90	1.0
TU Plan Fluor BD (brightfield/darkfield type)	＊ 5×	0.15	18.0
	＊ 10×	0.30	15.0
	＊ 20×	0.45	4.5
	50×	0.80	1.0
	100×	0.90	1.0

＊ Uses fly-eye lens.

Low-magnification objective lenses
T Plan EPI
EPI 1x/2.5x

Wide field of view

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)	1×	0.03	3.8
	2.5×	0.075	6.5

Apochromatic objective lenses
TU Plan Apo Series
EPI/BD 50x/100x/150x

| Long WD | Apo | Light weight |

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

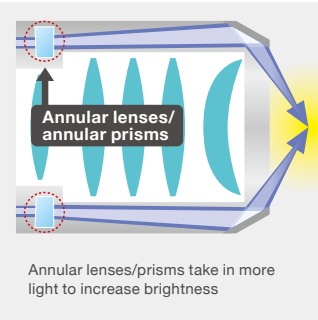| Model	Magnification	NA	Working Distance (mm)
TU Plan Apo EPI (brightfield type)	50×	0.8	2.0
	100×	0.9	2.0
	150×	0.9	1.5
TU Plan Apo BD (brightfield/darkfield type)	50×	0.8	2.0
	100×	0.9	2.0
	150×	0.9	1.5

Dark Field Illumination

Fly-eye lens
Through the use of fly-eye lenses, the CFI60-2 optical system offers bright darkfield illumination throughout the field of view with little unevenness, even for low-magnification lenses.

Fly-eye lenses

Fly-eye lenses adjust the diffusion angle of light so light strikes the focal surface without unevenness

Darkfield illumination system
As NA and WD improve, objective lenses increase in outside diameter. However, as the width of incident light is fixed, light intensity decreases with conventional illumination systems.
The illumination system uses annular lenses or annular prisms to increase captured light and achieve bright darkfield illumination with no deterioration.

Annular lenses/annular prisms

Annular lenses/prisms take in more light to increase brightness

TU Plan ELWD & T Plan SLWD Lenses
Long working distance / Super-long working distance objective lenses

Long working distance objective lenses
TU Plan ELWD Series
EPI/BD 20x/50x/100x

| Long WD | Semi-apo |
| Light weight |

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)	20×	0.4	19.0
	50×	0.6	11.0
	100×	0.8	4.5
TU Plan BD ELWD (brightfield/darkfield type)	20×	0.4	19.0
	50×	0.6	11.0
	100×	0.8	4.5

Super-long working distance objective lenses
T Plan EPI SLWD
EPI 10x/20x/50x/100x

| Long WD | Semi-apo | Light weight |

Improving on chromatic aberration while prioritizing working distance, the T Plan SLWD Series achieve the best-in-class super-long working distance. The SLWD 10x (WD: 37 mm) lens enables use with a greater diversity of samples.
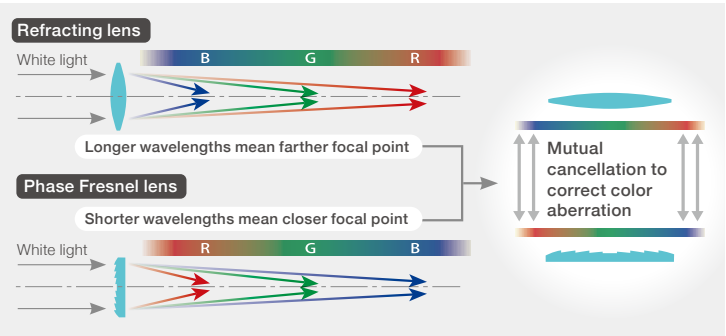
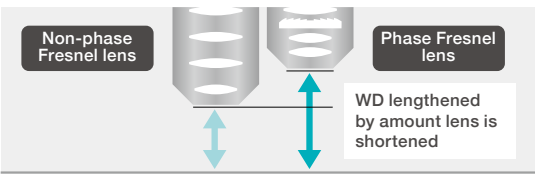| Model	Magnification	NA	Working Distance (mm)
T Plan EPI SLWD (brightfield type)	10×	0.2	37.0
	20×	0.3	30.0
	50×	0.4	22.0
	100×	0.6	10.0

Phase Fresnel Lenses

Color aberration correction
Conventional lenses rely upon the refraction of light to form an image. As the strength of refraction varies according to color (wavelength), the image is formed starting with the light closest to the lens, in the order of blue, green, and red. In contrast, a phase Fresnel lens uses the diffraction of light to form an image starting with the light closest to the lens, this time, red, green, and blue, yielding a property opposite that of refraction. Combining these two lenses cancels out the color aberration of each and enables an image with little color aberration.

Refracting lens
White light
B G R
Longer wavelengths mean farther focal point

Phase Fresnel lens
White light
R G B
Shorter wavelengths mean closer focal point

Mutual cancellation to correct color aberration

Realization of Long Working Distance
Correction of color aberration, even with short distances between lenses, is possible with the use of phase Fresnel lenses. This enables longer working distance than that of conventional lenses.

Non-phase Fresnel lens

Phase Fresnel lens

WD lengthened by amount lens is shortened

Other lenses

Objective lenses with glass thickness correction features
CFI L Plan EPI CR
20x/50x/100x

Equipped with corrective features that enable high contrast observation of cells or patterns, these observation lenses are unaffected by the glass substrate.

Model	Magnification	NA	Working Distance (mm)
CFI L Plan EPI CR (brightfield type)	20× CR	0.45	10.90 - 10.00
	50× CR	0.70	3.90 - 3.00
	100× CRA	0.85	1.20 - 0.85
	100× CRB	0.85	1.30 - 0.95

Objective lenses for brightfield observation
CFI LE Plan EPI
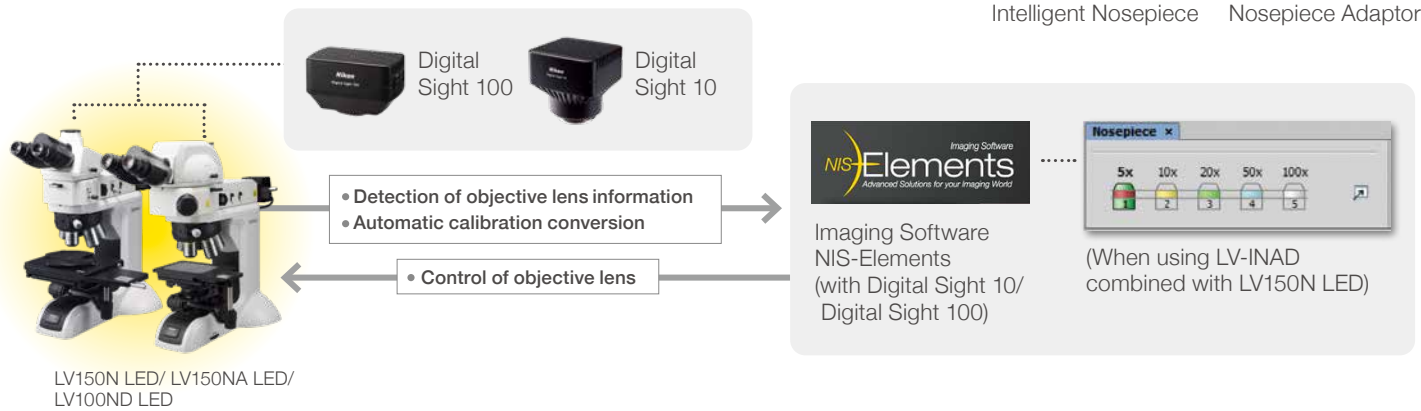**EPI** 5x/10x/20x/50x/100x

LE Plan EPI

Model	Magnification	NA	Working Distance (mm)
LE Plan EPI (brightfield type)	5×	0.1	31.0
	10×	0.25	13.0
	20×	0.4	3.6
	50×	0.75	0.5
	100×	0.9	0.31

Combination with digital camera

LV150N LED / LV150NA LED / LV100ND LED

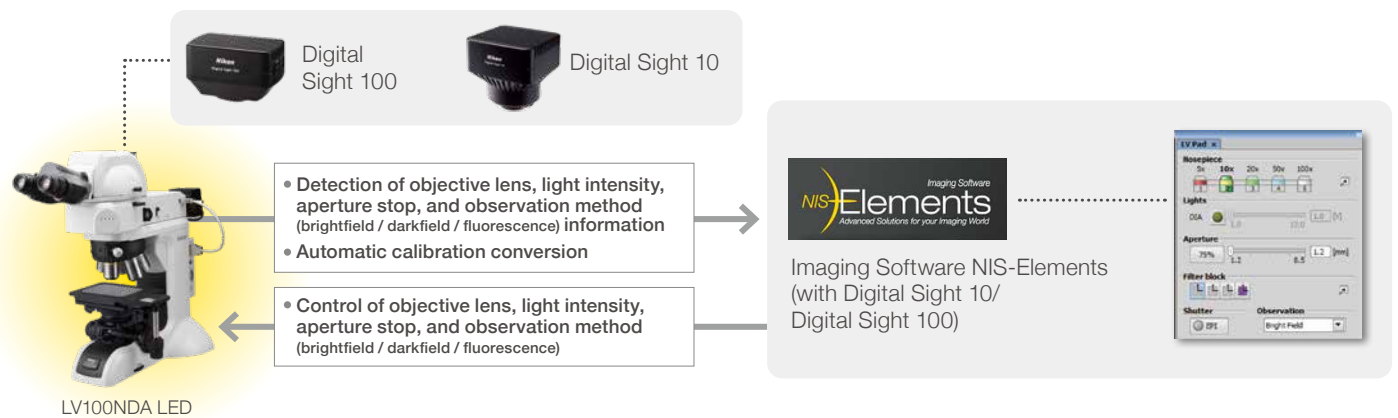**Objective lens information detection and control**

Information about the objective lens being used can be detected when combining the Intelligent Nosepiece LV-NU5IN and the Nosepiece Adaptor LV-INAD. The information is automatically converted to appropriate calibration data when changing the magnification.

In addition, the LV150NA LED allows switching of objective lenses via the imaging software.

LV-NU5IN
Intelligent Nosepiece

LV-INAD
Nosepiece Adaptor

Digital Sight 100

Digital Sight 10

• Detection of objective lens information
• Automatic calibration conversion

• Control of objective lens

Imaging Software NIS-Elements
(with Digital Sight 10/ Digital Sight 100)

(When using LV-INAD combined with LV150N LED)

LV150N LED/ LV150NA LED/ LV100ND LED

LV100NDA LED

Microscope information detection and control

The LV100NDA LED allows detection of information and control of objective lenses, light intensity, aperture stop, and observation method (brightfield / darkfield / fluorescence) via the imaging software, enabling optimization of the conditions vital for image acquisition.

Digital Sight 100

Digital Sight 10

• Detection of objective lens, light intensity, aperture stop, and observation method (brightfield / darkfield / fluorescence) information
• Automatic calibration conversion

• Control of objective lens, light intensity, aperture stop, and observation method (brightfield / darkfield / fluorescence)

Imaging Software NIS-Elements
(with Digital Sight 10/ Digital Sight 100)

LV100NDA LED

Compatibility Chart of Information Detection and Control by Model

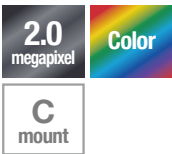| ◎: Information detection and control possible ○: Information detection only	LV150N LED/LV100ND LED (When using LV-NU5IN and LV-INAD)	LV150NA LED	LV100NDA LED (When using LV-UEPI2A Illuminator)
	Digital Sight 10/Digital Sight 100 (+NIS-Elements)		
Objective lens	○	◎	◎
Reflected illumination (ON/OFF, light intensity adjustment) *When using C-LL-I	—	—	◎
Transmitted illumination (ON/OFF, light intensity adjustment)	—	—	◎
Aperture stop	—	—	◎
Observation method selector (brightfield / darkfield / fluorescence)	—	—	◎

Note: With NIS-Elements LE, functions above are not available. Use NIS-Elements D/Br/Ar.

Digital Sight series
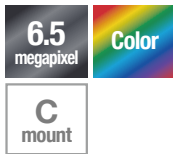
Microscope Camera

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.
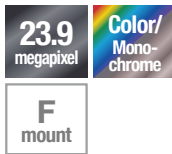
2.0 megapixel | **Color** | **C mount**

Digital Sight 100

Combined with industrial microscopes, the camera delivers 6.5-megapixel resolution (2944×2208 pixels). HDMI monitor output enables on-site observation without a PC.

6.5 megapixel | **Color** | **C mount**

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.

23.9 megapixel | **Color/ Mono- chrome** | **F mount**

MaxFrame Rate	30 fps (1920×1080)	60 fps (1600×900)	55 fps (2000×1328)
Max Recordable Pixels	1920×1080	2944×2208	6000×3984

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

Imaging software NIS-Elements
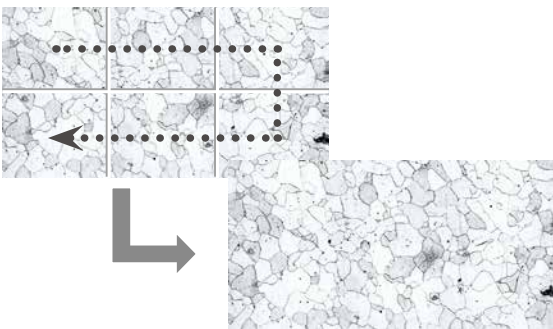
Using a desktop PC

D | Ar | Br | F

Using a desktop PC / tablet PC

LE

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

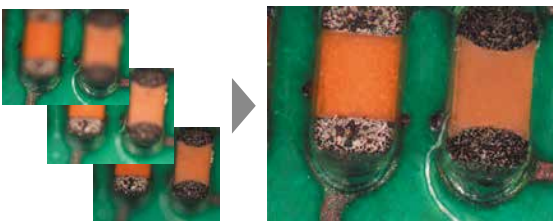### Image Stitching

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	Circle distance
Area	Pitch distance
Circle	
Angle	

Annotate function

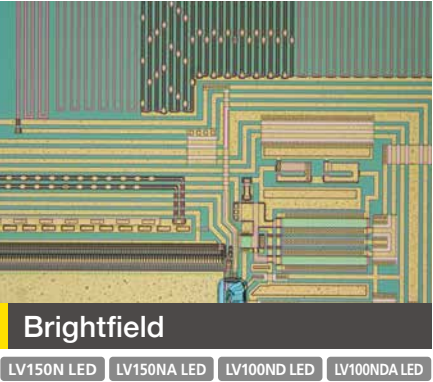| Line | Marker |
| Arrow | Polyline |
| Text | |

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
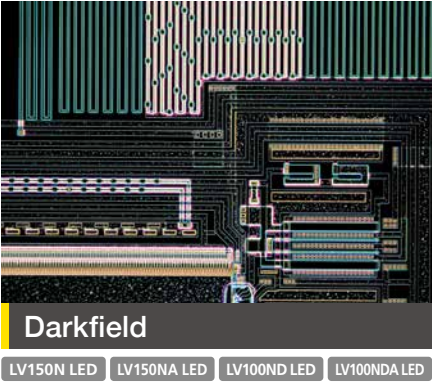• Metal, Ceramic/Plastic
• Flat Panel Display

Observation Methods

Compatible with a wide range of observation / optical contrast methods: In reflected light mode -brightfield, darkfield, polarizing, differential interference, epi-fluorescence, and two-beam interferometry, and in Transmitted light mode- brightfield, darkfield, polarizing, differential interference, and phase contrast.

Brightfield

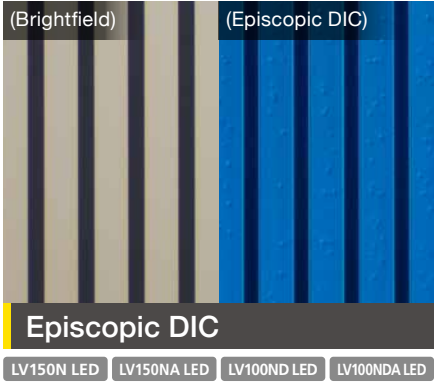`LV150N LED` `LV150NA LED` `LV100ND LED` `LV100NDA LED`

Semiconductors (IC wafers)
From its objective lenses to its illumination systems, the LV-N Series offers thorough measures against flare and provides bright, high-contrast images.

Darkfield

`LV150N LED` `LV150NA LED` `LV100ND LED` `LV100NDA LED`
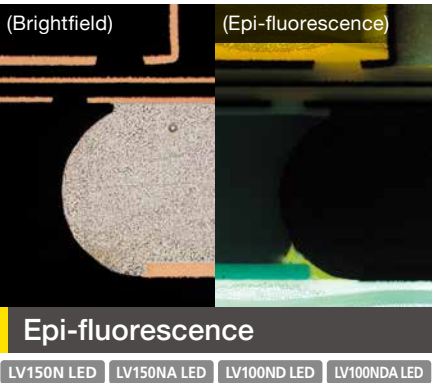
Semiconductors (IC wafers)
The use of Nikon's unique concepts in the objective lens darkfield illumination system enables bright darkfield observation and provides high-sensitivity detection of level differences and defects in samples.

(Brightfield) / (Episcopic DIC)

Episcopic DIC

`LV150N LED` `LV150NA LED` `LV100ND LED` `LV100NDA LED`

Substrate
Standard-type and high-contrast-type DIC sliders are available to match samples. The LV-N Series is effective for applications such as observation of minute level differences in devices and precision molds.

(Brightfield) / (Epi-fluorescence)

Epi-fluorescence

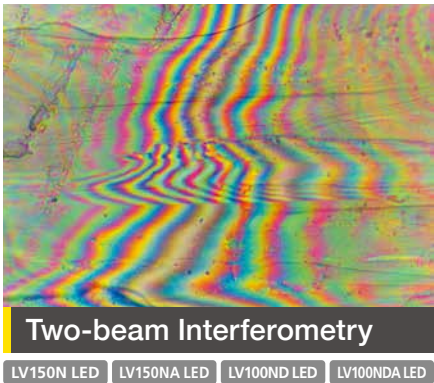`LV150N LED` `LV150NA LED` `LV100ND LED` `LV100NDA LED`

Substrate (solder)
The LV-N Series demonstrates superiority in the observation of samples with fluorescent properties, such as organic ELs or mounted substrates.

(Brightfield) / (Polarizing)

Polarizing

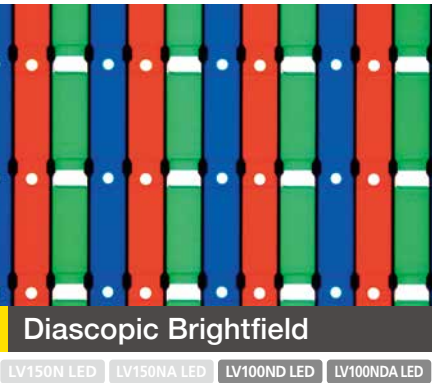`LV150N LED` `LV150NA LED` `LV100ND LED` `LV100NDA LED`

Minerals
The LV-N Series is effective in the observation of samples with birefringent properties, such as liquid crystals or plastics/glass containing distortion.

Two-beam Interferometry

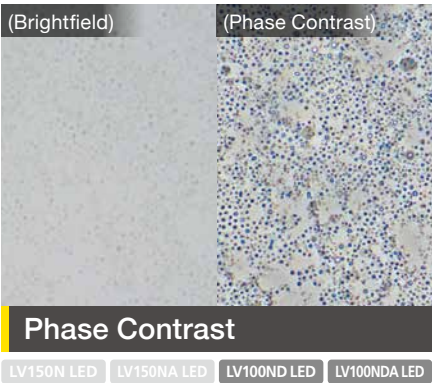`LV150N LED` `LV150NA LED` `LV100ND LED` `LV100NDA LED`

Mica
Michelson (TI) and Mirau (DI) reflection-type two-beam interferometry is possible with the LV-N Series. When used with micrometer eyepieces, minute level differences can be detected and measured without contact with the sample.

Diascopic Brightfield

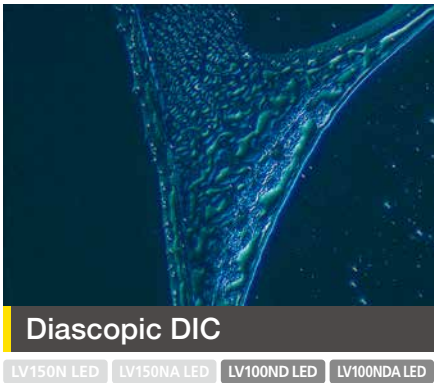`LV150N LED` `LV150NA LED` `LV100ND LED` `LV100NDA LED`

LCD (color filter)
The LV-N Series is effective in the observation of samples with transparency, such as optical components, FPDs, and slide glass samples. When used in conjunction with the C-SP Simple Polarizer and analyzers, transmitted simple polarized observation is possible.

(Brightfield) / (Phase Contrast)

Phase Contrast

`LV150N LED` `LV150NA LED` `LV100ND LED` `LV100NDA LED`

Emulsion
Colorless, transparent samples can be made visible through bright/dark contrast and the use of diffraction and interference, two properties of light.

Diascopic DIC

`LV150N LED` `LV150NA LED` `LV100ND LED` `LV100NDA LED`

Nanoparticle (silver)
Colorless, transparent samples can be observed in three dimensions by using polarization to create interference between two beams of light.

Specifications

	LV150N LED	LV150NA LED
Base unit	Maximum sample height: 38 mm (when used with LV-NU5A Nosepiece and LV-S32 3x2 stage / LV-S64 6x4 stage) *73 mm when used with one column riser Coarse and fine adjustment knobs Left: coarse and fine adjustment / Right: fine adjustment, 40 mm stroke Coarse adjustment: 14 mm/turn (with torque adjustment, refocusing mechanism) Fine adjustment: 0.1 mm/turn (1 μm/graduation) Stage mounting hole intervals: 70 x 94 (fixed by 4-M4 screw)	
Nosepieces	C-N6, LV-NU5N, LV-NBD5N, LV-NU5IN	LV-NU5A, LV-NU5AC, LV-NU5AI
Episcopic Illuminators	**LV-UEPI-N** High color-rendering LED Lamphouse C-LL-I: 50,000 hours of life [1], Bright/darkfield switch and linked aperture stop (centerable) field diaphragm (centerable), accepts ø25 mm filter (LV-C-LCB, ND4, ND16), polarizer/analyzer; equipped with noise terminator **LV-UEPI2** High color-rendering LED Lamphouse C-LL-I: 50,000 hours of life [1] Fluorescence LED light source D-LEDI (with light adjustment (PC controllable)) *option, field diaphragm (centerable), Bright/darkfield switch and linked aperture stop (centerable) automated optical element switching feature matched to brightfield, darkfield, and epi-fluorescence switch Accepts ø25 mm filter (LV-C-LCB, ND4, ND16), polarizer/analyzer, λ plate, excitation light balancer; equipped with noise terminator	
Eyepiece tubes	LV-TI3 trinocular eyepiece tube ESD (Erected image, FOV: 22/25), LV-TT2 TT2 tilting trinocular eyepiece tube (Erected image, FOV: 22/25) C-TB binocular tube (Inverted image, FOV: 22) , P-TB Binocular Tube (Inverted image, FOV: 22) P-TT2 Trinocular Tube (Inverted image, FOV: 22)	
Stages	LV-S32 3x2 stage (Stroke: 75 x 50 mm with glass plate) ESD compatible LV-S64 6x4 stage (Stroke: 150 x 100 mm with glass plate) ESD compatible LV-S6 6x6 stage (Stroke: 150 x 150 mm) ESD compatible	
Eyepieces	CFI eyepiece series	
Objective lenses	CFI60-2/CFI60 objective lens series: combination depends on observation method	
ESD performance	1,000 to 10V, within 0.2 sec. (excluding certain accessories)	
Power consumption	1.2 A / 75 W	
Weight	Approx. 9 kg	Approx. 9 kg

	LV100ND LED	LV100NDA LED
Base unit	Maximum sample height: 38 mm (when used with LV-NU5N Nosepiece and LV-S32 3x2 stage / LV-S64 6x4 stage) Coarse and fine adjustment knobs Left: coarse and fine adjustment / Right: fine adjustment, 40 mm stroke Coarse adjustment: 14 mm/turn (with torque adjustment, refocusing mechanism) Fine adjustment: 0.1 mm/turn (1 μm/graduation)	Maximum sample height: 33 mm (when used with LV-NU5AI Nosepiece and LV-S32 3x2 stage / LV-S64 6x4 stage) Coarse and fine adjustment knobs Left: coarse and fine adjustment / Right: fine adjustment, 40 mm stroke Coarse adjustment: 14 mm/turn (with torque adjustment, refocusing mechanism) Fine adjustment: 0.1 mm/turn (1 μm/graduation)
Nosepieces	C-N6, LV-NU5N, LV-NBD5N, LV-NU5IN, D-ND6, P-N	LV-NU5A, LV-NU5AC, LV-NU5AI
Episcopic Illuminators	**LV-UEPI-N** High color-rendering LED Lamphouse C-LL-I: 50,000 hours of life [1] Bright/darkfield switch and linked aperture stop (centerable), field diaphragm (centerable), accepts ø 25 mm filter (LV-C-LCB), polarizer/analyzer; equipped with noise terminator **LV-UEPI2** High color-rendering LED Lamphouse C-LL-I: 50,000 hours of life [1] Fluorescence LED light source D-LEDI (with light adjustment (PC controllable)) *option Bright/darkfield switch and linked aperture stop (centerable), field diaphragm (centerable), automated optical element switching feature matched to brightfield, darkfield, and epi-fluorescence switch Accepts ø 25 mm filter (LV-C-LCB, ND4, ND16), polarizer/analyzer, λ plate, excitation light balancer; equipped with noise terminator	**LV-UEPI2A** High color-rendering LED Lamphouse C-LL-I: 50,000 hours of life [1] Fluorescence LED light source D-LEDI (with light adjustment (PC controllable)) *option Motorized operation and control of illumination selector turret Motorized aperture stop linked to bright/darkfield selector (automatic optimization matched to objective lens), field diaphragm (centerable) Accepts ø 25 mm filter (LV-C-LCB, ND4, ND16), polarizer/analyzer, λ plate, excitation light balancer; equipped with noise terminator
Diascopic Illuminator	Built-in high color-rendering LED Lamphouse C-LL-I (50,000 hours of life) (Fly Eye optical system) [1] Internal aperture, field diaphragm, filter (45C-LCB); transmitted/reflected selector switch	
Eyepiece tubes	LV-TI3 trinocular eyepiece tube ESD (Erected image, FOV: 22/25), LV-TT2 tilting trinocular eyepiece tube (Erected image, FOV: 22/25), P-TB Binocular Tube (Inverted image, FOV: 22), P-TT2 Trinocular Tube (Inverted image, FOV: 22)	
Stages	LV-S32 3x2 stage (Stroke: 75 x 50 mm with glass plate) / LV-S32SGH slide glass holder LV-S64 6x4 stage (Stroke: 150 x 100 mm with glass plate), LV-SRP P revolving stage NIU-CSRR2 Ni-U right handle rotatable ceramic stage (Stroke: 78 x 54 mm) C-CSR2S right handle stage (Stroke: 78 x 54 mm: Used with stage adapter LV-SAD)	
Condensers	LWD achromat condenser (brightfield), LV-CUD U condenser dry (phase contrast, diascopic DIC, darkfield) Achromat 2x-100x slide condenser (brightfield), DF dry condenser (darkfield), and others	
Eyepieces	CFI eyepiece series	
Objective lenses	CFI60-2/CFI60 objective lens series: combination depends on observation method	
ESD performance	1,000 to 10V, within 0.2 sec. (excluding certain accessories)	
Power consumption	0.7 A / 58 W [2]	0.7 A / 58 W [2]
Weight	Approx. 9 kg	Approx. 10 kg

[1] Estimated value based on Nikon regulations　[2] Reference value based on Nikon regulations
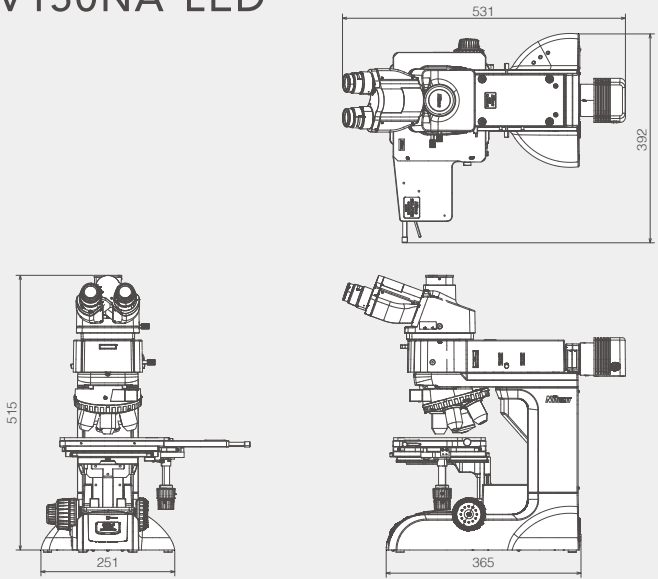
Lens Specifications

Type	Model	Magnification	Product Code No.	NA	Working Distance (mm)
Brightfield	T Plan EPI Plan (Achromat)	1×	MUE12010	0.03	3.8
		2.5×	MUE12030	0.075	6.5
	TU Plan Fluor EPI Universal Plan Fluor (Semi-apochromat)	5×	MUE12050	0.15	23.5
		10×	MUE12100	0.3	17.5
		20×	MUE12200	0.45	4.5
		50×	MUE12500	0.8	1.0
		100×	MUE12900	0.9	1.0
	TU Plan Apo EPI Universal Plan Apo (Apochromat)	50×	MUC11500	0.8	2.0
		100×	MUC11900	0.9	2.0
		150×	MUC11150	0.9	1.5
Polarizing	TU Plan Fluor EPI P Polarizing Universal Plan Fluor (Semi-apochromat)	5×	MUE13050	0.15	23.5
		10×	MUE13100	0.3	17.5
		20×	MUE13200	0.45	4.5
		50×	MUE13500	0.8	1.0
		100×	MUE13900	0.9	1.0
Brightfield Long Working Distance	TU Plan EPI ELWD Long Working Distance Universal Plan (Semi-apochromat)	20×	MUE21200	0.4	19.0
		50×	MUE21500	0.6	11.0
		100×	MUE21900	0.8	4.5
Brightfield Super-long Working Distance	T Plan EPI SLWD Super-long Working Distance Plan (Semi-apochromat)	10×	MUE31100	0.2	37.0
		20×	MUE31200	0.3	30.0
		50×	MUE31500	0.4	22.0
		100×	MUE31900	0.6	10.0
Brightfield/Darkfield	TU Plan Fluor BD Universal Plan Fluor (Semi-apochromat)	5×	MUE42050	0.15	18.0
		10×	MUE42100	0.3	15.0
		20×	MUE42200	0.45	4.5
		50×	MUE42500	0.8	1.0
		100×	MUE42900	0.9	1.0
	TU Plan Apo BD Universal Plan Apo (Apochromat)	50×	MUC41500	0.8	2.0
		100×	MUC41900	0.9	2.0
		150×	MUC41150	0.9	1.5
Brightfield/Darkfield Long Working Distance	TU Plan BD ELWD Long Working Distance Universal Plan (Semi-apochromat)	20×	MUE61200	0.4	19.0
		50×	MUE61500	0.6	11.0
		100×	MUE61900	0.8	4.5

CFI60-2

- 〰: Phase Fresnel lens (diffraction optical element) type
- A circular polarizing plate and depolarizer are built into T Plan EPI 1x/2.5x. (Circular polarizing plate can be attached/detached.)

Type	Model	Magnification	Product Code No.	NA	Working Distance (mm)
Brightfield With Correction Mechanism	L Plan EPI CR For Inspecting LCDs Plan	20×	MUE35200	0.45	10.9 - 10.0
		50×	MUE35500	0.7	3.9 - 3.0
		100×	MUE35900	0.85	1.2 - 0.85
		100×	MUE35910	0.85	1.3 - 0.95
Brightfield	L Plan EPI Plan (Achromat)	40×	MUE00400	0.65	1.0
Brightfield	LE Plan EPI (Achromat)	5×	MUD00050	0.1	31.0
		10×	MUD00100	0.25	13.0
		20×	MUD00200	0.4	3.6
		50×	MUD00500	0.75	0.5
		100×	MUD00900	0.9	0.31

CFI60

Dimensions (Unit: mm)

LV150N LED / LV150NA LED

LV100ND LED

LV100NDA LED

*Using fluorescence LED light source (D-LEDI) and D-LEDI Adapter
 for fluorescence observation

System Diagram

for LV150N LED/LV150NA LED/LV100ND LED/LV100NDA LED

C-mount Camera

MQD51045/MQD42045/MQD42066
C-mount Adapter 0.35X/0.45X/0.6X

MQD42005 C-mount Adapter C-DA

MQD42075 C-mount Adapter 0.7X

MQA19000 Digital Sight 1000

MQA23000 Digital Sight 100

MQA20000 Digital Sight 10

MAK30105 CFI UW 10×

MBJ62105 LV-10× ESD CH F.N.ø22

MAK10110 CFI 10× F.N.ø22

MAK12105 CFI 10×CM F.N.ø22

MAK10120 CFI 12.5× F.N.ø16

MAK10150 CFI 15× F.N.ø14.5

MAK85005 C-CT Centering Telescope

MED53130 T-BPA Photo Adapter

MQD42120 C-mount Adapter VM2.5x

MQD42140 C-mount Adapter VM4x

MQD42056 C-mount Adapter 0.55X

MQD43020 F-mount Adapter 2.5X

MQD44000 DS10-IRCF Motorized Adapter

MQD43000 F-mount Adapter

ø25

Below ø22

MBE41201, etc Fluorescence Filter Block

MBE64100 LV-PAB Cube

MBB75710 C-ER Eyelevel Riser

MBE60310 LV-UEPI2A Motorized Universal Epi-illuminator 2

MBN66923 LV-PO Polarizer

MBN66922 L-AN Analyzer

MBN66927 LV-UPO Polarizer

MBN66925 LV-FLAN FL Analyzer

MBB63435 LV-TV TV Adapter

MBB73525 Y-V TV Tube

MBB73550 Y-TV55 TV Tube

MBB63425 LV-TI3 Trinocular Tube TI3

MBB61000 LV-TT2 Tilting Trinocular Tube

MBB74100 Y-IDP Double Port (100/0-55/45)

MBE60300 LV-UEPI2 Universal Epi-Illuminator 2

MBN66924 LV-λP λ Plate

MBN66760 ND Slider

MDB92105 P-TB2 Binocular Tube

MDB93105 P-TT3 Trinocular Tube

MBB92106 C-TB Binocular Tube

MXA20714 0.5× Tube Unit

MBB74105 Y-IDP Double Port (0-100)

MBE60201 LV-UEPI-N Universal Epi-Illuminator

MBN71930 D-FB Excitation Balancer

MBN66950 LV-C-LCB

MDV40100 P-CS Senarmont Compensator

MDB45305 P-I Tube

MBD65031 LV-CR Column Riser 35

MBD65030 LV-ARM Basic Arm

MDV40200 P-CQ Quartz Wedge

MDV40300 P-CLλ Plate

MBD65040 LV-FMA Motorized Focusing Module A

MBD65050 LV-FM Focusing Module

MBD64080 LV-IM Focusing Module

MBD64070 LV-IMA Focusing Module A

MBF12200 LV-ECON E Controller

MBA61040 LV150NA LED

MBA61050 LV150N LED

MBA61150 LV100ND LED
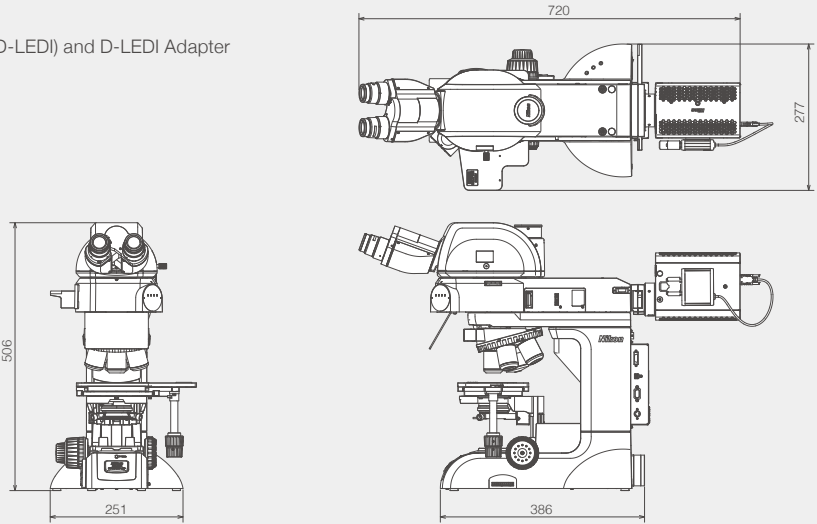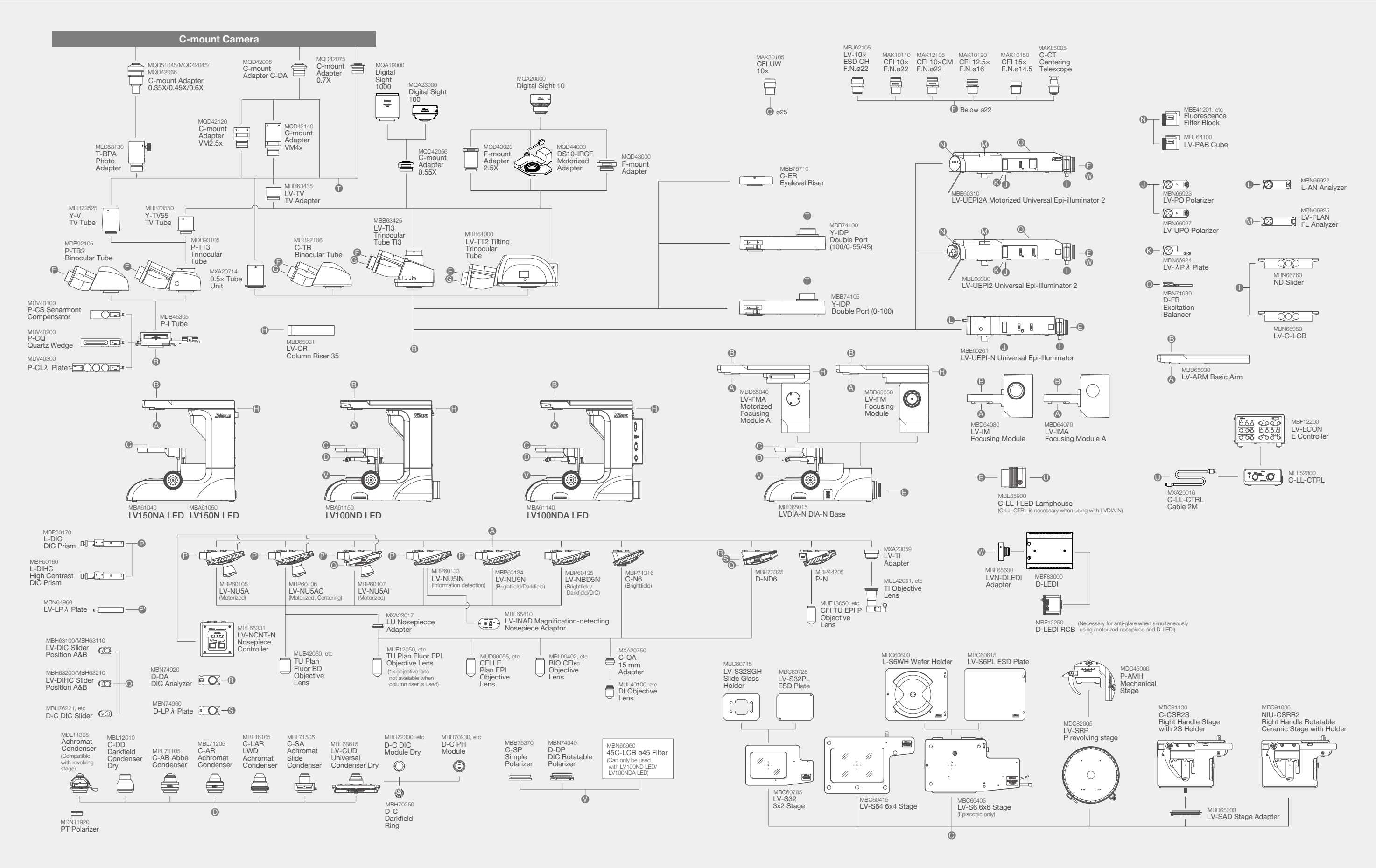
MBA61140 LV100NDA LED

MBD65015 LVDIA-N DIA-N Base

MBE65900 C-LL-I LED Lamphouse (C-LL-CTRL is necessary when using with LVDIA-N)

MEF52300 C-LL-CTRL

MXA29016 C-LL-CTRL Cable 2M

MBP60170 L-DIC DIC Prism

MBP60160 L-DIHC High Contrast DIC Prism

MBN64960 LV-LP λ Plate

MBP60105 LV-NU5A (Motorized)

MBP60106 LV-NU5AC (Motorized, Centering)

MBP60107 LV-NU5AI (Motorized)

MBP60133 LV-NU5IN (Information detection)

MBP60134 LV-NU5N (Brightfield/Darkfield)

MBP60135 LV-NBD5N (Brightfield/Darkfield/DIC)

MBP71316 C-N6 (Brightfield)

MBP73325 D-ND6

MDP44205 P-N

MXA23059 LV-TI Adapter

MBE65600 LVN-DLEDI Adapter

MBF83000 D-LEDI

MBF65331 LV-NCNT-N Nosepiece Controller

MXA23017 LU Nosepiece Adapter

MBF65410 LV-INAD Magnification-detecting Nosepiece Adaptor

MUL42051, etc TI Objective Lens

MUE13050, etc CFI TU EPI P Objective Lens

MBF12250 D-LEDI RCB (Necessary for anti-glare when simultaneously using motorized nosepiece and D-LEDI)

MBH63100/MBH63110 LV-DIC Slider Position A&B

MBH63200/MBH63210 LV-DIHC Slider Position A&B

MBH76221, etc D-C DIC Slider

MBN74920 D-DA DIC Analyzer

MBN74960 D-LP λ Plate

MUE42050, etc TU Plan Fluor BD Objective Lens

MUE12050, etc TU Plan Fluor EPI Objective Lens (1x objective lens not available when column riser is used)

MUD00055, etc CFI LE Plan EPI Objective Lens

MRL00402, etc BIO CFI60 Objective Lens

MXA20750 C-OA 15 mm Adapter

MUL40100, etc DI Objective Lens

MBC60715 LV-S32SGH Slide Glass Holder

MBC60725 LV-S32PL ESD Plate

MBC60600 L-S6WH Wafer Holder

MBC60615 LV-S6PL ESD Plate

MDC45000 P-AMH Mechanical Stage

MDL11305 Achromat Condenser (Compatible with revolving stage)

MBL12010 C-DD Darkfield Condenser Dry

MBL71105 C-AB Abbe Condenser

MBL71205 C-AR Achromat Condenser

MBL16105 C-LAR LWD Achromat Condenser

MBL71505 C-SA Achromat Slide Condenser

MBL68615 LV-CUD Universal Condenser Dry

MBH72300, etc D-C DIC Module Dry

MBH70230, etc D-C PH Module

MBB75370 C-SP Simple Polarizer

MBN74940 D-DP DIC Rotatable Polarizer

MBN66960 45C-LCB ø45 Filter (Can only be used with LV100ND LED/LV100NDA LED)

MBC91136 C-CSR2S Right Handle Stage with 2S Holder

MBC91036 NIU-CSRR2 Right Handle Rotatable Ceramic Stage with Holder

MDN11920 PT Polarizer

MBH70250 D-C Darkfield Ring

MBC60705 LV-S32 3x2 Stage

MBC60415 LV-S64 6x4 Stage

MBC60405 LV-S6 6x6 Stage (Episcopic only)

MDC82005 LV-SRP P revolving stage

MBD65003 LV-SAD Stage Adapter

⚠ **WARNING** | TO ENSURE CORRECT USAGE, READ THE CORRESPONDING MANUALS CAREFULLY BEFORE USING THE EQUIPMENT.

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