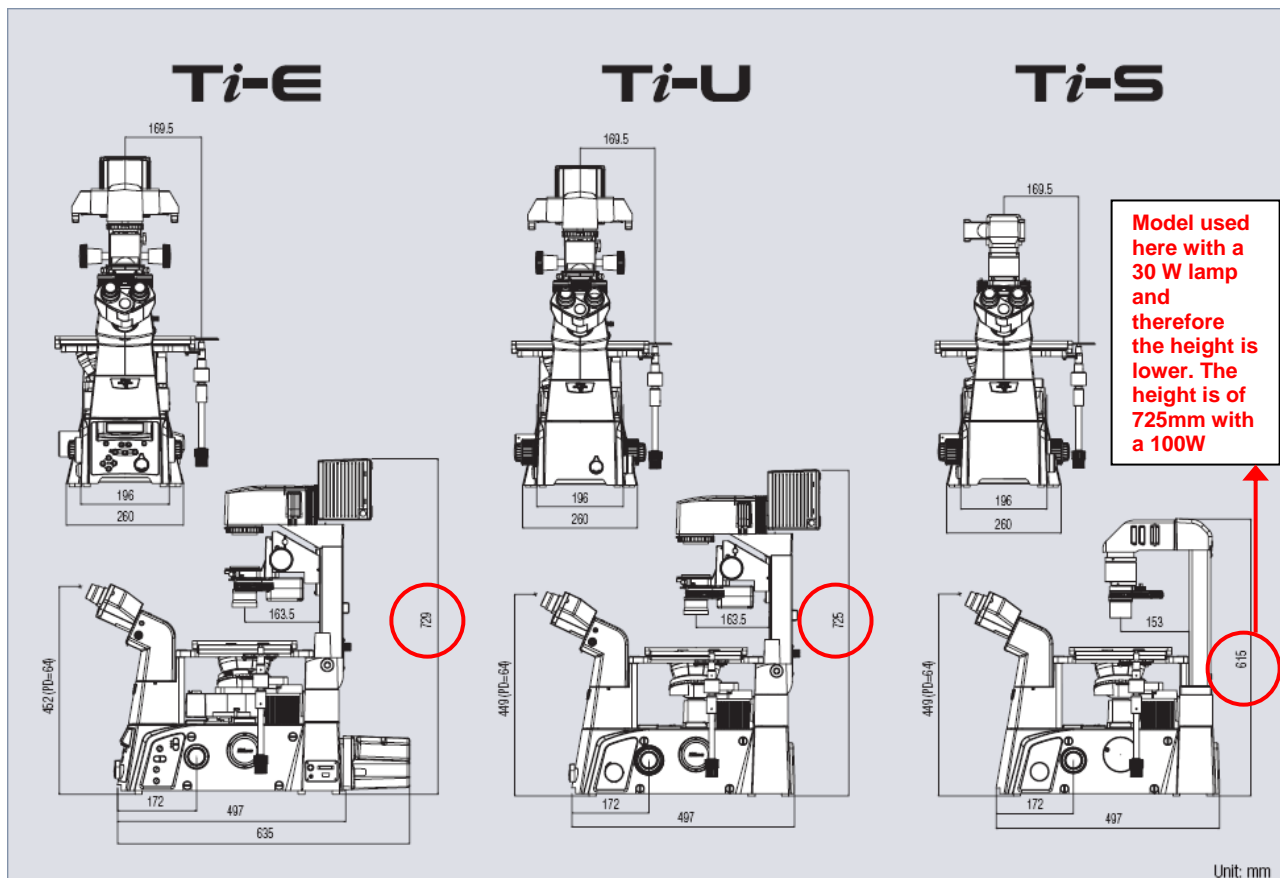


Procedure for Integrating an inverted Nikon Ti within an L126MP or L124ICSI

1. Introduction

The Nikon Ti used with a 100 W halogen light has a height problem and therefore cannot be integrated into our L126MP or L124 ICSI workstation. The heights with the Illumination lamp are ranging between 729mm and 725mm. The heights of our concerned workstations are of 730 mm; this leaves no space for the installation.



2. Solution

The solution was proposed by Nikon France and permits the integration of all the Ti models within the L126 MP and the L124 ICSI.

This solution is based on exchanging the lamp of 100 W by a **special** 50 W lamp that has similar and even superior performance and brightness.

High-Intensity 12V-50W Halogen Light Source:

LV-LH50PC Precentered Lamphouse

Although the LV-LH50PC Precentered Lamphouse is 12V-50W, the brightness is equivalent to or higher than that of 12V-100W. The low power-consumption halogen light source contributes to the compact design of the microscope while also being friendly to the environment. Defocus induced by heat is substantially reduced.



Why is 50W brighter than 100W?

Image brightness is not determined by wattage. Nikon's new light source delivers greater brightness by optimizing the lamp filament size and improving pupil illumination fulfillment by optically expanding the size of the light source. This has resulted in a 50W light source that is brighter than a 100W lamp. With 50x or higher objectives, brightness is about 20% greater under episcopic illumination, 40-50% greater with diascope illumination, than previous Nikon illuminators.

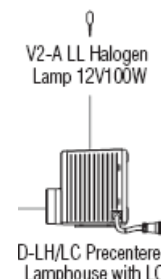
This solution is existent in the Eclipse Inverted Microscopes used for Industrial application. Please refer to the file LV150LV100DLV-IMLV-FM.pdf attached further to this note.

3. Parts to be replaced

In order to install the Nikon Ti, you will need to follow the following instructions:

Do **not** order following items:

- 100 W Lamp House D-LH/LC (Nikon Reference: MBE75221)
- Light bulb V2-ALL 12V 100W (Nikon reference: MXA20434)

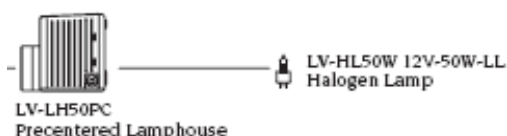


Above items have to be replaced by the parts mentioned in step 4.

4. Parts to be ordered

- 50W Lamp House LV-LH 50PC (Nikon Reference: MBE65270)
- LV-HL 12V 50W bulb (Nikon Reference: MXA23045)
- YM-EPI 3 pin extension cord (Nikon reference MXA29002).

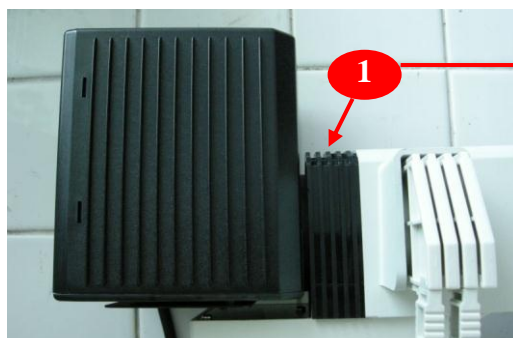
All the mentioned references (MBE65270, MXA23045, and MXA29002) have to be ordered.



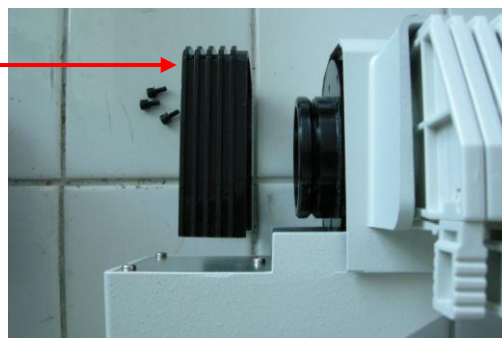
5. Installation changes and procedure.

The installation requires some modifications documented hereunder.

- a- In order to fix the 50W lamphouse on the diascopic 100W illumination pillar, there are some simple modifications to do.
- 1- Unscrew the black plastic pieces as shown in the picture.



100 W lamphouse mounted on the illumination

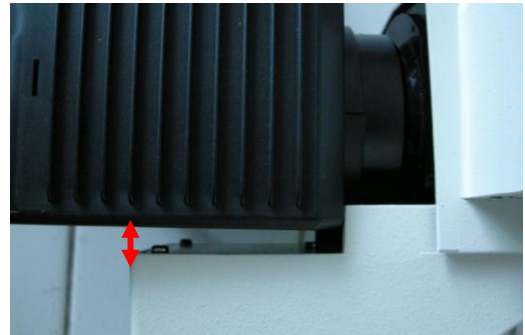


Unscrew the black plastic piece

- 2- Mount the 50W lamphouse to the diascopic 100W illumination pillar. As you can observe from the picture hereunder the lamphouse is not completely straight but fits well and can be fixed easily with the blocking screw.



50W lamphouse mounted to the diascopic 100W illumination pillar

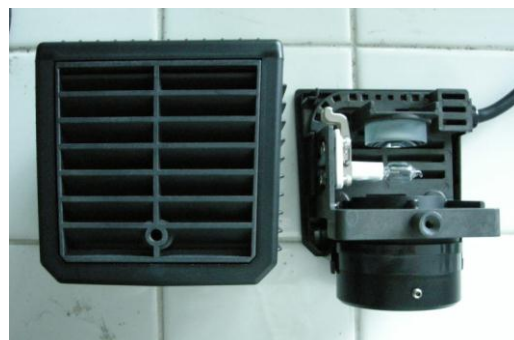


50W lamphouse comes not completely straight but can be screwed and it does not affect the usage

6. Differences between the 50W lamphouse and the 100W lamphouse



100W lamphouse interior



50W lamphouse interior





Industrial Microscopes
ECLIPSE LV150/LV150A/LV100D/LV100DA
LV Focusing Modules
LV-IM/LV-IMA/LV-FM/LV-FMA



ECLIPSE

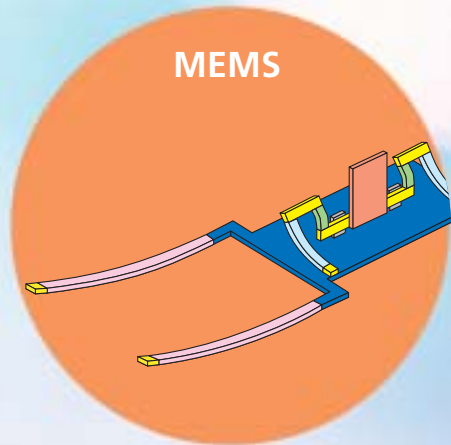
Industrial Microscopes

**LV150/LV150A
LV100D/LV100DA**

LV Focusing Modules

**LV-IM/LV-IMA
LV-FM/LV-FMA**

CFI60

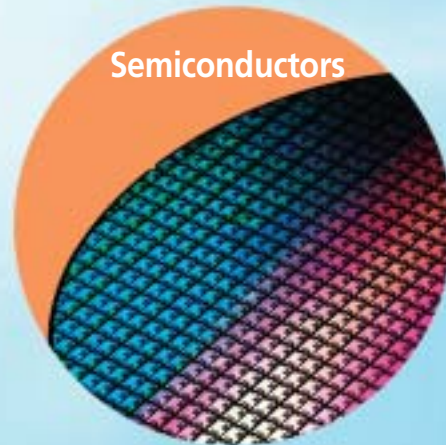


MEMS

- Printer heads
- Micro sensors
- Optical switches
- GMR heads for HDD

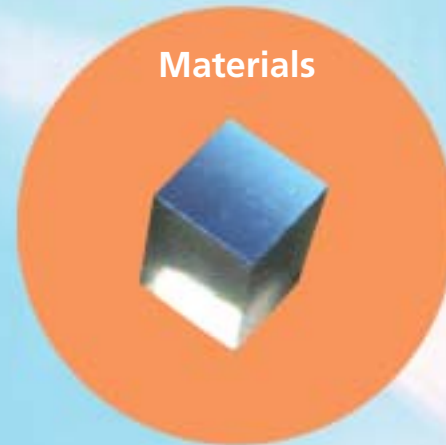


Versatility



Semiconductors

- Bare wafers
- Lithography process
- Probe, test processes
- Post-dicing



Materials

- Macromolecules, monomeric materials
- Organic/inorganic materials
- Polymers
- Thin film
- Magnetic materials
- Crystals
- Metallography



**Extend
Your
Vision**



IC Packages

- LF/TAB
- QFP
- BGA, CSP, FC
- WL-CSP
- SIP



Casts and Parts

- OA equipment parts
- Cell phones, PDAs, DSC, PC parts
- Automobiles, aeronautics



LV150/LV150A



LV100D



LV100DA

(To be released in Feb. 2006)



**LV-IM/LV-IMA
LV-FM/LV-FMA**

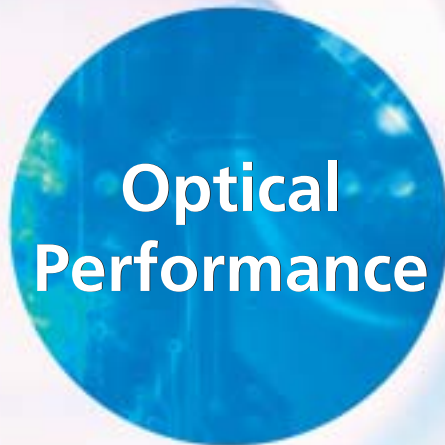
(To be released in Feb. 2006)

A versatile microscope system with a modular design

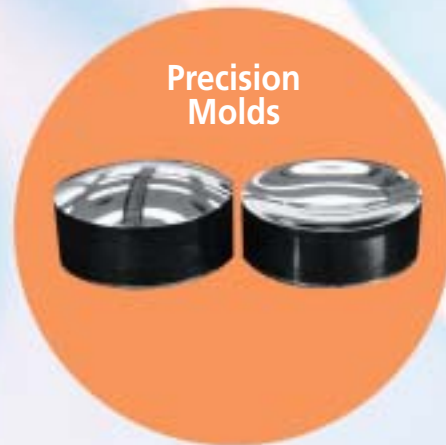


PCB

- Medium/small PCB
- FPC
- Interposer substrates



**Optical
Performance**



**Precision
Molds**

- Precision molds



FPD

- LCD, color filters
- Polarizing filters
- Organic EL



**Improved
Performance**



Display Devices

- CCD
- CMOS
- LCOS
- DMD

High-Intensity 12V-50W Halogen Light Source:

LV-LH50PC Precentered Lamphouse

Although the LV-LH50PC Precentered Lamphouse is 12V-50W, the brightness is equivalent to or higher than that of 12V-100W. The low power-consumption halogen light source contributes to the compact design of the microscope while also being friendly to the environment. Defocus induced by heat is substantially reduced.



High-intensity Mercury Fiber Light Source (for LV-UEPI2/LV-UEPI2A)

Use of the fiber light source eliminates the centering process when replacing the lamp and reduces the influence of heat to the microscope. Brightness can be mechanically adjusted in 5 steps from 0-100%. Two types are available: manual type and PC-control type that enables external control via RS-232C interface. When configured with the LV150A or LV100DA microscope, use the PC-control type that enables control via the LV-ECON controller.



Manual control type

Why is 50W brighter than 100W?

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LV-EPILED White LED Illuminator

With emphasis on light weight and compact design, this white LED illuminator was specially developed for brightfield use. It is operated via the attached power source controller. By using the LV-ECON E controller, external control is also possible.



LV150/LV150A

(Episcopic Illumination Type)



An example configuration of the LV150A

Motorized nosepiece controls



LV100D

(Episcopic/Diascopic Illumination Type)

LV-TT2 Tilting Trinocular Tube

The LV-TT2 is a tilting trinocular tube that has an optical path changeover of 100:0/20:80.

LV-LH50PC 12V-50W Lamphouse

A low power-consumption 12V-50W halogen light source equivalent to or higher than the 12V-100W type.

CFI-Series Eyepiece

LV-UEPI2

The LV-UEPI2 illuminator enables brightfield, darkfield, DIC, simple polarizing, and UV excitation epi-fluorescence observations.

Nosepiece

Selectable from C-N6 (brightfield), L-NBD5 (bright/darkfield) and L-NU5 (universal) nosepieces.

LV-S32 3x2 Stage

This small, industrial-use stage has a triple-plate design and can be used for episcopic and diascopic illumination.

LV100D

The LV100D microscope is capable of episcopic and diascopic illumination.

CFI LU Plan Fluor Series

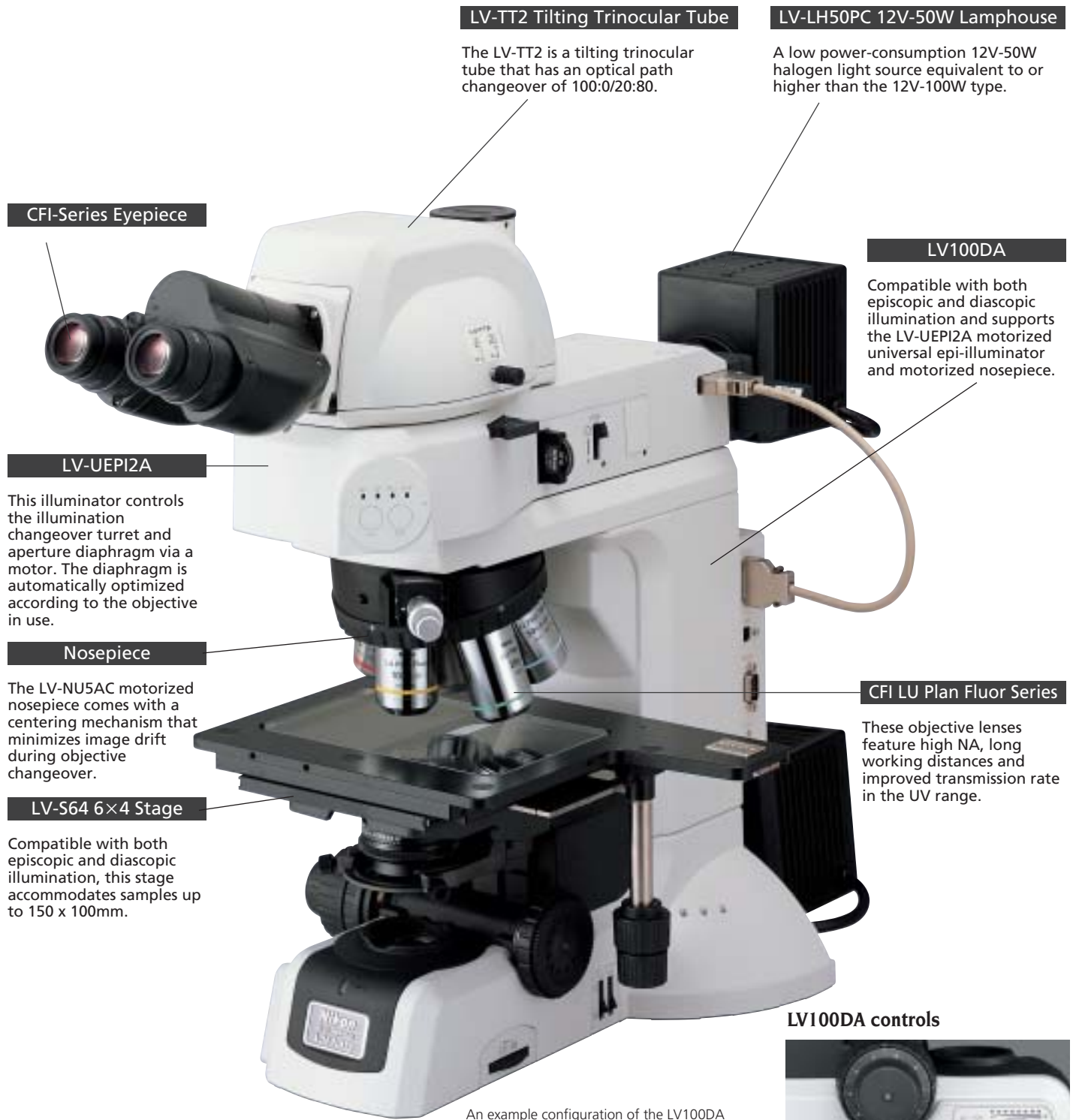
These objective lenses feature high NA, long working distances and improved transmission rate in the UV range.



An example configuration of the LV100D

LV100DA

(Episcopic/Diascopic Illumination Type)



CFI-Series Eyepiece

LV-UEPI2A

This illuminator controls the illumination changeover turret and aperture diaphragm via a motor. The diaphragm is automatically optimized according to the objective in use.

Nosepiece

The LV-NU5AC motorized nosepiece comes with a centering mechanism that minimizes image drift during objective changeover.

LV-S64 6×4 Stage

Compatible with both episcopic and diascopic illumination, this stage accommodates samples up to 150 x 100mm.

LV-TT2 Tilting Trinocular Tube

The LV-TT2 is a tilting trinocular tube that has an optical path changeover of 100:0/20:80.

LV-LH50PC 12V-50W Lamphouse

A low power-consumption 12V-50W halogen light source equivalent to or higher than the 12V-100W type.

LV100DA

Compatible with both episcopic and diascopic illumination and supports the LV-UEPI2A motorized universal epi-illuminator and motorized nosepiece.

CFI LU Plan Fluor Series

These objective lenses feature high NA, long working distances and improved transmission rate in the UV range.

LV100DA controls

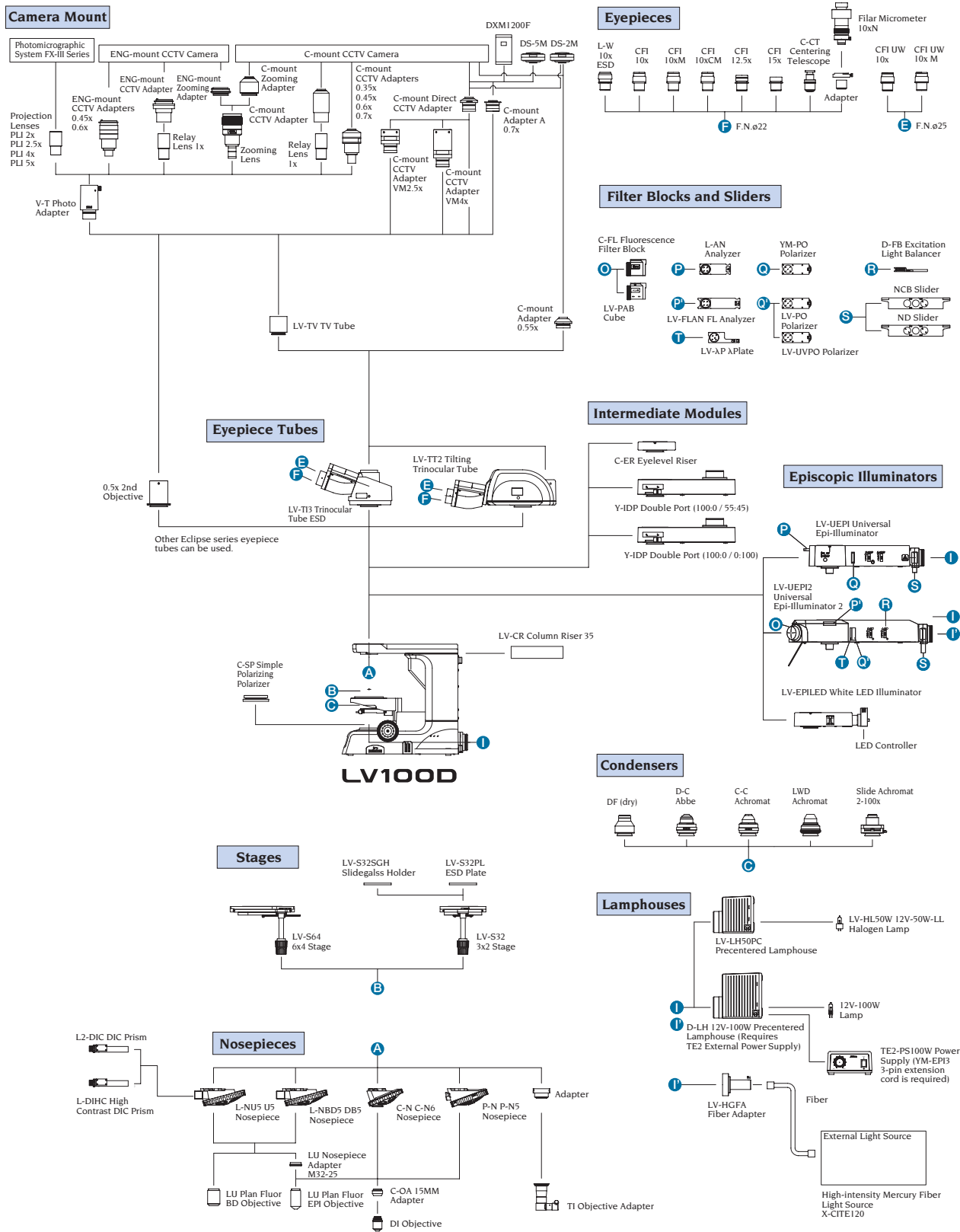
An example configuration of the LV100DA

Enable motorized control of motorized nosepiece, illumination changeover turrets, aperture diaphragm, light source (epi/dia), etc.



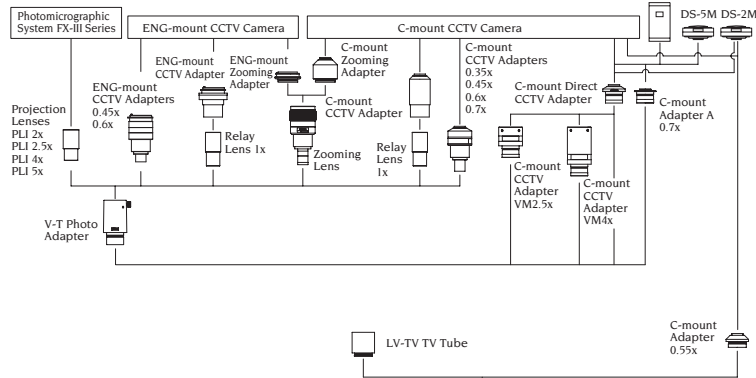
System Diagram

LV100D

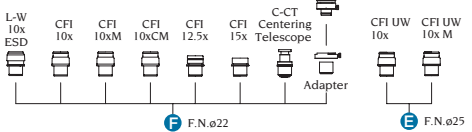


LV100DA/LV-FMA/LV-FM/LV-IMA/LV-IM

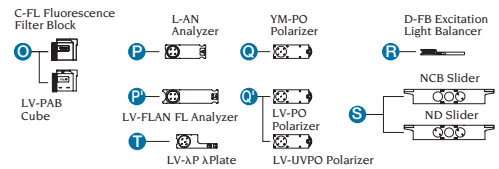
Camera Mount



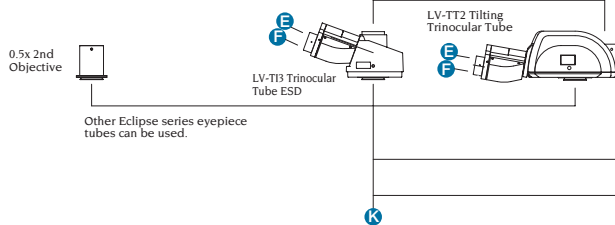
Eyepieces



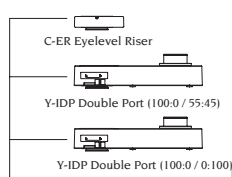
Filter Blocks and Sliders



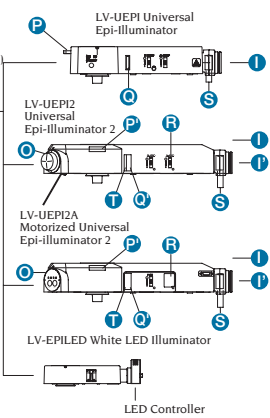
Eyepiece Tubes



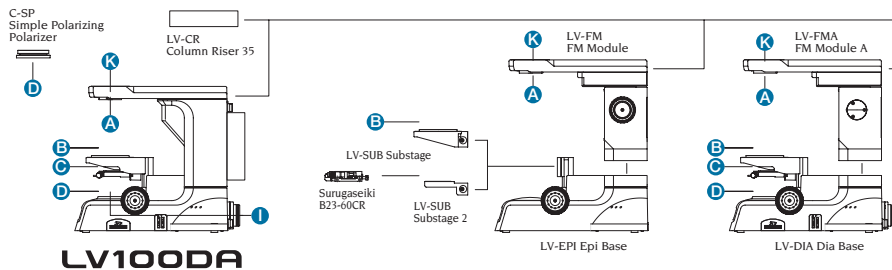
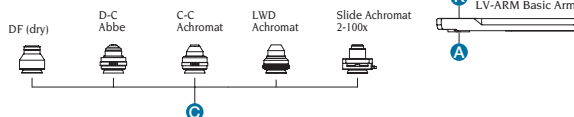
Intermediate Modules



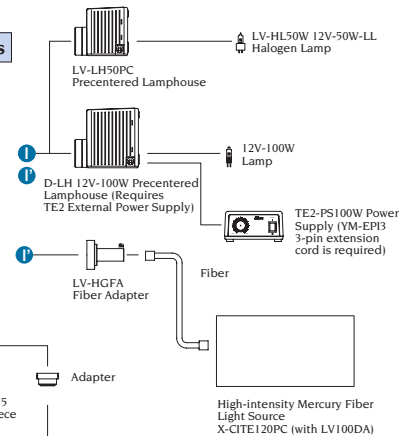
Episcopic Illuminators



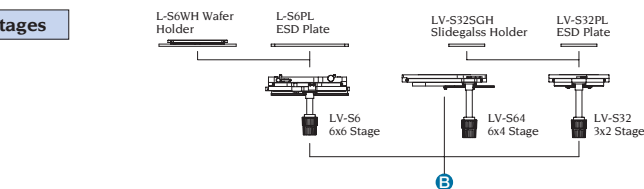
Condensers



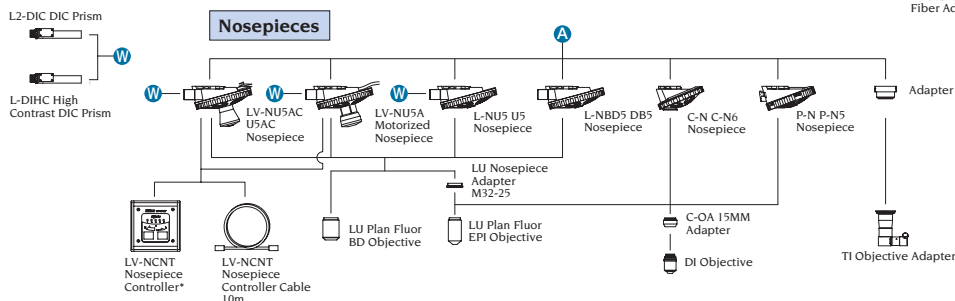
Lamphouses



Stages



Nosepieces



*Not necessary on the LV150A as the operation unit has been built into the main body.