

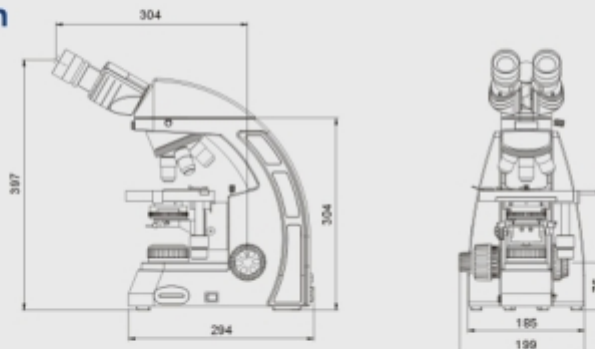
Illumins1 LED Biological Microscope

Worldclass optics combined with a comfortable ergonomic design

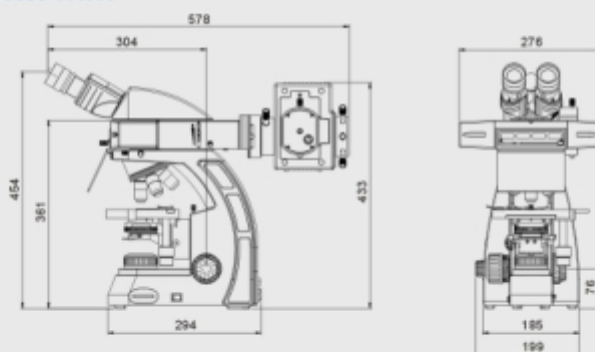


www.illumins.co.za
DirectX Trading Importers

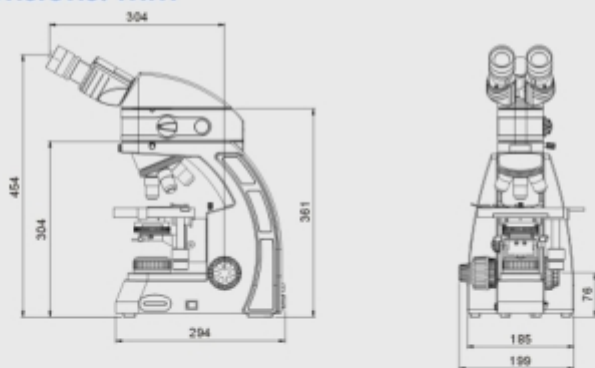
Llumins1 normal dimensions: mm



Llumins1 - fluorescence dimensions: mm



Llumins1 - LED fluorescence dimensions: mm



As technical improvement, manufacturer has right
to make renovation in designing without notice

Our manufacturers
has passed the certificate:

ISO 9001
ISO 14001
ISO 13485

Insist on the stable, suitable, safe efficient principle. Llumins1 has a simple and easy to use structural design. It is lighter and more compact than most microscopes with a smaller desk foot print while delivering immaculate clarity and vision.

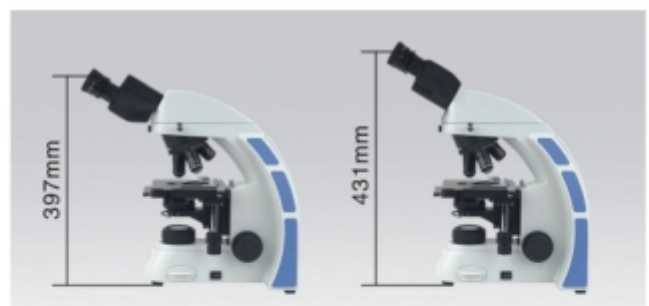
High-powered single LED cold light illuminator

The Llumins 1 biological microscope maintains a constant colour temperature. It provides a bright white background without a filter that is perfect for bright field observation and photography. The illuminator maintains stable brightness and temperature even if used for prolonged periods of time. In comparison with the halogen lamps, LED has lower electricity consumption and an easy plug in LED circuit board to ease replacement.



Rotating eyepiece tube design

The interpupillary distance range from 50 – 75mm and the eyepiece tube can be rotated 360 degrees essentially providing two height settings with a 34mm difference in height. The two height adjustments and smaller design allows for comfortable posture allowing less stress on the back and less strain on the eyes.



Broad beam imaging systems

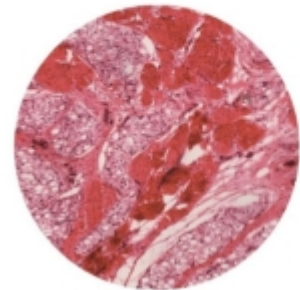
The 20mm filed plan high eye point eye pieces with adjustable dioptré limits breezing and a yellow green aperture. The wide field eye piece allows for a wider field of view. Eye pieces can be locked by screws to prevent accidental falls when moving the microscope.

New design objective

On order to get a perfect sharp image, LLumins makes continuous improvements in the optical design. The new infinity achromatic optical system applies semi-apochromatic objectives that improve the quality and contrast-ratio of the image. The image is brighter and revert the natural colour with the advanced multi-coating. These objectives are made of environmentally friendly materials, leaving a smaller biological footprint.

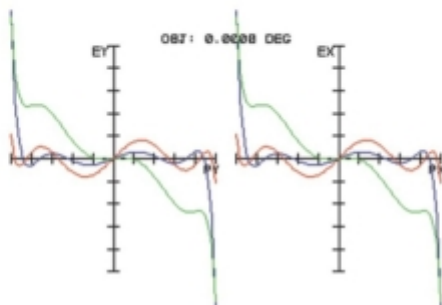


40X objective (new)

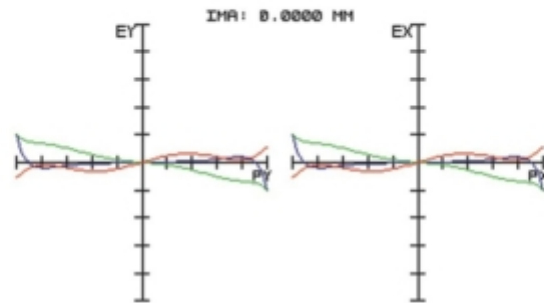


40X objective (traditional)

100X objective aberration curve contrast



Plan objective (traditional)



Plan objective(new)

Stable main body design

The triangular design ensures stability and rigidity and the curved profile lends an aesthetic appeal.

Safe handle design

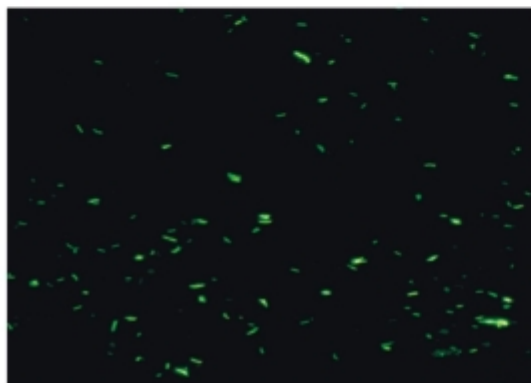
The handle on the back of the main body guarantees safety and easy handling when moving or transporting the microscope.



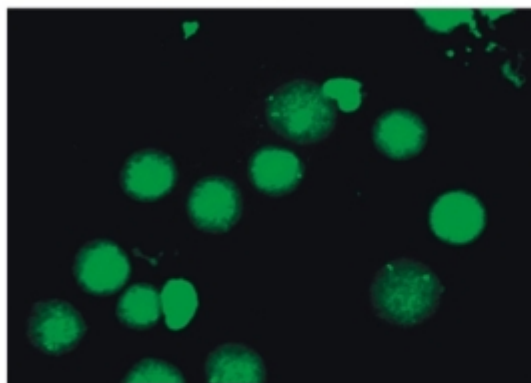
The break through LED fluorescence excitation illumination, stable, low radiation and pro-longed working life, offer you a fast and professional special diagnostic method.

Innovative Lumins1 single-band LED fluorescence microscope

The llumins 1 single band LED fluorescence microscope is designed for easy and convenient fluorescence microscopy. Multiple filter LED modules are available for your convenience. The LED illumination does not need preheating or cooling. It is ready on demand, saving you valuable time and improving your efficiency. The stable light, low temperature, low radiation and longer life span ensure safe and efficient use.

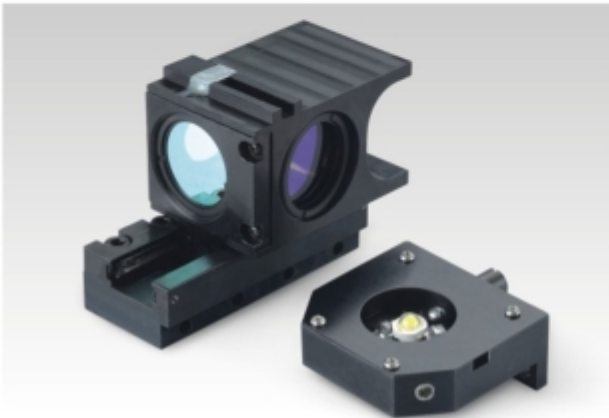


TB test



Immunofluorescence assay





Different LED fluorescence modules

Except for TB test modules B4, you could select B1, G1 or UV2 fluorescence module according to your preference. Several other modules are available.



Intensity control knob

By rotating the intensity control knob you can adjust the fluorescence intensity simply and easily.

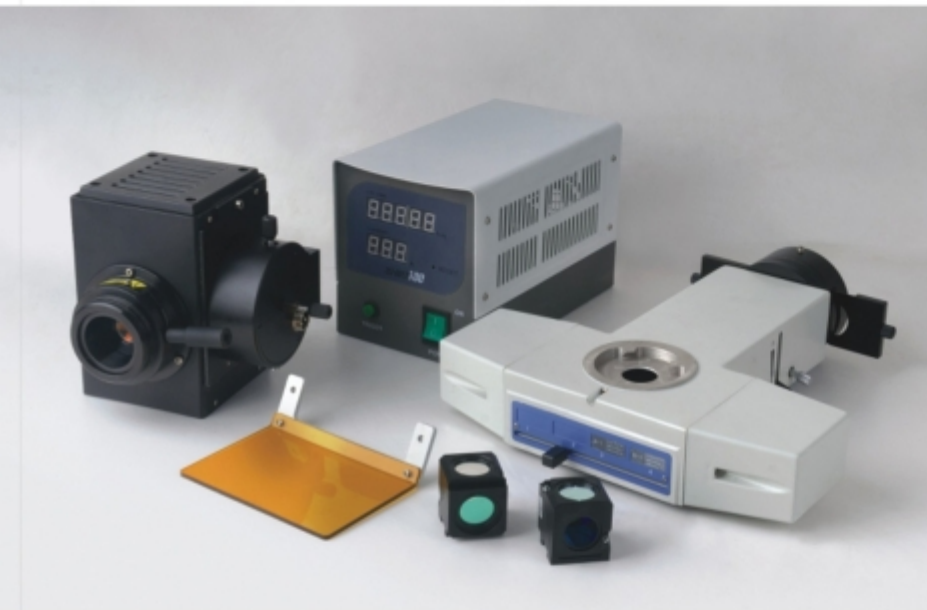
Fluorescence illumination with DC power supply

6V/2A direct-current power supply, external transformer. Easy connection and safe use.

Effortless switching from bright-field to fluorescence

By simply rotating the control knob, you can effortlessly switch between bright field and fluorescence microscopy.

Multi-band professional fluorescent illumination system, with its excitation spectrum covering a range from UV-light to visible light, provides you a total solution for observing normal fluorescent and multiple fluorescent staining.



Using EX30RFL fluorescence illuminator and different filters, you can fulfill professional fluorescence observation. Standard B、G wave band are specially applicable to GFP、FITC、CY2、Alexa Fluor 488、Texas Red、Mito Tracker Red and other protein detection, immunofluorescence analysis fluorescent probe. The microscope at most can be mounted on four fluorescent exciter filter.

Semi-apochromatic fluorescence objectives

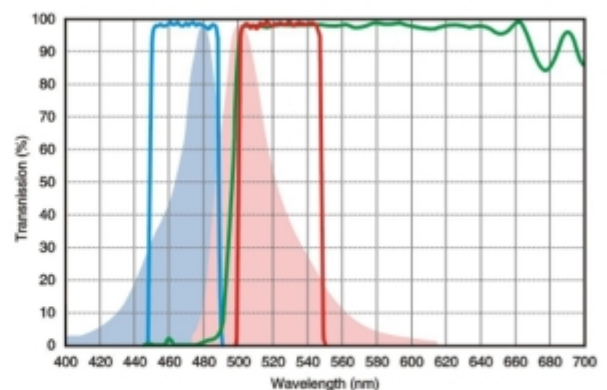
A new generation of professional infinity plan semi-apochromatic fluorescence lens with high numerical aperture, which is 25% higher than ordinary plan objective lens, can excite the sample with brighter light and make a substantial increase in image resolution and clarity.

The system uses the high quality environmental protection materials, no auto-fluorescence, high UV through rate. Compared with ordinary bright-field achromatic lens in bandwidth and UV transmittance, the objectives with wideband multi-coating technology have obvious advantages.



High-performance fluorescence filters

Our selected high-performance fluorescence filters not only have a high transmittance of the spectrum, but also have good depth and steepness of the cutoff line. Without a cross color but a high S/N ratio, fluorescence imaging contrast was promoted dramatically. We choose stray light elimination of the background to the filter blocks. Thus, the background of the image becomes darker, and the fluorescence brighter.





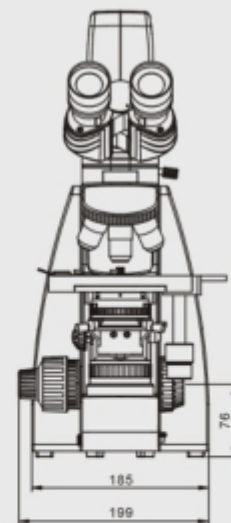
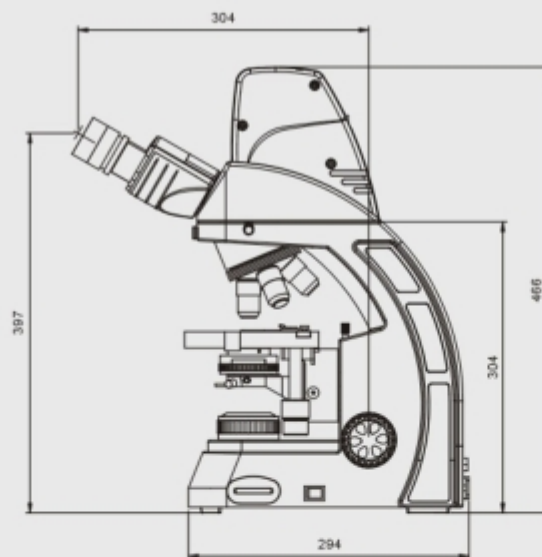
Digital microscope

The DM Llumins1 digital microscope used 3 or 5 million pixels figure chip and 1/2" target surface that can scan on-interlaced. USB2 compatibility ensures a fast output speed to capture picture in real time.

PhotoLib contains standard fuctions for picture processing as well as advanced fuctions such as particle automation recognition and automatic quantitive analysis.



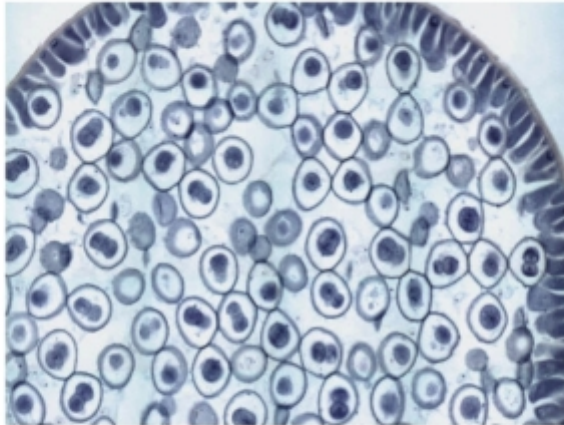
DM Llumins1 dimensions: mm



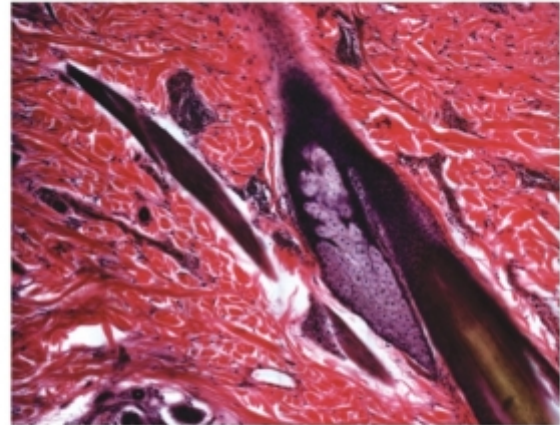
It combines many functions in one, such as bright-field, simply dark-field, simply polarizing, simply phase contrast etc. You can fulfill various tests, analysis. Also it can be used with phase contrast and fluorescence for professional use.

Bright-field observation

New plan achromatic objective used with Kohler illumination system can supply the sharp image after adjusting aperture diaphragm and field diaphragm. You can get high resolution and contrast ratio image at low or high magnification. 3W single LED illuminator supplies bright background. The microscope is compatible with halogen bulbs should this be a requirement.



Animal cell division
Bright-field 20X



Hair follicle of human skin
Bright-field 40X

Dark-field observation

Insert the dark-field spill into the condenser socket and pull dark-field diaphragm in, for simple dark-field observation. You can observe blood, flagellum, *Treponema pallidum* in dark-field between 4x-40x without a special dark-field condenser.



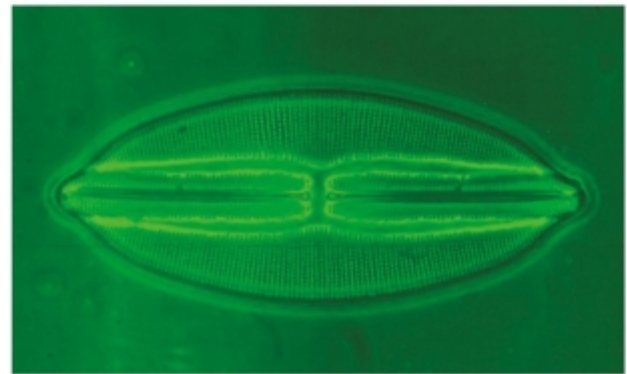
Simply polarizing observation



By using the simple polarising set, crystals, talc, amyloid etc can be observed with ease. This is done by simply inserting the polariser into the condenser and sliding the analyser into the viewing tube socket.

Phase contrast observation

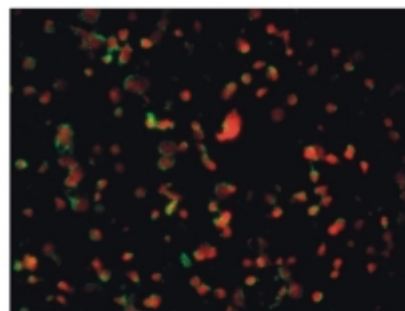
Phase contrast observation is accomplished by inserting the phase contrast flashboard into the condenser socket and replacing the objectives by phase contrast objectives. There are two kinds of simple dark field flash boards. SL1 (for the 10X and 40X objectives) and SL2 (for the 20X and 100X objectives). A disc phase contrast condenser is available for using multiple magnifications. The disc phase contrast condenser has two types Model. No.EX30CDKP which can used with 10X/20X/40X/100X phase contrast objectives, and keep a bright-field position. Model No.EX30CDKPD can used with 10X/40X/100X phase contrast objectives, and it also can fulfill dark-field observation at 4X–40X continuously and keep a bright-field position.



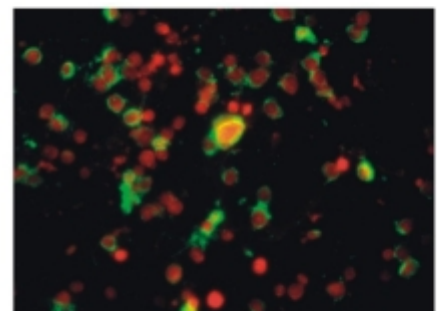
Diatom
 Phase contrast 40X If550

Single-band LED fluorescence observation

Our advanced LED fluorescence system have improved on problems with high temperature, radiation and the unstable mercury lamp. Different filters employed with LED technology makes fluorescence observation easy and convenient.



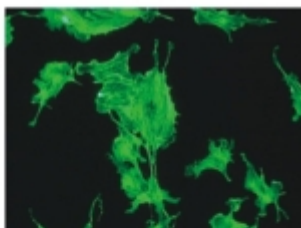
Immunofluorescence FITC 20X



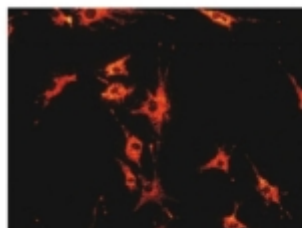
Immunofluorescence FITC 40X

Multi-band fluorescence observation

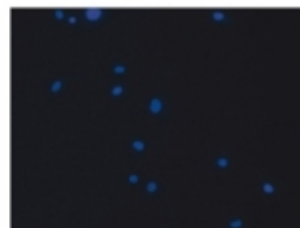
Multi-band reflection fluorescence illumination, equipped with three fluorescence channels and bright-field channel, makes it possible to install four fluorescent filter blocks at once. Professionally used in biomedical cell detection, immunofluorescence analysis and fluorescence in situ hybridization (FISH).



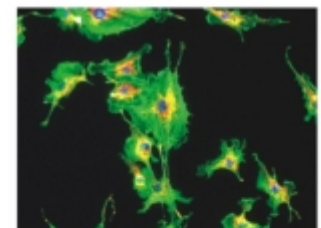
Alexa Fluor 488
 Cytoplasm



Mito Tracker Red



DAPI
 Nucleus



Artery endothelium cell of OX lung
 20X UV/B/G

Trinocular viewing head

The trinocular head microscope can be used for photography and videography



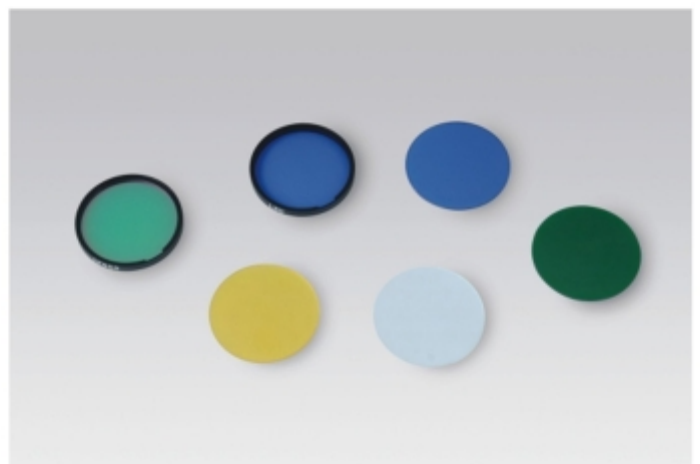
Photographic device



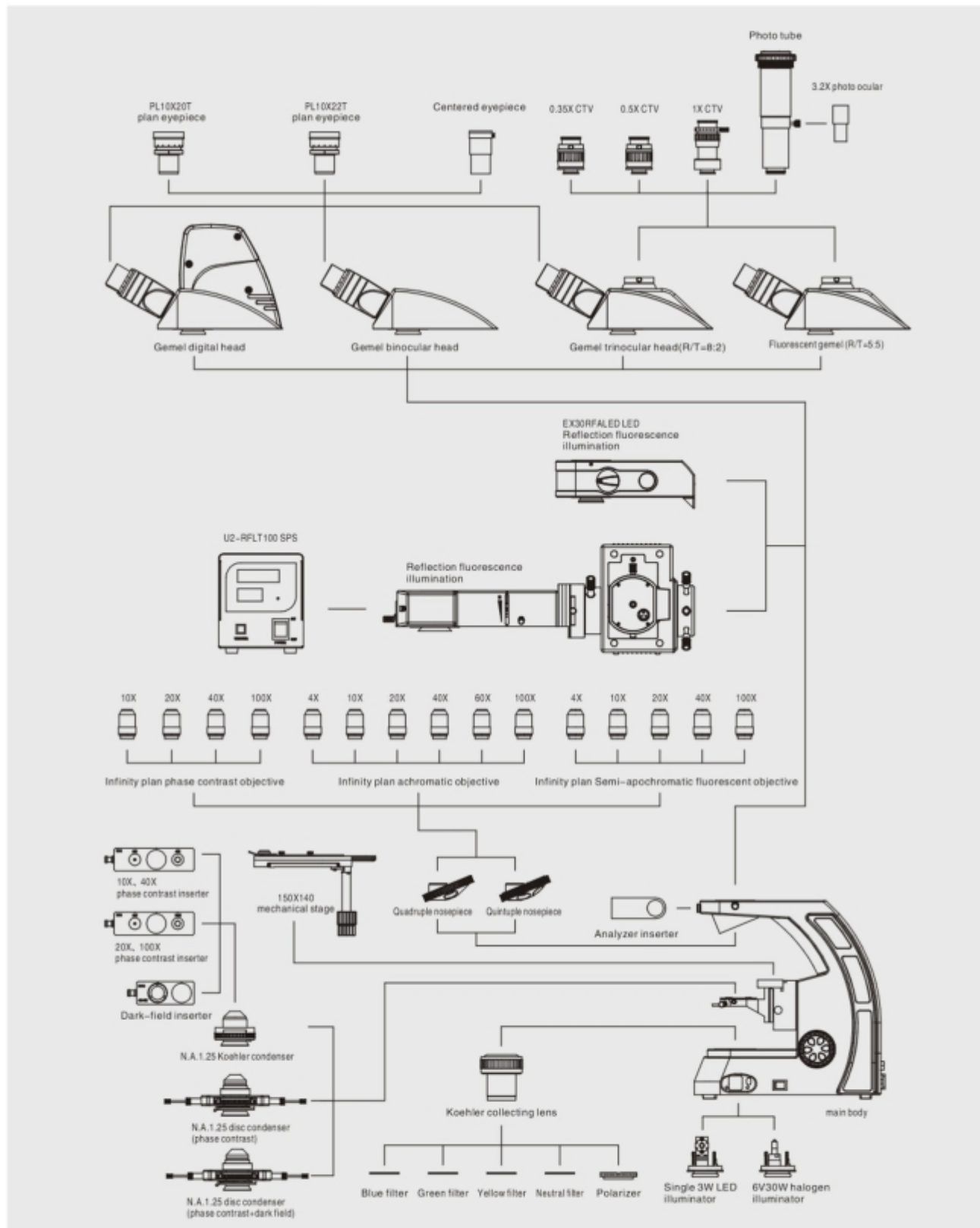
Various c-mount and photo-tube connections are available.

Various filter optionals

Various filters are available for phase contrast observation and hallogen illumination for best image results

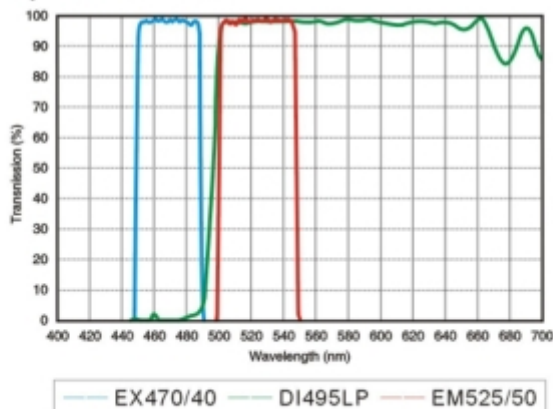


Llumins1 series system diagram

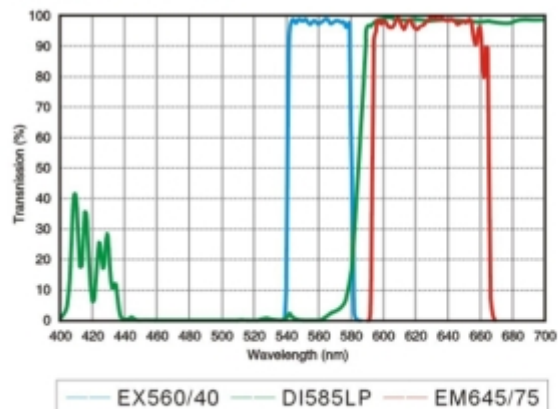


Common parameters of fluorescent filter module, substantially meet the needs of conventional scientific research. In order to the special requirements of specific analysis, we also could provide special filter module corresponding to fluorescent probes.

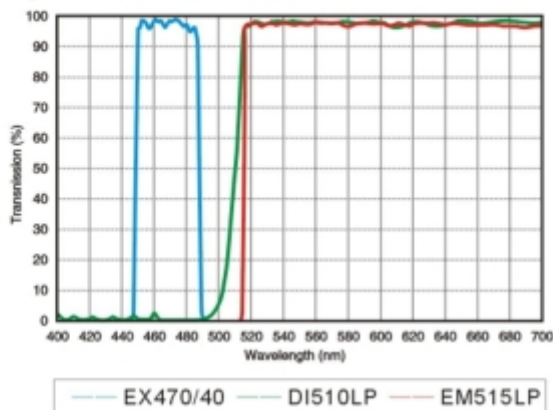
B1: EGFP/GFP/FITC /Alexa Fluor@488
Cy2 @/DIO/Fluo-4



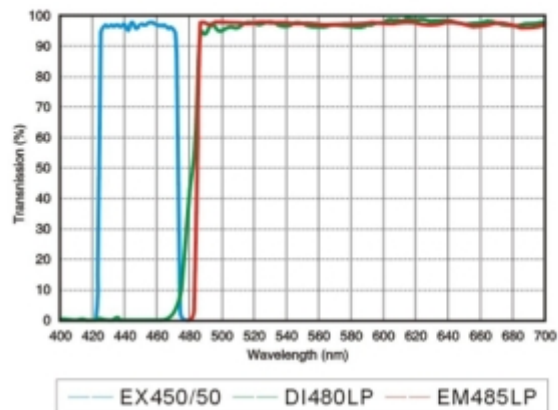
G1: TexasRED@/TexasRed@-X/Cy3.5
Mito Tracker@Red



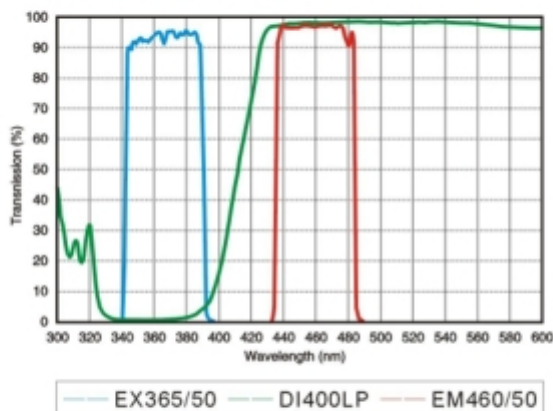
B2: EGFP/GFP/FITC /Alexa Fluor@488
Cy2 @/DIO/Fluo-4



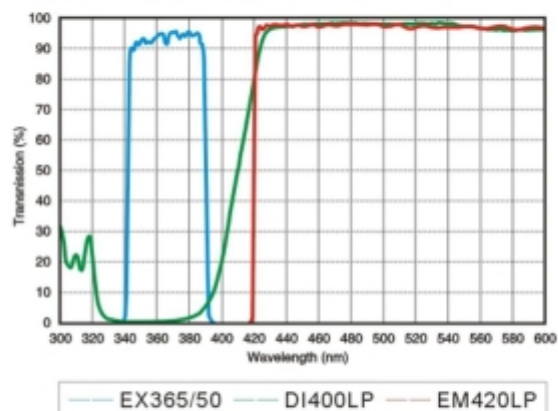
B4: Auramine O/wtGFP



UV1: DAPI/Hoechst 33342/33258 AMCA/
AMCA-X Blue/ Alexa Fluor® 350



UV2: DAPI/Hoechst 33342/33258 AMCA/
AMCA-X Blue/ Alexa Fluor® 350



Llumin1 specifications

Model	Llumin1 LED
Optical system	Infinity corrected Achromatic optical system
Eyepiece	PL10X/20T plan eyepiece 10X with diopter ± 5 adjustable, field scope 20mm
	PL10X/22T plan eyepiece 10X with diopter ± 5 adjustable, field scope 22mm
Objective	OIP infinity plan achromatic objective 4x, 10x, 20x, 40x, 100x
	Infinity phase contrast objectives 10X, 20X, 40X, 100X
	Plan Semi-apochromatic fluorescence objectives 4X, 10X, 20X, 40X, 100X
Viewing head	30° gemel binocular, Eyepiece tube can rotate 360°, interpupillary distance range: 50–75mm
	30° gemel trinocular, Eyepiece tube can rotate 360°, interpupillary distance range: 50–75mm, fixed spectroscopical ratio R:T=8:2
	30° gemel fluorescent trinocular head, Eyepiece tube can rotate 360°, interpupillary distance range: 50–75mm, fixed spectroscopical ratio R:T=5:5
	30° gemel digital head (three / five megapixels)
Filter	Fluorescence filter: B1/B4/G1/V1/UV1/UV2
Nosepiece	Reversed quintuple nosepiece
	Reversed quadruple nosepiece
Stage	150x140mm mechanical stage with underhand, 76X50mm moving range, precision 0.1mm, damping clips
Condenser	N.A.1.25 Koehler illuminator condenser group (with socket for phase contrast, dark-field device)
Focus adjustment	Coarse focusing scope is 30mm, with tightness adjustment and place limit set, fine adjustment precision: 0.002mm
Reflection illumination system	LED reflection illumination, single-band filter with corresponding LED module inside, intensity adjust knob, BF/FL switching knob
	Mercury lamp reflection illumination, 100W DC mercury bulb (OSRAM/domestic)
Transmission illumination system	100V–240V fluctuate of voltage, Single high brightness 3W LED (predetermine filament center), adjustment of brightness
	100V–240V fluctuate of voltage, Philips 6V/30W halogen lamp (pre-set filament center), adjustment of brightness
CCD Adapter	1xCTV, 0.5xCTV, 0.35xCTV, 3.2x photo ocular, photo tube (with PK mount or MD mount), C-mount, relay lens
Other accessories	Dark-field accessories, phase contrast accessories, polarizer/analyzer

Llumin1 objectives

Series	Magnification	N.A.	W.D.	F.N.	Cover glass thickness	Immersion	Spring
Plan series	Plan4X	0.10	11.9	22	0.17	/	/
	Plan10X	0.25	12.1	22	0.17	/	/
	Plan20X	0.45	1.5	22	0.17	/	/
	Plan40X	0.65	0.36	22	0.17	/	Yes
	Plan60X	0.85	0.3	22	0.17	/	Yes
	Plan100X	1.25	0.18	22	0.17	Oil	Yes
Plan PH series	Plan PH10X	0.25	12.1	22	0.17	/	/
	Plan PH20X	0.45	1.5	22	0.17	/	/
	Plan PH40X	0.65	0.36	22	0.17	/	Yes
	Plan PH100X	1.25	0.18	22	0.17	Oil	Yes
Plan Fluor series	Plan Fluor4X	0.13	18.5	25	0.17	/	/
	Plan Fluor10X	0.30	10.6	25	0.17	/	/
	Plan Fluor20X	0.50	2.33	25	0.17	/	/
	Plan Fluor40X	0.75	0.6	25	0.17	/	/
	Plan Fluor100X	1.28	0.21	25	0.17	Oil	/



LPLAN plan infinity achromatic objectives, designed for laboratory pathology and observation of biological cells slices, clear image, good contrast, and good performance under fluorescence observation.



PLAN-PH series infinity phase contrast objectives. In addition to the realization of the bright field observation, the phase contrast observation function has been developed. they especially suit colorless or undertone cells.



PLAN-FLUOR plan semi-apochromatic fluorescence objectives. Adopting crystal optics materials, various types of chromatic aberration corrected perfectly and large numerical aperture design. provide you high-resolution, high-contrast microscopic images. While doing Fluorescence observation, the images is clear and bright, the background is pure black. In the aspect of UV fluorescence, which has more prominent performance, is the best choice for your fluorescence observation on all kinds of cells and pathological sections.