

FLUO Series

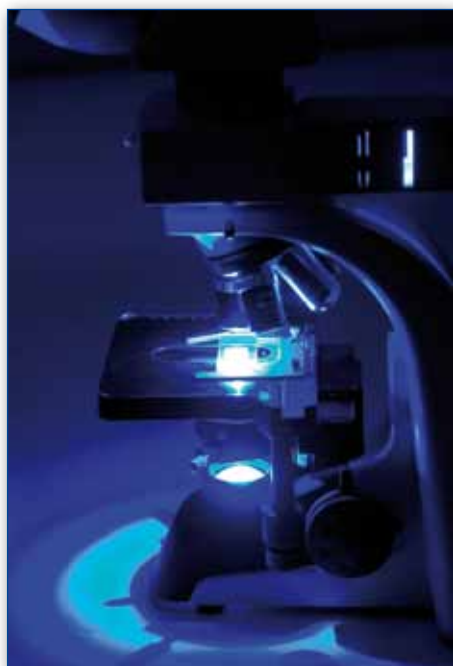
Upright and inverted epi-fluorescence microscopes



FLUO

FLUO Series - LED Fluorescence

A complete range of microscopes, designed to meet your needs in fluorescence microscopy. Quality, innovative technology, power, safety and simplicity of use are the common characteristics of these instruments.



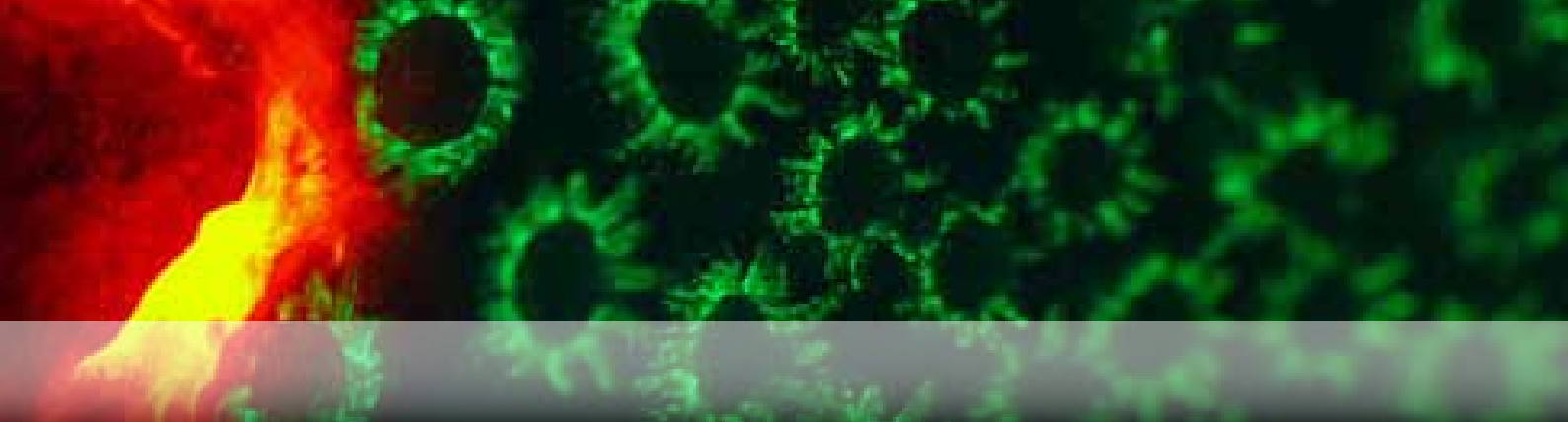
Imagine a fluorescence microscope that needs a lamp change every **50.000 hours**.
 Imagine a fluorescence microscope with a cold light source that barely heats up during use.
 Imagine a fluorescence microscope that can be switched on, used immediately, switched off and then back on again.
 Imagine a fluorescence microscope that is so safe as to need no protection shield whatsoever, and that can be used by everyone, without any specific precaution.
 Imagine a fluorescence microscope that can be powered by batteries, as easily as a torchlight.
 Imagine a fluorescence microscope that is so sturdy and so compact that it can be used on the field, without any transport problems.
 You may think that such an instrument exists in your imagination only.
 Actually, such microscope is real, and its name is **OPTIKA B-353LD**.
 Developed by the OPTIKA Research labs, the **B-353LD** marks a revolution in the field of fluorescence microscopy.
 Strictly derived from the **B-353FL** model, of which it shares the body, the optics and the filter sets, the **B-353LD** employs high-power LED instead of the classical mercury vapour bulb.
 The LED is tailored to the specific applications (FITC-TRITC).
 The brightfield illuminator uses our *X-LED™* system, and the colour temperature closely matches sunlight. The microscope is available in two versions: **B-353LD1** and **B-353LD2**

B-353LD1 - Technical specifications

Part	Description
Optical system	Mechanical tube length: IOS - Infinity Optical System; parfocal distance 45 mm.
Head	Trinocular, 30° inclined, 360° rotating. Diopter adjustment; interpupillary distance adjustment 55-75 mm.
Eyepieces	Wide Field WF10x/20 mm.
Nosepiece	5-position reversed revolving nosepiece. Ball bearing linear guides.
Objectives	IOS Planachromatic 4x/0.1, 10x/0.25, 20x/0.40, 40x/0.65 and 50x/0.75 (no cover slide).
Specimen stage	Double layer with mechanical sliding stage, 160x142 mm; moving range 76x52 mm.
Focusing system	Rack and pinion mechanism, with coaxial coarse and fine control knobs. Fine adjustment graduation 0.002 mm. Vertical movement range: 20 mm. Tension control on left side; upper stage drive stop on right side.
Condenser	Centrable Abbe condenser with double lens. N.A. 1.25. Fitted with iris diaphragm and filter holder. Height adjustment by a rack and pinion mechanism.
Illumination	<i>X-LED™</i> unit for transmitted light. High power blue LED unit for epi-fluorescence (for standard use with B).

Standard filterset

Name	Excitation wavelength (nm)	Dichroic mirror cut-off (nm)	Barrier filter cut-off (nm)
B (Blue)	450 – 480	500	515



FLUO Series - LED Fluorescence

B-353LD2 - Technical specifications

Part	Description
Optical system	Mechanical tube length: IOS - Infinity Optical System; parfocal distance 45 mm.
Head	Trinocular, 30° inclined, 360° rotating. Diopter adjustment; interpupillary distance adjustment 55-75 mm.
Eyepieces	Wide Field WF10x/20 mm.
Nosepiece	5-position reversed revolving nosepiece. Ball bearing linear guides.
Objectives	IOS Planachromatic 4x/0.1, 10x/0.25, 20x/0.40, 40x/0.65 and 50x/0.75 (no cover slide).
Specimen stage	Double layer with mechanical sliding stage, 160x142 mm; moving range 76x52 mm.
Focusing system	Rack and pinion mechanism, with coaxial coarse and fine control knobs. Fine adjustment graduation 0.002 mm. Vertical movement range: 20 mm. Tension control on left side; upper stage drive stop on right side.
Condenser	Centrable Abbe condenser with double lens. N.A. 1.25. Fitted with iris diaphragm and filter holder. Height adjustment by a rack and pinion mechanism.
Illumination	X-LED™ unit for transmitted light. High power LED unit for epi-fluorescence (for standard use with B and G).

Standard filtersets

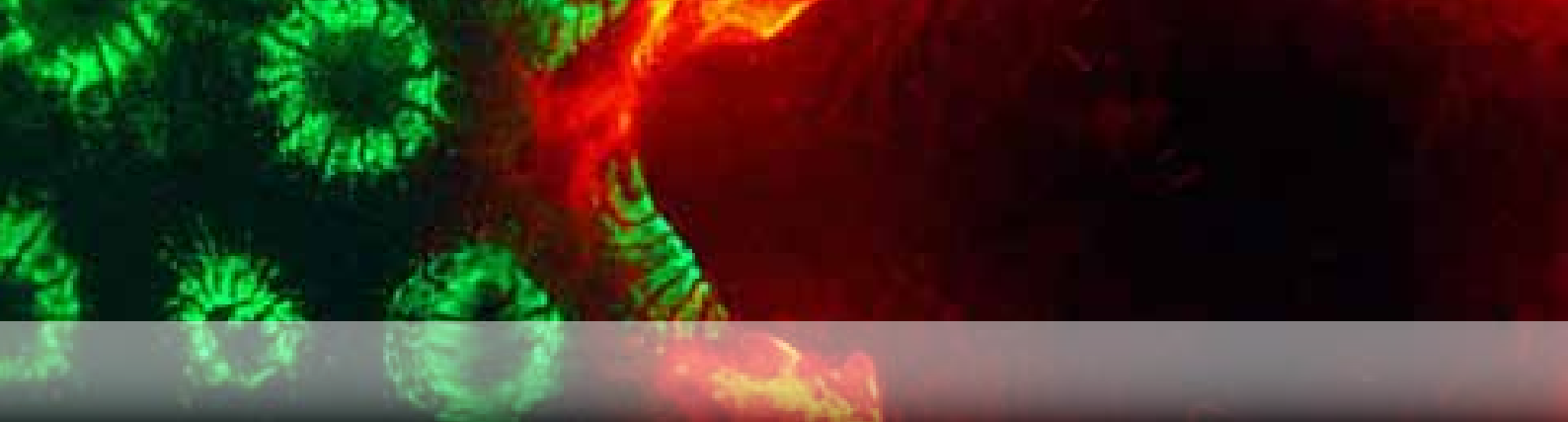
Name	Excitation wavelength (nm)	Dichroic mirror cut-off (nm)	Barrier filter cut-off (nm)
B (Blue)	450 – 480	500	515
G (Green)	510 – 550	570	590

FLUO Series - HBO Fluorescence attachment for szp stereomicroscope

SZP-FL

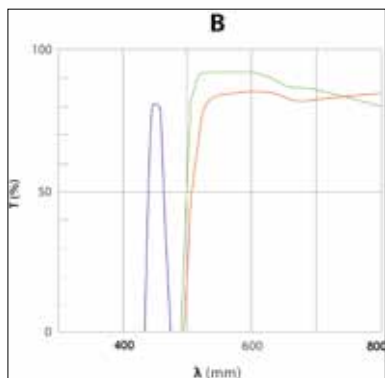


Part	Description
Description	Fluorescence attachment for SZP stereomicroscopes. Fluorescence observation for biology, industrial inspection, criminal justice, etc. Essential tool for security printing and mineral research.
Optical system	Parallel optical system (SZP system)
Filterset	Standard: GFP-B (EX460-500, DM505, BA510-560) GFP-L (EX460-500, DM505, BA510) Optional: CFP-B (EX430-450, DM455, BA465-495) YFP-B (EX490-510, DM525, BA530-560) G (EX515-550, DM570, BA590) RFP-B (EX525-555, DM570, BA585)
Illumination	100W HBO high-pressure mercury vapor bulb. Average lamp lifetime: 400 hours. Input voltage: 110/240Vac, 50/60Hz, 1A ; Fuse: F8AL 250V. Maximum input power: 125W. Current and time counter LED displays.
Photo&Video Attachment	Trinocular output port



FLUO Series - LED Fluorescence

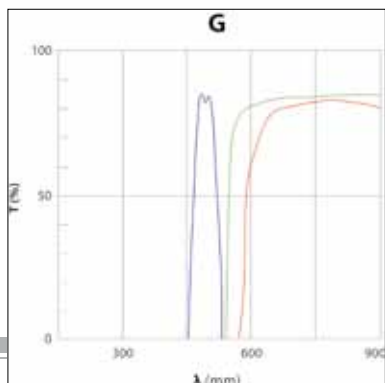
B-353LD2



Excitation ————
Dichroic mirror ————
Barrier ————

Automatic LED switching:

**when a filter is inserted,
fluorescence LED
automatically switches
on, while brightfield
LED switches off**



FLUO Series - HBO Fluorescence

B-353FL - Technical specifications

Part	Description
Optical system	Mechanical tube length: IOS - Infinity Optical System; parfocal distance 45 mm.
Head	Trinocular, 30° inclined, 360° rotating. Diopter adjustment; interpupillary distance adjustment 55-75 mm.
Eyepieces	Wide Field 10x/20 mm.
Nosepiece	5-position reversed revolving nosepiece. Ball bearing linear guides.
Objectives	IOS Planachromatic 4x/0.1, 10x/0.25, 20x/0.40, 40x/0.65 and 100x/1.25 (oil).
Specimen stage	Double layer with mechanical sliding stage, 160x142 mm; moving range 76x52 mm.
Focusing system	Rack and pinion mechanism, with coaxial coarse and fine control knobs. Fine adjustment graduation 0.002 mm. Vertical movement range: 20 mm. Tension control on left side; upper stage drive stop on right side.
Condenser	Centrable Abbe condenser with double lens. N.A. 1.25. Fitted with iris diaphragm and filter holder. Height adjustment by a rack and pinion mechanism.
Illumination	X-LED™ unit for transmitted light. HBO 100W high pressure mercury bulb for epi-fluorescence.

Standard filtersets

Name	Excitation wavelength (nm)	Dichroic mirror cutoff (nm)	Barrier filter cutoff (nm)
B (Blue)	450 – 480	500	515
G (Green)	510 – 550	570	590

B-353FL



FLUO Series - HBO Fluorescence

B-600TiFL - Technical specifications

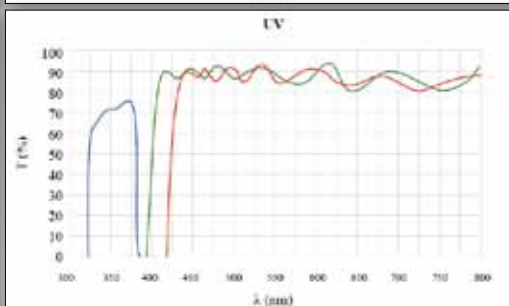
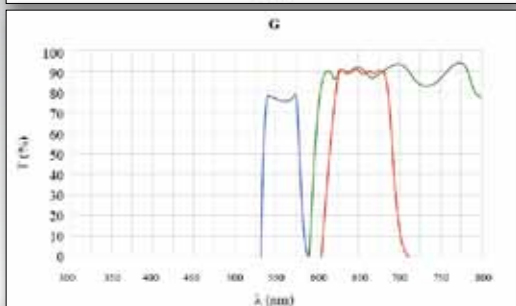
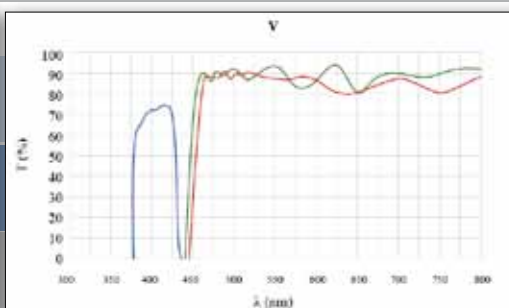
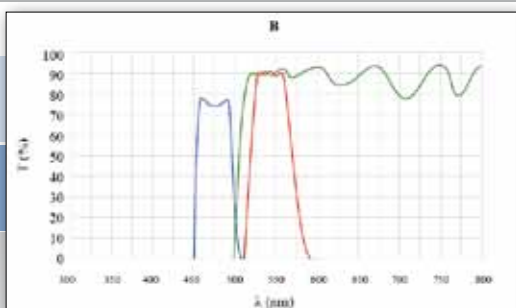
Part	Description
Optical system	Mechanical tube length: IOS - Infinity Optical System; parfocal distance 45 mm.
Head	Trinocular, 30° inclined, 360° rotating. Diopter adjustment; interpupillary distance adjustment 55-75 mm.
Eyepieces	Wide Field 10x/22 mm.
Nosepiece	5-position reversed revolving nosepiece. Ball bearing linear guides.
Objectives	IOS Planachromatic FLUO 4x/0.13, 10x/0.30, 20x/0.50, 40x/0.75
Specimen stage	Double layer with mechanical sliding stage, 175x145 mm; moving range 76x51 mm.
Focusing system	Rack and pinion mechanism, with coaxial coarse and fine control knobs. Fine adjustment graduation 0.002 mm. Vertical movement range: 20 mm. Tension control on right side; upper stage drive stop on left side.
Condenser	Centrable Abbe condenser (swing-out type) with double lens. N.A. 0.9 Fitted with iris diaphragm. Height adjustment by a rack and pinion mechanism.
Illumination transmitted	External 12V/50W with halogen bulb, fan-cooled case, centering system. Field diaphragm. Full Köhler system. Optional: X-Led [®] illumination.
Illumination incident	HBO 100W high pressure mercury bulb for epi-fluorescence.

Standard filters (in bundle)

Name	Excitation wavelength (nm)	Dichroic mirror cut-off (nm)	Barrier filter cut-off (nm)
B (Blue)	450-500	505	510-560
G (Green)	530-590	595	610-680

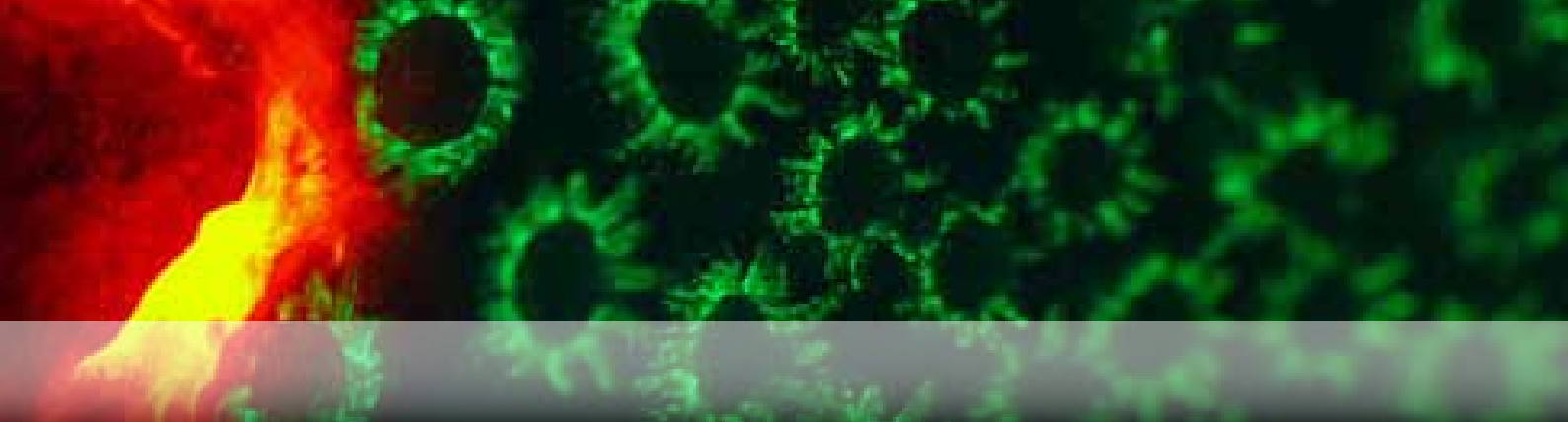
Additional filters (as option)

Name	Excitation wavelength (nm)	Dichroic mirror cut-off (nm)	Barrier filter cut-off (nm)
V (Violet)	385-425	440	455LP
UV	325-375	400	420LP

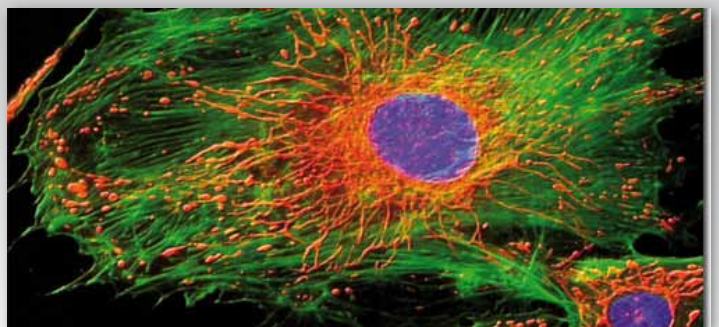
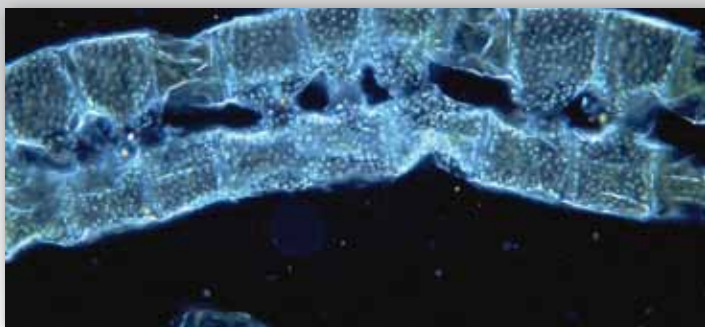


**MANY MORE FILTERSETS
AVAILABLE ON REQUEST**

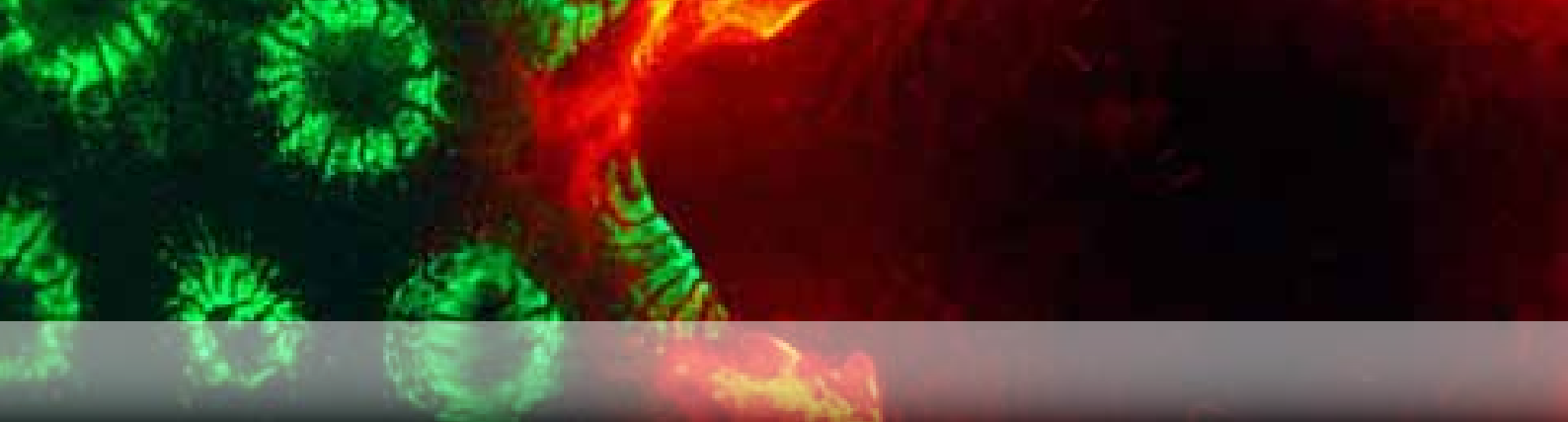
CHROMA TECHNOLOGY CORP
THE WORLD'S FINEST OPTICAL FILTERS



FLUO Series - HBO Fluorescence



HB100W high-pressure mercury bulb for fluorescence



FLUO Series - HBO Fluorescence

The instrument

XDS-2FL is a routine inverted epifluorescence microscope. The basic structure is dedicated to the most demanding applications of routine fluorescence analysis. XDS-2FL offers, in the same unit, brightfield and phase contrast capabilities, thus extending its potentials to most multi-contrast applications.

Optical system

The epifluorescence optical system is implemented via the standard excitation filter-dichroic mirror-barrier filter combination, applied to a 100W Hg lamp. It is supplied with EWF10x/22mm extra-widefield eyepieces, long working distance IOS objectives, and a double filterblock set (blue and green excitation). The extensive range of optional accessories allows a quick interchange of contrast mechanisms, and it is optimized for multi-contrast observation without removal of the specimen from the stage.

User comfort

XDS-2 is comfortable for the operator. The 22 mm extra-wide field is pleasant to use, and minimizes operator stress. The special eyepieces are designed for eyeglass wearers.

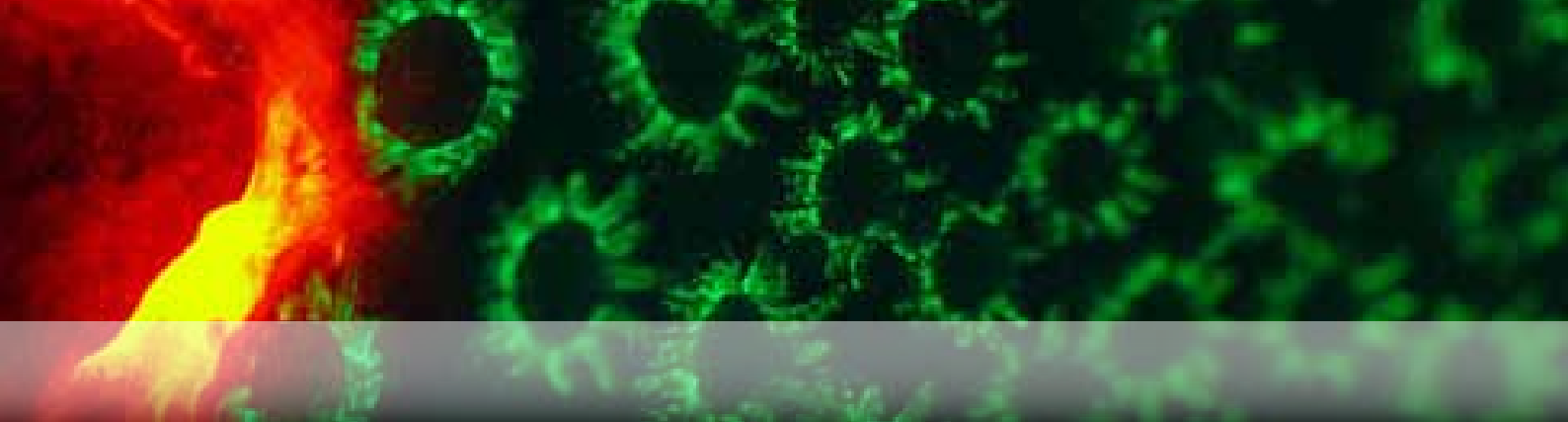
Ergonomy

Every control is easy to reach, every component has been designed with ease of use in mind. The focusing and specimen translation controls are designed to allow to rest the wrists on the table. The brightfield light intensity regulation is placed very close to the focusing knobs. The specimen stage is fitted with a special glass insert, that allows to see the objectives, for immediate identification of the magnification setup.

The head implements an extremely innovative design, that permits adjustment to compensate for operator height.



XDS-2FL



FLUO Series - HBO Fluorescence

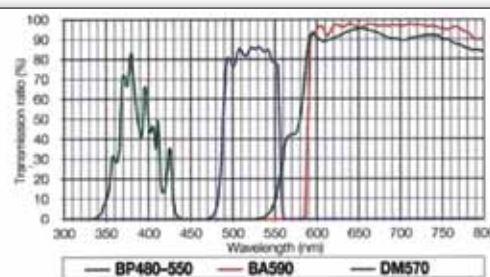
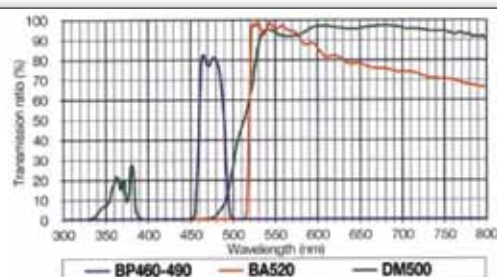
XDS-2FL - Technical specifications

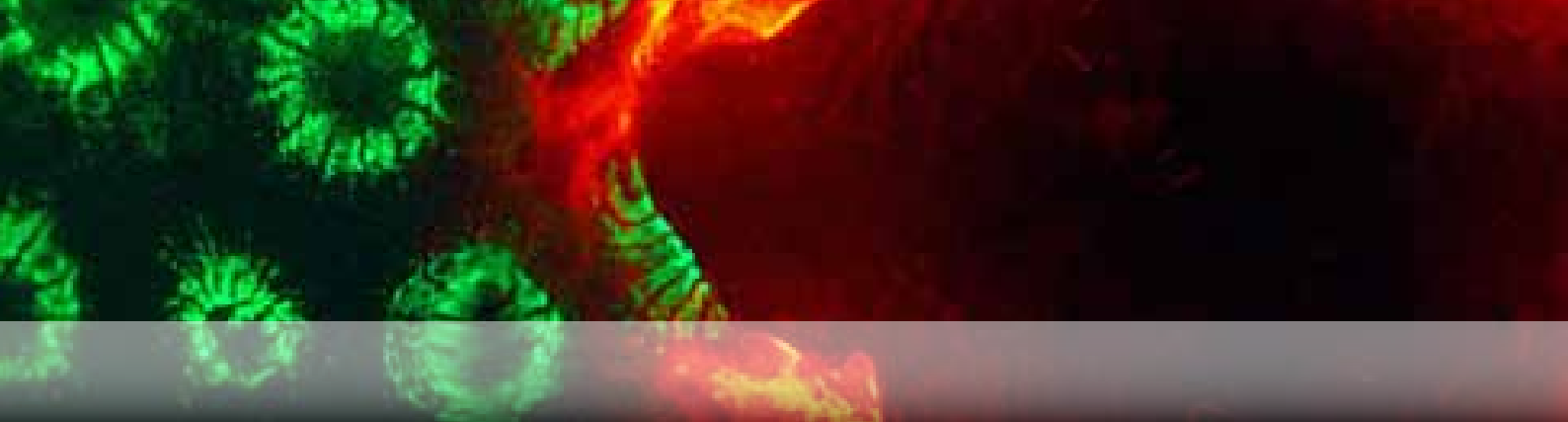
Part	Description
Optical system	Infinity corrected system, 45 mm parfocality distance. Field number 22 mm.
Head	Trinocular: 30° inclined, 360° rotating. Interpupillary distance: 48 - 75 mm. Adjustable dioptric compensation. Ergonomical head available as option.
Eyepieces	Extra-wide field 10x/22mm, High-point.
Nosepiece	5 positions, with bidirectional rotation on ball bearings and click stop.
Objectives	Long working distance (LWD) infinity corrected (IOS) planachromatic: 4x/0.10 (working distance 18 mm), 10x/0.25 with phase ring (working distance 10 mm), 20x/0.40 with phase ring (working distance 5.1 mm), 40x/0.60 (working distance 2.6 mm). Corrected for 1.2 mm coverglass).
Specimen stage	Size: 250 x 230 mm. Translator with lowered ergonomic coaxial controls. X-Y translation: 119 x 70 mm. Interchangeable metallic inserts for specimen slides, Petri dishes and flasks.
Focusing system	Macro- and micrometric regulation, with coaxial knobs on both sides of the stand. Adjustable tension.
Condenser	Long working distance condenser, numerical aperture 0.30, working distance 72 mm. The condenser can be removed in order to increase the working distance to 150 mm.
Illumination	X-LED® system precentered illuminator, with adjustable intensity, filter and phase ring holder and aperture diaphragm. Inverted epifluorescence: HBO 100W high pressure mercury bulb, knobs for lamp and back mirror alignment.
Filtersets	Blue and Green fluorescence filtersets. No other as option.

Filter sets

	Excitation	Dichroic Mirror	Barrier Filter	
Filter sets	Blue excitation	BP460-490	DM500	BA520
	Green excitation	BP480-550	DM570	BA590

STANDARD FILTERS





FLUO Series - HBO Fluorescence

The instrument

XDS-3FL is an advanced inverted epifluorescence microscope.

Thanks to its special FLUO objectives, designed with quartz and special glasses (low in auto-fluorescence), XDS-3FL is upgradable with every kind of fluorescence filterset. The instrument offers, in the same unit, brightfield and phase contrast capabilities, thus extending its potentials to most multi-contrast applications.

Optical system

The epifluorescence optical system is implemented via the standard excitation filter-dichroic mirror-barrier filter combination, applied to a 100W Hg lamp. It is supplied with EWF10x/22mm extra-widefield eyepieces, long working distance IOS FLUO objectives, and a double filterblock set (blue and green excitation as standard configuration). The extensive range of optional accessories allows a quick interchange of contrast mechanisms, and it is optimized for multi-contrast observation without removal of the specimen from the stage.

Ergonomy

Every control is easy to reach, every component has been designed with ease of use in mind. The focusing and specimen translation controls are designed to allow to rest the wrists on the table.

The brightfield light intensity regulation is placed very close to the focusing knobs.

The specimen stage is fitted with a special glass insert, that allows to see the objectives, for immediate identification of the magnification setup.

User comfort

XDS-3FL is comfortable for the operator.

The 22 mm extra-wide field is pleasant to use, and minimizes operator stress. The special eyepieces are designed for eyeglass wearers.



FLUO Series - HBO Fluorescence

XDS-3FL - Technical specifications

Part	Description
Optical system	Infinity corrected system, 45 mm parfocality distance. Field number 22 mm.
Head	Trinocular: 45° inclined. Interpupillary distance: 48 - 75 mm. Adjustable dioptric compensation.
Eyepieces	Extra-wide field 10x/22mm, High-point.
Nosepiece	5 positions, with bidirectional rotation on ball bearings and click stop.
Objectives	Long working distance (LWD) infinity corrected (IOS) planachromatic: FLUO 10X/0.3 (working distance 10 mm), FLUO 20X/0.45 (working distance 5.1 mm), FLUO 40X/0.65 (working distance 2.6 mm). Corrected for 1.2 mm coverglass.
Specimen stage	Size: 250 x 230 mm. Translator with lowered ergonomic coaxial controls. X-Y translation: 119 x 70 mm. Interchangeable metallic inserts for specimen slides, Petri dishes and flasks.
Focusing system	Macro- and micrometric regulation, with coaxial knobs on both sides of the stand. Adjustable tension.
Condenser	Long working distance condenser, numerical aperture 0.30, working distance 72 mm. The condenser can be removed in order to increase the working distance to 150 mm. Green IF550 filter and Blue LBD filter are provided.
Illumination	Brightfield: X-LED ^{BTM} system, precentered illuminator, with adjustable intensity and aperture diaphragm. Epi-fluorescence: HBO 100W high pressure mercury bulb, knobs for lamp alignment.
Filtersets	Blue and Green fluorescence filtersets. Violet and Ultraviolet as optional accessories.

XDS-3FL4 - Same as XDS-3FL with 4 positions filter holder (Blue and Green filtersets, plus 2 empty positions)

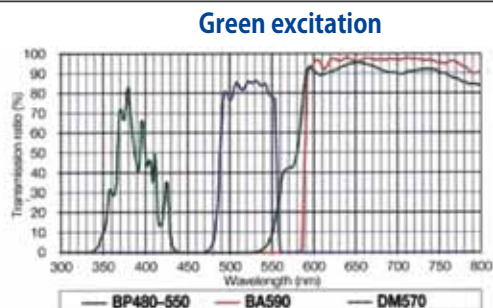
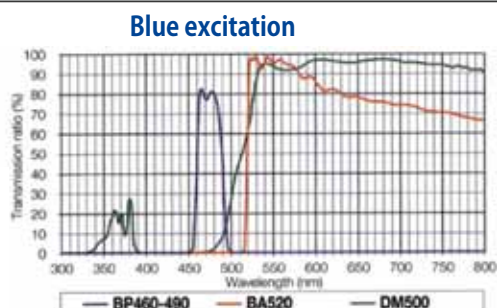
Filter sets

	Excitation	Dichroic Mirror	Barrier Filter
Blue excitation	BP460-490	DM500	BA520
Green excitation	BP480-550	DM570	BA590
Ultraviolet excitation	BP325-375	DM400	BA420LP
Violet excitation	BP385-425	DM440	BA455LP

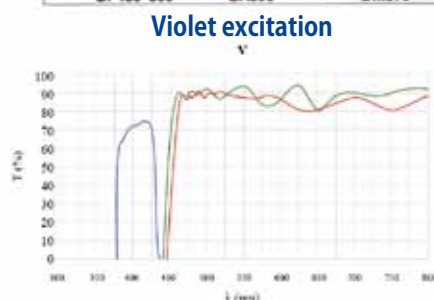
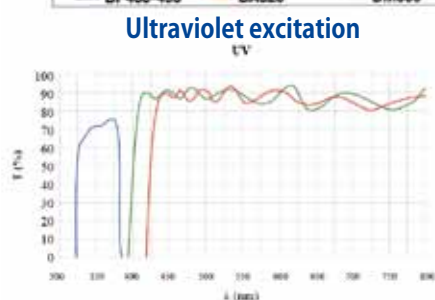
**MANY MORE FILTERSETS
AVAILABLE ON REQUEST**

CHROMA TECHNOLOGY CORP
THE WORLD'S FINEST OPTICAL FILTERS

STANDARD FILTERS



OPTIONAL FILTERS



FLUO Series - Accessories

Accessories for B-353LD1 / B-353LD2 / B-353FL

M-301	Eyepiece high-point WF10x/20mm
M-302	Eyepiece high-point WF16x/12mm
M-303	Eyepiece micrometer high-point WF10x/20mm
M-005	Micrometric slide, 26x76 mm, range 1 mm, div. 0,01 mm
M-330	Objective IOS planachromatic 4x/0.10
M-331	Objective IOS planachromatic 10x/0.25
M-332	Objective IOS planachromatic 20x/0.40
M-333	Objective IOS planachromatic 40x/0.65
M-335	Objective IOS planachromatic (no cover glass) 50x/0.70
M-334	Objective IOS planachromatic 100x/1.25 (oil)
M-350	Objective IOS planachromatic for phase contrast 10x/0.25
M-351	Objective IOS planachromatic for phase contrast 20x/0.40
M-352	Objective IOS planachromatic for phase contrast 40x/0.65
M-353	Objective IOS planachromatic for phase contrast 100x/1.25 (oil)
M-361	Complete phase contrast set with IOS E-PLAN obj. 10x, 20x, 40x, 100x
M-362	Polarising set (filters only)
M-363	Rotating table for polarizing set
M-364	Darkfield condenser for dry objectives
M-365	Photo tube adapter for SLR cameras full frame
M-366	CCD camera adapter
M-031	Dust cover type 3
M-974	Blue filter, 32 mm diameter
M-976	Green filter, 32 mm diameter
M-978	Yellow filter, 32 mm diameter
M-988	Frosted glass filter, 32 mm diameter
M-151	HBO100W high-pressure mercury bulb for fluoesc. (for B-353FL only)
M-173	APS-C reflex camera adapter

Accessories for B-600TiFL

M-680	Ergo binocular head 30°-60°
M-625	Eyepiece EWF 10x/22mm
M-601	Eyepiece WF15x/16mm
M-602	Micrometer eyepiece EWF 10x/22mm
M-005	26x76 mm micrometric slide. Range 1 mm, div. 0,01 mm
M-760	Objective IOS planachromatic for phase contrast 10x/0.25
M-761	Objective IOS planachromatic for phase contrast 20x/0.40
M-762	Objective IOS planachromatic for phase contrast 40x/0.65
M-763	Objective IOS planachromatic for phase contrast 100x/1.25 (oil)
M-681	Objective IOS FLUOR planachromatic 4x/0.13
M-682	Objective IOS FLUOR planachromatic 10x/0.30
M-683	Objective IOS FLUOR planachromatic 20x/0.50
M-684	Objective IOS FLUOR planachromatic 40x/0.75
M-685	Objective IOS FLUOR planachromatic 100x/1.30
M-613	Polarising set (filters only)
M-615	Lambda filter for polarizing set
M-614	Rotating table for polarizing set
M-618	Darkfield condenser for dry objectives
M-617	Complete phase contrast set with plan IOS obj. 10x, 20x, 40x, 100x
M-666	Heating stage, with digital temperature controller
M-619	Photo tube adapter for SLR cameras full frame
M-699	Photo tube adapter for DIGI digital camera series
M-620	CCD camera adapter for 1/3" sensors
M-620.1	CCD camera adapter for 1/2" sensors
M-622	Halogen bulb 12V/50W
M-151	HBO100W high-pressure mercury bulb for fluorescence
M-670	Empty fluorescence filterblock
M-671	Fluorescence filterset V (filterblock included)

M-672	Fluorescence filterset UV-DAPI (filterblock included)
M-034	Dust cover type 5
M-975	Blue filter, 45 mm diameter
M-977	Green filter, 45 mm diameter
M-979	Yellow filter, 45 mm diameter
M-989	Frosted glass filter, 45 mm diameter
M-690	Eyecup (pair)
M-173	APS-C reflex camera adapter

Accessories for XDS-2FL

M-755	Ergonomical trinocular head
M-755.1	Trinocular attachment for ergonomical binocular head for XDS-2
M-017	Eyepiece EWF 10x/22mm
M-021	Eyepiece micrometer EWF 10x/22mm
M-005	Micrometric slide, 26x76 mm, range 1 mm, div. 0,01 mm
M-770	Objective LWD IOS planachromatic 4x/0.10 (w. d. 18 mm)
M-771	Objective LWD IOS planachromatic for phase contrast 10x/0.25 (w. d. 10 mm)
M-772	Objective LWD IOS planachromatic for phase contrast 20x/0.40 (w. d. 5.1 mm)
M-773	Objective LWD IOS planachromatic 40x/0.60 (w. d. 2.6 mm)
M-774	Objective LWD IOS planachromatic for phase contrast 40x
M-776	Phase ring 40x
M-151	HBO100W high-pressure mercury bulb for fluorescence
M-777	Photo tube adapter for SLR cameras full frame
M-778	CCD camera adapter
M-779	Halogen bulb 6V/30W
M-036	Dust cover type 7
M-173	APS-C reflex camera adapter

Accessories for XDS-3FL/XDS-3FL4

M-780	Eyepiece EWF 10x/22mm
M-781	Eyepiece micrometric EWF 10x/22mm
M-005	Micrometric slide, 26x76 mm, range 1 mm, div. 0,01 mm
M-782	Objective LWD IOS planachromatic 4x/0.10 (working distance 22mm)
M-783	Objective LWD IOS planachromatic for phase contrast 10x/0.25 (w. d. 7.94mm)
M-784	Objective LWD IOS planachromatic for phase contrast 20x/0.40 (w. d. 7.66mm)
M-785	Objective LWD IOS planachromatic for phase contrast 40x/0.60 (w. d. 3.71mm)
M-783.1	Phase ring 10x/20x
M-785.1	Phase ring 40x
M-786	Objective LWD IOS planachromatic 60x/0.7 (working distance 2.50 mm)
M-801	Objective LWD IOS FLUO planachromatic 10x/0.25 (w. d. 10mm)
M-802	Objective LWD IOS FLUO planachromatic 20x/0.40 (w. d. 5.1mm)
M-803	Objective LWD IOS FLUO planachromatic 40x/0.60 (w. d. 2.6mm)
M-804	Objective LWD IOS FLUO planachromatic 60x
M-676	Empty fluorescence filterblock
M-677	Fluorescence filterset V (filterblock included)
M-678	Fluorescence filterset UV-DAPI (filterblock included)
M-151	HBO100W high-pressure mercury bulb for fluorescence
M-787	Cut-off filter (infrared)
M-788	Photo tube adapter for SLR cameras full frame
M-789	CCD camera adapter
M-790	Tube adapter for digital cameras DIGI series
M-621	Halogen bulb 6V/30W
M-036	Dust cover type 7
M-679	Empty filter block 4 positions (only for XDS-3FL)
M-677.1	Fluorescence filterset V for XDS-3FL4
M-678.1	Fluorescence filterset UV-DAPI for XDS-3FL4
M-173	APS-C reflex camera adapter

OPTIKA SRL

Via Rigla, 30 - 24010 Ponteranica (BG) - ITALIA - Tel.: +39 035 571392 (6 linee r.a.) Fax: +39 035 571435 - info@optikamicroscopes.com

M.A.D. IBERICA APARATOS CIENTIFICOS

c/. Puig i Pidemunt, nº 28 1º 2ª - (Pol. Ind. Pla d'en Boet) - 08302 - MATARO (Barcelona) España - Tel: +34 937.586.245 Fax: +34 937.414.529

ALPHA OPTIKA MICROSCOPES HUNGARY

2030 ÉRD, Kaktusz u. 22. - HUNGARY - Tel.: (23) 520-077 Fax: (23) 374-965