



FLUO SERIES



Upright and Inverted Epi-Fluorescence Microscopes

FLUO SERIES

Italian headquarters



OPTIKA Microscopes belongs to the group “M.A.D. Apparecchiature Scientifiche” and, with its almost 40 years experience in the field of scientific instrumentation, is worldwide known as a leading Company for optical microscopes’ production and distribution.

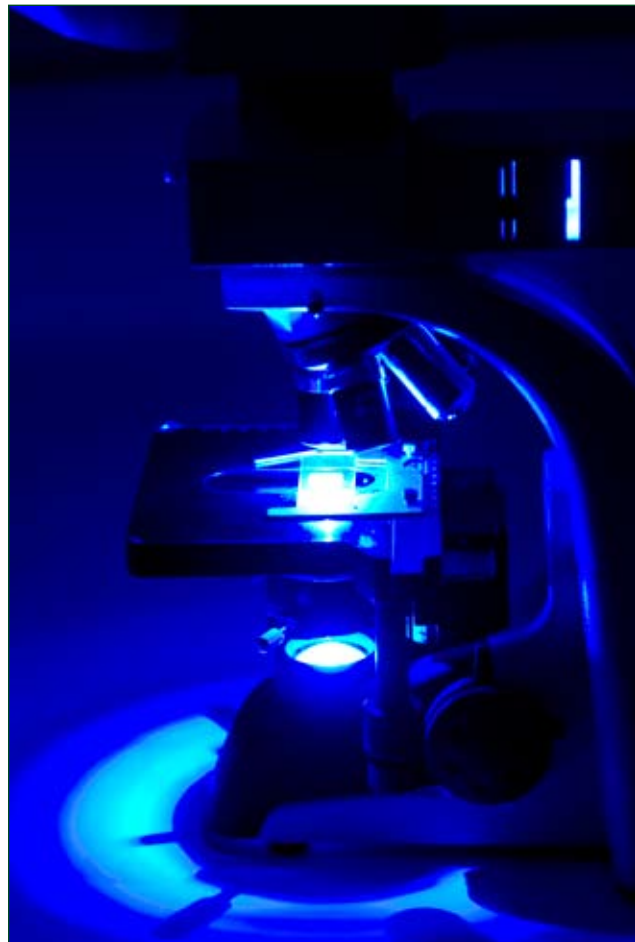
The Company, a team of 70 people in 3 different European locations, is engaged in the development of new models, production, quality control, sales and after-sales service.

OPTIKA microscopes excellence, concerning quality, innovation, competitive prices and customer assistance, reaches the end users through a wide network of national and international distributors.

THE SERIES

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.



FLUO SERIES - LED Fluorescence

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 anyone, 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-350LD.

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's instead of the classical mercury vapour lamp. The LED's are 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 right side; upper stage drive stop on left side.
Condenser	Centrable Abbe condenser with double lens. N.A. 1.25. Fitted with iris diaphragm, blue filter 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).

Standard filterset

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

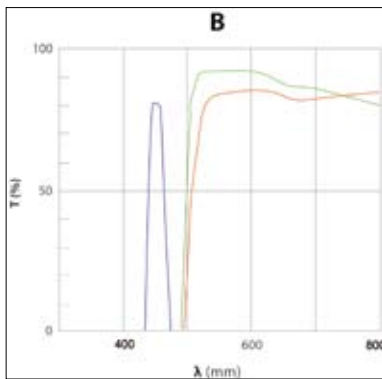
B-353LD2 - Technical specifications

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 right side; upper stage drive stop on left side.
Condenser	Centrable Abbe condenser with double lens. N.A. 1.25. Fitted with iris diaphragm, blue filter 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).

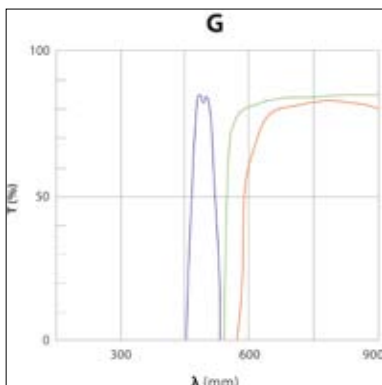
Standard filtersets

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

FLUO SERIES - LED Fluorescence



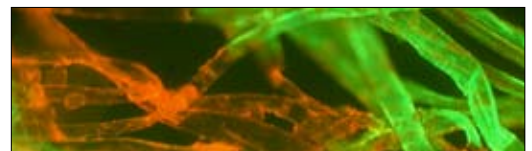
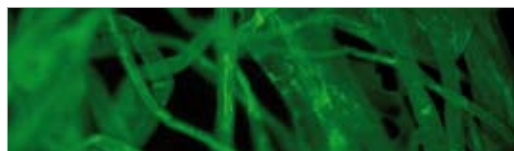
Excitation ————
Dichroic mirror ————
Barrier ————



LED FLUORESCENCE

B-353LD1

B-353LD2



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 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 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 right side; upper stage drive stop on left side.
Condenser	Centrable Abbe condenser with double lens. N.A. 1.25. Fitted with iris diaphragm, blue filter 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

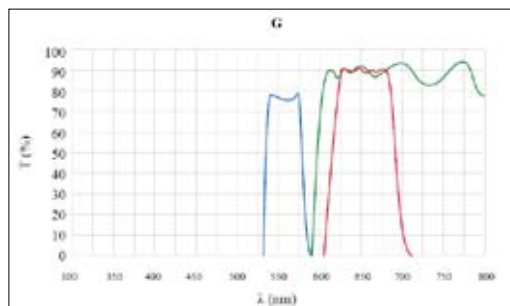
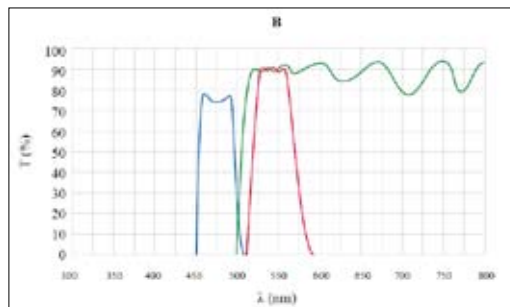
FLUO SERIES - HBO Fluorescence

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 WF10x/22 mm.
Nosepiece	5-position reversed revolving nosepiece. Ball bearing linear guides.
Objectives	IOS Planachromatic FLUO 4x/0.1, 10x/0.25, 20x/0.40, 40x/0.65
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. 1.20. Fitted with iris diaphragm. Height adjustment by a rack and pinion mechanism.
Illumination	External 12V/50W with halogen bulb, fan-cooled case, centering system. Field diaphragm. Full Köhler system. HBO 100W high pressure mercury bulb for epi-fluorescence.

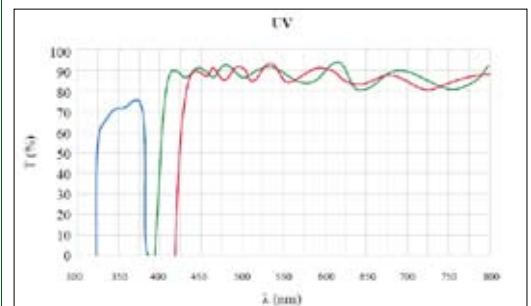
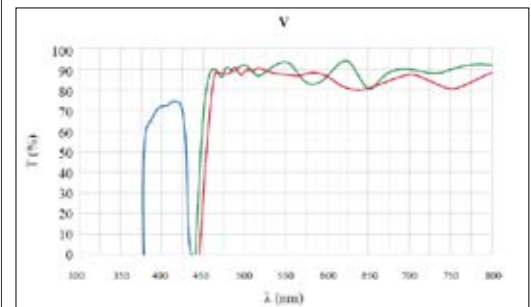
Standard filters (in bundle)

Name	Excitation wavelength (nm)	Dichroic mirror cutoff (nm)	Barrier filter cutoff (nm)
B (Blue)	460-500	505	510-560
G (Green)	530-580	585	610-690



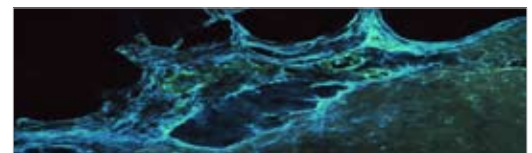
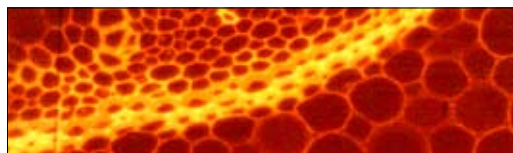
Additional filters (as option)

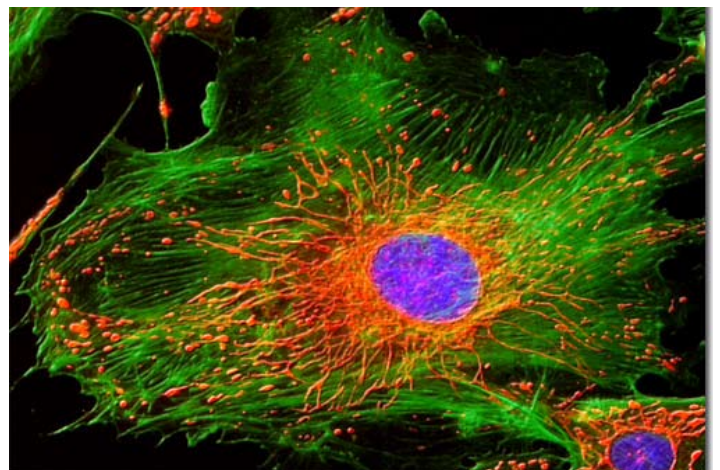
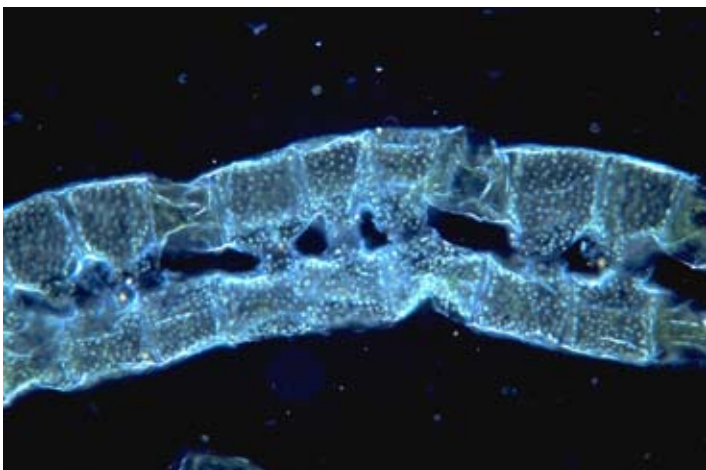
Name	Excitation wavelength (nm)	Dichroic mirror cutoff (nm)	Barrier filter cutoff (nm)
V (Violet)	385-425	440	455LP
UV	325-375	400	420LP



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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

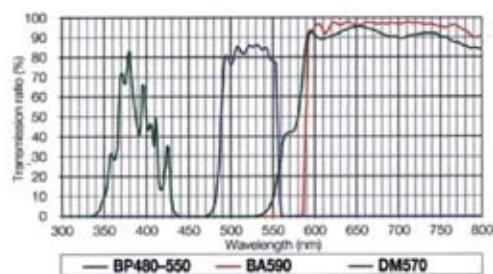
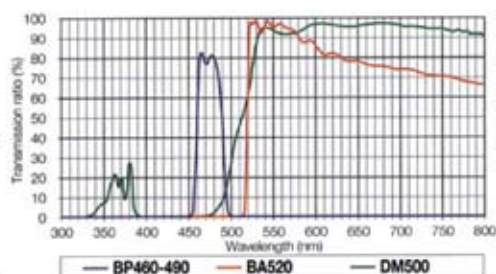
XDS-2FL - Technical specifications

Part	Description
Optical system	Infinity corrected system, 45 mm parafocality distance. Field of view 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 EWF10x/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 friction.
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	6V / 30W halogen 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. <u>No other as option.</u>

Filter sets

Filter sets	Excitation	Dichroic Mirror	Barrier Filter
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.



XDS-3FL

FLUO SERIES - HBO Fluorescence

XDS-3FL - Technical specifications

Part	Description
Optical system	Infinity corrected system, 45 mm parafocality distance. Field of view 22 mm.
Head	Trinocular: 45° inclined. Interpupillary distance: 48 - 75 mm. Adjustable dioptic compensation.
Eyepieces	Extra-wide field EWF10x/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/0.25 (working distance 10 mm), FLUO 20X/0.40 (working distance 5.1 mm), FLUO 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 friction.
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	6V / 30W halogen precentered illuminator, with adjustable intensity, filter and phase ring holder and aperture diaphragm. Inverted epifluorescence: HBO 100W high pressure mercury bulb, knobs for lamp alignment.
Filtersets	Blue and Green fluorescence filtersets. Violet and Ultraviolet as optional accessories.

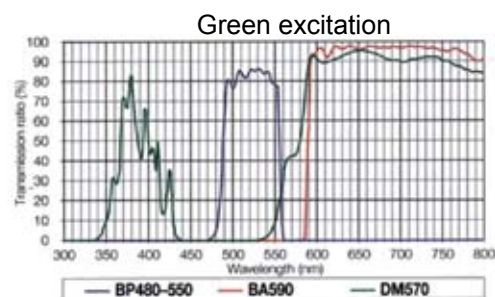
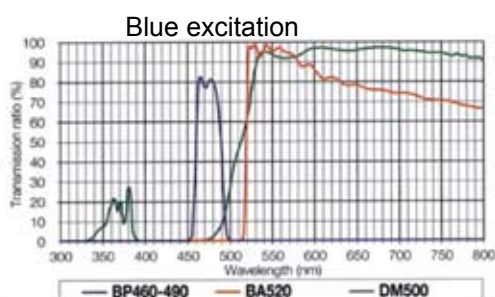
Filter sets

Filter sets	Excitation	Dichroic Mirror	Barrier Filter
Blue excitation	BP460-490	DM500	BA520
Green excitation	BP480-550	DM570	BA590
Ultraviolet excitation	BP330-385	DM400	BA420
Violet excitation	BP400-410	DM455	BA455

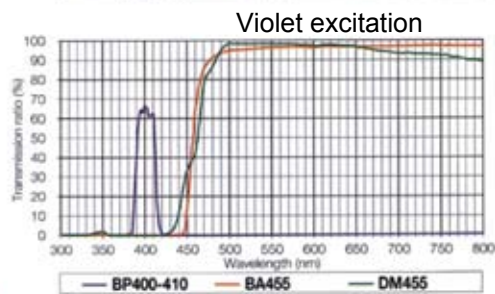
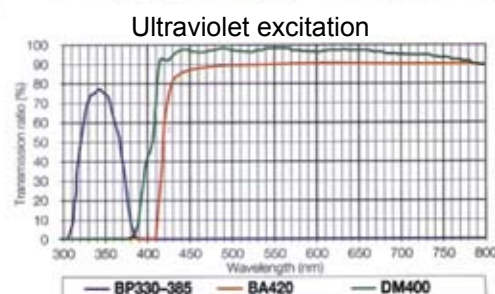
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STANDARD FILTERS



OPTIONAL FILTERS



SERIE FLUO - Accessoires**Accessories for all B-353 models**

M-301	WF10x/20mm high-point eyepiece
M-302	WF16x/12mm high-point eyepiece
M-303	WF10x/20mm high-point micrometer eyepiece
M-005	26x76 mm micrometric slide. Range 1 mm, div. 0,01 mm
M-330	4x IOS plan achromatic objective
M-331	10x IOS plan achromatic objective
M-332	20x IOS plan achromatic objective
M-333	40x IOS plan achromatic objective
M-335	50x/0.7 IOS plan Achromatic Objective (no cover glass)
M-334	100x IOS plan achromatic objective
M-350	10x IOS plan achromatic objective for phase contrast
M-351	20x IOS plan achromatic objective for phase contrast
M-352	40x IOS plan achromatic objective for phase contrast
M-353	100x IOS plan achromatic objective for phase contrast
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 polarising set
M-364	Darkfield condenser for dry objectives
M-365	Photo tube adapter for SRL cameras
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)

Accessories for B-600TiFL

M-680	30°-60° Ergo binocular head
M-625	EWF10x/22mm eyepiece
M-601	WF15x/16mm eyepiece
M-602	Micrometer eyepiece EWF10x/22mm
M-005	26x76 mm micrometric slide. Range 1 mm, div. 0,01 mm
M-760	10x IOS plan achromatic objective for phase contrast
M-761	20x IOS plan achromatic objective for phase contrast
M-762	40x IOS plan achromatic objective for phase contrast
M-763	100x IOS plan achromatic objective for phase contrast
M-681	4x IOS FLUOR plan achromatic objective
M-682	10x IOS FLUOR plan achromatic objective
M-683	20x IOS FLUOR plan achromatic objective
M-684	40x IOS FLUOR plan achromatic objective
M-685	100x IOS FLUOR plan achromatic objective
M-613	Polarising set (filters only)
M-615	Lambda filter for polarising set
M-614	Rotating table for polarising 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 SRL cameras
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	12V/50W halogen bulb
M-151	HBO100W high-pressure mercury bulb for fluorescence
M-670	Empty fluorescence filterblock
M-671	Fluorescence filterblock V
M-672	Fluorescence filterblock UV-DAPI
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	Eye cup (pair)

Accessories for XDS-2FL

M-755	Ergonomical trinocular head
M-017	EWF10x/22mm eyepiece
M-021	EWF10x/22mm micrometer eyepiece
M-005	26x76 mm micrometric slide. Range 1 mm, div. 0,01 mm
M-770	4x/0.10 LWD IOS plan achromatic objective (w. d. 18 mm)
M-771	10x/0.25 LWD IOS plan achromatic obj. for phase contrast (w. d. 10 mm)
M-772	20x/0.40 LWD IOS plan achromatic obj. for phase contrast (w. d. 5.1 mm)
M-773	40x/0.60 LWD IOS plan achromatic objective (w. d. 2.6 mm)
M-151	HBO100W high-pressure mercury bulb for fluorescence
M-777	Photo tube adapter for SRL cameras
M-778	CCD camera adapter
M-779	6V/30W halogen bulb
M-036	Dust cover type 7

Accessories for XDS-3FL

M-780	EWF10x/22mm eyepiece
M-781	EWF10x/22mm micrometric eyepiece
M-005	26x76 mm micrometric slide. Range 1 mm, div. 0,01 mm
M-782	4x/0.10 LWD IOS plan achromatic objective (working distance 22mm)
M-783	10x/0.25 LWD IOS plan achromatic obj. for phase contrast (w. d. 7.94mm)
M-784	20x/0.40 LWD IOS plan achromatic obj. for phase contrast (w. d. 7.66mm)
M-785	40x/0.60 LWD IOS plan achromatic obj. for phase contrast (w. d. 3.71mm)
M-783.1	Phase ring 10X
M-784.1	Phase ring 20X
M-785.1	Phase ring 40X
M-786	60x/0.85 LWD IOS plan achromatic obj. (working distance 2.50 mm)
M-801	10x/0.25 LWD IOS FLUO plan achromatic obj. (w. d. 10mm)
M-802	20x/0.40 LWD IOS FLUO plan achromatic obj. (w. d. 5.1mm)
M-803	40x/0.60 LWD IOS FLUO plan achromatic obj. (w. d. 2.6mm)
M-676	Empty fluorescence filterblock
M-677	Fluorescence filterblock V
M-678	Fluorescence filterblock UV-DAPI
M-151	HBO100W high-pressure mercury bulb for fluorescence
M-787	Cut-off filter (infrared)
M-788	Photo tube adapter for SRL cameras
M-789	CCD camera adapter
M-790	Tube adapter for digital cameras DIGI series
M-621	6V/30W halogen bulb
M-036	Dust cover type 7