OPTIKA®
MICROSCOPES
ITALY

IM-3 Series

Routine Lab Inverted Microscopes

Your Preferred Inverted Microscope for Routine

ROUTINE IN UNIVERSITIES, LABS & INDUSTRIES
» Wide range to fullfil specific lab requirements
» Valuable solutions for life and material sciences
» Compliant with several observation methods

AN AFFORDABLE PARTNER WITH HIGH-END FEATURES
» IOS LWD W-PLAN objectives for flat images on 22 mm FN
» Fast, efficient investigation with no particular sample prep
» Trinocular port with beam splitter for most light-demanding needs

Optically Impressive

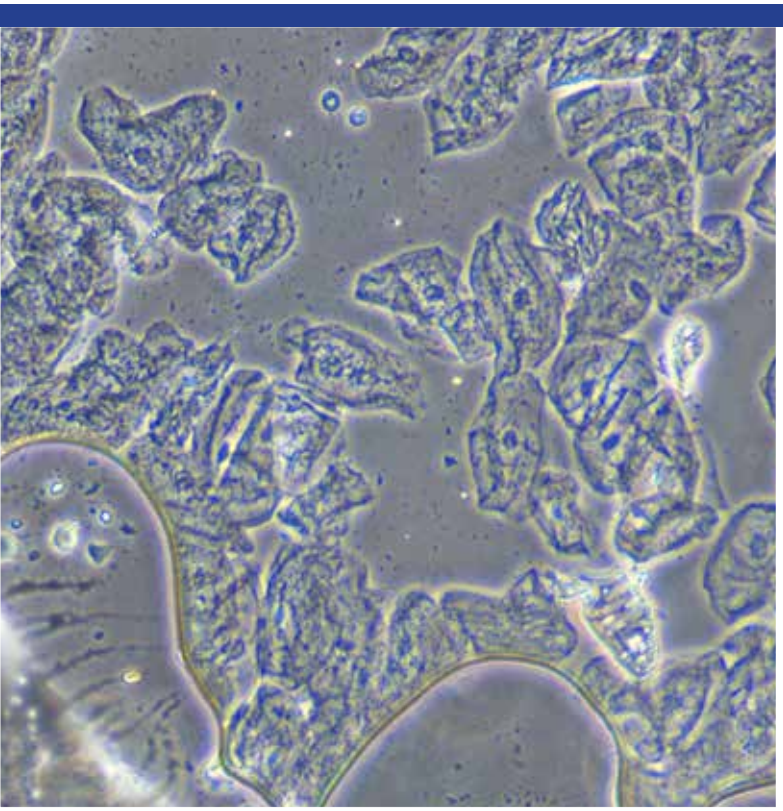
MAINTAINING GOOD EYESIGHT
» 10x/22 eyepieces for large specimen view
» Comfortable rubber cup to get rid of annoying external light
» High eye-point for glasses wearers, dioptric adjustment (left eyepiece)

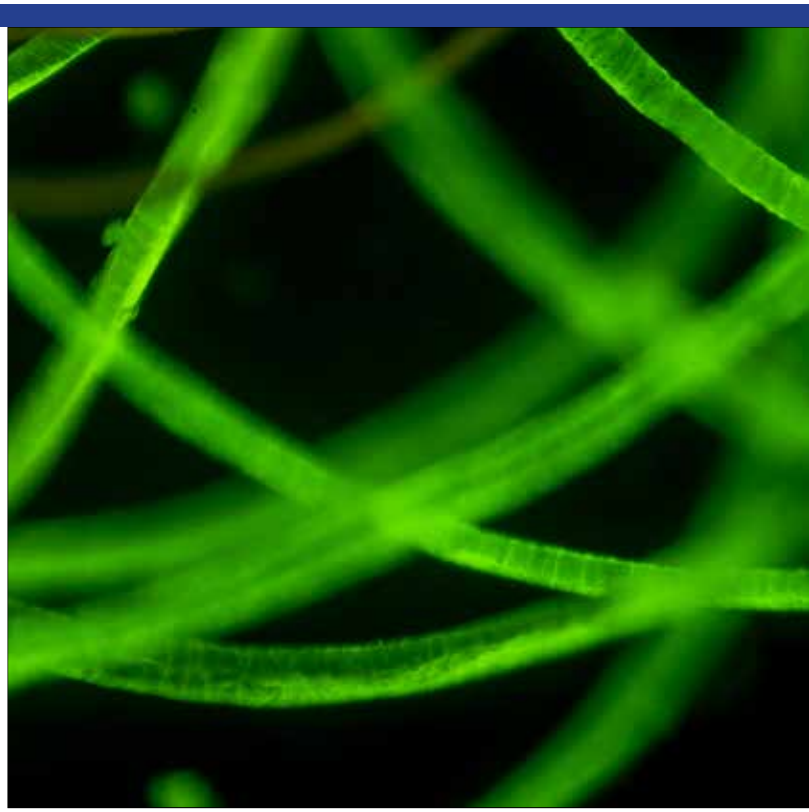
IM-3 & IOS W-PLAN: THE PERFECT COMBINATION
» IOS Infinity corrected optical system
» Full planarity optics on 22 mm (W-PLAN) according to ISO 19012-1
» High-grade Semi-Apo lens available ideal for fluorescence

An Extensive Range of Different Configurations

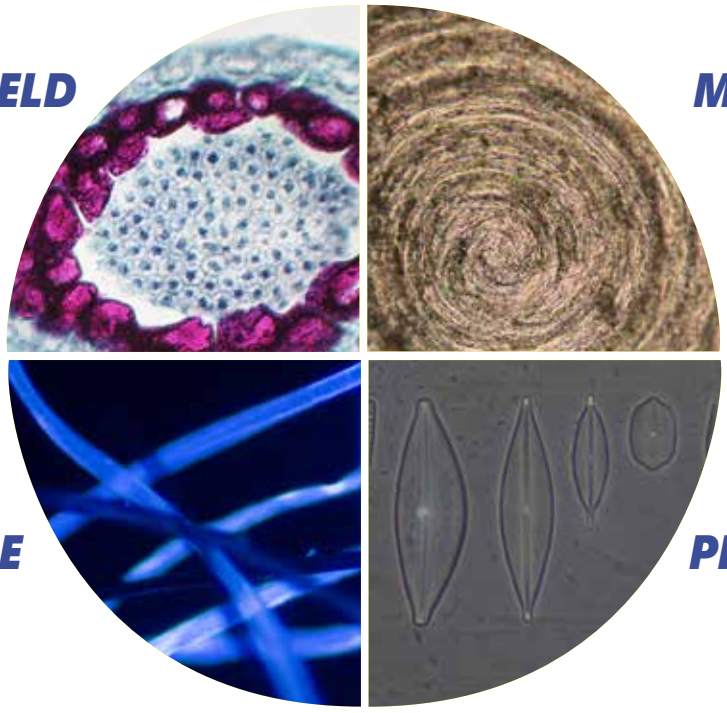
OBSERVE EVEN THE MOST COMPLEX SAMPLES
» Phase contrast lens for transparent sample examination
» LED and HBO fluorescence available for specific purposes
» High quality no cover glass objectives for material science

CONCEPTUAL INNOVATION IN LED FLUORESCENCE
» Choose the lowest operational cost, LED lifetime of 65,000 hours
» Immediate operation, eliminating warm-up/cool-down times
» Forget about lamp centering, adjustment and maintenance





Multiple Observation Methods



BRIGHTFIELD

METALLOGRAPHY

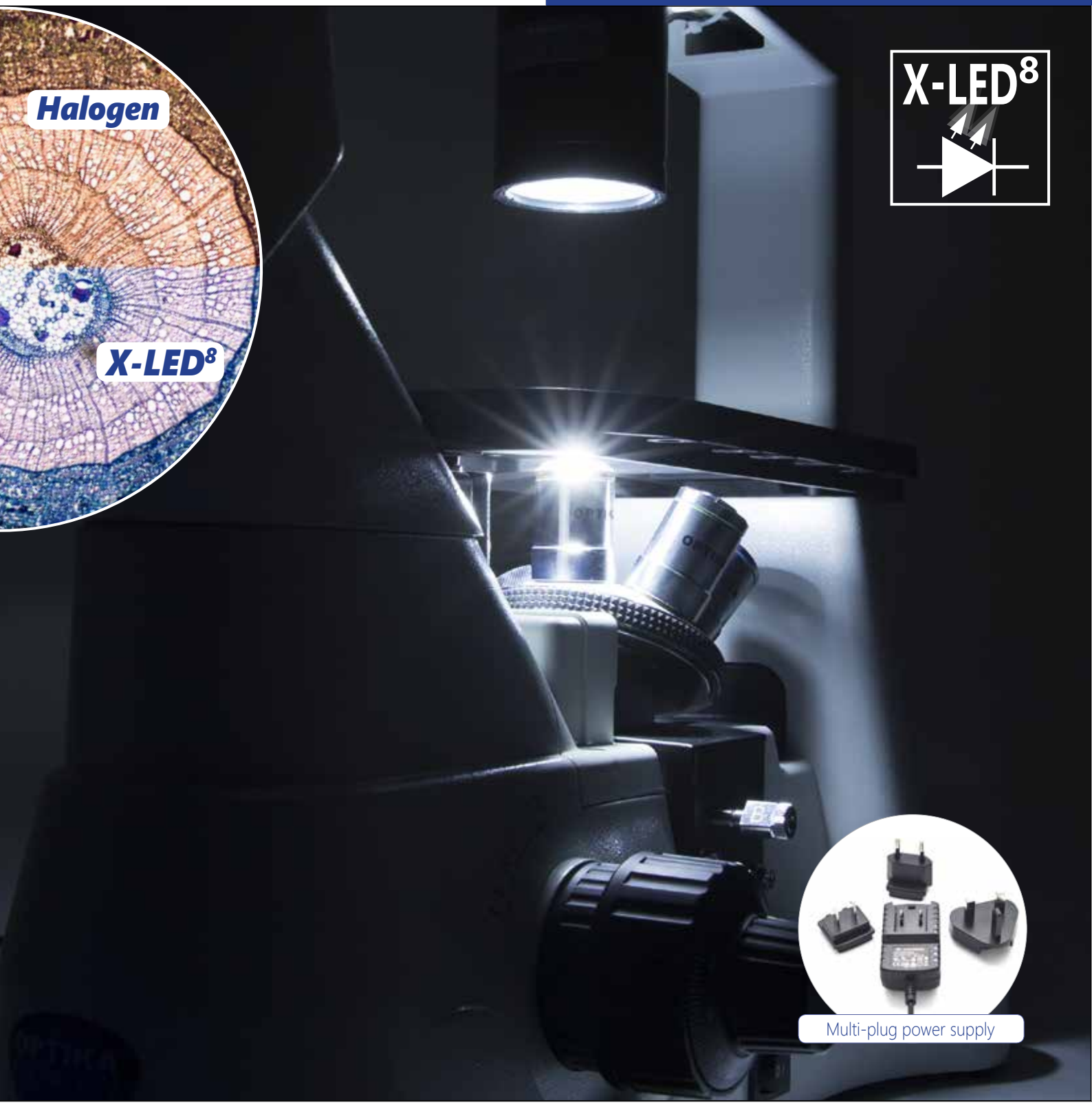
FLUORESCENCE

PHASE CONTRAST

X-LED⁸ - Only Available at OPTIKA

STATE-OF-THE-ART ILLUMINATION SYSTEM
» Uncomparable light intensity, exclusive lens & collector design
» Constant pure-white color temperature at all intensity levels
» Unmatched color fidelity, uniformity and brightness

CUT ELECTRICITY BILLS BY 90%
» Money & energy saving, 8 W
» More efficient brightness than a 100 W halogen lamp
» LED long lifetime (65,000 hours = 22 years at 8 hours/day usage)



Multi-plug power supply

Go Digital - Vivid Colors & Contrast For Stunning Images

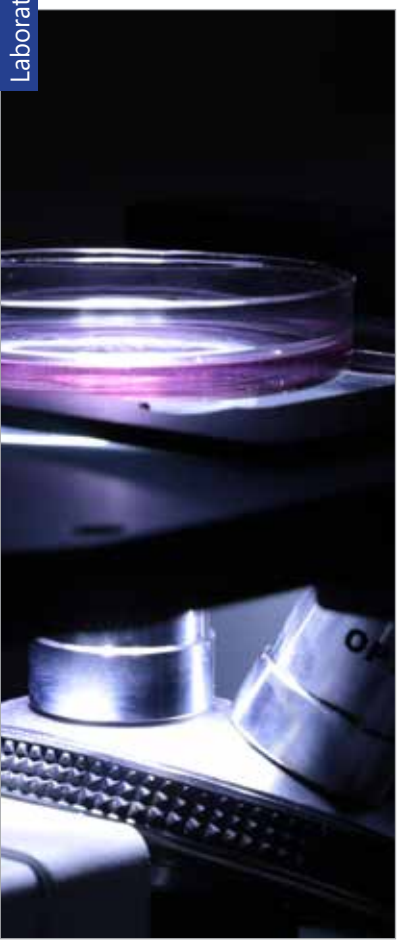
STAY CONNECTED WITH YOUR SPECIMEN, EASILY

» Trincular port to be always updated with the latest technology cameras, even in the future
» Wide range of cameras matching all the needs, including the more specific ones
» Modern C-mount focusable professional adapters for all kinds of cameras

PROFESSIONAL IMAGE ANALYSIS

» Multi-language software for live-view, picture and video in different file formats
» Advanced functions for pictures processing (EDF, stitching, multi-fluorescence combine)
» Powerful tools to perform measurements and generate custom reports

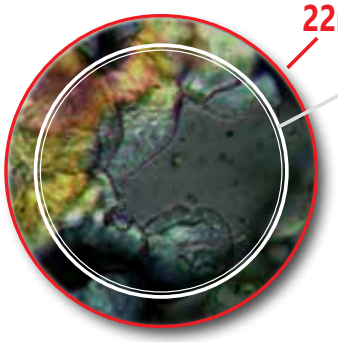
IM-3 Series



Inverted microscopes are useful for observing living cells or organisms at the bottom of a large container (e.g., a tissue culture flask) under more natural conditions than on a glass slide, as it occurs with a conventional microscope. IM-3 Series is engineered and designed to be your ideal solution for fast and reliable routine inspections, with the exclusive, state-of-the-art X-LED[8] illumination system. A particularly simple and ingenious optical design allows stable alignments and smooth and accurate movements. OPTIKA provides different configurations, including the innovative LED fluorescence technology for a new, enhanced experience.

X-LED[8] Exclusive Lighting Source

Special technology able to double the light intensity for incomparable performance, ensuring constant pure-white colour temperature (6,300K colour temperature).
Relevant money and energy saving thanks to the incredibly low energy consumptions which allows you to cut the electricity bills by 90%!
The electric consumption (8 W only) proves the high efficiency of this system: incredibly high light intensity combined with low consumption.



Large Specimen View (22 mm Field Number)

The **F.O.V.** (field of view) is based on a comfortable diameter of 22 mm.
This means that an extra wide area of the sample can be inspected and allows a natural and easy view, particularly needed in a laboratory environment.

In fluorescence we can offer several options.

According to your application and to the fluorochromes you are using, we can help you to identify the best light source.

Traditional, HBO Fluorescence

» The most used and diffused method, worldwide
» Wide spectrum range for future upgrades

Innovative, LED Fluorescence

» Recommended for routine applications
» Cost-effective, money saving technology
» Ready for immediate operation
» Eliminate warm-up/cool-down times
» Forget lamp replacement & centering

Get the most out of our accessories

DESIGNED TO FACILITATE YOUR DAILY ROUTINE

» Removable condenser to increase the working distance
» Mechanical stage and side extensions for great comfort (as optional)
» Different inserts available according to the container used (as optional)

M-793.1
Holder for Petri diameter 38mm (M-793.2 needed).

M-793.2
Holder for Terasaki and Petri diameter 65mm.

M-793.3
Holder for slide and Petri diameter 54mm.

M-793.4
Holder for 2+2 slides.

M-793.5
Holder for metallurgical samples
(only for IM-3MET).

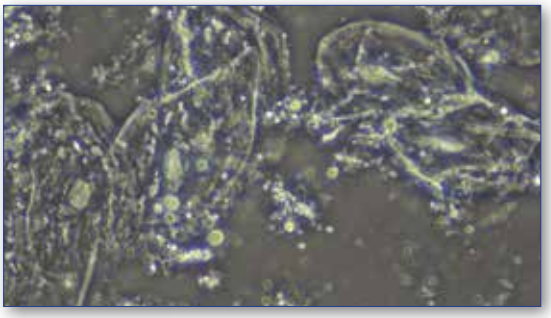
M-793.6
Holder for Utermöhl-Chamber (M-793.3 needed).

M-793.7
Load-bearing side extension.

M-792
Mechanical stage.

IM-3 - Brightfield & Phase Contrast Microscope

IM-3 looks at the challenge of the future with confidence, offering first-class optical quality and mechanical versatility, to extend its use with several accessories.
Ensuring top-level brightfield and phase contrast observation, as it comes with a set of 3 IOS LWD W-PLAN PH objectives (10x, 20x and 40x).
The high-efficiency ***X-LED***^{8} makes it reliable for all transmitted light observations.
For a more complete solution, choose among the several accessories available (objectives, translating stage, side extensions, holders and stage inserts).

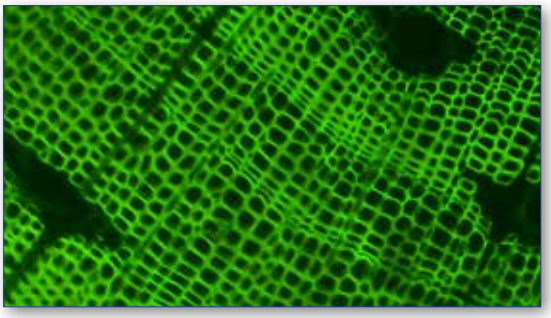


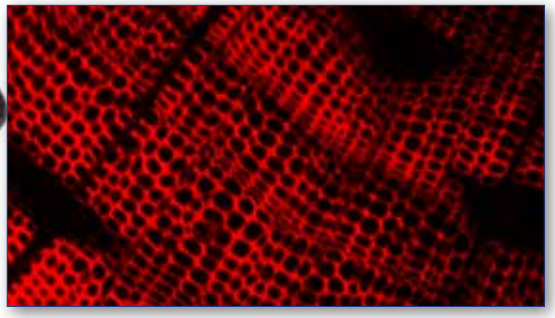
Part	Description
Observation mode:	Brightfield, phase contrast.
Head:	Trinocular (2-position 100/0, 50/50), 45° inclined.
Interpupillary distance:	Adjustable between 50 and 75 mm.
Dioptric adjustment:	On the left eyepiece tube.
Eyepieces:	WF10x/22 mm, high eye-point and with rubber cups.
Nosepiece:	Quintuple revolving nosepiece, rotation on ball bearings.
Objectives:	IOS LWD W-PLAN PH 10x/0.25 IOS LWD W-PLAN PH 20x/0.40 IOS LWD W-PLAN PH 40x/0.65 All with anti-fungus treatment.

Part	Description
Specimen stage:	Fixed stage, 250x160 mm, with glass and metal stage inserts.
Focusing:	Coaxial coarse (adjustable tension) and fine focusing mechanism with limit stop to prevent the contact between objective and specimen.
Condenser:	LWD pre-centered condenser, N.A. 0.30, W.D. 72 mm. With 4x/10x, 20x/40x phase contrast slider and brightfield. Removable to extend the working distance up to 150 mm.
Transmitted illumination:	X-LED^{8} with white 8 W LED (6,300K) with brightness control. With aperture diaphragm. Multi-plug 100-240Vac/6Vdc external power supply.

IM-3F - HBO Fluorescence Microscope

Routine inverted fluorescence microscope for transmitted brightfield, phase contrast and fluorescence observations with IOS LWD W-PLAN objectives.
The HBO fluorescence illuminator is combined with blue and green excitation filter set for the visualization of the following fluorochromes: Acridine Yellow, Acridine Orange, Auramine, DiO, DTAF, FITC, GFP, YFP, etc. (blue) plus Rhodamine, Texas Red and TRITC (green).
Transmitted light through the exclusive ***X-LED⁸*** to ensure great-looking, rich and high-quality specimen view.



Standard filtersets

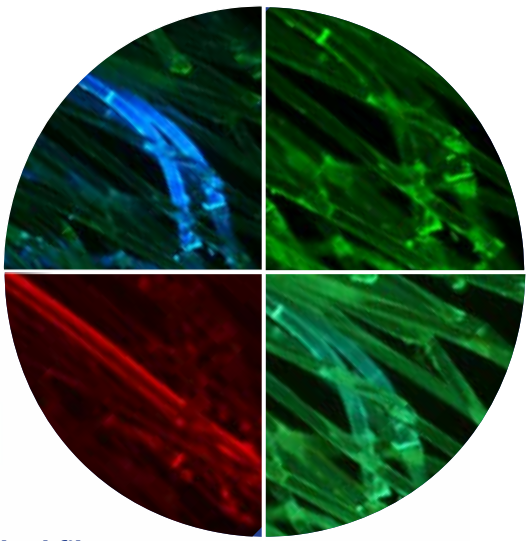
Name	Excitation filter (nm)	Dichroic mirror cut-off (nm)	Emission filter (nm)
B (Blue)	450 – 490	495	520LP
G (Green)	540 – 580	585	590LP

Part	Description
Observation mode:	Brightfield, phase contrast, HBO fluorescence.
Epi-illumination and filter:	HBO 100 W high pressure mercury lamp. 3-position filter holder; blue & green included.
Head:	Trinocular (2-position 100/0, 0/100), 45° inclined.
Interpupillary distance:	Adjustable between 50 and 75 mm.
Dioptric adjustment:	On the left eyepiece tube.
Eyepieces:	WF10x/22 mm, high eye-point and with rubber cups.
Nosepiece:	Quintuple revolving nosepiece, rotation on ball bearings.
Objectives:	IOS LWD W-PLAN 4x/0.13 IOS LWD W-PLAN PH 10x/0.25 IOS LWD W-PLAN PH 20x/0.40 IOS LWD W-PLAN 40x/0.65 All with anti-fungus treatment.

Part	Description
Specimen stage:	Fixed stage, 250x160 mm, with glass and metal stage inserts.
Focusing:	Coaxial coarse (adjustable tension) and fine focusing mechanism with limit stop to prevent the contact between objective and specimen.
Condenser:	LWD pre-centered condenser, N.A. 0.30, W.D. 72 mm. With 4x/10x, 20x/40x phase contrast slider and brightfield. Removable to extend the working distance up to 150 mm.
Transmitted illumination:	X-LED⁸ with white 8 W LED (6,300K) with brightness control. With aperture diaphragm. Multi-plug 100-240Vac/6Vdc external power supply.

IM-3FL4 - HBO Fluorescence Microscope

Advanced inverted microscope for brightfield and fluorescence observations with Semi-Apo IOS LWD U-PLAN F objectives to enhance the visibility of the sample and increase the overall contrast. The HBO fluorescence illuminator provides an outstanding flexibility of use, standing the blue and green filter sets (supplied as standard) for Auramine, FITC, GFP and YFP (with blue filter set) plus Rhodamine, Texas Red and TRITC (with the green one), yet giving the possibility to combine any other specific filter sets for future upgrade. Transmitted light through the exclusive ***X-LED⁸*** to ensure great-looking, rich and high-quality specimen view.



Standard filterset

Name	Excitation filter (nm)	Dichroic mirror cut-off (nm)	Emission filter (nm)
B Blue	460 - 490	500	520LP
G Green	480 - 550	570	590LP

Additional filterset (optional)

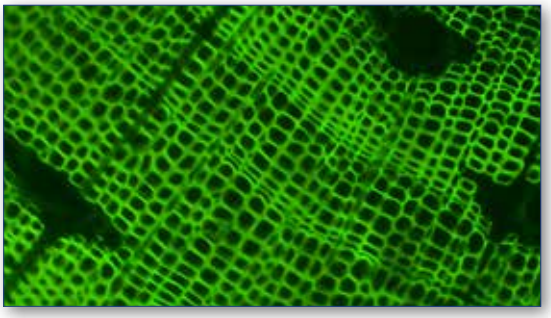
Name	Excitation filter (nm)	Dichroic mirror cut-off (nm)	Emission filter (nm)
V (Violet)	390 - 420	440	455LP
UV	325 - 375	415	435LP

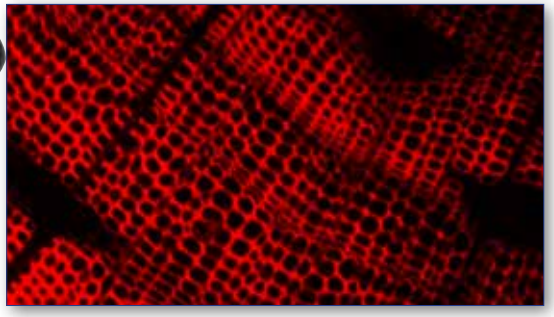
Part	Description
Observation mode:	Brightfield, HBO fluorescence.
Epi-illumination and filter:	HBO 100 W high pressure mercury lamp. 4-position filter holder; blue & green included.
Head:	Trinocular (2-position 100/0, 0/100), 45° inclined.
Interpupillary distance:	Adjustable between 50 and 75 mm.
Dioptric adjustment:	On the left eyepiece tube.
Eyepieces:	WF10x/22 mm, high eye-point and with rubber cups.
Nosepiece:	Quintuple revolving nosepiece, rotation on ball bearings.
Objectives:	IOS LWD U-PLAN F 10x/0.30 IOS LWD U-PLAN F 20x/0.45 IOS LWD U-PLAN F 40x/0.65 All with anti-fungus treatment.

Part	Description
Specimen stage:	Fixed stage, 250x160 mm, with glass and metal stage inserts.
Focusing:	Coaxial coarse (adjustable tension) and fine focusing mechanism with limit stop to prevent the contact between objective and specimen.
Condenser:	LWD pre-centered condenser, N.A. 0.30, W.D. 72 mm. Removable to extend the working distance up to 150 mm.
Transmitted illumination:	X-LED⁸ with white 8 W LED (6,300K) with brightness control. With aperture diaphragm. Multi-plug 100-240Vac/6Vdc external power supply.

IM-3LD - LED Fluorescence Microscope

Routine inverted fluorescence microscope for transmitted brightfield, phase contrast and fluorescence observations with IOS LWD W-PLAN PH objectives.
The LED fluorescence illuminator is combined with blue and green excitation filter set for the visualization of the following fluorochromes: Acridine Yellow, Acridine Orange, Auramine, DiO, DTAF, FITC, GFP, YFP, etc. (blue) plus Rhodamine, Texas Red and TRITC (green). LED fluorescence ensures unparalleled convenience eliminating warm-up/cool-down times and all the inconveniences related lamp replacement and adjustment. Transmitted light through the exclusive ***X-LED***^{8} to ensure great-looking, rich and high-quality specimen view.





Standard filterset

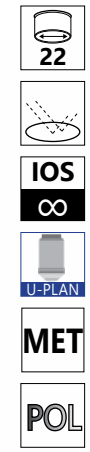
Name	Excitation filter (nm)	Dichroic mirror cut-off (nm)	Emission filter (nm)
B Blue	450 - 490	495	520LP
G Green	540 - 580	585	590LP

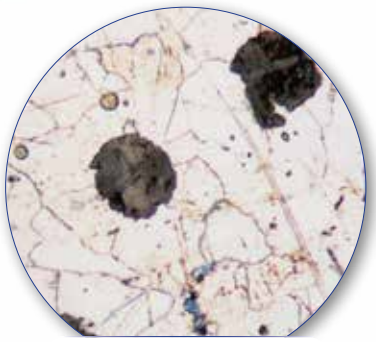
Part	Description
Observation mode:	Brightfield, phase contrast, LED fluorescence.
Epi-illumination and filter:	High-power 18 W LED with brightness control. 3-position filter holder; blue and green.
Head:	Trinocular (2-position 100/0, 0/100), 45° inclined.
Interpupillary distance:	Adjustable between 50 and 75 mm.
Dioptric adjustment:	On the left eyepiece tube.
Eyepieces:	WF10x/22 mm, high eye-point and with rubber cups.
Nosepiece:	Quintuple revolving nosepiece, rotation on ball bearings.
Objectives:	IOS LWD W-PLAN PH 10x/0.25 IOS LWD W-PLAN PH 20x/0.40 IOS LWD W-PLAN PH 40x/0.65 All with anti-fungus treatment.

Part	Description
Specimen stage:	Fixed stage, 250x160 mm, with glass and metal stage inserts.
Focusing:	Coaxial coarse (adjustable tension) and fine focusing mechanism with limit stop to prevent the contact between objective and specimen.
Condenser:	LWD pre-centered condenser, N.A. 0.30, W.D. 72 mm. With 4x/10x, 20x/40x phase contrast slider and brightfield. Removable to extend the working distance up to 150 mm.
Transmitted illumination:	X-LED^{8} with white 8 W LED (6,300K) with brightness control. With aperture diaphragm. 100-240Vac/24Vdc external power supply.

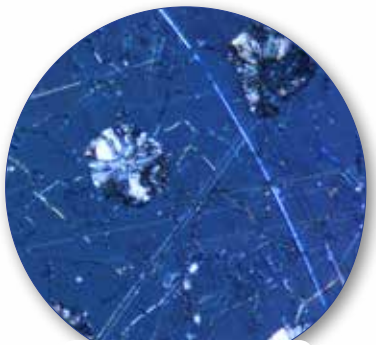
IM-3MET- Metallurgical Microscope

Routine inverted microscope with IOS LWD U-PLAN MET objectives for material science and metallographic applications, combining a sturdy yet compact structure with dedicated components required in this field, like the NCG (no cover glass) objectives working without cover slide ideal for metallographic samples and other opaque specimens. A particularly simple and ingenious optical design allows stable alignments and smooth and accurate movements.





CAST IRON
BRIGHTFIELD



CAST IRON
POLARIZED LIGHT

Part	Description
Observation mode:	Brightfield, simple polarized light on incident light.
Epi-illumination and polarizing filters:	Halogen 12 V/50 W with brightness control. With aperture and field (centrable) diaphragms. With polarizer and analyzer.
Head:	Trinocular (2-position 100/0, 50/50), 45° inclined.
Interpupillary distance:	Adjustable between 50 and 75 mm.
Dioptric adjustment:	On the left eyepiece tube.
Eyepieces:	WF10x/22 mm, high eye-point and with rubber cups.
Nosepiece:	Quintuple revolving nosepiece, rotation on ball bearings.

Part	Description
Objectives:	IOS LWD U-PLAN MET 5x/0.15 IOS LWD U-PLAN MET 10x/0.30 IOS LWD U-PLAN MET 20x/0.45 IOS LWD U-PLAN MET 50x/0.75 All with anti-fungus treatment.
Specimen stage:	Fixed stage, 250x160 mm, with metal stage insert.
Focusing:	Coaxial coarse (adjustable tension) and fine focusing mechanism with limit stop to prevent the contact between objective and specimen.

IM-3 Series - Comparison chart

Common features:
- **Head:** Trinocular (2-position), 45° inclined.
- **Eyepieces:** WF10x/22mm, high eye-point.
- **Nosepiece:** Quintuple, reversed, on ball bearings.
- **Stage:** Fixed, 250x160 mm (mechanical stage and side extension available as accessories).
- **Focusing mechanism:** Coaxial coarse (adjustable tension) and fine focusing mechanism with limit stop to prevent the contact between objective and specimen.

Model	Type	Objectives	Condenser	Incident illumination	Fluorescence slider	Transmitted illumination
IM-3	BF, PH	IOS LWD W-PLAN PH 10x, 20x, 40x	LWD, N.A. 0.30, iris diaphragm	-	-	8 W X-LED^8, brightness control
IM-3F	BF, FL, PH	IOS LWD W-PLAN 4x, 10xPH, 20PH, 40x	LWD, N.A. 0.30, iris diaphragm	FL HBO with blue and green filtersets	2-position +BF	8 W X-LED^8, brightness control
IM-3FL4	BF, FL	IOS LWD U-PLAN F 10x, 20x, 40x	LWD, N.A. 0.30, iris diaphragm	FL HBO with blue and green filtersets	3-position +BF	8 W X-LED^8, brightness control
IM-3LD	BF, FL, PH	IOS LWD W-PLAN PH 10x, 20x, 40x	LWD, N.A. 0.30, iris diaphragm	FL LED with blue and green filtersets	2-position +BF	8 W X-LED^8, brightness control
IM-3MET	MET	IOS LWD U-PLAN MET 5x, 10x, 20x, 50x	-	Halogen bulb, 12 V/50 W, brightness control	-	-

IM-3 Series - Optical performance

IM-3 / IM-3LD / IM-3F

Eyepiece			10x (M-780)	
Field number (mm)			22	
Objective	N.A.	W.D. (mm)	Total magnification	Field of view (mm)
4x	0.13	16.90	40x	5.50
10x	0.25	7.94	100x	2.20
20x	0.40	7.66	200x	1.10
40x	0.60	3.71	400x	0.55
60x	0.70	2.50	600x	0.37

IM-3FL4

Eyepiece			10x (M-780)	
Field number (mm)			22	
Objective	N.A.	W.D. (mm)	Total magnification	Field of view (mm)
4x	0.13	18.52	40x	5.50
10x	0.30	10	100x	2.20
20x	0.45	5.10	200x	1.10
40x	0.65	2.60	400x	0.55
60x	0.75	1.04	600x	0.37

IM-3MET

Eyepiece			10x (M-780)		15x (M-601)	
Field number (mm)			22		16	
Objective	N.A.	W.D. (mm)	Total magnification	Field of view (mm)	Total magnification	Field of view (mm)
5x	0.15	10.80	50x	4.40	75x	3.20
10x	0.30	10	100x	2.20	150x	1.60
20x	0.45	4	200x	1.10	300x	0.80
50x	0.55	7.90	500x	0.44	750x	0.32
100x	0.80	2.10	1000x	0.22	1500x	0.16

IM-3 Series - Accessories

ACCESSORIES FOR IM-3 / IM-3F / IM-3FL4 / IM-3LD

M-780	Eyepiece PL 10x/22.
M-781	Eyepiece micrometer PL 10x/22.
M-601	Eyepiece WF 15x/16.
M-005	Micrometer slide for software calibration, 1 mm/10 um, 10 mm/100 um.
M-773	IOS LWD W-PLAN objective 40x/0.60.
M-782	IOS LWD W-PLAN objective 4x/0.13.
M-782.1	IOS LWD W-PLAN PH objective 4x/0.13.
M-783N	IOS LWD W-PLAN PH objective 10x/0.25.
M-784N	IOS LWD W-PLAN PH objective 20x/0.40.
M-785	IOS LWD W-PLAN PH objective 40x/0.65.
M-786	IOS LWD W-PLAN objective 60x/0.70.
M-801	IOS LWD U-PLAN F objective 10x/0.30.
M-802	IOS LWD U-PLAN F objective 20x/0.45.
M-803	IOS LWD U-PLAN F objective 40x/0.65.
M-804	IOS LWD U-PLAN F objective 60x/0.75.
M-785.2N	Slider with phase rings (4x/10x, 20x/40x, BF position)
M-788	Photo adapter for REFLEX camera with FULL FRAME sensor.
M-620	Focusable C-Mount adapter for 1/3″ sensor.
M-620.1	Focusable C-Mount adapter for 1/2″ sensor.
M-620.2	Focusable C-Mount adapter for 2/3″ sensor.
M-699	Universal adapter for M-114, M-115, M-116, M-173 and eyepiece cameras.
M-792	Mechanical stage for IM-3 series.
M-793.1	Holder for Petri diameter 38 mm (M-793.2 needed).
M-793.2	Holder for Terasaki and Petri diameter 65 mm.
M-793.3	Holder for slide and Petri diameter 54mm.
M-793.4	Holder for 2+2 slides.
M-793.6	Holder for Utermöhl-Chamber (M-793.3 needed).
M-793.7	Load-bearing side extension for IM-3 series.
M-676	Empty fluorescence filter cube (only for IM-3F).
M-677	Fluorescence filter set (mounted on filter cube) V (only for IM-3F).
M-678	Fluorescence filter set (mounted on filter cube) UV-DAPI (only for IM-3F).
M-151	HBO100 W high-pressure mercury bulb for fluorescence (only for IM-3F / IM-3FL4).
M-677.1	Fluorescence filter set V (only for IM-3FL4).
M-678.1	Fluorescence filter set UV-DAPI (only for IM-3FL4).
M-677ND	Neutral density filter ND25 (only for IM-3F / IM-3FL4).
M-678ND	Neutral density filter ND50 (only for IM-3F / IM-3FL4).
M-173	Photo adapter for APS-C and Full Frame Reflex cameras.
M-114	C-Mount adapter for 1/2″ sensor.
M-115	C-Mount adapter for 1/3″ sensor.
M-116	C-Mount adapter for 2/3″ sensor.
DC-004	TNT dust cover, large.
15104	Cleaning kit.
VP-IM3	IQ/OQ/PQ Validation Protocols.

ACCESSORIES FOR IM-3MET

M-780	Eyepiece PL 10x/22.
M-781	Eyepiece micrometer PL 10x/22.
M-601	Eyepiece WF 15x/16.
M-005	Micrometer slide for software calibration, 1 mm/10 um, 10 mm/100 um.
M-1100	IOS LWD U-PLAN MET objective 5x/0.15.
M-1101	IOS LWD U-PLAN MET objective 10x/0.30.
M-1102	IOS LWD U-PLAN MET objective 20x/0.45.
M-1103	IOS LWD U-PLAN MET objective 50x/0.55.
M-1104	IOS LWD U-PLAN MET objective 100x/0.80 (dry).
M-699	Universal adapter for M-114, M-115, M-116, M-173 and eyepiece cameras.
M-620	Focusable C-Mount adapter for 1/3″ sensor.
M-620.1	Focusable C-Mount adapter for 1/2″ sensor.
M-620.2	Focusable C-Mount adapter for 2/3″ sensor.
M-622	Halogen bulb 12 V/50 W (only for IM-3MET).
M-792	Mechanical stage for IM-3 series.
M-793.5	Holder for metallurgical samples.
M-793.7	Load-bearing side extension for IM-3 series.
M-114	C-Mount adapter for 1/2″ sensor.
M-115	C-Mount adapter for 1/3″ sensor.
M-116	C-Mount adapter for 2/3″ sensor.
M-173	Photo adapter for APS-C and Full Frame Reflex cameras.
M-788	Photo adapter for REFLEX camera with FULL FRAME sensor.
DC-004	TNT dust cover, large.
15104	Cleaning kit.
VP-IM3	IQ/OQ/PQ Validation Protocols.

15104 - Cleaning kit

It cleans glass quickly and effectively,
without leaving residue or odor.
Ideal for precision lens or prism cleaning.

How to connect the cameras to our microscopes.
Please refer to the Adapter reference list on Digital section.

Headquarters and Manufacturing Facilities

OPTIKA® S.r.l. Via Rigla, 30 - 24010 Ponteranica (BG) - ITALY - Tel.: +39 035.571.392 - info@optikamicroscopes.com

Optika Sales branches

OPTIKA® Spain spain@optikamicroscopes.com
OPTIKA® China china@optikamicroscopes.com
OPTIKA® India india@optikamicroscopes.com
OPTIKA® USA usa@optikamicroscopes.com
OPTIKA® Central America camerica@optikamicroscopes.com