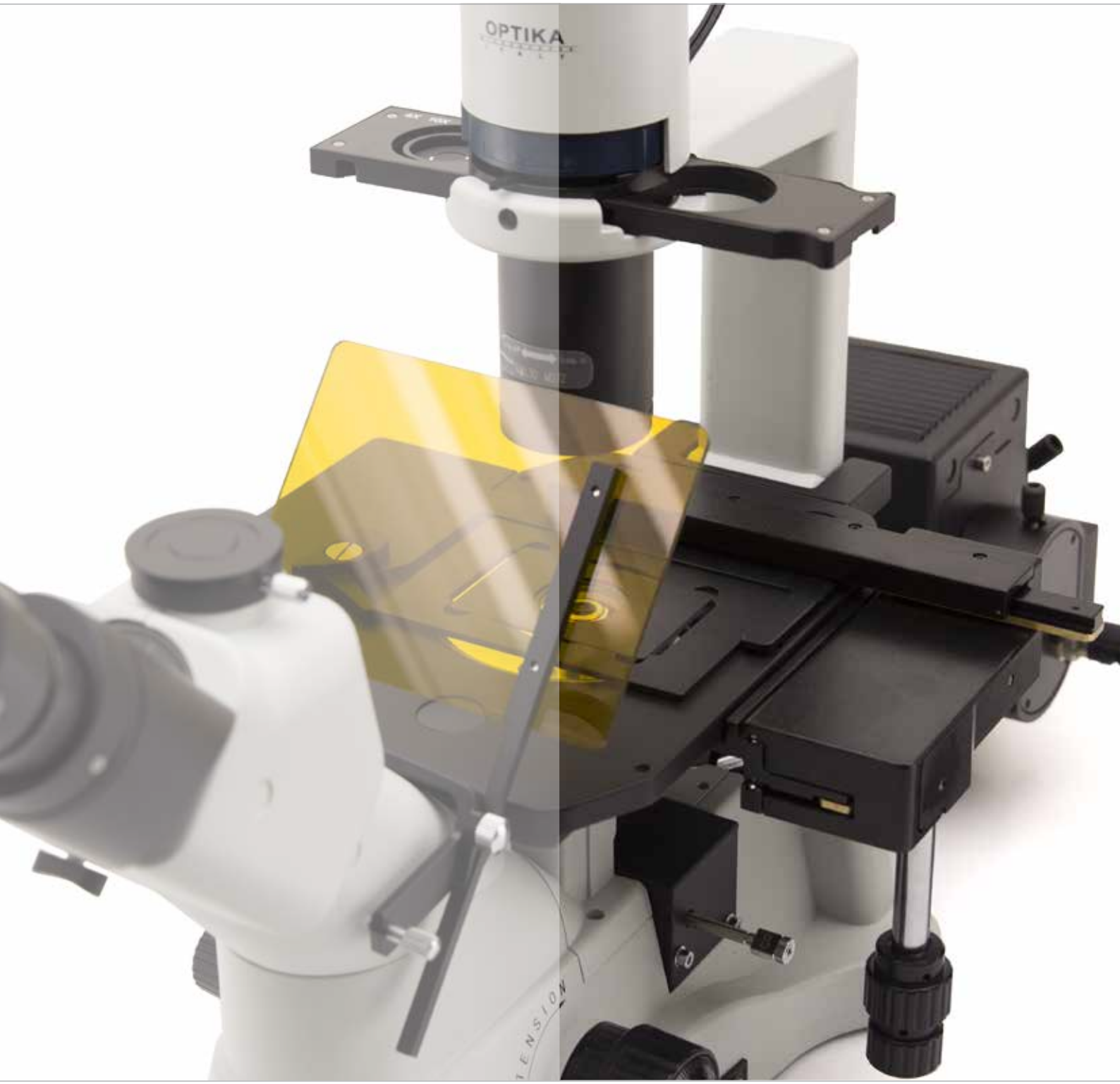
OPTIKA®
MICROSCOPES
ITALY




# IM Series

Inverted Microscopes For Routine Applications

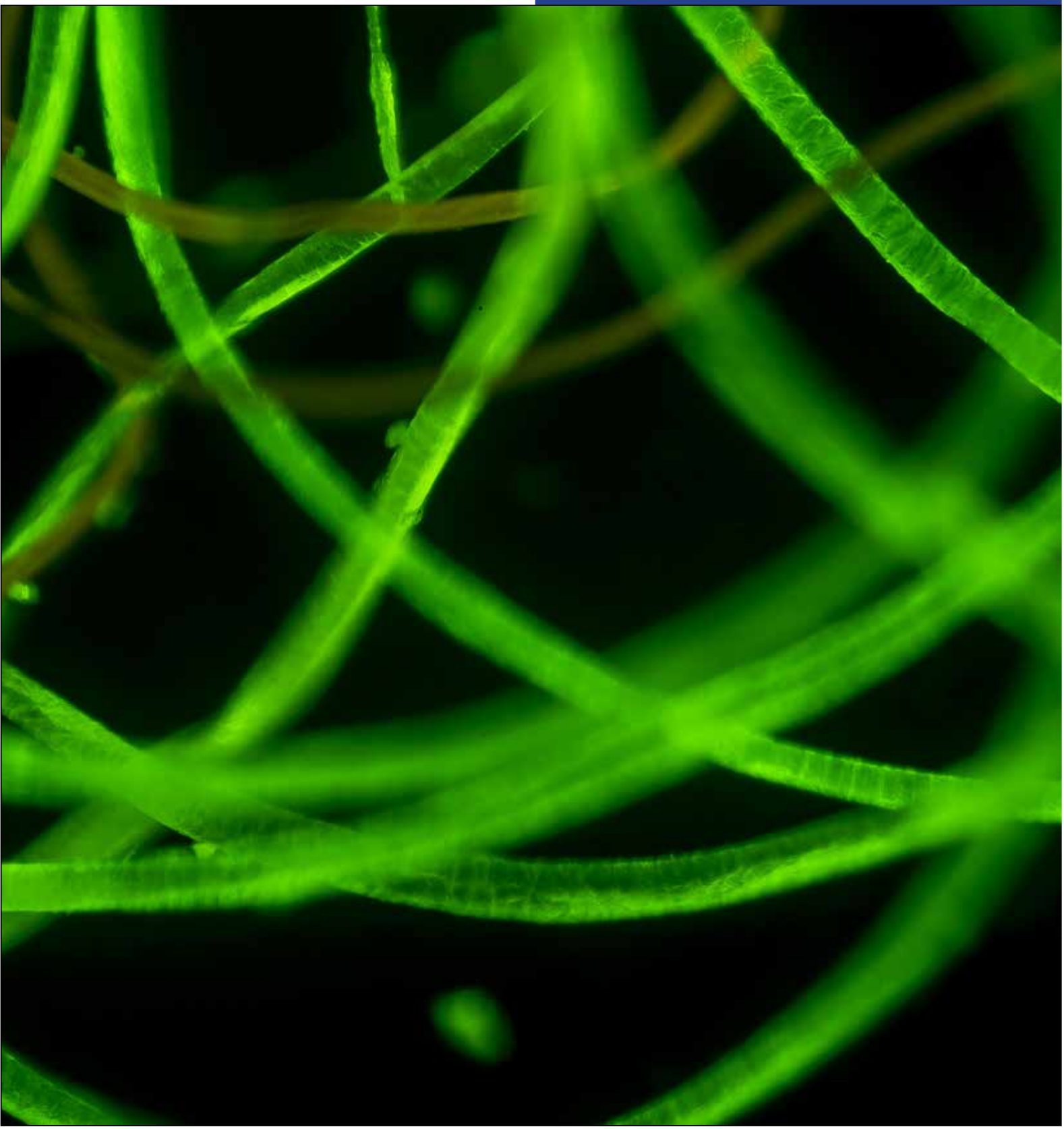
# Your Preferred Inverted Microscope For Routine Applications

**INTUITIVE, EASY USE FOR ALL LEVELS OF EXPERIENCE**

» Ergonomic controls for fast and efficient investigations
» Excellent optics with high numerical aperture for brilliant images
» Compact footprint to save space

**FAST, EFFICIENT INVESTIGATIONS**

» Best-in-class LED illumination
» Easy to use aperture diaphragm to adjust your brightfield view
» Bright images also with light-demanding techniques as phase contrast



# Adjust It To Your Individual Needs

**DESIGNED TO FACILITATE YOUR DAILY ROUTINE**

» Removable condenser to increase the working distance (up to 150 mm)
» Easy set-up of phase contrast with pre-centered slider
» Contemporary ergonomic design

**EXTEND YOUR COMFORT WITH OPTIONAL ACCESSORIES**

» Mechanical stage with X-Y translation
» More space on the stage with load-bearing side extensions
» Interchangeable metallic inserts for slides, Petri dishes and flasks

# Improved Optical Performance, Long Working Distance

**EXCELLENT CONTRAST & RESOLUTION**

» Comprehensive range of objectives for extended versatility
» Full chromatic correction and field planarity for 22mm field
» Enhanced image quality, high contrast and brightness

**OBSERVE EVEN THE MOST COMPLEX SAMPLES**

» All models equipped with Infinity-Corrected IOS optics
» Phase contrast objectives for examination of transparent samples
» High-quality dry objectives for material science applications

# Stay Connected With Your Specimen

**EASY INTEGRATION WITH DIGITAL WORLD**

» Trinocular head with photo ports, activated with a touch of a lever
» Complete range of adapters for all kinds of camera
» Image fidelity thanks to pure white LED illumination

**SOFTWARE TO SIMPLIFY YOUR WORKFLOW**

» Effective image capturing and live videos
» Get fast, user-friendly, high resolution imaging
» Annotate your images and measure distances

# X-LED⁸ - Exclusive Lighting Source

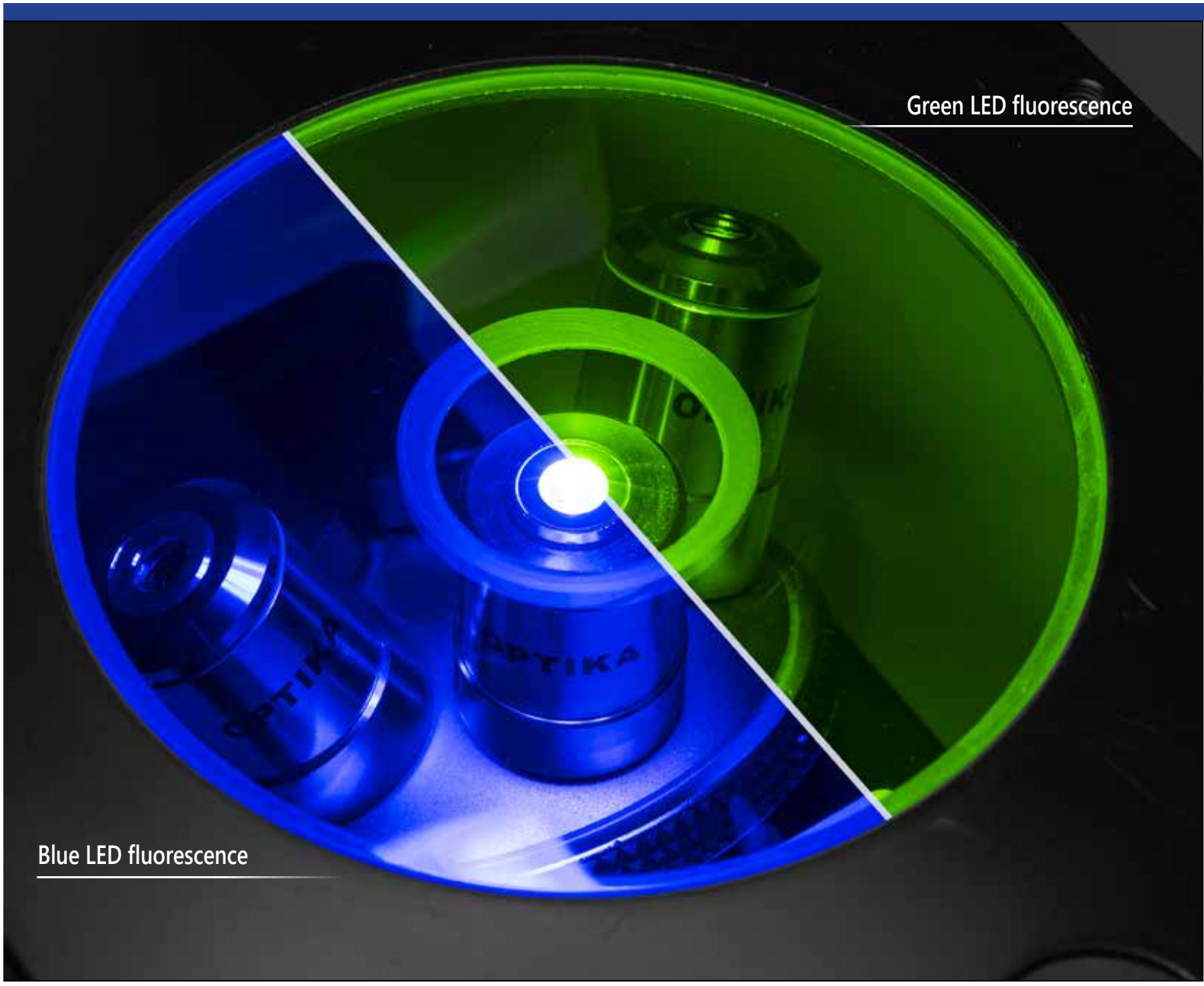
**POWERFUL AND UNIFORM ILLUMINATION**
» Unmatched colour fidelity and brightness of your specimen
» Special technology able to double the light intensity
» Constant pure-white colour temperature, 6300K

**CUT ELECTRICITY BILLS BY 90%**
» Money & energy saving
» Low power consumption, only 8W
» LED long lifetime (50.000 hours = 20 years at 8 hours/day usage)

# **IM-3LD** - The Latest, Modern LED Fluorescence

**CONCEPTUAL INNOVATION FOR UNIQUE CONVENIENCE**
» Eliminate warm-up/cool-down times
» Forget about lamp replacement and adjustment
» No need for lamp maintenance

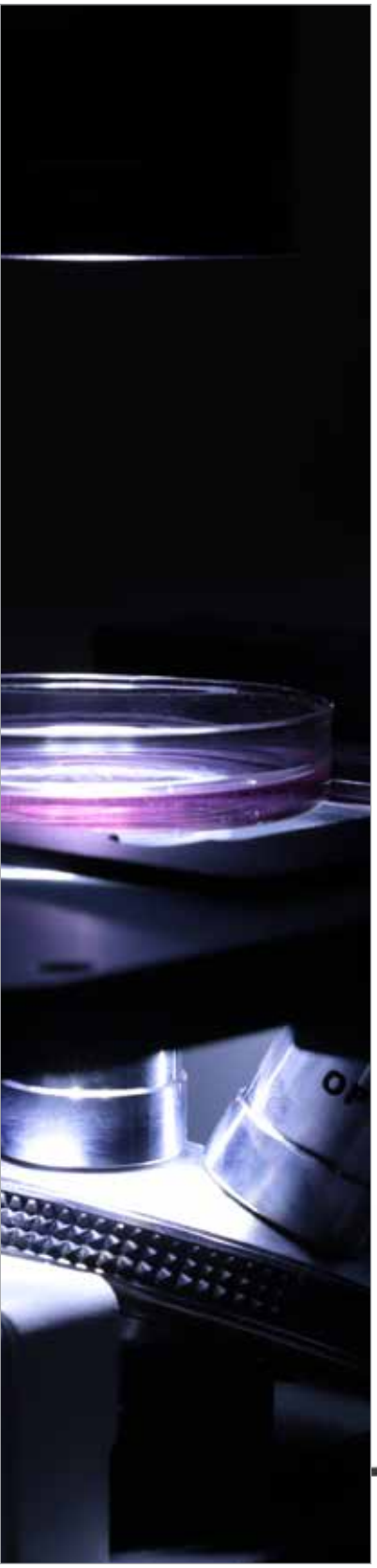
**CHOOSE FOR THE LOWEST OPERATIONAL COSTS**
» Cost-effective, money saving technology
» Lamp lifetime is extended to over 50.000 hours
» Power consumption reduced to a minimum




## Icons

- Trinocular
- Inclined head
- Field number
- Rotating head 360°
- Infinity-corrected optics
- Max. magnification
- Anti-fungus treatment
- Incident light
- Transmitted light
- Halogen lamp
- X-LED illuminator

# **IM** Series



**Dedicated Solutions For Specific Markets**

OPTIKA is able to satisfy the most demanding requests, by offering inverted microscopes for reliable observation in brightfield, fluorescence, material science and phase contrast techniques.
The very long **working distance of the condenser** (up to 150mm) makes possible the use of even the largest samples.

**Significant Time And Money Saving**

The **IM Series** has been designed to increase comfort and achieve exclusive benefits, especially in terms of time saving with quick and intuitive installation, pre-aligned phase contrast system and pre-aligned LED light source.
As time is money, these features bring to a drastic impact on cost reduction, even more evident thanks to the **exclusive illumination system** provided by OPTIKA.

**The Widest Specimen Area Available (22mm Field Number)**

The **F.O.V.** (field of view) of IM Series is based on a very comfortable diameter of 22mm, being the largest available on the market on its category. A natural and easy view is ensured, especially when typically required in a laboratory environment.

**X-LED$^8$ Exclusive Lighting Source**

X-LED$^8$ illumination system is based on a pure white high-efficiency LED and a special optics.
It guarantees constant color temperature (6300K) for all intensity levels, no heat generation, and extreme electrical comsumption efficiency. The whole system is pre-aligned and has a lifetime of 50.000 hours.

**Conceptual And Technological Innovation in Fluorescence**

The comprehensive range of fluorescence inverted microscopes enables the users to select the most appropriate model. **IM-2 Series** gives the possibility for a future upgrade (with M-795).
**IM-3FL** is the best-seller for routine applications, whilst **IM-3FL4** provides a wider choice of custom fluorescence filter sets.
The incredibly convenient and "creative" **IM-3LD** ensures pre-centered fluorescence, with fast set-up, minimum maintenance and relevant saving in time (no warm-up & cool-down).

**M-795 - Fluorescence attachment, 100WHBO, B and G filter sets.**

Easy to assemble, optional kit **M-795** to upgrade your IM-2 microscope with epi-fluorescence illumination. It includes a mercury lamp housing, external power supply, filter holder with Blue and Green filter sets, field diaphragm and orange protection screen.

# Get the most out of our accessories

**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.

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

**M-793.7**
Load-bearing side extension for IM-3 series.

**M-793.8**
Load-bearing side extension for IM-2 series.

**M-792**
Mechanical stage for IM-3 series.

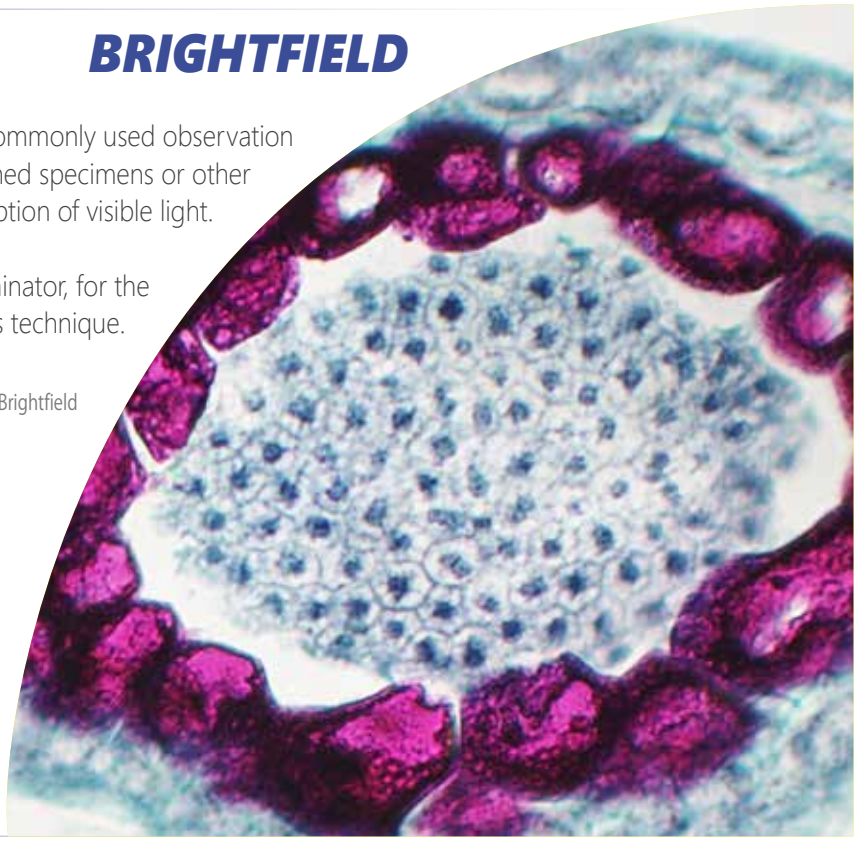
**M-792.1**
Mechanical stage for IM-2 series.

# IM Series

## BRIGHTFIELD

Transmitted brightfield illumination is one of the most commonly used observation method in optical microscopy, and is ideal for fixed, stained specimens or other types of samples having high natural absorption of visible light.

IM Series is fitted with high-efficiency LED brightfield illuminator, for the best outcome when using this technique.



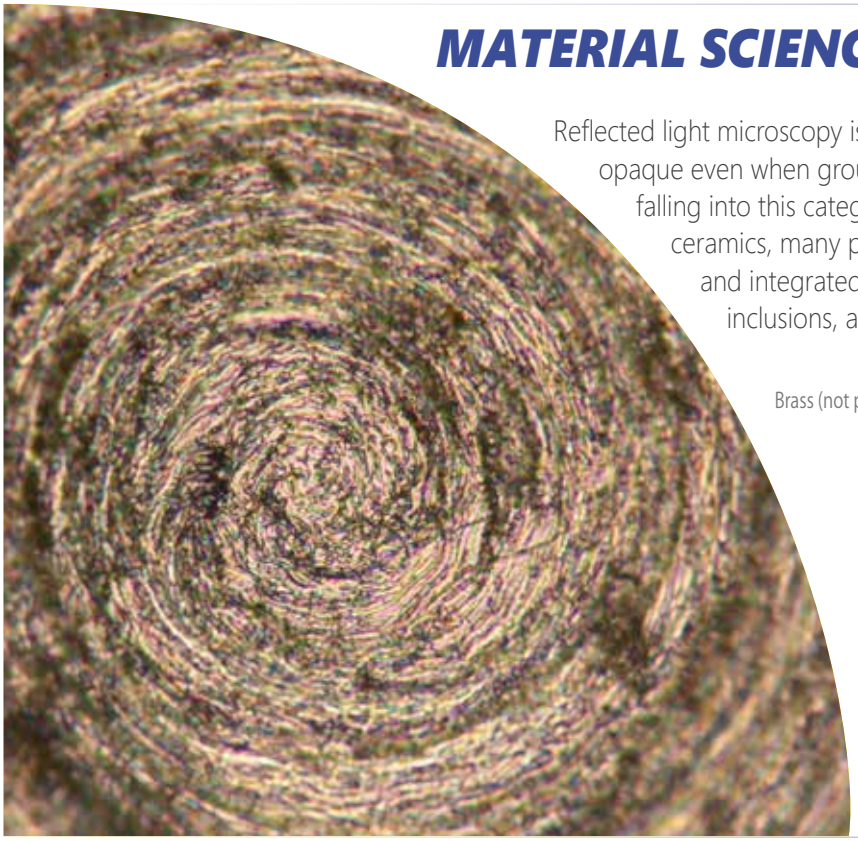
Capsella middle embry - I M-3 - Brightfield

## FLUORESCENCE

The fluorescence microscopy is the most demanding technique in biology and biomedical sciences, as well as in materials science.
This method is capable to study organic and inorganic samples thanks to primary fluorescence (auto-fluorescence) or secondary (staining and labelling with fluorochromes)

IM-Series is tailored for applications in research and clinical/ pharmaceutical diagnostic field.
Fluorescence illuminators available as mercury lamp (IM-2FL/ IM-3FL/ IM-3FL4) and also as LED (IM-3LD).

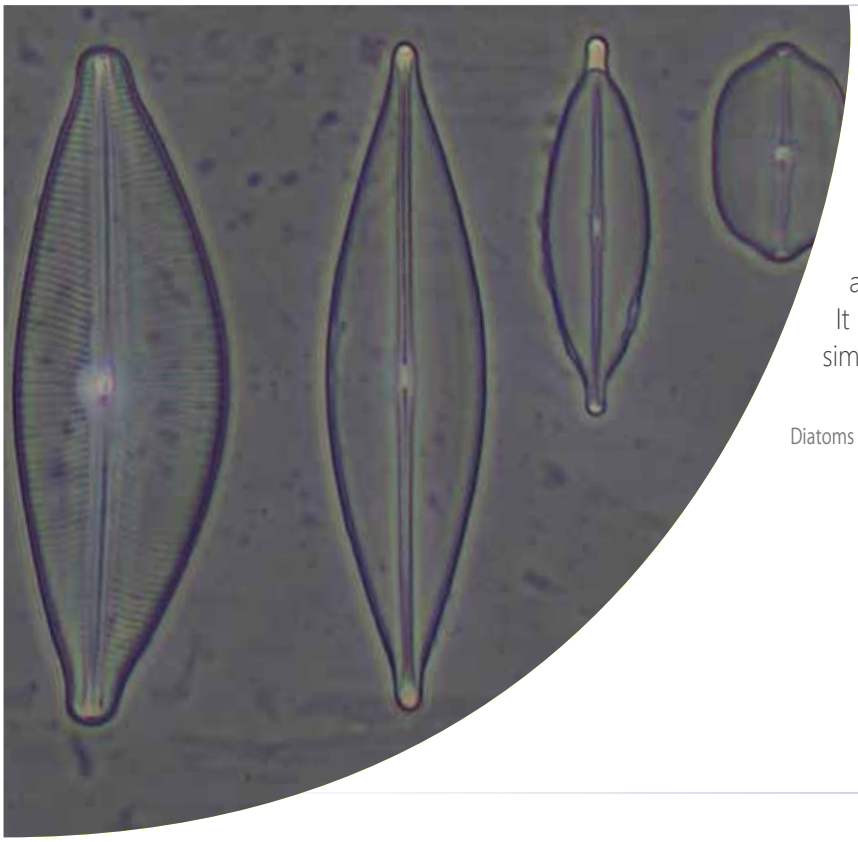
Cotton fibers - IM-3FL4 - UV Fluorescence



## MATERIAL SCIENCE / METALLOGRAPHY

Reflected light microscopy is the method for observation of specimens that remain opaque even when ground to a thickness of few microns. The range of specimens falling into this category is incredibly wide and includes most metals, ores, ceramics, many polymers, semiconductors (unprocessed silicon, wafers, and integrated circuits), coal, plastics, paint, paper, wood, leather, glass inclusions, and a wide variety of specific materials.

Brass (not polished) - IM-3MET - Material Science



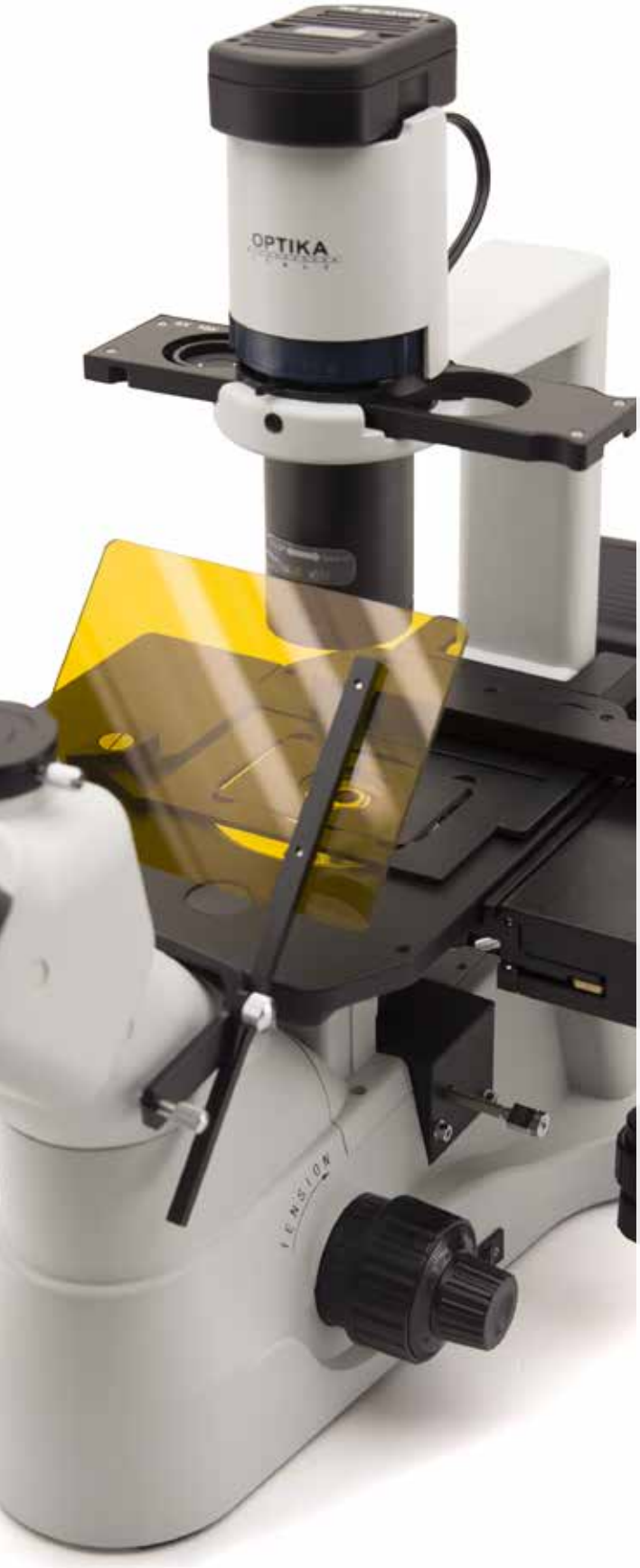
## PHASE CONTRAST

Phase-contrast microscopy is a particular technique applied in transparent, non-stainable, samples like culture of living cells, microorganisms, lithographic patterns, latex dispersions, fibers, asbestous and subcellular particles.
It reveals many cellular structures that are not visible with a simple brightfield microscope.

Diatoms - IM-3 - Phase contrast

# **IM** Series - **Overview**

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 is the case with a conventional microscope.
IM Series has been engineered and designed to be your ideal solution for fast and reliable routine inspections. The glass stage surface allows an optimal visual access to the objective turret. The straight neck leaves ample room for sample positioning and for the most advanced probes.
A particularly simple and ingenious optical design allows stable alignments and smooth and accurate movements.




**Observation mode:**
Incident and transmitted brightfield, incident polarization, fluorescence, phase contrast.

**Heads:**

**IM-2, IM-2FL:**
Trinocular, 30° inclined, 360° rotating.

**IM-2ERGO:**
5°-35° ergonomical head with side photo tube

**IM-3 Series:**
Trinocular: 45° inclined.

**Interpupillary distance:**

**IM-2 Series:**
Interpupillary distance: 48 - 75 mm.

**IM-3 Series:**
Interpupillary distance: 50 - 75 mm.

**Dioptric adjustement:**
On the left eyepiece tube.

**Eyepieces:**
EWF (Extra-wide field) 10x/22mm, high-point.

**Nosepiece:**
Quintuple revolving nosepiece with bidirectional rotation on ball bearings.

**Objectives:**
PLAN IOS LWD (different models and magnifications available) with an anti-fungus treatment.

**Specimen stage:**
Fixed stage, dimension: 250 x 160 mm.

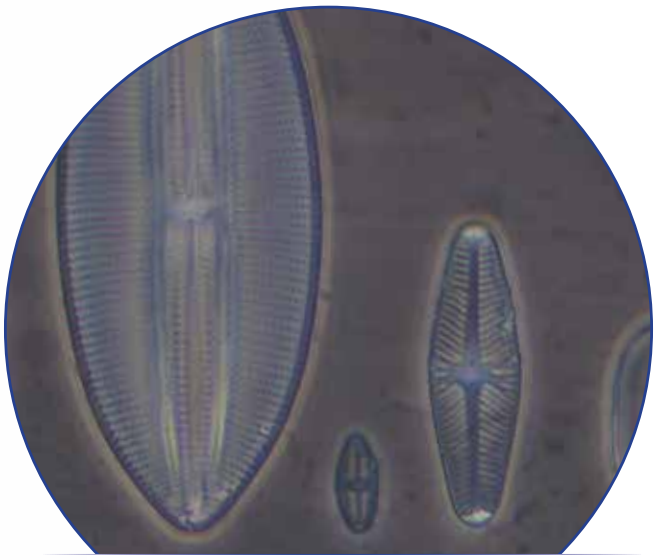
**Focusing:**
Coaxial coarse and fine focusing mechanism with limit stop to prevent the contact between objective and specimen.
Adjustable tension of coarse focusing knob.

**Condenser:**
LWD pre-centered condenser, N.A. 0.30, working distance 72 mm. The condenser can be removed to extend the working distance up to 150 mm.

**Illumination:**
Transmitted: X-LED$^{8}$ with white 8W LED and light intensity control (except for IM-3MET).
Incident: Refer to each model for details about other illumination sources.

# IM-2

**IM-2** is equipped with a full series of objectives, enabling reliable observations for routine applications.
Use it for conventional brightfield and phase contrast, as it comes with a set of 4 IOS PLAN LWD objectives (4x and 40x for brightfield; 10x and 20x for phase contrast). The 250x160 mm fixed stage is ideal for regular usage, whilst the most demaning users can opt for a translating stage, and add side extensions, several holders and stage inserts (as optional accessories).



**DIATOMS**

| Part | Description |
|---|---|
| **Objectives** | Infinity corrected optical system IOS (Infinity Optical System).<br>Plan-achromatic LWD objectives infinity corrected, for vessel bottom 1,2 mm, made by following objectives:<br>- IOS PLAN LWD objective 4x/0.10, W.D. 18.0 mm<br>- IOS PLAN LWD PH objective 10x/0.25, W.D. 10.0 mm<br>- IOS PLAN LWD PH objective 20x/0.40, W.D. 5.1 mm<br>- IOS PLAN LWD objective 40x/0.60, W.D. 2.6 mm<br>All objectives are treated with an anti-fungus treatment. |
| **Filter set** | Green and frosted glass filters. |
| **Illumination** | Light source type X-LED$^8$ with white 8W LED; light intensity control using a knob on front side of the frame. |

# IM-2ERGO

**IM-2ERGO** includes an ergonomic head (5 - 35°) to ensure comfortable operation even after several hours of use and giving the possibility to set the microscope head according to user's working posture.
Use it for conventional brightfield and phase contrast, as it is equipped with a set of 4 IOS PLAN LWD objectives (4x and 40x for brightfield; 10x and 20x for phase contrast) and a 250x160 mm fixed stage. The most demaning users can select a translating stage, add side extensions, and several holders and stage inserts as optional accessories.

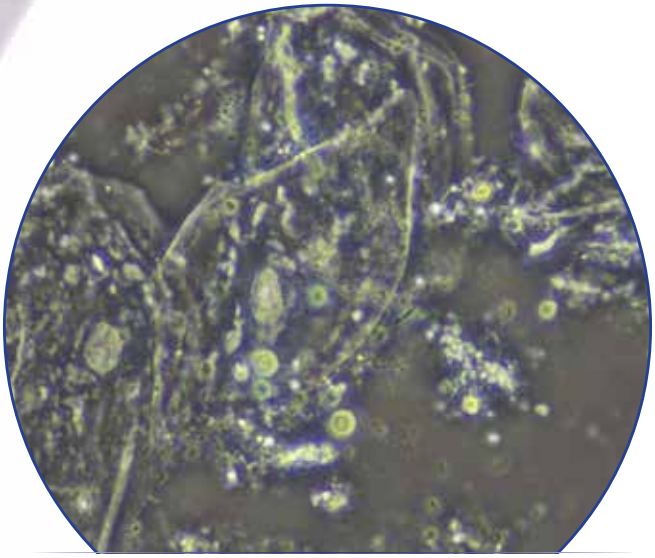
ERGO HEAD 5° - 35°

| Part | Description |
|---|---|
| **Objectives** | Infinity corrected optical system IOS (Infinity Optical System).<br>Plan-achromatic LWD objectives infinity corrected, for vessel bottom 1,2 mm, made by following objectives:<br>- IOS PLAN LWD objective 4x/0.10, W.D. 18.0 mm<br>- IOS PLAN LWD PH objective 10x/0.25, W.D. 10.0 mm<br>- IOS PLAN LWD PH objective 20x/0.40, W.D. 5.1 mm<br>- IOS PLAN LWD objective 40x/0.60, W.D. 2.6 mm<br>All objectives are treated with an anti-fungus treatment. |
| **Filter set** | Green and frosted glass filters. |
| **Illumination** | Light source type X-LED$^8$ with white 8W LED; light intensity control using a knob on front side of the frame. |

# IM-3

**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 PLAN LWD PH objectives (10x, 20x and 40x).
For a more complete solution, choose among the several accessories available (objectives, translating stage, side extensions, holders and stage inserts).



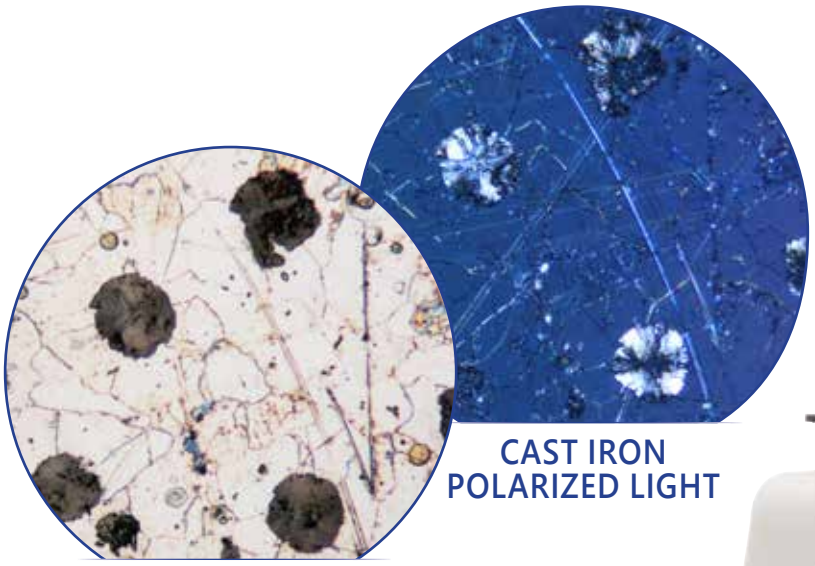


**EPITHELIAL CELLS**
**PHASE CONTRAST**

| Part | Description |
|---|---|
| **Objectives** | Infinity corrected optical system IOS (Infinity Optical System).<br>Plan-achromatic LWD objectives infinity corrected, for vessel bottom 1,2 mm, made by following objectives:<br>- IOS PLAN LWD PH objective 10x/0.25, W.D. 7.94 mm<br>- IOS PLAN LWD PH objective 20x/0.40, W.D. 7.66 mm<br>- IOS PLAN LWD PH objective 40x/0.60, W.D. 3.71 mm<br>All objectives are treated with an anti-fungus treatment. |
| **Illumination** | Light source type X-LED$^8$ with white 8W LED; light intensity control using a knob on left side of the frame. |
| **Brightfield Filter sets** | Interferential IF550 green filter. |

# IM-3MET

**IM-3MET** is purposely designed for **metallographic and material science applications**, combining a sturdy but compact structure with dedicated components for this industry, including IOS MET 5x, 10x, 20x and 50x objectives, working in absence of cover slide for processing large and heavy samples.

CAST IRON
POLARIZED LIGHT

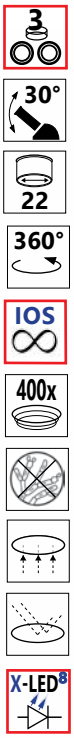


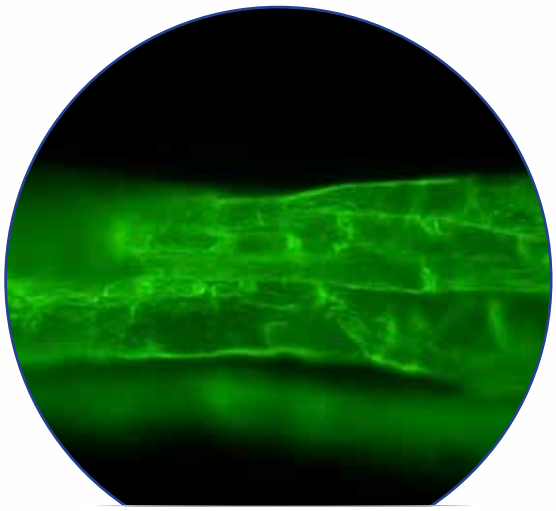
CAST IRON
BRIGHTFIELD


| Part | Description |
|---|---|
| **Objectives** | Infinity corrected optical system IOS (Infinity Optical System).<br>Plan-achromatic LWD objectives infinity corrected, made by following objectives:<br>- IOS PLAN LWD MET objective 5x/0.15, W.D. 10.8 mm<br>- IOS PLAN LWD MET objective 10x/0.3, W.D. 10 mm<br>- IOS PLAN LWD MET objective 20x/0.45, W.D. 4 mm<br>- IOS PLAN LWD MET objective 50x/0.55, W.D. 7.9 mm<br>All objectives are treated with an anti-fungus treatment. |
| **Diaphragms** | Field and aperture diaphragms (centerable). |
| **Illumination** | 12V/50W halogen bulb in external lamp housing. Centerable bulb and brightness control on left side of the frame. |
| **Filter sets** | Polarizer filter, rotatable analizer filter, blue and green filter. |

# IM-2FL

**IM-2FL** is an ergonomic, inverted epi-fluorescence microscope with a set of 4 IOS PLAN LWD objectives (4x and 40x for brightfield; 10x and 20x for phase contrast). It can be also used for conventional brightfield and phase contrast and comes with a 250x160 mm fixed stage, but can be implemented with several optional accessories including translating stage, side extensions, holders and stage inserts.



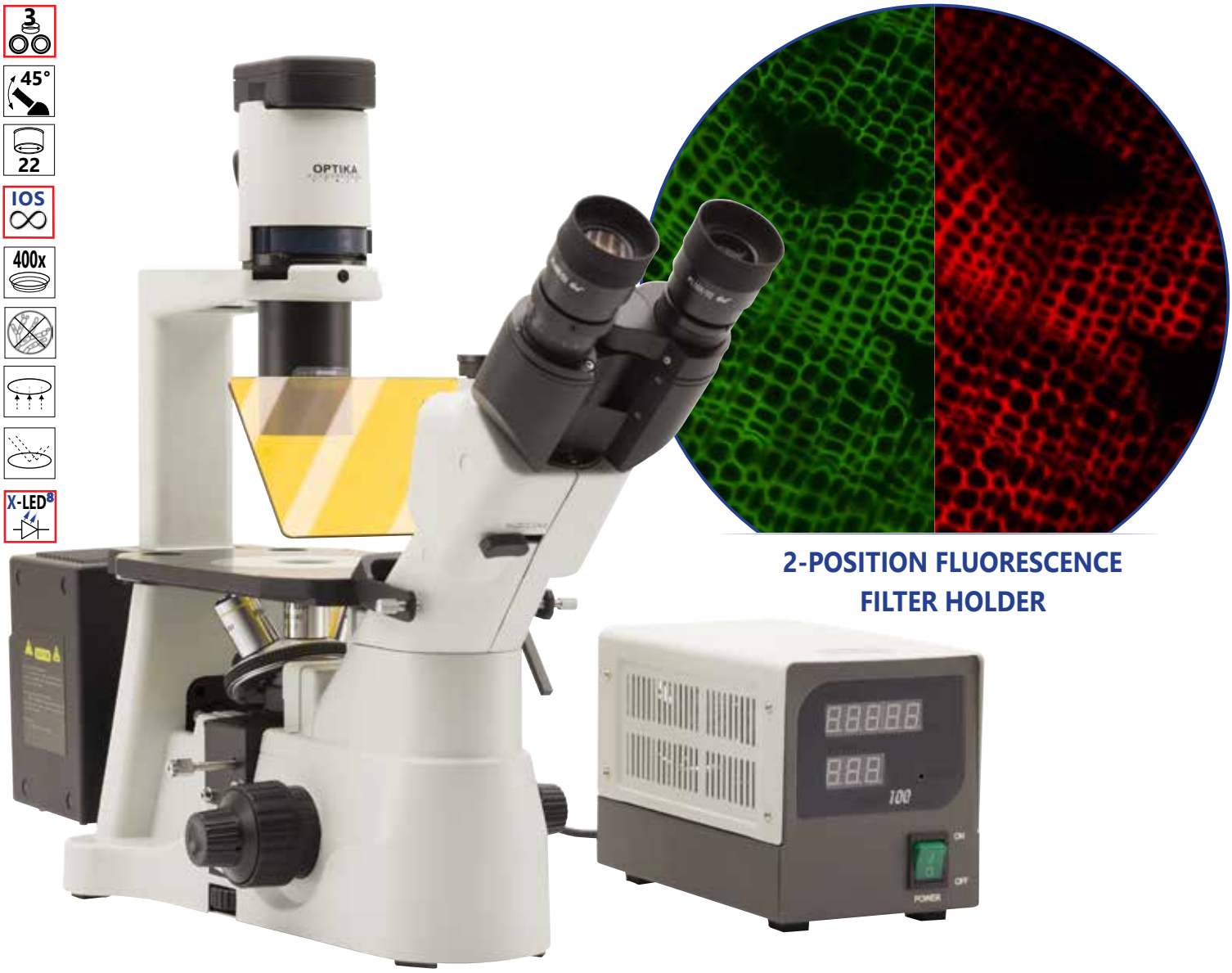



BLUE EXCITATION FLUORESCENCE


| Part | Description |
|---|---|
| **Objectives** | Infinity corrected optical system IOS (Infinity Optical System).<br>Plan-achromatic LWD objectives infinity corrected, for vessel bottom 1,2 mm, made by following objectives:<br>- IOS PLAN LWD objective 4x/0.10, W.D. 18.0 mm<br>- IOS PLAN LWD PH objective 10x/0.25, W.D. 10.0 mm<br>- IOS PLAN LWD PH objective 20x/0.40, W.D. 5.1 mm<br>- IOS PLAN LWD objective 40x/0.60, W.D. 2.6 mm<br>All objectives are treated with an anti-fungus treatment. |
| **Illumination** | Brightfield: X-LED$^8$ system, precentered illuminator, with adjustable intensity and aperture diaphragm.<br>Epi-fluorescence: HBO 100W high pressure mercury bulb, knobs for lamp alignment, with field diaphragm. |
| **Epi-fluorescence Filter sets** | Blue and Green fluorescence filter sets:<br>Fluorescence B: EX 460-490, DM 500, EM 520LP.<br>Fluorescence G: EX 480-550, DM 570, EM 590LP. |
| **Filter sets** | Green and frosted glass filters. |

# IM-3FL

The inverted epi-fluorescence microscope **IM-3FL** includes top-quality IOS PLAN LWD FLUOR objectives 10x, 20x and 40x, designed with special glass (low auto-fluorescence). They can be upgraded at the maximum level with the extensive range of optional accessories, allowing a quick interchange of contrast mechanisms, multi-contrast observation without removal of the specimen from the stage. It comes with a 2-position filter holder and can be combined with every kind of fluorescence filterset to be promptly customized and tailored for virtually all the applications.

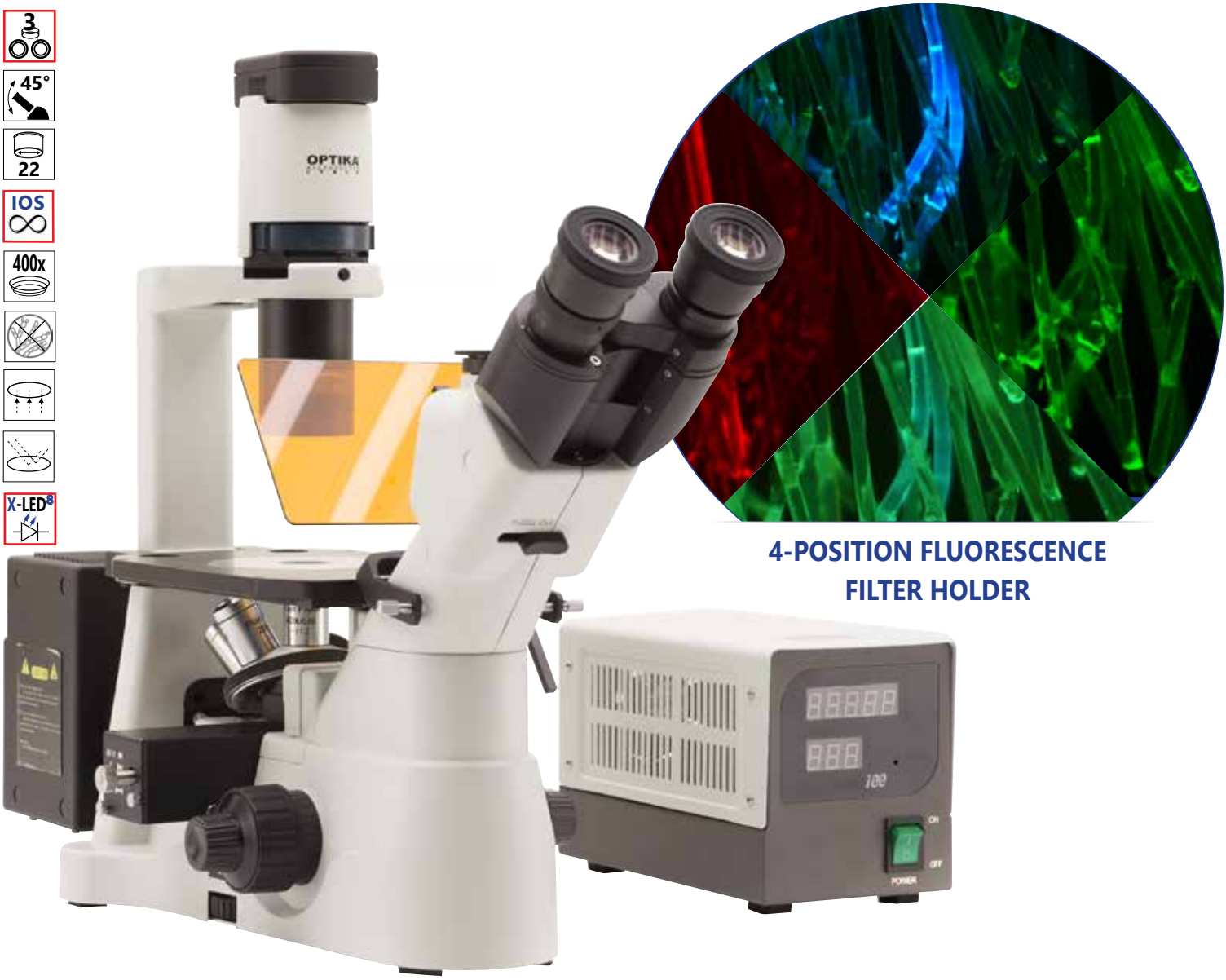



**2-POSITION FLUORESCENCE FILTER HOLDER**

| Part | Description |
|---|---|
| **Objectives** | Infinity corrected optical system IOS (Infinity Optical System).<br>Plan-achromatic LWD objectives infinity corrected, for vessel bottom 1,2 mm, made by following objectives:<br>- IOS PLAN LWD FLUOR objective 10x/0.30, W.D. 10.0 mm<br>- IOS PLAN LWD FLUOR objective 20x/0.45, W.D. 5.1 mm<br>- IOS PLAN LWD FLUOR objective 40x/0.65, W.D. 2.6 mm<br>All objectives are treated with an anti-fungus treatment. |
| **Illumination** | Brightfield: X-LED$^8$ system, precentered illuminator, with adjustable intensity and aperture diaphragm.<br>Epi-fluorescence: HBO 100W high pressure mercury bulb, knobs for lamp alignment, with centerable field diaphragm. |
| **Epi-fluorescence Filter sets** | **Blue and Green fluorescence filter sets:**<br>**Fluorescence B:** EX 460-490, DM 500, EM 520LP.<br>**Fluorescence G:** EX 480-550, DM 570, EM 590LP. |
| **Brightfield Filter sets** | Interferential IF550 green filter. |

# IM-3FL4

The advanced inverted epi-fluorescence microscope **IM-3FL4** includes top-quality IOS PLAN LWD FLUOR objectives 10x, 20x and 40x, designed with special glass (low in auto-fluorescence). They can be upgraded at the maximum level with the extensive range of optional accessories, allowing a quick interchange of contrast mechanisms, multi-contrast observation without removal of the specimen from the stage. It comes with a 4-position filter holder and can be combined with every kind of fluorescence filterset to be promptly customized and tailored for virtually all the applications.






**4-POSITION FLUORESCENCE FILTER HOLDER**

| Part | Description |
|---|---|
| **Objectives** | Infinity corrected optical system IOS (Infinity Optical System).<br>Plan-achromatic LWD objectives infinity corrected, for vessel bottom 1,2 mm, made by following objectives:<br>- IOS PLAN LWD FLUOR objective 10x/0.30, W.D. 10.0 mm<br>- IOS PLAN LWD FLUOR objective 20x/0,45, W.D. 5.1 mm<br>- IOS PLAN LWD FLUOR objective 40x/0,65, W.D. 2.6 mm<br>All objectives are treated with an anti-fungus treatment. |
| **Illumination** | Brightfield: X-LED$^8$ system, precentered illuminator, with adjustable intensity and aperture diaphragm.<br>Epi-fluorescence: HBO 100W high pressure mercury bulb, knobs for lamp alignment, with centerable field diaphragm. |
| **Epi-fluorescence Filter sets** | **Fluorescence B:** EX 460-490, DM 500, EM 520LP;<br>**Fluorescence G:** EX 480-550, DM 570, EM 590LP;<br>**Fluorescence UV (optional):** EX 325-375, DM 400, EM 420LP;<br>**Fluorescence V (optional):** EX 385-425, DM 440, EM 455LP. |
| **Brightfield Filter sets** | Interferential IF550 green filter. |

# IM-3LD

Robust and easy to operate, **IM-3LD** is offering premium performance in fluorescence microscopy, with the possibility to use a double LED-based fluorescence channel (470 nm and 560 nm) suitable for visualization of various fluorochromes such as Acridine Yellow, Acridine Orange, Auramine, DiO, DTAF, FITC, GFP, YFP, etc. (for blue excitation) and DiL, Blu Evans, Feulgen, Rhodamine, Texas Red, TRITC, PI, etc. (for green excitation). The standard configuration includes a 2-position filter holder in addition to the brightfield position, 10xPH, 20xPH and 40xPH IOS PLAN LWD objectives, whilst other optical sets and an extended range of accessories are available to enhance operator's comfort during use.



TRANSMITTED WHITE LED

GREEN EXCITATION FLUORESCENCE

BLUE EXCITATION FLUORESCENCE

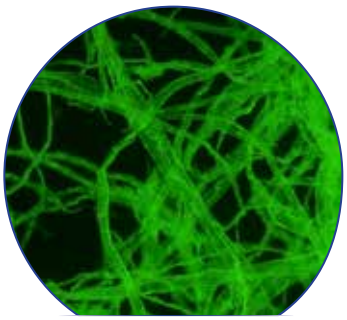
| Part | Description |
|---|---|
| **Objectives** | Infinity corrected optical system IOS (Infinity Optical System).<br>Plan-achromatic LWD objectives infinity corrected, for vessel bottom 1,2 mm, made by following objectives:<br>- IOS PLAN LWD PH objective 10x/0.25, W.D. 7.94 mm<br>- IOS PLAN LWD PH objective 20x/0.40, W.D. 7.66 mm<br>- IOS PLAN LWD PH objective 40x/0.60, W.D. 3.71 mm<br>All objectives are treated with an anti-fungus treatment. |
| **Illumination** | Brightfield: X-LED$^8$ with white 8W LED and light intensity control.<br>Epi-fluorescence: 18W high efficiency LED and light intensity control. |
| **Epi-fluorescence Filter set** | Blue and Green fluorescence filter sets:<br>Fluorescence B: EX 450-490, DM 495, EM 520LP.<br>Fluorescence G: EX 540-580, DM 585, EM 590LP. |
| **Brightfield Filter set** | Interferential IF550 green filter. |
| **Accessories** | Anti-glow fluorescence cap, slider with phase rings (4x/10x,20x/40x, BF position). |

**X-LED$^8$** system precentered illuminator, with adjustable intensity, filter and phase ring holder and aperture diaphragm. Inverted epifluorescence: **18W high-power LED** pre-centered illuminator.

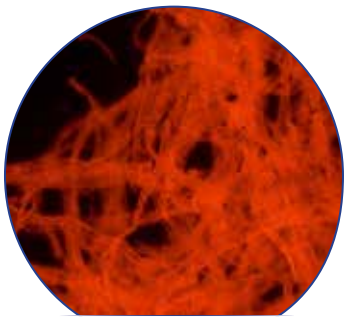
# IM Series - Optical performance

## IM-3 / IM-3LD

| 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 | 5.5 |
| 10x | 0.25 | 7.94 | 100x | 2.2 |
| 20x | 0.40 | 7.66 | 200x | 1.10 |
| 40x | 0.60 | 3.71 | 400x | 0.55 |
| 60x | 0.70 | 2.50 | 600x | 0.37 |

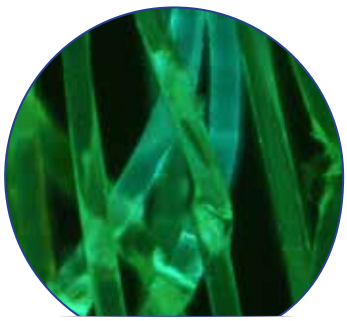


IM-3LD
FLUORESCENCE
PAPER 4X
BLUE EXCITATION



IM-3LD
FLUORESCENCE
PAPER 4X
GREEN EXCITATION

IM-3FL4
SYNTHETIC FIBRE
40X ULTRAVIOLET
EXCITATION



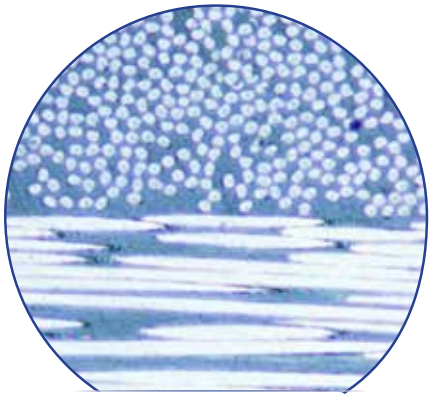
IM-3FL4
SYNTHETIC FIBRE
40X VIOLET
EXCITATION

## IM-3FL / IM-3FL4

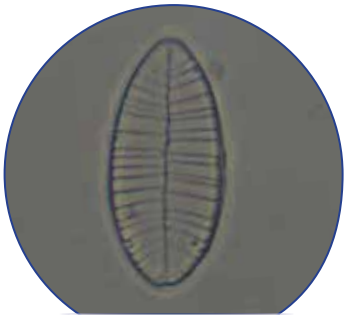
| Eyepiece | | | 10x (M-780) | |
|---|---|---|---|---|
| Field number (mm) | | | 22 | |
| Objective | N.A. | W.D. (mm) | Total magnification | Field of view (mm) |
| 10x | 0.30 | 10 | 100x | 2.2 |
| 20x | 0.45 | 5.10 | 200x | 1.10 |
| 40x | 0.65 | 2.60 | 400x | 0.55 |
| 60x | 0.75 | 1.04 | 600x | 0.37 |

## IM-3MET

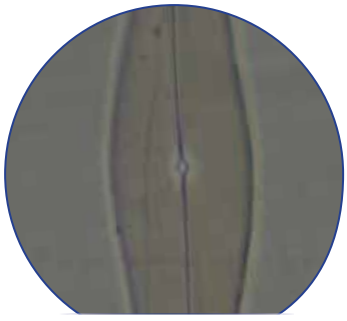
| Eyepiece | | | 10x (M-780) | | 15x (M-601) | |
|---|---|---|---|---|---|---|
| Field number (mm) | | | 22 | | 16 | |
| Objective | N.A. | W.D. (mm) | Total magnification | Field of view (mm) | Total magnification | Field of view (mm) |
| 5x | 0.15 | 10.80 | 50x | 4.40 | 75x | 3.20 |
| 10x | 0.30 | 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 | 1000x | 0.22 | 1500x | 0.16 |



IM-3MET
CROSS-SECTION
KEVLAR FIBRE



IM-2
DIATOMS 10X



IM-2
DIATOMS 10X

## IM-2 / IM-2ERGO / IM-2FL

| Eyepiece | | | 10x (M-017) | |
|---|---|---|---|---|
| Field number (mm) | | | 22 | |
| Objective | N.A. | W.D. (mm) | Total magnification | Field of view (mm) |
| 4x | 0.10 | 18 | 40x | 5.50 |
| 10x | 0.25 | 10 | 100x | 2.20 |
| 20x | 0.40 | 5.10 | 200x | 1.10 |
| 40x | 0.60 | 2.60 | 400x | 0.55 |

# IM Series - **Comparison chart**

| Model | Head | Eyepieces | Nosepiece | Objectives | Stage | Focusing | Condenser | Illuminator | Filter set |
|---|---|---|---|---|---|---|---|---|---|
| **IM-2** | Trinocular, 30° inclined, 360° rotating | EWF 10x/22mm, high-point | Quintuple | IOS PLAN LWD 4x, 10xPh, 20xPh, 40x | Fixed stage, dimension: 250x160 mm | Coaxial coarse and fine focusing | LWD pre-centered, N.A. 0.30, working distance 72 mm | X-LED$^8$, white 8W LED, light intensity control | Green and frosted glass filters |
| **IM-2ERGO** | 5°-35° ergonomical head with side photo tube | EWF 10x/22mm, high-point | Quintuple | IOS PLAN LWD 4x, 10xPh, 20xPh, 40x | Fixed stage, dimension: 250x160 mm | Coaxial coarse and fine focusing | LWD pre-centered, N.A. 0.30, working distance 72 mm | X-LED$^8$, white 8W LED, light intensity control | Green and frosted glass filters |
| **IM-3** | Trinocular, 45° inclined, | EWF 10x/22mm, high-point | Quintuple | IOS PLAN LWD 10xPh, 20xPh, 40xPh | Fixed stage, dimension: 250x160 mm | Coaxial coarse and fine focusing | LWD pre-centered, N.A. 0.30, working distance 72 mm | X-LED$^8$, white 8W LED, light intensity control | IF550 green filter |
| **IM-3MET** | Trinocular, 45° inclined, | EWF 10x/22mm, high-point | Quintuple | IOS PLAN LWD MET 5x, 10x, 20x, 50x | Fixed stage, dimension: 250x160 mm | Coaxial coarse and fine focusing | LWD pre-centered, N.A. 0.30, working distance 72 mm | 12V/50W halogen bulb in external case. Centerable bulb and brightness control | Polarizer filter, rotatable analizer filter, blue and green filter |
| **IM-2FL** | Trinocular, 30° inclined, 360° rotating | EWF 10x/22mm, high-point | Quintuple | IOS PLAN LWD 4x, 10xPh, 20xPh, 40x | Fixed stage, dimension: 250x160 mm | Coaxial coarse and fine focusing | LWD pre-centered, N.A. 0.30, working distance 72 mm | Transmitted Light: X-LED$^8$, white 8W LED, light intensity control Epi-fluorescence: HBO 100W high pressure mercury bulb | Brightfield: green and frosted glass filters. Epi-fluorescence: Blue and green filters |
| **IM-3FL** | Trinocular, 45° inclined, | EWF 10x/22mm, high-point | Quintuple | IOS PLAN LWD FLUOR 10x, 20x, 40x | Fixed stage, dimension: 250x160 mm | Coaxial coarse and fine focusing | LWD pre-centered, N.A. 0.30, working distance 72 mm | Transmitted Light: X-LED$^8$, white 8W LED, light intensity control Epi-fluorescence: HBO 100W high pressure mercury bulb | Brightfield: IF550 green filter Epi-fluorescence: Blue and green filters |
| **IM-3FL4** | Trinocular, 45° inclined, | EWF 10x/22mm, high-point | Quintuple | IOS PLAN LWD FLUOR 10x, 20x, 40x | Fixed stage, dimension: 250x160 mm | Coaxial coarse and fine focusing | LWD pre-centered, N.A. 0.30, working distance 72 mm | Transmitted Light: X-LED$^8$, white 8W LED, light intensity control Epi-fluorescence: HBO 100W high pressure mercury bulb | Brightfield: IF550 green filter Epi-fluorescence: Blue and green filters |
| **IM-3LD** | Trinocular, 45° inclined, | EWF 10x/22mm, high-point. | Quintuple | IOS PLAN LWD PH 10xPh, 20xPh, 40xPh | Fixed stage, dimension: 250x160 mm | Coaxial coarse and fine focusing | LWD pre-centered, N.A. 0.30, working distance 72 mm | Transmitted Light: X-LED$^8$, white 8W LED, light intensity control Epi-fluorescence: 18W LED, light intensity control | Brightfield: IF550 green filter Epi-fluorescence: Blue and green filters |

# Accessories

### ACCESSORIES FOR IM-2 / IM-2ERGO / IM-2FL

| | |
|---|---|
| M-755 | Ergonomical binocular head. |
| M-755.1 | Trinocular attachment for Ergonomical binocular head (M-755). |
| M-017 | Eyepiece EWF10x/22mm. |
| M-021 | Eyepiece micrometer EWF10x/22mm. |
| M-005 | Micrometer slide for software calibration, 1mm/10um, 10mm/100um. |
| M-770 | IOS PLAN LWD objective 4x/0.10 |
| M-771 | IOS PLAN LWD PH objective 10x/0.25 |
| M-772 | IOS PLAN LWD PH objective 20x/0.40 |
| M-773 | IOS PLAN LWD objective 40x/0.60 |
| M-774 | IOS PLAN LWD PH objective 40x/0.60 (to use with M-776) |
| M-776 | Phase ring 40x (to use with M-774). |
| M-778 | C-mount adapter for 1/3",1/2" and 2/3" sensor. |
| M-795 | Fluorescence attachment, HBO100W, B and G filter sets (only for IM-2 /IM-2ERGO). |
| M-151 | HBO100W high-pressure mercury bulb for fluorescence (only for IM-2FL). |
| M-792.1 | Mechanical stage for IM-2 series. |
| 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-793.6 | Holder for Utermöhl-Chamber (M-793.3 needed). |
| M-793.8 | Load-bearing side extension for IM-2 series. |
| 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-IM | IQ/OQ/PQ Validation Protocols. |

### ACCESSORIES FOR IM-3 / IM-3FL / IM-3LD / IM-3FL4

| | |
|---|---|
| M-780 | Eyepiece EWF10x/22mm. |
| M-781 | Eyepiece micrometer EWF10x/22mm. |
| M-005 | Micrometer slide for software calibration, 1mm/10um, 10mm/100um. |
| M-782 | IOS PLAN LWD objective 4x/0.10. |
| M-782.1 | IOS PLAN LWD PH objective 4x/0.13. |
| M-783N | IOS PLAN LWD PH objective 10x/0.25. |
| M-784N | IOS PLAN LWD PH objective 20x/0.40. |
| M-785 | IOS PLAN LWD PH objective 40x/0.60. |
| M-786 | IOS PLAN LWD objective 60x/0.70. |
| M-801 | IOS PLAN LWD FLUOR objective 10x/0.30 (only for IM-3FL / IM-3LD / IM-3FL4). |
| M-802 | IOS PLAN LWD FLUOR objective 20x/0,45 (only for IM-3FL / IM-3LD / IM-3FL4). |
| M-803 | IOS PLAN LWD FLUOR objective 40x/0,65 (only for IM-3FL / IM-3LD / IM-3FL4). |
| M-804 | IOS PLAN LWD FLUOR objective 60x/0,75 (only for IM-3FL / IM-3LD / IM-3FL4). |
| M-785.2N | Slider with phase rings (4x/10x, 20x/40x, BF position) (only for IM-3FL / IM-3FL4, included with IM-3LD). |
| 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 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-793.6 | Holder for Utermöhl-Chamber (M-793.3 needed). |
| M-793.7 | Load-bearing side extension for IM-3 series. |
| M-676 | Empty fluorescence filterblock (only for IM-3FL). |
| M-677 | Fluorescence filter set (filterblock included) V (only for IM-3FL). |
| M-678 | Fluorescence filter set (filterblock included) UV-DAPI (only for IM-3FL). |
| M-151 | HBO100W high-pressure mercury bulb for fluorescence (only for IM-3FL / IM-3FL4). |
| M-679 | Empty filter block 4 positions (only for IM-3FL). |
| 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-3FL / IM-3FL4). |
| M-678ND | Neutral density filter ND50 (only for IM-3FL / 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-IM | IQ/OQ/PQ Validation Protocols. |

### ACCESSORIES FOR IM-3MET

| | |
|---|---|
| M-780 | Eyepiece EWF10x/22mm. |
| M-781 | Eyepiece micrometer EWF10x/22mm. |
| M-601 | Eyepiece WF15x/16mm. |
| M-005 | Micrometer slide for software calibration, 1mm/10um, 10mm/100um. |
| M-735 | IOS PLAN LWD MET objective 5x/0.15. |
| M-736 | IOS PLAN LWD MET objective 10x/0.3. |
| M-737 | IOS PLAN LWD MET objective 20x/0.45. |
| M-738 | IOS PLAN LWD MET objective 50x/0.55. |
| M-746 | IOS PLAN LWD 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 12V/50W (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-IM | IQ/OQ/PQ Validation Protocols. |

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

**15104 - Cleaning kit**
It cleans glass quickly and effectively,
without leaving residue or odor.
Ideal for precision lens or prism cleaning.

**Headquarters and Manufacturing Facilities**

**OPTIKA® S.r.l.** Via Rigla, 30 - 24010 Ponteranica (BG) - ITALIA - Tel.: +39 035.571.392 - Fax: +39 035.571.435 - 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® Hungary** hungary@optikamicroscopes.com