

## B-1000 Series

Modular research microscopes



# B-1000 Series

OPTIKA Microscopes, thanks to the long experience achieved in microscopy development, has conceived the new B-1000: a major leap in our technological offer. As a flagship instrument, the B-1000 originates, from customer most demanding feedback and needs. Its modularity and versatility will allow to find the perfect place in any clinical or basic research laboratory. All controls are easily accessible and comfortable also for extended periods of observation. Highest category of optical equipment among our product range guarantees a sharp and clear view in any situation, while top level mechanical design offers sturdiness and long lifetime.

The B-1000 product-line is built on IOS Infinity Corrected optical system, which gives both a top-notch optical performances, and the possibility to extend your instrument with the broad range of accessories and modules. X-LED illumination is the best solution to have pure white light and very intense, even at higher magnification, and optimum power efficiency given by solid state source.

If you search for our best solution to your present and future professional needs, B-1000 is the answer.

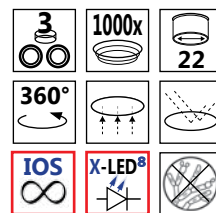
|                     |                                                                                      |
|---------------------|--------------------------------------------------------------------------------------|
| <b>B-1000BF</b>     | Brightfield trinocular microscope.                                                   |
| <b>B-1000PH</b>     | Phase contrast trinocular microscope.                                                |
| <b>B-1000FL-LED</b> | Trinocular microscope, LED fluorescence. (Information in <b>FLUO SERIES</b> )        |
| <b>B-1000FL-HBO</b> | Trinocular microscope, HBO fluorescence. (Information in <b>FLUO SERIES</b> )        |
| <b>B-1000POL</b>    | Trinocular microscope, transmitted polarization. (Information in <b>POL SERIES</b> ) |
| <b>B-1000POL-I</b>  | Trinocular microscope, incident polarization. (Information in <b>POL SERIES</b> )    |
| <b>B-1000MET</b>    | Trinocular microscope, metallography. (Information in <b>POL INDUSTRY</b> )          |
| <b>B-1000TI-2</b>   | Trinocular discussion microscope, 2 heads.                                           |
| <b>B-1000TI-3</b>   | Trinocular discussion microscope, 3 heads.                                           |
| <b>B-1000TI-5</b>   | Trinocular discussion microscope, 5 heads.                                           |
| <b>B-1000TI-10</b>  | Trinocular discussion microscope, 10 heads.                                          |



# B-1000 Series



## B-1000FL-HBO



# B-1000 Series - General information

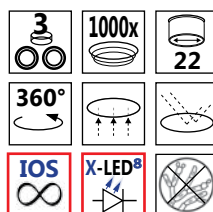
## Solid Stand – Extra Stability

Completely new design and a die-cast aluminium stand offer solidity and durability, even for the most demanding laboratory use.

This new microscope can seamlessly be upgraded with many attachments that extend its field of use.



## B-1000FL-LED



## Modularity – Build your own solution

Many worlds in one instrument. Modularity allows to build the desired solution (brightfield, darkfield, phase contrast, material science, fluorescence, motorized automation and so on).

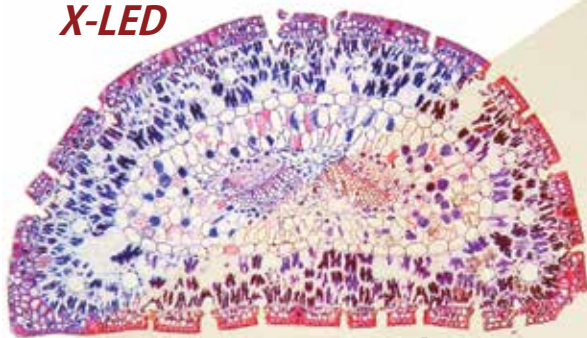
B-1000 has the flexibility to help your work the best way.





# B-1000 Series - General information

## ***X-LED***



**Halogen**

### **X-LED White Illumination**

X-LED illumination system is based on a pure white high-efficiency LED and a special optics. It guarantees constant color temperature, no heat, and an extreme electrical consumption efficiency.

The whole system is pre-aligned and boasts a lifetime of 50.000 hours.

### **Light under control**

Intelligent control of the microscope illumination: the "AUTO-OFF" function automatically switches the light off after a user-selectable time period. "BOOST" gives an extra high level of illumination for light-demanding applications.

"AUTO" allows to store an illumination level, and to maintain it throughout the inspection.

### **Ergonomy**

Low position focus and stage controls allow a fast and comfortable operation. Frequently used controls as light intensity adjustment and diaphragm are also placed in the lower part of the stand and enable operation without having to take the eyes off the specimen.

All optical heads are equipped with high-point eyepieces and dioptic adjustment, for the best viewing experience.

### **Comfortable Stage**

Refined ceramic stage, with a wide working surface and a highly precise XY movement.



# B-1000 Series - General information

## High Quality IOS Optical System

Infinity corrected optical system, based on planachromatic, fluorite, and semi-apochromatic objectives, designed to give sharp and clear images, both for the user and the digital camera. Quintuple and sextuple nosepieces give the flexibility to build the optics set that best suits your needs.

The system is complete with wide field, high-point eyepieces, with a field number of 24mm.



## Ready for Digital Imaging

Range of adapters can accommodate for C-mount digital cameras, as well as reflex cameras. Focus adjustment gives perfectly clear digital images.

Our cameras include specific software for capturing, measuring, marking and storing your pictures. Optika Vision Pro software allows to perform image acquisition, post-processing, measurements and storage of your images. User can save a preset for later work, or even create a multi-focus composition.

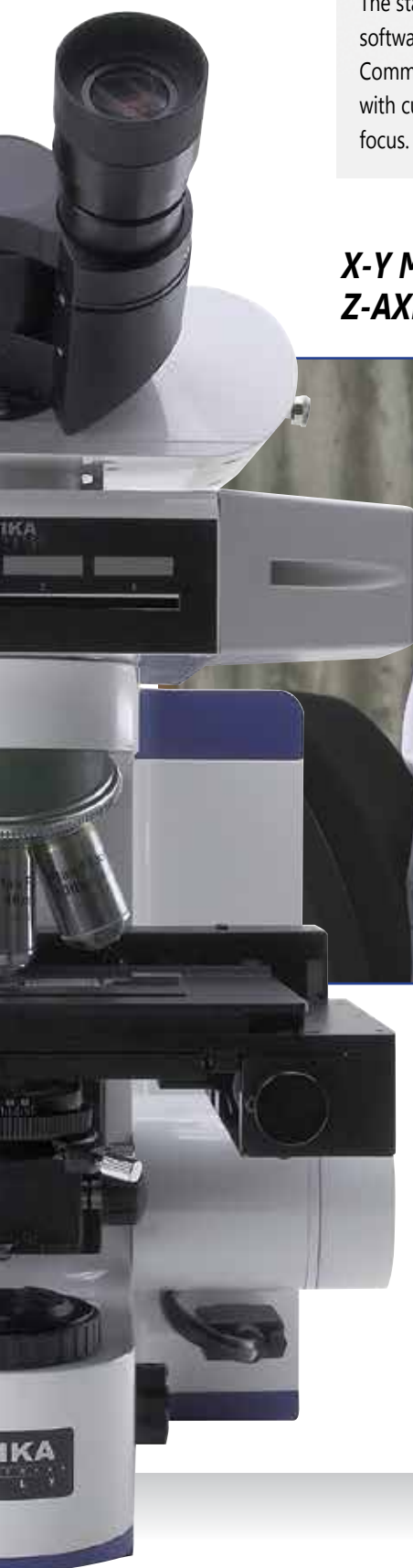


# B-1000 Series - General information

## Remote Stage Control

The stage can be remote-controlled through a dedicated software: X, Y and Z axes can be moved with a single click. Communication protocol is available for interfacing with custom software, such as automated analysis or auto-focus.

## ***X-Y MOTORIZED STAGE Z-AXIS WITH AUTOFOCUS SYSTEM***

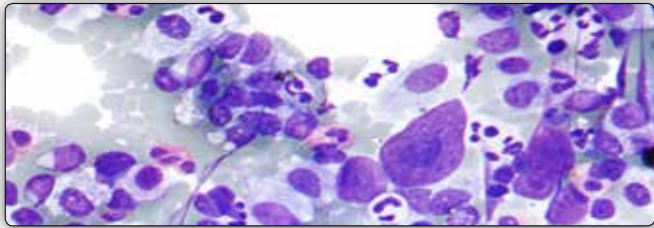


## X-LED benefits

Powerful pure white LED illumination, ideal for brightfield, darkfield and phase contrast applications. Color temperature constant through all the intensity levels. No heat generation, that could damage the specimen. Factory pre-centering assures uniform illumination over the field of view, yet providing perfect Koehler alignment. Very long lifetime and high power efficiency.



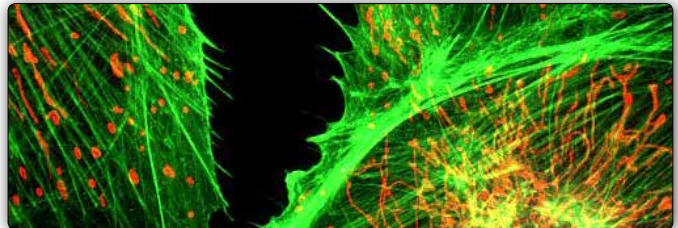
# B-1000 Series - Fields of application



## Pathology / Cytology

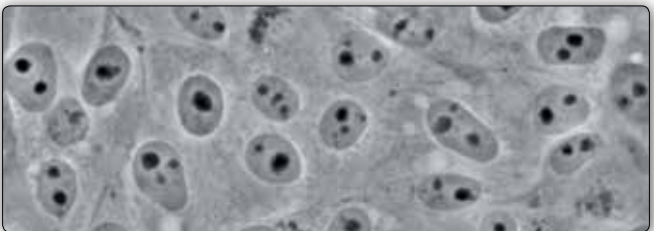
Since B-800 / B-1000 use white LED illumination, they can maintain the same color temperature even if the brightness is changed. "AUTO" function automatically adjusts the light intensity when the objective is changed or the aperture diaphragm is set to a different value.

These features, along with motorized stage and ergonomic controls, make your workflow easier.



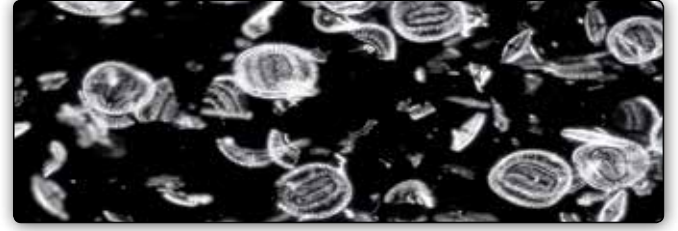
## Fluorescence Microscopy

A new attachment for epi-fluorescence provides the ultimate solution in the field of fluorescence diagnostic. Vibration-free six positions filter wheel with shutter, field and aperture diaphragms, it offers all you need for a complete analysis. Custom filtersets are available and mounted on request. For application where efficiency, rapidity and ease of use are crucial, this model offers also a LED epi-fluorescence attachment, with very high power standard illuminators.



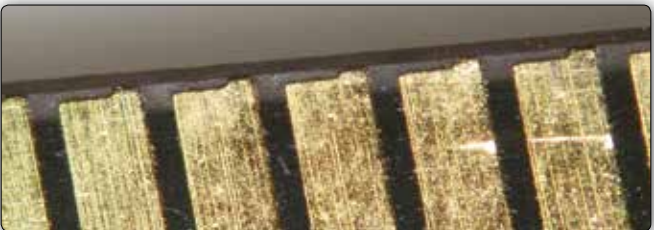
## Phase Contrast Microscopy

The bright LED illuminator brings a comfortable view in phase contrast with all magnifications. Universal wheel condenser allows to quickly switch between brightfield, darkfield and phase contrast. Ideal for clinical laboratories or fibers (e.g. asbestos) analysis.



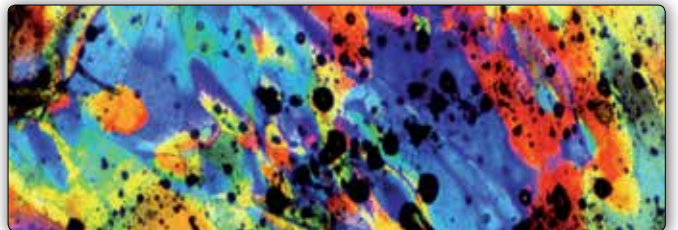
## Darkfield Microscopy

Ideal for observing blood cells, diatoms, small insects, bone, fibers, unstained bacteria, yeast, protozoa, mineral and chemical crystals, colloidal particles, dust-count specimens, and thin sections of polymers and ceramics.



## Material Science

A new attachment designed specifically for metallographic inspection, with dedicated objectives set, for the most complete epi-illumination analysis: brightfield, darkfield and polarizing view.

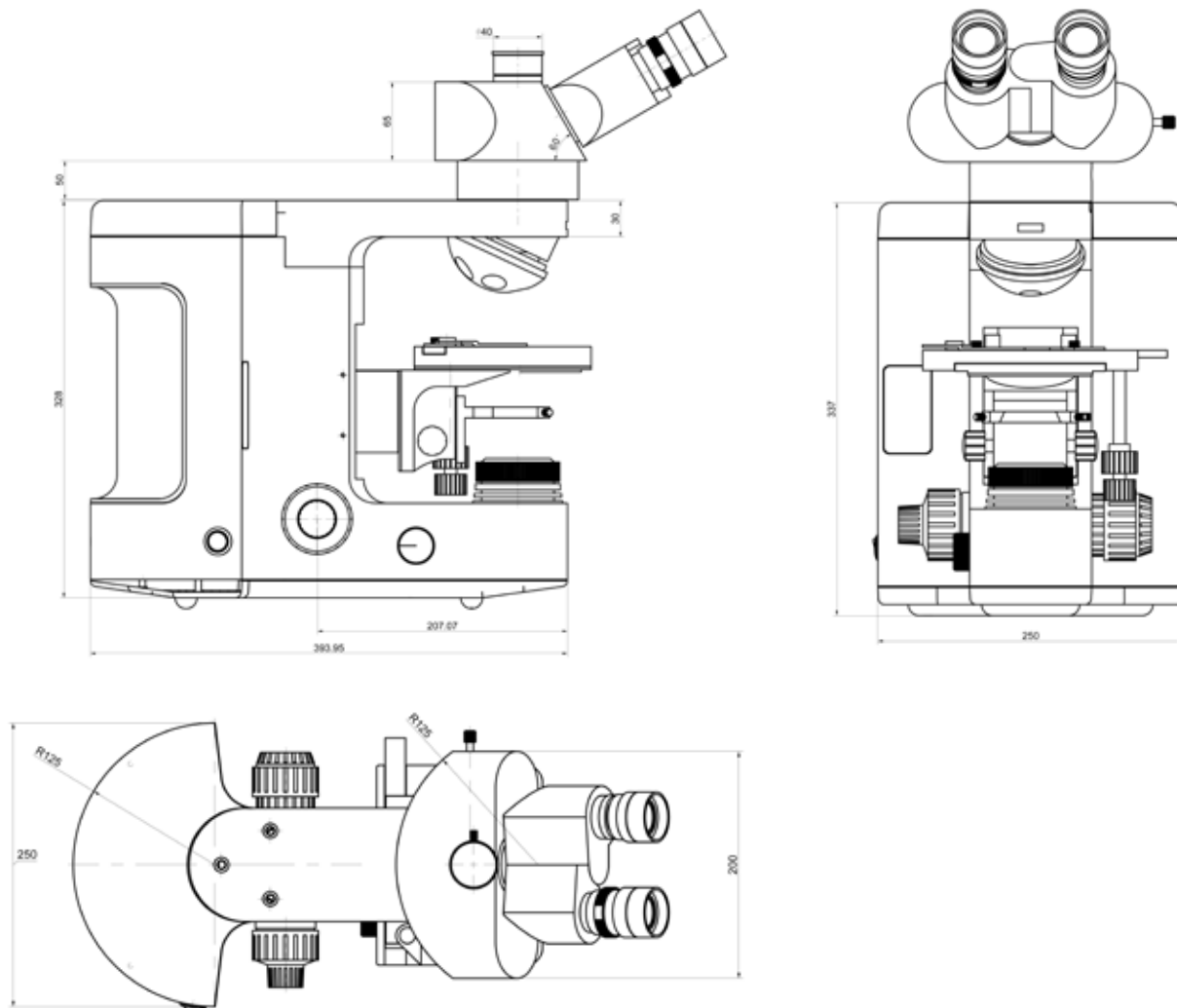


## Polarizing Microscopy

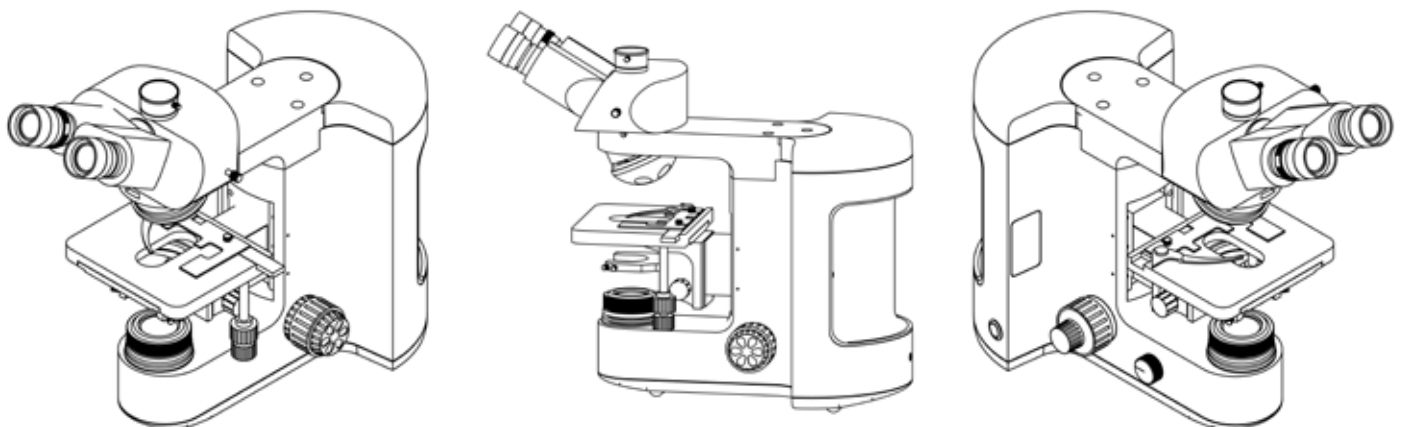
Polarized light microscopy is used in geological applications or also for both natural and industrial minerals, composites such as concretes, ceramics, mineral fibers and polymers, and crystalline or biological molecules such as DNA, starch, wood and urea. Attachments for a full polarization analysis are available (both for transmitted and incident light), so it's possible to look at color fringes right away.



## B-1000 Series - Dimension drawing



## B-1000 Series - Concept art



# B-1000 Series - Components

## Eyepieces



M-1001

WF10x/22mm Eyepieces, high-point type



M-1002

WF10x/24mm Eyepieces, high-point type

## Heads



M-1011

Trinocular Head 100/0 - 50/50 - 0/100 type



M-1012

Binocular Ergonomic Head



M-1013

Binocular Ergonomic Head with side Video/  
Photo Tube

## Nosepieces



M-1042

Sextuple revolving Nosepiece, for RMS objectives;  
with DIC slot



M-1043

Sextuple motorized revolving Nosepiece, for RMS  
objectives; with DIC slot



M-1044

Quintuple revolving Nosepiece, with  
centrabale positions for polarizing objectives



M-1045

Quintuple revolving Nosepiece for darkfield  
metallurgical objectives; with 3 ring adapters  
for brightfield objectives



M-1046

Quintuple motorized revolving Nosepiece for  
darkfield metallurgical objectives; with 3 ring adapters  
for brightfield objectives motorized

# B-1000 Series - Components

## Objectives



IOS (infinity corrected) Plan Objectives



IOS (infinity corrected) Semi-APO FLUO E-Plan objectives



IOS (infinity corrected) Semi-APO FLUO High-Grade Plan objectives



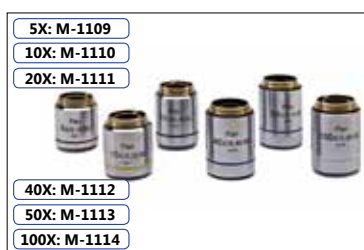
IOS (infinity corrected) POL Plan objectives, for transmitted polarized light



IOS (infinity corrected) LWD POL Plan objectives, for transmitted and incident polarized light



IOS (infinity corrected) MET Plan objectives, for brightfield



IOS (infinity corrected) MET Plan objectives, for darkfield



IOS (infinity corrected) Phase Contrast Plan Objectives

## Stages



Standard Mechanical Stage



Belt drive Mechanical Stage; movement knobs with friction adjustment control



Ceramic coated Mechanical Stage; movement knobs with friction adjustment control



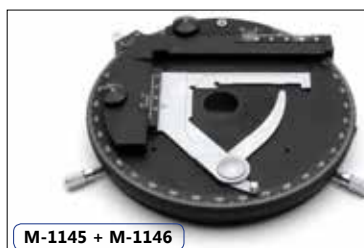
MPC (mineral solid surface) Belt drive Mechanical Stage; movement knobs with friction adjustment control



Metallographic stage for B-1000 MET



Heating Stage



Rotating Stage + attachable XY stage



Motorized stage

# B-1000 Series - Components

## Condensers



M-1150  
0.90 N.A. swing-out Condenser



M-1151  
1.20 N.A. swing-out Condenser



M-1153  
0.90 N.A. swing-out Polarizing Condenser



M-1154  
0.70 N.A. swing-out Condenser



M-1152  
Phase contrast condenser 10x, 40x, 100x, BF, DF



M-1152.1  
Phase contrast condenser 10x, 20x, 40x, 100x, BF



M-618  
Darkfield Condenser (dry)



M-1155  
0.90/0.25 N.A. Swing-Out Condenser

## Fluorescence attachments



M-1031  
4-position LED Fluorescence Attachment



M-1032  
6-position HBO Fluorescence attachment

## Polarizing attachments



M-1033  
Bertrand Lens with analyzer and Lambda slides slot



M-1034  
Incident Polarizing Light attachment, with field and aperture diaphragms

## Discussion heads



M-1160 - 2-Head attachment  
M-1161 - 3-Head Attachment

M-1162 - 5-Head Attachment  
M-1163 - 10-Head attachment

## Metallurgical attachment



M-1035  
Metallurgical Brightfield/Darkfield attachment, with field and aperture diaphragms, neutral density filter, and polarizer/analyzer filters.



# B-1000 Series - Discussion microscope

Share your view with up to 10 persons. With built-in movable pointer, it helps any teaching or discussion experience.

**B-1000Ti-2**

**B-1000Ti-3**

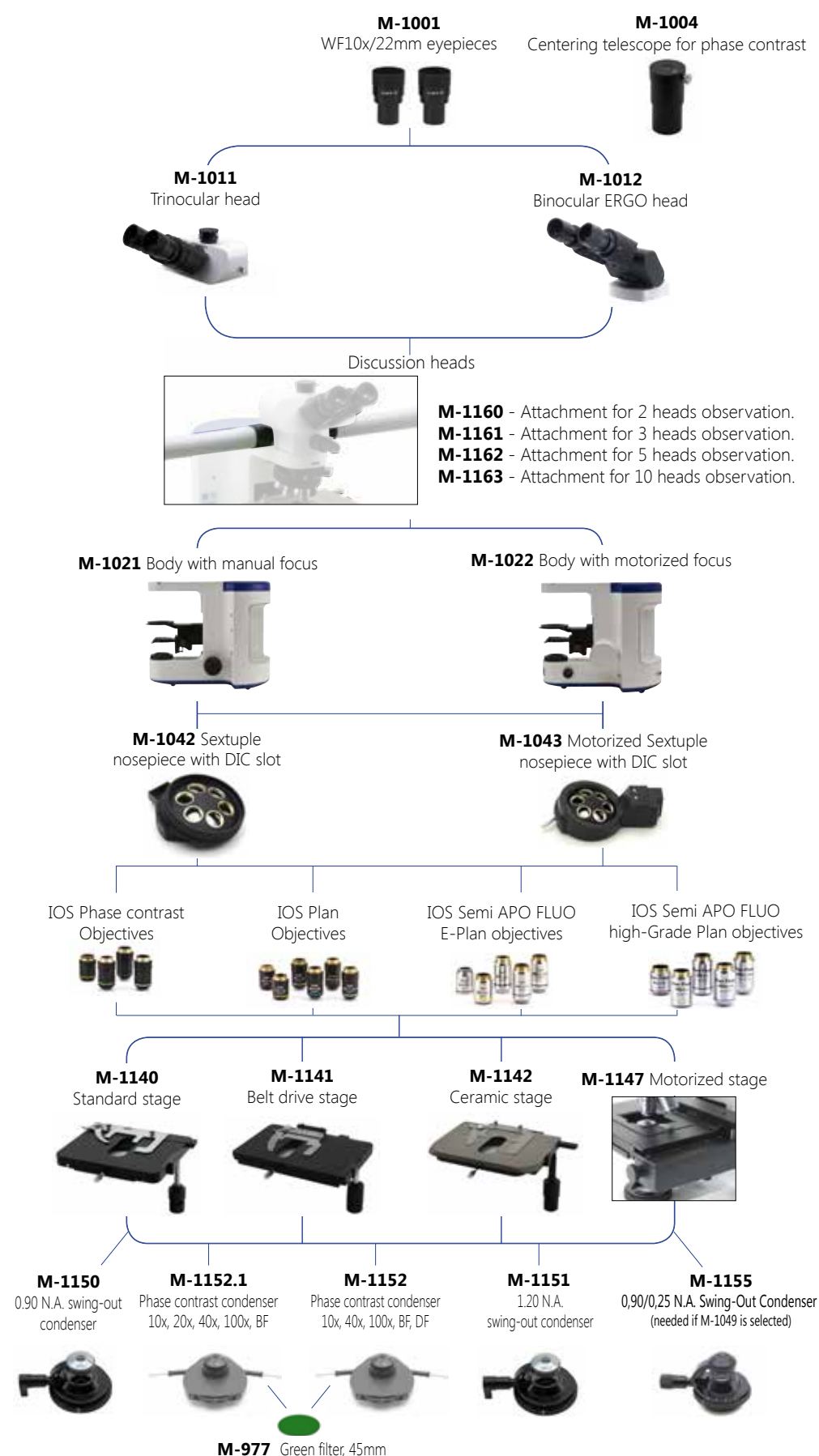
**B-1000Ti-5**

**B-1000Ti-10**

**B-1000Ti-5**

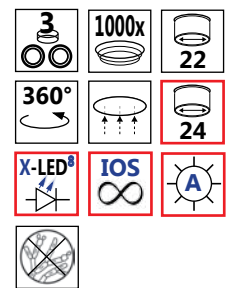


**B-1000Ti-10**



# B-1000BF Model - Bright field version

## B-1000BF



### B-1000BF

Type:

**BRIGHT FIELD RESEARCH MICROSCOPE**

Description:

Laboratory microscope for routine and research applications.

Dye-cast frame, with high stability and ergonomy, for transmitted light observation.



Version for standard brightfield view.  
Illumination: X-LED<sup>®</sup> (8W power)

# B-1000BF Model - Configuration chart

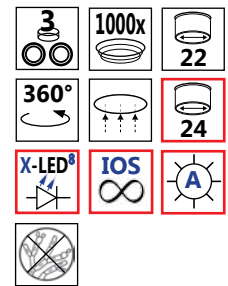
BUILD THE MICROSCOPE THAT SUITES YOUR NEEDS BY CHOOSING AMONG THE COMPONENTS OF CONFIGURATION CHART:



# B-1000PH Model - Phase contrast version



## B-1000PH



### B-1000PH

Type:

**PHASE CONTRAST RESEARCH MICROSCOPE**

Description:

Laboratory microscope for routine and research applications.

Dye-cast frame, with high stability and ergonomy, for transmitted light observation.



Version for phase contrast analysis.  
Illumination: X-LED<sup>8</sup> (8W power).



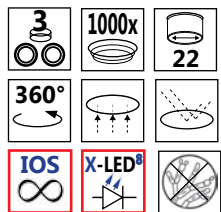
# B-1000PH Model - Configuration chart

BUILD THE MICROSCOPE THAT SUITES YOUR NEEDS BY CHOOSING AMONG THE COMPONENTS OF CONFIGURATION CHART:

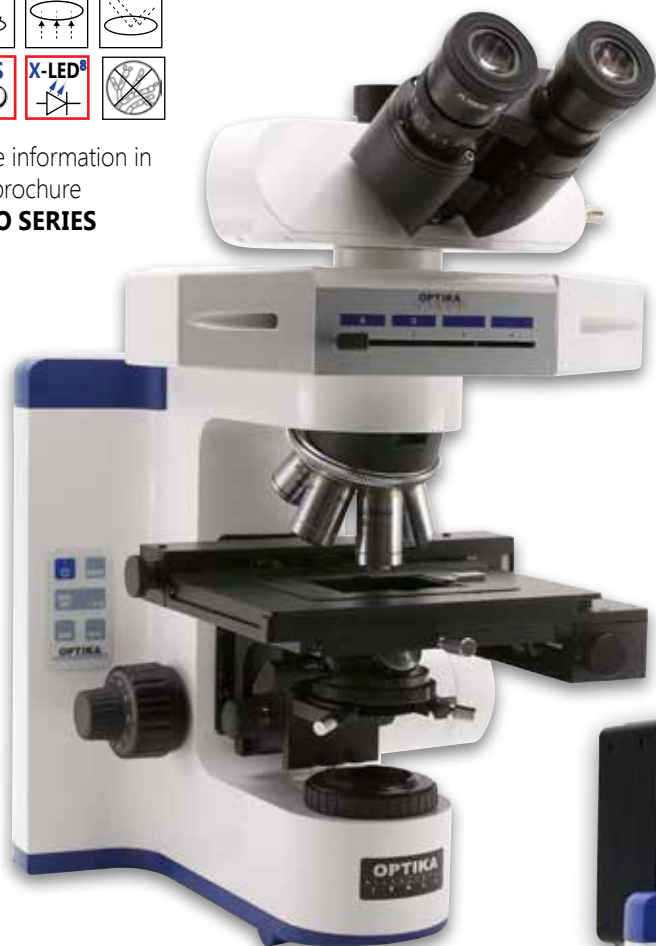


# B-1000 Series -Additional models

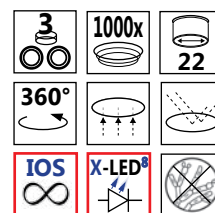
## B-1000FL-LED



More information in  
the brochure  
**FLUO SERIES**



## B-1000FL-HBO



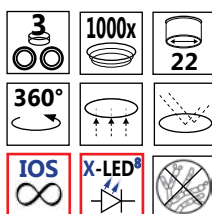
More information in the  
brochure **FLUO SERIES**



# B-1000 Series -Additional models

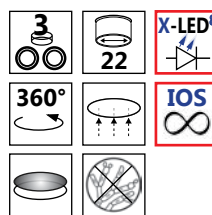


## B-1000MET



More information in  
the brochure  
**INDUSTRY SERIES**

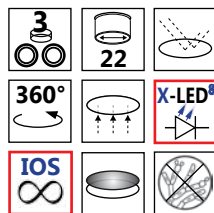
## B-1000POL



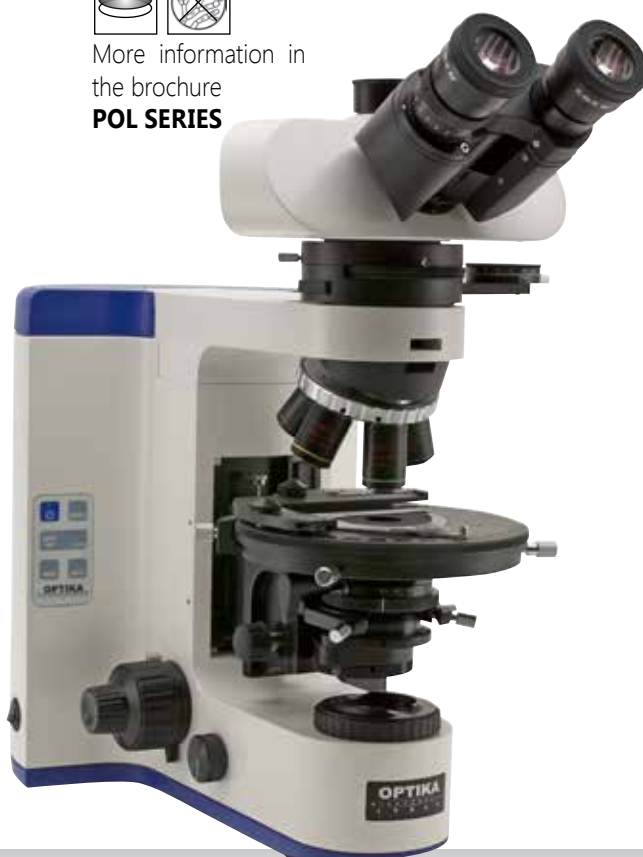
More information in  
the brochure  
**POL SERIES**



## B-1000POL-I



More information in  
the brochure  
**POL SERIES**



# B-1000 Series - Accessories

## EYEPIECES

|        |                                                   |
|--------|---------------------------------------------------|
| M-1001 | Eyeiece (pair) WF10x/22mm.                        |
| M-781  | Micrometer Eyeiece WF10x/22mm (10mm, 0.1mm div.). |
| M-1002 | Eyeiece (pair) WF10x/24mm.                        |
| M-1003 | Eyeiece WF15X/16mm.                               |

## HEADS

|        |                                |
|--------|--------------------------------|
| M-1011 | Trinocular Head (3 positions). |
| M-1012 | Binocular ERGO head.           |
| M-1013 | Trinocular ERGO head.          |

## ATTACHMENTS

|        |                                                                                                 |
|--------|-------------------------------------------------------------------------------------------------|
| M-1030 | Automatic Brightness Control System.                                                            |
| M-1031 | 4-Position LED Fluorescence attachment, with standard Blue and Green filtersets (FITC & TRITC). |
| M-1032 | 6-Position HBO Fluorescence attachment, with standard Blue and Green filtersets (FITC & TRITC). |
| M-1033 | Bertrand Lens with Analyzer and slot for slides (with Lambda, 1/4 Lambda and Quartz Edge).      |
| M-1034 | Incident Polarizing Attachment.                                                                 |
| M-1035 | Metallurgical Attachment.                                                                       |

## NOSEPIECES

|        |                                                                                                    |
|--------|----------------------------------------------------------------------------------------------------|
| M-1042 | Sextuple nosepiece for RMS objectives with DIC slot.                                               |
| M-1043 | Sextuple motorized nosepiece for RMS objectives with DIC slot.                                     |
| M-1044 | Quintuple nosepiece with centrable positions for POL objectives.                                   |
| M-1045 | Quintuple nosepiece for Darkfield MET objectives, with 3 adater rings for RMS objectives           |
| M-1046 | Quintuple motorized nosepiece for Darkfield MET objectives, with 3 adater rings for RMS objectives |

## OBJECTIVES

|        |                                              |
|--------|----------------------------------------------|
| M-1049 | Objective 2x IOS PLAN.                       |
| M-1050 | Objective 4x IOS PLAN.                       |
| M-1051 | Objective 10x IOS PLAN.                      |
| M-1052 | Objective 20x IOS PLAN.                      |
| M-1053 | Objective 40x IOS PLAN.                      |
| M-1054 | Objective 60x IOS PLAN.                      |
| M-1055 | Objective 100x IOS PLAN.                     |
| M-1060 | Objective 4x IOS Semi-APO E-PLAN.            |
| M-1061 | Objective 10x IOS Semi-APO E-PLAN.           |
| M-1062 | Objective 20x IOS Semi-APO E-PLAN.           |
| M-1063 | Objective 40x IOS Semi-APO E-PLAN.           |
| M-1064 | Objective 100x IOS Semi-APO E-PLAN.          |
| M-1070 | Objective 4x IOS Semi-APO High-Grade PLAN.   |
| M-1071 | Objective 10x IOS Semi-APO High-Grade PLAN.  |
| M-1072 | Objective 20x IOS Semi-APO High-Grade PLAN.  |
| M-1073 | Objective 40x IOS Semi-APO High-Grade PLAN.  |
| M-1074 | Objective 100x IOS Semi-APO High-Grade PLAN. |
| M-1080 | Objective 4x IOS POL PLAN.                   |
| M-1081 | Objective 10x IOS POL PLAN.                  |
| M-1082 | Objective 40x IOS POL PLAN.                  |
| M-1083 | Objective 60x IOS POL PLAN.                  |
| M-1090 | Objective 5x IOS LWD POL PLAN.               |
| M-1091 | Objective 10x IOS LWD POL PLAN.              |
| M-1092 | Objective 20x IOS LWD POL PLAN.              |
| M-1093 | Objective 50x IOS LWD POL PLAN.              |

|        |                                                                  |
|--------|------------------------------------------------------------------|
| M-1099 | Objective 2,5x IOS MET PLAN, for brightfield (with depolarizer). |
| M-1100 | Objective 5x IOS MET PLAN, for brightfield.                      |
| M-1101 | Objective 10x IOS MET PLAN, for brightfield.                     |
| M-1102 | Objective 20x IOS MET PLAN, for brightfield.                     |
| M-1103 | Objective 50x IOS MET PLAN, for brightfield.                     |
| M-1104 | Objective 100x IOS MET PLAN, for brightfield.                    |

|        |                                             |
|--------|---------------------------------------------|
| M-1109 | Objective 5x IOS MET PLAN, for darkfield.   |
| M-1110 | Objective 10x IOS MET PLAN, for darkfield.  |
| M-1111 | Objective 20x IOS MET PLAN, for darkfield.  |
| M-1112 | Objective 40x IOS MET PLAN, for darkfield.  |
| M-1113 | Objective 50x IOS MET PLAN, for darkfield.  |
| M-1114 | Objective 100x IOS MET PLAN, for darkfield. |

|        |                                              |
|--------|----------------------------------------------|
| M-1120 | Objective 10x IOS PLAN, for Phase Contrast.  |
| M-1121 | Objective 20x IOS PLAN, for Phase Contrast.  |
| M-1122 | Objective 40x IOS PLAN, for Phase Contrast.  |
| M-1123 | Objective 100x IOS PLAN, for Phase Contrast. |

## STAGES

|        |                                                          |
|--------|----------------------------------------------------------|
| M-1140 | Standard Mechanical Stage.                               |
| M-1141 | Belt Drive Mechanical Stage.                             |
| M-1142 | Ceramic Coated Mechanical Stage.                         |
| M-1143 | MPC (Mineral Solid Surface) Belt Drive Mechanical Stage. |
| M-1144 | Heating Stage.                                           |
| M-1145 | Rotating Stage, centrable.                               |
| M-1146 | Attachable mechanical stage for rotating Stage.          |
| M-1147 | Motorized mechanical Stage.                              |
| M-1148 | Metallurgical Stage, with glass.                         |

## CONDENSERS

|          |                                                                     |
|----------|---------------------------------------------------------------------|
| M-1150   | 0,90 N.A. Swing-Out Condenser.                                      |
| M-1151   | 1,25 N.A. Swing-Out Condenser.                                      |
| M-1152   | Phase contrast condenser 10x, 40x, 100x, BF, DF.                    |
| M-1152.1 | Phase contrast condenser 10x, 20x, 40x, 100x, BF.                   |
| M-1153   | 0,90 N.A. Swing-Out POL Condenser.                                  |
| M-1154   | 0,70 N.A. Swing-Out MET Condenser.                                  |
| M-1155   | 0.9/0.25 NA Swing-Out Condenser (to be used with objective M-1049). |
| M-618    | Darkfield condenser for dry objectives.                             |

## ACCESSORIES

|         |                                                                                          |
|---------|------------------------------------------------------------------------------------------|
| M-1004  | Centering telescope for phase contrast.                                                  |
| M-005   | Micrometric slide, 26x76mm, range 1mm, div. 0,01mm.                                      |
| M-613   | Polarizing set (filters only).                                                           |
| M-615   | Lambda filter for polarizing set.                                                        |
| M-617.1 | Set phase contrast, single IOS PLAN objective 40x.                                       |
| M-977   | Green filter, 45mm diameter.                                                             |
| M-690   | Eyecup (pair).                                                                           |
| M-619   | Photo adapter for REFLEX camera with FULL FRAME sensor.                                  |
| M-173   | Photo adapter for APS-C and Full Frame Reflex cameras.                                   |
| M-699   | Universal adapter for OPTIKAM & DIGI cameras. (only models with eyepiece adapter, 23mm). |
| M-620   | CCD camera adapter for 1/3" sensor.                                                      |
| M-620.1 | CCD camera adapter for 1/2" sensor.                                                      |
| M-151   | HBO 100W high-pressure mercurybulb for fluorescence.                                     |
| M-1164  | Empty fluorescence filterblock for B-1000 FL HBO.                                        |
| M-1165  | Fluorescence filterset V (filterblock included) for B-1000 FL HBO.                       |
| M-1166  | Fluorescence filterset UV-DAPI (filterblock included) for B-1000 FL HBO.                 |
| 15008   | OPTIKA immersion oil, 10ml.                                                              |
| 15104   | Lens cleaner, 50ml.                                                                      |

## 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](mailto:info@optikamicroscopes.com)

### Optika Sales branches

#### OPTIKA® Spain

[spain@optikamicroscopes.com](mailto:spain@optikamicroscopes.com)

#### OPTIKA® China

[china@optikamicroscopes.com](mailto:china@optikamicroscopes.com)

#### OPTIKA® USA

[usa@optikamicroscopes.com](mailto:usa@optikamicroscopes.com)

#### OPTIKA® Hungary

[hungary@optikamicroscopes.com](mailto:hungary@optikamicroscopes.com)