

Upright Research Microscope

B-800 B-1000





## B-1000

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 flag As a flagship instrument, B-1000 originates from customer most demanding feedbacks 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.





**B-1000** is built on IOS Infinity Corrected optical system, which gives both 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, 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.



## *Upright Research OPTIKA Microscopes*

## *B-1000 Research Microscope*





### Solid Stand – Extra Stability

A completely new design and a die-cast aluminum 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.



### 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.



### **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.



### **Comfortable Stage**

Refined belt-driven stage, with a wide working surface and a highly precise XY movement.



### **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.





## Remote-controlled microscope

The stage can be remote-controlled through a dedicated software: X, Y, Z axes, as well as nosepiece, can be moved with a single click.

Communication protocol is available for interfacing with custom software, such as automated analysis or autofocus.



### **X-Y-Z MOTORIZED STAGE MOTORIZED NOSEPIECE**



## X-LED benefits

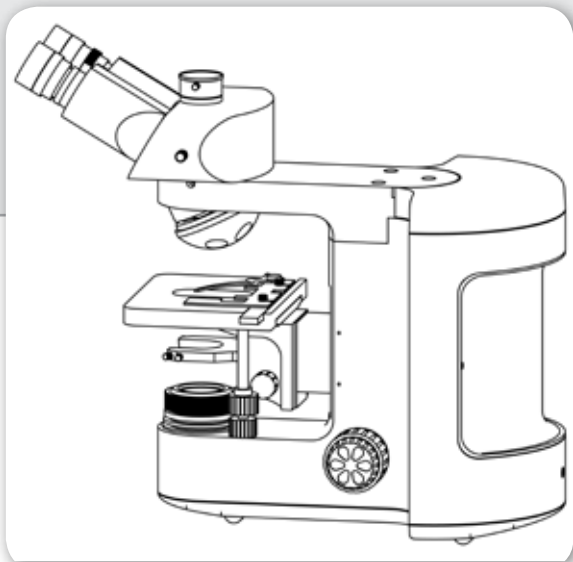
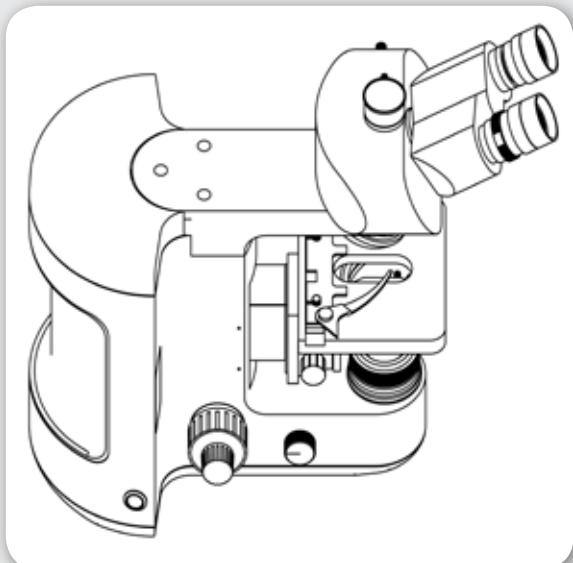
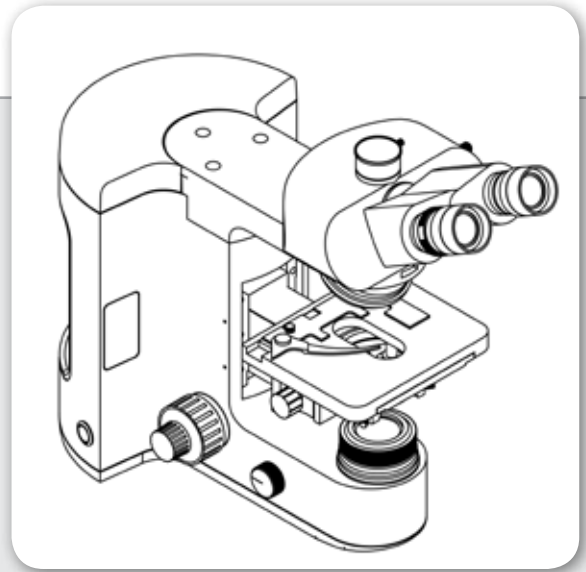
Powerful pure white LED illumination, ideal for brightfield, darkfield and phase contrast applications. Color temperature constant through all the intensity levels. No heat generation, that could damage the specimen. Factory pre-centering assures uniform illumination over the field of view, yet providing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



**B-1000** is completely designed and made in Italy to ensure the highest quality and reliability.

Our designers worked on original shapes and look, to guarantee the best ergonomics and stability.

## CONCEPT ART





**OPTIKA** workshop provides the facilities for precise and reliable optomechanical manufacturing, essential for this kind of instruments.



CNC machining department, equipped with 5-axis milling machine and lathe.

Die-cast stands ready to be processed.

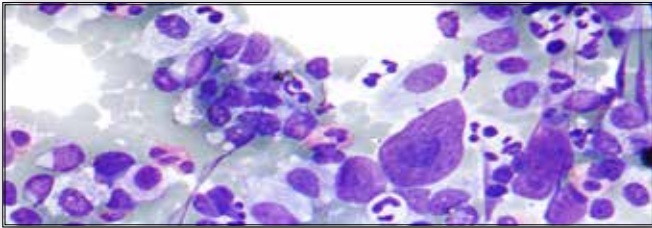


Work in progress inside the milling machine.

Microscope stands exiting from the internal varnishing facility.



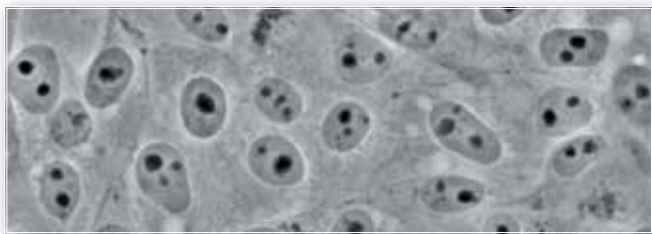
All processes are carefully monitored through the application of ISO 9001 Quality System standards.



### 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.

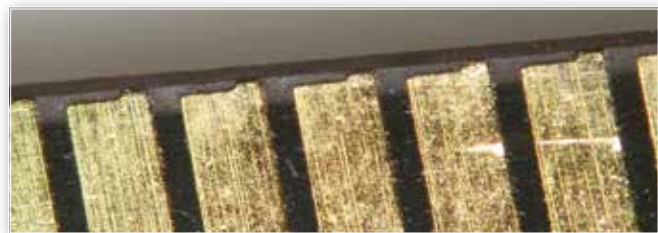
These features, along with motorized stage and ergonomic controls, make your workflow easier.



### Phase Contrast Microscopy

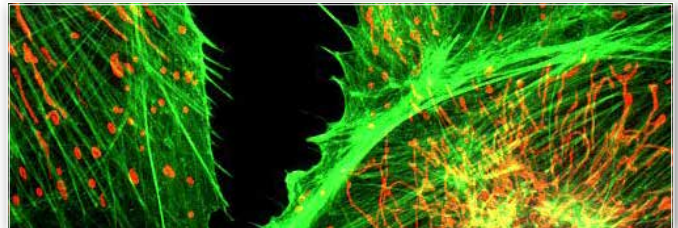
The bright LED illuminator brings a comfortable view in phase contrast with all magnifications. Universal wheel condenser allows to quickly switch between brightfield, darkfield and phase contrast.

Ideal for clinical laboratories or fibers (e.g. asbestos) analysis.



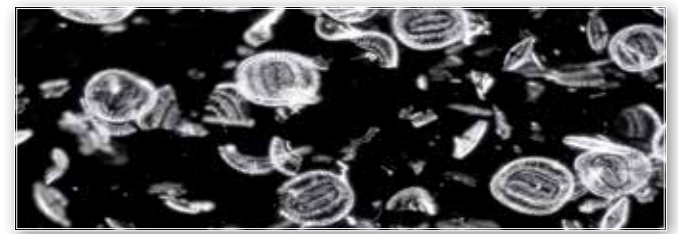
### Material Science

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



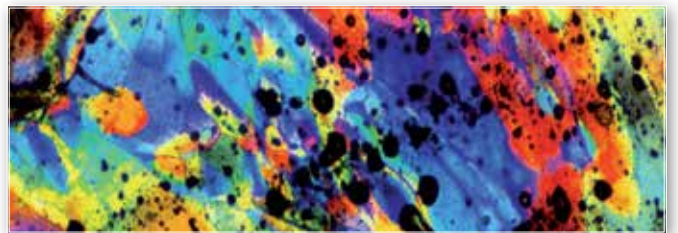
### Fluorescence Microscopy

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.



### 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.



### 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.

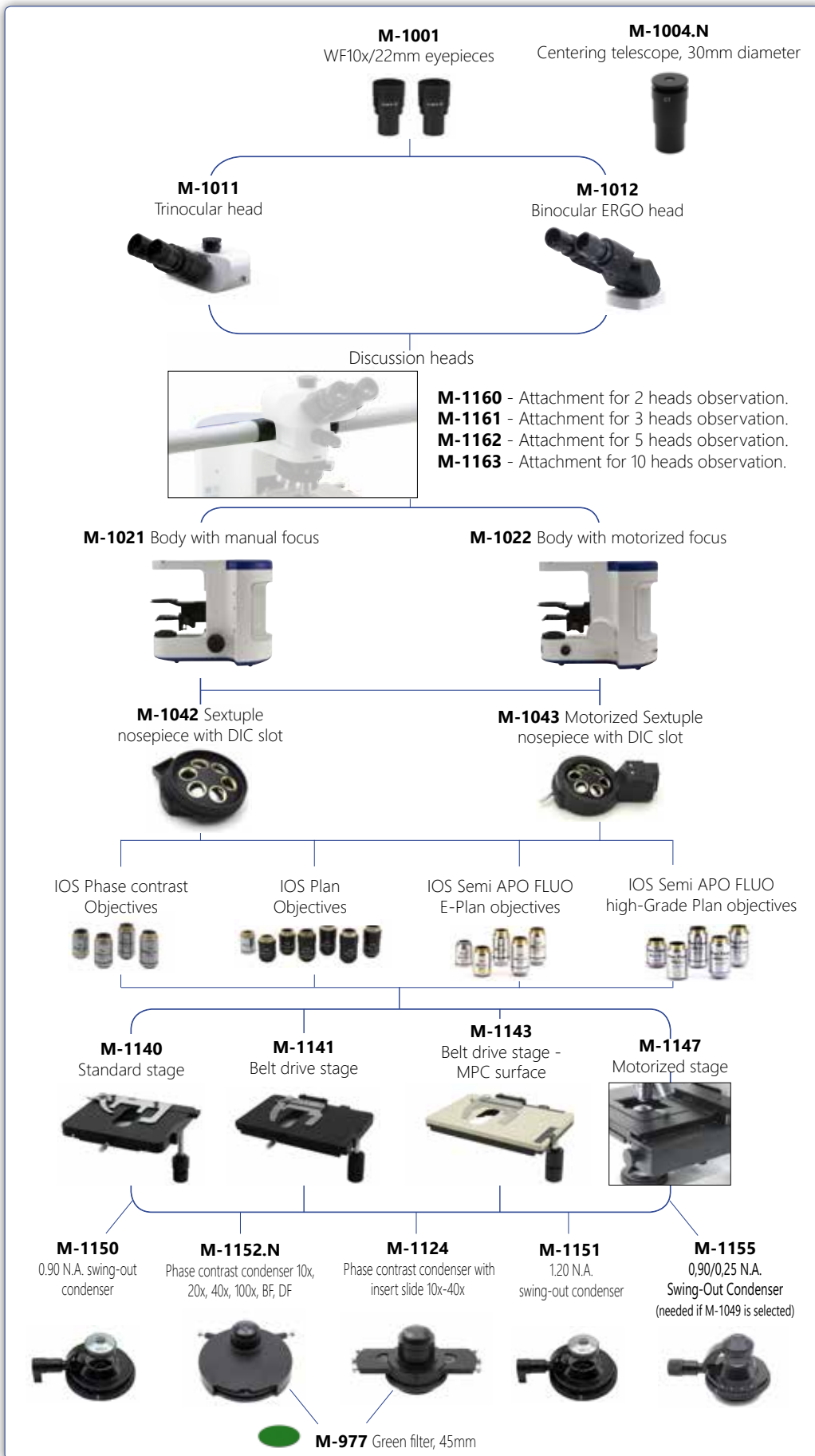
Attachments for a full polarization analysis are available (both for transmitted and incident light), so it's possible to look at color fringes right away.

# B-1000 Series - 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



## EYEPIECES



WF10x/22mm Eyepieces, high-point type



WF10x/24mm Eyepieces, high-point type

## HEADS



Trinocular Head 100/0 - 50/50 type



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



Binocular Ergonomic Head



Binocular Ergonomic Head with side Video/Photo Tube

## NOSEPIECES



Quintuple revolving Nosepiece, for RMS objectives



Sextuple revolving Nosepiece, for RMS objectives



Sextuple revolving Nosepiece, for RMS objectives; with DIC slot



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



Quintuple revolving Nosepiece, with centrabale positions for polarizing objectives



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



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

# 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



Motorized stage



Standard Mechanical Stage



Belt drive Mechanical Stage; movement knobs with friction adjustment control



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



Heating Stage



Rotating Stage + attachable XY stage



Metallographic stage for B-1000 MET

# 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-1155**  
0,90/0,25 N.A. Swing-Out Condenser.



**M-618**  
Darkfield Condenser (dry).



**M-1152.N**  
Phase contrast condenser 10x, 20x, 40x, 100x, BF, DF.



**M-1124**  
Phase contrast condenser with insert slide 10x-40x.

# 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



M-1160 - 2-Head attachment  
M-1161 - 3-Head Attachment  
M-1162 - 5-Head Attachment  
M-1163 - 10-Head attachment

# METALLURGICAL ATTACHMENT



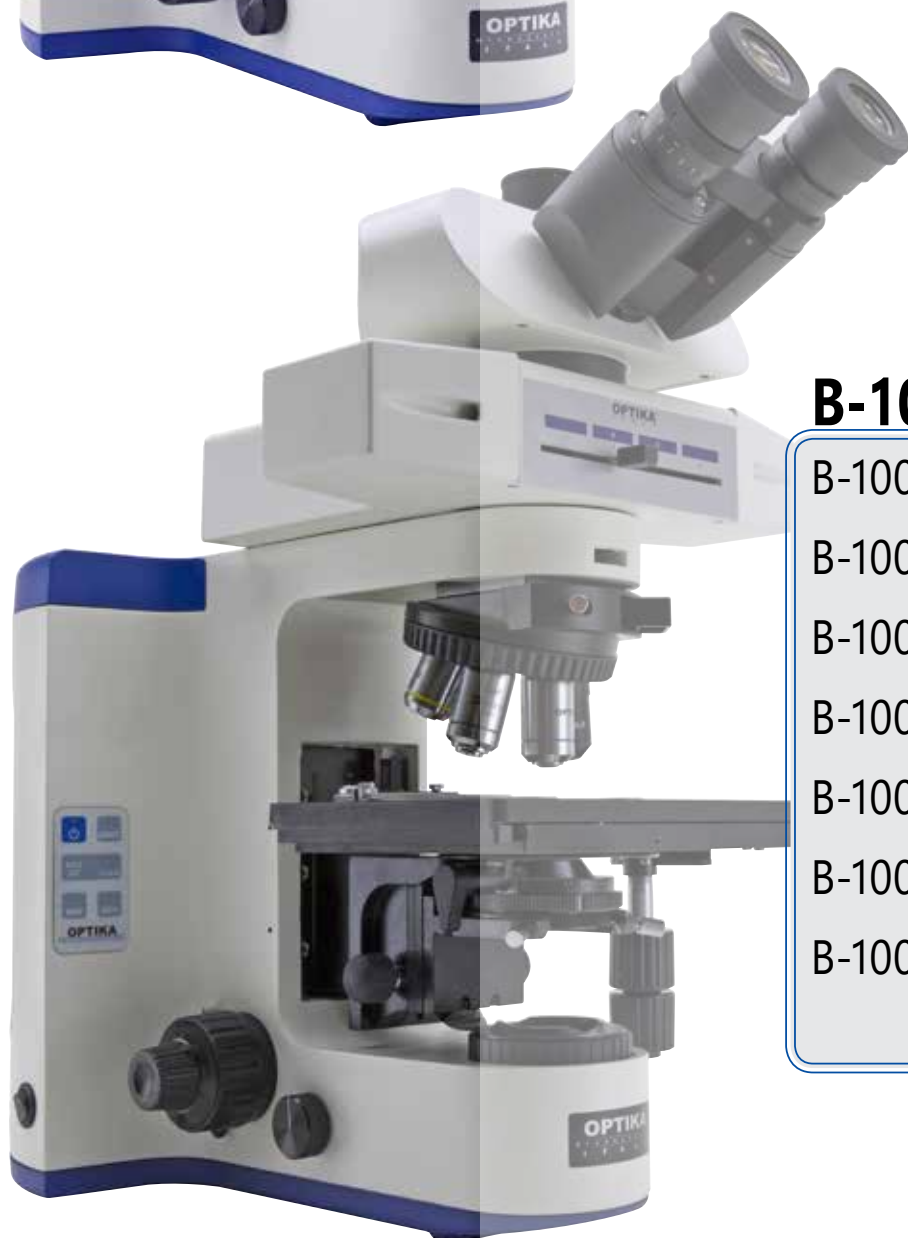
**M-1035**  
Metallurgical Brightfield/Darkfield attachment, with field and aperture diaphragms, neutral density filter, and polarizer/analyzer filters.



## B-800 models

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## B-1000 models

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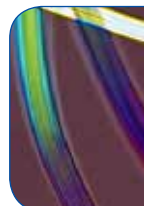
B-1000FL-LED page 24

B-1000FL-HBO page 26

B-1000POL page 28

B-1000POL-I page 29

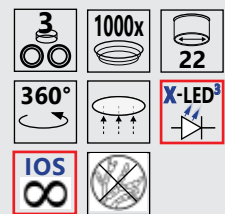
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# B-800BF Model



## B-800BF



### BRIGHTFIELD RESEARCH MICROSCOPE

Description:

Laboratory microscope for routine and research applications.

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

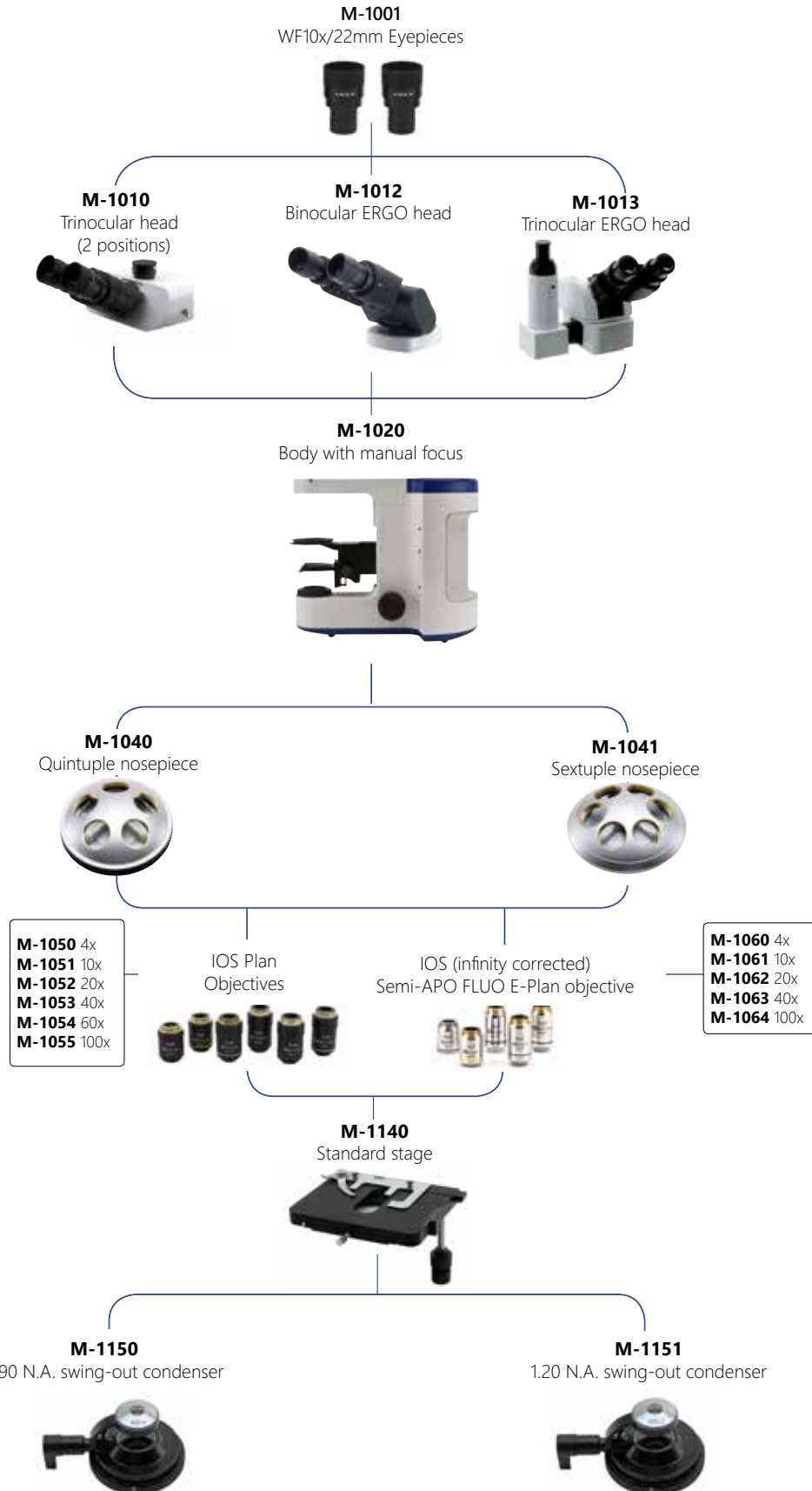




# B-800BF Model - Configuration chart



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



# B-800PH Model



## B-800PH



### PHASE CONTRAST RESEARCH MICROSCOPE

Description:

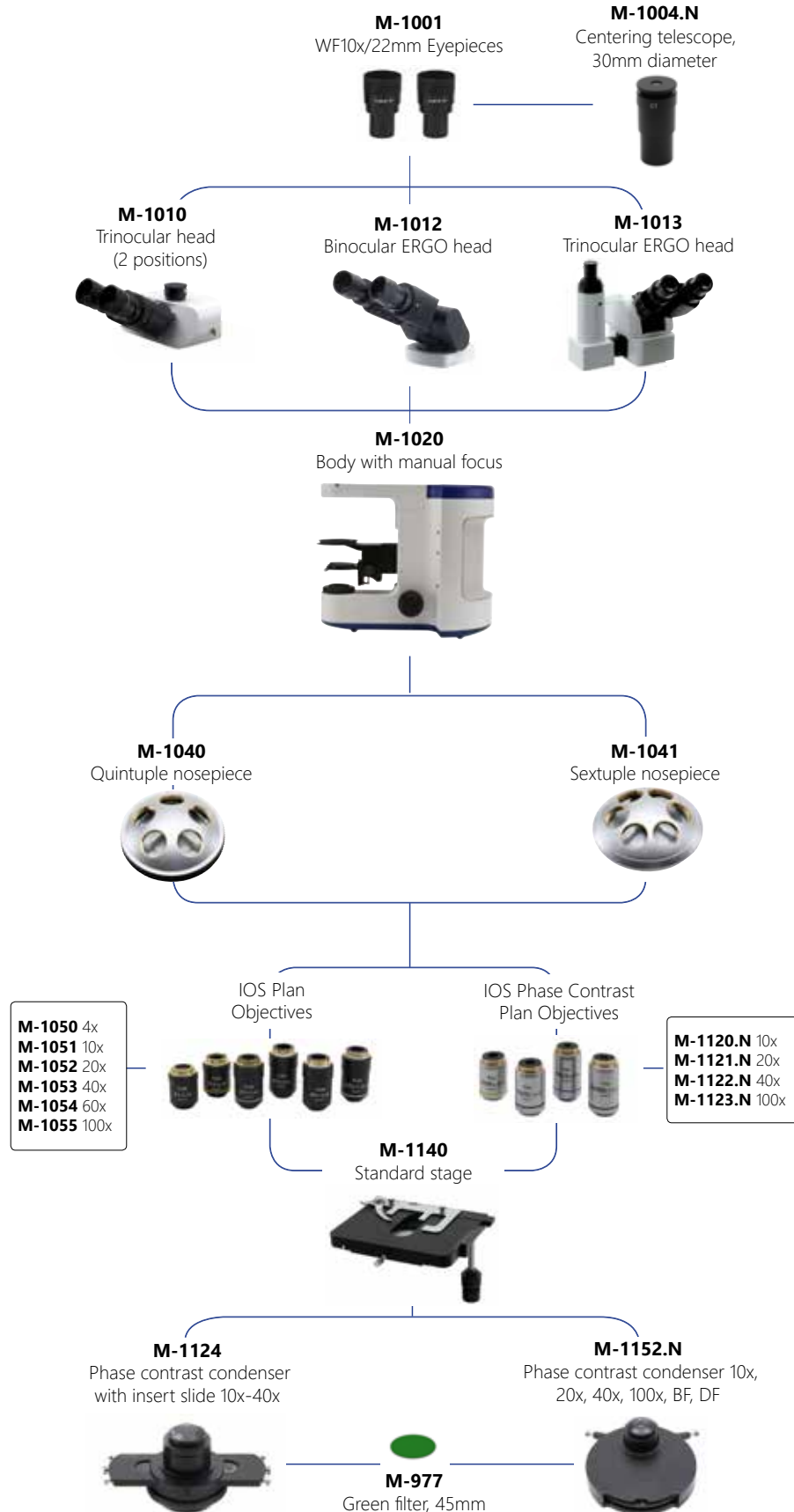
Laboratory microscope for routine and research applications.

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



# B-800PH Model - Configuration chart

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



# B-1000BF Model



## B-1000BF



### BRIGHTFIELD 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>8</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



## B-1000PH



### PHASE CONTRAST RESEARCH MICROSCOPE

Description:

Laboratory microscope for routine and research applications.

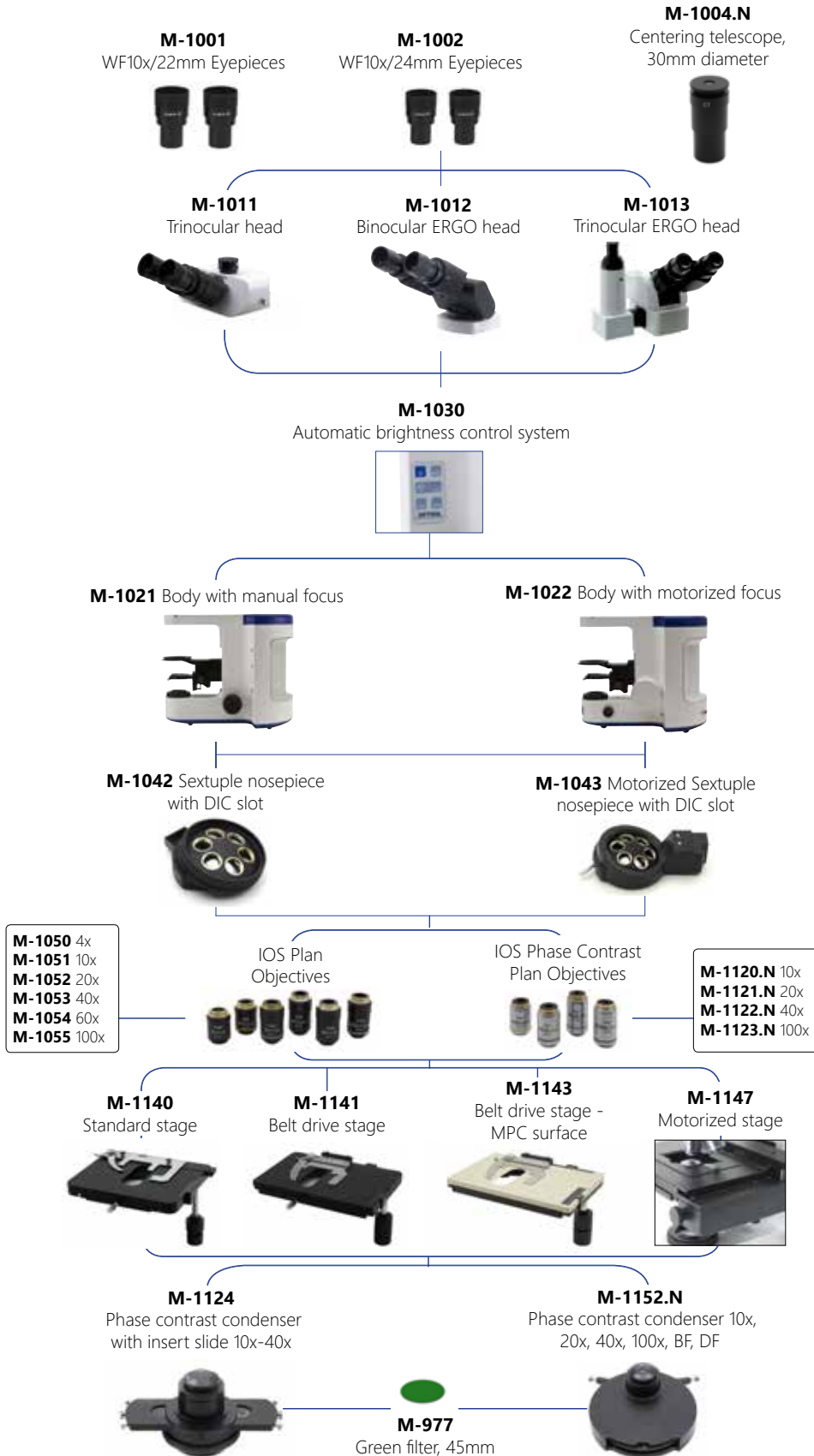
Dye-cast frame, with high stability and ergonomcy, for transmitted light observation.



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

# B-1000PH Model - Configuration chart

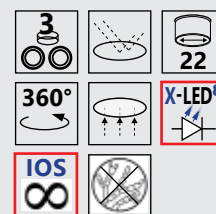
**BUILD THE MICROSCOPE THAT SUITES YOUR NEEDS BY CHOOSING AMONG THE COMPONENTS OF CONFIGURATION CHART:**



# B-1000FL-LED Model



## B-1000FL-LED



### LED FLUORESCENCE RESEARCH MICROSCOPE

Description:

Laboratory microscope for routine and research applications.

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



Version for LED epifluorescence analysis.  
Transmitted illumination: X-LED<sup>®</sup> (8W power).  
Epi-illumination: special attachment with built-in high-power colored LEDs.

### Standard filtersets (included)

Name	Excitation wavelength (nm)	Dichroic mirror cut-off (nm)	Barrier filter wavelength (nm)
<b>B (Blue)</b>	<b>450-490</b>	<b>495</b>	<b>520LP</b>
<b>G (Green)</b>	<b>500-540</b>	<b>565</b>	<b>575LP</b>



# B-1000FL-LED Model - Configuration chart

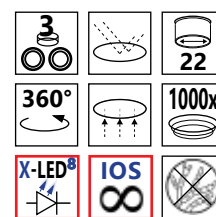
**BUILD THE MICROSCOPE THAT SUITES YOUR NEEDS BY CHOOSING AMONG THE COMPONENTS OF CONFIGURATION CHART:**



# B-1000FL-HBO Model



## B-1000FL-HBO



### FLUORESCENCE RESEARCH MICROSCOPE

#### Description:

Laboratory microscope for routine and research applications.

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



Version for epifluorescence analysis.

Transmitted illumination: X-LED<sup>®</sup> (8W power).

Epi-illumination: special attachment with 100W mercury lamp and 6-position filter wheel.

#### Standard filtersets (included)

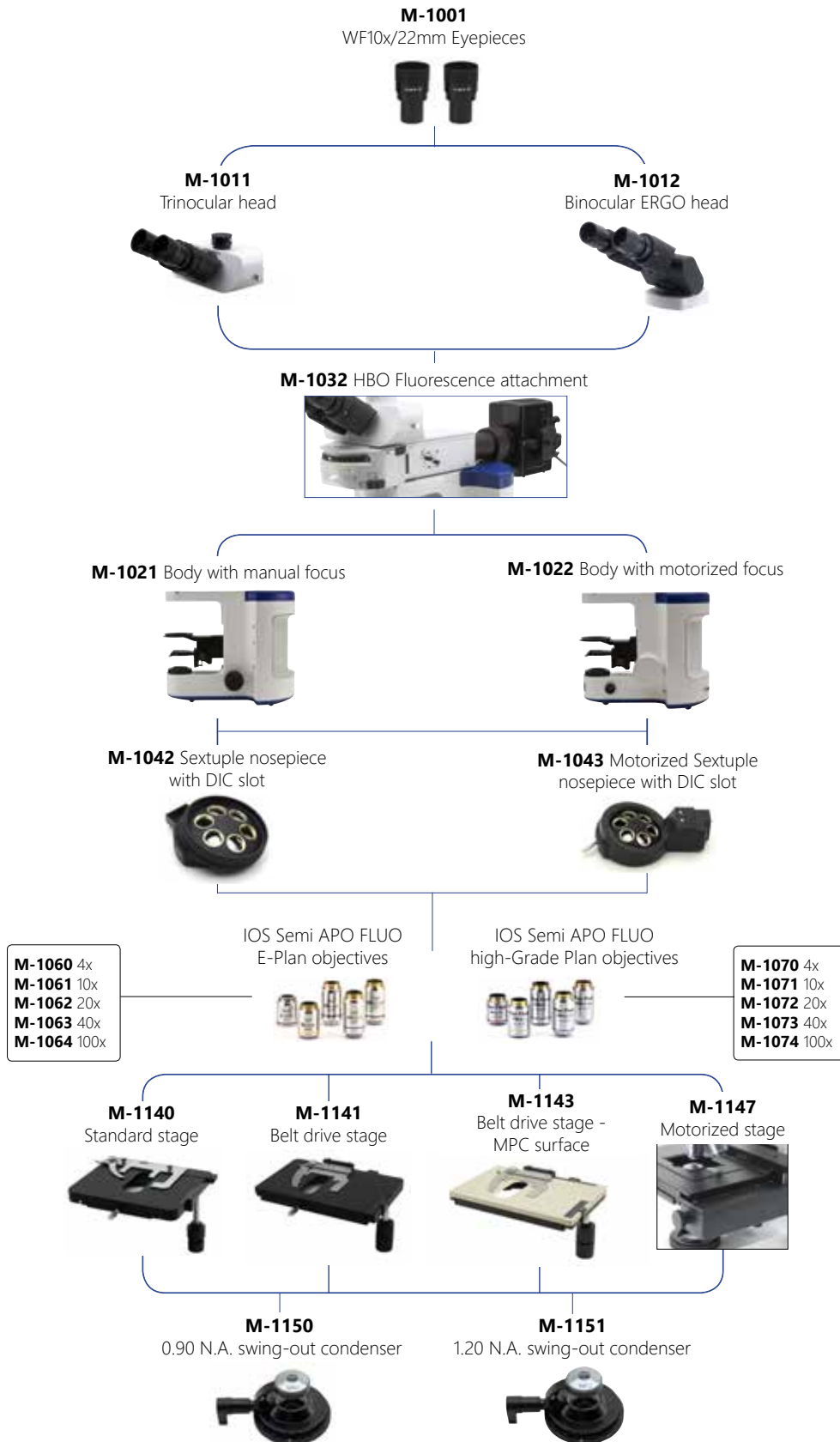
Name	Excitation wavelength (nm)	Dichroic mirror cut-off (nm)	Barrier filter wavelength (nm)
<b>B (Blue)</b>	<b>460-490</b>	<b>500</b>	<b>520LP</b>
<b>G (Green)</b>	<b>510-550</b>	<b>570</b>	<b>590LP</b>

#### Additional filters (as option)

Name	Excitation wavelength (nm)	Dichroic mirror cut-off (nm)	Barrier filter wavelength (nm)
<b>V (Violet)</b>	<b>400-410</b>	<b>455</b>	<b>455LP</b>
<b>UV</b>	<b>330-385</b>	<b>400</b>	<b>420LP</b>

# B-1000FL-HBO Model - Configuration chart

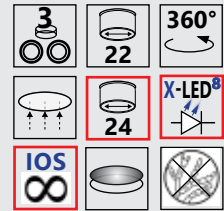
**BUILD THE MICROSCOPE THAT SUITES YOUR NEEDS BY CHOOSING AMONG THE COMPONENTS OF CONFIGURATION CHART:**



# B-1000POL Model - Transmitted polarization



## B-1000POL



### TRANSMITTED POLARIZING RESEARCH MICROSCOPE

Description:

Laboratory microscope for routine and research applications.

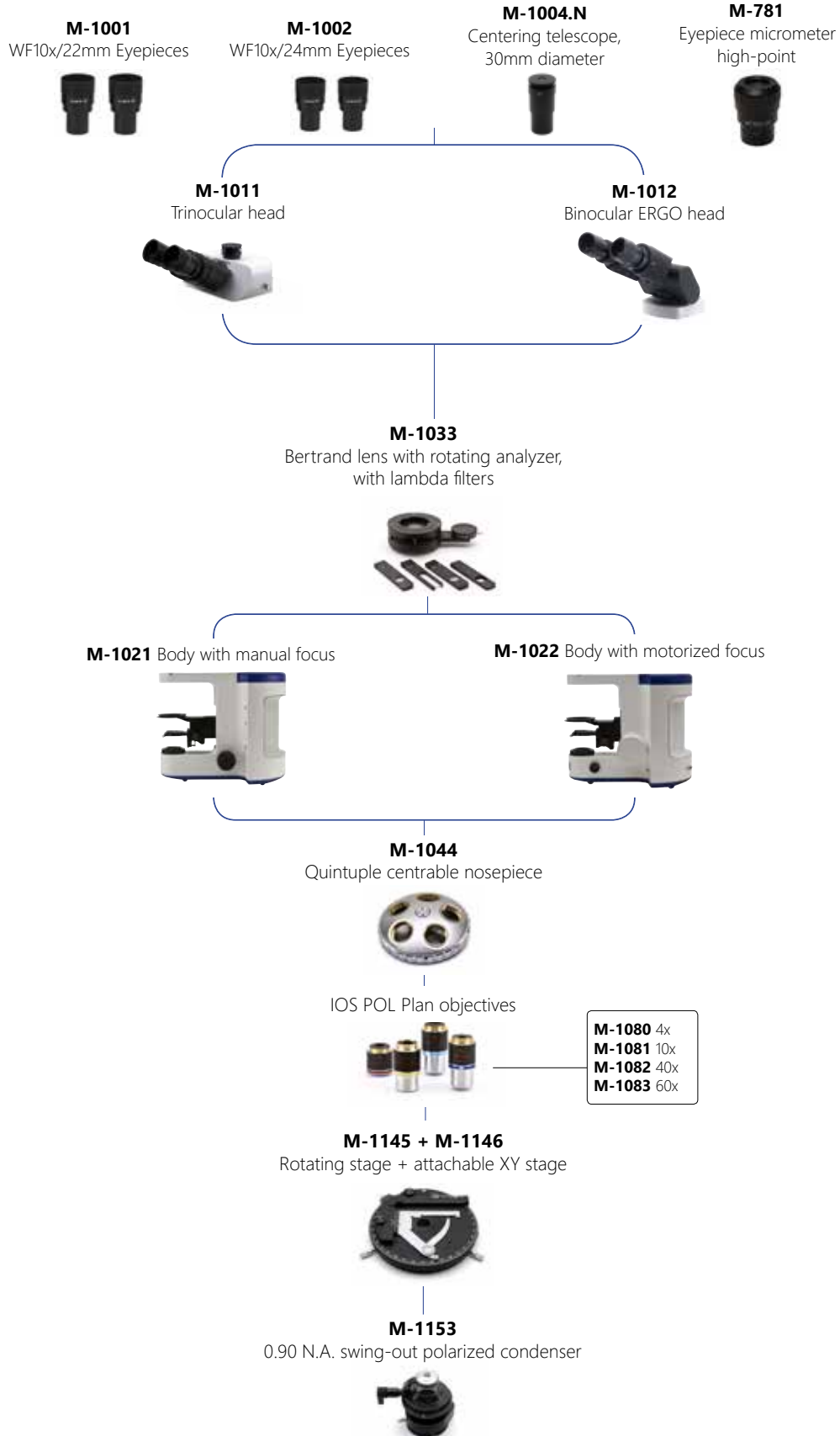
Dye-cast frame, with high stability and ergonomy, for transmitted light observation.



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

# B-1000POL Model - Configuration chart

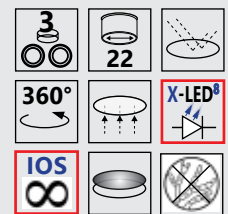
**BUILD THE MICROSCOPE THAT SUITES YOUR NEEDS BY CHOOSING AMONG THE COMPONENTS OF CONFIGURATION CHART:**



# B-1000POL-I Model



## B-1000POL-I



### TRANSMITTED AND INCIDENT POLARIZING RESEARCH MICROSCOPE

Description:

Laboratory microscope for routine and research applications.

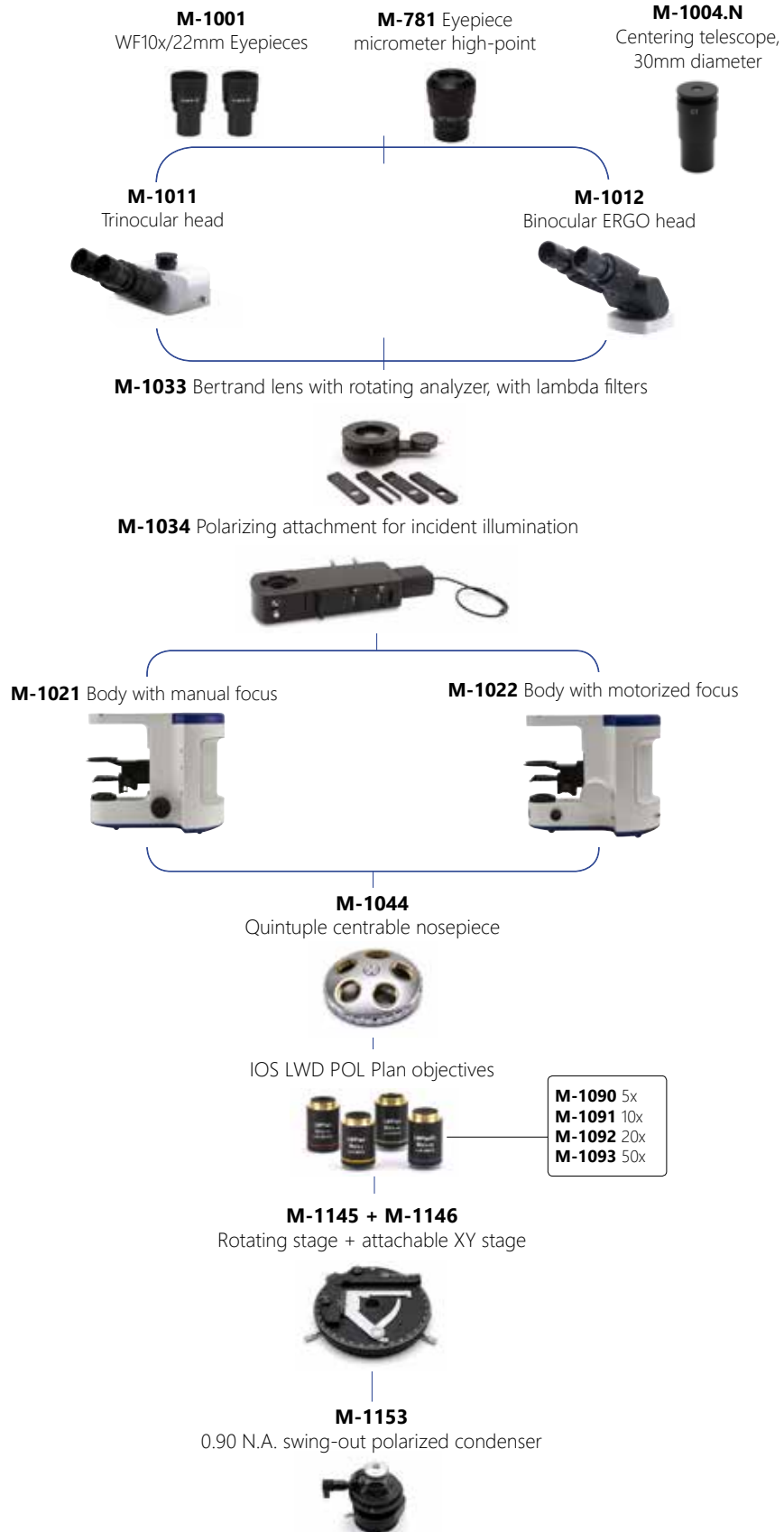
Dye-cast frame, with high stability and ergonomy, for transmitted and incident light observation.



Version for transmitted and incident polarization analysis.  
Transmitted illumination: X-LED<sup>®</sup> (8W power).  
Epi-illumination: special attachment with built-in high-power white LED.

# B-1000POL-I Model - Configuration chart

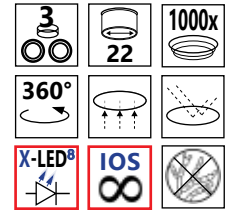
**BUILD THE MICROSCOPE THAT SUITES YOUR NEEDS BY CHOOSING AMONG THE COMPONENTS OF CONFIGURATION CHART:**



# B-1000MET Model



## B-1000MET



### UPRIGHT ADVANCED METALLURGICAL MICROSCOPE

Description:

Microscope for advanced and research applications. Dye-cast frame, with high stability and ergonomy, for transmitted and incident light observation.



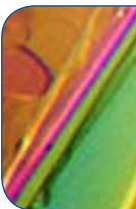
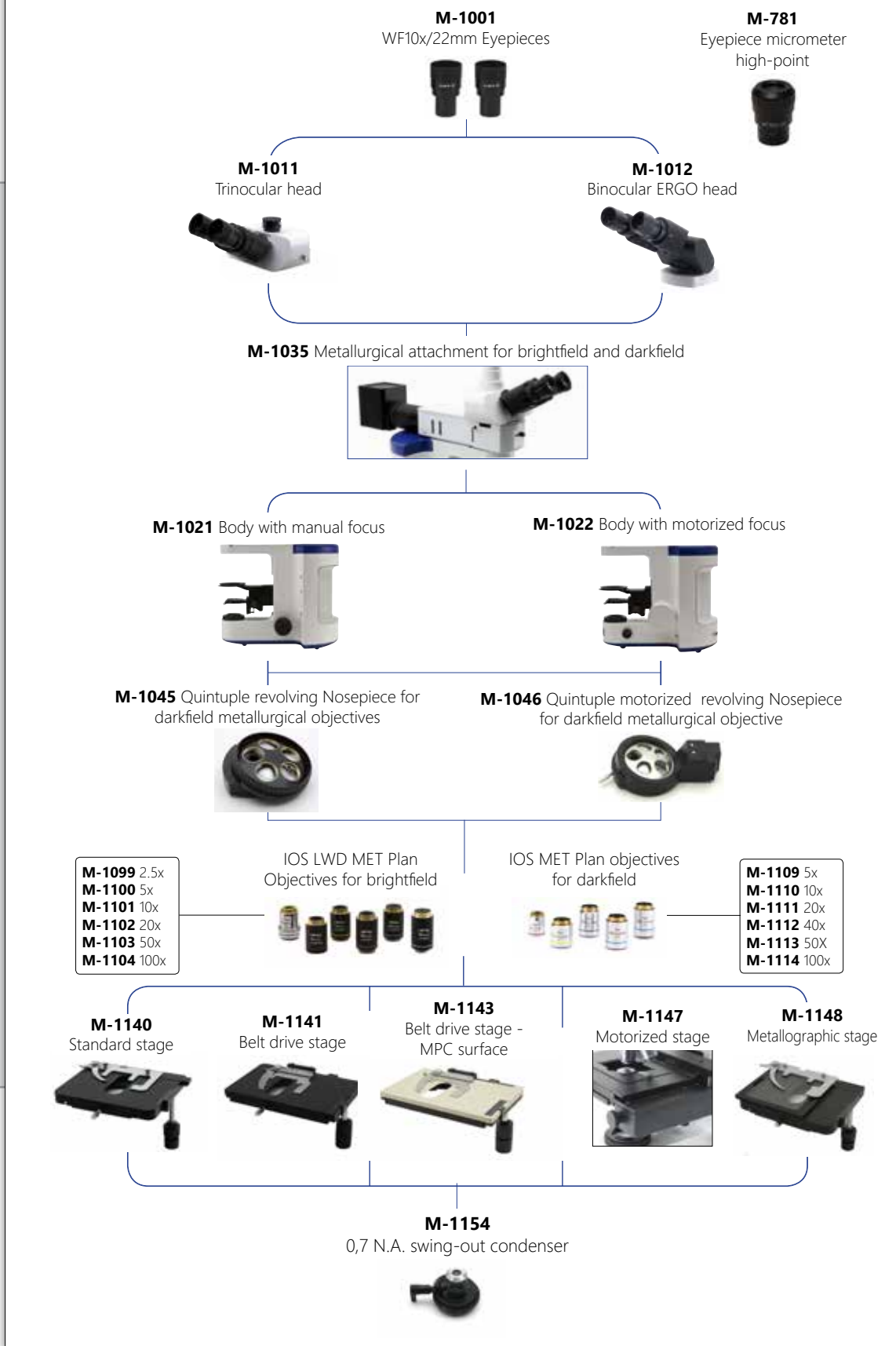
Version for material analysis (transmitted and incident light).

Transmitted illumination X-LED<sup>8</sup> (8W power). Special attachment with built-in 100W halogen lamp.

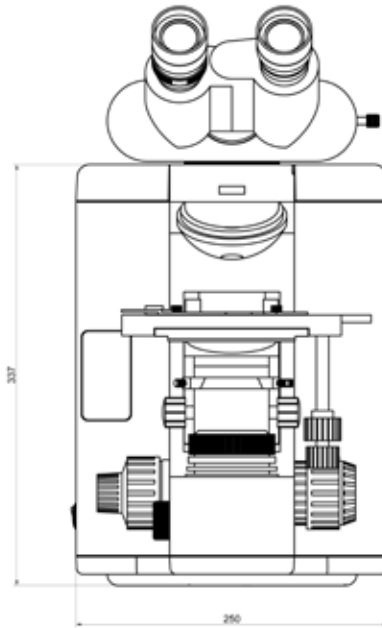
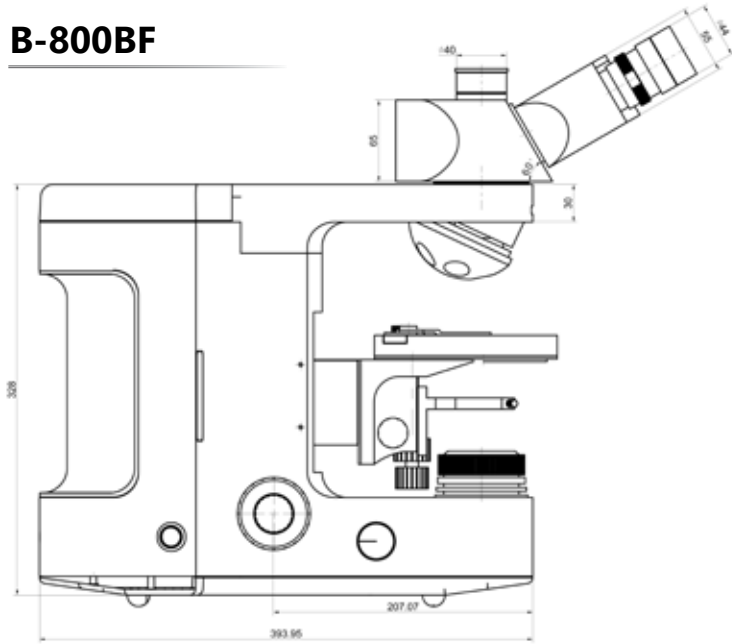


# B-1000MET Model - Configuration chart

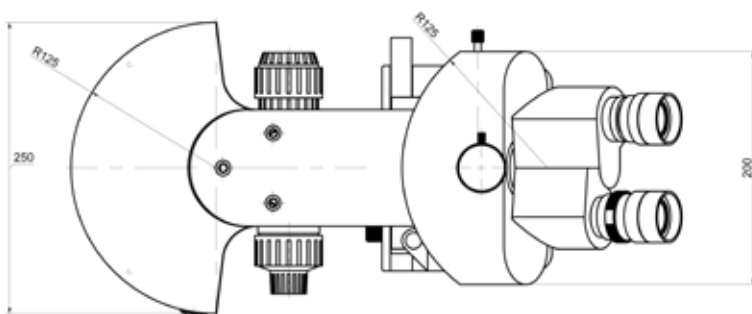
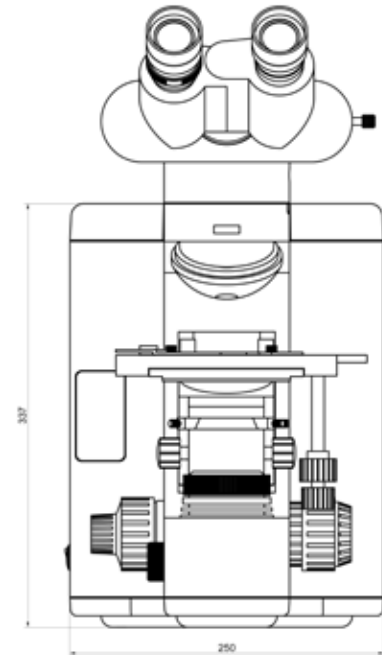
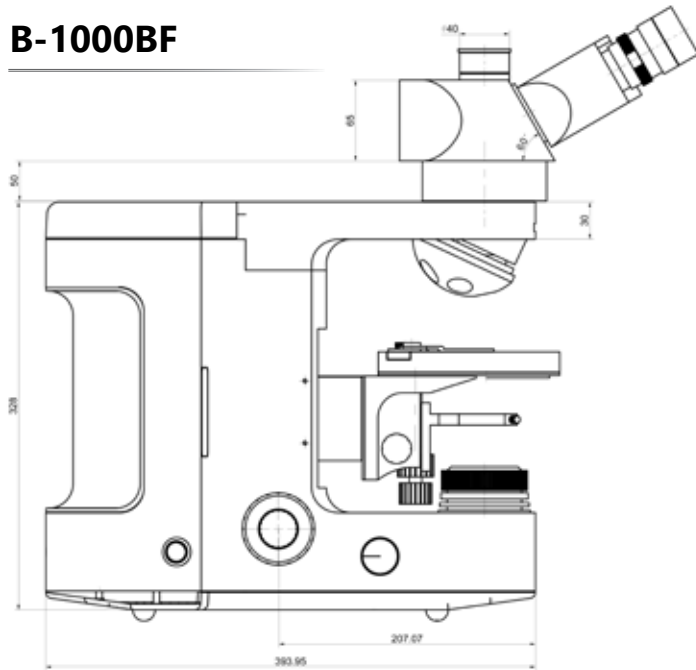
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**B-800BF**



**B-1000BF**





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I T A L Y

ryf ag



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