

## B-190 Series

Biological microscopes for the next teaching generation

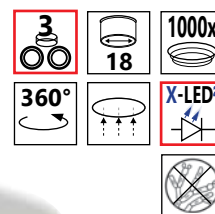


# B-190 Series

The B-190 series is the result of a perfect fusion between years of experience in the microscopy field and a refined design study. This series represents our product philosophy at its best: quality, reliability and innovation. The B-190 series is the answer of OPTIKA Microscopes to the challenge of the future in the teaching field.

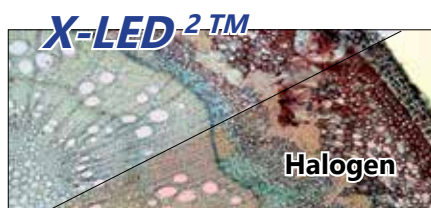
- B-191** Monocular microscope 1000x, double layer stage, with X-LED illumination.
- B-191s** Monocular microscope 600x, double layer stage, with X-LED illumination.
- B-192** Binocular microscope 1000x, double layer stage, with X-LED illumination.
- B-192s** Binocular microscope 600x, double layer stage, with X-LED illumination.
- B-193** Trinocular microscope 1000x, double layer stage, with X-LED illumination.

## B-193



### X-LED<sup>2</sup>™ - The future of illumination

The X-LED<sup>2</sup>™ powered illumination system has been developed by our R&D dept. and consists of a combination of LED and optical technology. A high-efficiency single chip LED improved by a special optical system doubles the light intensity generated by an ordinary LED. The resulting light is comparable to the light generated by a 30W halogen lamp but with a colour temperature of 6300K: this means a white light instead of the yellow one produced by filament lamps. The electric consumption (3W only) proves the high efficiency of this system: the same light intensity with less consumption; 10% of an ordinary 30W halogen lamp's consumption. In addition, the lifetime of the LED is 50.000 hours instead of the 1.500 hours of an ordinary halogen lamp.



# B-190 Series

## Heads

Available in monocular, binocular or trinocular version. The heads are equipped with interpupillary distance control (48-75 mm) as well as with dioptic compensation. All heads are 360° rotatable and 30° inclined.

## Optical system

The optical system has been developed for demanding users; it consists of high quality components which guarantee a high image contrast and an excellent optical resolution. The optical components have been designed and treated with special techniques to prevent the formation of moulds and fungi.

## Stand

The stand has a modern and ergonomic design. It is easy to carry the microscope thanks to the large opening behind the revolving nosepiece, to be used as a handle. The opening allows the user to see clearly the objectives and the samples, as requested in discussion groups.

## Mechanic

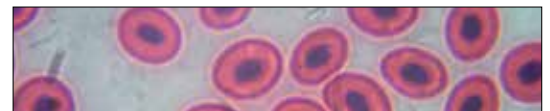
The moving parts are made by means of machine tools with computerized numerical control reducing manufacturing tolerance and increasing the reliability of the instrument.

The strict controls on materials and production processes are optimized through the procedures established by ISO 9001:2008 quality system.



**B-192**

Frog, blood smear  
Real picture taken from B-192 with 100x objective  
[without immersion oil](#)



## B-190 Series - Technical specifications

Model	Head	Eyepiece(s)	Nosepiece	Objectives	Stage	Focusing	Illuminator	Condenser	Power supply
<b>B-191</b>	Monocular, 360° rotating, 30° inclined.	Wide Field 10x/18mm	Quadruple, reversed	DIN Achromatic 4x/0.10, 10x/0.25, 40x/0.65, 100x/1.25	Double layer, 125x115 mm with 70x30mm X-Y moving range	Coaxial coarse and fine focusing	X-LED <sup>2</sup> system with adjustable intensity	1.25 N.A. Abbe type with adjustable height and iris diaphragm	100-240 Vac 50-60 Hz external power adapter 6Vdc output
<b>B-191s</b>	Monocular, 360° rotating, 30° inclined.	Wide Field 10x/18mm	Quadruple, reversed	DIN Achromatic 4x/0.10, 10x/0.25, 40x/0.65, 60x/0.85	Double layer, 125x115 mm with 70x30mm X-Y moving range	Coaxial coarse and fine focusing	X-LED <sup>2</sup> system with adjustable intensity	1.25 N.A. Abbe type with adjustable height and iris diaphragm	100-240 Vac 50-60 Hz external power adapter 6Vdc output
<b>B-192</b>	Binocular 360° rotating, 30° inclined.	Wide Field 10x/18mm	Quadruple, reversed	DIN Achromatic 4x/0.10, 10x/0.25, 40x/0.65, 100x/1.25	Double layer, 125x115 mm with 70x30mm X-Y moving range	Coaxial coarse and fine focusing	X-LED <sup>2</sup> system with adjustable intensity	1.25 N.A. Abbe type with adjustable height and iris diaphragm	100-240 Vac 50-60 Hz external power adapter 6Vdc output
<b>B-192s</b>	Binocular 360° rotating, 30° inclined.	Wide Field 10x/18mm	Quadruple, reversed	DIN Achromatic 4x/0.10, 10x/0.25, 40x/0.65, 60x/0.85	Double layer, 125x115 mm with 70x30mm X-Y moving range	Coaxial coarse and fine focusing	X-LED <sup>2</sup> system with adjustable intensity	1.25 N.A. Abbe type with adjustable height and iris diaphragm	100-240 Vac 50-60 Hz external power adapter 6Vdc output
<b>B-193</b>	Trinocular 360° rotating, 30° inclined.	Wide Field 10x/18mm	Quadruple, reversed	DIN Achromatic 4x/0.10, 10x/0.25, 40x/0.65, 100x/1.25	Double layer, 125x115 mm with 70x30mm X-Y moving range	Coaxial coarse and fine focusing	X-LED <sup>2</sup> system with adjustable intensity	1.25 N.A. Abbe type with adjustable height and iris diaphragm	100-240 Vac 50-60 Hz external power adapter 6Vdc output

# B-190 Series - Accessories

## B-190

M-001	Eyepiece H5x.
M-002.1	Eyepiece WF10x/18mm.
M-003	Eyepiece WF16x/12mm.
M-004	Eyepiece with micrometer WF10x/18mm.
M-008	Eyepiece with pointer WF10x/18mm.
M-137	Objective Achromatic 4x/0,10.
M-138	Objective Achromatic 10x/0,25.
M-139	Objective Achromatic 20x/0,40.
M-141	Objective Achromatic 40x/0,65.
M-142	Objective Achromatic 60x/0,80.
M-143	Objective Achromatic 100x/1,25 (Oil).
M-190	Polarising set (filters only).
M-031	Dust cover type 3.
M-069	Solar battery pack.
M-062	Photo adapter for REFLEX camera with FULL FRAME sensor.
M-974	Blue filter, 32 mm diameter.
M-976	Green filter, 32 mm diameter.
M-978	Yellow filter, 32 mm diameter.
M-988	Frosted glass filter, 32 mm diameter.
M-114	C-Mount adapter for 1/2" sensor.
M-116	C-Mount adapter for 2/3" sensor.
M-173	Photo adapter for APS-C and Full Frame Reflex cameras.
15008	OPTIKA immersion oil 10ml.



### How to connect the cameras to our microscopes.

Please refer to the Adapter reference list on Digital section.

## M-069 - Solar battery pack

Included battery: rechargeable – Lithium-Poly.

Capacity: 2600 mAh.

Output voltage: 5,5Vdc.

Dimensions: 120x73x10 mm.

Autonomy: over 6 hours at medium intensity (X-LED<sup>3</sup>).

Charging modes: with solar panel (12h),  
with external USB power supply (not included) or from PC USB port (5h).



B-192 Powered by solar battery pack (M-069)

## 15104 - Lens cleaner, 50ml

It cleans glass quickly and effectively,  
without leaving residue or odor.

Ideal for precision lens or prism cleaning.



## Headquarters and Manufacturing Facilities

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