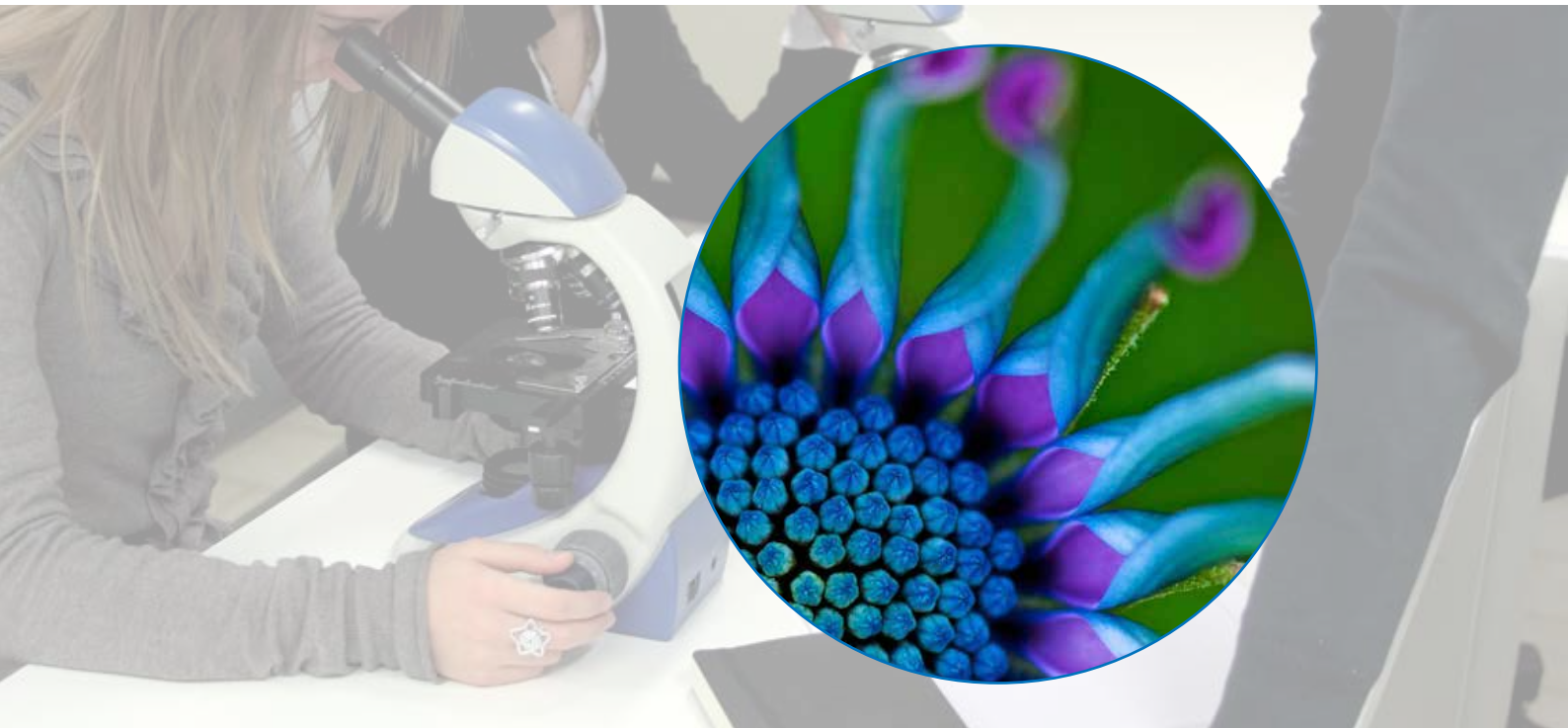


# OPTIKA

M I C R O S C O P E S  
I T A L Y

## EDUCATIONAL *microscopes*
































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- B-150 SERIES - Advanced biological microscopes for students page 17
- B-150R SERIES - Advanced biological microscopes with rechargeable battery page 23
- B-150ALC SERIES - Advanced biological microscopes with automatic light control page 27
- B-190 SERIES - Biological microscopes for the next teaching generation page 31
- B-290 SERIES - Routine laboratory microscopes page 35
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- STEREO SERIES - Stereomicroscopes for students page 47
- LAB SERIES - Stereomicroscopes for teachers page 55
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# Icons

 1	Monocular	 400x	Magnification 400X	 X-LED <sup>2</sup>	X-LED <sup>2</sup> illuminator
 2	Binocular	 1000x	Magnification 1000X	 X-LED <sup>3</sup>	X-LED <sup>3</sup> illuminator
 3	Trinocular		Incident light	 X-LED <sup>8</sup>	X-LED <sup>8</sup> illuminator
 16	Field number 16		Transmitted light	 1WLED	1W LED illuminator
 18	Field number 18		Polarized light	 LED	LED illuminator
 20	Field number 20		Halogen lamp		Automatic light control
 22	Field number 22		Incandescant lamp	 IOS	Infinity-corrected optics
 24	Field number 24		Dichroic lamp		Rechargeable battery
 360°	Rotating head 360°	 USB	USB connection		Anti-fungus treatment

## ECOVISION Series

Entry-level biological microscopes for students



# ECOVISION Series

Monocular biological microscopes designed especially for students attending primary and secondary schools.

The metal structure combines sturdiness and ease of use.

The wide selection of available models allows to choose the most suitable microscope according to the application required.

<b>BP-20/400</b>	Monocular microscope, 400x, tungsten lamp.
<b>BP-20/400hal</b>	Monocular microscope, 400x, halogen lamp.
<b>BP-20/600</b>	Monocular microscope, 600x, tungsten lamp.
<b>B-20</b>	Monocular microscope, 400x, LED.
<b>B-20C</b>	Monocular microscope, 400x, with coaxial knobs, LED.
<b>B-20R</b>	Monocular microscope, 400x, LED with rechargeable battery.
<b>B-20 Solar</b>	Monocular microscope, 400x, LED with solar panel.
<b>B-50</b>	Monocular microscope, 400x, with coaxial knobs, LED.
<b>M-100FL</b>	Monocular microscope, 400x, tungsten lamp.
<b>M-100FL-H</b>	Monocular microscope, 400x, halogen lamp.
<b>M-100FLed</b>	Monocular microscope, 400x, LED.

## ECOVISION Range



**BP-20/400**



**BP-20/600**



**BP-20**



**B-50**



**M-100FL**

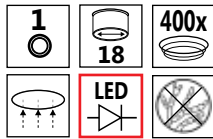
# ECOVISION Series - Models

## B-50

This microscope is the perfect choice for students who want an innovative and easy-to-use product.



### B-50



**Illumination:** Special condenser with built-in illuminator.

Light source: high intensity cold white LED, with adjustment knob.

Input voltage: 110/230Vac, 50/60Hz. Max required power: 1W

**Observation modes:** Brightfield.

**Focusing:** Coaxial coarse and fine focusing mechanism.

**Stage:** 120 mm x 110 mm stage with sample clips.

**Nosepiece:** Three positions revolving nosepiece, rotation on ball bearings.

**Head:** Monocular, 45° inclined and 360° rotatable.

**Eyepiece:** WF10x/18 widefield eyepiece with field number 18mm.

**Objectives:** Achromatic objectives with mechanical tube length 160 mm, 0,17mm cover glass:

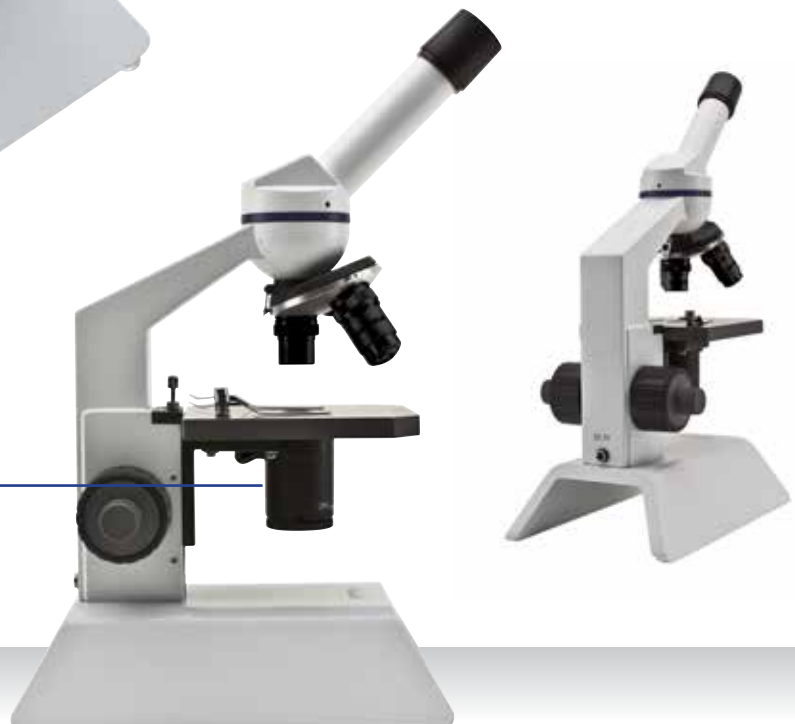
- Achromatic 4X
- Achromatic 10X
- Achromatic 40X

All objectives are treated with an anti-fungus treatment.

**Condenser:** N.A. 0,65 pre-centered, with built-in illuminator.

**Dimensions:** Height: 350 mm - Width: 132 mm - Depth: 220 mm.

Revolutionary illumination system, built in the condenser: ultra-bright light and great contrast ensured.  
Ergonomic light control position: the knob is coaxially located under the condenser body.



# ECOVISION Series - Models

## BP-20/400

**Monocular** biological microscope with 400x magnification which can be increased to 960x through an additional 16x eyepiece and a 60x objective.

360° rotating head, with 45° inclined eyepiece tube.

Wide Field 10x/18mm eyepiece.

Triple nosepiece rotating in both directions with objective click locking system. DIN achromatic objectives: 4x, 10x and telescopic 40x.

Coaxial coarse and fine focusing knobs located on both sides of the stand. The fine focusing knobs are graduated.

Stage complete with slide clips.

Stage complete with slide clips.

0.65 N.A. condenser with rotating disc diaphragm.

Built-in illuminator with 230V/20W bulb and condensing lens.

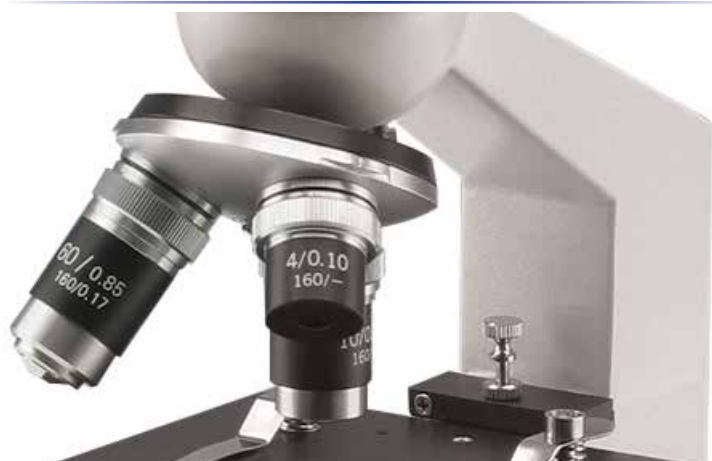
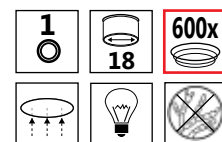
## BP-20/400hal

The same configuration as BP-20/400, with external power supply and 12V/10W halogen bulb.

## BP-20/600

The same configuration as BP-20/400, with 60x objective instead of 40x objective and 600x maximum magnification.

## BP-20/600





# ECOVISION Series - Models

## B-20

Monocular biological microscope with 400x magnification. 360° rotating head, with 45° inclined eyepiece tube. Wide Field 10x/16mm eyepiece. Triple nosepiece rotating in both directions with objective click locking system. Achromatic objectives: 4x, 10x and telescopic 40x. Separate coarse and fine focusing knobs with different axis, with focus tension adjustment. Movable round stage, 90 mm diameter, 5 mm moving range, slide clips. White LED, with brightness control.

## B-20C

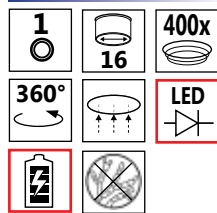
**Monocular** biological microscope, with **400x maximum magnification**. Achromatic objectives 4x, 10x and 40x, and wide field 10x/18mm eyepiece. Coaxial coarse and fine focus knobs located on both sides of the stand. Double layer mechanical stage, size 105x95mm, with specimen holder. **White LED illuminator with rechargeable battery.**



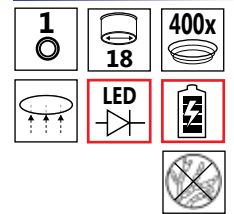
## B-20R

The same configuration as B-20 with **rechargeable battery**.

### B-20/B-20R



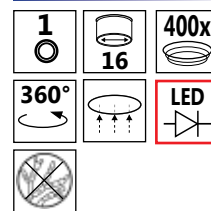
### B-20C



## B-20Solar

Monocular biological microscope with 400x magnification. Same technical features as B-20. **It is powered by a solar panel, for field use.**

### B-20 Solar



# ECOVISION Series - Models

## M-100FL

Monocular biological microscope with 400x magnification which can be increased to 1600x through an additional 16x eyepiece and an 100x objective. 360° rotating head, with 45° inclined eyepiece tube.

Wide Field 10x/18mm eyepiece.

Triple nosepiece revolver rotating in both directions with objectives click locking system.

DIN achromatic objectives: 4x, 10x and telescopic 40x.

Coarse and fine focusing knobs located on both sides of the stand.

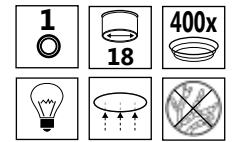
The fine focusing knobs are graduated.

Stage complete with slide clips;

0.65 N.A. condenser, iris diaphragm and filter holder.

Built-in illuminator with 230V/20W bulb and condensing lens.

## M-100FL



## M-100FL-H

The same configuration as M-100FL, with built-in 12V/10W halogen illuminator with dichroic bulb. External transformer included.

## M-100FLed

Monocular microscope with the same technical specifications as model M-100FL, except for the illumination. Built-in 3-LED illuminator with 3 rechargeable batteries. The illuminator can be used for 24 hours continuously without any recharge.

External recharger included.

Battery pack: 3 x AA, 1.2V NiMh, 1000 mAh, replaceable by the user.

Time required for a full recharge: 10 hours.

Battery runtime with LED at maximum power: 12 hours

Battery charging enabled while using the microscope.

Performances estimated with batteries at their maximum efficiency.



# ECOVISION Series - Technical specifications

Model	Head	Eyepiece	Objectives	Stage	Focusing	Illuminator
<b>BP-20/400</b>	Monocular	WF10x/18mm	Achromatic DIN 4x, 10x, 40x	120x110 mm with sample clips	Coaxial coarse and fine control knobs	20W tungsten
<b>BP-20/400hal</b>	Monocular	WF10x/18mm	Achromatic DIN 4x, 10x, 40x	120x110 mm with sample clips	Coaxial coarse and fine control knobs	10W halogen
<b>BP-20/600</b>	Monocular	WF10x/18mm	Achromatic DIN 4x, 10x, 60x	120x110 mm with sample clips	Coaxial coarse and fine control knobs	20W tungsten
<b>B-20</b>	Monocular	WF10x/16mm	Achromatic 4x, 10x, 40x	Movable, 360° rota- ting, 90mm diameter, with sample clips	Separate coarse and fine control knobs	LED
<b>B-20C</b>	Monocular	WF10x/18mm	Achromatic 4x, 10x, 40x	Mechanical stage, 105x95mm with speci- men holder	Coaxial coarse and fine control knobs	LED with rechargeable battery
<b>B-20R</b>	Monocular	WF10x/16mm	Achromatic 4x, 10x, 40x	Movable, 360° rota- ting, 90mm diameter, with sample clips	Separate coarse and fine control knobs	LED with rechargeable battery
<b>B-20 SOLAR</b>	Monocular	WF10x/16mm	Achromatic 4x, 10x, 40x	Movable, 360° rota- ting, 90mm diameter, with sample clips	Separate coarse and fine control knobs	LED powered by solar panel
<b>B-50</b>	Monocular	WF10x/18mm	Achromatic DIN 4x, 10x, 40x	120x110 mm with sample clips	Coaxial coarse and fine control knobs	Special condenser with built-in 1W LED
<b>M-100FL</b>	Monocular	WF10x/18mm	Achromatic DIN 4x, 10x, 40x	120x110 mm with sample clips	Separate coarse and fine control knobs	20W tungsten
<b>M-100FL-H</b>	Monocular	WF10x/18mm	Achromatic DIN 4x, 10x, 40x	120x110 mm with sample clips	Separate coarse and fine control knobs	10W halogen
<b>M-100FLed</b>	Monocular	WF10x/18mm	Achromatic DIN 4x, 10x, 40x	120x110 mm with sample clips	Separate coarse and fine control knobs	LED with rechargeable battery

# ECOVISION Series - Accessories

## BP-20/400 - BP-20/400hal - BP-20/600

M-001	Eyepiece H5x
M-002	Eyepiece WF10x/18mm
M-003	Eyepiece WF16x/12mm
M-004	Eyepiece micrometer WF10x/18mm
M-730	Achromatic objective 4x/0.10
M-731	Achromatic objective 10x/0.25
M-732	Achromatic objective 20x/0.40
M-733	Achromatic objective 40x/0.65
M-734	Achromatic objective 60x/0.85
M-040	Attachable mechanical stage
M-099	Polarising set (filters and rotating table)
M-012	Tungsten bulb 20W/230V
M-970	Plane-concave mirror, with base, type 3
M-015	Dust cover, type 2

## B-20 - B-20R - B-20 Solar

M-044	Eyepiece WF10x/16mm
M-727	Achromatic objective 4x/0.10
M-728	Achromatic objective 10x/0.25
M-729	Achromatic objective 40x/0.65
M-030	Dust cover, type 1

## M-100FL - M-100FL-H - M-100FLed

M-001	Eyepiece H5x
M-002	Eyepiece WF10x/18mm
M-003	Eyepiece WF16x/12mm
M-004	Eyepiece micrometer WF10x/18mm
M-131	Achromatic objective 4x/0.10
M-132	Achromatic objective 10x/0.25
M-133	Achromatic objective 20x/0.40
M-134	Achromatic objective 40x/0.65
M-135	Achromatic objective 60x/0.80
M-136	Achromatic objective 100x/1.25 (oil)
M-040	Attachable mechanical stage
M-099	Polarising set (filters and rotating table)
M-012	Tungsten bulb 20W/230V
M-013	Halogen bulb 12V/10 W, with dichroic mirror
M-971	Plane-concave mirror, with base, type 4
M-015	Dust cover, type 2
M-069	Solar battery pack for M-100FLed

## B-50

M-001	Eyepiece H5x
M-002.1	Eyepiece WF10x/18mm
M-003	Eyepiece WF16x/12mm
M-004	Eyepiece micrometer WF10x/18mm
M-131	Achromatic objective 4x/0.10
M-132	Achromatic objective 10x/0.25
M-134	Achromatic objective 40x/0.65
M-040	Attachable mechanical stage
M-099	Polarising set (filters and rotating table)
M-015	Dust cover, type 2
M-069	Solar battery pack

## B-20C

M-002	Eyepiece WF10x/18mm
M-727	Achromatic objective 4x/0.10
M-728	Achromatic objective 10x/0.25
M-729	Achromatic objective 40x/0.65
M-030	Dust cover, type 1

## 15103 - Lens cleaner, 50ml

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



## M-069 - Solar battery pack

Included battery: rechargeable – Lithium-Poly. Capacity: 2500 mAh. Output voltage: 5,5Vdc. Dimensions: 110x70x15 mm. Autonomy: 7h at max intensity. Charging modes: with solar panel (12h) with included power supply (6h). By USB port.



## B-150 Series

Advanced biological microscopes for students



# B-150 Series

The B-150 series has been designed to fulfill all requirements of educational laboratories.

The available models allow a pleasant and effective approach to the world of microscopy.

The quality of the optics, the reliability of the mechanical parts and the excellent price/quality ratio rank these instruments at the top of their category.

<b>B-151</b>	Monocular microscope, 400x, fixed stage.
<b>B-153</b>	Monocular microscope, 600x, double layer stage.
<b>B-155</b>	Monocular microscope, 1000x, double layer stage.
<b>B-157</b>	Binocular microscope, 600x, double layer stage.
<b>B-159</b>	Binocular microscope, 1000x, double layer stage.
<b>B-150POL-M</b>	Monocular polarizing microscope, 400x, round stage.
<b>B-150POL-B</b>	Binocular polarizing microscope, 400x, round stage.

## B-150 Range



**B-151**



**B-153**



**B-157**



**B-150POL-M**



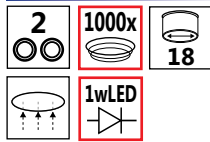
**B-150POL-B**

# B-150 Series

## B-150

This series is the perfect choice for students who want an innovative and easy to use product.

### B-159



**Heads:** Binocular observation head, 30° inclined and 360° rotatable. Interpupillary adjustment 48-75 mm. Diopter adjustment on the left eyepiece. Monocular observation head, 30° inclined and 360° rotatable.

**Focusing:** Coaxial coarse and fine focusing mechanism (graduation: 0.002mm) with limit stop to prevent the contact between objective and specimen. Adjustable tension of coarse focusing knob.

**Specimen stages:** Double layer mechanical sliding stage, 125x116mm, 76x30mm X-Y movement range. Specimen holder for one slide. Vernier scale on the two axes, accuracy: 0,1mm.

**B-151:** plain stage, 125X120mm.

**B-153 / B-155 / B-157 / B-159:** mechanical.

**B150POL-M and B-150POL-B:** rotatable round stage, 120mm diameter.

**Illumination:** Light source type: white LED; light intensity controlled by a knob on the left side of the base. LED power: 1W. Color temperature: 6300K. LED average lifetime: approx. 50.000h. External power supply: 100/240Vac, 50/60Hz. Output: 5Vdc, 500mA.

**Condenser:** Abbe condenser, 1.2 N.A., precentered.

B-151: Abbe condenser 0.65 N.A., precentered.

B150POL-M and B-150POL-B: 1.2 N.A. fixed condenser.



# B-150 Series - Models

## Polarizing models

Microscopes designed for simple polarization analysis.

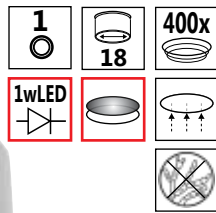
Available in monocular and binocular versions.

The two models are equipped with a swing-out polarizer and a slide-out analyzer as well as a rotating table.

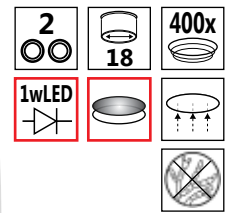
**B-150POL-M** and **B-150POL-B** are suitable for common observations with polarized light in the educational field.



**B-150POL-M**



**B-150POL-B**



Polarized models are available with rechargeable battery **B-150POL-MR / B-150POL-BR** and with ALC light intensity control **B-150POL-MALC / B-150POL-BALC**



# B-150 Series - Technical specifications

Model	Head	Eyepiece	Objectives	Stage	Condenser	Focusing	Illuminator
<b>B-151</b>	Monocular	WF10x/18mm	Achromatic 4X/10X/40X	Plain stage, 125x120mm with sample clips	0.65 N.A. with diaphragm	Coaxial coarse and fine focusing mechanism with limit stop	1W LED with external power supply
<b>B-153</b>	Monocular	WF10x/18mm	Achromatic 4X/10X/40X/60X	Mechanical stage, 125x116mm with specimen holder	1.2 N.A. with diaphragm	Coaxial coarse and fine focusing mechanism with limit stop	1W LED with external power supply
<b>B-155</b>	Monocular	WF10x/18mm	DIN Achromatic 4x/10X/40X/100X	Mechanical stage, 125x116mm with specimen holder	1.2 N.A. with diaphragm	Coaxial coarse and fine focusing mechanism with limit stop	1W LED with external power supply
<b>B-157</b>	Binocular	WF10x/18mm	Achromatic 4X/10X/40X/60X	Mechanical stage, 125x116mm with specimen holder	1.2 N.A. with diaphragm	Coaxial coarse and fine focusing mechanism with limit stop	1W LED with external power supply
<b>B-159</b>	Binocular	WF10x/18mm	DIN Achromatic 4x/10X/40X/100X	Mechanical stage, 125x116mm with specimen holder	1.2 N.A. with diaphragm	Coaxial coarse and fine focusing mechanism with limit stop	LED with external power supply
<b>B-150POL-M</b>	Monocular	WF10x/18mm	DIN Achromatic 4X/10X/40X	Rotatable stage, 120mm diameter	1.2 N.A. with diaphragm	Coaxial coarse and fine focusing mechanism with limit stop	1W LED with external power supply. Rotatable swing-out polarizer, slide-out analyzer
<b>B-150POL-B</b>	Binocular	WF10x/18mm	DIN Achromatic 4X/10X/40X	Rotatable stage, 120mm diameter	1.2 N.A. with diaphragm	Coaxial coarse and fine focusing mechanism with limit stop	1W LED with external power supply. Rotatable swing-out polarizer, slide-out analyzer



# B-150 Series - Accessories

## B-150

M-001	Eyepiece H5x
M-002.1	Eyepiece WF10x/18mm
M-003	Eyepiece WF16x/12mm
M-004	Eyepiece micrometer WF10x/18mm
M-137	Achromatic objective 4x/0.10
M-138	Achromatic objective 10x/0.25
M-139	Achromatic objective 20x/0.40
M-141	Achromatic objective 40x/0.65
M-142	Achromatic objective 60x/0.85
M-143	Achromatic objective 100x/1.25 (oil)
M-040	Attachable mechanical stage
M-155	Polarising set (filters only)
M-031	Dust cover, type 3
M-069	Solar battery pack

## 15103 - Lens cleaner, 50ml

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



## M-069 - Solar battery pack

Included battery: rechargeable – Lithium-Poly. Capacity: 2500 mAh.  
Output voltage: 5,5Vdc. Dimensions: 110x70x15 mm.  
Autonomy: 7h at max intensity.  
Charging modes: with solar panel (12h)  
with included power supply (6h).  
By USB port



## B-150R Series

Advanced biological microscopes with rechargeable battery

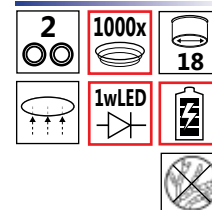


# B-150R Series

The B-150 series has been designed to fulfill all requirements of educational laboratories. The available models allow a pleasant and effective approach to the world of microscopy. The quality of the optics, the reliability of the mechanical parts and the excellent price/quality ratio rank these instruments at the top of their category.

- B-151R** Monocular microscope, 400x, fixed stage.
- B-153R** Monocular microscope, 600x, double layer stage.
- B-155R** Monocular microscope, 1000x, double layer stage.
- B-157R** Binocular microscope, 600x, double layer stage.
- B-159R** Binocular microscope, 1000x, double layer stage.
- B-150POL-MR** Monocular polarizing microscope, 400x, round stage.
- B-150POL-BR** Binocular polarizing microscope, 400x, round stage.
- B-150DMR** Monocular digital microscope, 400x, double layer stage.
- B-150DBR** Binocular digital microscope, 1000x, double layer stage.

## B-159R



## R - Rechargeable battery

B-150R series comes complete with an internal rechargeable battery for use in the field



## B-150R Range



**B-151R**



**B-153R**



**B-157R**



**B-150POLBR**

# B-150R Series

## B-150R

This series is the perfect choice for students who want an innovative and easy to use product.

**Heads:** Binocular observation head, 30° inclined and 360° rotatable.

Interpupillary adjustment 48-75 mm. Diopter adjustment on the left eyepiece. Monocular observation head, 30° inclined and 360° rotatable.

**Focusing:** Coaxial coarse and fine focusing mechanism (graduation: 0.002mm) with limit stop to prevent the contact between objective and specimen. Adjustable tension of coarse focusing knob.

**Specimen stages:** Double layer mechanical sliding stage, 125x116mm, 76x30mm X-Y movement range. Specimen holder for one slide. Vernier scale on the two axes, accuracy: 0,1mm.

**B-151R:** plain stage, 125X120mm.

**B-153R / B-155R / B-157R / B-159R:** mechanical.

**B150POL-MR** and **B-150POL-BR:** rotatable round stage, 120mm diameter.

**Illumination:** Light source type: white LED; light intensity controlled by a knob on the left side of the base. LED power: 1W.

Color temperature: 6300K. LED average lifetime: approx. 50.000h

External power supply: 100/240Vac, 50/60Hz. Output: 6Vdc, 2,5A.

**Condenser:** Abbe condenser, 1.2 N.A., precentered.

B-151R: Abbe condenser 0.65 N.A., precentered. B150POL-MR and B-150POL-BR: 1.2 N.A. fixed condenser.

## B-150R Series - Technical specifications

Model	Head	Eyepiece	Objectives	Stage	Condenser	Focusing	Illuminator
<b>B-151R</b>	Monocular	WF10x/18mm	Achromatic 4X/10X/40X	Plain stage, 125x120mm with sample clips	0,65 N.A. with diaphragm	Coaxial coarse and fine focusing mechanism with limit stop	1W LED with rechargeable battery
<b>B-153R</b>	Monocular	WF10x/18mm	Achromatic 4X/10X/40X/60X	Mechanical stage, 125x116mm with specimen holder	1.2 N.A. with diaphragm	Coaxial coarse and fine focusing mechanism with limit stop	1W LED with rechargeable battery
<b>B-155R</b>	Monocular	WF10x/18mm	DIN Achromatic 4x/10X/40X/100X	Mechanical stage, 125x116mm with specimen holder	1.2 N.A. with diaphragm	Coaxial coarse and fine focusing mechanism with limit stop	1W LED with rechargeable battery
<b>B-157R</b>	Binocular	WF10x/18mm	Achromatic 4X/10X/40X/60X	Mechanical stage, 125x116mm with specimen holder	1.2 N.A. with diaphragm	Coaxial coarse and fine focusing mechanism with limit stop	1W LED with rechargeable battery
<b>B-159R</b>	Binocular	WF10x/18mm	DIN Achromatic 4x/10X/40X/100X	Mechanical stage, 125x116mm with specimen holder	1.2 N.A. with diaphragm	Coaxial coarse and fine focusing mechanism with limit stop	LED with rechargeable battery
<b>B-150POL-MR</b>	Monocular	WF10x/18mm	Achromatic 4X/10X/40X	Rotatable stage 120mm diameter	1.2 N.A. with diaphragm	Coaxial coarse and fine focusing mechanism with limit stop	1W LED with rechargeable battery. Rotatable swing-out polarizer, slide-out analyzer
<b>B-150POL-BR</b>	Binocular	WF10x/18mm	DIN Achromatic 4x/10X/40X	Rotatable stage 120mm diameter	1.2 N.A. with diaphragm	Coaxial coarse and fine focusing mechanism with limit stop	1W LED with rechargeable battery. Rotatable swing-out polarizer, slide-out analyzer
<b>B-150DMR</b>	Monocular	WF10x/18mm	Achromatic 4X/10X/40X	Mechanical stage, 125x116mm with specimen holder	1.2 N.A. with diaphragm	Coaxial coarse and fine focusing mechanism with limit stop	1W LED with rechargeable battery
<b>B-150DBR</b>	Binocular	WF10x/18mm	DIN Achromatic 4x/10X/40X/100X	Mechanical stage, 125x116mm with specimen holder	1.2 N.A. with diaphragm	Coaxial coarse and fine focusing mechanism with limit stop	1WLED with rechargeable battery

# B-150R Series - Accessories

## B-150R

M-001	Eyepiece H5x
M-002.1	Eyepiece WF10x/18mm
M-003	Eyepiece WF16x/12mm
M-004	Eyepiece micrometer WF10x/18mm
M-137	Achromatic objective 4x/0.10
M-138	Achromatic objective 10x/0.25
M-139	Achromatic objective 20x/0.40
M-141	Achromatic objective 40x/0.65
M-142	Achromatic objective 60x/0.85
M-143	Achromatic objective 100x/1.25 (oil)
M-040	Attachable mechanical stage
M-155	Polarising set (filters only)
M-031	Dust cover, type 3

### 15103 - Lens cleaner, 50ml

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



### M-069 - Solar battery pack

Included battery: rechargeable – Lithium-Poly. Capacity: 2500 mAh.  
Output voltage: 5,5Vdc. Dimensions: 110x70x15 mm.  
Autonomy: 7h at max intensity.  
Charging modes: with solar panel (12h)  
with included power supply (6h).  
By USB port.



## B-150ALC Series

Advanced biological microscopes with automatic light control



# B-150ALC Series

The B-150ALC series has been designed to fulfill all requirements of educational laboratories.

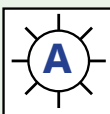
The available models allow a pleasant and effective approach to the world of microscopy.

The quality of the optics, the reliability of the mechanical parts and the excellent price/quality ratio rank these instruments at the top of their category.

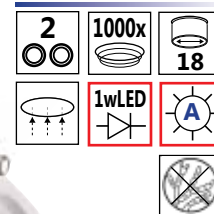
- B-151ALC** Monocular microscope, 400x, fixed stage.
- B-153ALC** Monocular microscope, 600x, double layer stage.
- B-155ALC** Monocular microscope, 1000x, double layer stage.
- B-157ALC** Binocular microscope, 600x, double layer stage.
- B-159ALC** Binocular microscope, 1000x, double layer stage.
- B-150POL-MALC** Monocular polarizing microscope, 400x, round stage.
- B-150POL-BALC** Binocular polarizing microscope, 400x, round stage.

## ALC

Automatic light control: the level of light is adjusted by the microscope in order to maintain the same level as the one the user has chosen, no matter if the aperture of the diaphragm changes, another objective is inserted, opacity of the sample changes, etc.



## B-159ALC



## B-150ALC Range



**B-151ALC**



**B-157ALC**



# B-150ALC Series

## B-150ALC

This series is the perfect choice for students who want an innovative and easy to use product.



**Heads:** Binocular observation head, 30° inclined and 360° rotatable. Interpupillary adjustment 48-75 mm. Diopter adjustment on the left eyepiece. Monocular observation head, 30° inclined and 360° rotatable.

**Focusing:** Coaxial coarse and fine focusing mechanism (graduation: 0.002mm) with limit stop to prevent the contact between objective and specimen. Adjustable tension of coarse focusing knob.

**Specimen stages:** Double layer mechanical sliding stage, 125x116mm, 76x30mm X-Y movement range. Specimen holder for one slide. Vernier scale on the two axes, accuracy: 0,1mm.

**B-151ALC:** plain stage, 125X120mm.

**B-153ALC / B-155ALC / B-157ALC / B-159ALC:** plain stage, 125X116mm.

**B150POL-MALC** and **B-150POL-BALC:** rotatable round stage, 120mm diameter.

**Illumination:** Light source type: white LED; light intensity controlled by a knob on the left side of the base. LED power: 1W. Color temperature: 6300K. LED average lifetime: approx. 50.000h. External power supply: 100/240Vac, 50/60Hz. Output: 5Vdc, 500mA.

**Condenser:** Abbe condenser, 1.2 N.A., precentered.

B-151ALC: Abbe condenser 0.65 N.A., precentered.

B150POL-MALC and B-150POL-BALC: 1.2 N.A. fixed condenser.

## B-150ALC Series - Technical specifications

Model	Head	Eyepiece	Objectives	Stage	Condenser	Focusing	Illuminator
<b>B-151ALC</b>	Monocular	WF10x/18mm	Achromatic 4X/10X/40X	Plain stage, 125x120mm with sample clips	0.65 N.A. with diaphragm	Coaxial coarse and fine focusing mechanism with limit stop	1W LED with external power supply
<b>B-153ALC</b>	Monocular	WF10x/18mm	Achromatic 4X/10X/40X/60X	Mechanical stage, 125x116mm with specimen holder	1.2 N.A. with diaphragm	Coaxial coarse and fine focusing mechanism with limit stop	1W LED with external power supply
<b>B-155ALC</b>	Monocular	WF10x/18mm	DIN Achromatic 4x/10X/40X/100X	Mechanical stage, 125x116mm with specimen holder	1.2 N.A. with diaphragm	Coaxial coarse and fine focusing mechanism with limit stop	1W LED with external power supply
<b>B-157ALC</b>	Binocular	WF10x/18mm	Achromatic 4X/10X/40X/60X	Mechanical stage, 125x116mm with specimen holder	1.2 N.A. with diaphragm	Coaxial coarse and fine focusing mechanism with limit stop	1W LED with external power supply
<b>B-159ALC</b>	Binocular	WF10x/18mm	DIN Achromatic 4x/10X/40X/100X	Mechanical stage, 125x116mm with specimen holder	1.2 N.A. with diaphragm	Coaxial coarse and fine focusing mechanism with limit stop	1W LED with external power supply
<b>B-150POL-MALC</b>	Monocular	WF10x/18mm	Achromatic 4X/10X/40X	Rotatable stage 120mm diameter	1.2 N.A. with diaphragm	Coaxial coarse and fine focusing mechanism with limit stop	1W LED with external power supply
<b>B-150POL-BALC</b>	Binocular	WF10x/18mm	DIN Achromatic 4x/10X/40X	Rotatable stage 120mm diameter	1.2 N.A. with diaphragm	Coaxial coarse and fine focusing mechanism with limit stop	1W LED with external power supply

# B-150ALC Series - Accessories

## B-150ALC

M-001	Eyepiece H5x
M-002.1	Eyepiece WF10x/18mm
M-003	Eyepiece WF16x/12mm
M-004	Eyepiece micrometer WF10x/18mm
M-137	Achromatic objective 4x/0.10
M-138	Achromatic objective 10x/0.25
M-139	Achromatic objective 20x/0.40
M-141	Achromatic objective 40x/0.65
M-142	Achromatic objective 60x/0.85
M-143	Achromatic objective 100x/1.25 (oil)
M-040	Attachable mechanical stage
M-155	Polarising set (filters only)
M-031	Dust cover, type 3
M-069	Solar battery pack

### 15103 - Lens cleaner, 50ml

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



### M-069 - Solar battery pack

Included battery: rechargeable – Lithium-Poly. Capacity: 2500 mAh.  
Output voltage: 5,5Vdc. Dimensions: 110x70x15 mm.  
Autonomy: 7h at max intensity.  
Charging modes: with solar panel (12h)  
with included power supply (6h).  
By USB port.



## B-190 Series

Biological microscopes for the next teaching generation



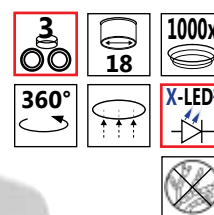
# B-190 Series

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.
- B-191s** Monocular microscope, 600x.
- B-192** Binocular microscope, 1000x.
- B-192s** Binocular microscope, 600x.
- B-192PLi** Binocular microscope, 1000x, IOS.
- B-193** Trinocular microscope, 1000x.



**B-193**



## B-190 Range



**B-191**

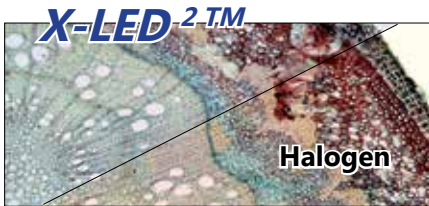


**B-192**



**B-193**

# B-190 Series



**Illumination:** X-LED2™ - The future of illumination  
 The X-LED2™ 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.

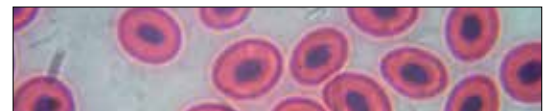
**Optical system:** The optical system has been developed for demanding users; it consists of high quality components which guarantees an high image contrast and an excellent optical resolution. The optical components have been designed and treated with special techniques to prevent the formation of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

**Mechanics:** 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.

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



## B-190 Series - Technical specifications

Model	Head	Eyepiece	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 X-Y 70x30mm moving range	Coaxial coarse and fine focusing	X-LED2 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 7,5Vdc 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 X-Y 70x30mm moving range	Coaxial coarse and fine focusing	X-LED2 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 7,5Vdc output
<b>B-192</b>	Binocular 360° rotating, 30° inclined with adjustable interpupillary distance and dioptic compensation	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 X-Y 70x30mm moving range	Coaxial coarse and fine focusing	X-LED2 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 7,5 Vdc output
<b>B-192s</b>	Binocular 360° rotating, 30° inclined with adjustable interpupillary distance and dioptic compensation	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 X-Y 70x30mm moving range	Coaxial coarse and fine focusing	X-LED2 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 7,5 Vdc output
<b>B-192PLi</b>	Binocular 360° rotating, 30° inclined with adjustable interpupillary distance and dioptic compensation	Wide Field 10x/18mm	Quadruple, reversed	Infinity Corrected DIN E-Plan 4x/0.10, 10x/0.25, 40x/0.65, 100x/1.25	Double layer, 125x115 mm with X-Y 70x30mm moving range	Coaxial coarse and fine focusing	X-LED2 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 7,5 Vdc output
<b>B-193</b>	Trinocular 360° rotating, 30° inclined with adjustable interpupillary distance and dioptic compensation	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 X-Y 70x30mm moving range	Coaxial coarse and fine focusing	X-LED2 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 7,5 Vdc 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 micrometer WF10x/18mm m
M-137	Achromatic objective 4x/0.10
M-138	Achromatic objective 10x/0.25
M-139	Achromatic objective 20x/0.40
M-141	Achromatic objective 40x/0.65
M-142	Achromatic objective 60x/0.85
M-143	Achromatic objective 100x/1.25 (oil)
M-190	Polarising set (filters only)
M-031	Dust cover, type 3
M-144	Objective E PLAN ios 4X
M-145	Objective E PLAN ios 10X
M-146	Objective E PLAN ios 20X
M-147	Objective E PLAN ios 40X
M-148	Objective E PLAN ios 100X
M-069	Solar battery pack
M-114	CCD camera adapter, 0.5x
M-173	Photo tube adapter for APS-C sensor
M-365	Photo tube adapter for full frame sensor

## M-069 - Solar battery pack

Included battery: rechargeable – Lithium-Poly. Capacity: 2500 mAh. Output voltage: 5,5Vdc. Dimensions: 110x70x15 mm. Autonomy: 5h at max intensity.  
 Charging modes: with solar panel (12h) - with included power supply (6h).  
 Included battery: rechargeable – Lithium-Poly. Capacity: 2500 mAh.  
 Output voltage: 5,5Vdc. Dimensions: 110x70x15 mm. Autonomy: 5h at max intensity.  
 Charging modes: with solar panel (12h) - with included power supply (6h).  
 By USB port.



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

## 15103 - Lens cleaner, 50ml

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



## CAMERA ADAPTER CHART FOR TRINOCULAR MODELS

### VC CAMERAS / OPTIKAM CAMERAS



C-MOUNT

1/2    1/3

Lens Pro 0,5x    Lens Pro 0,5x

WITH LENS

Not necessary

### DIGI



Not necessary

### REFLEX APS-C



T/2\*

M-173

### REFLEX Full frame 35mm



T/2\*

M-365



**B-193**  
Trinocular version

\*T/2 is not supplied by OPTIKA

## B-290 Series

Routine laboratory microscopes



# B-290 Series

This series incorporates all the experience gathered by Optika Microscopes in the field of light microscopy, adapted specifically for routine laboratory brightfield applications. These microscope are suitable for routine microscopy and have an ergonomic design for comfortable long-term use. All main controls are located close together, which enables operation with minimal movements.

**B-292**

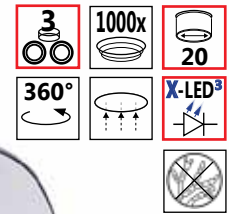
Binocular microscope, 1000x.

**B-293**

Trinocular microscope, 1000x.



**B-293**



## B-290 Range



**B-292**

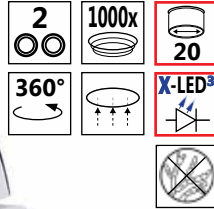
**B-293**



# B-290 Series



## B-292



**Optical system:** The optical system has been developed for demanding users; it consists of high quality components which guarantee an 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.

**Mechanics:** 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.

## Stage

Innovative belt drive system

## B-290 Series - Technical specifications

Model	Head	Eyepiece	Nosepiece	Objectives	Stage	Focusing	Illuminator	Condenser	Power supply
<b>B-292</b>	Binocular, 360° rotating, 30° inclined.	Wide Field 10x/20mm	Quadruple, reversed	DIN E-PLAN Achromatic 4x/0.10, 10x/0.25, 40x/0.65, 100x/1.25	Double layer, 150x133 mm with X-Y 75x50mm moving range	Coaxial coarse and fine focusing	X-LED <sup>3</sup> system with adjustable intensity	Sliding-in, 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-293</b>	Trinocular, 360° rotating, 30° inclined	Wide Field 10x/20mm	Quadruple, reversed	DIN E-PLAN Achromatic 4x/0.10, 10x/0.25, 40x/0.65, 100x/1.25	Double layer, 150x133 mm with X-Y 75x50mm moving range	Coaxial coarse and fine focusing	X-LED <sup>3</sup> system with adjustable intensity	Sliding-in 1.25 N.A. Abbe type with adjustable height and iris diaphragm	100-240 Vac 50-60 Hz external power adapter 6Vdc output

# B-290 Series - Accessories

## B-290

M-001	Eyepiece H5x
M-002.2	Eyepiece WF10x/20mm
M-003	Eyepiece WF16x/12mm
M-004	Eyepiece micrometer WF10x/18mm m
M-160	E-Plan objective 4X
M-161	E-Plan objective 10X
M-162	E-Plan objective 20X
M-163	E-Plan objective 40X
M-164	E-Plan objective 60X
M-165	E-Plan objective 100X
M-190	Polarising set (filters only)
M-031	Dust cover, type 3
M-069	Solar battery pack
M-114	CCD camera adapter, 0.5x
M-173	Photo tube adapter for APS-C sensor
M-365	Photo tube adapter for full frame sensor

## M-069 - Solar battery pack

Included battery: rechargeable – Lithium-Poly. Capacity: 2500 mAh. Output voltage: 5,5Vdc. Dimensions: 110x70x15 mm. Autonomy: 5h at max intensity.  
 Charging modes: with solar panel (12h) - with included power supply (6h).  
 Included battery: rechargeable – Lithium-Poly. Capacity: 2500 mAh.  
 Output voltage: 5,5Vdc. Dimensions: 110x70x15 mm. Autonomy: 5h at max intensity.  
 Charging modes: with solar panel (12h) - with included power supply (6h).  
 By USB port.



## 15103 - Lens cleaner, 50ml

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



## CAMERA ADAPTER CHART FOR TRINOCULAR MODELS

### VC CAMERAS / OPTIKAM CAMERAS



C-MOUNT

WITH LENS

1/2

1/3

Lens Pro 0,5x

Lens Pro 0,5x

Not necessary

### DIGI



Not necessary

### REFLEX APS-C



T/2\*

M-173

### REFLEX Full frame 35mm



T/2\*

M-365



**B-290**  
Trinocular version

\*T/2 is not supplied by OPTIKA

## B-350 Series

Advanced biological microscopes for teachers



# B-350 Series

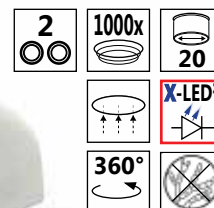
The B-350 series presents the right balance between price and quality. Thanks to its wide range of models, it can be successfully used both in advanced teaching situations and in laboratories.

Professional users will certainly value the technical features of the B-350 series that make its high quality microscopes resistant and reliable.

The B-350 series includes 8 models featuring achromatic, planachromatic and infinity corrected plan achromatic objectives. Let's take a closer look to each model:

- B-352A** Binocular microscope, achromatic objectives.
- B-353A** Trinocular microscope, achromatic objectives.
- B-352PL** Binocular microscope, planachromatic objectives.
- B-353PL** Trinocular microscope, planachromatic objectives.
- B-352PLi** Binocular microscope, infinity corrected E-planachromatic objectives.
- B-353PLi** Trinocular microscope, infinity corrected E-planachromatic objectives.
- B-352Ph** Binocular microscope, Ph planachromatic objectives.
- B-353Ph** Trinocular microscope, Ph planachromatic objectives.

## B-352PL



## B-350 Range



**B-352A**

**B-353A**

**B-352PL**

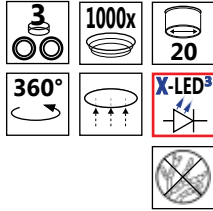
**B-353PL**

**B-353PH**

# B-350 Series



## B-353PL



### Optical system & objectives

The models of the B-350 series are equipped, depending on the various models, with two different types of optical system: the standard 160mm one and the infinity corrected system (IOS). In both cases the field diameter of the eye-pieces is 20mm.

### Microscope stand

Modern and ergonomic, this stand is made of die-cast aluminium. Coarse and fine focusing (graduation: 0.002mm) with coaxial control knobs.

Adjustable focusing tension and limit stop.

### Head

Available in binocular or trinocular version.

The heads are equipped with interpupillary distance control (55-75 mm) as well as with dioptic compensation.

All heads are 360° rotatable and 30° inclined.

### Illumination

The illuminating system consists of X-LED source. The brightness can be adjusted by a rheostat located on the right side of the microscope base.

### Condenser

An Abbe type condenser is included in the package. It can be centred through a double-control system and adjusted in height through a rack-and-pinion mechanism (control knobs located on both sides of the microscope stand).

The condenser is also fitted with an iris diaphragm whose aperture can be adjusted by a graduated reference scale.

### Standard LED



## X-LED<sup>3</sup> - The future of illumination

OPTIKA is proud to introduce its own revolutionary LED powered illumination system. Developed by our R&D dept. it consists of a new combination of LED and optical technology.

A new high-efficiency single chip LED works in combination with a special optical lens, which allows to double the intensity of the light generated by the LED itself. The result is a quantity of light equivalent to the light generated by a standard 30-35W halogen bulb, but with a colour temperature of 6300K. It means white light instead of the yellow one produced by halogen bulbs.

The electrical consumption (3.6W only) shows the high efficiency of the system: same light intensity with less than 10% of the consumption of a standard halogen bulb. Last but not least, the lifetime of our LED is 50.000 hours, instead of 1.500 hours ...!



Frog, blood smear. Real picture taken from B-353PLi with 100x objective **without immersion oil**

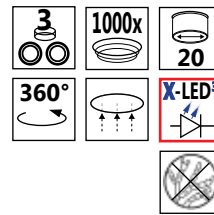


**X-LED™ vs. Halogen**

# B-350 Series - Models

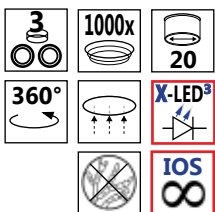


**B-353PL**

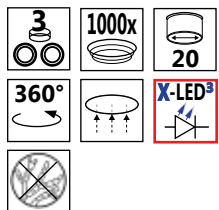


# B-350 Series - Models

## B-353PLi

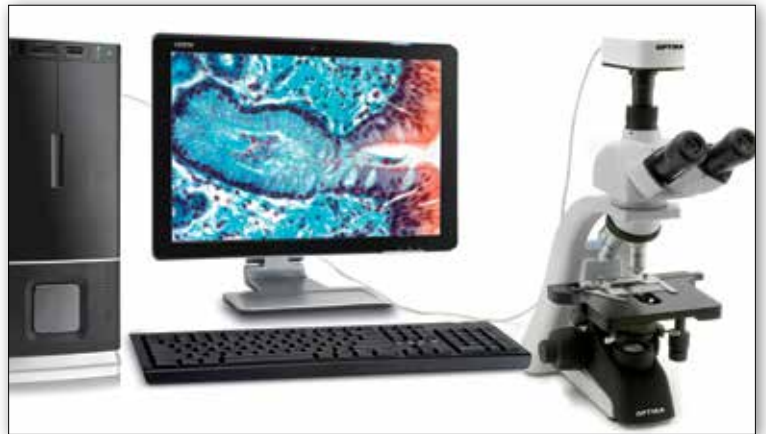


## B-353Ph








# B-350 Series - Photo-video applications

The B-350 series is compatible with our Optikam and DIGI cameras. For T-mount (reflex) and C-mount cameras, specific adapters are available.



## CAMERA ADAPTER CHART FOR TRINOCULAR MODELS

VC CAMERAS / OPTIKAM CAMERAS		DIGI	REFLEX APS-C	REFLEX Full frame 35mm
				
C-MOUNT		WITH LENS		
1/2	1/3		T/2*	T/2*
**M-366	**M-366	Not necessary	M-173	M-365



**B-350**  
Trinocular versions

\*T/2 is not supplied by OPTIKA  
\*\*No lens inside, 1x total magnification



# B-350 Series - Technical specifications

Model	Head	Eyepiece	Objectives	Nosepiece	Stage	Focusing	Condenser	Illuminator
<b>B-352A</b>	Binocular 360°rotating 30° inclined	Wide Field 10X/20 mm	Achromatic 4x, 10x, 40x, 100x (oil)	Quadruple nosepiece, reversed	Double layer mechanical sliding stage, 160x142mm, moving range 76x52mm	Coaxial coarse and fine focusing	1.25 N.A. Abbe type, with cen- tring system	X-LED <sup>3</sup> , with brightness control
<b>B-353A</b>	Trinocular 360°rotating 30° inclined	Wide Field 10X/20 mm	Achromatic 4x, 10x, 40x, 100x (oil)	Quadruple nosepiece, reversed	Double layer mechanical sliding stage, 160x142mm, moving range 76x52mm	Coaxial coarse and fine focusing	1.25 N.A. Abbe type, with cen- tring system	X-LED <sup>3</sup> , with brightness control
<b>B-352PL</b>	Binocular 360°rotating 30° inclined	Wide Field 10X/20 mm	Plan Achro- matic 4x, 10x, 40x, 100x (oil)	Quintuple nosepiece, reversed	Double layer mechanical sliding stage, 160x142mm, moving range 76x52mm	Coaxial coarse and fine focusing	1.25 N.A. Abbe type, with cen- tring system	X-LED <sup>3</sup> , with brightness control
<b>B-353PL</b>	Trinocular 360°rotating 30° inclined	Wide Field 10X/20 mm	Plan Achro- matic 4x, 10x, 40x, 100x (oil)	Quintuple nosepiece, reversed	Double layer mechanical sliding stage, 160x142mm, moving range 76x52mm	Coaxial coarse and fine focusing	1.25 N.A. Abbe type, with cen- tring system	X-LED <sup>3</sup> , with brightness control
<b>B-352PLi</b>	Binocular 360°rotating 30° inclined	Wide Field 10X/20 mm	Plan Achro- matic IOS 4x, 10x, 40x, 100x (oil)	Quintuple nosepiece, reversed	Double layer mechanical sliding stage, 160x142mm, moving range 76x52mm	Coaxial coarse and fine focusing	1.25 N.A. Abbe type, with cen- tring system	X-LED <sup>3</sup> , with brightness control
<b>B-353PLi</b>	Trinocular 360°rotating 30° inclined	Wide Field 10X/20 mm	Plan Achro- matic IOS 4x, 10x, 40x, 100x (oil)	Quintuple nosepiece, reversed	Double layer mechanical sliding stage, 160x142mm, moving range 76x52mm	Coaxial coarse and fine focusing	1.25 N.A. Abbe type, with cen- tring system	X-LED <sup>3</sup> , with brightness control
<b>B-352Ph</b>	Binocular 360°rotating 30° inclined	Wide Field 10X/20 mm	Plan Achro- matic 4x, 10xPh, 40xPh, 100xPh (oil)	Quintuple nosepiece, reversed	Double layer mechanical sliding stage, 160x142mm, moving range 76x52mm	Coaxial coarse and fine focusing	Phase condenser (10x, 40x, 100x) with darkfield (dry) and brightfield	X-LED <sup>3</sup> , with brightness control
<b>B-353Ph</b>	Trinocular 360°rotating 30° inclined	Wide Field 10X/20 mm	Plan Achro- matic 4x, 10xPh, 40xPh, 100xPh (oil)	Quintuple nosepiece, reversed	Double layer mechanical sliding stage, 160x142mm, moving range 76x52mm	Coaxial coarse and fine focusing	Phase condenser (10x, 40x, 100x) with darkfield (dry) and brightfield	X-LED <sup>3</sup> , with brightness control

# B-350 Series - Accessories

## B-350

M-301	Eyepiece high-point WF10x/20mm
M-302	Eyepiece high-point WF16x/12mm
M-303	Eyepiece micrometer high-point WF10x/20mm
M-005	Micrometric slide 26x76 mm. Range: 1mm, div.: 0,01mm
M-310	Objective achromatic 4x/0.10
M-311	Objective achromatic 10x/0.25
M-312	Objective achromatic 20x/0.40
M-313	Objective achromatic 40x/0.65
M-314	Objective achromatic 60x/0.80
M-315	Objective achromatic 100x/1.25 (oil)
M-320	Objective planachromatic 4x/0.10
M-321	Objective planachromatic 10x/0.25
M-322	Objective planachromatic 20x/0.40
M-323	Objective planachromatic 40x/0.65
M-324	Objective planachromatic 60x/0.80
M-325	Objective planachromatic 100x/1.25 (oil)
M-330	Objective IOS planachromatic 4x/0.10
M-331	Objective IOS planachromatic 10x/0.25
M-332	Objective IOS planachromatic 20x/0.40
M-333	Objective IOS planachromatic 40x/0.65
M-334	Objective IOS planachromatic 100x/1.25 (oil)
M-340	Objective planachromatic for phase contrast 10x/0.10
M-341	Objective planachromatic for phase contrast 40x/0.65
M-342	Objective planachromatic for phase contrast 100x/1.25(oil)
M-350	Objective IOS planachromatic for phase contrast 10x/0.25
M-351	Objective IOS planachromatic for phase contrast 20x/0.40
M-352	Objective IOS planachromatic for phase contrast 40x/0.65
M-353	Objective IOS planachromatic for phase contrast 100x/1.25 (oil)
M-360	Complete phase contrast set with PLAN obj. 10x, 40x, 100x, with darkfield condenser for dry objectives
M-361	Complete phase contrast set with IOS E-PLAN obj. 10x, 20x, 40x, 100x
M-362	Polarizing set (filters only)
M-363	Rotating table for polarizing set
M-364	Darkfield condenser for dry objectives
M-173	Photo tube adapter for APS-C sensor
M-365	Photo tube adapter for full frame sensor
M-366	CCD camera adapter
M-031	Dust cover type 3
M-974	Blue filter, 32mm diameter
M-976	Green filter, 32mm diameter
M-978	Yellow filter, 32mm diameter
M-988	Frosted glass filter, 32mm diameter
M-069	Solar battery pack
M-666	Heating stage, with digital temperature controller

## M-069 - Solar battery pack

Included battery: rechargeable – Lithium-Poly. Capacity: 2500 mAh. Output voltage: 5,5Vdc. Dimensions: 110x70x15 mm. Autonomy: 5h at max intensity. Charging modes: with solar panel (12h) - with included power supply (6h).  
Included battery: rechargeable – Lithium-Poly. Capacity: 2500 mAh. Output voltage: 5,5Vdc. Dimensions: 110x70x15 mm. Autonomy: 5h at max intensity. Charging modes: with solar panel (12h) - with included power supply (6h).  
By USB port.



## 15103 - Lens cleaner, 50ml

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



## STEREO Series

Stereomicroscopes for students



# STEREO Series

This series includes a wide selection of stereomicroscopes range designed to satisfy every need in both teaching and amateur fields.

The whole range, from MS-2 to ST-50, is assembled according to the best technical standards. The optical system, thanks to its transparency, quality and depth, is at the top of its category.

The series is composed of 17 models, each one designed to satisfy multiple needs.

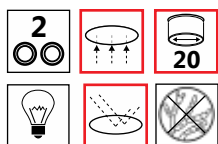
<b>MS-2</b>	Monoscope
<b>STX</b>	Binocular stereomicroscope, LED incident illumination
<b>S-10-P</b>	Binocular stereomicroscope
<b>S-10-L</b>	Binocular stereomicroscope, tungsten incident illumination
<b>S-10-2L</b>	Binocular stereomicroscope, tungsten incident and transmitted illumination
<b>S-20-L</b>	Binocular stereomicroscope, tungsten incident illumination
<b>S-20-2L</b>	Binocular stereomicroscope, tungsten incident and transmitted illumination
<b>ST-30B-2L</b>	Binocular stereomicroscope, tungsten incident and transmitted illumination
<b>ST-30-2LR</b>	Binocular stereomicroscope, tungsten incident and transmitted illumination
<b>ST-30-2LF</b>	Binocular stereomicroscope, tungsten incident and transmitted illumination
<b>ST-30-2Led</b>	Binocular stereomicroscope, LED incident and transmitted illumination, rechargeable battery
<b>ST-30-2LedR</b>	Binocular stereomicroscope, LED incident and transmitted illumination, rechargeable battery
<b>ST-40B-2L</b>	Binocular stereomicroscope, tungsten incident and transmitted illumination
<b>ST-40-2L</b>	Binocular stereomicroscope, tungsten incident and transmitted illumination
<b>ST-45-2L</b>	Binocular stereomicroscope, halogen incident and transmitted illumination
<b>ST-50</b>	Binocular stereomicroscope, tungsten incident illumination
<b>ST-50Led</b>	Binocular stereomicroscope, LED incident illumination, flexible arm

## STEREO Range



# STEREO Series

## ST-30-2LF



### Versatility

The range includes a model, the ST-30-2Led, which allows to work without worrying about the electrical power supply, thanks to its rechargeable longlife battery. "Cold" light allows an excellent vision of the samples.

### Heads

Binocular heads (except for MS-2 model). ST-40B-2L, ST-40-2L and ST-45-2L models have 360° rotating heads. All remaining models have fixed heads.

STX, S-10-P, S-10-L and S-10-2L models have vertical heads.

### Specimen stage

All models have specimen stage fitted with a black/white disc and specimen clips. Models with transmitted light have also a frosted disc.

### Interpupillary distance

Binocular heads have an interpupillary distance adjustable between 51 and 75mm. Dioptic compensation adjustable on eyepiece tubes, except for MS-2 model.

### Optical system

WF10x/20mm eyepieces. Supplied objective changes according to the model: 2x fixed objective or double selectable objective (2x-4x or 1x-3x).

Using additional eyepieces and objectives, it's possible to obtain up to 80 magnifications.

The ST-50 and ST-50Led models have a long working distance 2x objective (119 mm).

### Illumination

The models with incident and/or transmitted light have 12V/10W tungsten bulbs. The ST-45-2L model is the only one supplied

with halogen bulbs and brightness control. ST-30-2Led, ST-30-2LedR and ST-50Led have LED illumination.

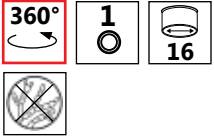
### Focusing

Every model is equipped with focus adjustment knobs located on each side of the stand.

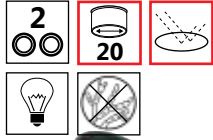


# STEREO Series - Models

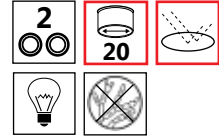
**MS-2**



**S-10-L**



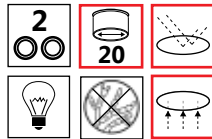
**S-20-L**



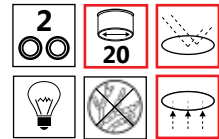
**S-10-P**



**S-10-2L**

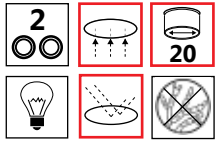


**S-20-2L**

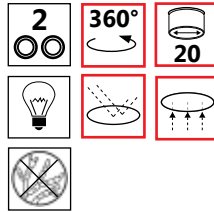


# STEREO Series - Models

**ST-30-2LF**



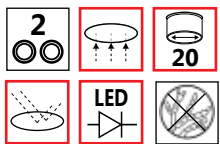
**ST-40-2L**



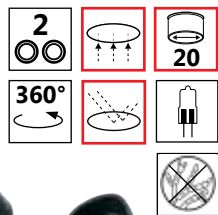
**ST-30-2LR**



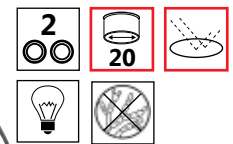
**ST-30-2Ld**



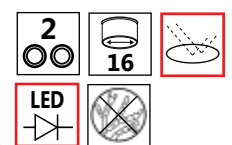
**ST-45-2L**



**ST-50**

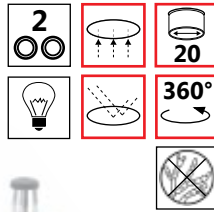


**STX**



# STEREO Series - Models

ST-40-2L



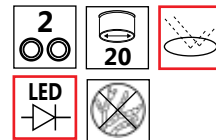
360°



ST-50



ST-50-Led



LWD

LONG WORKING DISTANCE

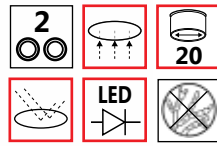


# STEREO Series - Technical specifications

Model	Head	Eyepiece(s)	Objectives	Stand	Illumination
<b>MS-2</b>	Monocular 360° rotating - 45° inclined	WF10x/16mm	Fixed 2x	Pillar	Without illumination
<b>STX</b>	Binocular Fixed - vertical	WF10x/16mm	Fixed 2x	Pillar, with fixed holder	LED incident light with slot for 2 AA batteries (batteries not included)
<b>S-10-P</b>	Binocular Fixed - vertical	WF10x/20mm	Fixed 2x	Pillar	Without illumination
<b>S-10-L</b>	Binocular Fixed - vertical	WF10x/20mm	Fixed 2x	Pillar	Incident light - tungsten bulb
<b>S-10-2L</b>	Binocular Fixed - vertical	WF10x/20mm	Fixed 2x	Pillar	Incident and transmitted light - tungsten bulbs
<b>S-20-L</b>	Binocular Fixed - 45° inclined, backwards	WF10x/20mm	Fixed 2x	Pillar	Incident light - tungsten bulb
<b>S-20-2L</b>	Binocular Fixed - 45° inclined, backwards	WF10x/20mm	Fixed 2x	Pillar	Incident and transmitted light - tungsten bulbs
<b>ST-30B-2L</b>	Binocular Fixed - 45° inclined, backwards	WF10x/20mm	Selectable 1x-3x	Pillar	Incident and transmitted light - tungsten bulbs
<b>ST-30-2LR</b>	Binocular Fixed - 45° inclined, backwards	WF10x/20mm	Selectable 2x-4x	Pillar	Incident and transmitted light - tungsten bulbs
<b>ST-30-2LF</b>	Binocular Fixed - 45° inclined, forwards	WF10x/20mm	Selectable 2x-4x	Pillar	Incident and transmitted light - tungsten bulbs
<b>ST-30-2Led</b>	Binocular Fixed - 45° inclined, forwards	WF10x/20mm	Selectable 2x-4x	Pillar	LED Incident and transmitted light - rechargeable battery
<b>ST-30-2LedR</b>	Binocular Fixed - 45° inclined, backwards	WF10x/20mm	Selectable 2x-4x	Pillar	LED Incident and transmitted light - rechargeable battery
<b>ST-40B-2L</b>	Binocular 360° rotating - 45° inclined	WF10x/20mm	Selectable 1x-3x	Pillar	Incident and transmitted light - tungsten bulbs
<b>ST-40-2L</b>	Binocular 360° rotating - 45° inclined	WF10x/20mm	Selectable 2x-4x	Pillar	Incident and transmitted light - tungsten bulbs
<b>ST-45-2L</b>	Binocular 360° rotating - 45° inclined	WF10x/20mm	Selectable 2x-4x	Pillar with fixed holder	Incident and transmitted halogen lights with intensity adjustment
<b>ST-50</b>	Binocular Fixed - 45° inclined, forwards	WF10x/20mm	Fixed 2x	Overhanging	Incident light - tungsten bulb
<b>ST-50Led</b>	Binocular Fixed - 45° inclined, forwards	WF10x/20mm	Fixed 2x	Overhanging	LED incident light on flexible Arm

# STEREO Series - Accessories

## ST-30-2Led



## BATTERY FOR FIELD USE

ST-30-2Led with rechargeable batteries

Battery box: 3 x AA, 1.2V NiMH – replaceable by the user

Battery pack: 3 x AA, 1800 mAh

Time required for a full recharge: 10 hours

Battery runtime with LED incident light at maximum power:

12 hours Battery runtime with LED transmitted light at maximum power:

14 hours Battery charging enabled while using the microscope. Performances estimated with batteries at their maximum efficiency

## STEREO

ST-001	Eyepieces (pair) WF5x/22mm
ST-002	Eyepieces (pair) WF10x/20mm
ST-003	Eyepieces (pair) WF15x/15mm
ST-004	Eyepieces (pair) WF20x/13mm
ST-005	Eyepiece micrometer WF10x
ST-020	Objective 1x for S-10-P, S-10-L, S-10-2L, S-20-L, and S-20-2L
ST-021	Objective 3x for S-10-P, S-10-L, S-10-2L, S-20-L, and S-20-2L
ST-022	Objective 4x for S-10-P, S-10-L, S-10-2L, S-20-L, and S-20-2L
ST-025	Objective 1x for ST-50 and ST-50Led
ST-026	Objective 3,5x for ST-50 and ST-50Led
ST-040	Darkfield condenser
ST-041	Sample clip
ST-032	Eye cups (pair) type 1
ST-011	White/black object-plate, type 1 dia. 60 mm
ST-012	White/black object-plate, type 2 dia. 95 mm
ST-015	Frosted object-plate, type 1, dia. 60 mm
ST-014	Frosted object-plate, type 2, dia. 95 mm
ST-006	Tungsten bulb, 12V/10W
ST-008	Tungsten bulb, 12V/10W (for ST-50 only)
ST-028	Halogen bulb 12V/10W
ST-009	Dust cover, type 10
ST-010	Dust cover, type 11, ST-50 and ST-50Led



## 15103 - Lens cleaner, 50ml

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



## LAB Series

Stereomicroscopes for teachers



# LAB Series

The LAB series can be considered as the entry-level of the OPTIKA professional stereomicroscopes range. The two models have been designed for end users who need professional quality at low cost.

**LAB-10**

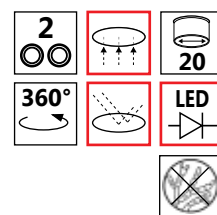
Binocular, selectable magnification

**LAB-20**

Binocular, zoom magnification



**LAB-10**



## LAB Range



**LAB-10**

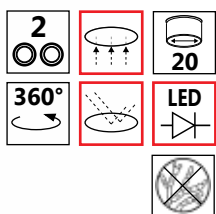


**LAB-20**

# LAB Series



## LAB-20



### Heads

Binocular heads, 360° rotating and 45° inclined.

Interpupillary distance

Adjustable between 51 and 75 mm.

### Eyepieces

WF10x/20 mm.

LAB-10: Dioptic compensation adjustable on left eyepiece tubes.

LAB-20: Dioptic compensation adjustable on both eyepiece tubes.

### Specimen stage

Fitted with a semi-transparent disc for transmitted light with specimen clips.

### Objectives

LAB 10: with double magnification (2x-4x) that can be selected by rotating the lens unit. Working distance 80mm.

LAB 20: continuous zoom 0,7x ...4,5x. (6,43:1 zoom factor).

Working distance: 85 mm.

### Stand

Fixed arm type with focusing mechanism.

### Focusing

Rack and pinion controlled by a pair of knobs placed on both sides of the stand.

### Illumination

Double adjustable illuminator for incident and transmitted light fitted with two high-efficiency LED light sources. The angle of the incident illuminator is adjustable. Voltage: 110/240V ac.

## LAB Series - Technical specifications

Model	Head	Eyepiece	Objectives	Working Distance	Stand	Illuminator
<b>LAB-10</b>	Binocular	WF 10x/20mm	2x - 4x selectable by rotating	80 mm	Pillar stand with fixed holder	Double incident and transmitted light. High-efficiency LED light sources with separate brightness controls
<b>LAB-20</b>	Binocular	WF 10x/20mm	0,7x....4,5x zoom	85 mm	Pillar stand with fixed holder	Double incident and transmitted light. High-efficiency LED light sources with separate brightness controls

# LAB Series - Accessories

## LAB

ST-001.1	Eyepieces (pair) WF5x/22mm
ST-401	Eyepieces (pair) WF10x/20mm
ST-402	Eyepieces (pair) WF15x/15mm
ST-403	Eyepieces (pair) WF20x/10mm
ST-405	Eyepiece micrometric WF10x/20mm
ST-410	Additional lens 0,5x for LAB 20 (w.d. 170 mm)
ST-411	Additional lens 1,5x for LAB 20 (w.d. 42 mm)
ST-415	Eye cups (pair) type 1
ST-029	Dust cover type 12
ST-092	Protective glass for stereohead

## 15103 - Lens cleaner, 50ml

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



**LAB-10**



**LAB-20**



## SZM Series

Advanced stereomicroscopes for teachers

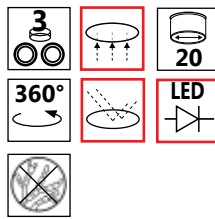


# SZM Series

The stereomicroscopes of the SZM series are instruments designed for laboratory and industry applications. Their optical and mechanical qualities place them at the top of their category and the price/quality ratio is excellent. The stereomicroscopes share the same optical system consisting of binocular and trinocular heads with zoom objectives. The four models of the SZM series find their proper application wherever professional instruments are required. Several accessories provide an ample choice of configurations and applications.

- SZM-1** Binocular with pillar stand, halogen lamp
- SZM-LED1** Binocular with pillar stand, LED
- SZM-2** Trinocular with pillar stand, halogen lamp
- SZM-LED2** Trinocular with pillar stand, LED
- SZM-3** Binocular with overhanging stand
- SZM-4** Trinocular with overhanging stand

## SZM-LED2



## SZM Range

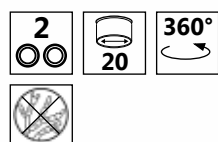




# SZM Series



**SZM-3**



## Heads

Binocular and trinocular, 360° rotating and 45° inclined.

## Interpupillary distance

Adjustable between 51 and 75 mm.

Dioptic compensation

On both eyepiece tubes.

## Eyepieces

EWF10x/20 mm

## Objectives

Parfocal achromatic zoom 0,7x...4,5x (6,428:1 zoom factor).

## Specimen stage:

Models with halogen illumination are fitted with a black/white disc, specimen clips and a frosted disc for transmitted light.

LED versions are not equipped with black/white and frosted discs.

## Focusing

Rack and pinion mechanism controlled by a pair of knobs placed on both sides of the stand.

## Stand

Pillar stand: 30 mm and 25 cm high. Base: 26x20x6h cm.

Models SZM-LED 1/2: Pillar stand 32 mm diameter and 315 mm high, base 27x21x3h cm.

Overhanging stand: 42 cm high, 23x23 cm base and 45 cm horizontal arm length.

## Illumination

Double, adjustable incident and transmitted light, fitted with two 12V/15W halogen bulbs. The angle of the incident illumination is adjustable. The two models SZM-1/2Led are equipped with a double high-power LED.

## SZM Series - Technical specifications

Model	Head	Eyepiece	Objectives	Working Distance	Stand	Illuminator
<b>SZM-1</b>	Binocular	WF 10x/20mm	0,7x....4,5x zoom	100 mm	Pillar stand	Incident and transmitted 12V/15W halogen
<b>SZM-LED1</b>	Binocular	WF 10x/20mm	0,7x....4,5x zoom	100 mm	Pillar stand	Incident: high power single LED Transmitted: LED diffusing disc
<b>SZM-2</b>	Trinocular	WF 10x/20mm	0,7x....4,5x zoom	100 mm	Pillar stand	Incident and transmitted 12V/15W halogen
<b>SZM-LED2</b>	Trinocular	WF 10x/20mm	0,7x....4,5x zoom	100 mm	Pillar stand	Incident: high power single LED Transmitted: LED diffusing disc
<b>SZM-3</b>	Binocular	WF 10x/20mm	0,7x....4,5x zoom	100 mm	Overhanging stand	Without illuminator
<b>SZM-4</b>	Trinocular	WF 10x/20mm	0,7x....4,5x zoom	100 mm	Overhanging stand	Without illuminator

# SZM Series - Accessories

## SZM

- ST-081 Eyepieces (pair) WF10x/20 mm
- ST-082 Eyepieces (pair) WF15x/15 mm
- ST-083 Eyepieces (pair) WF20x/10 mm
- ST-084 Eyepiece micrometric WF10x/20 mm
- ST-085 Additional lens 0,5x (w.d. 165 mm)
- ST-091 Additional lens 0,75x (w.d. 117 mm)
- ST-086 Additional lens 1,5x (w.d. 47 mm)
- ST-087 Additional lens 2x (w.d. 26 mm)
- ST-088 Polarising set (filters and rotating stage) \*
- ST-040 Darkfield condenser \*
- ST-041 Sample clip
- ST-100 Moving stage \*
- ST-089 Reflex camera adapter for full frame sensor
- ST-090 CCD camera adapter (for 1/3" sensors)
- ST-090.1 CCD camera adapter (for 1/2" sensors)
- ST-036 Eye cups (pair) type 2
- ST-012 White/black object-plate, type 2 dia. 95 mm (not available on LED version)
- ST-014 Glass stage, type 2, dia. 95 mm (not available on LED version)
- ST-038 Halogen bulb, 12V/15W
- ST-037 Halogen bulb, 12V/15W, with dichroic mirror
- ST-033 Dust cover type 13
- ST-666 Heating stage, with digital temperature controller
- ST-173 APS-C Reflex camera adapter

\* For LED version special adapter required

## 15103 - Lens cleaner, 50ml

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



## CAMERA ADAPTER CHART FOR TRINOCULAR MODELS



SZM  
Trinocular versions

\*T/2 is not supplied by OPTIKA



# OPTIKA

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