OPTIKA®
MICROSCOPES
ITALY

EDUCATIONAL Microscopes

EDUCATIONAL Microscopes

Icons

- Field number
- Incident light
- Transmitted light
- LED illuminator
- X-LED illuminator
- Automatic light control
- Multi-plug low voltage power supply
- Rechargeable battery
- Anti-bacteria treatment available
- Li-Ion Rechargeable battery
- High contrast objectives
- N-Plan objectives (up to 20mm f.o.v)
- Oil/Water 100x objective
- Polarized light
- Fixed objective
- Zoom objective
- USB connection
- Tablet screen size
- Camera resolution
- Software included
- HDMI output
- MicroSD slot
- Wi-Fi
- BlueTooth
- IVD Available *

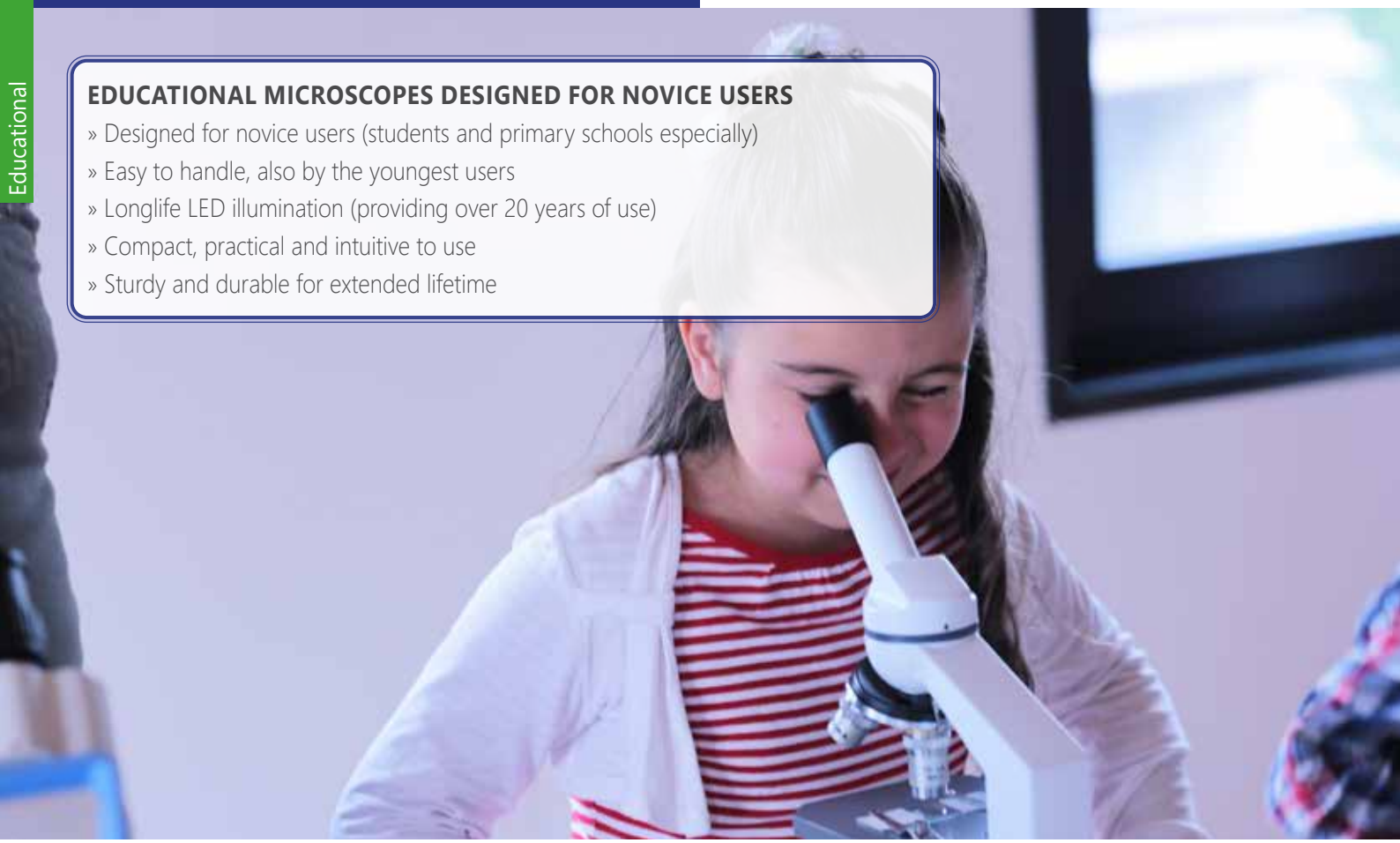
***** The **IVD** code must be requested at order

OPTIKA®
MICROSCOPES
ITALY

ECOVISION Series

Entry-Level Biological Microscopes For Beginners

A Range Of Quality Microscopes For Beginners



EDUCATIONAL MICROSCOPES DESIGNED FOR NOVICE USERS

» Designed for novice users (students and primary schools especially)
» Easy to handle, also by the youngest users
» Longlife LED illumination (providing over 20 years of use)
» Compact, practical and intuitive to use
» Sturdy and durable for extended lifetime

COMFORTABLE, INTUITIVE & RELIABLE SOLUTIONS

» 18 mm field number for a wide observation area
» Achromatic optics ensuring good contrast and quality images
» Pre-aligned illumination and condenser to simplify operations
» Cordless use, totally independent from mains/batteries connection
» External power supply for enhanced safety and convenient servicing

ECOVISION Series

A range of mainly cordless monocular microscopes ideal for students and mainly primary schools with achromatic lenses, FN 18 eyepiece, finite optical system, coaxial focusing, fixed or mechanical stage and 1 W LED illumination.
Slim and easy to carry, all the models are equipped with long lasting LED illumination to provide over 20 years of use.

Easy to handle, also by the youngest users
Extreme compactness and portability to ensure easy transportation in the classroom and outdoor, with slim body and useful handle for a facilitated and enjoyable teaching activity.

Cordless use, totally independent from mains connection
Most of the models work with or without the batteries in place. For outdoor use (4-hour autonomy, at medium intensity), three NiMH rechargeable batteries must be used.

External power supply for enhanced safety and convenient servicing
OPTIKA's safety first approach drives to the use of a low voltage, multi-plug, external power supply in order to prevent any risk of electric shock and heatflow inside the unit.

Longlife LED illumination (providing over 20 years of use)
Money & energy saving thanks to LED long lifetime (65.000 hours, 22 years in case of 8 hours/day) which is more than 20 times compared to a standard halogen bulb.

ECOVISION Series - B-20 Models

B-20R

Cordless monocular microscope ideal for students and mainly primary schools, with achromatic lenses (400x), FN 18 eyepiece, finite optical system, round fixed stage and 0.3 W LED illumination with rechargeable batteries (not supplied).
Slim and easy to carry, it is equipped with long lasting LED illumination to provide over 20 years of use.

Head: Monocular, 45° inclined; 360° rotating.

Eyepiece: WF10x/18 mm.

Nosepiece: Triple ball bearings revolving nosepiece, reversed.

Objectives:
- Achromatic 4x/0.10, W.D. 10.6 mm.
- Achromatic 10x/0.25, W.D. 7.0 mm.
- Achromatic 40x/0.65, W.D. 0.5 mm.
All with anti-fungus treatment.

Specimen stage: X-Y moving and 360° rotating, 90 mm diameter, with sample clips.

Focusing: Separate coarse and fine focusing mechanism with limit stop to prevent the contact between objective and specimen.

Condenser: Diffusing filter with rotating diaphragm wheel.

Illumination: 0.3 W LED, with brightness control, rechargeable batteries. Color temperature: 6,300 K. Multi-plug 100-240Vac/5Vdc external power supply.

B-20CR

Cordless monocular microscope ideal for students and mainly primary schools, with achromatic lenses (400x), FN 18 eyepiece, finite optical system, coaxial focusing, mechanical stage and 0.5 W LED illumination with rechargeable batteries (not supplied).
Slim and easy to carry, it is equipped with all the main controls to start learning how to use an advanced microscope and with long lasting LED illumination to provide over 20 years of use.

Head: Monocular, 45° inclined; 360° rotating.

Eyepiece: WF10x/18 mm, secured by screw.

Nosepiece: Triple ball bearings revolving nosepiece, reversed.

Objectives:
- Achromatic 4x/0.10, W.D. 10.6 mm.
- Achromatic 10x/0.25, W.D. 7.0 mm.
- Achromatic 40x/0.65, W.D. 0.5 mm.
All with anti-fungus treatment.

Specimen stage: Double layer, 105x95 mm, moving range 50x15 mm.

Focusing: Coaxial coarse and fine focusing mechanism with limit stop to prevent the contact between objective and specimen.

Condenser: N.A. 0.65 with iris diaphragm.

Illumination: 0.5 W LED, with brightness control, rechargeable batteries. Color temperature: 6,300 K. Multi-plug 100-240Vac/5Vdc external power supply.

ECOVISION Series - M-100 Models

M-100FLed

Cordless monocular microscope ideal for students and mainly primary schools, with achromatic lenses (400x), FN 18 eyepiece, finite optical system, coaxial focusing, fixed stage and 0.5 W LED illumination with rechargeable batteries (not supplied).
Slim and easy to carry, it is equipped with long lasting LED illumination to provide over 20 years of use.

Head: Monocular, 45° inclined; 360° rotating.

Eyepiece: WF10x/18 mm, secured by screw.

Nosepiece: Triple ball bearings revolving nosepiece.

Objectives:
- Achromatic 4x/0.10, W.D. 10.6 mm.
- Achromatic 10x/0.25, W.D. 7.0 mm.
- Achromatic 40x/0.65, W.D. 0.5 mm.

All with anti-fungus treatment.

Specimen stage: Fixed stage, 120x110 mm, with sample clips.

Focusing: Separate coarse and fine focusing mechanism with limit stop to prevent the contact between objective and specimen.

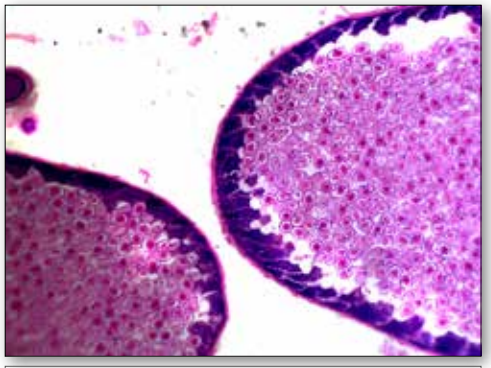
Condenser: N.A. 0.65 with iris diaphragm.

Illumination: 0.5 W LED, with brightness control, rechargeable batteries. Color temperature: 6,300 K. Multi-plug 100-240Vac/5Vdc external power supply.

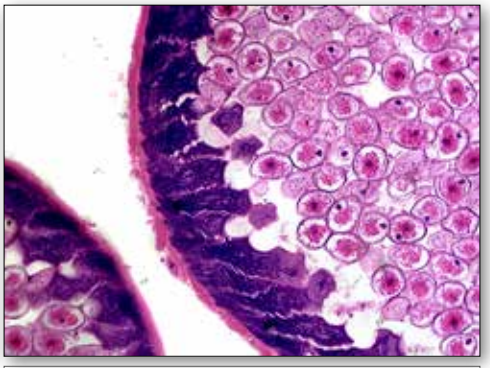
ECOVISION Series - Comparison chart

Model	Head	Eyepieces	Nosepiece	Objectives	Stage	Focusing	Condenser	Illumination
B-20R	Monocular, 45° inclined, 360° rotating	WF 10x/18	Triple, reversed	Achromatic 4x, 10x, 40x	X-Y moving, 360° rotating, 90 mm diameter, with sample clips	Separate coarse and fine	Diffusing filter with rotating diaphragm wheel	0.3 W LED, with brightness control, rechargeable batteries
B-20CR	Monocular, 45° inclined, 360° rotating	WF 10x/18	Triple, reversed	Achromatic 4x, 10x, 40x	Double layer, 105x95 mm, moving range 50x15 mm	Coaxial coarse and fine	N.A. 0.65, with iris diaphragm	0.5 W LED, with brightness control, rechargeable batteries
M-100FLed	Monocular, 45° inclined, 360° rotating	WF 10x/18	Triple	Achromatic 4x, 10x, 40x	Fixed, 120x110 mm, with sample clips	Separate coarse and fine	N.A. 0.65, with iris diaphragm	0.5 W LED, with brightness control, rechargeable batteries

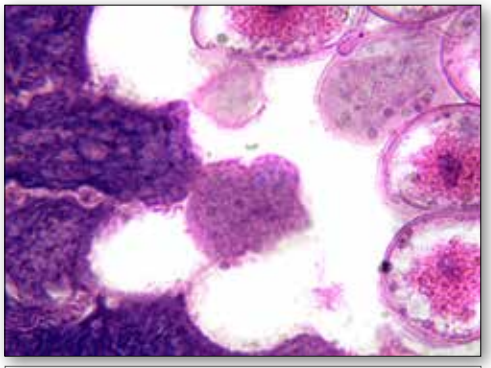
ECOVISION Series - **Zoom comparison**



Ascaris female - 4x objective



Ascaris female - 10x objective



Ascaris female - 40x objective

ECOVISION Series - Accessories

ACCESSORIES FOR B-20R / B-20CR

Eyecups & Eyepieces

M-002.2 WF10x/18 eyepiece (23mm Ø)
M-003.2 WF15x/12 eyepiece (23mm Ø)
M-004.2 WF10x/18 micrometric eyepiece (23mm Ø)
M-008.2 WF10x/18 eyepiece, pointer (23mm Ø)
M-162 WF20x/10 eyepiece (23mm Ø)

Additional Lenses

M-114 0.35x C-Mount projection lens
M-115 0.5x C-Mount projection lens
M-118 0.75x C-Mount projection lens

Miscellaneous

15104 Cleaning kit
M-005 Micrometric slide, 26x76mm, 2 scales (1mm/100 & 10mm/100)
M-069 Solar charger
DC-001 Plastic dust cover, small, 340(l)x400(h) mm
AB-010 Antibacterial surface treatment, only for newly purchased microscope

ACCESSORIES FOR M-100FLed

Eyecups & Eyepieces

M-001 Huygens 5x eyepiece (23mm Ø)
M-002.2 WF10x/18 eyepiece (23mm Ø)
M-004.2 WF10x/18 micrometric eyepiece (23mm Ø)
M-008.2 WF10x/18 eyepiece, pointer (23mm Ø)
M-003.2 WF15x/12 eyepiece (23mm Ø)
M-162 WF20x/10 eyepiece (23mm Ø)

Objectives

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/0.85
M-136 Achromatic objective 100x/1.25 (oil)

Camera Adapters

M-115 0.35x C-Mount projection lens
M-114 0.5x C-Mount projection lens
M-118 0.75x C-Mount projection lens

Stages

M-040 0.5x C-Mount projection lens

Condensers & Filters

M-099 Polarising set (filters and rotating stage)

Miscellaneous

15008 Immersion oil, 10ml
15009 Immersion oil, 100ml
15104 Cleaning kit
DC-001 Plastic dust cover, small, 340(l)x400(h) mm
M-005 Micrometric slide, 26x76mm, 2 scales (1mm/100 & 10mm/100)
M-069 Solar charger
AB-010 Antibacterial surface treatment, only for newly purchased microscope

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

M-069 - Solar charger

Included battery: rechargeable – Lithium-Poly. Capacity: 2500 mAh.
Output voltage: 5 Vdc. -
Autonomy: over 6 hours at medium intensity (X-LED³).
Charging models: with solar panel (12h),
with external USB power supply (2.5h).

15104 - Cleaning kit

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

v 7.5 - OPTIKA reserves the right to make corrections, modifications, enhancements, improvements and other changes to its products at any time without notice.

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OPTIKA® Africa africa@optikamicroscopes.com

OPTIKA®
MICROSCOPES
ITALY

B-60 Series

Entry-Level Biological Microscopes For Students

Cordless Educational Microscopes, Ideal To Start Exploring

PERFECT FOR STUDENT'S FIRST EXPERIENCES

» Designed for novice users (students and primary schools especially)
» Easy to handle, also by the youngest users
» Longlife LED illumination (providing over 20 years of use)
» Compact, practical and intuitive to use
» Sturdy and durable for extended lifetime

COMFORTABLE, INTUITIVE & RELIABLE SOLUTIONS

» 18 mm field number for a wide extended observation area
» StagErase™ eraseable stage to reduce scratches
» Arm/wrist rest support to reduce the fatigue during use
» Cordless use, totally independent from mains/batteries connection
» External power supply for enhanced safety and convenient servicing

B-60 Series

A wide range of cordless, modern microscopes ideal for students and mainly primary schools with achromatic lenses, FN 18 eyepieces, finite optical system, coaxial focusing, StagErase™ eraseable fixed or mechanical stage and 1 W LED illumination with rechargeable batteries (not provided). Slim and easy to carry, all the models are equipped with arm/wrist rest support to reduce the fatigue during use and long lasting LED illumination to provide over 20 years of use

Arm/wrist rest support to reduce the fatigue during use
Students get relaxed and stay relaxed when using the microscope! Effective in preventing fatigue during operation, increasing the ergonomy and the performance as a result

StagErase™ eraseable stage to remove scratches
Here's something you've never seen before! This new, revolutionary stage is coated with a special painting to reduce accidental scratches to the minimum and facilitate their removal

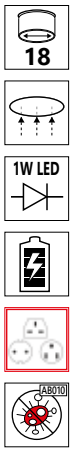
Cordless use, totally independent from mains/batteries connection
All models work with or without the batteries in place and are for outdoor use (4-hour autonomy, at medium intensity)

External power supply for enhanced safety and convenient servicing
OPTIKA's safety first approach drives to the use of a low voltage multi-plug, external power supply in order to prevent any risk of electric shock and heatflow inside the unit

Longlife LED illumination (providing over 20 years of use)
Money & energy saving thanks to LED long lifetime (65.000 hours, 22 years in case of 8 hours/day) which is more than 20 times compared to a standard halogen bulb

B-60 Series - Models

B-61



Cordless, modern monocular microscope ideal for students and mainly primary schools with achromatic lenses (400x), FN 18 eyepiece, finite optical system, coaxial focusing, StagErase™ fixed stage and 1 W LED illumination with rechargeable batteries (not supplied).
Slim and easy to carry, it is equipped with arm/wrist rest support to reduce the fatigue during use and long lasting LED illumination to provide over 20 years of use.

Head: Monocular, 45° inclined; 360° rotating.

Eyepiece: WF10x/18 mm, secured by screw.

Nosepiece: Quadruple ball bearings revolving nosepiece, reversed.

Objectives:
- Achromatic 4x/0.10, W.D. 10.6 mm.
- Achromatic 10x/0.25, W.D. 7.0 mm.
- Achromatic 40x/0.65, W.D. 0.5 mm.
All with anti-fungus treatment.

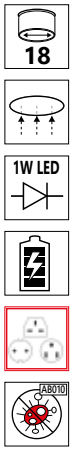
Specimen stage: StagErase™ eraseable fixed stage, 120x110 mm, with sample clips.

Focusing: Coaxial coarse and fine focusing mechanism with limit stop to prevent the contact between objective and specimen.

Condenser: N.A. 0.65 with iris diaphragm.

Illumination: 1 W LED, with brightness control, rechargeable batteries. Color temperature: 6,300 K. Multi-plug 100-240Vac/5Vdc external power supply.

B-62



Cordless, modern monocular microscope ideal for students and mainly primary schools with achromatic lenses (400x), FN 18 eyepiece, finite optical system, coaxial focusing, StagErase™ mechanical stage, Abbe condenser and 1 W LED illumination with rechargeable batteries (not supplied).
Slim and easy to carry, it is equipped with arm/wrist rest support to reduce the fatigue during use and long lasting LED illumination to provide over 20 years of use.

Head: Monocular, 45° inclined; 360° rotating.

Eyepiece: WF10x/18 mm, secured by screw.

Nosepiece: Quadruple ball bearings revolving nosepiece, reversed.

Objectives:
- Achromatic 4x/0.10, W.D. 10.6 mm.
- Achromatic 10x/0.25, W.D. 7.0 mm.
- Achromatic 40x/0.65, W.D. 0.5 mm.
All with anti-fungus treatment.

Specimen stage: StagErase™ eraseable mechanical stage, 125x125 mm, 62x24 mm X-Y movement range. Vernier scale on the two axes, accuracy: 0.1 mm.

Focusing: Coaxial coarse and fine focusing mechanism with limit stop to prevent the contact between objective and specimen.

Condenser: Abbe N.A. 1.25, pre-centered, focusable, with iris diaphragm.

Illumination: 1 W LED, with brightness control, rechargeable batteries. Color temperature: 6,300 K. Multi-plug 100-240Vac/5Vdc external power supply.

B-60 Series - Models

B-63

Cordless, modern monocular microscope ideal for students and mainly primary schools with achromatic lenses (600x), FN 18 eyepiece, finite optical system, coaxial focusing, StagErase™ mechanical stage, Abbe condenser and 1 W LED illumination with rechargeable batteries (not supplied). Slim and easy to carry, it is equipped with arm/wrist rest support to reduce the fatigue during use and long lasting LED illumination to provide over 20 years of use.

Head: Monocular, 45° inclined; 360° rotating.

Eyepiece: WF10x/18 mm, secured by screw.

Nosepiece: Quadruple ball bearings revolving nosepiece, reversed.

Objectives:
- Achromatic 4x/0.10, W.D. 10.6 mm.
- Achromatic 10x/0.25, W.D. 7.0 mm.
- Achromatic 40x/0.65, W.D. 0.5 mm.
- Achromatic 60x/0.85, W.D. 0.13 mm.

All with anti-fungus treatment

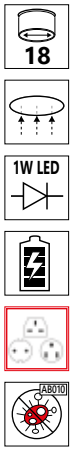
Specimen stage: StagErase™ eraseable mechanical stage, 125x125 mm, 62x24 mm X-Y movement range. Vernier scale on the two axes, accuracy: 0.1 mm.

Focusing: Coaxial coarse and fine focusing mechanism with limit stop to prevent the contact between objective and specimen.

Condenser: Abbe N.A. 1.25, pre-centered, focusable, with iris diaphragm.

Illumination: 1 W LED, with brightness control, rechargeable batteries. Color temperature: 6,300 K. Multi-plug 100-240Vac/5Vdc external power supply.

B-65



Cordless, modern monocular microscope ideal for students and mainly primary schools with achromatic lenses (1000x), FN 18 eyepiece, finite optical system, coaxial focusing, StagErase™ mechanical stage, Abbe condenser and 1 W LED illumination with rechargeable batteries (not supplied). Slim and easy to carry, it is equipped with arm/wrist rest support to reduce the fatigue during use and long lasting LED illumination to provide over 20 years of use.

Head: Monocular, 45° inclined; 360° rotating.

Eyepiece: WF10x/18 mm, secured by screw.

Nosepiece: Quadruple ball bearings revolving nosepiece, reversed.

Objectives:
- Achromatic 4x/0.10, W.D. 10.6 mm.
- Achromatic 10x/0.25, W.D. 7.0 mm.
- Achromatic 40x/0.65, W.D. 0.5 mm.
- Achromatic 100x/1.25 (Oil), W.D. 0.13 mm.

All with anti-fungus treatment.

Specimen stage: StagErase™ eraseable mechanical stage, 125x125 mm, 62x24 mm X-Y movement range. Vernier scale on the two axes, accuracy: 0.1 mm.

Focusing: Coaxial coarse and fine focusing mechanism with limit stop to prevent the contact between objective and specimen.

Condenser: Abbe N.A. 1.25, pre-centered, focusable, with iris diaphragm.

Illumination: 1 W LED, with brightness control, rechargeable batteries. Color temperature: 6,300 K. Multi-plug 100-240Vac/5Vdc external power supply.

B-60 Series - Models

B-66

Cordless, modern binocular microscope ideal for students and mainly primary schools with achromatic lenses (400x), FN 18 eyepieces, finite optical system, coaxial focusing, StagErase™ mechanical stage, Abbe condenser and 1 W LED illumination with rechargeable batteries (not supplied). Slim and easy to carry, it is equipped with arm/wrist rest support to reduce the fatigue during use and long lasting LED illumination to provide over 20 years of use.

Head: Binocular, 30° inclined; 360° rotating.
Dioptric adjustment: Left eyepiece.

Eyepiece: WF10x/18 mm, secured by screw

Nosepiece: Quadruple ball bearings revolving nosepiece, reversed.

Objectives:
- Achromatic 4x/0.10, W.D. 10.6 mm.
- Achromatic 10x/0.25, W.D. 7.0 mm.
- Achromatic 40x/0.65, W.D. 0.5 mm.

All with anti-fungus treatment.

Specimen stage: StagErase™ eraseable mechanical stage, 125x125 mm, 62x24 mm X-Y movement range. Vernier scale on the two axes, accuracy: 0.1 mm.

Focusing: Coaxial coarse and fine focusing mechanism with limit stop to prevent the contact between objective and specimen.

Condenser: Abbe N.A. 1.25, pre-centered, focusable, with iris diaphragm.

Illumination: 1 W LED, with brightness control, rechargeable batteries. Color temperature: 6,300 K. Multi-plug 100-240Vac/5Vdc external power supply.

B-67

Cordless, modern binocular microscope ideal for students and mainly primary schools with achromatic lenses (600x), FN 18 eyepieces, finite optical system, coaxial focusing, StagErase™ mechanical stage, Abbe condenser and 1 W LED illumination with rechargeable batteries (not supplied). Slim and easy to carry, it is equipped with arm/wrist rest support to reduce the fatigue during use and long lasting LED illumination to provide over 20 years of use.

Head: Binocular, 30° inclined; 360° rotating.
Dioptric adjustment: Left eyepiece.

Eyepiece: WF10x/18 mm, secured by screw

Nosepiece: Quadruple ball bearings revolving nosepiece, reversed.

Objectives:
- Achromatic 4x/0.10, W.D. 10.6 mm.
- Achromatic 10x/0.25, W.D. 7.0 mm.
- Achromatic 40x/0.65, W.D. 0.5 mm.
- Achromatic 60x/0.85, W.D. 0.13 mm.

All with anti-fungus treatment.

Specimen stage: StagErase™ eraseable mechanical stage, 125x125 mm, 62x24 mm X-Y movement range. Vernier scale on the two axes, accuracy: 0.1 mm.

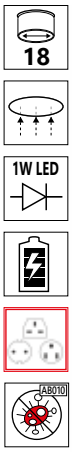
Focusing: Coaxial coarse and fine focusing mechanism with limit stop to prevent the contact between objective and specimen.

Condenser: Abbe N.A. 1.25, pre-centered, focusable, with iris diaphragm.

Illumination: 1 W LED, with brightness control, rechargeable batteries. Color temperature: 6,300 K. Multi-plug 100-240Vac/5Vdc external power supply.

B-60 Series - Models

B-69



Cordless, modern binocular microscope ideal for students and mainly primary schools with achromatic lenses (1000x), FN 18 eyepieces, finite optical system, coaxial focusing, StagErase™ mechanical stage, Abbe condenser and 1 W LED illumination with rechargeable batteries (not supplied). Slim and easy to carry, it is equipped with arm/wrist rest support to reduce the fatigue during use and long lasting LED illumination to provide over 20 years of use.

Head: Binocular, 30° inclined; 360° rotating.
Dioptric adjustment: Left eyepiece.

Eyepiece: WF10x/18 mm, secured by screw

Nosepiece: Quadruple ball bearings revolving nosepiece, reversed.

Objectives:
- Achromatic 4x/0.10, W.D. 10.6 mm.
- Achromatic 10x/0.25, W.D. 7.0 mm.
- Achromatic 40x/0.65, W.D. 0.5 mm.
- Achromatic 100x/1.25 (Oil), W.D. 0.13 mm.

All with anti-fungus treatment.

Specimen stage: StagErase™ eraseable mechanical stage, 125x125 mm, 62x24 mm X-Y movement range. Vernier scale on the two axes, accuracy: 0.1 mm.

Focusing: Coaxial coarse and fine focusing mechanism with limit stop to prevent the contact between objective and specimen.

Condenser: Abbe N.A. 1.25, pre-centered, focusable, with iris diaphragm.

Illumination: 1 W LED, with brightness control, rechargeable batteries. Color temperature: 6,300 K. Multi-plug 100-240Vac/5Vdc external power supply.

Digital Video Bundles

Two models of the B-60 series can be equipped with a camera and a 7" LCD screen, both in high definition. In these bundles, the normal head (supplied with the instrument) can be replaced with the digital system in a few minutes. This solution provides a system suitable for viewing specimens by several students at the same time, without removing the possibility of using the microscope in the classical way through the eyepiece.

LCD screen: High definition 7" LCD.

Camera: 1920x1080 pixels, 30fps (video). Up to 1844x1080 pixels (photo).

Storing capacity: On Micro Sd card

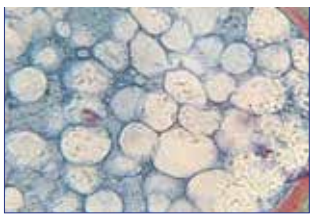
Video recording: Yes

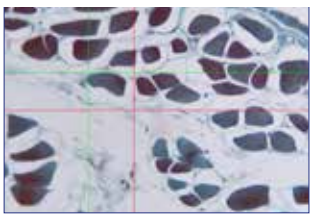
Measuring funcion: Yes, simple line measurement

Models available:

-B-61V: Same fatures than standard B-61, but delivered as bundle together with the 7" screen with built in camera. **Optical head with eyepiece included.**

-B-62V: Same fatures than standard B-62, but delivered as bundle together with the 7" screen with built in camera. **Optical head with eyepiece included.**





B-60 Series - **Comparison chart**

Model	Head	Eyepiece(s)	Nosepiece	Objectives	Stage	Focusing	Condenser	Illuminator
B-61	Monocular, 360° rotating, 45° inclined	Wide Field 10x/18mm	Quadruple, reversed	Achromatic 4x, 10x, 40x	Fixed, 120x110 mm	Coaxial coarse and fine focusing	N.A. 0.65 with iris diaphragm	1 W LED, brightness control, rechargeable batteries
B-62	Monocular, 360° rotating, 45° inclined	Wide Field 10x/18mm	Quadruple, reversed	Achromatic 4x, 10x, 40x	Mechanical, 125x125 mm with 62x24 mm X-Y moving range	Coaxial coarse and fine focusing	N.A. 1.25 Abbe type with iris diaphragm	1 W LED, brightness control, rechargeable batteries
B-63	Monocular, 360° rotating, 45° inclined	Wide Field 10x/18mm	Quadruple, reversed	Achromatic 4x, 10x, 40x, 60x	Mechanical, 125x125 mm with 62x24 mm X-Y moving range	Coaxial coarse and fine focusing	N.A. 1.25 Abbe type with iris diaphragm	1 W LED, brightness control, rechargeable batteries
B-65	Monocular, 360° rotating, 45° inclined	Wide Field 10x/18mm	Quadruple, reversed	Achromatic 4x, 10x, 40x, 100x (oil)	Mechanical, 125x125 mm with 62x24 mm X-Y moving range	Coaxial coarse and fine focusing	N.A. 1.25 Abbe type with iris diaphragm	1 W LED, brightness control, rechargeable batteries
B-66	Binocular, 360° rotating, 30° inclined	Wide Field 10x/18mm	Quadruple, reversed	Achromatic 4x, 10x, 40x	Mechanical, 125x125 mm with 62x24 mm X-Y moving range	Coaxial coarse and fine focusing	N.A. 1.25 Abbe type with iris diaphragm	1 W LED, brightness control, rechargeable batteries
B-67	Binocular, 360° rotating, 30° inclined	Wide Field 10x/18mm	Quadruple, reversed	Achromatic 4x, 10x, 40x, 60x	Mechanical, 125x125 mm with 62x24 mm X-Y moving range	Coaxial coarse and fine focusing	N.A. 1.25 Abbe type with iris diaphragm	1 W LED, brightness control, rechargeable batteries
B-69	Binocular, 360° rotating, 30° inclined	Wide Field 10x/18mm	Quadruple, reversed	Achromatic 4x, 10x, 40x, 100x (oil)	Mechanical, 125x125 mm with 62x24 mm X-Y moving range	Coaxial coarse and fine focusing	N.A. 1.25 Abbe type with iris diaphragm	1 W LED, brightness control, rechargeable batteries

B-60 Series - Accessories

Eyecups & Eyepieces
M-001 Huygens 5x eyepiece (23mm Ø)
M-002.2 WF10x/18 eyepiece (23mm Ø)
M-004.2 WF10x/18 micrometric eyepiece (23mm Ø)
M-008.2 WF10x/18 eyepiece, pointer (23mm Ø)
M-003.2 WF15x/12 eyepiece (23mm Ø)

Condensers & Filters
M-155.2 Polarising set (filters only)

Camera Adapters
M-115 0.35x C-Mount projection lens
M-114 0.5x C-Mount projection lens
M-118 0.75x C-Mount projection lens

Miscellaneous
15008 Immersion oil, 10ml
15009 Immersion oil, 100ml
15104 Cleaning kit
DC-001 Plastic dust cover, small, 340(l)x400(h) mm
M-005 Micrometric slide, 26x76mm, 2 scales (1mm/100 & 10mm/100)
M-069 Solar charger
M-970 Plane-concave mirror, with base (only for B-61)
AB-010 Antibacterial surface treatment, only for newly purchased microscope

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

M-069 - Solar charger
Included battery: rechargeable – Lithium-Poly. Capacity: 2500 mAh.
Output voltage: 5 Vdc. -
Autonomy: over 6 hours at medium intensity (X-LED^3).
Charging models: with solar panel (12h), with external USB power supply (2.5h)

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

v 7.5 - OPTIKA reserves the right to make corrections, modifications, enhancements, improvements and other changes to its products at any time without notice.

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OPTIKA®
MICROSCOPES
ITALY

B-150 Series

Middle-Level Biological Microscopes For Students

The Most Comprehensive Series Dedicated To Students

A VARIETY OF CONFIGURATIONS TO MEET EVERY NEEDS

» Designed to fulfill primary/secondary schools and educational labs
» 18 mm field number for a wide observation area
» Cordless use, totally independent from mains/battery connection (R-PL Line)
» Sturdy and durable for extended lifetime; compact and intuitive
» External power supply for enhanced safety and convenient servicing

PROFESSIONAL FEATURES FOR... WELL, EVERYONE

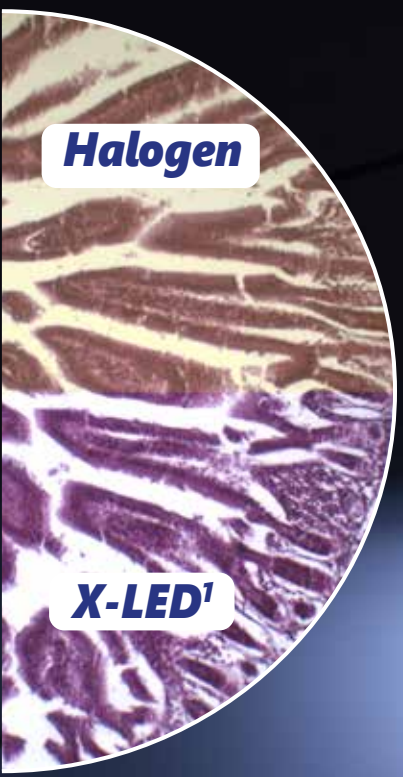
» High eyepoint eyepieces for glasses wearers
» N-PLAN objectives for a total field flatness on 18 mm (R-PL Line)
» Li-ion battery for unparalleled duration & fast recharge (R-PL Line)
» Automatic light control to forget manual adjustement (ALC Line)
» Simple polarization versions with polarizer and analyzer (P Line)

100X OIL/WATER OBJECTIVE - ONLY AVAILABLE AT OPTIKA

» Same objective for oil and water use
» Oil represents the best media for high numerical aperture
» Water combines results with convenience for educational purposes
» Save time - forget about tedious cleaning and maintenance
» Save money - no additional expenses due to inappropriate cleaning

100x Oil

100x Water



X-LED¹ FOR 65,000 HOURS OF OPERATION - ONLY AVAILABLE AT OPTIKA

» State-of-the-art illumination system for incomparable light intensity
» Exclusive lens & collector design, unmatched uniformity & brightness
» Excellent color fidelity, constant pure-white color temperature
» Money & energy saving, cutting electricity bills by 90%
» Simple polarization versions with polarizer and analyzer (P Line)

Multi-plug power supply

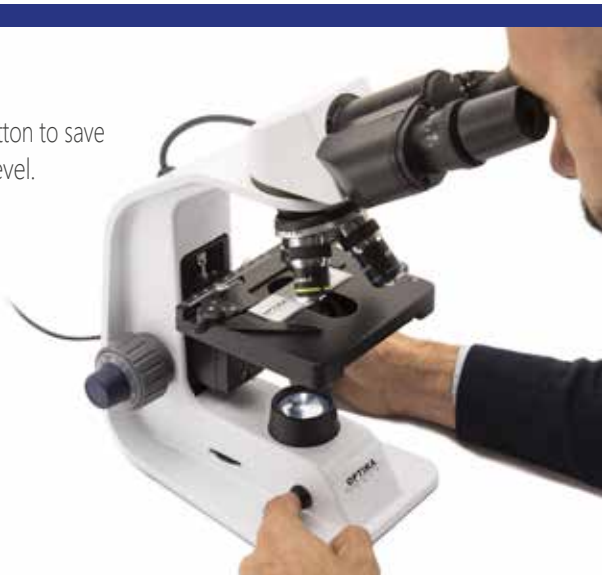
Plenty Of Smart & Innovative Light-Related Technologies

AUTOMATIC LIGHT CONTROL - ONLY AVAILABLE AT OPTIKA (ALC LINE)

» Choose the light intensity according to your preference
» Press the ALC button and the light will be automatically re-adjusted
» When another objective is used
» When the diphragm aperture changes
» When processing samples with different opacity

STEP 1
Set the brightness according to your prefences.

STEP 2
Press the ALC button to save the brightness level.



STEP 3
Forget about the illumination!
The microscope will automatically adjust the brightness for you, in case of:

- Another objective is used
- The diaphragm aperture is changed
- Another specimen with different opacity is processed

Regulation of diaphragm aperture

Plenty Of Smart & Innovative Light-Related Technologies

LI-ION BATTERIES PROS (on B-150R models):

» **Reliable:** Significantly lower self-discharge rate than NiMH
» **Faster recharge:** Li-Ions can be charged in about 6 hours
» **Number of charges:** approx. 2,000 times (+100% than NiMH batteries)
» **No "memory effect":** can be charged at any time, without effects
» Temperature tolerance to low temperature (more than NiMH batteries)

B-150 Series

A very comprehensive range of modern microscopes ideal for students and primary/secondary schools, available in brightfield or polarized light. Provided with achromatic or PLAN achromatic lenses, FN 18 high eyepoint eyepieces, finite optical system, coaxial focusing, fixed or mechanical stage and powerful, uniform, white color temperature 1 W X-LED1 illumination.
Slim and easy to carry, all the models are equipped with all the main controls to start learning how to use an advanced microscope and with long lasting LED illumination to provide over 20 years of use

A variety of configurations to meet every needs
Configurations for every taste, including regular brightfield and the one ready for polarization analysis (P Line), automatic light control (ALC Line), with built-in cameras for image acquisition (D Line) and cordless versions with advanced features (R-PL Models)

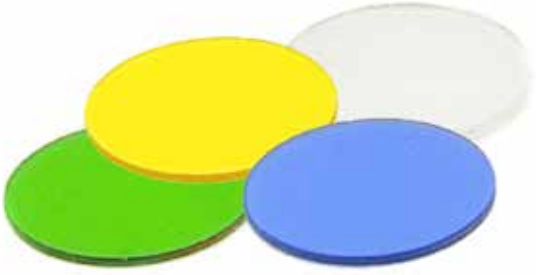
High eyepoint eyepieces for glasses wearers
These eyepieces are designed in such a way that the exit pupil is further away from the eye lens than standard eyepieces, being are well suited for eyeglasses wearers

X-LED[1] - State-of-the-art illumination system for incomparable light intensity
Provided with an exclusive lens & collector design, OPTIKA X-LED technology ensures unmatched uniformity & brightness (more than a 20 W halogen lamp) for excellent color fidelity with constant pure-white color temperature

100x oil/water objective: same objective for dual use
This new, revolutionary objective is something you've never seen before!
Oil ensures the best performance achievable; water represents the most convenient solution as eliminates tedious cleaning

Incomparable comfort with the exclusive Automatic Light Control (ALC Line)
Light intensity is automatically adjusted by the microscope: no matter if the aperture of the diaphragm changes, if another objective is used, and if the opacity of the sample is different...the microscope will set the light!

N-PLAN objectives combined with exclusive Li-ion battery (R-PL line)
Laboratory grade optics meets the latest technology in terms of battery, for unparalleled lifetime (2000 charges), extended autonomy (15 hours/charge) and incredibly fast recharging time (6 hours)



External power supply for enhanced safety and convenient servicing
OPTIKA's safety first approach drives to the use of a low voltage, multi-plug, external power supply in order to prevent any risk of electric shock and heatflow inside the unit

GET THE MOST OUT OF OUR ACCESSORIES

M-974 - Blue filter
Increase the colour temperature of light (toward the blue)
M-976 - Green filter
Optimize the resolution of phase contrast
M-978 - Yellow filter
Decrease the colour temperature of light (toward the red)
M-988 - Frosted glass filter
Increase the uniformity of illumination, even further

B-150 Series - Standard Models

B-151

Monocular microscope ideal for students and primary schools, with three achromatic lenses (400x), FN 18 high eyepoint eyepiece, finite optical system, coaxial focusing, fixed stage and powerful, uniform, white color temperature settable 1 W *X-LED¹* illumination.
Slim and easy to carry, the LED illumination will provide over 20 years of use.

Head: Monocular, 30° inclined; 360° rotating.

Eyepiece: WF10x/18 mm, high eyepoint, secured by screw.

Nosepiece: Quadruple ball bearings revolving nosepiece.

Objectives:
- Achromatic HC type 4x/0.10, W.D. 18 mm.
- Achromatic HC type 10x/0.25, W.D. 7 mm.
- Achromatic HC type 40x/0.65, W.D. 0.53 mm.
All with anti-fungus treatment.

Specimen stage: Fixed stage, 130x120 mm. With sample clips.

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

Condenser: N.A. 0.65, pre-centered, fixed with iris diaphragm.

Illumination: X-LED1 with white 1 W LED and brightness control. Color temperature: 6,300 K. Multi-plug 100-240Vac/5Vdc external power supply.

B-151ALC

Monocular microscope ideal for students and primary schools, with three achromatic lenses (400x), FN 18 high eyepoint eyepiece, finite optical system, coaxial focusing, fixed stage and powerful, uniform, white color temperature settable 1 W *X-LED¹* illumination. Slim and easy to carry, the LED illumination will provide over 20 years of use of use. The exclusive ALC will automatically adjust the brightness according to your preferences

Head: Monocular, 30° inclined; 360° rotating (when ALC cable is unplugged).

Eyepiece: WF10x/18 mm, high eyepoint, secured by screw.

Nosepiece: Quadruple ball bearings revolving nosepiece.

Objectives:
- Achromatic HC type 4x/0.10, W.D. 18 mm.
- Achromatic HC type 10x/0.25, W.D. 7 mm.
- Achromatic HC type 40x/0.65, W.D. 0.53 mm.
All with anti-fungus treatment.

Specimen stage: Fixed stage, 130x120 mm. With sample clips.

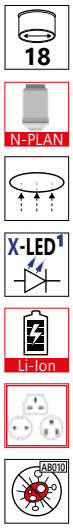
Focusing: Coaxial coarse and fine focusing mechanism with limit stop to prevent the contact between objective and specimen. Adjustable tension of coarse focusing knob.

Condenser: N.A. 0.65, pre-centered, fixed with iris diaphragm.

Illumination: X-LED¹ with white 1 W LED and brightness control. Color temperature: 6,300 K. With ***ALC*** for automatic light control. Multi-plug 100-240Vac/5Vdc external power supply.

B-150 Series - Standard Models

B-151R-PL



Cordless monocular microscope ideal for students and primary schools, with three PLAN achromatic lenses (400x), FN 18 high eyepoint eyepiece, finite optical system, coaxial focusing, fixed stage and powerful, uniform, white color temperature 1 W *X-LED*[1] illumination. Slim and easy to carry, the LED illumination will provide over 20 years of use of use.
The Li-Ion battery (not provided) ensures unparalleled duration and fast recharge.

Head: Monocular, 30° inclined; 360° rotating.

Eyepiece: WF10x/18 mm, secured by screw.

Nosepiece: Quadruple ball bearings revolving nosepiece.

Objectives:
- N-PLAN 4x/0.10, W.D. 15.2 mm.
- N-PLAN 10x/0.25, W.D. 5.5 mm.
- N-PLAN 40x/0.65, W.D. 0.45 mm.

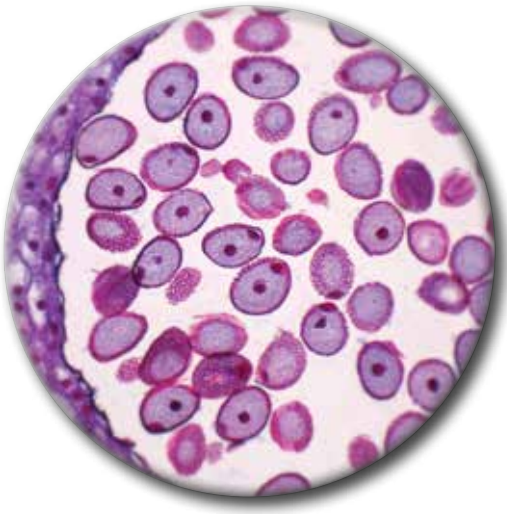
All with anti-fungus treatment.

Specimen stage: Fixed stage, 130x120 mm. With sample clips.

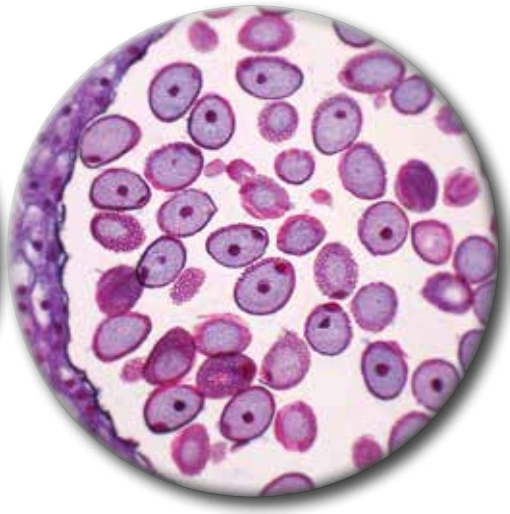
Focusing: Coaxial coarse and fine focusing mechanism with limit stop to prevent the contact between objective and specimen. Adjustable tension of coarse focusing knob.

Condenser: N.A. 0.65, pre-centered, fixed with iris diaphragm.

Illumination: X-LED[1] with white 1 W LED and light intensity control. Color temperature: 6,300 K. Li-Ion battery for long lasting operation. Multi-plug 100-240Vac/5Vdc external power supply.

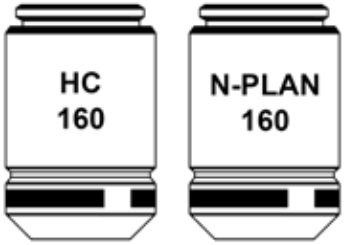


Lily Anther, Mature Pollen Grains, c.s
Conventional Achromatic Objective



Lily Anther, Mature Pollen Grains, c.s
OPTIKA HC Objective

Lily Anther, Mature Pollen Grains, c.s
OPTIKA N-PLAN Objective



HC

N-PLAN

OPTIKA HC: This series of objectives ensures a versatile and reasonably priced entry-level solution for brightfield and simple polarization applications.
They are specifically designed to achieve optimal contrast and thus maximize yield on an instrument intended for education on F.N. 18.

OPTIKA N-PLAN: In addition to the advantages of the HC objectives, the total flatness of the field and an even greater contrast are achieved with the N-PLAN series.

B-150 Series - Standard Models

B-152 / B-153

Monocular microscope ideal for students and primary schools, with four achromatic lenses (600x), FN 18 high eyepoint eyepiece, finite optical system, coaxial focusing, mechanical stage, Abbe condenser and powerful, uniform, white color temperature 1 W *X-LED¹* illumination. Slim and easy to carry, it is equipped with all the main controls to start learning how to use an advanced microscope and with long lasting LED illumination to provide over 20 years of use.

Head: Monocular, 30° inclined; 360° rotating.

Eyepiece: WF10x/18 mm, high eyepoint, secured by screw.

Nosepiece: Quadruple ball bearings revolving nosepiece.

Objectives:
- Achromatic HC type 4x/0.10, W.D. 18 mm.
- Achromatic HC type 10x/0.25, W.D. 7 mm.
- Achromatic HC type 40x/0.65, W.D. 0.53 mm.
- **Achromatic HC type 60x/0.85, W.D. 0.45 mm (only in B-153 model).**

All with anti-fungus treatment.

Specimen stage: Mechanical stage, 125x116 mm, 70x30 mm X-Y movement range. Vernier scale on the two axes, accuracy: 0.1 mm.

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

Condenser: Abbe N.A. 1.25, pre-centered, focusable, with iris diaphragm.

Illumination: X-LED¹ with white 1 W LED and brightness control. Color temperature: 6,300 K. Multi-plug 100-240Vac/5Vdc external power supply.

B-152ALC / B-153ALC

Monocular microscope ideal for students and primary schools, with four achromatic lenses (600x), FN 18 high eyepoint eyepiece, finite optical system, coaxial focusing, mechanical stage, Abbe condenser and powerful, uniform, white color 1 W *X-LED¹*. Slim and easy to carry, equipped with all the main controls to start learning how to use an advanced microscope and with long lasting LED. The exclusive ALC will automatically adjust the brightness according to your preferences.

Head: Monocular, 30° inclined; 360° rotating (when ALC cable is unplugged).

Eyepiece: WF10x/18 mm, high eyepoint, secured by screw.

Nosepiece: Quadruple ball bearings revolving nosepiece.

Objectives:
- Achromatic HC type 4x/0.10, W.D. 18 mm.
- Achromatic HC type 10x/0.25, W.D. 7 mm.
- Achromatic HC type 40x/0.65, W.D. 0.53 mm.
- **Achromatic HC type 60x/0.85 (only in B-153ALC model)**

All with anti-fungus treatment.

Specimen stage: Mechanical stage, 125x116 mm, 70x30 mm X-Y movement range. Vernier scale on the two axes, accuracy: 0.1 mm.

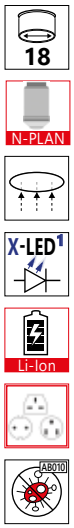
Focusing: Coaxial coarse and fine focusing mechanism with limit stop to prevent the contact between objective and specimen. Adjustable tension of coarse focusing knob.

Condenser: Abbe N.A. 1.25, pre-centered, focusable, with iris diaphragm.

Illumination: X-LED¹ with white 1 W LED and brightness control. Color temperature: 6,300 K. With ***ALC*** for automatic light control. Multi-plug 100-240Vac/5Vdc external power supply.

B-150 Series - Standard Models

B-152R-PL / B-153R-PL



Cordless monocular microscope ideal for students and primary schools, with three or four PLAN achromatic lenses (400x on B-152R-PL or 600x on B-153R-PL), FN 18 high eyepoint eyepiece, finite optical system, coaxial focusing, mechanical stage, Abbe condenser and powerful, uniform, white color 1 W *X-LED¹*. Slim and easy to carry, it is equipped with all the main controls to start learning how to use an advanced microscope and with long lasting LED illumination. The Li-Ion battery (not provided) ensures unparalleled duration and fast recharge.

Head: Monocular, 30° inclined; 360° rotating.

Eyepiece: WF10x/18 mm, high eyepoint, secured by screw.

Nosepiece: Quadruple ball bearings revolving nosepiece.

Objectives:
- N-PLAN plan achromatic 4x/0.10, W.D. 15.2 mm.
- N-PLAN plan achromatic 10x/0.25, W.D. 5.5 mm.
- N-PLAN plan achromatic 40x/0.65, W.D. 0.45 mm.
- N-PLAN plan achromatic 60x/0.85, W.D. 0.45 mm. (only for B-153R-PL).

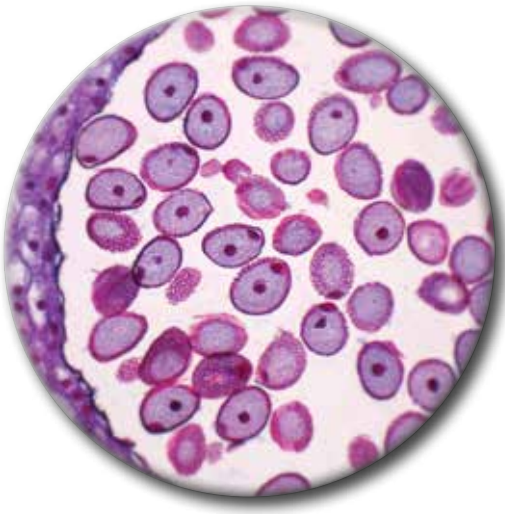
All with anti-fungus treatment.

Specimen stage: Mechanical stage, 125x116 mm, 70x30 mm X-Y movement range. Vernier scale on the two axes, accuracy: 0.1 mm.

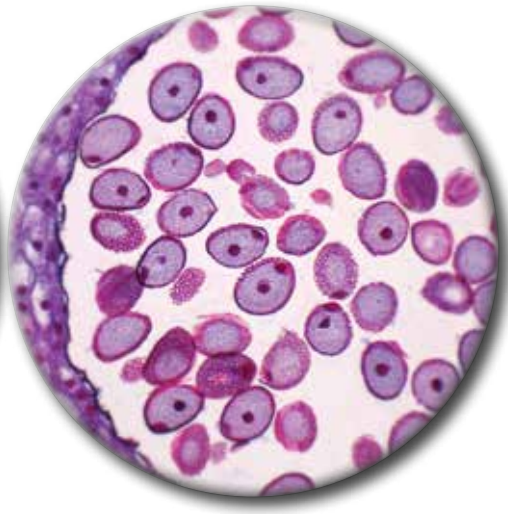
Focusing: Coaxial coarse and fine focusing mechanism with limit stop to prevent the contact between objective and specimen. Adjustable tension of coarse focusing knob.

Condenser: Abbe N.A. 1.25, pre-centered, focusable, with iris diaphragm.

Illumination: X-LED¹ with white 1 W LED and brightness control. Color temperature: 6,300 K. Li-Ion battery for long lasting operation. Multi-plug 100-240Vac/5Vdc external power supply.

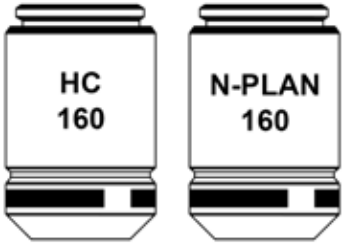


Lily Anther, Mature Pollen Grains, c.s
Conventional Achromatic Objective



Lily Anther, Mature Pollen Grains, c.s
OPTIKA HC Objective

Lily Anther, Mature Pollen Grains, c.s
OPTIKA N-PLAN Objective



HC

N-PLAN

OPTIKA HC: This series of objectives ensures a versatile and reasonably priced entry-level solution for brightfield and simple polarization applications. They are specifically designed to achieve optimal contrast and thus maximize yield on an instrument intended for education on F.N. 18.

OPTIKA N-PLAN: In addition to the advantages of the HC objectives, the total flatness of the field and an even greater contrast are achieved with the N-PLAN series.

B-150 Series - Standard Models

B-155

Monocular microscope ideal for students and primary schools, with four achromatic lenses (1000x), FN 18 high eyepoint eyepiece, finite optical system, coaxial focusing, mechanical stage, Abbe condenser and powerful, uniform, white color temperature 1 W *X-LED¹* illumination. Slim and easy to carry, it is equipped with all the main controls to start learning how to use an advanced microscope and with long lasting LED illumination to provide over 20 years of use.

Head: Monocular, 30° inclined; 360° rotating.

Eyepiece: WF10x/18 mm, high eyepoint, secured by screw.

Nosepiece: Quadruple ball bearings revolving nosepiece.

Objectives:
- Achromatic HC type 4x/0.10
- Achromatic HC type 10x/0.25
- Achromatic HC type 40x/0.65
- Achromatic HC type 100x/1.25 (oil/water).

All with anti-fungus treatment.

Specimen stage: Mechanical stage, 125x116 mm, 70x30 mm X-Y movement range. Vernier scale on the two axes, accuracy: 0.1 mm.

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

Condenser: Abbe N.A. 1.25, pre-centered, focusable, with iris diaphragm.

Illumination: X-LED¹ with white 1 W LED and brightness control. Color temperature: 6,300 K. Multi-plug 100-240Vac/5Vdc external power supply.

B-155ALC

Monocular microscope ideal for students and primary schools, with four achromatic lenses (1000x), FN 18 high eyepoint eyepiece, finite optical system, coaxial focusing, mechanical stage, Abbe condenser and powerful, uniform, white color temperature 1 W *X-LED¹*. Slim and easy to carry, it is equipped with all the main controls to start learning how to use an advanced microscope with long lasting LED illumination. The ALC will automatically adjust the brightness according to your preferences.

Head: Monocular, 30° inclined; 360° rotating (when ALC cable is unplugged).

Eyepiece: WF10x/18 mm, high eyepoint, secured by screw.

Nosepiece: Quadruple ball bearings revolving nosepiece.

Objectives:
- Achromatic HC type 4x/0.10
- Achromatic HC type 10x/0.25
- Achromatic HC type 40x/0.65
- Achromatic HC type 100x/1.25 (oil/water).

All with anti-fungus treatment.

Specimen stage: Mechanical stage, 125x116 mm, 70x30 mm X-Y movement range. Vernier scale on the two axes, accuracy: 0.1 mm.

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

Condenser: Abbe N.A. 1.25, pre-centered, focusable, with iris diaphragm.

Illumination: X-LED¹ with white 1 W LED and brightness control. Color temperature: 6,300 K. With ***ALC*** for automatic light control. Multi-plug 100-240Vac/5Vdc external power supply.

B-150 Series - Standard Models

B-155R-PL



Cordless monocular microscope ideal for students and primary schools, with four PLAN achromatic lenses (1000x), FN 18 high eyepoint eyepiece, finite optical system, coaxial focusing, mechanical stage, Abbe condenser and powerful, uniform, white color 1 W *X-LED*[1]. Slim and easy to carry, equipped with all the main controls to start learning how to use an advanced microscope with long lasting LED illumination. The Li-Ion battery (not supplied) ensures unparalleled duration and fast recharge.

Head: Monocular, 30° inclined; 360° rotating.

Eyepiece: WF10x/18 mm, high eyepoint, secured by screw.

Nosepiece: Quadruple ball bearings revolving nosepiece.

Objectives:
- N-PLAN plan achromatic 4x/0.10, W.D. 18 mm.
- N-PLAN plan achromatic 10x/0.25, W.D. 7 mm.
- N-PLAN plan achromatic 40x/0.65, W.D. 0.53 mm.
- N-PLAN plan achromatic 100x/1.25, W.D. 0.13 mm (oil/water).

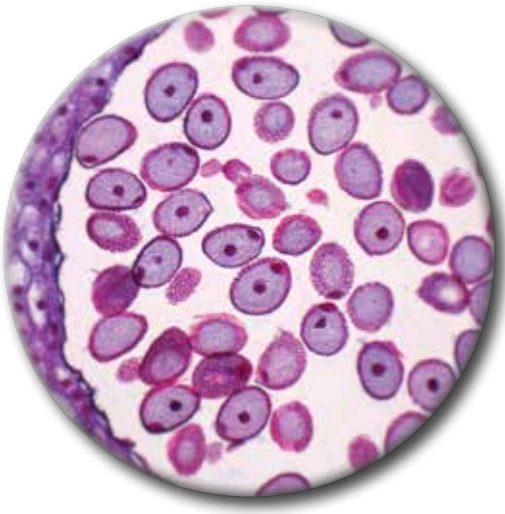
All with anti-fungus treatment.

Specimen stage: Mechanical stage, 125x116 mm, 70x30 mm X-Y movement range. Vernier scale on the two axes, accuracy: 0.1 mm.

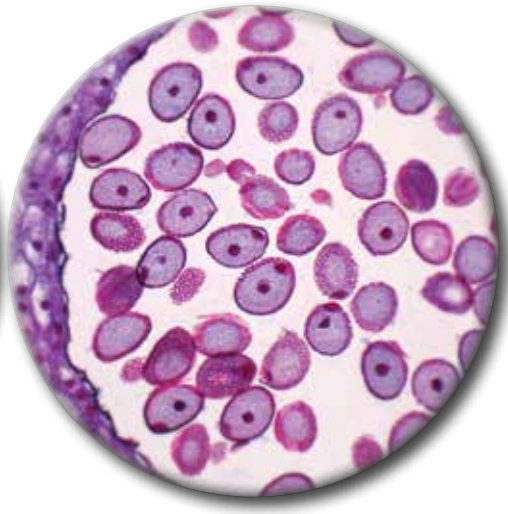
Focusing: Coaxial coarse and fine focusing mechanism with limit stop to prevent the contact between objective and specimen. Adjustable tension of coarse focusing knob.

Condenser: Abbe N.A. 1.25, pre-centered, focusable, with iris diaphragm.

Illumination: X-LED[1] with white 1 W LED and brightness control. Color temperature: 6,300 K. Li-Ion battery for long lasting operation. Multi-plug 100-240Vac/5Vdc external power supply.

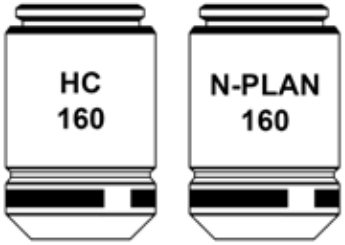


Lily Anther, Mature Pollen Grains, c.s
Conventional Achromatic Objective



Lily Anther, Mature Pollen Grains, c.s
OPTIKA HC Objective

Lily Anther, Mature Pollen Grains, c.s
OPTIKA N-PLAN Objective



HC

N-PLAN

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OPTIKA N-PLAN: In addition to the advantages of the HC objectives, the total flatness of the field and an even greater contrast are achieved with the N-PLAN series.

B-150 Series - Standard Models

B-156 / B-157

Binocular microscope ideal for students and primary schools, with four achromatic lenses (600x), FN 18 high eyepoint eyepieces, finite optical system, coaxial focusing, mechanical stage, Abbe condenser and powerful, uniform, white color temperature 1 W *X-LED¹* illumination. Slim and easy to carry, it is equipped with all the main controls to start learning how to use an advanced microscope and with long lasting LED illumination to provide over 20 years of use.

Head: Binocular, 30° inclined; 360° rotating.

Dioptric adjustment: Left eyepiece.

Eyepieces: WF10x/18 mm, high eyepoint, secured by screw.

Nosepiece: Quadruple ball bearings revolving nosepiece.

Objectives:
- Achromatic HC type 4x/0.10, W.D. 18 mm.
- Achromatic HC type 10x/0.25, W.D. 7 mm.
- Achromatic HC type 40x/0.65, W.D. 0.53 mm.
- **Achromatic HC type 60x/0.85, W.D. 0.45 mm (only in B-157 model).**

All with anti-fungus treatment.

Specimen stage: Mechanical stage, 125x116 mm, 70x30 mm X-Y movement range. Vernier scale on the two axes, accuracy: 0.1 mm.

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

Condenser: Abbe N.A. 1.25, pre-centered, focusable, with iris diaphragm.

Illumination: X-LED¹ with white 1 W LED and brightness control. Color temperature: 6,300 K. Multi-plug 100-240Vac/5Vdc external power supply.

B-156ALC / B-157ALC

Binocular microscope ideal for students and primary schools, with four achromatic lenses (600x), FN 18 high eyepoint eyepieces, finite optical system, coaxial focusing, mechanical stage, Abbe condenser and powerful, uniform, white color temperature 1 W X-LED¹ illumination. Slim and easy to carry, it is equipped with all the main controls to start learning how to use an advanced microscope and with long lasting LED illumination to provide over 20 years of use. The exclusive *ALC* will automatically adjust the brightness according to your preferences.

Head: Binocular, 30° inclined; 360° rotating.

Dioptric adjustment: Left eyepiece.

Eyepieces: WF10x/18 mm, high eyepoint, secured by screw.

Nosepiece: Quadruple ball bearings revolving nosepiece.

Objectives:
- Achromatic HC type 4x/0.10, W.D. 18 mm.
- Achromatic HC type 10x/0.25, W.D. 7 mm.
- Achromatic HC type 40x/0.65, W.D. 0.53 mm
- **Achromatic HC type 60x/0.85, W.D. 0.45 mm (only in B-157ALC model).**

All with anti-fungus treatment.

Specimen stage: Mechanical stage, 125x116 mm, 70x30 mm X-Y movement range. Vernier scale on the two axes, accuracy: 0.1 mm

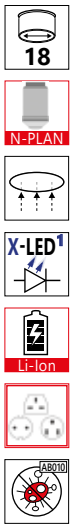
Focusing: Coaxial coarse and fine focusing mechanism with limit stop to prevent the contact between objective and specimen. Adjustable tension of coarse focusing knob.

Condenser: Abbe N.A. 1.25, pre-centered, focusable, with iris diaphragm.

Illumination: X-LED¹ with white 1 W LED and brightness control. Color temperature: 6,300 K. With *ALC* for automatic light control. Multi-plug 100-240Vac/5Vdc external power supply.

B-150 Series - Standard Models

B-156R-PL / B-157R-PL



Cordless binocular microscope ideal for students and primary schools, with four PLAN achromatic lenses (600x), FN 18 high eyepoint eyepieces, finite optical system, coaxial focusing, mechanical stage, Abbe condenser and powerful, uniform, white color temperature 1 W *X-LED¹* illumination. Slim and easy to carry, it is equipped with all the main controls to start learning how to use an advanced microscope and with long lasting LED illumination to provide over 20 years of use. The Li-Ion battery ensures unparalleled duration and fast recharge.

Head: Binocular, 30° inclined; 360° rotating.

Dioptric adjustment: Left eyepiece.

Eyepieces: WF10x/18 mm, high eyepoint, secured by screw.

Nosepiece: Quadruple ball bearings revolving nosepiece.

Objectives:
- N-PLAN plan achromatic 4x/0.10, W.D. 15.2 mm.
- N-PLAN plan achromatic 10x/0.25, W.D. 5.5 mm.
- N-PLAN plan achromatic 40x/0.65, W.D. 0.45 mm.
- **N-PLAN plan achromatic 60x/0.85, W.D. 0.45 mm (only in B-157R-PL model).**

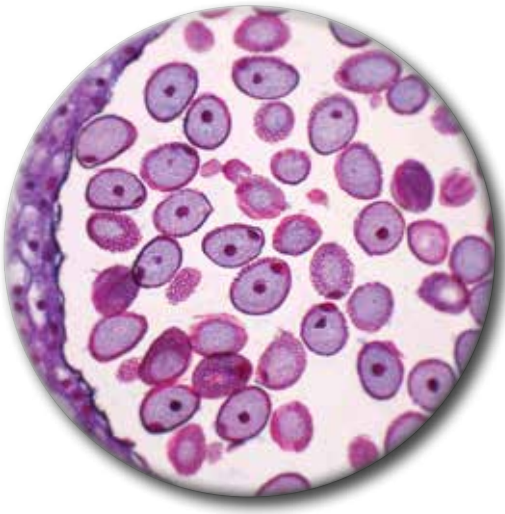
All with anti-fungus treatment.

Specimen stage: Mechanical stage, 125x116 mm, 70x30 mm X-Y movement range. Vernier scale on the two axes, accuracy: 0.1 mm.

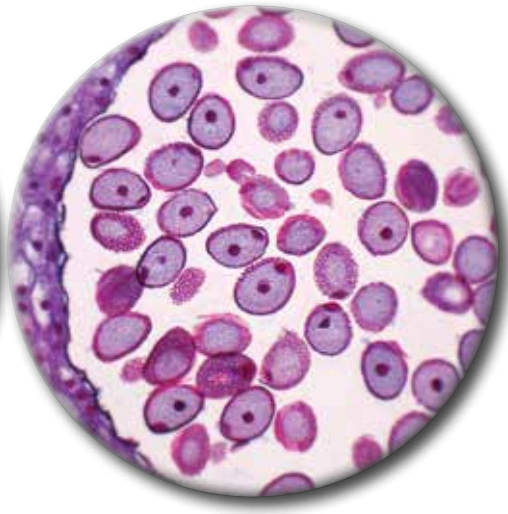
Focusing: Coaxial coarse and fine focusing mechanism with limit stop to prevent the contact between objective and specimen. Adjustable tension of coarse focusing knob.

Condenser: Abbe N.A. 1.25, pre-centered, focusable, with iris diaphragm.

Illumination: X-LED¹ with white 1 W LED and brightness control. Color temperature: 6,300 K. Li-Ion battery for long lasting operation. Multi-plug 100-240Vac/5Vdc external power supply.

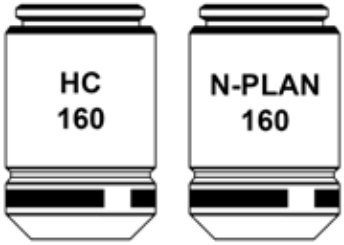


Lily Anther, Mature Pollen Grains, c.s
Conventional Achromatic Objective



Lily Anther, Mature Pollen Grains, c.s
OPTIKA HC Objective

Lily Anther, Mature Pollen Grains, c.s
OPTIKA N-PLAN Objective



HC

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B-150 Series - Standard Models

B-159

Binocular microscope ideal for students and primary schools, with four achromatic lenses (1000x), FN 18 high eyepoint eyepieces, finite optical system, coaxial focusing, mechanical stage, Abbe condenser and powerful, uniform, white color temperature 1 W *X-LED¹* illumination. Slim and easy to carry, it is equipped with all the main controls to start learning how to use an advanced microscope and with long lasting LED illumination to provide over 20 years of use.

Head: Binocular, 30° inclined; 360° rotating.

Dioptric adjustment: Left eyepiece.

Eyepieces: WF10x/18 mm, high eyepoint, secured by screw.

Nosepiece: Quadruple ball bearings revolving nosepiece.

Objectives:
- Achromatic HC type 4x/0.10, W.D. 18 mm.
- Achromatic HC type 10x/0.25, W.D. 7 mm.
- Achromatic HC type 40x/0.65, W.D. 0.53 mm.
- Achromatic HC type 100x/1.25, W.D. 0.13 mm (oil/water).

All with anti-fungus treatment.

Specimen stage: Mechanical stage, 125x116 mm, 70x30 mm X-Y movement range. Vernier scale on the two axes, accuracy: 0.1 mm.

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

Condenser: Abbe N.A. 1.25, pre-centered, focusable, with iris diaphragm.

Illumination: X-LED¹ with white 1 W LED and brightness control. Color temperature: 6,300 K. Multi-plug 100-240Vac/5Vdc external power supply.

B-159ALC

Binocular microscope ideal for students and primary schools, with four achromatic lenses (1000x), FN 18 high eyepoint eyepieces, finite optical system, coaxial focusing, mechanical stage, Abbe condenser and powerful, uniform, white color temperature 1 W X-LED¹ illumination. Slim and easy to carry, it is equipped with all the main controls to start learning how to use an advanced microscope and with long lasting LED illumination to provide over 20 years of use. The exclusive *ALC* will automatically adjust the brightness according to your preferences.

Head: Binocular, 30° inclined; 360° rotating (when ALC cable is unplugged).

Dioptric adjustment: Left eyepiece.

Eyepieces: WF10x/18 mm, high eyepoint, secured by screw.

Nosepiece: Quadruple ball bearings revolving nosepiece.

Objectives:
- Achromatic HC type 4x/0.10, W.D. 18 mm.
- Achromatic HC type 10x/0.25, W.D. 7 mm.
- Achromatic HC type 40x/0.65, W.D. 0.53 mm.
- Achromatic HC type 100x/1.25, W.D. 0.13 mm (oil/water).

All with anti-fungus treatment.

Specimen stage: Mechanical stage, 125x116 mm, 70x30 mm X-Y movement range. Vernier scale on the two axes, accuracy: 0.1 mm.

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

Condenser: Abbe N.A. 1.25, pre-centered, focusable, with iris diaphragm.

Illumination: X-LED¹ with white 1 W LED and brightness control. Color temperature: 6,300 K. With *ALC* for automatic light control. Multi-plug 100-240Vac/5Vdc external power supply.

B-150 Series - Standard Models

B-159R-PL

Cordless binocular microscope ideal for students and primary schools, with four PLAN achromatic lenses (1000x), FN 18 high eyepointeyepieces, finite optical system, coaxial focusing, mechanical stage, Abbe condenser and powerful, uniform, white color temperature 1 W *X-LED¹* illumination. Slim and easy to carry, it is equipped with all the main controls to start learning how to use an advanced microscope and with long lasting LED illumination to provide over 20 years of use. The Li-Ion battery (not provided) ensures unparalleled duration and fast recharge.

Head: Binocular, 30° inclined; 360° rotating.

Dioptric adjustment: Left eyepiece.

Eyepieces: WF10x/18 mm, high eyepoint, secured by screw.

Nosepiece: Quadruple ball bearings revolving nosepiece.

Objectives:
- N-PLAN plan achromatic 4x/0.10, W.D. 15.2 mm.
- N-PLAN plan achromatic 10x/0.25, W.D. 5.5 mm.
- N-PLAN plan achromatic 40x/0.65, W.D. 0.45 mm.
- N-PLAN plan achromatic 100x/1.25, W.D. 0.13 mm (oil/water).

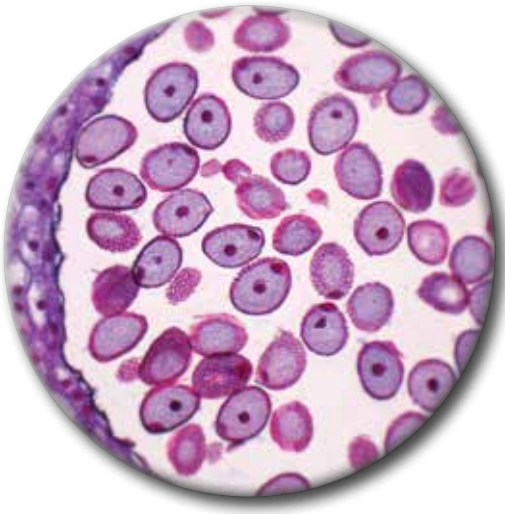
All with anti-fungus treatment.

Specimen stage: Mechanical stage, 125x116 mm, 70x30 mm X-Y movement range. Vernier scale on the two axes, accuracy: 0.1 mm.

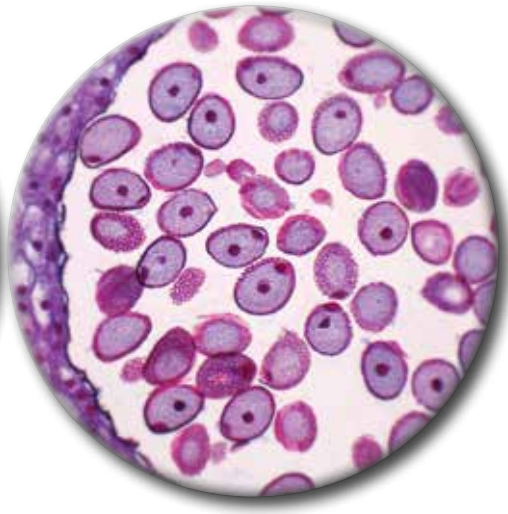
Focusing: Coaxial coarse and fine focusing mechanism with limit stop to prevent the contact between objective and specimen. Adjustable tension of coarse focusing knob.

Condenser: Abbe N.A. 1.25, pre-centered, focusable, with iris diaphragm.

Illumination: X-LED¹ with white 1 W LED and brightness control. Color temperature: 6,300 K. Li-Ion battery for long lasting operation. Multi-plug 100-240Vac/5Vdc external power supply.

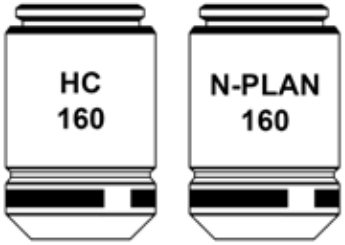


Lily Anther, Mature Pollen Grains, c.s
Conventional Achromatic Objective



Lily Anther, Mature Pollen Grains, c.s
OPTIKA HC Objective

Lily Anther, Mature Pollen Grains, c.s
OPTIKA N-PLAN Objective



HC

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B-150 Series - Polarizing Models

B-150P-MRPL

Cordless monocular polarized light microscope ideal for students and primary schools, with three PLAN achromatic lenses (400x), FN 18 high eyepoint eyepiece, finite optical system, coaxial focusing, rotating stage, Abbe condenser and powerful, uniform, white color temperature 1 W ***X-LED¹*** illumination. Slim and easy to carry, it is equipped with all the main controls to start learning how to use an advanced microscope and with long lasting LED illumination. Rotating swing-out polarizer and sliding-out fixed analyzer included. The Li-Ion battery (not provided) ensures unparalleled duration and fast recharge.

Head: Monocular, 30° inclined; 360° rotating.

Eyepieces: WF10x/18 mm, high eyepoint, secured by screw.

Nosepiece: Quadruple ball bearings revolving nosepiece.

Objectives:
- N-PLAN plan achromatic 4x/0.10
- N-PLAN plan achromatic 10x/0.25
- N-PLAN plan achromatic 40x/0.65.

All with anti-fungus treatment.

Specimen stage: Rotatable round stage, 120 mm diameter, with sample clips.

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

Condenser: N.A. 1.25, pre-centered, fixed, with iris diaphragm.

Illumination: X-LED¹ with white 1 W LED and brightness control. Color temperature: 6,300 K. Li-Ion battery for long lasting operation. Multi-plug 100-240Vac/5Vdc external power supply.

Polarizing filters: Rotating polarizer (swing-out) and fixed analyzer (sliding-out).

B-150P-BRPL

Cordless binocular polarized light microscope ideal for students and primary schools, with three PLAN achromatic lenses (400x), FN 18 high eyepoint eyepieces, finite optical system, coaxial focusing, rotating stage, Abbe condenser and powerful, uniform, white color temperature 1 W ***X-LED¹*** illumination. Slim and easy to carry, it is equipped with all the main controls to start learning how to use an advanced microscope and with long lasting LED illumination to provide over 20 years of use. Rotating swing-out polarizer and sliding-out fixed analyzer included. The exclusive Li-Ion battery ensures unparalleled duration and fast recharge

Head: Binocular, 30° inclined; 360° rotating.

Dioptric adjustment: Left eyepiece.

Eyepieces: WF10x/18 mm, high eyepoint, secured by screw.

Nosepiece: Quadruple ball bearings revolving nosepiece.

Objectives:
- N-PLAN plan achromatic 4x/0.10
- N-PLAN plan achromatic 10x/0.25
- N-PLAN plan achromatic 40x/0.65. All with anti-fungus treatment.

Specimen stage: Rotatable round stage, 120 mm diameter, with sample clips.

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

Condenser: N.A. 1.25, pre-centered, fixed, with iris diaphragm.

Illumination: X-LED¹ with white 1 W LED and brightness control. Color temperature: 6,300 K. Li-Ion battery for long lasting operation. Multi-plug 100-240Vac/5Vdc external power supply.

Polarizing filters: Rotating polarizer (swing-out) and fixed analyzer (sliding-out).

B-150 Series - Digital Models

B-150D-MRPL

Cordless digital monocular microscope ideal for students and primary schools, with three PLAN achromatic lenses (400x), FN 18 high eyepoint eyepiece, finite optical system, coaxial focusing, mechanical stage, Abbe condenser and powerful, uniform, white color temperature 1 W *X-LED*[1] illumination. Slim and easy to carry, it is equipped with all the main controls to start learning how to use an advanced microscope and with long lasting LED illumination to provide over 20 years of use. The exclusive Li-Ion battery ensures unparalleled duration and fast recharge

Head: Monocular with integrated 1.3 MP camera, 30° inclined; 360° rotating.

Eyepieces: WF10x/18 mm, high eyepoint, secured by screw.

Nosepiece: Quadruple ball bearings revolving nosepiece.

Objectives:
- N-PLAN plan achromatic 4x/0.10
- N-PLAN plan achromatic 10x/0.25
- N-PLAN plan achromatic 40x/0.65

Specimen stage: Mechanical stage, 125x116 mm, 70x30 mm X-Y movement range. Vernier scale on the two axes, accuracy: 0.1 mm.

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

Condenser: Abbe N.A. 1.25, pre-centered, focusable, with iris diaphragm.

Illumination: X-LED[1] with white 1 W LED and brightness control. Color temperature: 6,300 K. Li-Ion battery for long lasting operation. Multi-plug 100-240Vac/5Vdc external power supply.

B-150D-BRPL

Cordless digital binocular microscope ideal for students and primary schools, with four PLAN achromatic lenses (1000x), FN 18 high eyepoint eyepieces, finite optical system, coaxial focusing, mechanical stage, Abbe condenser and powerful, uniform, white color temperature 1 W *X-LED*[1] illumination. Slim and easy to carry, it is equipped with all the main controls to start learning how to use an advanced microscope and with long lasting LED illumination to provide over 20 years of use. The exclusive Li-Ion battery ensures unparalleled duration and fast recharge

Head: Binocular with integrated 3.2 MP camera, 30° inclined; 360° rotating.

Dioptric adjustment: Left eyepiece.

Eyepieces: WF10x/18 mm, high eyepoint, secured by screw.

Nosepiece: Quadruple ball bearings revolving nosepiece.

Objectives:
- N-PLAN plan achromatic 4x/0.10
- N-PLAN plan achromatic 10x/0.25
- N-PLAN plan achromatic 40x/0.65
- N-PLAN plan achromatic 100x/1.25 (oil/water). All with anti-fungus treatment.

Specimen stage: Mechanical stage, 125x116 mm, 70x30 mm X-Y movement range. Vernier scale on the two axes, accuracy: 0.1 mm.

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

Condenser: Abbe N.A. 1.25, pre-centered, focusable, with iris diaphragm.

Illumination: X-LED[1] with white 1 W LED and brightness control. Color temperature: 6,300 K. Li-Ion battery for long lasting operation. Multi-plug 100-240Vac/5Vdc external power supply.

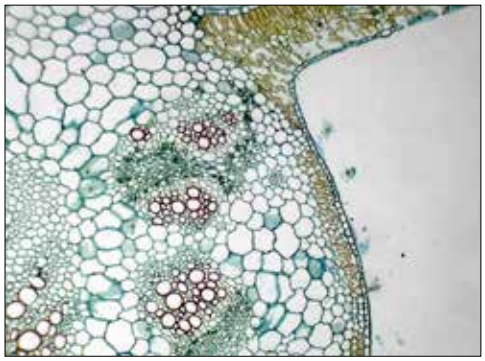
B-150 Series - B-150D Camera specifications

	B-150D-MRPL / B-150D-BRPL
Camera resolution (n° of pixels: W x H)	2048x1536
Color / Monochrome	Color
Sensor Size	1/2.5"
Sensor Technology	CMOS
Sensor Type	APTINA CMOS
Image Format	4/3
Pixel Size (mm)	2.2x2.2
Acquisition technology	Rolling shutter
Sensitivity	0.53 V/lux-second
Signal/Noise Ratio (DB)	40.5
Dynamic range (DB)	66.5
ADC conversion	12 Bit
Color Depth	8 Bit
Exposure time	0.1 - 1.5 sec
Binning	1x1
IR filter	Yes
IR filter range (nm)	380-650 (IR CUT)
Camera resolution (MP)	3.1
USB standard	USB2.0
Frame rate full resolution (fps)	4@2048x1536
Frame rate other resolution (fps)	8@1280x1024; 30@640x480

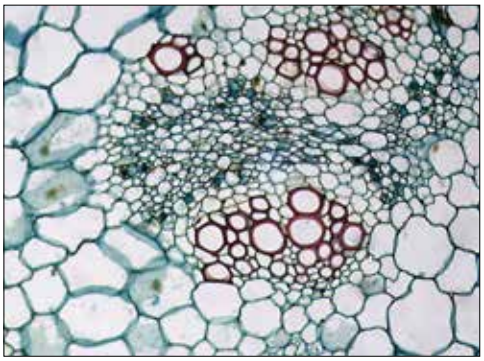
B-150 Series - Optical performance

Eyepiece			10x (M-002.1)		16x (M-003)	
Field number (mm)			18		12	
Objective	N.A.	W.D. (mm)	Total magnification	Field of View (mm)	Total magnification	Field of View (mm)
4x	0.1	18	40x	4.5	64x	3
10x	0.25	7	100x	1.8	160x	1.2
20x	0.4	2	200x	0.9	320x	0.6
40x	0.65	0.53	400x	0.45	640x	0.3
60x	0.8	0.45	600x	0.3	960x	0.2
100x	1.25 (oil/water)	0.13	1000x	0.18	1600x	0.12

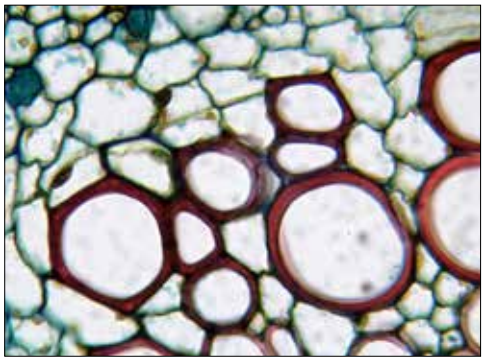
B-150 Series - Zoom comparison



Monocot and dicot - B-157 - 4x objective



Monocot and dicot - B-157 - 10x objective



Monocot and dicot - B-157 - 40x objective

B-150 Series - Digital Video Bundles

Five models of the B-150 series can be equipped with a camera and a 7" LCD screen, both in high definition. In these bundles, the normal head (supplied with the instrument) can be replaced with the digital system in a few minutes. This solution provides a system suitable for viewing specimens by several students at the same time, without removing the possibility of using the microscope in the classical way through the eyepiece.

LCD screen: High definition 7" LCD.

Camera: 1920x1080 pixels, 30fps (video). Up to 1844x1080 pixels (photo).

Storing capacity: On Micro Sd card

Video recording: Yes

Measuring funcion: Yes, simple line measurement

Models available:

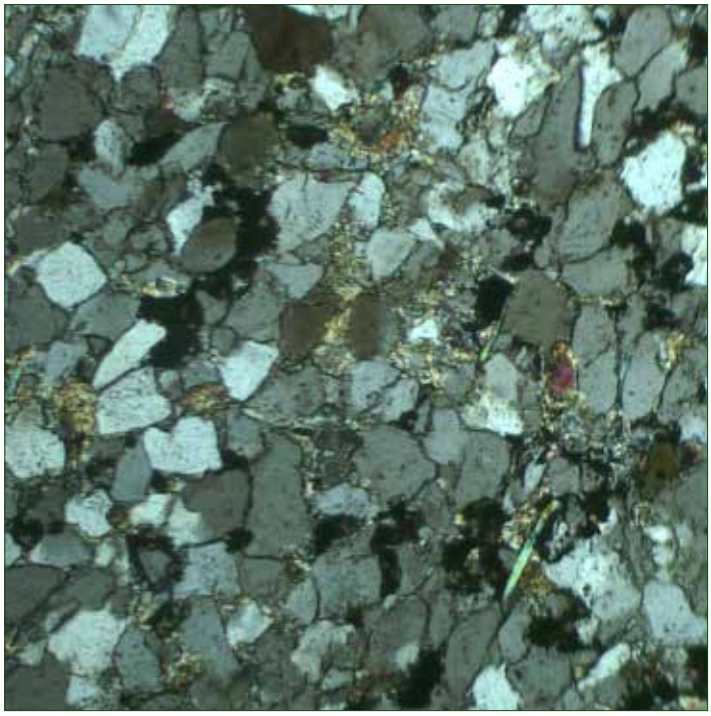
-B-151V: Same fatures than standard B-151, but delivered as bundle together with the 7" screen with built in camera. **Optical head with eyepiece included.**

-B-153V: Same fatures than standard B-153, but delivered as bundle together with the 7" screen with built in camera. **Optical head with eyepiece included.**

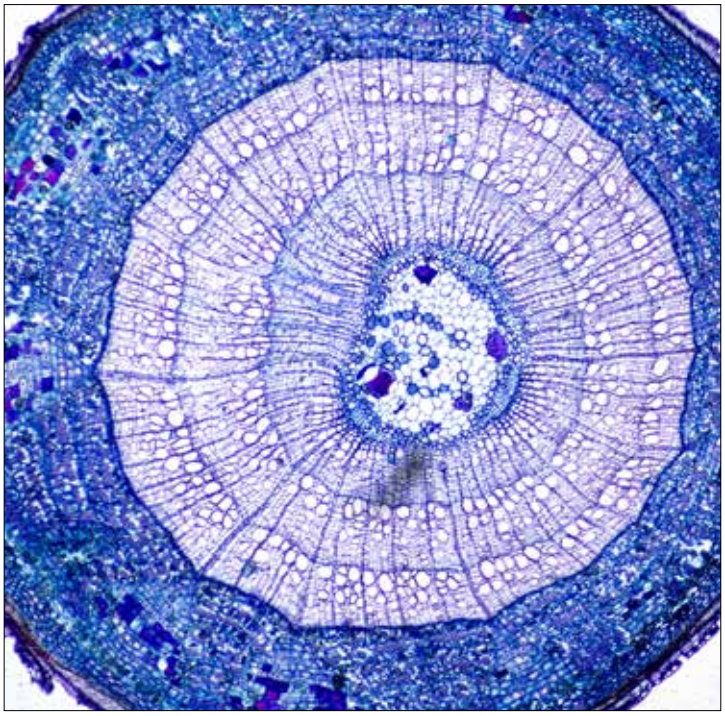
-B-151R-PLV: Same fatures than standard B-151R-PL, but delivered as bundle together with the 7" screen with built in camera. **Optical head with eyepiece included.**

-B-152R-PLV: Same fatures than standard B-152R-PL, but delivered as bundle together with the 7" screen with built in camera. **Optical head with eyepiece included.**

-B-159R-PLV: Same fatures than standard B-159R-PL, but delivered as bundle together with the 7" screen with built in camera. **Optical head with eyepiece included.**



Polarized light observation of quartzite with B-150P-MRPL and 10x objective.



Brightfield observation of tilia three-year stem with B-159 and 20x objective.

B-150 Series - Comparison charts

B-150 - Standard Models, with HC Objectives

Model	Head	Eyepiece(s)	Nosepiece	Objectives	Stage	Focusing	Condenser	Illumination
B-151	Monocular, 30° inclined, 360° rotating	WF 10x/18	Quadruple	HC (high contrast) 4x, 10x, 40x	Fixed, 130x120 mm, with sample clips	Coaxial coarse and fine, limit stop	N.A. 0.65, iris diaphragm, fixed	1 W X-LED[1], manual brightness control
B-152 **B-153***	Monocular, 30° inclined, 360° rotating	WF 10x/18	Quadruple	HC (high contrast) 4x, 10x, 40x, 60x*	Double layer, 125x116 mm, moving range 70x30 mm	Coaxial coarse and fine, limit stop	Abbe N.A. 1.25, iris diaphragm, focusable	1 W X-LED[1], manual brightness control
B-155	Monocular, 30° inclined, 360° rotating	WF 10x/18	Quadruple	HC (high contrast) 4x, 10x, 40x, 100x	Double layer, 125x116 mm, moving range 70x30 mm	Coaxial coarse and fine, limit stop	Abbe N.A. 1.25, iris diaphragm, focusable	1 W X-LED[1], manual brightness control
B-156 **B-157***	Binocular, 30° inclined, 360° rotating	WF 10x/18	Quadruple	HC (high contrast) 4x, 10x, 40x, 60x*	Double layer, 125x116 mm, moving range 70x30 mm	Coaxial coarse and fine, limit stop	Abbe N.A. 1.25, iris diaphragm, focusable	1 W X-LED[1], manual brightness control
B-159	Binocular, 30° inclined, 360° rotating	WF 10x/18	Quadruple	HC (high contrast) 4x, 10x, 40x, 100x	Double layer, 125x116 mm, moving range 70x30 mm	Coaxial coarse and fine, limit stop	Abbe N.A. 1.25, iris diaphragm, focusable	1 W X-LED[1], manual brightness control

B-150 - ALC Models, with Automatic Light Control and HC Objectives

Model	Head	Eyepiece(s)	Nosepiece	Objectives	Stage	Focusing	Condenser	Illumination
B-151ALC	Monocular, 30° inclined	WF 10x/18	Quadruple	HC (high contrast) 4x, 10x, 40x	Fixed, 130x120 mm, with sample clips	Coaxial coarse and fine, limit stop	N.A. 0.65 fixed, with diaphragm	1 W X-LED[1], manual and automatic brightness control
B-152ALC **B-153ALC***	Monocular, 30° inclined	WF 10x/18	Quadruple	HC (high contrast) 4x, 10x, 40x, 60x*	Double layer, 125x116 mm, moving range 70x30 mm	Coaxial coarse and fine, limit stop	Abbe N.A. 1.25, iris diaphragm, focusable	1 W X-LED[1], manual and automatic brightness control
B-155ALC	Monocular, 30° inclined	WF 10x/18	Quadruple	HC (high contrast) 4x, 10x, 40x, 100x	Double layer, 125x116 mm, moving range 70x30 mm	Coaxial coarse and fine, limit stop	Abbe N.A. 1.25, iris diaphragm, focusable	1 W X-LED[1], manual and automatic brightness control
B-156ALC **B-157ALC***	Binocular, 30° inclined	WF 10x/18	Quadruple	HC (high contrast) 4x, 10x, 40x, 60x*	Double layer, 125x116 mm, moving range 70x30 mm	Coaxial coarse and fine, limit stop	Abbe N.A. 1.25, iris diaphragm, focusable	1 W X-LED[1], manual and automatic brightness control
B-159ALC	Binocular, 30° inclined	WF 10x/18	Quadruple	HC (high contrast) 4x, 10x, 40x, 100x	Double layer, 125x116 mm, moving range 70x30 mm	Coaxial coarse and fine, limit stop	Abbe N.A. 1.25, iris diaphragm, focusable	1 W X-LED[1], manual and automatic brightness control

B-150 - Cordless Models, with N-PLAN Objectives and Li-Ion Rechargeable Batteries

Model	Head	Eyepiece(s)	Nosepiece	Objectives	Stage	Focusing	Condenser	Illumination
B-151R-PL	Monocular, 30° inclined, 360° rotating	WF 10x/18	Quadruple	N-PLAN 4x, 10x, 40x	Fixed, 130x120 mm, with sample clips	Coaxial coarse and fine, limit stop	N.A. 0.65 fixed, with diaphragm	1 W X-LED[1], manual brightness control, Li-Ion rechargeable battery
B-152R-PL	Monocular, 30° inclined, 360° rotating	WF 10x/18	Quadruple	N-PLAN 4x, 10x, 40x	Double layer, 125x116 mm, moving range 70x30 mm	Coaxial coarse and fine, limit stop	Abbe N.A. 1.25, iris diaphragm, focusable	1 W X-LED[1], manual brightness control, Li-Ion rechargeable battery
B-153R-PL	Monocular, 30° inclined, 360° rotating	WF 10x/18	Quadruple	N-PLAN 4x, 10x, 40x, 60x	Double layer, 125x116 mm, moving range 70x30 mm	Coaxial coarse and fine, limit stop	Abbe N.A. 1.25, iris diaphragm, focusable	1 W X-LED[1], manual brightness control, Li-Ion rechargeable battery
B-155R-PL	Monocular, 30° inclined, 360° rotating	WF 10x/18	Quadruple	N-PLAN 4x, 10x, 40x, 100x	Double layer, 125x116 mm, moving range 70x30 mm	Coaxial coarse and fine, limit stop	Abbe N.A. 1.25, iris diaphragm, focusable	1 W X-LED[1], manual brightness control, Li-Ion rechargeable battery
B-156R-PL **B-157R-PL***	Binocular, 30° inclined, 360° rotating	WF 10x/18	Quadruple	N-PLAN 4x, 10x, 40x, 60x*	Double layer, 125x116 mm, moving range 70x30 mm	Coaxial coarse and fine, limit stop	Abbe N.A. 1.25, iris diaphragm, focusable	1 W X-LED[1], manual brightness control, Li-Ion rechargeable battery
B-159R-PL	Binocular, 30° inclined, 360° rotating	WF 10x/18	Quadruple	N-PLAN 4x, 10x, 40x, 100x	Double layer, 125x116 mm, moving range 70x30 mm	Coaxial coarse and fine, limit stop	Abbe N.A. 1.25, iris diaphragm, focusable	1 W X-LED[1], manual brightness control, Li-Ion rechargeable battery

B-150 - Polarized Light Cordless Models, with N-PLAN Objectives and Li-Ion Rechargeable Batteries

Model	Head	Eyepiece(s)	Nosepiece	Objectives	Stage	Focusing	Condenser	Illumination
B-150P-MRPL	Monocular, 30° inclined, 360° rotating	WF 10x/18	Quadruple	N-PLAN 4x, 10x, 40x	Round, 360° rotating, 120 mm diameter, with sample clips	Coaxial coarse and fine, limit stop	N.A. 1.25, iris diaphragm, fixed	1 W X-LED[1], manual brightness control, Li-Ion rechargeable battery
B-150P-BRPL	Binocular, 30° inclined, 360° rotating	WF 10x/18	Quadruple	N-PLAN 4x, 10x, 40x	Round, 360° rotating, 120 mm diameter, with sample clips	Coaxial coarse and fine, limit stop	N.A. 1.25, iris diaphragm, fixed	1 W X-LED[1], manual brightness control, Li-Ion rechargeable battery

B-150 - Digital Cordless Models, with N-PLAN Objectives and Li-Ion Rechargeable Batteries

Model	Head	Eyepiece(s)	Nosepiece	Objectives	Stage	Focusing	Condenser	Illumination
B-150D-MRPL	Monocular, 30° inclined, 360° rotating	WF 10x/18	Quadruple	N-PLAN 4x, 10x, 40x	Double layer, 125x116 mm, moving range 70x30 mm	Coaxial coarse and fine, limit stop	Abbe N.A. 1.25, iris diaphragm, focusable	1 W X-LED[1], manual brightness control, Li-Ion rechargeable battery
B-150D-BRPL	Binocular, 30° inclined, 360° rotating	WF 10x/18	Quadruple	N-PLAN 4x, 10x, 40x, 100x	Double layer, 125x116 mm, moving range 70x30 mm	Coaxial coarse and fine, limit stop	Abbe N.A. 1.25, iris diaphragm, focusable	1 W X-LED[1], manual brightness control, Li-Ion rechargeable battery

B-150 Series - Accessories

Eyecups & Eyepieces

M-001 Huygens 5x eyepiece
M-002.1 WF10x/18 eyepiece, high eyepoint
M-004 WF10x/18 micrometric eyepiece, high eyepoint
M-008 WF10x/18 eyepiece, high eyepoint, with pointer
M-003 WF16x/12 eyepiece
M-162 WF20x/10 eyepiece

Objectives

HC

M-137 HC (high contrast) objective 4x/0.10
M-138 HC (high contrast) objective 10x/0.25
M-139 HC (high contrast) objective 20x/0.40
M-141 HC (high contrast) objective 40x/0.65
M-142 HC (high contrast) objective 60x/0.85
M-143 HC (high contrast) objective 100x/1.25 (oil)

N-PLAN

M-164 N-PLAN objective 4x/0.10
M-165 N-PLAN objective 10x/0.25
M-166 N-PLAN objective 20x/0.40
M-167 N-PLAN objective 40x/0.65
M-168 N-PLAN objective 60x/0.85
M-169 N-PLAN objective 100x/1.25 (oil)

Stages

M-040 Attachable mechanical stage (only for B-151, B-151ALC and B-151R-PL)

Condensers & Filters

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-155 Polarising set (filters only)

Camera Adapters

M-115 0.35x C-Mount projection lens
M-114 0.5x C-Mount projection lens
M-118 0.75x C-Mount projection lens

Miscellaneous

15104 Cleaning kit
15008 Immersion oil, 10ml
15009 Immersion oil, 100ml
DC-002 Plastic dust cover, medium, 490(l)x490(h) mm
M-005 Micrometric slide, 26x76mm, with 2 scales (1mm/100 & 10mm/100)
M-069 Solar charger
M-972 Plane-concave mirror, with base
AB-010 Antibacterial surface treatment, only for newly purchased microscope

M-069 - Solar charger

Included battery: rechargeable – Lithium-Poly. Capacity: 2500 mAh.
Output voltage: 5 Vdc. -
Autonomy: over 6 hours at medium intensity (X-LED^3).
Charging models: with solar panel (12h),
with external USB power supply (2.5h)
Not compatible with R models.

15104 - Cleaning kit

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

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

v 7.5 - OPTIKA reserves the right to make corrections, modifications, enhancements, improvements and other changes to its products at any time without notice.

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OPTIKA®
MICROSCOPES
ITALY

B-190 Series

Advanced Biological Microscopes For Students

Fulfill the Next Generation Learning Challenges

DEPENDABLE TEACHING IN A MODERN AND ERGONOMIC DESIGN

» Designed for secondary schools and educational labs
» 18 mm field number for a wide observation area
» High eyepoint eyepieces for glasses wearers
» Sturdy and durable for extended lifetime; compact and intuitive
» External power supply for enhanced safety and convenient servicing

WINDOWS TABLET PC - ONLY AVAILABLE AT OPTIKA

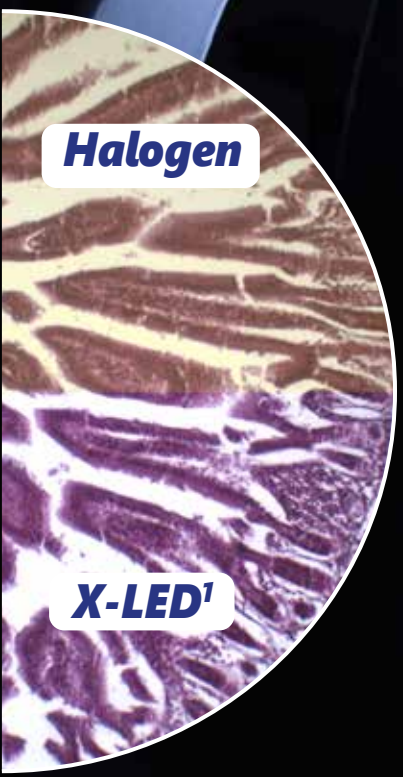
» A completely new, revolutionary experience for unparalleled comfort
» Responsive and smooth control for accurate results in few clicks
» Large touch screen with 360° rotating and tilting holding solution
» Simultaneous camera and power connection for long-term operation
» Easily detachable to be used as a laptop (keyboard sold separately)

100X OIL/WATER OBJECTIVE - ONLY AVAILABLE AT OPTIKA

» Same objective for oil and water use
» Oil represents the best media for high numerical aperture
» Water combines results with convenience for educational purposes
» Save time - forget about tedious cleaning and maintenance
» Save money - no additional expenses due to inappropriate cleaning

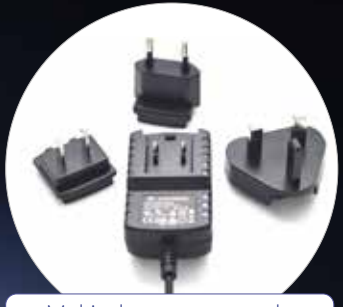
100x Oil

100x Water



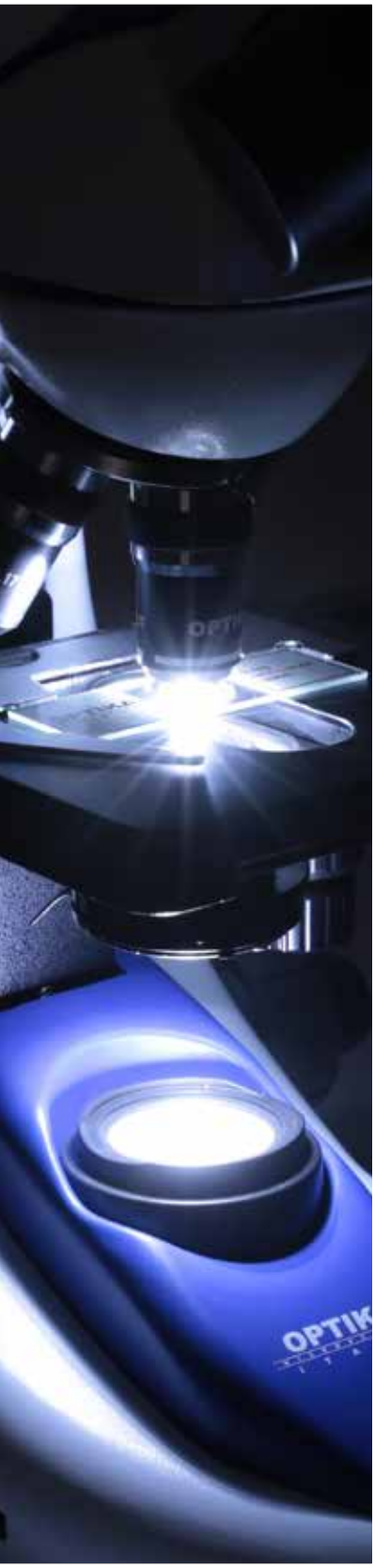
X-LED² FOR 65,000 HOURS OF OPERATION - ONLY AVAILABLE AT OPTIKA

» State-of-the-art illumination system for incomparable light intensity
» Exclusive lens & collector design, unmatched uniformity & brightness
» Excellent color fidelity, constant pure-white color temperature
» Money & energy saving, cutting electricity bills by 90%
» More efficient brightness than a 30 W halogen lamp



Multi-plug power supply

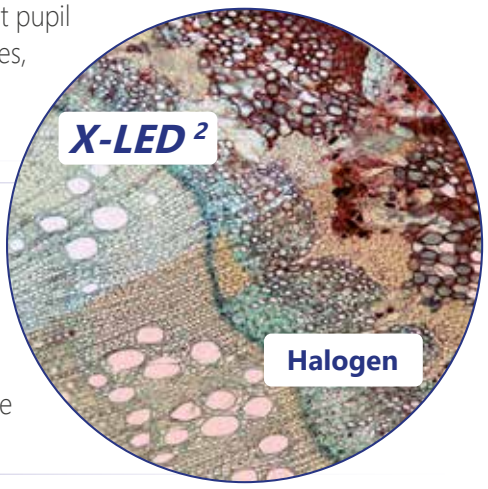
B-190 Series



Valuable configurations of modern microscopes ideal for teachers and secondary schools, with four achromatic lenses, FN 18 high eyepoint eyepieces, finite optical system, coaxial focusing, mechanical stage and powerful, uniform, white color temperature 3 W X-LED² illumination.
Slim and easy to carry, all the models are equipped with long lasting LED illumination to provide over 20 years of use

High eyepoint eyepieces for glasses wearers
These eyepieces are designed in such a way that the exit pupil is further away from the eye lens than standard eyepieces, being are well suited for eyeglasses wearers

X-LED² State-of-the-art illumination system for incomparable light intensity
Provided with an exclusive lens & collector design, OPTIKA X-LED technology ensures unmatched uniformity & brightness (more than a 30 W halogen lamp) for excellent color fidelity with constant pure-white color temperature



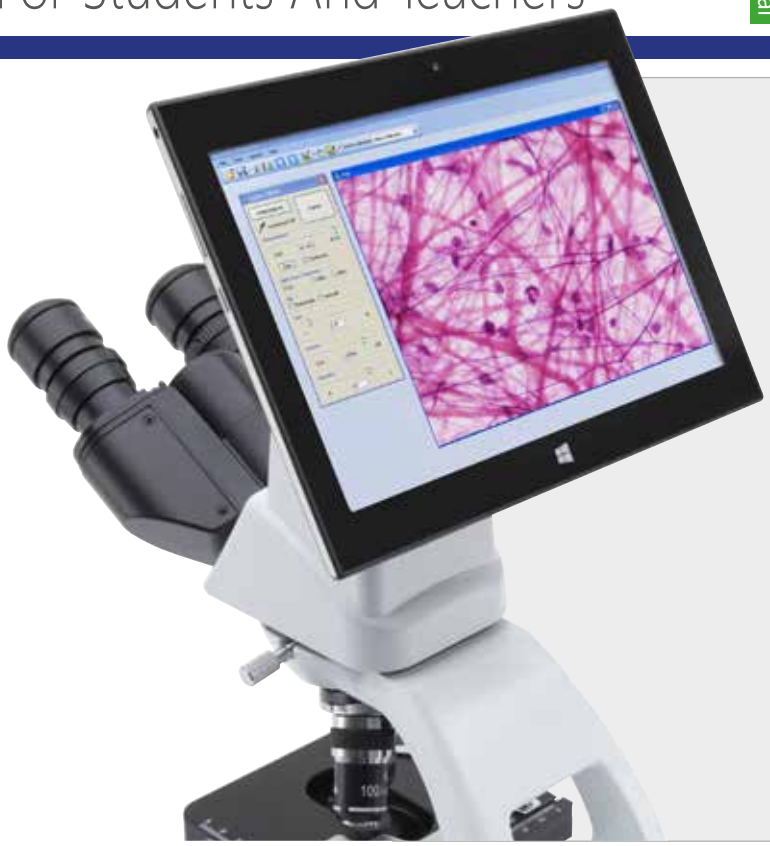
100x oil/water objective: same objective for dual use
This new, revolutionary objective is something you've never seen before!
Oil ensures the best performance achievable; water represents the most convenient solution as eliminates tedious cleaning

A completely new, revolutionary experience for unparalleled comfort
B-190TBPL includes built-in camera and Windows tablet PC with large touch screen for a smooth and responsive control, with dependable results in few clicks, and providing an extremely comfortable solution for open discussions

External power supply for enhanced safety and convenient servicing
OPTIKA's safety first approach drives to the use of a low voltage, multi-plug, external power supply in order to prevent any risk of electric shock and heatflow inside the unit

Advanced Biological Microscopes For Students And Teachers

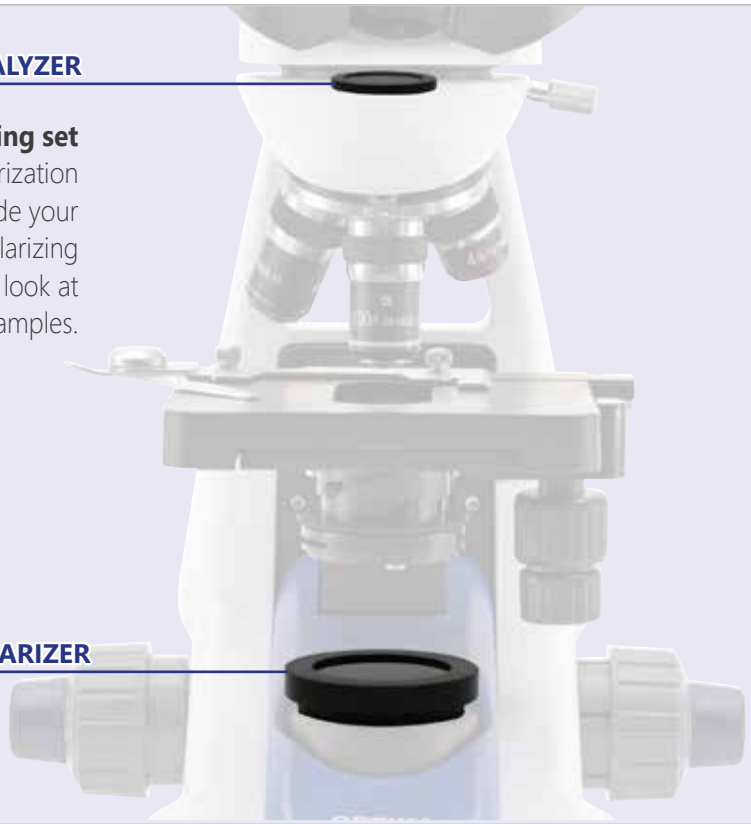
Optimum And Unparalleled Comfort In Use
The B-190TBPL offers you a unique, incomparable solution.
It includes a built-in camera of 3.1 MP and a Windows tablet with large touch screen, for a responsive and smooth control.
Simultaneous camera and power connection ensure long-term operation, with dependable results in one click.
It provides a reliable and comfortable solution
for open discussion: 360° rotating and tilting tablet, easily detachable, that can be used as a laptop.



Get the most out of our accessories

ANALYZER

M-174 - Polarizing set
Set for simple polarization analysis. Upgrade your B-190 to a polarizing microscope and look at birefringent samples.



POLARIZER

B-190 Series - Range

B-191sPL

Monocular microscope ideal for teachers and secondary schools, with four N-PLAN objectives (600x), FN 18 high eyepoint, finite optical system, coaxial focusing, mechanical stage, Abbe condenser and powerful, uniform, white color temperature 3 W *X-LED²* illumination. Slim and easy to carry, yet sturdy and resistant, it is equipped with all the main controls to start learning how to use an advanced microscope and with long lasting LED illumination to provide over 20 years of use

Head: Monocular, 30° inclined; 360° rotating.

Eyepiece: WF10x/18 mm, high eyepoint, secured by screw.

Nosepiece: Quadruple ball bearings revolving nosepiece, reversed.

Objectives:
- N-PLAN objective 4x/0.10
- N-PLAN objective 10x/0.25
- N-PLAN objective 40x/0.65
- N-PLAN objective 60x/0.85

All with anti-fungus treatment.

Specimen stage: Mechanical stage, 125x115 mm, 70x30 mm X-Y movement range. Vernier scale on the two axes, accuracy: 0.1 mm.

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

Condenser: Abbe N.A. 1.25, pre-centered, focusable, with iris diaphragm.

Illumination: X-LED² with white 3 W LED and brightness control. Color temperature: 6,300 K. Multi-plug 100-240Vac/6Vdc external power supply.

B-191PL

Monocular microscope ideal for teachers and secondary schools, with four N-PLAN objectives (1000x), FN 18 high eyepoint, finite optical system, coaxial focusing, mechanical stage, Abbe condenser and powerful, uniform, white color temperature 3 W *X-LED²* illumination. Slim and easy to carry, yet sturdy and resistant, it is equipped with all the main controls to start learning how to use an advanced microscope and with long lasting LED illumination to provide over 20 years of use

Head: Monocular, 30° inclined; 360° rotating.

Eyepiece: WF10x/18 mm, high eyepoint, secured by screw.

Nosepiece: Quadruple ball bearings revolving nosepiece, reversed.

Objectives:
- N-PLAN objective 4x/0.10
- N-PLAN objective 10x/0.25
- N-PLAN objective 40x/0.65
- N-PLAN objective 100x/1.25 (Oil/Water)

All with anti-fungus treatment.

Specimen stage: Mechanical stage, 125x115 mm, 70x30 mm X-Y movement range. Vernier scale on the two axes, accuracy: 0.1 mm.

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

Condenser: Abbe N.A. 1.25, pre-centered, focusable, with iris diaphragm.

Illumination: X-LED² with white 3 W LED and brightness control. Color temperature: 6,300 K. Multi-plug 100-240Vac/6Vdc external power supply.

B-192sPL

Binocular microscope ideal for teachers and secondary schools, with four N-PLAN objectives (600x), FN 18 high eyepoint, finite optical system, coaxial focusing, mechanical stage, Abbe condenser and powerful, uniform, white color temperature 3 W *X-LED²* illumination. Slim and easy to carry, yet sturdy and resistant, it is equipped with all the main controls to start learning how to use an advanced microscope and with long lasting LED illumination to provide over 20 years of use

Head: Binocular, 30° inclined; 360° rotating.

Dioptric adjustment: Left eyepiece.

Eyepieces: WF10x/18 mm, high eyepoint, secured by screw.

Nosepiece: Quadruple ball bearings revolving nosepiece, reversed.

Objectives:
- N-PLAN objective 4x/0.10
- N-PLAN objective 10x/0.25
- N-PLAN objective 40x/0.65
- N-PLAN objective 60x/0.85

All with anti-fungus treatment.

Specimen stage: Mechanical stage, 125x115 mm, 70x30 mm X-Y movement range. Vernier scale on the two axes, accuracy: 0.1 mm.

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

Condenser: Abbe N.A. 1.25, pre-centered, focusable, with iris diaphragm.

Illumination: X-LED² with white 3 W LED and brightness control. Color temperature: 6,300 K. Multi-plug 100-240Vac/6Vdc external power supply.

B-192PL

Binocular microscope ideal for teachers and secondary schools, with four N-PLAN objectives (1000x), FN 18 high eyepoint, finite optical system, coaxial focusing, mechanical stage, Abbe condenser and powerful, uniform, white color temperature 3 W *X-LED²* illumination. Slim and easy to carry, yet sturdy and resistant, it is equipped with all the main controls to start learning how to use an advanced microscope and with long lasting LED illumination to provide over 20 years of use

Head: Binocular, 30° inclined; 360° rotating.

Dioptric adjustment: Left eyepiece.

Eyepieces: WF10x/18 mm, high eyepoint, secured by screw.

Nosepiece: Quadruple ball bearings revolving nosepiece, reversed.

Objectives:
- N-PLAN objective 4x/0.10
- N-PLAN objective 10x/0.25
- N-PLAN objective 40x/0.65
- N-PLAN objective 100x/1.25 (Oil/Water)

All with anti-fungus treatment.

Specimen stage: Mechanical stage, 125x115 mm, 70x30 mm X-Y movement range. Vernier scale on the two axes, accuracy: 0.1 mm.

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

Condenser: Abbe N.A. 1.25, pre-centered, focusable, with iris diaphragm.

Illumination: X-LED² with white 3 W LED and brightness control. Color temperature: 6,300 K. Multi-plug 100-240Vac/6Vdc external power supply.

B-190 Series - Range

B-193PL

Trinocular microscope for camera connection ideal for teachers and secondary schools, with four N-PLAN objectives (1000x), FN 18 high eyepoint, finite optical system, coaxial focusing, mechanical stage, Abbe condenser and powerful, uniform, white color temperature 3 W ***X-LED²*** illumination. Slim and easy to carry, yet sturdy and resistant, it is equipped with all the main controls to start learning how to use an advanced microscope and with long lasting LED illumination to provide over 20 years of use

Head: Trinocular (split ratio: 50/50), 30° inclined; 360° rotating.

Dioptric adjustment: Left eyepiece.

Eyepieces: WF10x/18 mm, high eyepoint, secured by screw.

Nosepiece: Quadruple ball bearings revolving nosepiece, reversed.

Objectives:
- N-PLAN objective 4x/0.10
- N-PLAN objective 10x/0.25
- N-PLAN objective 40x/0.65
- N-PLAN objective 100x/1.25 (Oil/Water)

All with anti-fungus treatment.

Specimen stage: Mechanical stage, 125x115 mm, 70x30 mm X-Y movement range. Vernier scale on the two axes, accuracy: 0.1 mm.

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

Condenser: Abbe N.A. 1.25, pre-centered, focusable, with iris diaphragm.

Illumination: X-LED² with white 3 W LED and brightness control. Color temperature: 6,300 K. Multi-plug 100-240Vac/6Vdc external power supply.

B-190TBPL

PATENTED

Digital binocular microscope ideal for teachers and secondary schools, with four N-PLAN objectives (1000x), FN 18 high eyepoint, finite optical system, coaxial focusing, mechanical stage, Abbe condenser and powerful, uniform, white color temperature 3 W ***X-LED²*** illumination. The 3.1 MP CMOS camera ensures excellent colour reproduction and is connected to a Windows tablet PC with vivid color graphic display for unparalleled comfort and performance. The tablet represents a 2-in-1 solution as it can be disconnected and used as a real PC, being Windows-based, with powerful Intel processor and large touch screen of 10.1" for fast, responsive and smooth control

Head: Binocular with integrated 3.1 MP camera, 30° inclined; 360° rotating. Detachable Windows tablet PC included, rotating and tilting.

Dioptric adjustment: Left eyepiece.

Eyepieces: WF10x/18 mm, high eyepoint, secured by screw.

Nosepiece: Quadruple ball bearings revolving nosepiece, reversed.

Objectives:
- N-PLAN objective 4x/0.10
- N-PLAN objective 10x/0.25
- N-PLAN objective 40x/0.65
- N-PLAN objective 100x/1.25 (Oil/Water). All with anti-fungus treatment.

Specimen stage: Mechanical stage, 125x115 mm, 70x30 mm X-Y movement range. Vernier scale on the two axes, accuracy: 0.1 mm.

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

Condenser: Abbe N.A. 1.25, pre-centered, focusable, with iris diaphragm.

Illumination: X-LED² with white 3 W LED and brightness control. Color temperature: 6,300 K. Multi-plug 100-240Vac/6Vdc external power supply

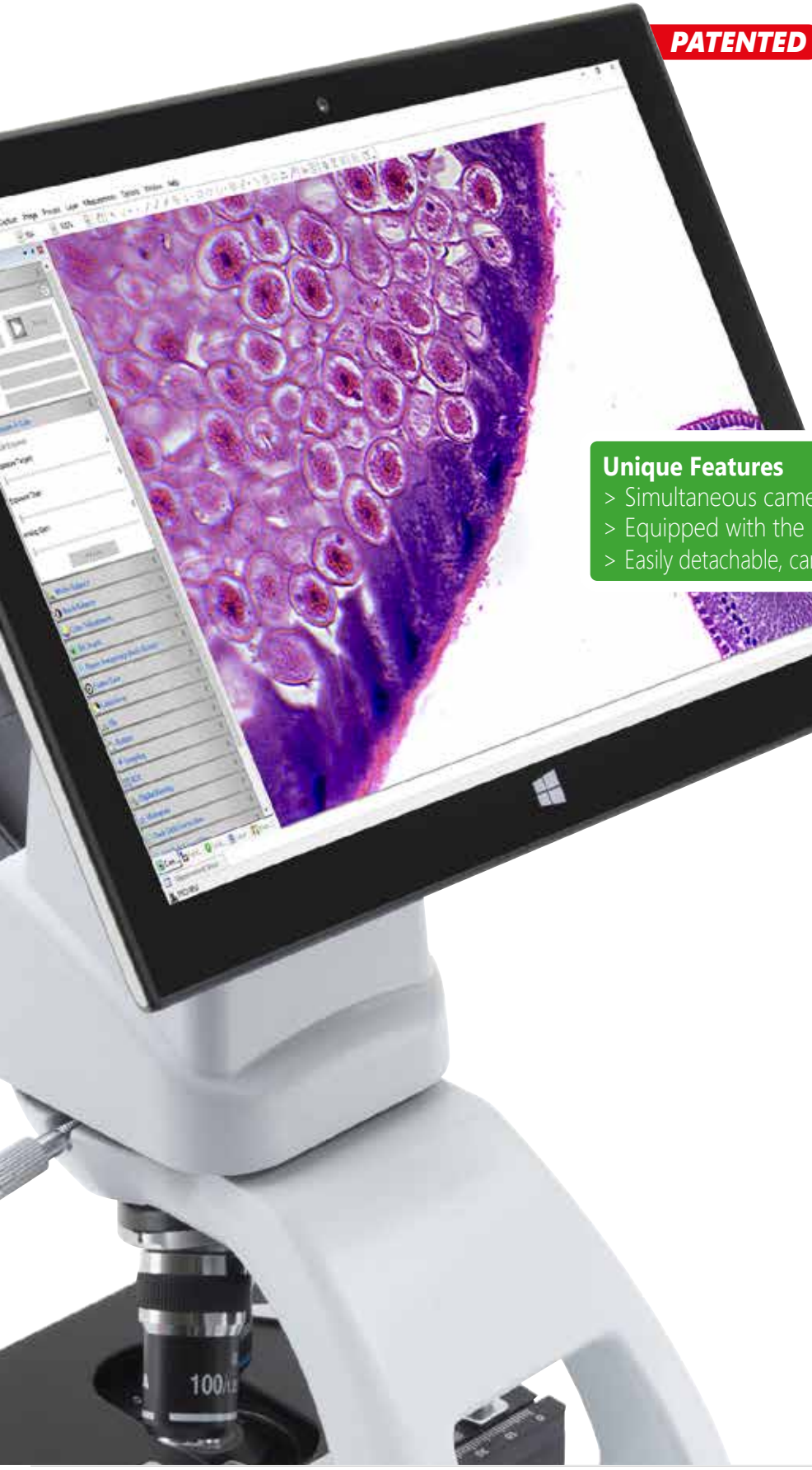
B-190TBPL - Digital Microscope with Camera & Tablet

The latest OPTIKA digital microscopes with Windows tablet PC open new microscopy horizons, combining high-end optics with innovative digital technology for microscopic imaging. B-190TB includes a 3.1 MP camera with a 10.1" Windows tablet.
View, capture, analyze and share your images with simplicity and reliability.

Intuitive, Yet Powerful Software

Simple and user-friendly, ideal for students and experienced users.

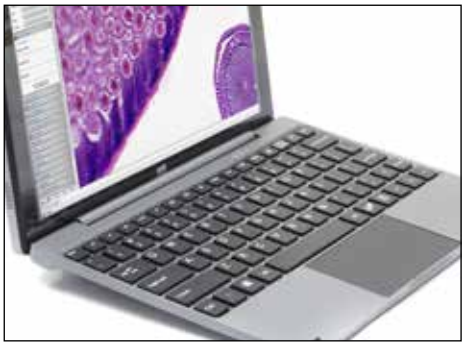
PATENTED



Unique Features
> Simultaneous camera & power connection
> Equipped with the latest **Windows OS** & **Intel** processor
> Easily detachable, can be used as a laptop (keyboard sold separately)

360° Rotating & Tilting

Detachable



TB-KBD2 - Accessory keyboard for tablet

B-190TBPL - Digital microscope with camera & tablet

TABLET TECHNICAL SPECIFICATIONS	
Operating system	Windows 10 (64Bit)
CPU	Gemini-Lake, N4100
CPU speed	1.10 GHz
Graphic card	Intel® HD Graphics 600
RAM	Ram 6 GB LPDDR3
Display size	LED 10.1" IPS Multi Touch Screen
Display resolution	1920x1200
Storage	Hdd 128 GB
Network	WiFi (2.4G / 5G) - Bluetooth 5.0
Input ports	USB-C (1 USB2.0 for battery charge, 1 USB3.0) - Micro SD card reader
Output ports	Microphone - Headphone - Micro HDMI
Battery Type	Lithium-ion
Battery capacity	6500 mAh
Power consumption	24.05W
Power supply	12V 2A EU
Dimensions (mm)	261 x 167 X 9
Weight (Kg)	0.53
Language	Multilanguage
Weight	530 g
Tablet accessories included	USB cable USB-B to USB-A (0.5m)

CAMERA TECHNICAL SPECIFICATIONS	
Digital camera resolution	3.14 MPixel
Signal output	USB 2.0
Sensor Size	1/2.5"
Sensor technology	CMOS
Image format	4\3
Full Image size	2048 x 1536
Pixel size	2.2 x 2.2 micron
Frame rate full resolution	5 frames\sec
Frame rate other resolutions	8 FPS (1280x1024) - 30FPS (640x480)
Automatic White Balance	Auto - Man
Automatic Gain Control	Auto - Man
Automatic Back light control	Auto - Man
Exposure control	Auto - Man

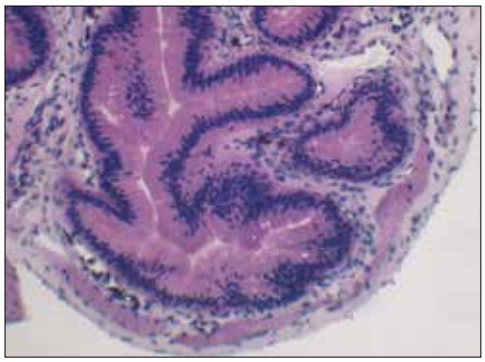
B-190 Series - Optical performance

Eyepiece			10x (M-002.1)		16x (M-003)	
Field number (mm)			18		12	
Objective	N.A.	W.D (mm)	Total magnification	Field of View (mm)	Total magnification	Field of View (mm)
4x	0.1	15.2	40x	4.5	64x	3
10x	0.25	5.5	100x	1.8	160x	1.2
20x	0.4	3.5	200x	0.9	320x	0.6
40x	0.65	0.45	400x	0.45	640x	0.3
60x	0.85	0.45	600x	0.3	960x	0.2
100x	1.25 (oil/water)	0.13	1000x	0.18	1600x	0.12

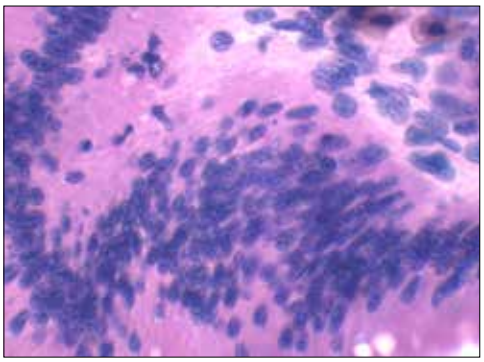
N-PLAN

OPTIKA N-PLAN objectives ensure bright, clear images with excellent flatness and compensation for chromatic aberration.

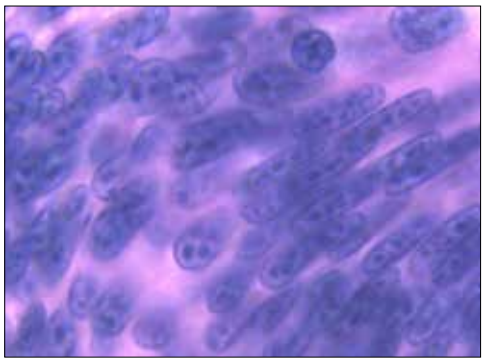
B-190 Series - **Zoom comparison**



Frog small intestine - B-193PL - 10x objective



Frog small intestine - B-193PL - 40x objective



Frog small intestine - B-193PL - 100x Oil objective

B-190 Series - **Comparison chart**

Model	Head	Eyepiece(s)	Nosepiece	Objectives	Stage	Focusing	Condenser	Illuminator
B-191sPL	Monocular, 360° rotating, 30° inclined	Wide Field 10x/18mm	Quadruple, reversed	N-PLAN 4x, 10x, 40x, 60x	Double layer, 125x115 mm with 70x30mm X-Y moving range	Coaxial coarse and fine focusing	N.A. 1.25 Abbe type with adjustable height and iris diaphragm	3 W X-LED², brightness control
B-191PL	Monocular, 360° rotating, 30° inclined	Wide Field 10x/18mm	Quadruple, reversed	N-PLAN 4x, 10x, 40x, 100x	Double layer, 125x115 mm with 70x30mm X-Y moving range	Coaxial coarse and fine focusing	N.A. 1.25 Abbe type with adjustable height and iris diaphragm	3 W X-LED², brightness control
B-192sPL	Binocular, 360° rotating, 30° inclined	Wide Field 10x/18mm	Quadruple, reversed	N-PLAN 4x, 10x, 40x, 60x	Double layer, 125x115 mm with 70x30mm X-Y moving range	Coaxial coarse and fine focusing	N.A. 1.25 Abbe type with adjustable height and iris diaphragm	3 W X-LED², brightness control
B-192PL	Binocular, 360° rotating, 30° inclined	Wide Field 10x/18mm	Quadruple, reversed	N-PLAN 4x, 10x, 40x, 100x	Double layer, 125x115 mm with 70x30mm X-Y moving range	Coaxial coarse and fine focusing	N.A. 1.25 Abbe type with adjustable height and iris diaphragm	3 W X-LED², brightness control
B-193PL	Trinocular, 360° rotating, 30° inclined	Wide Field 10x/18mm	Quadruple, reversed	N-PLAN 4x, 10x, 40x, 100x	Double layer, 125x115 mm with 70x30mm X-Y moving range	Coaxial coarse and fine focusing	N.A. 1.25 Abbe type with adjustable height and iris diaphragm	3 W X-LED², brightness control
B-190TBPL	Binocular, digital 360° rotating, 30° inclined	Wide Field 10x/18mm	Quadruple, reversed	N-PLAN 4x, 10x, 40x, 100x	Double layer, 125x115 mm with 70x30mm X-Y moving range	Coaxial coarse and fine focusing	N.A. 1.25 Abbe type with adjustable height and iris diaphragm	3 W X-LED², brightness control

B-190 Series - Accessories

Eyecups & Eyepieces

M-001	Huygens 5x eyepiece
M-002.1	WF10x/18 eyepiece, high eyepoint
M-004	WF10x/18 micrometric eyepiece, high eyepoint
M-008	WF10x/18 eyepiece, high eyepoint, with pointer
M-003	WF16x/12 eyepiece
M-162	WF20x/10 eyepiece

Objectives

M-164	N-PLAN objective 4x/0.10
M-165	N-PLAN objective 10x/0.25
M-166	N-PLAN objective 20x/0.40
M-167	N-PLAN objective 40x/0.65
M-168	N-PLAN objective 60x/0.85
M-169	N-PLAN objective 100x/1.25 (oil)

Condensers & Filters

M-174	Polarising set (filters only)
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

Camera Adapters

M-115	0.35x C-Mount projection lens
M-114	0.5x C-Mount projection lens
M-118	0.75x C-Mount projection lens
M-173	C-Mount projection lens for APS-C/full frame reflex cameras (trino)

Miscellaneous

15104	Cleaning kit
15008	Immersion oil, 10ml
15009	Immersion oil, 100ml
DC-002	Plastic dust cover, medium, 490(l)x490(h) mm (except for B-190TB)
DC-003	TNT dust cover, medium, 600(l)x550(h) mm (only for B-190TB)
TB-KBD2	Keyboard for tablet (only for B-190TB)
M-005	Micrometric slide, 26x76mm, with 2 scales (1mm/100 & 10mm/100)
M-069	Solar charger
M-971	Plane-concave mirror, with base
VP-190	IQ/OQ/PQ manual for B-190 series
VP-TB	IQ/OQ/PQ manual for TB series
AB-020	Antibacterial surface treatment, only for newly purchased microscope

M-069 - Solar charger
Included battery: rechargeable – Lithium-Poly. Capacity: 2500 mAh.
Output voltage: 5 Vdc. -
Autonomy: over 6 hours at medium intensity (X-LED^3).
Charging models: with solar panel (12h),
with external USB power supply (2.5h)

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

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

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OPTIKA®
MICROSCOPES
ITALY

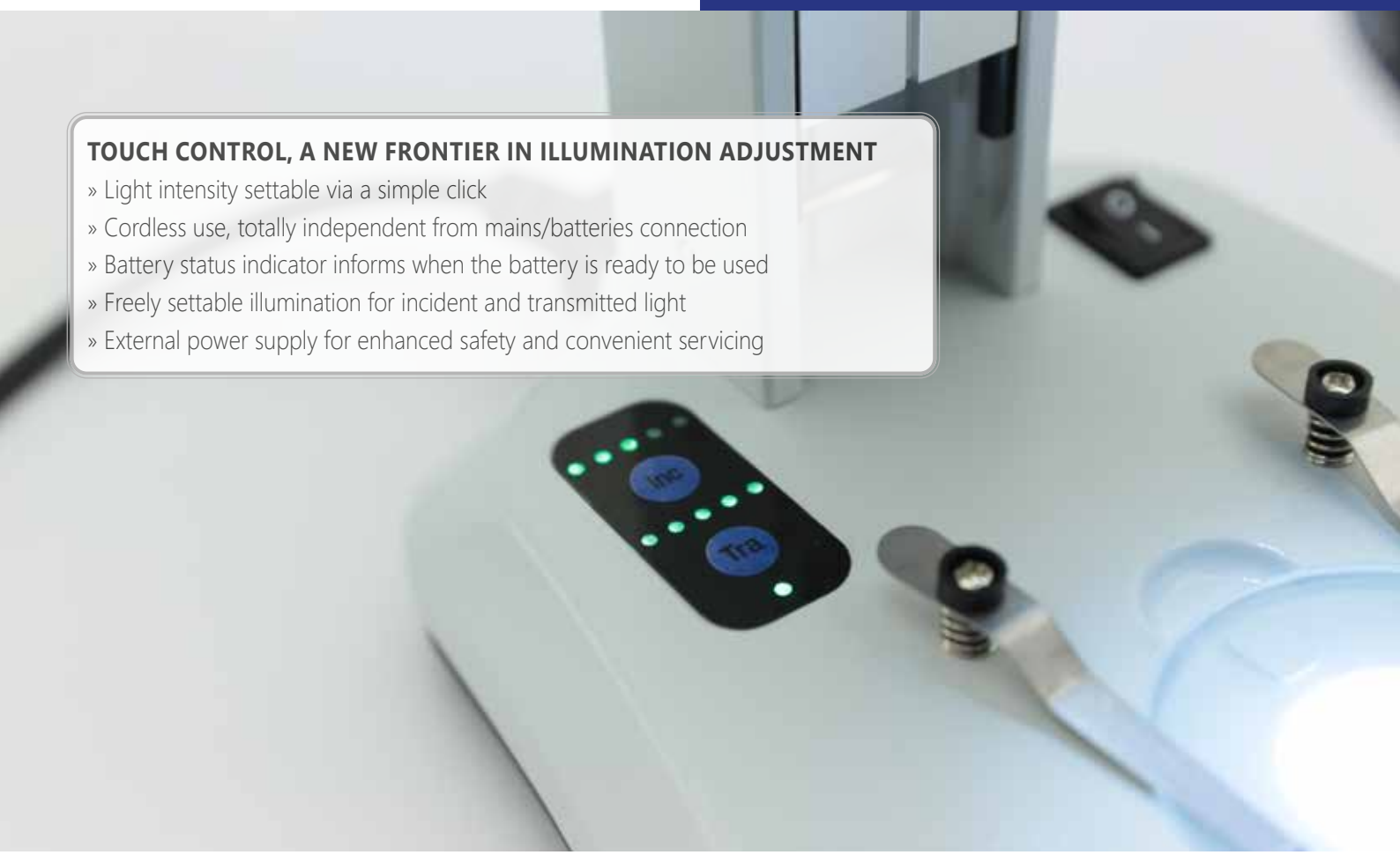
MS/SFX Series

Entry-Level Monoscopes & Stereomicroscopes For Students

Addressed For Simplicity & The Youngest Users

EDUCATIONAL STEREOMICROSCOPES DESIGNED FOR NOVICE USERS

» Particularly recommended for primary/secondary schools & amateurs
» 3D Greenough view for high resoluted images & large field depth
» Turnable objectives, up to 3 magnifications on 20 mm field number
» Longlife LED illumination (providing over 20 years of use
» Sturdy and durable for extended lifetime; compact and intuitive



TOUCH CONTROL, A NEW FRONTIER IN ILLUMINATION ADJUSTMENT

» Light intensity settable via a simple click
» Cordless use, totally independent from mains/batteries connection
» Battery status indicator informs when the battery is ready to be used
» Freely settable illumination for incident and transmitted light
» External power supply for enhanced safety and convenient servicing

MS/SFX Series

A great variety of mainly cordless binocular stereomicroscopes with turnable objectives, FN 20 eyepieces, 1 W LED transmitted/incident illumination and different stands to start exploring and discovering sciences and materials, including biology, entomology, rocks, plants, and many more specimens. Most of the models are equipped with premium features, such as the exclusive, comfortable touch control and the rechargeable batteries. Slim and easy to carry, all the models are equipped with long lasting LED illumination to provide over 20 years of use

Turnable objectives, up to 3 magnifications on 20 mm field number
SFX series is designed for basic operations, being provided with widefield eyepieces and objective turret magnification changer (up to 3 magnifications) for step magnification

Touch control - light intensity settable via a simple click
SFX Series represents a new frontier in illumination adjustment with an incredibly comfortable solution: the touch control, consisting in 10 pre-set intensity levels (5 for transmitted, 5 for incident)

Cordless use, totally independent from the mains/batteries connection
SFX Series works with or without the batteries in place and are provided with three NiMH rechargeable batteries for the longest autonomy in outdoor use (4-hour autonomy, at medium intensity)

MS/SFX Series

Battery status indicator informs when batteries are ready to be used
SFX Series has a smart charging indicator which indicates current charging status at all times - even when not in charge or during storage: if it is on, it means it is immediately ready to work

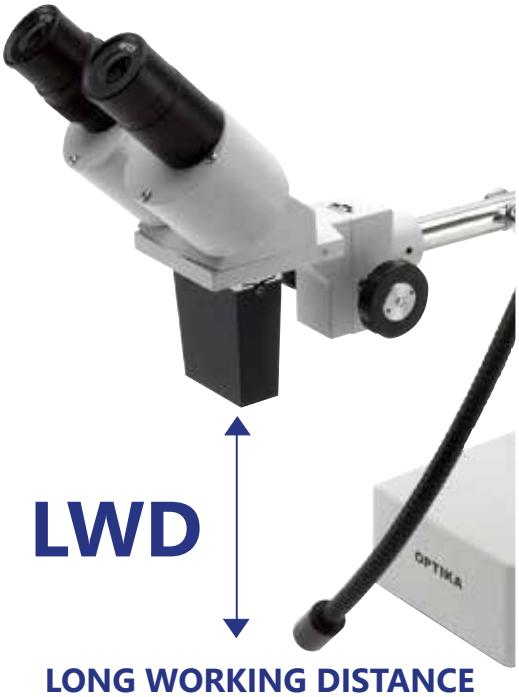
Longlife LED illumination (providing over 20 years of use)
Money & energy saving thanks to LED long lifetime (65.000 hours, 22 years in case of 8 hours/day) which is more than 20 times compared to a standard halogen bulb

External power supply for enhanced safety and convenient servicing
OPTIKA's safety first approach drives to the use of a low voltage, multi-plug, external power supply in order to prevent any risk of electric shock and heatflow inside the unit

ST-50Led - When Long Working Distance Is Required
ST-50Led has a special objective with long working distance that allows you to inspect bulky samples, thanks also to its overhanging arm stand and LED flexible incident light

MS-01 - Multifunctional Testing Equipment
MS-01 is a portable monoscope ideal as versatile testing equipment especially for surface analysis and measurements to be used directly on the specimen with 10x objective and penlight for incident illumination

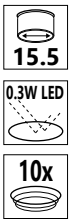
GREENOUGH



LONG WORKING DISTANCE

MS/SFX Series - Range

MS-1



Portable monoscope ideal as multifunctional testing equipment especially for surface analysis and measurements to be used directly on the specimen. Equipped with fixed objective (10x), FN 15.5 eyepiece with crosshair and 0.3 W LED penlight for incident illumination powered by rechargeable batteries

- **Eyepiece:** WF10x/15.5 mm, micrometric with crosshair.
- **Objective:** Achromatic 10x with anti-fungus treatment.
- **Working distance:** 6 mm.
- **Focusing:** Rack and pinion focusing mechanism.
- **Illumination:** 0.3 W LED incident penlight with batteries (not included).

SFX-31

Cordless binocular stereomicroscope ideal for students, schools and amateurs to dissect and discover mainly biology and materials science in 3D, with turnable objective (2x-4x), FN 20 eyepieces, pillar stand and 1 W LED transmitted / incident illumination with rechargeable batteries. Slim and easy to carry, it is equipped with long lasting LED illumination to provide over 20 years of use

- **Head:** Binocular, 45° inclined.
- **Dioptric adjustment:** Both eyepieces.
- **Eyepieces:** WF10x/20 mm, secured by screw and with rubber cups.
- **Objective:** Achromatic 2x-4x with anti-fungus treatment.
- **Working distance:** 57 mm.
- **Stand:** Pillar with focus.
- **Focusing:** Rack and pinion focusing mechanism.
- **Illumination:** 1 W LED incident and transmitted, with brightness control, rechargeable batteries. Color temperature: 6,300 K. Multi-plug 100-240Vac/5Vdc external power supply.

SFX-33

Cordless binocular stereomicroscope ideal for students, schools and amateurs to dissect and discover mainly biology and materials science in 3D, with turnable objective (2x-4x), FN 20 eyepieces, fixed arm with handle and 1 W LED transmitted / incident illumination with comfortable touch control and rechargeable batteries. Slim and easy to carry, it is equipped with long lasting LED illumination to provide over 20 years of use

- **Head:** Binocular, 45° inclined.
- **Dioptric adjustment:** Both eyepieces.
- **Eyepieces:** WF10x/20 mm, secured by screw and with rubber cups.
- **Objective:** Achromatic 2x-4x with anti-fungus treatment.
- **Working distance:** 57 mm
- **Stand:** Fixed with handle and focus.
- **Focusing:** Rack and pinion focusing mechanism.
- **Illumination:** 1 W LED incident and transmitted, with touch brightness control, rechargeable batteries. Color temperature: 6,300 K. Multi-plug 100-240Vac/5Vdc external power supply.

SFX-51

Cordless binocular stereomicroscope ideal for students, schools and amateurs to dissect and discover mainly biology and materials science in 3D, with turnable objective (2x-4x), FN 20 eyepieces, 360° rotating head, fixed arm with handle and 1 W LED transmitted / incident illumination with comfortable touch control and rechargeable batteries. Slim and easy to carry, it is equipped with long lasting LED illumination to provide over 20 years of use

- **Head:** Binocular, 45° inclined; 360° rotating.
- **Dioptric adjustment:** Both eyepieces.
- **Eyepieces:** WF10x/20 mm, secured by screw and with rubber cups.
- **Objective:** Achromatic 2x-4x with anti-fungus treatment.
- **Working distance:** 76 mm
- **Stand:** Fixed with handle and focus.
- **Focusing:** Rack and pinion focusing mechanism.
- **Illumination:** 1 W LED incident and transmitted, with touch brightness control, rechargeable batteries. Color temperature: 6,300 K. Multi-plug 100-240Vac/5Vdc external power supply

MS/SFX Series - Range

SFX-91

Cordless binocular stereomicroscope ideal for students, schools and amateurs to dissect and discover mainly biology and materials science in 3D, with turnable objective (1x-2x-4x), FN 20 eyepieces, precision fixed arm with handle and 1 W LED transmitted / incident illumination with comfortable touch control and rechargeable batteries. Slim and easy to carry, it is equipped with long lasting LED illumination to provide over 20 years of use

- **Head:** Binocular, 45° inclined.
- **Dioptric adjustment:** Both eyepieces.
- **Eyepieces:** WF10x/20 mm, secured by screw and with rubber cups.
- **Objective:** Achromatic 1x-2x-4x with anti-fungus treatment.
- **Working distance:** 60 mm.
- **Stand:** High-grade, precision fixed with handle and focus.
- **Focusing:** Rack and pinion focusing mechanism.
- **Illumination:** 1 W LED swiveling incident and transmitted, with touch brightness control, rechargeable batteries. Color temperature: 6,300 K. Multi-plug 100-240Vac/5Vdc external power supply

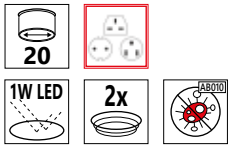
SFX-91D

Cordless digital binocular stereomicroscope ideal for students, schools and amateurs to dissect and discover mainly biology and materials science in 3D, with turnable objective (1x-2x-4x), FN 20 eyepieces, precision fixed arm with handle and 1 W LED transmitted / incident illumination with comfortable touch control and rechargeable batteries. Slim and easy to carry, it is equipped with long lasting LED illumination to provide over 20 years of use

- **Head:** Binocular with integrated 5 MP camera, 45° inclined.
- **Dioptric adjustment:** Both eyepieces.
- **Eyepieces:** WF10x/20 mm, secured by screw and with rubber cups.
- **Objective:** Achromatic 1x-2x-4x with anti-fungus treatment.
- **Working distance:** 60 mm.
- **Stand:** High-grade, precision fixed with handle and focus.
- **Focusing:** Rack and pinion focusing mechanism.
- **Illumination:** 1 W LED swiveling incident and transmitted, with touch brightness control, rechargeable batteries. Color temperature: 6,300 K. Multi-plug 100-240Vac/5Vdc external power supply.

MS/SFX Series - Range

ST-50Led



Binocular stereomicroscope ideal for large specimens, with long working distance fixed objective (2x), FN 20 eyepieces, overhanging stand and 1 W LED swiveling incident illumination. Additional objectives available for different magnifications

Head: Binocular, 45° inclined.

Dioptric adjustment: Left eyepiece.

Eyepieces: WF10x/20 mm, secured by screw.

Objective: Achromatic 2x with anti-fungus treatment.

Working distance: 110 mm.

Stand: Overhanging with focus.

Focusing: Rack and pinion focusing mechanism.

Illumination: 1 W LED swiveling incident on flexible arm.
Color temperature: 6,300 K. Multi-plug 100-240Vac/6Vdc external power supply.

MS/SFX Series - Comparison Chart

Model	Head	Eyepieces	Objective	Working Distance	Stand	Illumination
MS-1	-	WF 10x/15.5	10x fixed	6 mm	Fixed with focus	0.3 W LED penlight. Powered by AAA batteries (not included)
SFX-31	Binocular, 45° inclined, fixed	WF 10x/20	2x – 4x selectable	57 mm	Pillar with focus	Incident: 1 W LED Transmitted: 1 W LED Dial brightness control Rechargeable batteries
SFX-33	Binocular, 45° inclined, fixed	WF 10x/20	2x – 4x selectable	57 mm	Fixed with focus and handle	Incident: 1 W LED Transmitted: 1 W LED Touch brightness control Rechargeable batteries
SFX-51	Binocular, 45° inclined, 360° rotating	WF 10x/20	2x – 4x selectable	76 mm	Fixed with focus and handle	Incident: 1 W LED Transmitted: 1 W LED Touch brightness control Rechargeable batteries
SFX-91	Binocular, 45° inclined, fixed	WF 10x/20	1x – 2x – 4x selectable	60 mm	High-grade fixed with focus and handle	Incident: 1 W LED Transmitted: 1 W LED Touch brightness control Rechargeable batteries
SFX-91D	Binocular, 45° inclined, 5 MP integrated camera	WF 10x/20	1x – 2x – 4x selectable	60 mm	High-grade fixed with focus and handle	Incident: 1 W LED Transmitted: 1 W LED Touch brightness control Rechargeable batteries
ST-50Led	Binocular, 45° inclined, fixed	WF 10x/20	2x fixed	110 mm	Overhanging with focus	Incident: 1 W LED on flexible arm

MS/SFX Series - Accessories

ACCESSORIES FOR MS-1

Miscellaneous

DC-001 Plastic dust cover, small, 340(l)x400(h) mm
M-899 Pen illuminator
15104 Cleaning kit

ACCESSORIES FOR SFX SERIES & ST-50Led

Eyecups & Eyepieces

ST-001 WF5x/22 eyepieces (pair), 30.5mm diameter (except for ST-50Led)
ST-002 WF10x/20 eyepieces (pair)
ST-003 WF15x/15 eyepieces (pair)
ST-004 WF20x/13 eyepieces (pair)
ST-005 WF10x/20 micrometric eyepiece
ST-001.1 WF5x/22 eyepieces (pair), 30mm diameter (only for ST-50Led)

Objectives

ST-025 1x objective (only for ST-50Led)
ST-026 3.5x objective (only for ST-50Led)

Stage

ST-014 Glass object-plate, 95mm diameter (only for ST-30FX)
ST-015 Glass object-plate, 60mm diameter (except for ST-30FX & ST-50Led)
ST-011 White/black object-plate, 60mm diameter (except for ST-30FX & ST-50Led)
ST-012 White/black object-plate, 95mm diameter (only for ST-30FX)

Camera Adapters

M-114 0.5x C-Mount projection lens
M-115 0.35x C-Mount projection lens
M-118 0.75x C-Mount projection lens

Miscellaneous

M-113.1 Ring adapter, 30mm (for monocular and binocular microscopes) (except ST-50Led)
M-113.2 Ring adapter, 30.5mm (for monocular and binocular microscopes) (only for ST-50Led)
DC-001 Plastic dust cover, small, 340(l)x400(h) mm (except for ST-50Led)
DC-002 Plastic dust cover, medium, 490(l)x490(h) mm (only for ST-50Led)
M-005 Micrometric slide, 26x76mm, with 2 scales (1mm/100 & 10mm/100)
15104 Cleaning kit
ST-041 Sample clip (only for ST-30FX)
AB-010 Antibacterial surface treatment, only for newly purchased microscope

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

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

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MICROSCOPES
ITALY

SLX Series

Stereomicroscopes For Higher Education & Laboratory

Extremely Versatile Cordless Stereo & Stereozoom Microscopes

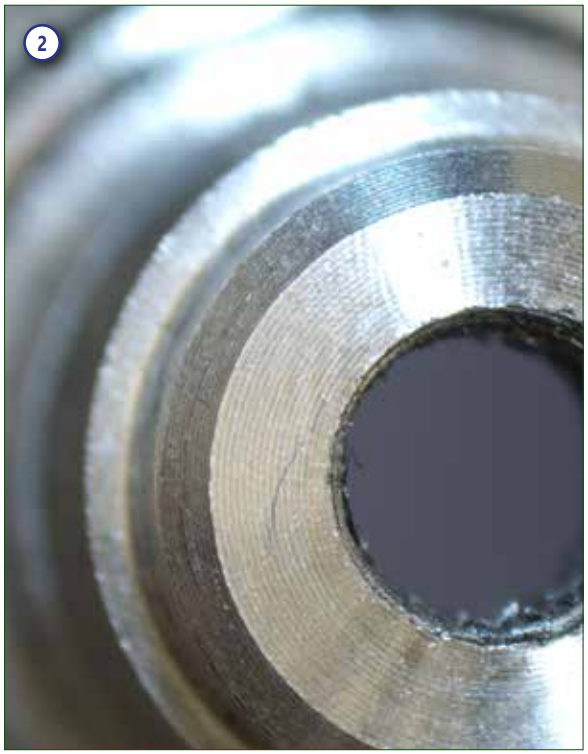
PROFESSIONAL FEATURES FOR... WELL, EVERYONE

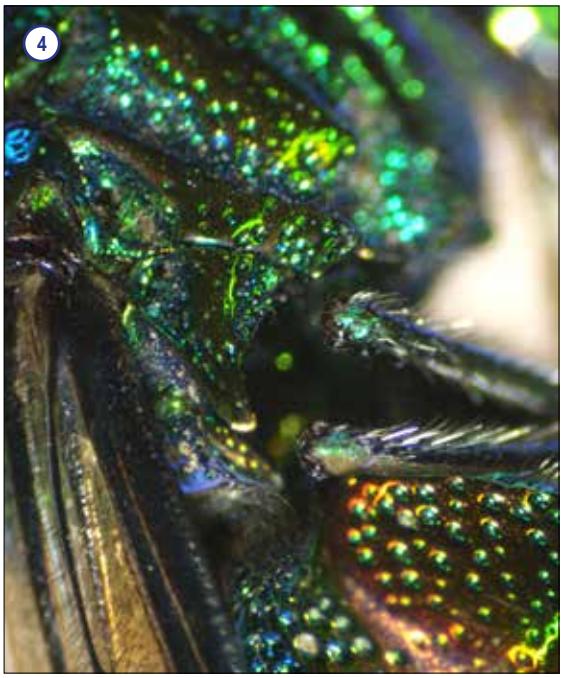
» Level up skills and become a professional user
» 3D Greenough view for high resoluted images & large field depth
» 6.43:1 ratio - 7x ... 45x - or turnable objective - 2x, 4x - on 21 mm
» Compact, practical and intuitive to use
» Sturdy and durable for extended lifetime

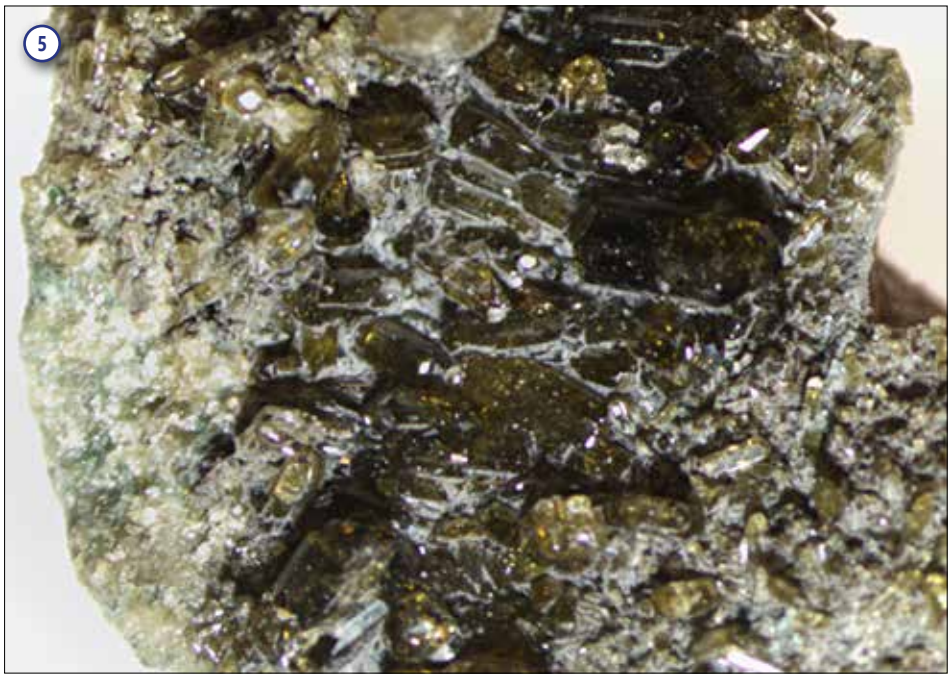
THE LONGEST AUTONOMY ON THE MARKET

» Longlife LED illumination (providing over 20 years of use)
» Ultra-flat base with Ø 100 mm disc for diffused transmitted light
» Cordless use, totally independent from mains/batteries connection
» Freely settable illumination - incident, oblique and transmitted light
» External power supply for enhanced safety and convenient servicing

SLX Series







Legend

1. Aluminum - SLX-1 and 4x objective.
2. Component worked on lathe - SLX-2 and 3x zoom.
3. Wasp - SLX-3 and 4x zoom.
4. Fly, detail - SLX-2 and 4.5x zoom.
5. Rock - SLX-2 - 1.5x zoom.

SLX Series

Valuable configurations of cordless and modern stereo & stereozoom microscopes ideal for a variety of applications, including industrial purposes as well as dissection, biology, entomology, anatomy, chemistry and material science among the others.
Provided with dual magnification or **6.43:1 zoom ratio, FN 21** high eyepoint eyepieces, high-grade precise fixed arm with focus and handle with the latest technology of **EcoLED™** illumination plus rechargeable batteries. Slim and easy to carry, all the models are equipped with long lasting LED illumination to provide over 20 years of use

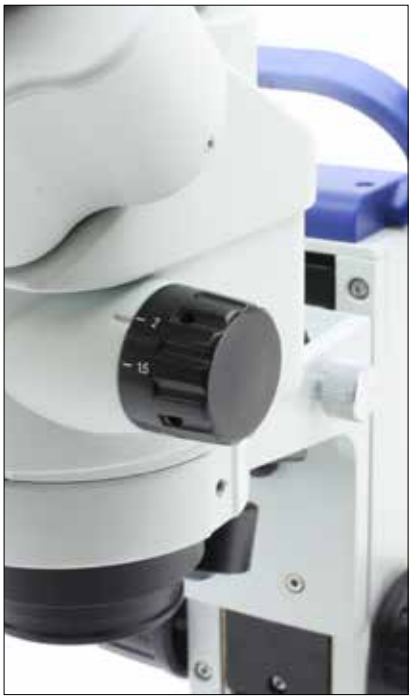
High eyepoint eyepieces for glasses wearers
These eyepieces are designed in such a way that the exit pupil is further away from the eye lens than standard eyepieces, being are well suited for eyeglasses wearers

The longest autonomy on the market ensured by EcoLED™
OPTIKA has re-designed illumination in microscopy, once again: a special coating process on optics combined with a new, higher ratio between low consumptions and ultra-efficiency has addressed us to top brightness levels

6.43:1 zoom ratio - zoom magnification from 7x to 45x
Purposely designed for professional routine inspections, the total magnification can be even extended to 180x with 20x eyepieces and 2x additional lens, obtaining an excellent results in this class

Ultra-flat base with Ø 100 mm disc for diffused transmitted light
A new level of ergonomy and comfort is achieved during operations, with the ultra-flat base of only 3 cm height to ensure smooth specimen movement and the Ø 100 mm for top class diffusion of the transmitted ligh

Stereomicroscopes For Higher Education & Laboratory



Longlife LED illumination (providing over 20 years of use)
Money & energy saving thanks to LED long lifetime (65.000 hours, 22 years in case of 8 hours/day) which is more than 20 times compared to a standard halogen bulb

Cordless use, totally independent from mains/batteries connection
All models work with or without the batteries in place and are provided with three NiMH rechargeable batteries for the longest autonomy in outdoor use (12-hour autonomy, at medium intensity)

External power supply for enhanced safety and convenient servicing
OPTIKA's safety first approach drives to the use of a low voltage, multi-plug, external power supply in order to prevent any risk of electric shock and heatflow inside the unit

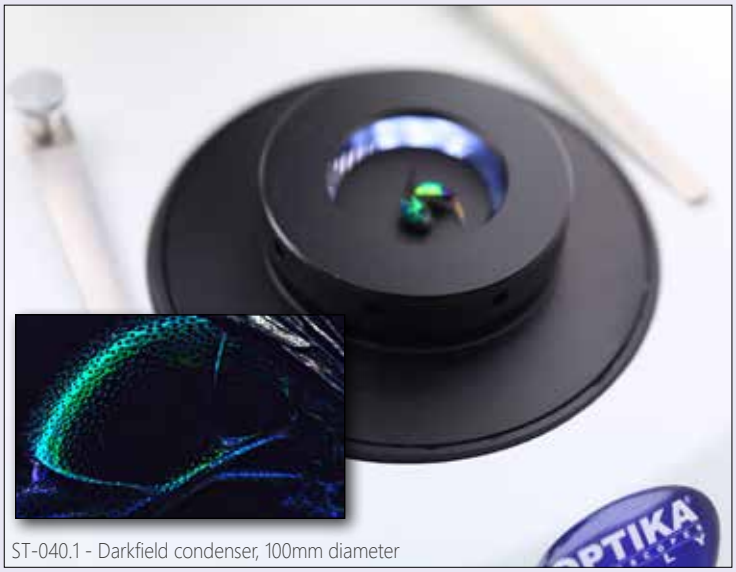
SLX Series - Get the most out of our accessories

Additional Lenses
Simply to be screwed into the threads below the objectives of SLX-2 and SLX-3 to either increase or decrease total magnification, or to increase the working distance when users need to work with hands under the microscope

ST-091 - Additional lens 0.75x

ST-085.1 - Additional lens 0.5x (w.d. 165mm) with SZ-EXT

ST-040.1 - Darkfield condenser
This is a darkfield condenser for stereo microscopes with bottom light and 100 mm round working plate to provide darkfield microscopy features, fitting all OPTIKA stereomicroscopes with 100 mm mounting size and transmitted light



ST-040.1 - Darkfield condenser, 100mm diameter

SLX Series - Range

SLX-1

Cordless binocular stereomicroscope ideal for industrial purposes and students/amateurs to dissect and discover mainly biology and materials science in 3D, with turnable objective (2x-4x), FN 21 high eyepoint eyepieces, precision fixed arm with handle and the latest technology of EcoLED™ illumination plus rechargeable batteries. Slim and easy to carry, it is equipped with long lasting LED illumination to provide over 20 years of use

- **Head:** Binocular, 45° inclined; 360° rotating.
- **Dioptric adjustment:** Left eyepiece.
- **Eyepieces:** WF10x/21 mm, high eyepoint, secured by screw and with rubber cups.
- **Objective:** Achromatic 2x-4x with anti-fungus treatment.
- **Working distance:** 100 mm.
- **Stand:** High-grade, precision fixed with handle and focus.
- **Focusing:** Rack and pinion focusing mechanism.
- **Illumination:** EcoLED™ swiveling incident and transmitted, with brightness control, rechargeable batteries. Color temperature: 6,300 K. Multi-plug 100-240Vac/5Vdc external power supply.

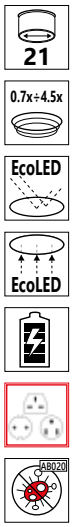
SLX-2

Cordless binocular stereozoom microscope ideal for industrial purposes and students/amateurs to dissect and discover mainly biology and materials science in 3D, with 0.7x...4.5x zoom, FN 21 high eyepoint eyepieces, precision fixed arm with handle and the latest technology of EcoLED™ illumination plus rechargeable batteries. Slim and easy to carry, it is equipped with long lasting LED illumination to provide over 20 years of use

- **Head:** Binocular, 45° inclined; 360° rotating.
- **Dioptric adjustment:** Both eyepieces.
- **Eyepieces:** WF10x/21 mm, high eyepoint, secured by screw and with rubber cups.
- **Objective:** Parfocal achromatic zoom 0.7x...4.5x (6.43:1 ratio) with anti-fungus treatment.
- **Working distance:** 100 mm.
- **Stand:** High-grade, precision fixed with handle and focus.
- **Focusing:** Rack and pinion focusing mechanism.
- **Illumination:** EcoLED™ swiveling incident and transmitted, with brightness control, rechargeable batteries. Color temperature: 6,300 K. Multi-plug 100-240Vac/5Vdc external power supply.

SLX Series - Range

SLX-3



Cordless trinocular stereozoom microscope ideal for industrial purposes and students/amateurs to dissect and discover mainly biology and materials science in 3D, with 0.7x...4.5x zoom, FN 21 high eyepoint eyepieces, precision fixed arm with handle and the latest technology of EcoLED™ illumination plus rechargeable batteries. Slim and easy to carry, it is equipped with long lasting LED illumination to provide over 20 years of use

Head: Trinocular (split ratio: 50/50), 45° inclined; 360° rotating.

Dioptric adjustment: Both eyepieces.

Eyepieces: WF10x/21 mm, high eyepoint, secured by screw and with rubber cups.

Objective: Parfocal achromatic zoom 0.7x...4.5x (6.43:1 ratio) with anti-fungus treatment.

Working distance: 100 mm.

Stand: High-grade, precision fixed with handle and focus.

Focusing: Rack and pinion focusing mechanism.

Illumination: EcoLED™ swiveling incident and transmitted, with brightness control, rechargeable batteries. Color temperature: 6,300 K. Multi-plug 100-240Vac/5Vdc external power supply.

SLX Series - Comparison Chart

Model	Head	Eyepieces	Objective	Working Distance	Stand	Illumination
SLX-1	Binocular 45° inclined 360° rotating	WF 10x/21	2x – 4x selectable	100 mm	High-grade, precision fixed with handle and focus	**EcoLED™** swiveling incident and transmitted with brightness control, rechargeable batteries
SLX-2	Binocular 45° inclined 360° rotating	WF 10x/21	0.7x...4.5x zoom	100 mm	High-grade, precision fixed with handle and focus	**EcoLED™** swiveling incident and transmitted with brightness control, rechargeable batteries
SLX-3	Trinocular (50/50) 45° inclined 360° rotating	WF 10x/21	0.7x...4.5x zoom	100 mm	High-grade, precision fixed with handle and focus	**EcoLED™** swiveling incident and transmitted with brightness control, rechargeable batteries

Optical performance SLX-1

Eyepiece	10x (ST-081)		15x (ST-082)		20x (ST-083)		10x (ST-084)	
Field number (mm)	21		15		10		21	
Additional lens	Total magnification	Field of View (mm)	Total magnification	Field of View (mm)	Total magnification	Field of View (mm)	Total magnification	Field of View (mm)
1x	20x - 40x	10.50 - 5.25	30x - 60x	7.50 - 3.75	40x - 80x	5.00 - 2.50	20x - 40x	10.50 - 5.25

Optical performance SLX-2 - SLX-3

Eyepiece	10x (ST-081)		15x (ST-082)		20x (ST-083)		10x (ST-084)	
Field number (mm)	21		15		10		21	
Additional lens	Total magnification	Field of View (mm)	Total magnification	Field of View (mm)	Total magnification	Field of View (mm)	Total magnification	Field of View (mm)
0.5x	3.5x - 22.5x	60.00 - 9.33	5.25x - 33.75x	42.86 - 6.67	7x - 45x	28.57 - 4.44	3.5x - 22.5x	60.00 - 9.33
0.75x	5,25x - 33.75x	40.00 - 6.22	7.875x - 50.625x	28.57 - 4.44	10.5x - 67.5x	19.05 - 2.96	5.25x - 33.75x	40.00 - 6.22
1x	7x - 45x	30.00 - 4.67	10.5x - 67.5x	21.43 - 3.33	14x - 90x	14.29 - 2.22	7x - 45x	30.00 - 4.67
1.5x	10.5x - 67.5x	20.00 - 3.11	15.75x - 101.25x	14.29 - 2.22	21x - 135x	9.52 - 1.48	10.5x - 67.5x	20.00 - 3.11

SLX Series - Accessories

Eyecups & Eyepieces

ST-036	Eyecups (pair), flat
ST-081	EW10x/21 eyepieces (pair), high eyepoint, with rubber cup
ST-082	WF15x/15 eyepieces (pair), high eyepoint
ST-083	WF20x/10 eyepieces (pair), high eyepoint
ST-084	WF10x/21 micrometric eyepiece, high eyepoint, with rubber cup

Additional Lenses

ST-085.1	Additional lens 0.5x (w.d. 165mm) with SZ-EXT (only for SLX-2 & SLX-3)
ST-091	Additional lens 0.75x (w.d. 105mm) (only for SLX-2 & SLX-3)
ST-086.1	Additional lens 1.5x (w.d. 45mm) with compensating disc (only for SLX-2 & SLX-3)

Stages

ST-100.1	Hand moving stage, 100mm diameter
ST-110.1	Moving stage, coaxial knobs, 100mm diameter
ST-111.1	Moving stage, micrometric screws, 100mm diameter

Condensers & Filters

ST-040.1	Darkfield condenser, 100mm diameter
ST-088.1	Polarising set (filters and rotating stage), 100mm diameter

Camera Adapters

M-113.1	Ring adapter, 30mm (for monocular and binocular microscopes)
M-115	0.35x C-Mount projection lens
M-114	0.5x C-Mount projection lens
M-118	0.75x C-Mount projection lens
M-173	C-Mount projection lens for APS-C/full frame reflex cameras (trino)
M-699	Universal adapter for C-Mount projection lens (trino)
M-620	0.35x focusable C-Mount adapter
M-620.1	0.5x focusable C-Mount adapter
M-620.2	0.65x focusable C-Mount adapter
M-620.3	1x focusable C-Mount adapter

Miscellaneous

15104	Cleaning kit
DC-002	Plastic dust cover, medium, 490(l)x490(h) mm
M-005	Micrometric slide, 26x76mm, with 2 scales (1mm/100 & 10mm/100)
ST-041	Sample clip
ST-042	White/black object-plate, 100mm diameter
ST-043	Glass object-plate, 100mm diameter
ST-092	Protective glass for stereohead
VP-SLX	IQ/OQ/PQ manual for SLX series
AB-020	Antibacterial surface treatment, only for newly purchased microscope

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

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

v 7.5 - OPTIKA reserves the right to make corrections, modifications, enhancements, improvements and other changes to its products at any time without notice.

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