OPTIKA®
MICROSCOPES
ITALY

LAB Series

Stereomicroscopes For Students And Teachers

A Range Of Quality Microscopes

DESIGNED FOR STUDENTS AND TEACHERS
» Extremely reliable microscopes for educational purposes
» Particularly recommended for secondary and higher schools
» Ideal for teaching and learning biology and material science

COMPLETE RANGE OF STEREOMICROSCOPES
» Dual magnification or continuous zoom on 21mm FN
» Trinocular version available
» High-efficiency LED for incident and transmitted light

Attention To Detail

HANDY, YET EXTREMELY STABLE
» Compact, practical and intuitive to use
» Optics ensuring good quality images
» High-grade fixed stand for accuracy

EASY TO TAKE CARE OF
» Durable for extended lifetime
» Only simple lens cleaning is required time to time
» Dust cover included protects from environmental contaminants

LAB Series

The LAB Series is ideal in secondary school and higher education, providing an exclusive and attractive design combined with premium quality components and optics. Obtain clear stereoscopic view and comfortable, ergonomic operation.

Greenough Optical System
The V-shape optical path of Greenough allows us to design a very compact and a slim unit, highly versatile and appreciated for the 3D viewing. Samples with significant depth can be quickly inspected.

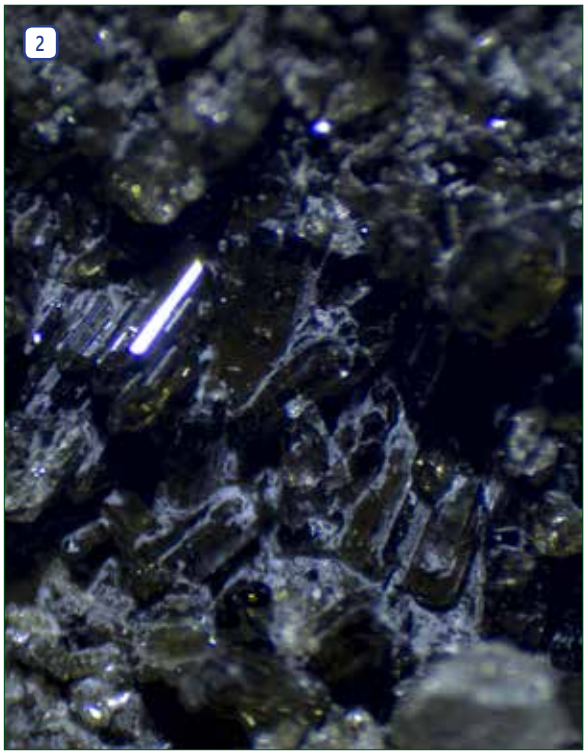
6.43:1 Zoom Ratio
LAB-20 and LAB-30 have 0.7x-4.5x zoom range (6.43:1 zoom ratio), being purposely designed for routine inspections. This zoom ratio enables most samples to be observed at the appropriate magnifications. When combined with proper accessories (1.5x additional lens and 20x eyepieces), They can reach 135x maximum magnification, an excellent result in this class.

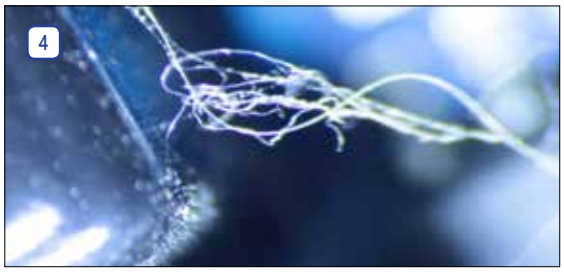
LED - Optimized Illumination
Money & energy saving thanks to LED long lifetime (65.000 hours, 22 years in case of 8 hours/day) which is more than 20 times compared to a standard halogen bulb.

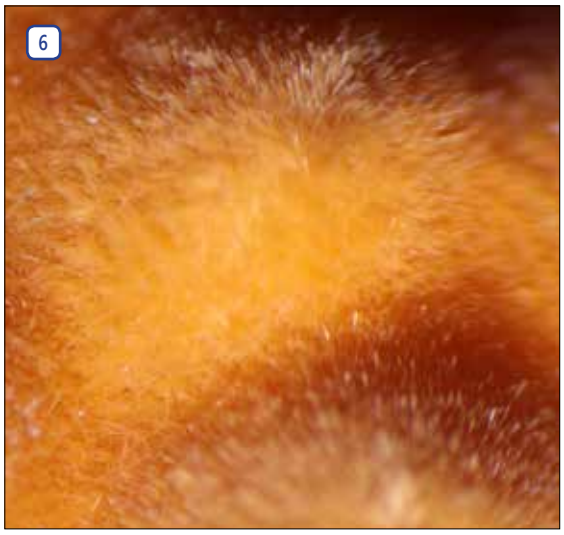
Multi-plug power supply

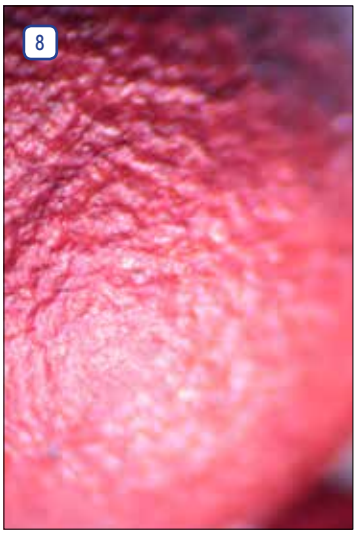
Comfortable And Easy Carrying
Integrated handle is extremely useful when lifting and carrying the microscope from one shelf to another. The microscope itself is also very light to be easy handled even by the youngest students.

Stereomicroscopes For Students And Teachers









Legend

1. LAB Series handle for easy and comfortable transportation.
2. Freislebenite with LAB-20 and 3x zoom.
3. Jute bag section with LAB-10 and 4x zoom.
4. Garment processing with LAB-20 and 4.5x zoom.
5. Nut section with LAB-20 and 4.5x zoom.
6. Plastic satin finish with LAB-10 and 4x zoom.
7. LAB-20, LED incident light, zoom and objective.
8. Red plastic sample with LAB-20 and 4.5x zoom.

LAB Series - Range

LAB-10

Dual selectable magnification (2x - 4x) with double LED incident and transmitted illuminator, for bright and uniform illumination.

- **Observation mode:** Brightfield.
- **Head:** Binocular head, 45° inclined and 360° rotating.
- **Interpupillary distance:** Adjustable between 51 and 75 mm.
- **Dioptric adjustment:** Dioptric compensation adjustable on left eye-piece tubes.
- **Eyepieces:** WF 10x/21 mm, high eye-point, secured by screw with rubber cups.
- **Objective:** Achromatic 2x-4x with anti-fungus treatment.
- **Stand:** High-grade fixed stand with focus and handle.
- **Focusing:** Rack and pinion controlled by a pair of knobs placed on both sides of the stand.
- **Illumination:** Incident: 3W LED, transmitted: 3W LED. Brightness control. The angle of the incident illuminator is adjustable.
  Color temperature: 6,300 K.
  Multi-plug 100-240Vac/5Vdc external power supply.

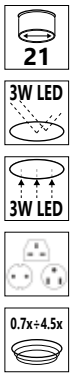
LAB-20

Binocular stereomicroscope with continuous zoom magnification (0.7x ....4.5x) and double LED incident and transmitted illuminator, for bright and uniform illumination.

- **Observation mode:** Brightfield.
- **Head:** Binocular head, 45° inclined and 360° rotating.
- **Interpupillary distance:** Adjustable between 51 and 75 mm.
- **Dioptric adjustment:** Dioptric compensation adjustable on both eye-piece tubes.
- **Eyepieces:** WF 10x/21 mm, high eye-point, secured by screw with rubber cups.
- **Objective:** Parfocal achromatic zoom 0.7x...4.5x (zoom factor 6.43:1).
- **Stand:** High-grade fixed stand with focus and handle.
- **Focusing:** Rack and pinion controlled by a pair of knobs placed on both sides of the stand.
- **Illumination:** Incident: 3W LED, transmitted: 3W LED.
  Brightness control. The angle of the incident illuminator is adjustable.
  Color temperature: 6,300 K.
  Multi-plug 100-240Vac/5Vdc external power supply.

LAB Series - Range

LAB-30



Trinocular stereomicroscope with continuous zoom magnification (0.7x ....4.5x) and double LED incident and transmitted illuminator, for bright and uniform illumination.

Observation mode: Brightfield.

Head: Trinocular head (fixed 50/50), 45° inclined and 360° rotating.

Interpupillary distance: Adjustable between 51 and 75 mm.

Dioptric adjustment: Dioptric compensation adjustable on both eye-piece tubes.

Eyepieces: WF 10x/21 mm, high eye-point, secured by screw with rubber cups.

Objective: Parfocal achromatic zoom 0.7x...4.5x (zoom factor 6.43:1).

Stand: High-grade fixed stand with focus and handle.

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

Illumination: Incident: 3W LED, transmitted: 3W LED.
Brightness control. The angle of the incident illuminator is adjustable.
Color temperature: 6,300 K.
Multi-plug 100-240Vac/5Vdc external power supply.

LAB Series - Optical Performance

Optical performance LAB-10

Eyepiece	5x (ST-001.1)		10x (ST-401)		15x (ST-402)		20x (ST-403)	
Field number (mm)	22		21		15		10	
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)
None	10x – 20x	11 - 5.5	20x – 40x	10.5 – 5.25	30x – 60x	7.5-3.75	40x – 80x	5-2.5

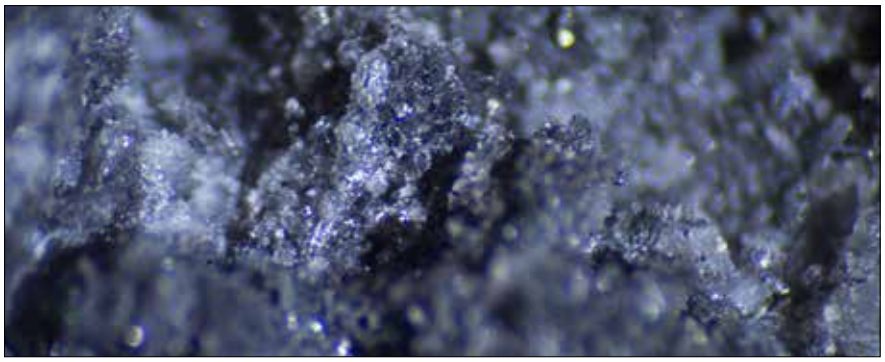
Optical performance LAB-20 - LAB-30

Eyepiece	5x (ST-001.1)		10x (ST-401)		15x (ST-402)		20x (ST-403)	
Field number (mm)	22		21		15		10	
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	1.75x – 11.25x	62.86-9.78	3.5x – 22.5x	59.98 – 9.33	5.25x – 33.75x	42.86-6.67	7x – 45x	28.57-4.44
None	3.5x – 22.5x	31.43-4.89	7x – 45x	29.98 – 4.66	10.5x – 67.5x	21.43-3.33	14x – 90x	14.29-2.22
1.5x	5.25x – 33.75x	20.95-3.26	10.5x – 67.5x	20.00 – 3.11	15.75x – 101.25x	14.29-2.22	21x – 135x	9.52-1.48

LAB Series - Optical Path

Greenough Optical System

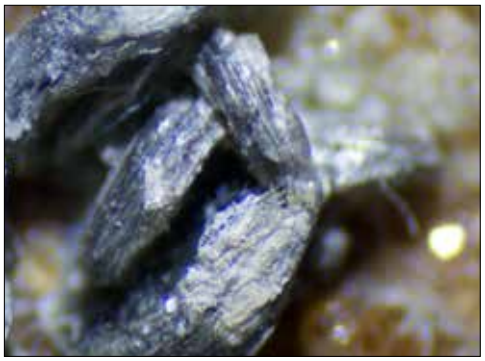
Brain and eyes work together to produce a "stereoscopic vision", which provides spatial, 3D images of the objects surrounding us. When the image is transmitted to the brain, the resulting image is fused together. Stereo microscopes take advantage of this depth perception ability by transmitting twin images that are inclined (usually between 10°-12°) to yield a true stereoscopic effect.



Vesuviana - LAB-20 - 2x zoom

LAB Series - Zoom comparison

Azurite - LAB-20 - 1x zoom



Azurite - LAB-20 - 2x zoom

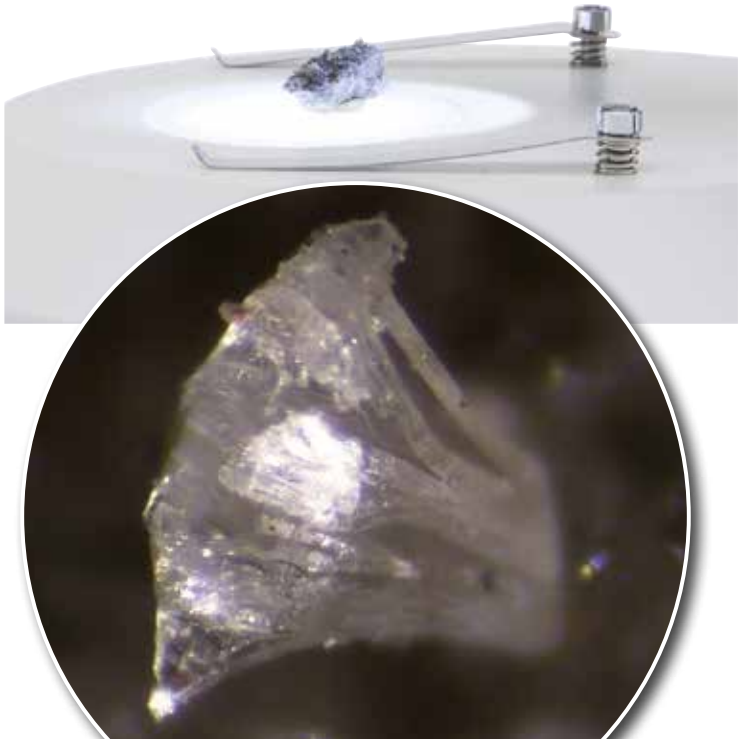
Azurite - LAB-20 - 4.5x zoom

LAB Series - Comparison Chart

Model	Head	Eyepieces	Objective	Working Distance	Stand	Illumination
LAB-10	Binocular, 45° inclined, 360° rotating	WF 10x/21	2x – 4x selectable	100 mm	High-grade fixed type with focus and handle	Incident: 3 W LED Transmitted: 3 W LED Brightness control
LAB-20	Binocular, 45° inclined, 360° rotating	WF 10x/21	0.7x – 4.5x zoom	100 mm	High-grade fixed type with focus and handle	Incident: 3 W LED Transmitted: 3 W LED Brightness control
LAB-30	Trinocular (50/50), 45° inclined, 360° rotating	WF 10x/21	0.7x – 4.5x zoom	100 mm	High-grade fixed type with focus and handle	Incident: 3 W LED Transmitted: 3 W LED Brightness control

LAB Series - Get the most out of our Accessories

Actinolite - LAB-20 - 4.5x zoom



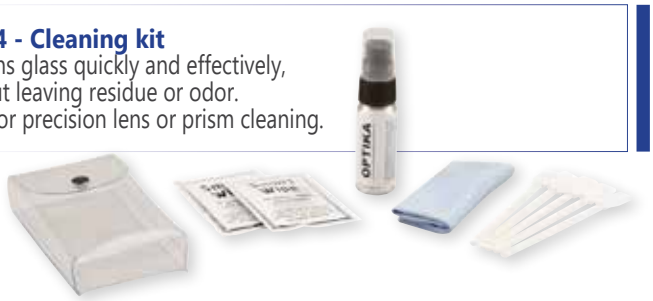
Actinolite - LAB-20 - 4.5x zoom with additional 1.5x lens (ST-086)

LAB Series - Accessories

ACCESSORIES FOR LAB SERIES

ST-001.1	WF5x/22 eyepieces (pair), 30mm diameter.
ST-401	WF10x/21 eyepieces (pair), high eyepoint.
ST-402	WF15x/15 eyepieces (pair), high eyepoint.
ST-403	WF20x/10 eyepieces (pair), high eyepoint.
ST-405	WF10x/21 eyepiece, high eyepoint, with micrometric scale (10mm/100um).
ST-085	Additional lens 0.5x (w.d. 165mm) (Only for LAB-20 and LAB-30.)
ST-086	Additional lens 1.5x (w.d. 47mm) (Only for LAB-20 and LAB-30.)
ST-415	Eyecups (pair).
DC-002	Plastic dust cover, medium 490(l)x490(h) mm.
ST-091	Additional lens 0.75x (w.d. 117mm) (Only for LAB-20 and LAB-30.)
ST-092	Protective glass for stereohead.
ST-417	White/black object-plate for LAB-10, LAB-20 & LAB-30.
M-114	0.5x C-Mount projection lens.
M-115	0.35x C-Mount projection lens.
M-118	0.75x C-Mount projection lens.
M-173	Photo adapter for APS-C and Full Frame Reflex cameras.
M-113.1	Ring adapter, 30 mm (for monocular and binocular microscopes).
ST-418	0.35x focusable C-Mount adapter (LAB-30 only).
ST-419	0.5x focusable C-Mount adapter (LAB-30 only).
M-005	Micrometric slide, 26x76mm, with 2 X scales (1mm/100div. for biological / 10mm/100div. for stereo).
15104	Cleaning kit.
VP-LAB	IQ/OQ/PQ Validation Protocols.

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.

Headquarters and Manufacturing Facilities

OPTIKA® S.r.l. Via Rigla, 30 - 24010 Ponteranica (BG) - ITALY - Tel.: +39 035.571.392 - info@optikamicroscopes.com

Optika Sales branches

OPTIKA® Spain spain@optikamicroscopes.com
OPTIKA® China china@optikamicroscopes.com
OPTIKA® India india@optikamicroscopes.com
OPTIKA® USA usa@optikamicroscopes.com
OPTIKA® Central America camerica@optikamicroscopes.com