cloup

LAB Series

Stereomicroscopes For Students And Teachers

LAB-10 / LAB-20 / LAB-30

A Range Of Quality Microscopes

DESIGNED FOR STUDENTS AND TEACHERS
» Extremely reliable microscopes for education
» Particularly recommended for schools
» Ideal for biology, zoology and material science

COMPLETE STEREOMICROSCOPES
» Dual magnification or continuous zoom available
» 20 mm field number
» 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
» Sturdy rack-and-pinion focusing stand

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

LAB Series

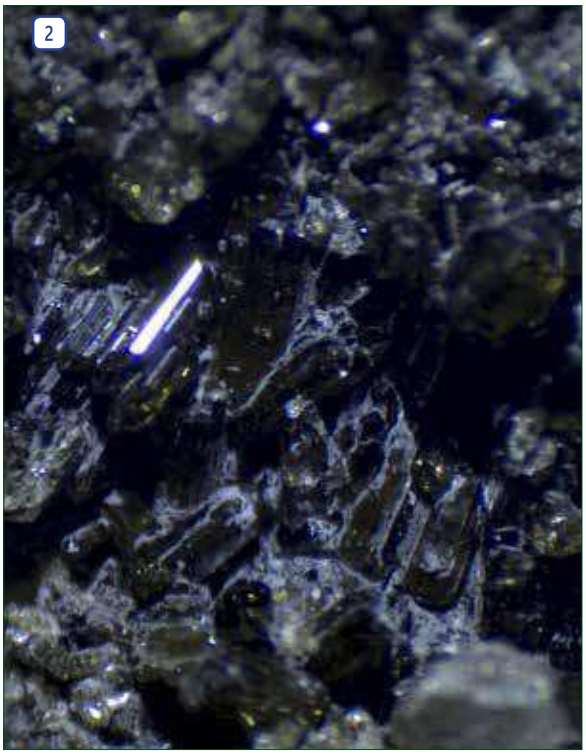
Greenough Optical System
The V-shape optical path of Greenough allows us to design a very compact and a slim unit, highly versatile and appreciated for the 3D viewing. Samples with significant depth can be quickly inspected.

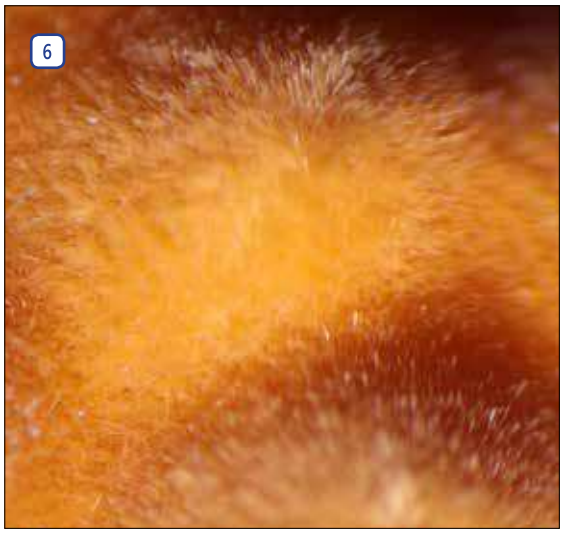
6.4:1 Zoom Ratio
LAB-20 and LAB-30 have 0.7x-4.5x zoom range (6.4:1 zoom ratio), being purposely designed for routine inspections. This zoom ratio enables most samples to be observed at the appropriate magnifications. When combined with proper accessories (1.5x additional lens and 20x eyepieces), **LAB-20** can reach 135x maximum magnification, an excellent result in this class.

LED - Optimized Illumination
Money & energy saving thanks to LED long lifetime (50.000 hours, 20 years in case of 8 hours/day) which is more than 20 times compared to a standard halogen bulb.
LED illumination is available as transmitted and incident illuminators.

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 - **Overview**

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

Observation mode:
Brightfield.
Heads:
Binocular and trinocular 360° rotating and 45° inclined.
Interpupillary distance:
Adjustable between 51 and 75 mm.
Dioptric adjustment:
LAB-10:
Dioptric compensation adjustable on left eyepiece tubes.
LAB-20 and LAB-30:
Dioptric compensation adjustable on both eyepiece tubes.
Eyepieces:
WF 10x/20 mm.
Objectives:
LAB-10:
With double selectable magnification (2x-4x) that can be selected by rotating the lens unit. Working distance 80mm.
LAB-20 and LAB-30:
Continuous zoom 0.7x ...4.5x. (6.43:1 zoom factor).
Working distance: 85 mm.
Stand:
Fixed arm type with focusing mechanism.
Focusing:
Rack and pinion controlled by a pair of knobs placed on both sides of the stand.
Illumination:
Double illuminator for incident and transmitted light fitted with two high-efficiency LED light sources with light intensity adjustment.
The angle of the incident illuminator is adjustable.
Color temperature: 6.300K.

LAB Series - **Range**

LAB-10

Dual selectable magnification (2x and 4x) with LED incident and transmitted illumination, combining bright and uniform illumination with low consumption.

LAB-20

Continuous zoom magnification (0.7x ....4.5x) with LED incident and transmitted illumination, combining bright and uniform illumination with low consumption.

LAB-30

Continuous zoom magnification (0.7x ....4.5x) with LED incident and transmitted illumination, combining bright and uniform illumination with low consumption.

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		20		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	30x – 60x	7.5-3.75	40x – 80x	5-2.5

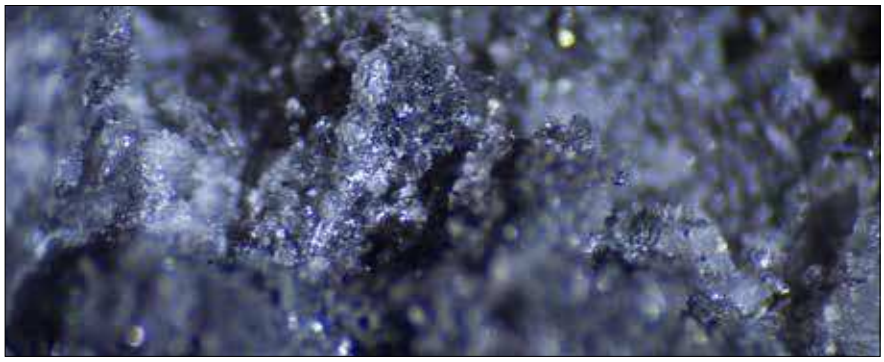
Optical performance LAB-20 - LAB-30

Eyepiece	5x (ST-001.1)		10x (ST-401)		15x (ST-402)		20x (ST-403)	
Field number (mm)	22		20		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	57.14 – 8.89	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	28.57 – 4.44	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	19.05 – 2.96	15.75x – 101.25x	14.29-2.22	21x – 135x	9.52-1.48

LAB Series - **Optical path**

Greenough Optical System

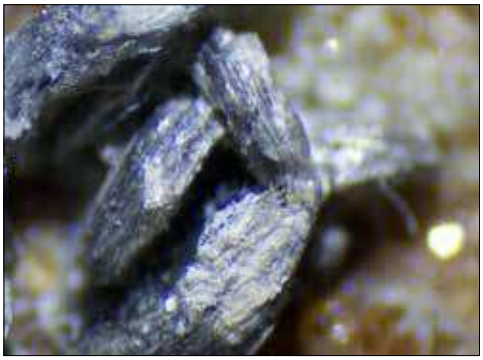
Brain and eyes work together to produce a "stereoscopic vision", which provides spatial, 3D images of the objects surrounding us. When the image is transmitted to the brain, the resulting image is fused together. Stereo microscopes take advantage of this depth perception ability by transmitting twin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



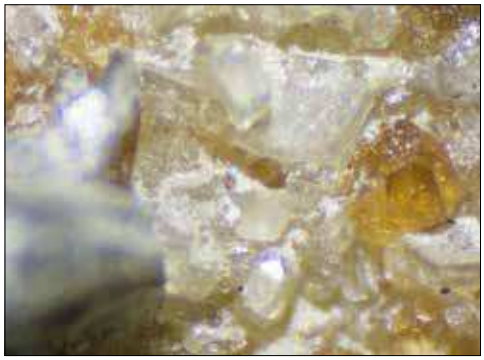
Vesuviana - LAB-20 - 2x zoom

LAB Series - **Zoom comparison**

Azurite - LAB-20 - 1x zoom



Azurite - LAB-20 - 2x zoom

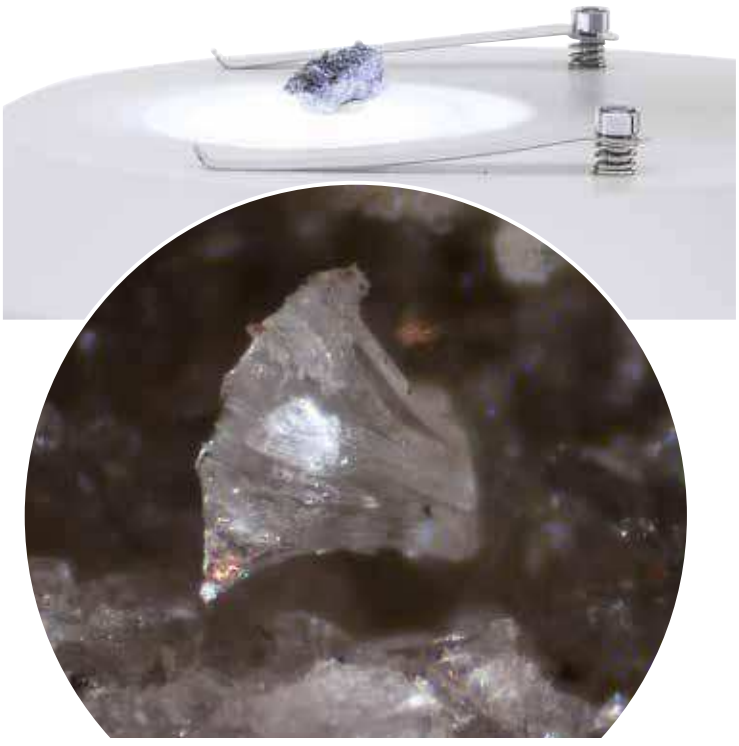


Azurite - LAB-20 - 4.5x zoom

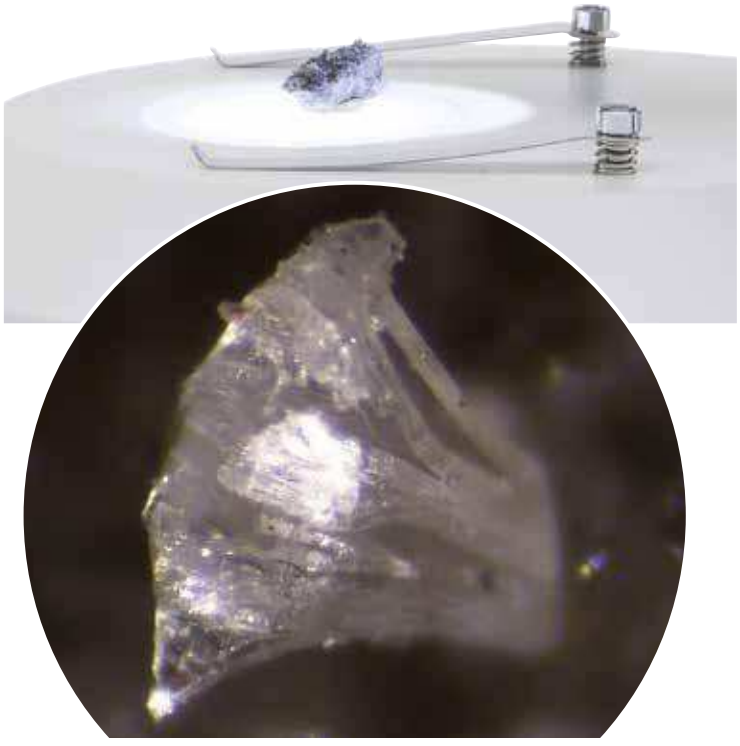
LAB Series - **Comparison chart**

Model	Head	Eyepiece	Objectives	Working Distance	Stand	Illuminator
LAB-10	Binocular, 45° inclined, 360° rotating	WF 10x/20	2x – 4x selectable	80 mm	Fixed with focus and handle	Incident: 3 W LED Transmitted: 3 W LED Manual brightness control
LAB-20	Binocular, 45° inclined, 360° rotating	WF 10x/20	0.7x – 4.5x zoom	85 mm	Fixed with focus and handle	Incident: 3 W LED Transmitted: 3 W LED Manual brightness control
LAB-30	Trinocular, 45° inclined, 360° rotating	WF 10x/20	0.7x – 4.5x zoom	85 mm	Fixed with focus and handle	Incident: 3 W LED Transmitted: 3 W LED Manual 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	Eyepieces (pair) WF 5x/22 mm.
ST-401	Eyepieces (pair) WF 10x/20 mm.
ST-402	Eyepieces (pair) WF 15x/15 mm.
ST-403	Eyepieces (pair) WF 20x/10 mm.
ST-405	Eyepiece micrometer WF 10x/20 mm, 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.
ST-092	Protective glass for stereohead.
ST-417	White/black stage-plate, 60mm diameter for LAB Series.
M-114	C-Mount adapter for 1/2" sensor.
M-115	C-Mount adapter for 1/3" sensor.
M-116	C-Mount adapter for 2/3" sensor.
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	Focusable C-Mount adapter for 1/3" sensor.
ST-419	Focusable C-Mount adapter for 1/2" sensor.
M-005	Micrometer slide for software calibration, 1mm/10um, 10mm/100um.
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.