



ROUTINE & RESEARCH Stereomicroscopes

SZM / SZN / MODULAR / ACCESSORIES / GEMOLOGY / X Series

X-LED³ - Exclusive Lighting Source

POWERFUL AND UNIFORM ILLUMINATION

- » Best in class lighting technology
- » Special technology able to double the light intensity
- » Constant pure-white colour temperature

CUT ELECTRICITY BILLS BY 90%

- » Unparalleled performance
- » Incredibly low energy consumptions, only 3.6W
- » Power equivalence to 50W halogen lamp



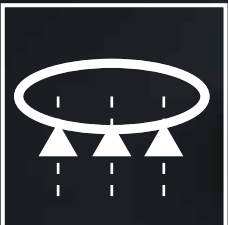
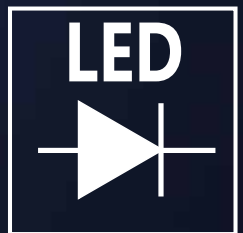
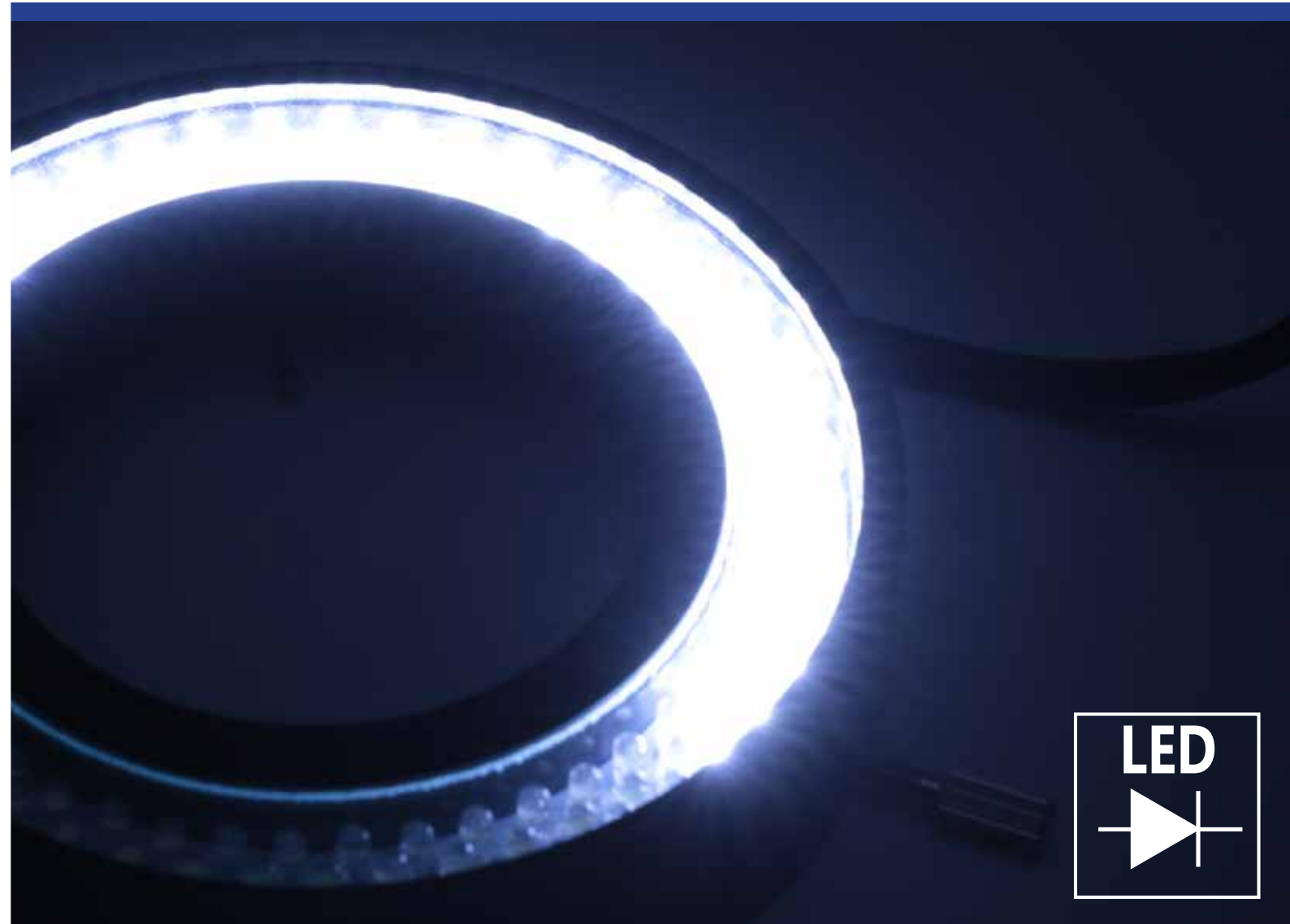
LED - Optimized Illumination

MONEY & ENERGY SAVING

- » LED long lifetime (50.000 hours, that means 20 years in case of 8 hours/day usage)
- » No overheated surfaces
- » Less than 10% of a standard halogen bulb consumption

MAKE SURE TO ACHIEVE THE BEST WORKING CONDITIONS

- » Dedicated LED light for specific applications
- » Stands with LED diffusing disc for transmitted illumination.
- » Cold light and ring light LED illuminators.



Clear, Accurate And Comfortable Sample Observation

ULTRA-PRECISE EXAMINATION

- » High-resolution images to observe details
- » Bright and clear flat images
- » Accurate colours reproduction

ENHANCE YOUR WORKING CONDITIONS

- » Adjustable tilting tube and right posture ensure long operation
- » Reduces back and neck fatigue a minimum
- » Convenient front-access operation



Product Variety, Unmatchable Versatility

CREATE YOUR OWN STEREOMICROSCOPE

- » Choose among Greenough (SZM or SZN), Galilean (SZP) heads and stands
- » Add extra eyepieces and lenses for higher magnification (up to 320x)
- » Combine cameras, illuminators, darkfield condenser and polarizing sets

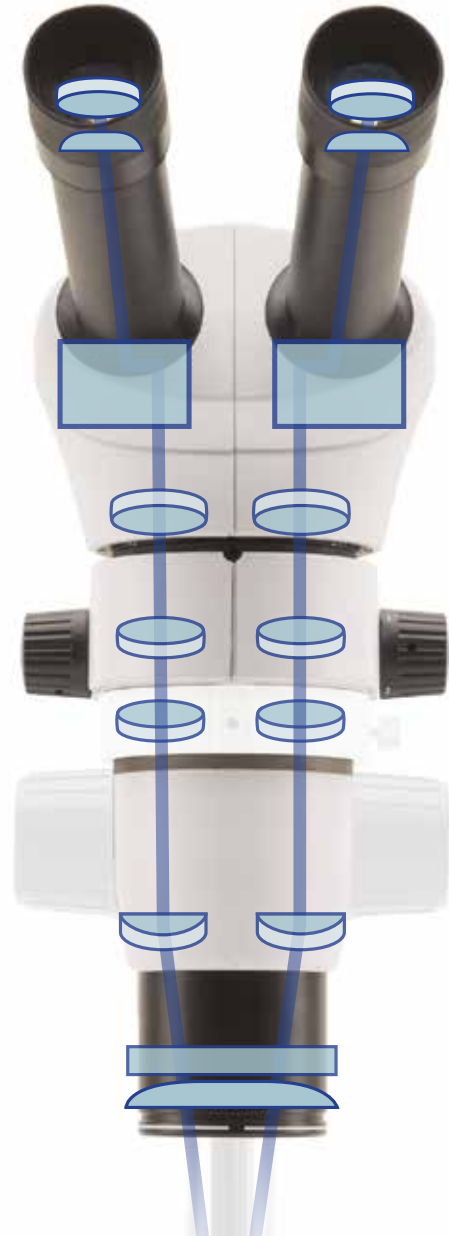
MODULAR SYSTEMS

- » Enhanced product customizability and variations to meet virtually any need
- » Continuity and evolution given by the ability to replace single modules
- » Ease of integration



Greenough Optical System

Greenough stereomicroscopes are typically used for applications such as printed circuit board inspection, dissecting biological specimens, or similar routine tasks. These microscopes are relatively small, affordable, very rugged, simple to use, and easy to maintain.



Common Main Objective (Galilean) Optical System

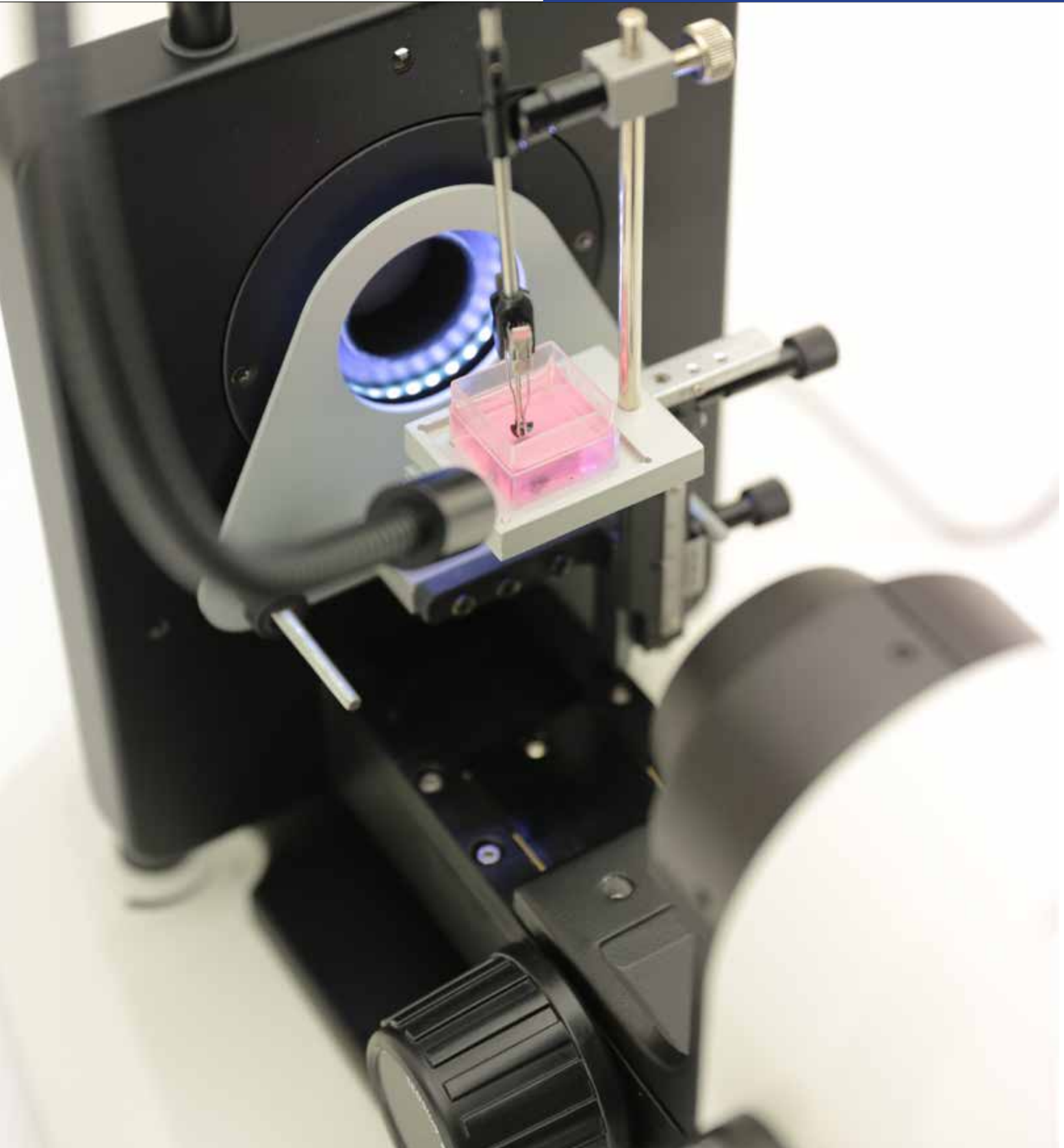
Generally used for more complex applications requiring high resolution with advanced optical and illumination features, it is a professional solution, with greater light-gathering power than Greenough-type and more highly corrected for optical aberration.

The choice between Greenough or Common Main Objective (Galilean) stereomicroscopes is usually based on the application.

Dedicated Solutions for Specific Markets

GEMOLOGICAL APPLICATIONS

























- » Side-emitting LEDs for real darkfield for unparalleled comfort
- » Unique 2-in-1 microscope: convertible from vertical to horizontal, tiltable and adjustable (OPTIGEM 1 & 2)
- » Backward inclined, 45° (OPTIGEM 3 & 4)



ROUTINE & RESEARCH

SZM SERIES - Stereozoom Microscopes For Routine Inspections	page 9
SZN SERIES - Stereozoom Microscopes For Laboratory & Industry	page 21
MODULAR SERIES - Modular Stereozoom Microscopes	page 31
- Heads (<i>Greenough or Galilean</i>)	page 36
- Stands (<i>plain or overhanging</i>)	page 40
- Accessories (<i>attachments, illuminators & stages</i>)	page 46
GEMOLOGY SERIES - Stereozoom Microscopes For Gemology	page 53
X SERIES - Microscopes For Industry And Quality Control	page 63

Icons

 1	Monocular		Anti-fungus treatment	 X-LED	X-LED illuminator
 2	Binocular		Incident light		FLUO lamp
 3	Trinocular		Transmitted light		HBO lamp
	Inclined head		Polarized light	 USB	USB connection
	Field number		Halogen lamp	 1.3 MP	Camera resolution
	Eyepiece with pointer		Tungsten lamp		Software included
	Rotating head 360°		Dichroic lamp		
 IOS	Infinity-corrected optics	 LED	LED illuminator		
 --X	Magnification	 --LED	LED illuminator		

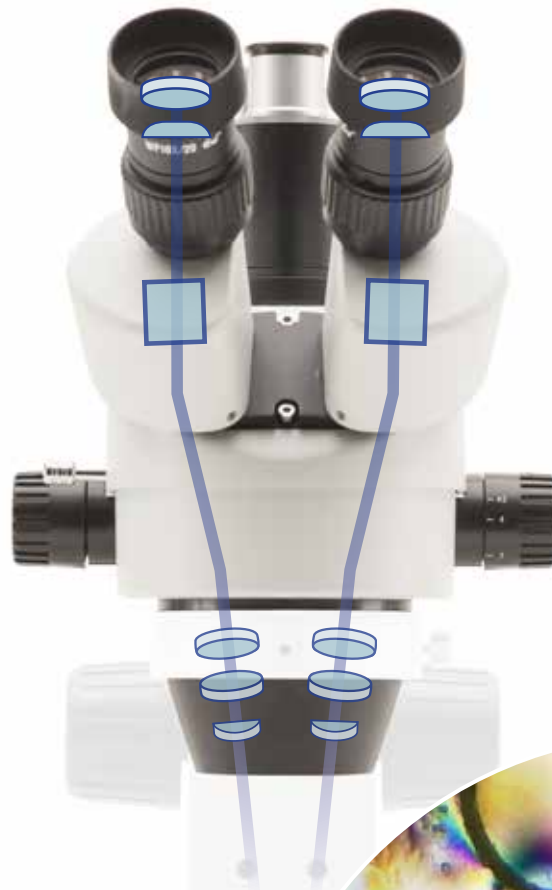
SZM Series



Stereozoom Microscopes For Routine Inspections

SZM-1 / SZM-LED1 / SZM-2 / SZM-LED2 / SZM-3 / SZM-4

SZM Series

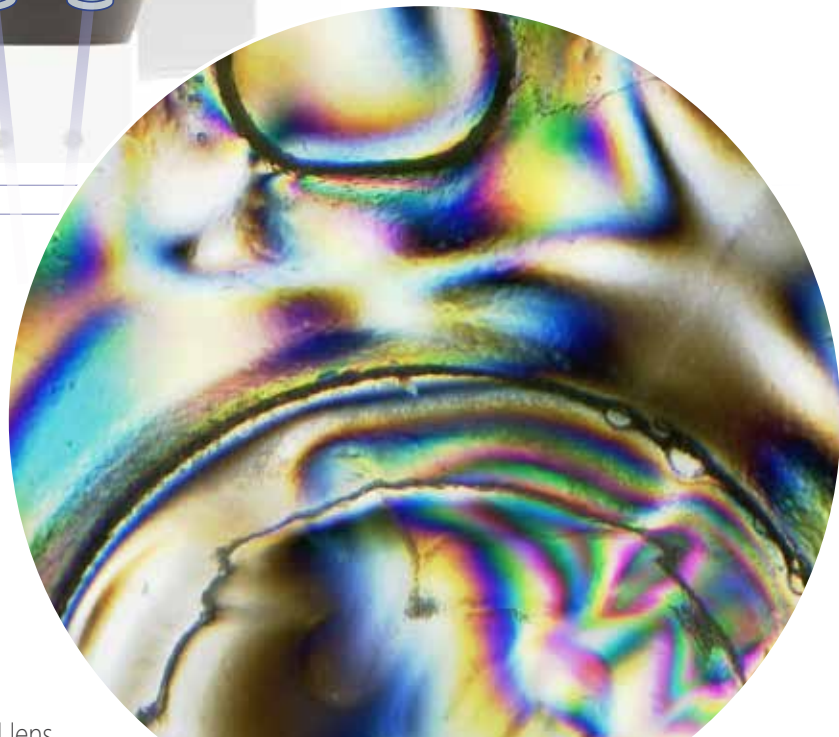


Greenough Optical System

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. Binocular and trinocular heads are 45° inclined to grant comfortable posture to the user even after several hours of operation.

6.43:1 Zoom Ratio

SZM Series has 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 (2x additional lens and 20x eyepieces), SZM delivers excellent images up to 180x.



**Plastic lens - 4.5x zoom - SZM-LED2
Polarizing**

Stereozoom Microscopes For Routine Inspections

Overhanging Stand, In Case Of Large Samples

This stand is recommended for efficient, quick and precise observation and digital imaging of large samples, that cannot be processed with regular stands.

Achieve 360° rotation and smooth movement with no limits, as the mechanism can be tilted from right to left, backward to forward.

X-LED³ Exclusive Lighting Source

Special technology able to double the light intensity for incomparable performance, ensuring constant pure-white colour temperature.

Relevant money & energy saving thanks to the incredibly low energy consumptions allow you to cut the electricity bills by 90%!

On **SZM-LED1**, **SZM-LED2**



Get the most out of our accessories



ST-088.1 - Polarizing set

Polarizing set ST-088.1 is composed of a rotating polarizing stage (with graduation), a analyzer filter and it is the ideal accessory for analysis of birefringent materials.

Polarization is primarily used in the field of geology or petrography for the study of rocks and minerals, or many other applications, including medicine, chemistry, biology and metallurgy.

Materials that can be examined under a polarized microscope include minerals, ceramics, polymers, wood, urea, natural and synthetic fibers.

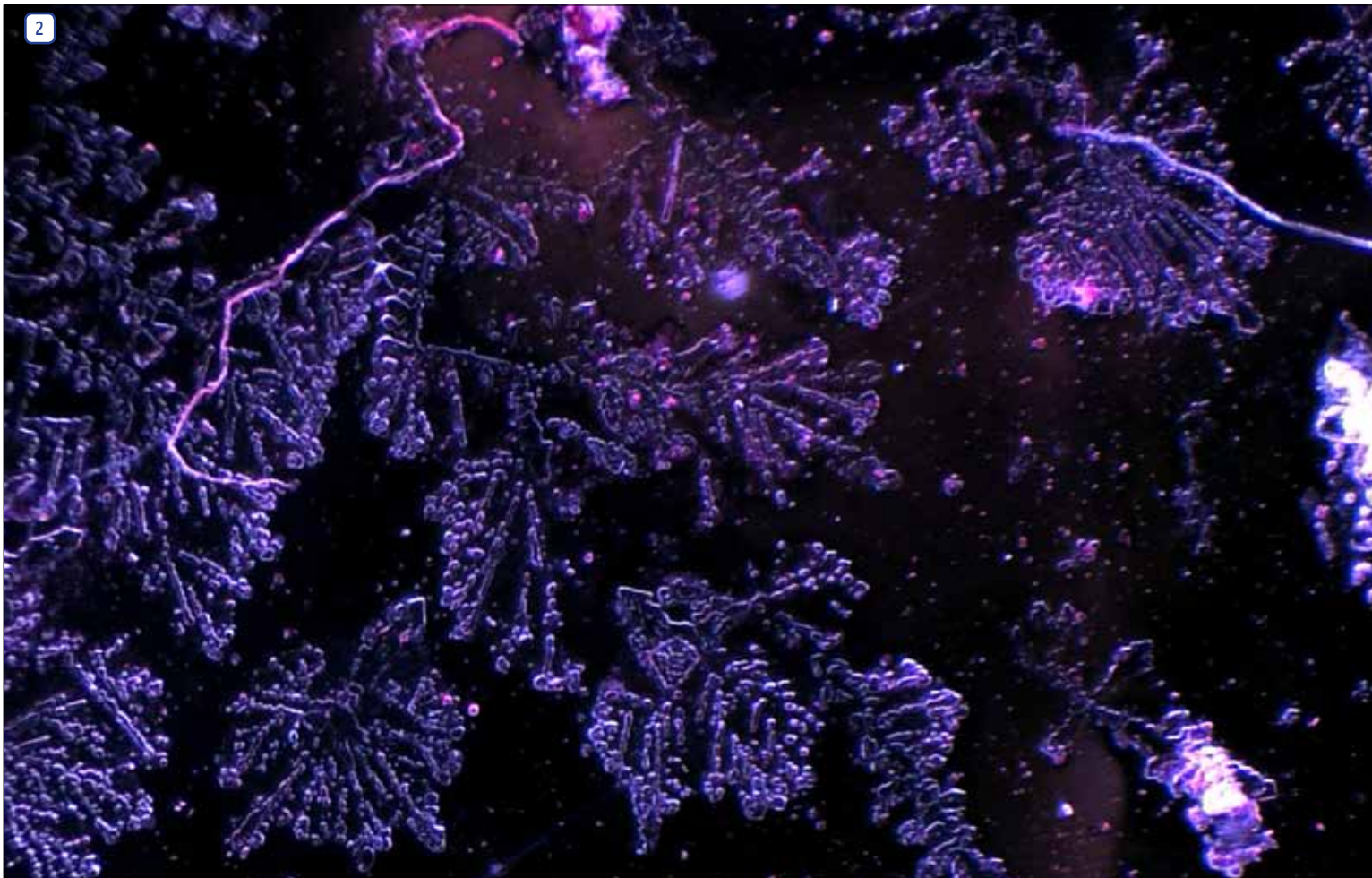
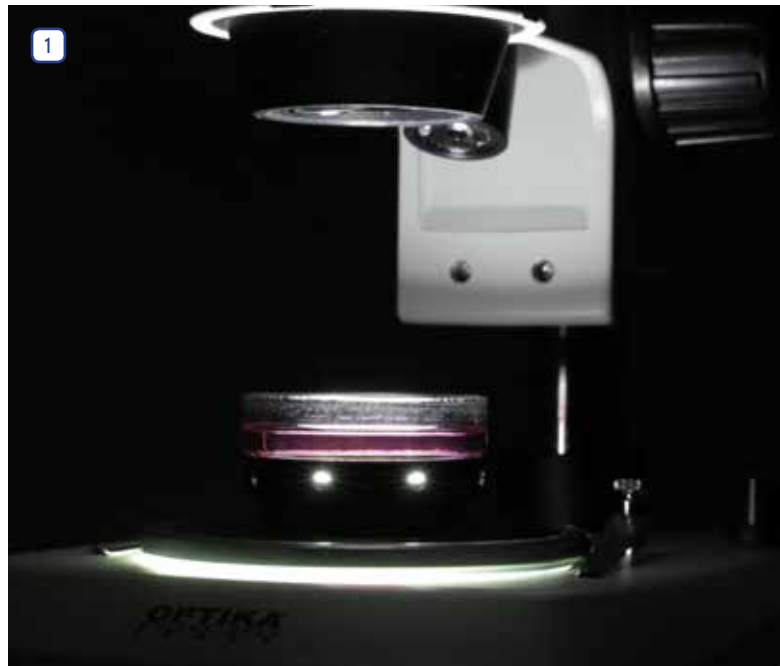
SZM Series

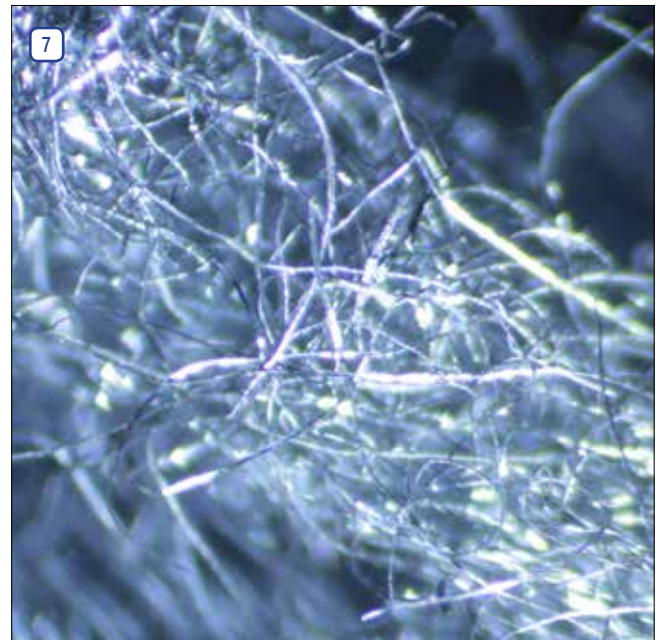
Applications

Some application examples demonstrating the versatility of SZM series. Routine applications are extremely facilitated!

Legend

1. SZM-LED2 with darkfield condenser.
2. Salt crystal, with SZM-LED2, 0.7x zoom with darkfield.
3. Mechanical part, with SZM-LED1, 1.5x zoom.
4. Electronic board, with SZM-2, 2x zoom.
5. QC of a mechanical components, with SZM-3.
6. Fine art inspection, with SZM-4 and CLD-01 + CL-11.1 illuminator.
7. Textile fiber, with SZM-LED1, 4x zoom.





SZM Series - Overview

The high flexibility combined with an excellent quality/price ratio make the SZM Series one of the best-sellers in the stereo-zoom microscopes category.

A wide range of binocular and trinocular microscopes is available to virtually meet any need, equipped with halogen, LED or innovative X-LED³ illumination system for incident and/or transmitted light.

Several accessories can be combined with SZM Series to gain even higher levels of performance and convenience!



Observation mode:

Brightfield, darkfield, polarization.

Heads:

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

Interpupillary distance:

Adjustable between 51 and 75 mm.

Dioptric compensation:

On both eyepiece tubes.

Eyepieces:

EWF10x/20 mm.

Objective:

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

Specimen stage:

Fitted with a black/white disc, specimen clips and a frosted disc for transmitted light.

Focusing:

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

Stand:

SZM-1/2:

Pillar stand 32 mm diameter and 250 mm high, base: 260x200x60h mm.

SZM-LED 1/2:

Pillar stand 32 mm diameter and 310 mm high, base 270x205x30h mm.

SZM-3/4:

Overhanging stand 420 mm high, 450 mm horizontal arm length, base 230x230mm.

Illumination:

SZM-1/2:

Double, adjustable incident and transmitted light, fitted with two 12V/15W halogen bulbs.

Angle of the incident illumination adjustable.

SZM-LED1/2:

Equipped with LED diffusing disc (transmitted illumination) and high-power X-LED³ (incident illumination).

Angle of the incident illumination adjustable.

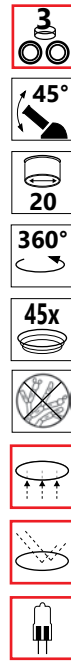
SZM Series - Range

SZM-1



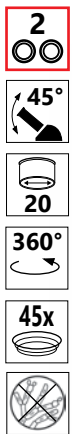
Binocular stereomicroscope with pillar stand and illuminated stage with halogen transmitted and incident illumination, freely settable.

SZM-2



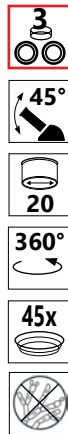
Trinocular stereomicroscope with pillar stand and illuminated stage with halogen transmitted and incident illumination, freely settable.

SZM-3



Binocular stereomicroscope with extremely stable overhanging stand **complete of head holder and focusing system** for perpendicular observation of particularly large specimens. **Smooth horizontal and vertical movement** are ensured. In case illumination is needed, choose from the wide choice of **external illuminators** available.

SZM-4



Trinocular stereomicroscope with extremely stable overhanging stand **complete of head holder and focusing system** for perpendicular observation of particularly large specimens. **Smooth horizontal and vertical movement** are ensured. In case illumination is needed, choose from the wide choice of **external illuminators** available.

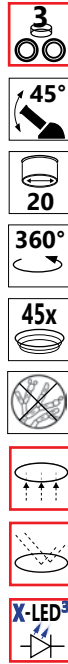
SZM Series - Range

SZM-LED1



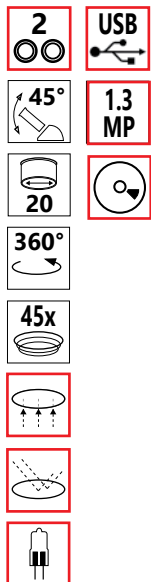
Binocular stereomicroscope, pillar stand and ultra-flat stage, fitted with exclusive X-LED³ transmitted and incident illumination for outstanding brightness, freely settable.

SZM-LED2



Trinocular stereomicroscope, pillar stand and ultra-flat stage, fitted with exclusive X-LED³ transmitted and incident illumination for outstanding brightness, freely settable.

SZM-D



Digital binocular stereomicroscope with simultaneous view from both eyepieces and camera. The built-in camera can be connected to any PC.

Technical specifications of the built-in camera

Resolution	1280 x 1024 pixels (1.3 Mpixels)
Sensor	CMOS 1/3"
Pixel Size	3.6 μm x 3.6 μm
Frame Rate at Full Resolution	15 frames/sec
Frame Rate at 640x480	55 frames/sec
Optical Format	1/3"
Aspect Ratio	4:3
S/N Ratio	44 dB
Dynamic Range	71 dB
ADC	8 bit
Sensitivity	1.0V/Lux-second
System Requirements	Windows XP/Vista, Win7, Win8, Win10, 32/64bit, USB 2.0
Software	Optika Vision Lite, Optika view, TWAIN interface, several freeware for image elaboration
Capture Features	Continuous auto white balance, continuous auto exposure

SZM Series - Models chart

Model	Head	Eyepieces	Objectives	Working Distance	Stand	Illuminator
SZM-1	Binocular, 360° rotating, 45° inclined	Wide Field 10x/20mm	0.7x....4.5x zoom	100 mm	Pillar stand	Incident and transmitted 12V/15W halogen
SZM-LED1	Binocular, 360° rotating, 45° inclined	Wide Field 10x/20mm	0.7x....4.5x zoom	100 mm	Pillar stand	Incident: high power single X-LED ³ Transmitted: LED diffusing disc
SZM-2	Trinocular, 360° rotating, 45° inclined	Wide Field 10x/20mm	0.7x....4.5x zoom	100 mm	Pillar stand	Incident and transmitted 12V/15W halogen
SZM-LED2	Trinocular, 360° rotating, 45° inclined	Wide Field 10x/20mm	0.7x....4.5x zoom	100 mm	Pillar stand	Incident: high power single X-LED ³ Transmitted: LED diffusing disc
SZM-3	Binocular, 360° rotating, 45° inclined	Wide Field 10x/20mm	0.7x....4.5x zoom	100 mm	Overhanging stand	Without illumination; External light source needed
SZM-4	Trinocular, 360° rotating, 45° inclined	Wide Field 10x/20mm	0.7x....4.5x zoom	100 mm	Overhanging stand	External light source needed
SZM-D	Binocular, 360° rotating, 45° inclined	Wide Field 10x/20mm	0.7x....4.5x zoom	100 mm	Pillar stand	Incident and transmitted 12V/15W halogen with separated brightness controls



SZM Series - Optical performance

Eyepiece	10x (ST-081)		15x (ST-082)		20x (ST-083)	
Field number (mm)	20		15		10	
Objective	Total magnification	Field of View (mm)	Total magnification	Field of View (mm)	Total magnification	Field of View (mm)
0.5x	3.5x-22.5x	57.14-8.88	5.25x-33.75x	28.57-4.44	7x-45x	14.28-2.22
0.75x	5.25x-33.75x	38.10-5.92	7.87x-50.62	19.06-2.96	10.50x-67.5x	9.52-1.48
1x	7x-45x	28.57-4.44	10.5x-67.5x	0.95-2.22	14x-90x	7.14-1.11
1.5x	10.50x-67.5x	19.05-2.96	15.75x-101.25x	9.52-1.48	21x-135x	4.76-0.74
2x	14x-90x	14.28-2.22	21x-135x	7.14-1.11	28x-180x	3.57-0.55

SZM Series - Get the most out of our accessories



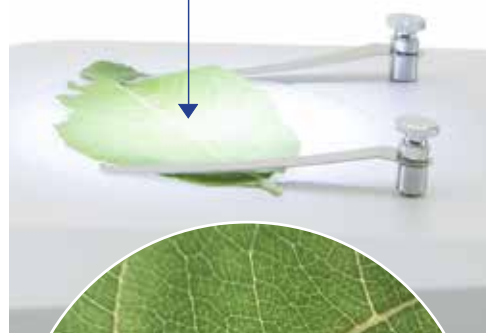
W.D.
165mm



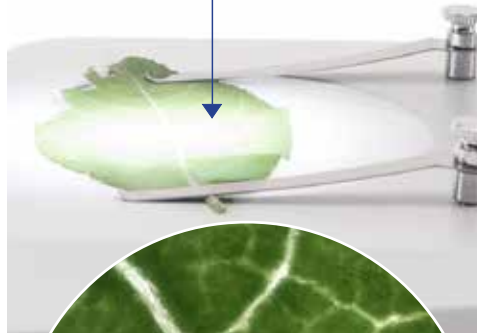
W.D.
100mm



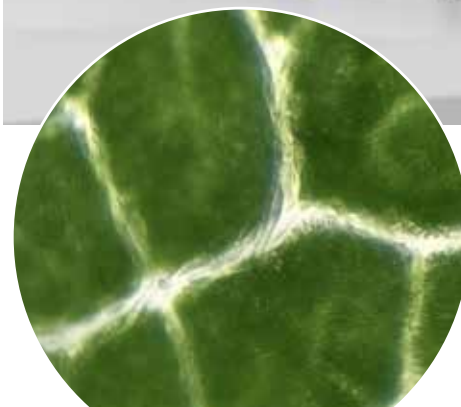
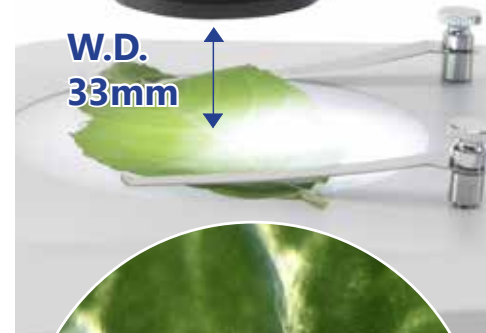
W.D.
33mm



Leaf - SZM-LED2 - 0.7x zoom
with additional lens 0.5x (ST-085)

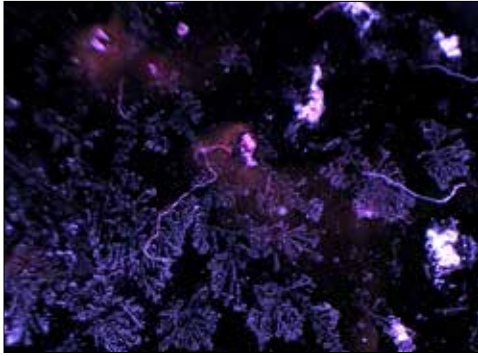


Leaf - SZM-LED2 - 4.5x zoom

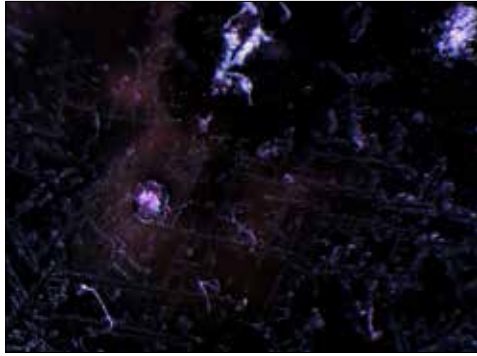


Leaf - SZM-LED2 - 4.5x zoom
with additional lens 2x (ST-087)

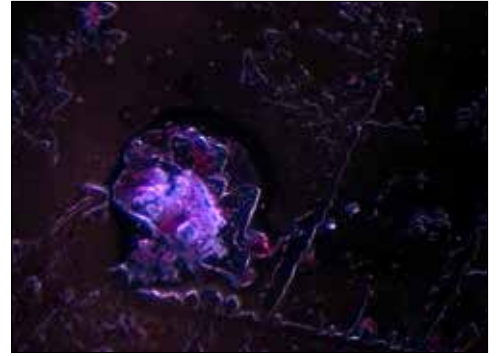
SZM Series - Zoom comparison



Salt crystal- SZM-LED2 - 0.7x zoom



Salt crystal- SZM-LED2 - 3x zoom



Salt crystal- SZM-LED2 - 4x zoom

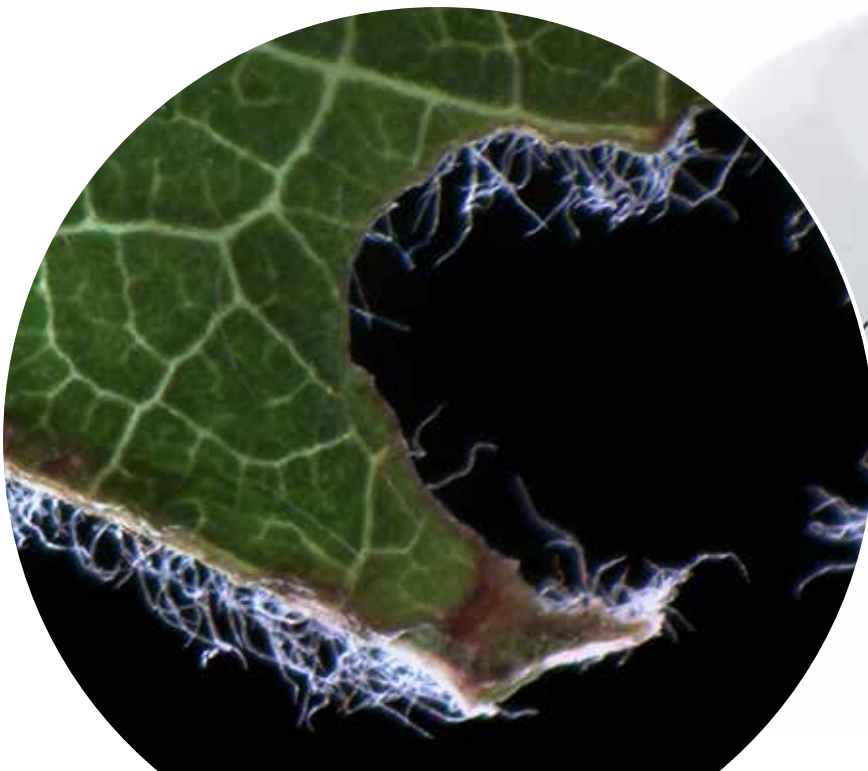
SZM Series - Darkfield condenser (ST-040)

ST-040 - Darkfield condenser

Dark Field illumination is a technique used to observe unstained samples causing them to appear brightly lit against a dark, almost purely black, background.

With its low background noise and its improved contrast, it ensures to resolve even finest details.

Almost every kind of specimen can be observed using this technique, providing bright, sharp and detailed images.



Leaf - SZM-LED2 - 4.5x zoom with additional 2x lens - Darkfield



SZM Series - Accessories

ACCESSORIES FOR SZM SERIES

ST-081	Eyepieces (pair) WF10x/20mm.
ST-082	Eyepieces (pair) WF15x/15mm.
ST-083	Eyepieces (pair) WF20x/10mm.
ST-084	Eyepiece micrometer WF10x/20mm, 10mm/100um.
ST-085	Additional lens 0.5x (w.d. 165mm).
ST-091	Additional lens 0.75x (w.d. 117mm).
ST-086	Additional lens 1.5x (w.d. 47mm).
ST-087	Additional lens 2x (w.d. 33mm).
ST-088	Polarizing set (filters and rotating stage) for SZM-1 & SZM-2.
ST-088.1	Polarizing set - filters and rotating stage (for models with transmitted illumination).
ST-040	Darkfield condenser SZM-1 & SZM-2.
ST-040.1	Darkfield condenser SZM-LED.
ST-100	Hand moving stage SZM-1 & SZM-2.
ST-100.1	Hand moving stage SZM-LED.
ST-666	Heating stage for stereomicroscopes SZM.
ST-666.1	Heating stage for stereomicroscopes SZM LED.
ST-110	Moving stage, with coaxial knobs SZM.
ST-110.1	Moving stage, with coaxial knobs SZM-LED.
ST-111	Moving stage, with micrometric screws SZM.
ST-111.1	Moving stage, with micrometric screws SZM-LED.
ST-041	Sample clip.
ST-089	Reflex camera adapter for FULL FRAME sensor.
ST-090	Focusable C-Mount adapter for 1/3" sensor.
ST-090.1	Focusable C-Mount adapter for 1/2" sensor.
ST-036	Eyecups (pair).
ST-012	White/black stage plate, 95mm diameter.
ST-012.1	White/black stage plate, 99mm diameter with LED base.
ST-014	Glass stage, 95mm diameter.
ST-014.1	Glass stage, 99mm diameter with LED base.
ST-038	Halogen bulb, 12V/15W.
ST-037	Halogen bulb, 12V/15W, with dichroic mirror.
ST-033	Dust cover.
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, 30mm (for monocular and binocular microscopes).
M-005	Micrometer slide for software calibration, 1mm/10um, 10mm/100um.
15104	Cleaning kit.

ACCESSORIES FOR SZM-D

ST-081	Eyepieces (pair) WF10x/20mm.
ST-082	Eyepieces (pair) WF15x/15mm.
ST-083	Eyepieces (pair) WF20x/10mm.
ST-084	Eyepiece micrometer WF10x/20mm, 10mm/100um.
ST-085	Additional lens 0.5x (w.d. 165mm).
ST-091	Additional lens 0.75x (w.d. 117mm).
ST-086	Additional lens 1.5x (w.d. 47mm).
ST-087	Additional lens 2x (w.d. 33mm).
ST-088	Polarizing set (filters and rotating stage).
ST-040	Darkfield condenser.
ST-041	Sample clip.
ST-100	Hand moving stage.
ST-036	Eye cups (pair).
ST-012	White/black stage plate, 95mm diameter.
ST-014	Glass stage, 95mm diameter.
ST-038	Halogen bulb, 12V/15W.
ST-037	Halogen bulb, 12V/15W, with dichroic mirror.
ST-033	Dust cover.
M-173	Photo adapter for APS-C and Full Frame Reflex cameras.
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-113.1	Ring adapter, 30mm (for monocular and binocular microscopes).
M-005	Micrometer slide for software calibration, 1mm/10um, 10mm/100um.
15104	Cleaning kit.



How to connect the cameras to our microscopes.

Please refer to the Adapter reference list on Digital section.

15104 - Cleaning kit

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



Headquarters and Manufacturing Facilities

OPTIKA® S.r.l. Via Rigla, 30 - 24010 Ponteranica (BG) - ITALIA - Tel.: +39 035.571.392 - Fax: +39 035.571.435 - 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® Hungary hungary@optikamicroscopes.com

SZN Series



Stereozoom Microscopes For Laboratory & Industry

SZN-1 / SZN-2 / SZN-3 / SZN-4 / SZN-5 / SZN-6 / SZN-7 / SZN-8 / SZN-9 / SZN-10

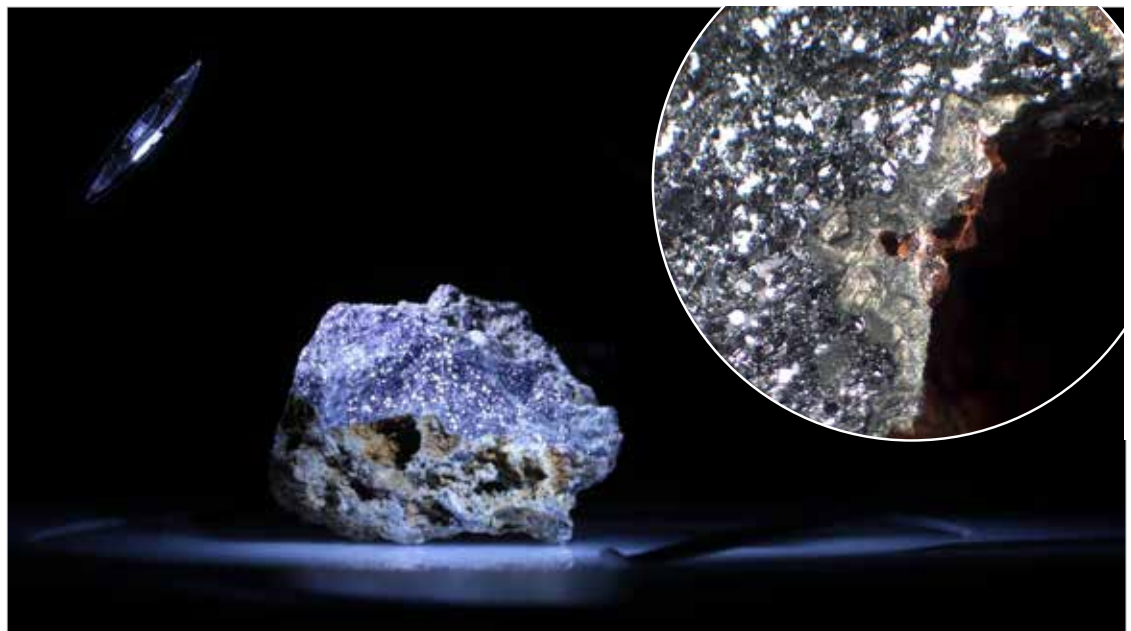
SZN Series

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. Binocular and trinocular heads are 45° inclined to grant comfortable posture to the user even after several hours of operation.

6.72:1 Zoom Ratio

SZN Series has 0.67x-4.5x zoom range (6.72:1 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 (2x additional lens and 20x eyepieces), SZN delivers excellent image quality up to 225x.



X-LED³ Exclusive Lighting Source

Special technology able to double the light intensity for incomparable performance, ensuring constant pure-white colour temperature. Relevant money & energy saving thanks to the incredibly low energy consumptions allow you to cut the electricity bills by 90%!

On **SZN-3, SZN-4, SZN-5, SZN-6**.

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 light, cold light and ring light illuminators.

On **SZN-3, SZN-4, SZN-5, SZN-6**.



Stereozoom Microscopes For Laboratory & Industry

Overhanging Stand, In Case Of Large Samples

This stand is recommended for efficient, quick and precise observation and digital imaging of large samples, that cannot be processed with regular stands.

Achieve 360° rotation and smooth movement with no limits, as the mechanism can be tilted from right to left, backward to forward. **On SZN-7, SZN-8, SZN-9, SZN-10.**

Large Working Distance And Field Of View Size Are Important!

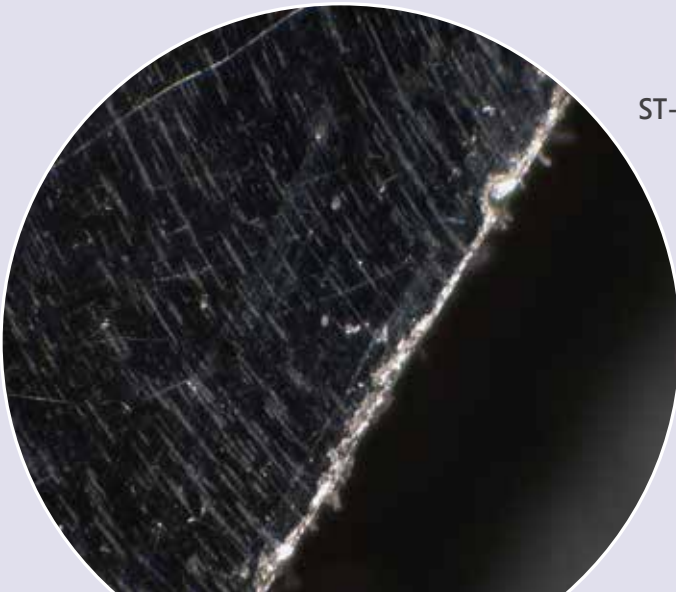
If you need to work under the microscope, you will need a large working distance.

SZN Series ensures an extended working distance of 110mm compared to the standard 100mm. Keep in my mind your application, always: if you are soldering a printed circuit board, it may be more important to have a long working distance; if you are counting items, then a large field of view will be of great assistance.

**LWD
110mm**



Get the most out of our accessories



ST-111.1 - Moving stage

Moving stage ST-111.1 is a micrometer positioning stage with XY graduation of 0.01mm.

Whenever you need to precisely move the sample or make measurements, this is the ideal solution.

It works with both incident and transmitted illumination, and it is equipped with rotating stage and sample clips.

It is suggested to use it in conjunction with the optional micrometer eyepieces.

Mechanical component SZN-4 - 2x zoom



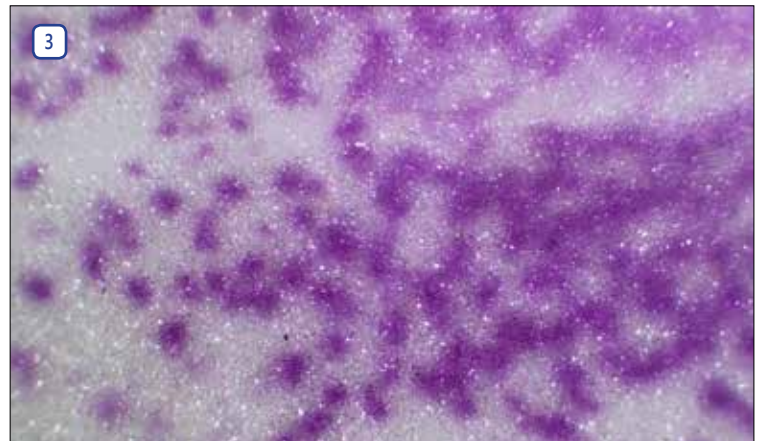
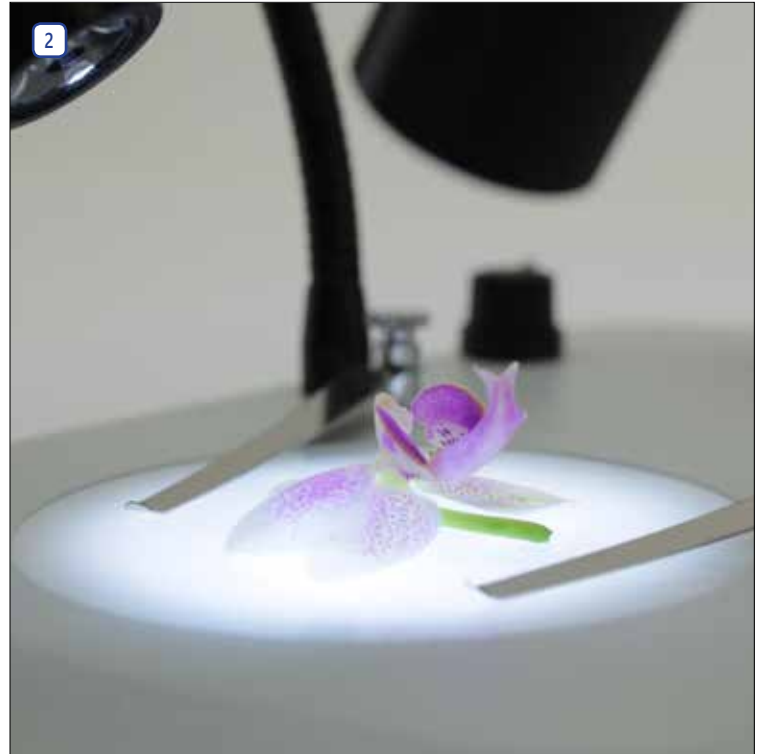
SZN Series

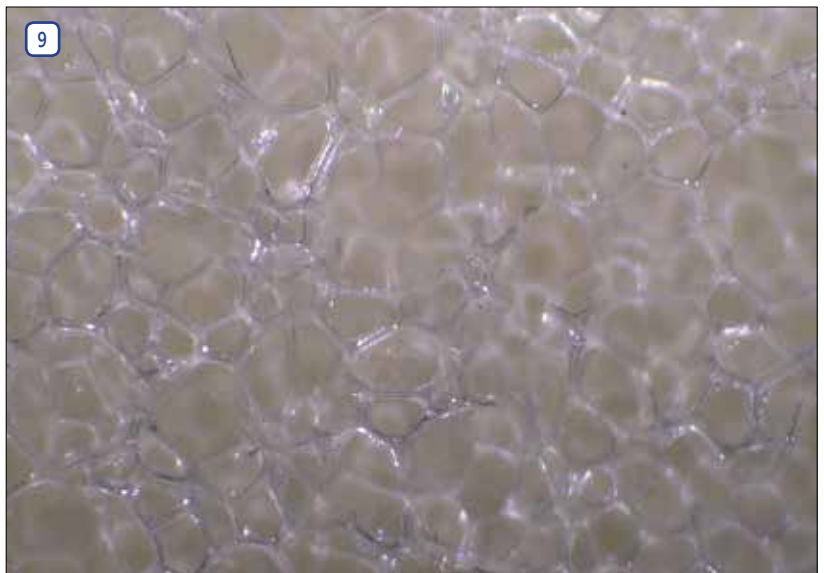
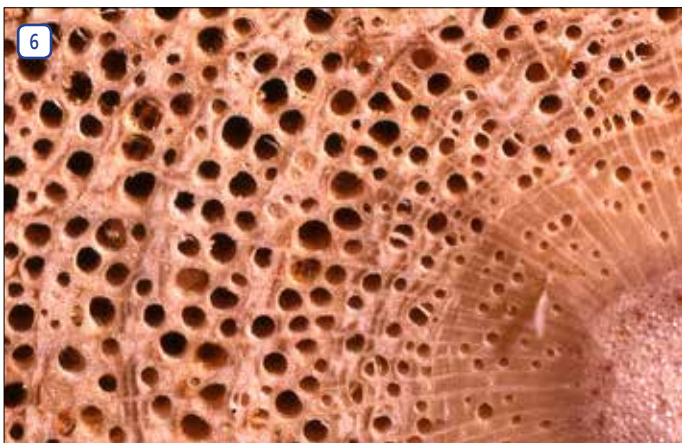
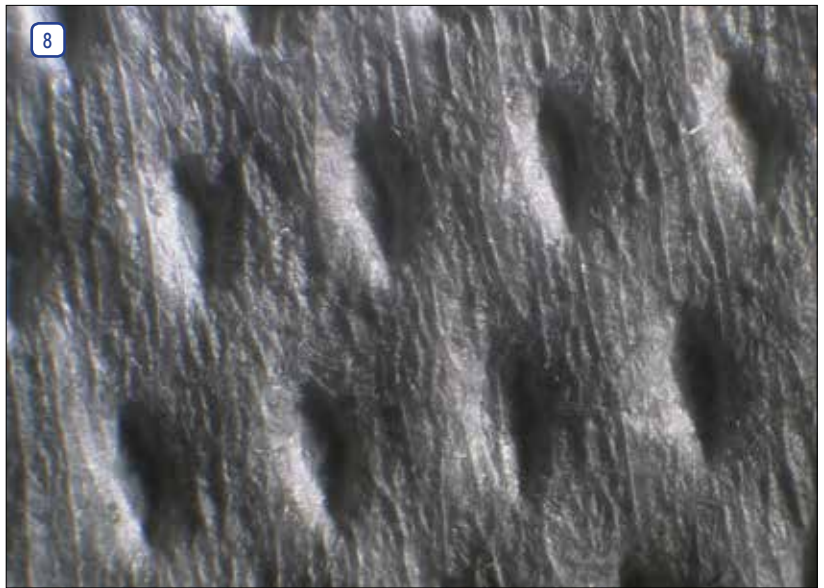
Applications

Some application examples demonstrating the versatility of SZN series. Applications in industrial and research are extremely facilitated by the advanced functionality offered.

Legend

1. Mineral rock, with SZN-5.
2. Orchid petal, with SZN-6 and LED transmitted light.
3. Orchid petal, with SZN-6, 0.67x zoom.
4. Orchid petal, with SZN-6, 4.5x zoom.
5. Mechanical component, with SZN-4, 0.67x zoom.
6. Trunk wisteria sinensis, with SZN-8, 3.5x zoom.
7. Solanum, with SZN-6, 0.67x zoom.
8. Embossed paper, with SZN-6, 0.67x zoom.
9. Foam, with SZN-8, 2x zoom.





SZN Series

The SZN Series includes 10 different models of binocular and trinocular stereozoom microscopes specifically designed to ensure premium quality performance at an affordable price.

A comprehensive range of versions and accessories make SZN Series ideal for the most demanding applications and requirements, offering halogen bulb or remarkable LED illumination technology, for incident and/or transmitted light.

**Observation mode:**

Brightfield, darkfield, polarisation.

Heads:

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

Interpupillary distance:

Adjustable between 55 and 75 mm.

Dioptric adjustment:

On both eyepieces.

Eyepieces:

EWF10x/22mm, high-point.

Objectives:

Parfocal achromatic zoom 0,67x...4,5x (6.72:1 zoom factor).

Specimen stage:

Except overhanging models, the instruments are fitted with a black/white disc for contrast and specimen clamps.

Stands:

Different stands according to the selected model.

Focusing:

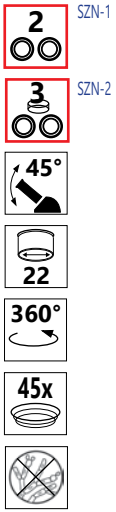
By means of rack and pinion system, controlled by a pair of knobs.

Illumination:

High efficiency X-LED³ incident illuminators (single or double arm) and 100 mm white LED diffusing disc as transmitted illuminator (60 chip LEDs).

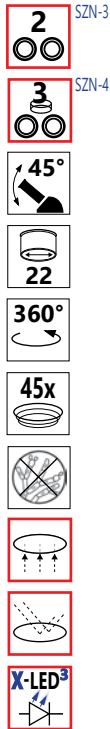
SZN Series - Range

SZN-1 / SZN-2



Binocular or trinocular stereomicroscope with pillar stand and ultra-flat base, illuminated stage. In case illumination is needed, choose from the wide choice of **external illuminators** available.

SZN-3 / SZN-4



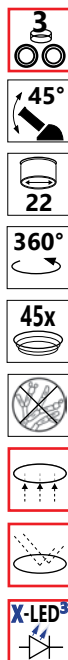
Binocular or trinocular stereomicroscope with pillar stand and ultra-flat base, illuminated stage with **exclusive X-LED³ transmitted and incident illumination** for **outstanding brightness**, freely settable.

SZN-5



Binocular stereomicroscope with pillar stand and ultra-flat base, illuminated stage with **exclusive X-LED³ transmitted illumination** and **X-LED³ incident double armlight** for **outstanding brightness**, freely settable.

SZN-6



Trinocular stereomicroscope with pillar stand and ultra-flat base, illuminated stage with **exclusive X-LED³ transmitted illumination** and **X-LED³ incident double armlight** for **outstanding brightness**, freely settable.

SZN Series - Range

SZN-7



Binocular stereomicroscope with extremely stable overhanging stand **complete of head holder and focusing system** for perpendicular observation of particularly large specimens.
Smooth horizontal and vertical movement are ensured.
In case illumination is needed, choose from the wide choice of **external illuminators** available.

Trinocular stereomicroscope with extremely stable overhanging stand **complete of head holder and focusing system** for perpendicular observation of particularly large specimens.
Smooth horizontal and vertical movement are ensured.
In case illumination is needed, choose from the wide choice of **external illuminators** available.

SZN-9



Binocular stereomicroscope with extremely stable, **hinged and long** overhanging stand **complete of head holder and focusing system** for observation of particularly large specimens.
The head can be easily tilted for inspection at **oblique angles** ideal e.g. for stone setters.
Smooth horizontal and vertical movement are ensured.
In case illumination is needed, choose from the wide choice of **external illuminators** available.

Trinocular stereomicroscope with extremely stable, **hinged and long** overhanging stand **complete of head holder and focusing system** for observation of particularly large specimens.
The head can be easily tilted for inspection at **oblique angles** ideal e.g. for stone setters.
Smooth horizontal and vertical movement are ensured.
In case illumination is needed, choose from the wide choice of **external illuminators** available.

SZN Series - Comparison chart

Model	Head	Eyepiece	Objectives	Working Distance	Stand	illumination
SZN-1	Binocular, 360° rotating, 45° inclined	Extra Wide Field 10x/22	0.67....4.5x	110mm	Pillar stand with rack and pinion system	Without illumination; External light source needed
SZN-2	Trinocular, 360° rotating, 45° inclined	Extra Wide Field 10x/22	0.67....4.5x	110mm	Pillar stand with rack and pinion system	Without illumination; External light source needed
SZN-3	Binocular, 360° rotating, 45° inclined	Extra Wide Field 10x/22	0.67....4.5x	110mm	Pillar stand with rack and pinion system	Transmitted: 100 mm LED disc (60 chip LEDs) Incident: OPTIKA X-LED ³ .
SZN-4	Trinocular, 360° rotating, 45° inclined	Extra Wide Field 10x/22	0.67....4.5x	110mm	Pillar stand with rack and pinion system	Transmitted: 100 mm LED disc (60 chip LEDs) Incident: OPTIKA X-LED ³ .
SZN-5	Binocular, 360° rotating, 45° inclined	Extra Wide Field 10x/22	0.67....4.5x	110mm	Pillar with rack and pinion system	Transmitted: 100 mm LED disc (60 chip LEDs) Incident: double arm OPTIKA X-LED ³ .
SZN-6	Trinocular, 360° rotating, 45° inclined	Extra Wide Field 10x/22	0.67....4.5x	110mm	Pillar with rack and pinion system	Transmitted: 100 mm LED disc (60 chip LEDs) Incident: double arm OPTIKA X-LED ³ .
SZN-7	Binocular, 360° rotating, 45° inclined	Extra Wide Field 10x/22	0.67....4.5x	110mm	Simple overhanging stand	Without illumination; External light source needed
SZN-8	Trinocular, 360° rotating, 45° inclined	Extra Wide Field 10x/22	0.67....4.5x	110mm	Simple overhanging stand	Without illumination; External light source needed
SZN-9	Binocular, 360° rotating, 45° inclined	Extra Wide Field 10x/22	0.67....4.5x	110mm	Hinged overhanging stand	Without illumination; External light source needed
SZN-10	Trinocular, 360° rotating, 45° inclined	Extra Wide Field 10x/22	0.67....4.5x	110mm	Hinged overhanging stand	Without illumination; External light source needed

SZN Series - Optical performance

Eyepiece	10x (ST-141)		15x (ST-142)		20x (ST-143)		25x (ST-144)	
	22		16		12		9	
Field number (mm)	22		16		12		9	
Objective	Total magnification	Field of View (mm)	Total magnification	Field of View (mm)	Total magnification	Field of View (mm)	Total magnification	Field of View (mm)
0.3x	2.01x – 13.5x	109.45-16.30	3.02x – 20.25x	52.98-7.902	4.02x – 27x	29.85-4.44	5.02x – 33.75x	17.93-2.67
0.5x	3.35x – 22.5x	65.67-9.78	5.02x – 33.75x	31.87-4.74	6.7x – 45x	17.91-2.67	8.37x – 56.25x	10.75-1.6
0.75x	5.02x – 33.75x	43.82-6.52	7.54x – 50.62x	21.22-3.16	10.05x – 67.5x	11.94-1.78	12.56x – 84.37x	7.17-1.07
1x	6.7x – 45x	32.84-4.89	10.05x – 67.5x	15.24-2.37	13.4x – 90x	8.96-1.33	16.75x – 112.5x	5.37-0.80
1.5x	10.05x – 67.5x	21.89-3.26	15.07x – 101.25	10.62-1.58	20.1x – 135x	5.97-0.89	25.12x – 168.75x	3.58-0.53
2x	13.4x – 90x	16.42-2.44	20.1x – 135x	7.96-1.19	26.8x – 180x	4.48-0.67	33.5x – 225x	2.69-0.40

SZN Series - Accessories

ACCESSORIES FOR SZN SERIES

ST-141	Eyepieces (pair) WF10x/22mm.
ST-142	Eyepieces (pair) WF15x/16mm.
ST-143	Eyepieces (pair) WF20x/12mm.
ST-144	Eyepieces (pair) WF25x/9mm.
ST-145	Eyepiece micrometer WF10x/22mm, 10mm/100um.
SAO0.3	Additional lens 0.3x (w.d. 287mm).
SAO0.5	Additional lens 0.5x (w.d. 185mm).
SAO0.75	Additional lens 0.7x (w.d. 120mm).
SAO1.5	Additional lens 1.5x (w.d. 49mm).
SAO2	Additional lens 2x (w.d. 28mm).
ST-146	Photo adapter for REFLEX camera with FULL FRAME sensor.
ST-147	Focusable C-Mount adapter for 1/3" sensor.
ST-147.1	Focusable C-Mount adapter for 1/2" sensor.
M-173	Photo adapter for APS-C and Full Frame Reflex cameras.
ST-088.1	Polarizing set - filters and rotating stage (for models with transmitted illumination).
ST-040.1	Darkfield condenser (for models with transmitted illumination).
ST-100.1	Hand moving stage.
ST-110.1	Moving stage, with coaxial knobs.
ST-111.1	Moving stage, with micrometric screws.
ST-666.1	Heating stage for stereomicroscopes.
ST-012.1	White/black stage plate, 99mm diameter for with LED base.
ST-014.1	Glass stage, 99mm diameter with LED base.
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-113.1	Ring adapter, 30mm (for monocular and binocular microscopes).
M-005	Micrometer slide for software calibration, 1mm/10um, 10mm/100um.
15104	Cleaning kit.

15104 - Lens cleaner, 50ml

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) - ITALIA - Tel.: +39 035.571.392 - Fax: +39 035.571.435 - 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® Hungary hungary@optikamicroscopes.com

MODULAR Series



Modular Stereozoom Microscopes

SZM-B / SZM-T / SZN-B / SZN-T / SZP-6 / SZP-6ERGO / SZP-8
SZP-8ERGO / SZP-10 / SZP-10ERGO / ST-150 / ST-151 / ST-152 / ST-153
ST-155 / ST-156 / SZ-STL1 / SZ-STL1H / SZ-STL2 / SZ-STL2H / SZ-STL8 / SZ-STL5 / SZ-STL5LED



Modular Series

Identify The Most Suitable Heads For Your Needs

OPTIKA provides three series of stereomicroscope heads based on different field number, zoom level (and consequently, zoom ratio), inclination, and working distance.

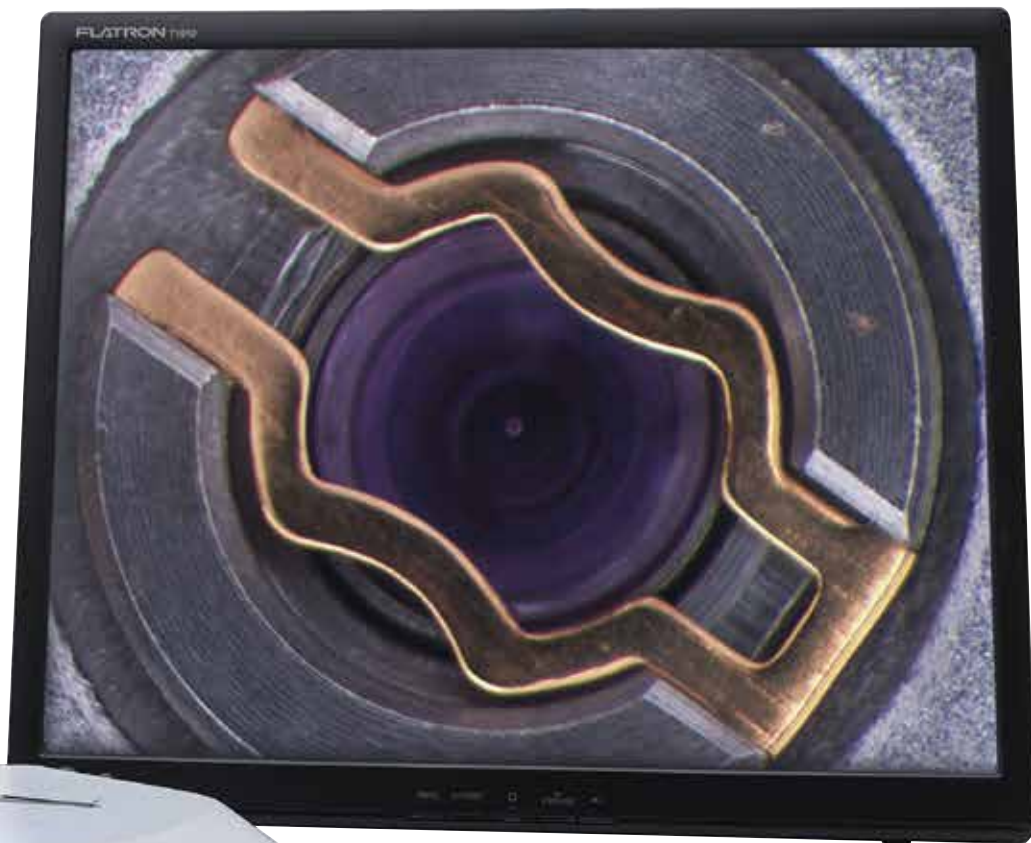
An even more substantial differentiating element is also the optical system: choose between Greenough or Galilean.

For further details, please see the dedicated section (page 37)

Multiple Mounting Stands and Configurations

An extremely wide stand selection gives you the chance to create your tailored stereomicroscope! Choose among the several models available to virtually cover every customers' needs, in terms of illumination, arm extension, and focusing system.

For further details, please see the dedicated section (page 46)



Modular Stereozoom Microscopes

Overhanging Stand, In Case Of Large Samples

This stand is recommended for efficient, quick and precise observation and digital imaging of large samples, that cannot be processed with regular stands. Achieve 360° rotation and smooth movement with no limits, as the mechanism can be tilted from right to left, backward to forward.

ST-172

Get the most out of our accessories

ST-172 - Iris diaphragm module

With this accessory, the depth of field of the final image can be adjusted, for applications where different planes all in focus are needed.



OUT-OF-FOCUS AREA

With iris diaphragm open

FOCUS PLANE



IN-FOCUS AREA

With iris diaphragm closed

Soldered Led Pin - SZP-8 - ST-156 with iris diaphragm module.



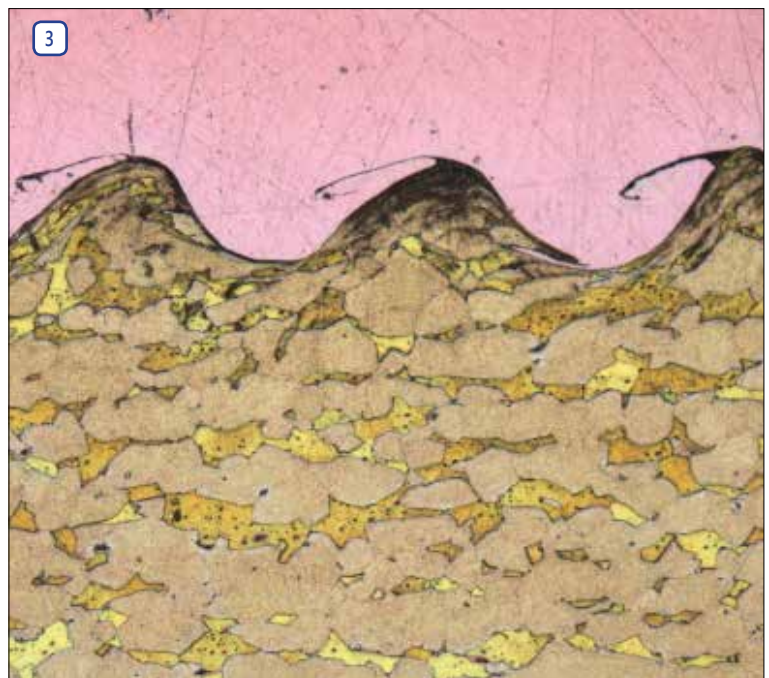
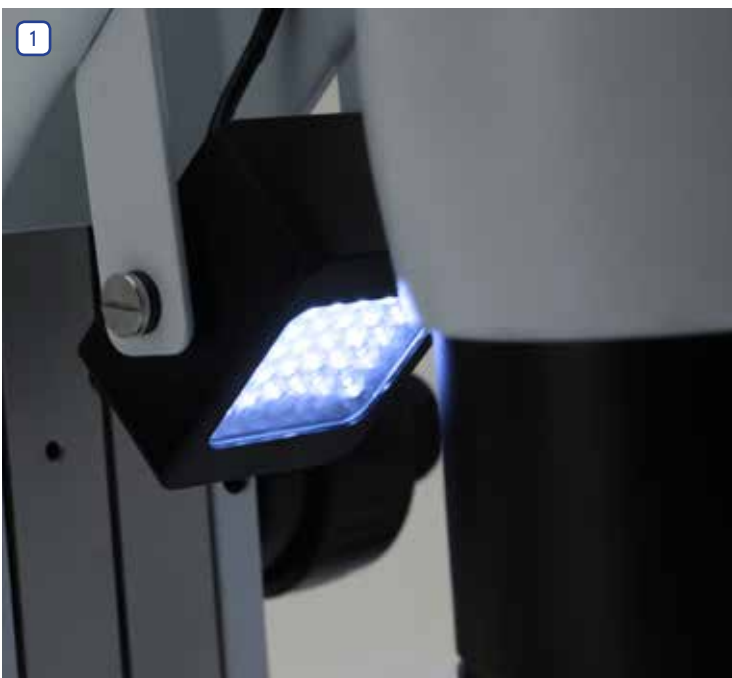
Modular Series

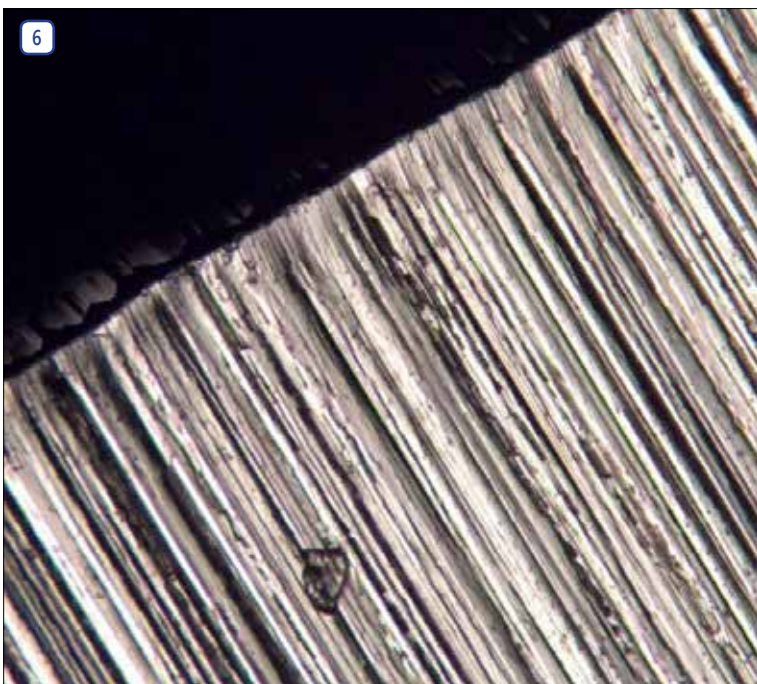
Applications

Some application examples demonstrating the versatility of stereomicroscopes with SZM, SZN and SZP heads. Applications in industrial and research are extremely facilitated by the advanced functionality offered.

Legend

1. Matrix LED adjustable incident illuminator on ST-156.
2. SZ-STL2H overhanging stand, SZN-T head and CL-41 flexible arm LED illuminator.
3. Sample of copper-brass weld interface.
4. CL-16.1 LED ring illuminator.
5. Oblique illumination using a CLD-01 cold light generator.
6. Inspection of a steel blade.
7. Applications in electronics manufacturing.
8. CLD-01 LED illuminator with CL-11.1 double-arm optical fiber guide.





MODULAR Series - Heads

OPTIKA provides three series of stereomicroscope heads based on different field number, zoom level (and consequently, zoom ratio), inclination, and working distance.

An even more substantial differentiating element is also the optical system: choose between Greenough or Galilean, according to the application.



MODULAR Series - Heads

SZM-B



Greenough, binocular stereozoom head with 20mm field number, infinitely adjustable zoom with 6.43:1 zoom ratio and 100mm working distance.

SZM-T



Greenough, trinocular stereozoom head with 20mm field number, infinitely adjustable zoom with 6.43:1 zoom ratio and 100mm working distance.

SZN-B



Greenough, binocular stereozoom head with large field number (22mm), infinitely adjustable zoom with 6.72:1 zoom ratio and 110mm working distance.

SZN-T



Greenough, trinocular stereozoom head with large field number (22mm), infinitely adjustable zoom with 6.72:1 zoom ratio and 110mm working distance.

MODULAR Series - Heads

SZP-6



CMO (Galilean), binocular stereozoom head with large field number (22mm), continuously adjustable zoom with 6.25:1 zoom ratio and 80mm working distance.

SZP-8



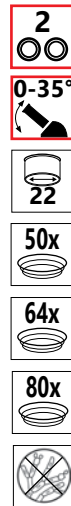
CMO (Galilean), binocular stereozoom head with large field number (22mm), continuously adjustable zoom with 8:1 zoom ratio and 80mm working distance.

SZP-10



CMO (Galilean), binocular stereozoom head with large field number (22mm), continuously adjustable zoom with 10:1 zoom ratio and 80mm working distance.

SZP-ERGO



Ergonomic optical heads are also available for SZP Series as SZP-6ERGO, SZP-8ERGO and SZP-10ERGO. They ensure an even more comfortable body posture, settable inclination 0-35° and diopter adjustment on both the eyepieces.

MODULAR Series - Optical performance

SZM Series - Optical performance

Eyepiece	10x (ST-081)		15x (ST-082)		20x (ST-083)	
Field number (mm)	20		15		10	
Objective	Total magnification	Field of View (mm)	Total magnification	Field of View (mm)	Total magnification	Field of View (mm)
0.5x	3.5x-22.5x	57.14-8.88	5.25x-33.75x	28.57-4.44	7x-45x	14.28-2.22
0.75x	5.25x-33.75x	38.10-5.92	7.87x-50.62	19.06-2.96	10.50x-67.5x	9.52-1.48
1x	7x-45x	28.57-4.44	10.5x-67.5x	0.95-2.22	14x-90x	7.14-1.11
1.5x	10.50x-67.5x	19.05-2.96	15.75x-101.25x	9.52-1.48	21x-135x	4.76-0.74
2x	14x-90x	14.28-2.22	21x-135x	7.14-1.11	28x-180x	3.57-0.55

SZN Series - Optical performance

Eyepiece	10x (ST-141)		15x (ST-142)		20x (ST-143)		25x (ST-144)	
Field number (mm)	22		16		12		9	
Objective	Total magnification	Field of View (mm)	Total magnification	Field of View (mm)	Total magnification	Field of View (mm)	Total magnification	Field of View (mm)
0.3x	2.01x - 13.5x	109.45-16.30	3.02x - 20.25x	52.98-7.902	4.02x - 27x	29.85-4.44	5.02x - 33.75x	17.93-2.67
0.5x	3.35x - 22.5x	65.67-9.78	5.02x - 33.75x	31.87-4.74	6.7x - 45x	17.91-2.67	8.37x - 56.25x	10.75-1.6
0.75x	5.02x - 33.75x	43.82-6.52	7.54x - 50.62x	21.22-3.16	10.05x - 67.5x	11.94-1.78	12.56x - 84.37x	7.17-1.07
1x	6.7x - 45x	32.84-4.89	10.05x - 67.5x	15.24-2.37	13.4x - 90x	8.96-1.33	16.75x - 112.5x	5.37-0.80
1.5x	10.05x - 67.5x	21.89-3.26	15.07x - 101.25	10.62-1.58	20.1x - 135x	5.97-0.89	25.12x - 168.75x	3.58-0.53
2x	13.4x - 90x	16.42-2.44	20.1x - 135x	7.96-1.19	26.8x - 180x	4.48-0.67	33.5x - 225x	2.69-0.40

SZP Series - Optical performance

Optical performance SZP-6

Eyepiece	10x		15x		20x	
Field number (mm)	22		15		10	
Objective	Total magnification	Field of View (mm)	Total magnification	Field of View (mm)	Total magnification	Field of View (mm)
0.3x	2.4x-15x	9.17 - 1.47	3.6x - 22.5x	4.17 - 0.67	4.8x - 30x	2.08 - 0.33
0.5x	4x - 25x	5.5 - 0.88	6x - 37.5x	2.5 - 0.40	8x - 50x	1.25 - 0.20
1x	8x - 50x	2.75 - 0.44	12x - 75x	1.25 - 0.20	16x - 100x	0.63 - 0.10
2x	16x - 100x	1.38 - 0.22	24x - 150x	0.63 - 0.10	32x - 200x	0.31 - 0.05

Optical performance SZP-8

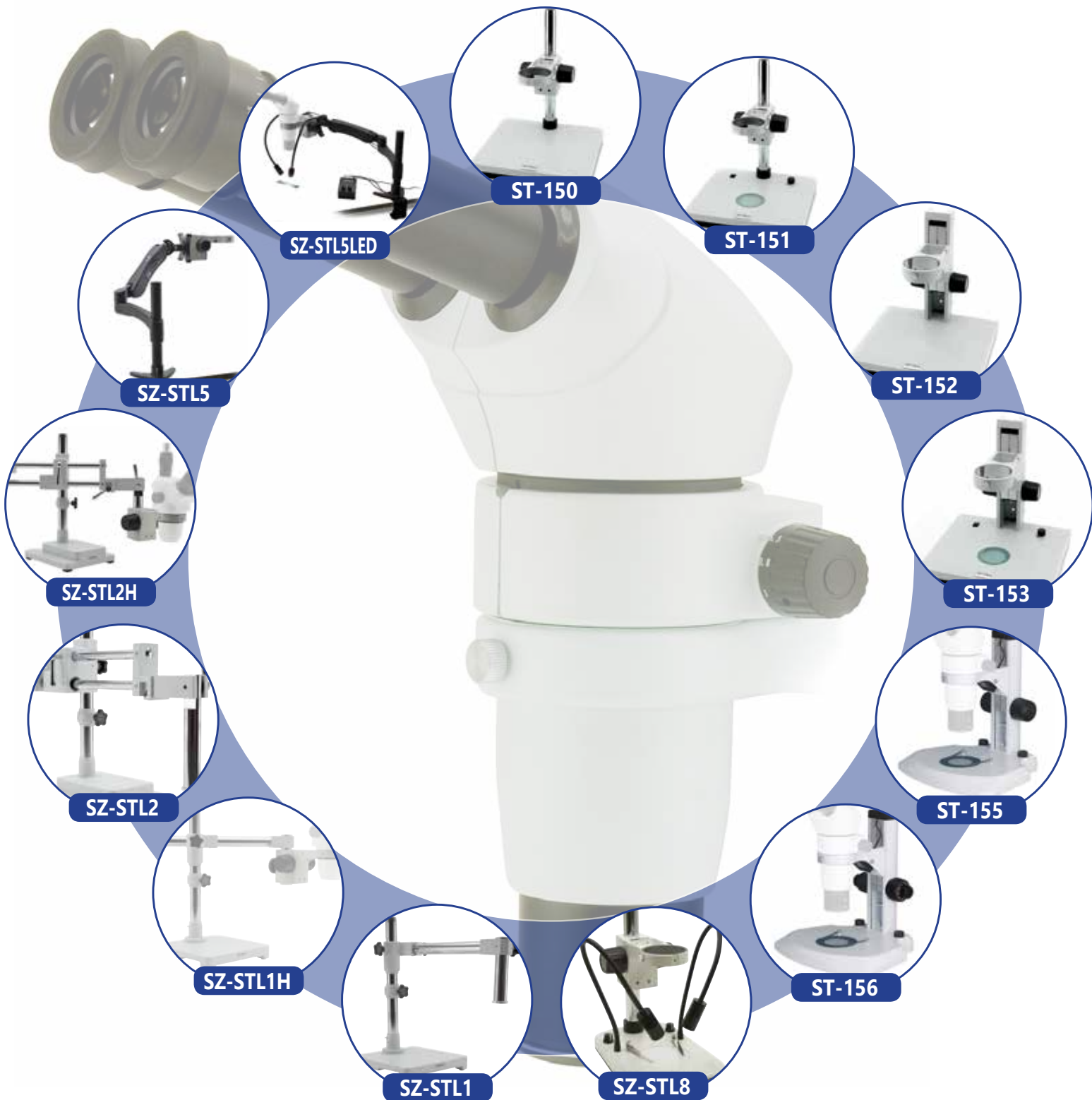
Eyepiece	10x		15x		20x	
Field number (mm)	22		15		10	
Objective	Total magnification	Field of View (mm)	Total magnification	Field of View (mm)	Total magnification	Field of View (mm)
0.3x	2.4x - 19.2x	9.17 - 1.15	3.6x - 28.8x	4.17 - 0.52	4.8x - 38.4x	2.08 - 0.26
0.5x	4x - 32x	5.5 - 0.69	6x - 48x	2.5 - 0.31	8x - 64x	1.25 - 0.16
1x	8x - 64x	2.75 - 0.34	12x - 96x	1.25 - 0.16	16x - 128x	0.63 - 0.08
2x	16x - 128x	1.38 - 0.17	24x - 192x	0.63 - 0.08	32x - 256x	0.31 - 0.04

Optical performance SZP-10

Eyepiece	10x		15x		20x	
Field number (mm)	22		15		10	
Objective	Total magnification	Field of View (mm)	Total magnification	Field of View (mm)	Total magnification	Field of View (mm)
0.3x	2.4x - 24x	9.17 - 0.92	3.6x - 36x	4.17 - 0.42	4.8x - 48x	2.08 - 0.21
0.5x	4x - 40x	5.5 - 0.55	6x - 60x	2.5 - 0.25	8x - 80x	1.12 - 0.13
1x	8x - 80x	2.75 - 0.28	12x - 120x	1.25 - 0.13	16x - 160x	0.63 - 0.06
2x	16x - 160x	1.37 - 0.14	24x - 240x	0.63 - 0.06	32x - 320x	0.31 - 0.03

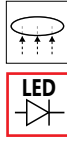
MODULAR Series - Stands

An extremely wide stand selection gives you the chance to create your tailored stereomicroscope!
Choose among the several models available to virtually cover every customers' needs, in terms of illumination, arm extension, and focusing system.



MODULAR Series - Stands

ST-150



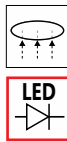
Large, simple plain stand with head holder and focusing mechanism.
Pillar type.
Base size: 320x280mm. Pillar size: Ø32x360mm.

ST-151



Large plain stand with **settable LED transmitted illumination**, head holder and focusing mechanism. **Pillar type.**
Base size: 320x280mm. Pillar size: Ø32x360mm.

ST-152



Large, simple plain stand with head holder and focusing mechanism.
Fixed arm type.
Base size: 320x280mm. Pillar size: 360mm.

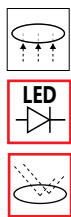
ST-153



Large plain stand with **settable LED transmitted illumination**, head holder and focusing mechanism. **Fixed arm type.**
Base size: 320x280mm. Pillar size: 360mm.

MODULAR Series - Stands

ST-155



ST-155 and SZP-8 head

Modern, large plain stand equipped with **LED transmitted and incident illumination**, both with **intensity control**. It comes complete of head holder and focusing mechanism.

Base size: 330x285mm. Height: 38mm. Pillar: 340mm. Head not included.

ST-156

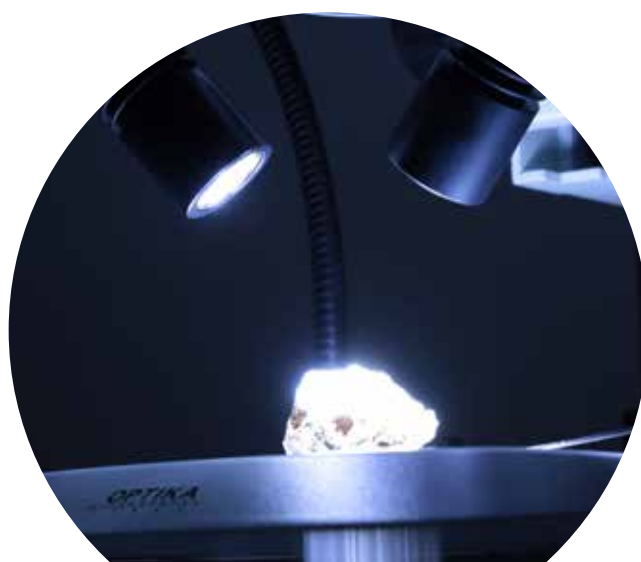


ST-156 and SZP-8 head

Modern, large plain stand equipped with **LED transmitted and incident illumination**, both with **intensity control**. It comes

complete of head holder and **coaxial coarse and fine focusing system**. Base size: 330x285mm. Height: 38mm. Pillar: 340mm. Head not included.

SZ-STL8



X-LED³ lighting system

Modern stand equipped with the **exclusive X-LED³ lighting system** located in two flexible arms and extra-large **settable LED transmitted illumination** for enhanced brightness and improved sample observation.

Base size: 270x205mm. Height: 30mm. Pillar: Ø32x310mm.

MODULAR Series - Stands

SZ-STL1



Extremely **stable**, entry-level overhanging stand for perpendicular observation of **particularly large specimens**.
Smooth horizontal and vertical movement are ensured.
In case illumination is needed, choose from the wide choice of **external illuminators** available.

Base dimensions: 230x230mm.
Pillar: Ø32x420mm.
Horizontal arm: 450mm.
Head, head holder and focusing mechanism not included

SZ-STL1H



Extremely stable overhanging stand **complete of head holder and focusing system** for perpendicular observation of particularly large specimens.
Smooth horizontal and vertical movement are ensured.
In case illumination is needed, choose from the wide choice of **external illuminators** available.

Base dimensions: 230x230mm.
Pillar: Ø32x420mm.
Horizontal arm: 450mm.
Head not included.

*SZ-STL1H and SZN-T head

MODULAR Series - Stands

SZ-STL2



Extremely stable, **hinged and long** overhanging stand for observation of particularly large specimens. The head can be easily tilted for inspection at **oblique angles** ideal e.g. for stone setters.

Smooth horizontal and vertical movement are ensured.

In case illumination is needed, choose from the wide choice of **external illuminators** available.

Base dimensions: 260x210mm.

Pillar: Ø32x420mm.

Horizontal arm: 550mm.

SZ-STL2H



SZ-STL2H and SZN-T head

Extremely stable, hinged and long overhanging stand complete of head holder and focusing system for observation of particularly large specimens.

The head can be easily tilted for inspection at **oblique angles** ideal e.g. for stone setters. **Smooth horizontal and vertical movement** are ensured.

In case illumination is needed, choose from the wide choice of **external illuminators** available.

Base dimensions: 260x210mm.

Pillar: Ø32x420mm.

Horizontal arm: 550mm.

Head not included.

MODULAR Series - Stands

SZ-STL5



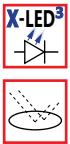
SZ-STL5L and SNZ-T head



Wall mount & table clamp,
both included

Highly versatile flexible arm stand, 360°rotating, ideal for industrial applications. It comes complete of head holder with focusing system and all the supports for table clamp and wall mount. Small footprint is ensured when not in use, saving valuable space on the bench. Head not included.

SZ-STL5LED



Mechanical component
SZ-STL5LED and SZM-T



SZ-STL5LED and SZP-8 head

Highly versatile flexible arm stand, 360°rotating, ideal for industrial applications. It comes complete of the settable and exclusive X-LED³ incident illumination system, head holder with focusing system and all the supports for table clamp and wall mount. Small footprint is ensured when not in use, saving valuable space on the bench. Head not included

MODULAR Series - Accessories

Most of the time, it is of fundamental importance to combine a stereomicroscope with the right accessories, such as attachments, illuminators to provide an efficient illumination and achieve the best working conditions possible. and moving or heating stages are necessary for some specific applications.



SZP-FL Series

Attachment for fluorescence applications for SZP stereomicroscopes only.

Used in many applications like biology, botany, electronics, materials, forensics. Equipped with HBO 100W mercury lamp illuminator.
To be combined with ST-150 or ST-151 stand.



Part	Description
Description	Fluorescence attachment for SZP stereomicroscopes. Fluorescence observation for biology, industrial inspection, criminal justice, etc. Essential tool for security printing and mineral research.
Filterset	Standard: GFP-B (EX460-500, DM505, BA510-560) GFP-L (EX460-500, DM505, BA510)
Illumination	100W HBO high-pressure mercury bulb. Average lamp lifetime: 400 hours. Input voltage: 110/240Vac, 50/60Hz, 1A ; Fuse: F8AL 250V. Maximum input power: 125W. Current and time counter LED displays.
Photo & Video Attachment	Trinocular output port

CL Series - Illuminators

CLD-01



CLD-01 with CL-11.1

Flexible and professional cold light illuminator with high power, extra-efficiency **14W LED** system, **extremely bright and uniform**.
Optical power: **1000 lumen**.
Brightness control potentiometer, external power supply.



Mechanical component
CLD-01 + CL-11.1

CLD-01 Accessories

The output can be coupled to the following accessories:

CL-11.1: Double-arm optical fiber guide with focusing lenses. Arm length 500 mm.

CL-17: Focusing lens (pair) with built-in polarizer filter (for CL-11.1)

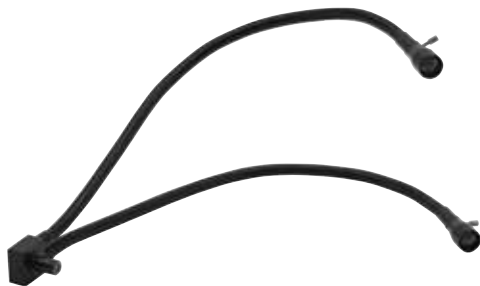
CL-12: Ring optical fiber guide (length 700 mm).

Guide diameter 16 mm.

Diameter of the fixing ring: 55mm.

The circular end is suitable for all stereo series.

CL-11.1



Double-arm guide for CLD-01, with focusing lenses.

Arm length 500 mm. Each arm fitted with focusable lens adapter.

Illuminance (at 10 cm distance): **70.000 lux**.

Optional accessory:

CL-17: lens pair with built-in linear polarizer.



Ring optical fiber guide for CLD-01.

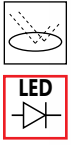
Length 700 mm, diameter 16 mm.

The circular end is suitable for all series, by using the three locking screws. Diameter of the fixing ring: 55mm.

Illuminance (at 10 cm distance): **40.000 lux**.

CL Series - Illuminators

CL-30



Double-arm Led illuminator. Light sources: LED (x2);
With 2W high efficiency LEDs. Chromaticity coordinates: (x,y): 0.320,
0.320; Luminous flux: 80 lm each arm;
Emission angle: 35°. Without brightness control.

CL-31



Double-arm Led illuminator, with brightness control.
Light sources: LED (x2); With 2W high efficiency LEDs.
Chromaticity coordinates: (x,y): 0.320, 0.320;
Luminous flux: 80 lm each arm; Emission angle: 35°.

CL-41



Double-arm X-LED³ illuminator, with brightness control.
Light sources: With 3,6W high efficiency X-LED³.
Chromaticity coordinates: (x,y): 0.320, 0.320;
Luminous flux: 400 lm each arm; Emission angle: 25°;

CL-20



Ring light fluorescent bulb illuminator.
Fluorescence ring light illuminator, 8W. Diameter of the fixing ring: 60mm.
Suitable for all series. Optional lenses for arms:
CL-21: Spare fluorescent lamp, 8W (for CL-20)

CL Series - Illuminators

CL-16.1



Professional lighting system including 144 LEDs (2W total power) for enhanced light uniformity and brightness.

The ring light illumination is divided into 4 different zones, individually adjustable for **selectable light zones**.

The **separated, external control panel** prevents interferences during use, whilst the sturdy metal structure makes it **more durable and resistant**.

Diameter of the fixing ring: 60mm.

SZM-T with CL-16.1

ST Series - Stages

ST-100 & ST-100.1



ST-110 & ST-110.1



Hand moving stage

Dimensions: 185x145mm.

Range: 56mm (X) x 35mm (Y).

> ST-100: model for SZM-1 and SZM-2.

> ST-100.1: model for SZM-LED1, SZM-LED2, SZN and SZ-STL8.

Specific versions available also for other models.

Moving stage, with knobs

Manual positioning stage, using knobs for X-Y movements.

Dimensions: 180x155mm.

Range: 75mm (X) x 54mm (Y).

> ST-110: model for SZM-1 and SZM-2.

> ST-110.1: model for SZM-LED1, SZM-LED2, SZN and SZ-STL8.

Specific versions available also for other models.

ST Series - Stages

ST-111 & ST-111.1



ST-666 & ST-666.1



Moving stage, with micrometer screws

Manual positioning stage, using micrometer screws.

Dimensions: 185x145mm.

Range: 25mm (X) x 25mm (Y).

Micrometer screws resolution: 0.01mm.

> ST-111: model for SZM-1 and SZM-2.

> ST-111.1: model for SZM-LED1, SZM-LED2, SZN and SZ-STL8.

Specific versions available also for other models.

Heating stage, round

Temperature range: 20°C (room temperature) – 50°C.

Temperature setting resolution: 1°C. Temperature measuring resolution:

0.1°C. Display: LED display for set temperature.

LED display for measured temperature.

> ST-666: model for SZM-1 and SZM-2.

> ST-666.1: model for SZM-LED1, SZM-LED2, SZN and SZ-STL8.

Specific versions available also for other models.



MODULAR Series - Accessories

ACCESSORIES FOR SZM-B / SZM-T

ST-081	Eyepieces (pair) WF10x/20 mm.
ST-082	Eyepieces (pair) WF15x/15 mm.
ST-083	Eyepieces (pair) WF20x/10 mm.
ST-084	Eyepiece micrometer WF10x/20 mm, 10mm/100um.
ST-085	Additional lens 0.5x (w.d. 165mm).
ST-091	Additional lens 0.75x (w.d. 117mm).
ST-086	Additional lens 1.5x (w.d. 47mm).
ST-087	Additional lens 2x (w.d. 26mm).
ST-089	Reflex camera adapter for FULL FRAME sensor.
ST-090	Focusable C-Mount adapter for 1/3" sensor.
ST-090.1	Focusable C-Mount adapter for 1/2" sensor.
M-173	Photo adapter for APS-C and Full Frame Reflex cameras.
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-005	Micrometer slide for software calibration, 1mm/10um, 10mm/100um.
15104	Cleaning kit.

15104 - Lens cleaner, 50ml

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.

ACCESSORIES FOR SZN-B / SZN-T

ST-141	Eyepieces (pair) WF10x/22mm.
ST-142	Eyepieces (pair) WF15x/16mm.
ST-143	Eyepieces (pair) WF20x/12mm.
ST-144	Eyepieces (pair) WF25x/9mm.
ST-145	Eyepiece micrometer WF10x/22mm, 10mm/100um.
SAO0.3	Additional lens 0.3x (w.d. 287mm).
SAO0.5	Additional lens 0.5x (w.d. 185mm).
SAO0.75	Additional lens 0.7x (w.d. 120mm).
SAO1.5	Additional lens 1.5x (w.d. 49mm).
SAO2	Additional lens 2x (w.d. 28mm).
ST-146	Photo adapter for REFLEX camera with FULL FRAME sensor.
ST-147	Focusable C-Mount adapter for 1/3" sensor.
ST-147.1	Focusable C-Mount adapter for 1/2" sensor.
M-173	Photo adapter for APS-C and Full Frame Reflex cameras.
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-113.1	Ring adapter, 30mm (for monocular and binocular microscopes).
M-005	Micrometer slide for software calibration, 1mm/10um, 10mm/100um.
15104	Cleaning kit.

ACCESSORIES FOR SZP

ST-160	Eyepiece (pair) WF10x/22mm.
ST-161	Eyepiece (pair) WF15x/15mm.
ST-162	Eyepiece (pair) WF20x/12mm.
ST-163	Eyepiece micrometer WF10x/22mm, 10mm/100um.
ST-165	Objective 0.3x (w.d. 280mm).
ST-166	Objective 0.5x (w.d. 118mm).
ST-167	Objective 2x (w.d. 32,5mm).
ST-170	Photo/Video beam splitter - 1 port.
ST-171	Photo/Video beam splitter - 2 ports.
ST-172	Iris diaphragm module.
M-173	Photo adapter for APS-C and Full Frame Reflex cameras.
ST-174	Focusable C-Mount adapter for 1/3" sensor.
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-113.1	Ring adapter, 30mm (for monocular and binocular microscopes).
ST-176	Protective glass for SZP Series.
M-005	Micrometer slide for software calibration, 1mm/10um, 10mm/100um.
15104	Cleaning kit.

Headquarters and Manufacturing Facilities

OPTIKA® S.r.l. Via Rigla, 30 - 24010 Ponteranica (BG) - ITALIA - Tel.: +39 035.571.392 - Fax: +39 035.571.435 - 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® Hungary hungary@optikamicroscopes.com

OPTIKA[®]
M I C R O S C O P E S
I T A L Y

GEMOLOGY Series



Stereozoom Microscopes For Gemology

OPTIGEM-1 / OPTIGEM-2 / OPTIGEM-3 / OPTIGEM-4 / SZM-GEM-1 / SZM-GEM-2

GEMOLOGY Series



Specifically Designed for Specialists

Gemological stereomicroscopes are meant to help with stone inspection and stone setting. Jewels and gems have a variety of grades (or quality levels), which ultimately influence their value and cost on the market; therefore it is important to have solutions that are purposely designed for gemology. These stereomicroscopes are equipped with iris and darkfield condenser on the bottom light source, and with a set of on stage tweezers to hold the stone in place.

Much More Than Gemological Stereomicroscopes

OPTIGEM-1 & OPTIGEM-2 are two-in-one gemology instruments that can be used both in vertical and horizontal position in a very easy way, just by turning one knob (no disassembling and re-assembling operations are required). The horizontal position extends the use of a gemological microscope, giving the possibility to perform immersion analysis by submerging a sample in liquid. If the stone's refractive index is close to the liquid's one, immersion makes the interior more visible by reducing the effects of refraction and surface reflection. This enables you to see a gem's inclusions or color distribution more easily. Immersion is also necessary to see crystal growth structures, which might help you separate natural from synthetic corundum. Features like curved growth striae in flame-fusion synthetics, or separation planes in assembled stones, are often far easier to see when the stone is immersed.



Vertical position for standard gem analysis with darkfield illumination and polarizing technique



Horizontal position for immersion gem analysis

Incredibly Versatile Operations

OPTIGEM Series offers multiple options for illumination and contrast techniques, such as incident, transmitted and oblique brightfield darkfield, polarization and immersion analysis. They come with a special (see the dedicated chapter for further information) optical condenser configuration to ensure real, perfect darkfield application.

Stereozoom Microscopes For Gemology

Ultrabright LED Condenser for Optimized Illumination

An ultrabright LED-based electronic condenser with intensity control allows to switch from brightfield to darkfield; it also produces perfectly the colour of daylight. The condenser uses a new optical configuration especially created in order to obtain a perfect darkfield application.

Dedicated LED Illumination For Outstanding Results During Grading

The requirement for a pure white (6.3000 K), particularly high intensity light is because only incident light is seen: a flexible arm can be freely positioned and the brightness of the LED illumination accurately adjusted. LED transmitted illumination is available through a diffusing disc (for brightfield) or as a side-emitting LED ring (darkfield, with black background). A selector gives the chance to set the microscope in 3 configurations: brightfield only, darkfield only, or both brightfield and darkfield.



Get the most out of our accessories

A wide range of optional accessories completes these instruments: from gemology clip, iris aperture diaphragm, polarization analysis kit, optical unit to switch the darkfield from a "sharp" (gem exhibition) to a "soft" (diamond analysis) mode, translating cell holder with vacuum pick-up and quartz immersion cells complete and enhance the OPTIGEM-1 & OPTIGEM-2 performances. All the accessories can be stacked, in any order, while using the microscope both horizontally and vertically.



ST-202

ST-202 - Polarizing analysis kit

Polarization technique allows to quickly determine if the stone at hand is isotropic or anisotropic or, at best, to determine the optic character of gemstones (twin planes, strain, pleochroism, etc.). It is also the preferred tool for separating synthetic Quartz from its natural counterparts. In addition, the polarizing microscope may be very useful for distinguishing solid inclusions from negative inclusions as well as for spotting polysynthetic twinning.

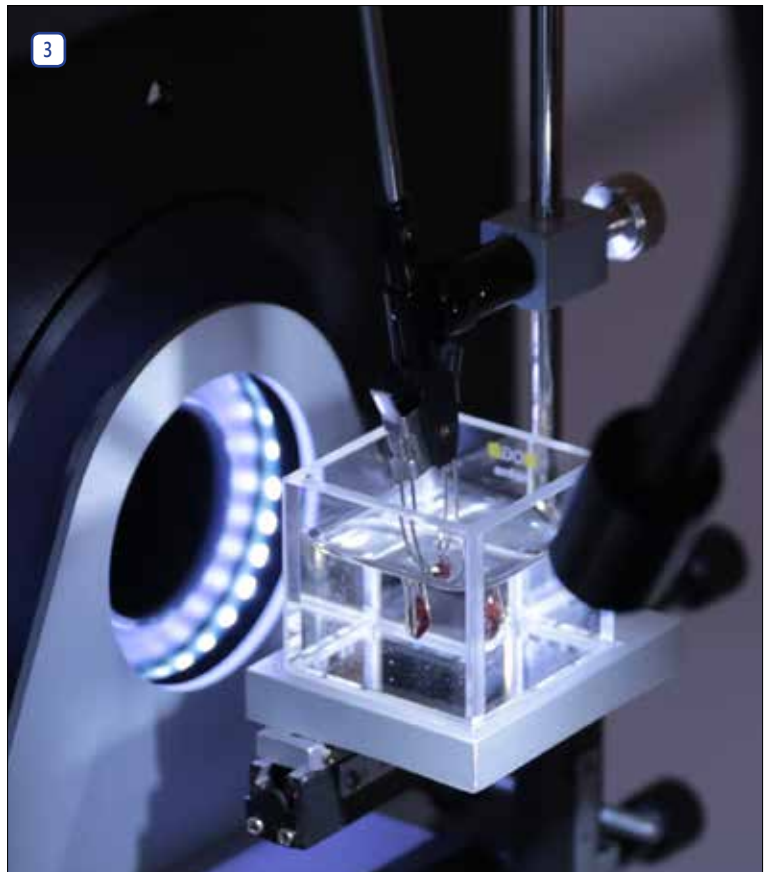
GEMOLOGY Series

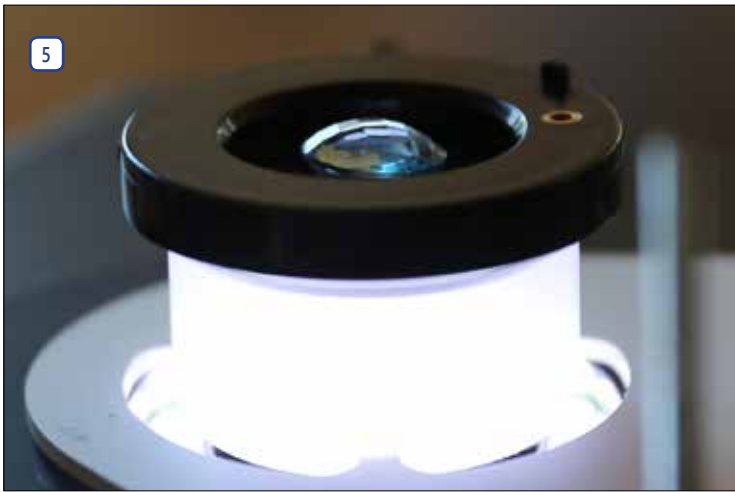
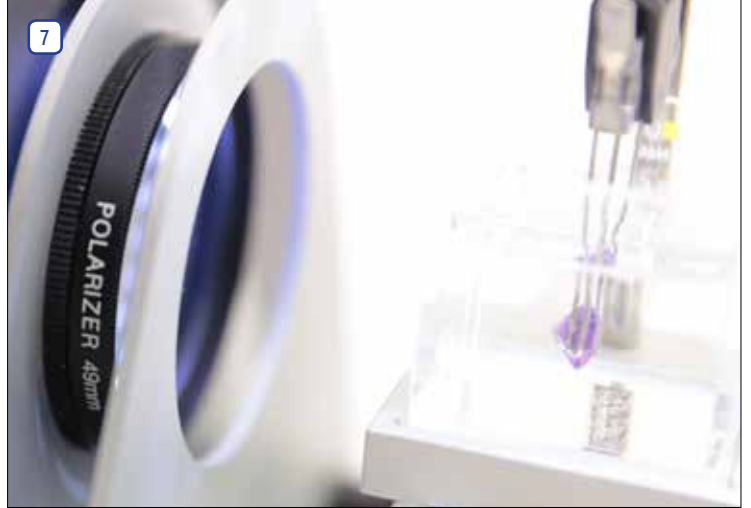
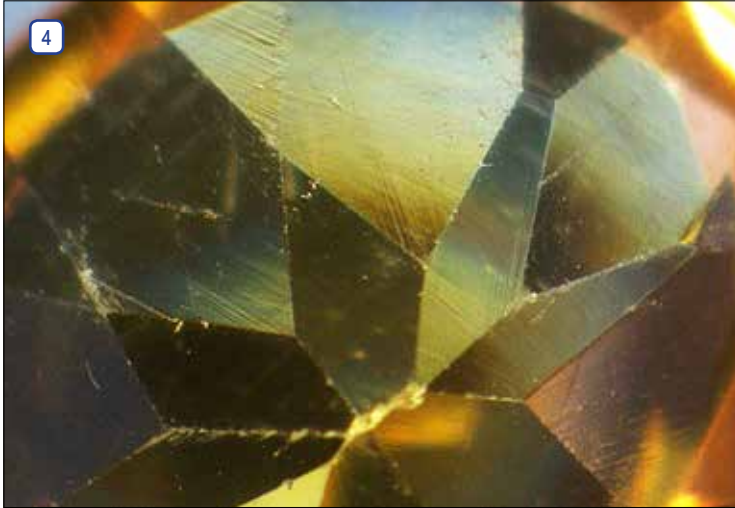
Applications

Some application examples demonstrating the performance of OPTIGEM Series, especially designed to observe samples of precious stones and jewels and provided with specific features for gemological needs.

Legend

1. Inspection of stones with SZM-GEM-1.
2. Inspection of stones with pure white darkfield illumination.
1. Immersion cell (ST-203) on a translating support (ST-204).
2. Sample of Citrine.
3. ST-201 accessory creates a soft darkfield illumination ideal for diamond analysis.
4. Optigem can be easily rotated to a horizontal working position.
5. ST-202 accessory for analysis under polarized light.
6. Working with Optigem and its accessories (they can be stacked for increased functionality)





GEMOLOGY Series - Range

As a leading company in the supply of gemological microscopes, OPTIKA offers 3 series of microscopes purposely designed for this sector by using both brightfield and darkfield methods, SZM-GEM-1 / SZM-GEM-2, OPTIGEM-1 / OPTIGEM-2 and OPTIGEM-3 / OPTIGEM-4. Every microscope has been designed and manufactured in order to satisfy the requests of a very demanding industry; brightfield/darkfield, immersion analysis, light color temperature: no detail has been left to chance.



Observation mode:

Brightfield, darkfield, polarization.

Heads:

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

Interpupillary distance:

SZM-GEM-1/2 & OPTIGEM-1/2: Adjustable between 51 and 75 mm.

OPTIGEM-3/4: Adjustable between 55 and 75 mm.

Dioptric adjustment:

On both eyepiece tubes.

Eyepieces:

SZM-GEM-1/2 & OPTIGEM-1/2: EWF10x/20mm

OPTIGEM-3/4: EWF10x/22mm

Objectives:

SZM-GEM-1/2: Zoom range: 0.7x - 4.5x. Working distance: 100 mm.

Zoom factor: 6.42:1

OPTIGEM-1/2: Zoom range: 0.7x - 4.5x. Working distance: 100 mm.

Zoom factor: 6.42:1

OPTIGEM-3/4: Zoom range: 0.67x - 4.5x. Working distance: 110 mm.

Zoom factor: 6.71:1

Specimen stage:

Adjustable gemology clip.

Stands:

OPTIGEM-1/2:

Rack-and-pinion stand (it can be inclined 90° for horizontal use). Base: 270x210x60h mm. Weight: 6 Kg.

OPTIGEM-3/4:

Rack-and-pinion stand (it can be inclined 45°). 360° rotating base.

Base: 305x260x70h mm. Weight: 7 Kg.

SZM-GEM-1/2:

Pillar stand height 25 cm. Base: 260x200x60h mm. Weight: 6 Kg.

Focusing:

By means of a rack and pinion controlled by a pair of knobs placed on both sides of the stereomicroscope.

Illumination:

OPTIGEM-1/2:

Incident illumination: LED flexible arm with brightness adjustment.

Transmitted illumination: side-emitting LED system for brightfield and darkfield. Three possible modes of illumination: brightfield, darkfield, or both. LED temperature color: 6300K (pure white).

OPTIGEM-3/4:

Incident illumination: flexible arm, fluorescent tube 7W 6400K (pure white). Transmitted illumination: system for observation with brightfield and darkfield, based on 30W halogen illumination and reflecting system.

SZM-GEM-1/2:

Incident illumination: dichroic halogen lamp 12V/15W.

Transmitted illumination: Diffusive LED disc for observation in brightfield and side-emitting LED ring for observation in darkfield.

GEMOLOGY Series - Range

OPTIGEM-1



Binocular stereomicroscope for brightfield and darkfield applications with **special side-emitting LED illumination ring** for true darkfield illumination. Equipped also with an incident LED flexible arm and a diffusive LED disc for transmitted illumination. The instrument can be **easily tilted horizontally** for immersion analysis. The body is 360° rotatable to show gems to customers, or share opinions with a colleague.

OPTIGEM-2



Trinocular stereomicroscope for brightfield and darkfield applications with **special side-emitting LED illumination ring** for true darkfield illumination. Equipped also with an incident LED flexible arm and a diffusive LED disc for transmitted illumination. The instrument can be **easily tilted horizontally** for immersion analysis. The body is 360° rotatable to show gems to customers, or share opinions with a colleague.

OPTIGEM-3



Binocular stereomicroscope for brightfield and darkfield applications. The **darkfield condenser** uses a typical optical configuration, based on halogen illumination and a classic reflecting system. A **flexible arm** with a fluorescent tube simulates the color of daylight for **accurate color grading**. The stand can be inclined backward by 45° for to increase comfort and ergonomy.

OPTIGEM-4



Trinocular stereomicroscope for brightfield and darkfield applications. The **darkfield condenser** uses a typical optical configuration, based on halogen illumination and a classic reflecting system. A **flexible arm** with a fluorescent tube simulates the color of daylight for **accurate color grading**. The stand can be inclined backward by 45° for to increase comfort and ergonomy.

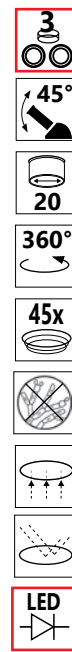
GEMOLOGY Series - Range

SZM-GEM-1



Binocular stereomicroscope with pillar stand and illuminated stage for brightfield and darkfield applications with special **LED illumination ring** for true darkfield illumination.

SZM-GEM-2



Trinocular stereomicroscope with pillar stand and illuminated stage for brightfield and darkfield applications with special **LED illumination ring** for true darkfield illumination.

GEMOLOGY Series - Comparison chart

Model	Head	Eyepieces	Objectives	Stand	Illumination
OPTIGEM-1	Binocular, 360°rotating, 45° inclined	Wide Field 10x/20mm	0.7 4.5x Zoom	Gemological stand	Incident illumination: LED flexible arm with brightness adjustment. Transmitted illumination: Diffusive LED disc for observation in brightfield and side-emitting LED ring for observation in darkfield.
OPTIGEM-2	Trinocular, 360°rotating, 45° inclined	Wide Field 10x/20mm	0.7 4.5x Zoom	Gemological stand	Incident illumination: LED flexible arm with brightness adjustment. Transmitted illumination: Diffusive LED disc for observation in brightfield and side-emitting LED ring for observation in darkfield.
OPTIGEM-3	Binocular, 360°rotating, 45° inclined	Wide Field 10x/22mm	0.67 4.5x Zoom	Gemological stand	Incident illumination: flexible arm with fluorescent tube 7W (pure white). Transmitted illumination: 30W halogen bulb and a dedicated reflecting system for observation with brightfield and darkfield.
OPTIGEM-4	Trinocular, 360°rotating, 45° inclined	Wide Field 10x/22mm	0.67 4.5x Zoom	Gemological stand	Incident illumination: flexible arm with fluorescent tube 7W (pure white). Transmitted illumination: 30W halogen bulb and a dedicated reflecting system for observation with brightfield and darkfield.
SZM-GEM-1	Binocular, 360° rotating, 45° inclined	Wide Field 10x/20mm	0.7x....4.5x zoom	Pillar stand	Incident illumination: dichroic halogen lamp 12V/15W. Transmitted illumination: Diffusive LED disc for observation in brightfield and side-emitting LED ring for observation in darkfield.
SZM-GEM-2	Trinocular, 360° rotating, 45° inclined	Wide Field 10x/20mm	0.7x....4.5x zoom	Pillar stand	Incident illumination: dichroic halogen lamp 12V/15W. Transmitted illumination: Diffusive LED disc for observation in brightfield and side-emitting LED ring for observation in darkfield.

GEMOLOGY Series - Optical performance

OPTIGEM-1/2 - Optical performance

Eyepiece	10x (ST-081)		15x (ST-082)		20x (ST-083)	
Field number (mm)	20		15		10	
Objective	Total magnification	Field of View (mm)	Total magnification	Field of View (mm)	Total magnification	Field of View (mm)
0.5x	3.5x-22.5x	57.14-8.88	5.25x-33.75x	28.57-4.44	7x-45x	14.28-2.22
0.75x	5.25x-33.75x	38.10-5.92	7.87x-50.62	19.06-2.96	10.50x-67.5x	9.52-1.48
1x	7x-45x	28.57-4.44	10.5x-67.5x	0.95-2.22	14x-90x	7.14-1.11
1.5x	10.50x-67.5x	19.05-2.96	15.75x-101.25x	9.52-1.48	21x-135x	4.76-0.74
2x	14x-90x	14.28-2.22	21x-135x	7.14-1.11	28x-180x	3.57-0.55

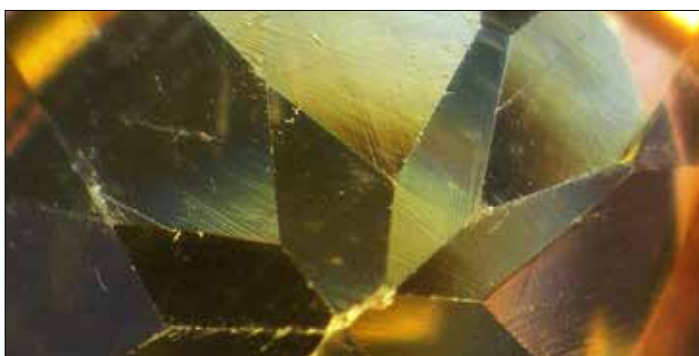
OPTIGEM-3/4 - Optical performance

Eyepiece	10x (ST-141)		15x (ST-142)		20x (ST-143)		25x (ST-144)	
Field number (mm)	22		16		12		9	
Objective	Total magnification	Field of View (mm)	Total magnification	Field of View (mm)	Total magnification	Field of View (mm)	Total magnification	Field of View (mm)
0.3x	2.01x - 13.5x	109.45-16.30	3.02x - 20.25x	52.98-7.902	4.02x - 27x	29.85-4.44	5.02x - 33.75x	17.93-2.67
0.5x	3.35x - 22.5x	65.67-9.78	5.02x - 33.75	31.87-4.74	6.7x - 45x	17.91-2.67	8.37x - 56.25x	10.75-1.6
0.75x	5.02x - 33.75x	43.82-6.52	7.54x - 50.62x	21.22-3.16	10.05x - 67.5x	11.94-1.78	12.56x - 84.37x	7.17-1.07
1x	6.7x - 45x	32.84-4.89	10.05x - 67.5x	15.24-2.37	13.4x - 90x	8.96-1.33	16.75x - 112.5x	5.37-0.80
1.5x	10.05x - 67.5x	21.89-3.26	15.07x - 101.25	10.62-1.58	20.1x - 135x	5.97-0.89	25.12x - 168.75	3.58-0.53
2x	13.4x - 90x	16.42-2.44	20.1x - 135x	7.96-1.19	26.8x - 180x	4.48-0.67	33.5x - 225x	2.69-0.40

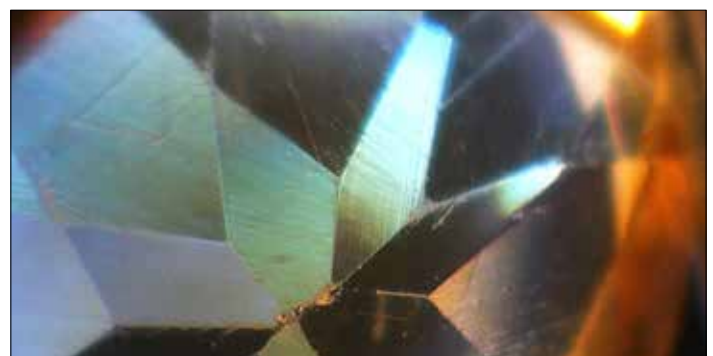
SZM-GEM-1/2 - Optical performance

Eyepiece	10x (ST-081)		15x (ST-082)		20x (ST-083)	
Field number (mm)	20		15		10	
Objective	Total magnification	Field of View (mm)	Total magnification	Field of View (mm)	Total magnification	Field of View (mm)
0.5x	3.5x-22.5x	57.14-8.88	5.25x-33.75x	28.57-4.44	7x-45x	14.28-2.22
0.75x	5.25x-33.75x	38.10-5.92	7.87x-50.62	19.06-2.96	10.50x-67.5x	9.52-1.48
1x	7x-45x	28.57-4.44	10.5x-67.5x	0.95-2.22	14x-90x	7.14-1.11
1.5x	10.50x-67.5x	19.05-2.96	15.75x-101.25x	9.52-1.48	21x-135x	4.76-0.74
2x	14x-90x	14.28-2.22	21x-135x	7.14-1.11	28x-180x	3.57-0.55

GEMOLOGY Series - Contrast method comparison



Citrine - OPTIGEM-2 - 0.7x zoom - Brightfield



Citrine - OPTIGEM-2 - 0.7x zoom - Darkfield

GEMOLOGY Series - Accessories

ACCESSORIES FOR OPTIGEM - 1/2

ST-201	Iris aperture diaphragm for darkfield (only for OPTIGEM 1 & 2).
ST-207	Iris aperture diaphragm for standard illuminator (only for OPTIGEM 1 & 2).
ST-202	Polarizing analysis kit (only for OPTIGEM 1 & 2).
ST-203	Glass immersion cell (only for OPTIGEM 1 & 2).
ST-204	Translating cell holder (only for OPTIGEM 1 & 2).
ST-205	Vacuum pick-up (with electric vacuum pump).
ST-081	Eyepieces (pair) WF10x/20 mm.
ST-082	Eyepieces (pair) WF15x/15 mm.
ST-083	Eyepieces (pair) WF20x/10 mm.
ST-084	Eyepiece micrometer WF10x/20 mm, 10mm/100um.
ST-086	Additional lens 1.5x (w.d. 47mm).
ST-087	Additional lens 2x (w.d. 26mm).
ST-089	Reflex camera adapter for FULL FRAME sensor.
ST-090	Focusable C-Mount adapter for 1/3" sensor.
ST-090.1	Focusable C-Mount adapter for 1/2" sensor.
M-173	Photo adapter for APS-C and Full Frame Reflex cameras.
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-005	Micrometer slide for software calibration, 1mm/10um, 10mm/100um.
M-113.1	Ring adapter, 30mm (for monocular and binocular microscopes).
15104	Cleaning kit.

ACCESSORIES FOR OPTIGEM - 3/4

ST-231	Polarizing analysis kit (only for OPTIGEM 3 & 4).
ST-142	Eyepieces (pair) WF15x/16mm.
ST-143	Eyepieces (pair) WF20x/12mm.
ST-144	Eyepieces (pair) WF25x/9mm.
ST-145	Eyepiece micrometer WF10x/22mm, 10mm/100um.
SAO1.5	Additional lens 1.5x (w.d. 49mm).
SAO2	Additional lens 2x (w.d. 28mm).
ST-146	Photo adapter for REFLEX camera with FULL FRAME sensor.
ST-147	Focusable C-Mount adapter for 1/3" sensor.
ST-147.1	Focusable C-Mount adapter for 1/2" sensor.
M-621	Halogen bulb 6V/30W.
M-173	Photo adapter for APS-C and Full Frame Reflex cameras.
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-113.1	Ring adapter, 30mm (for monocular and binocular microscopes).
M-005	Micrometer slide for software calibration, 1mm/10um, 10mm/100um.
15104	Cleaning kit.

ACCESSORIES FOR SZM-GEM - 1/2

ST-230	Polarizing analysis kit (only for SZM-GEM series).
ST-082	Eyepieces (pair) WF15x/15mm.
ST-083	Eyepieces (pair) WF20x/10mm.
ST-084	Eyepiece micrometer WF10x/20mm., 10mm/100um
ST-086	Additional lens 1.5x (w.d. 47mm).
ST-087	Additional lens 2x (w.d. 33mm).
ST-089	Reflex camera adapter for FULL FRAME sensor.
ST-090	Focusable C-Mount adapter for 1/3" sensor.
ST-090.1	Focusable C-Mount adapter for 1/2" sensor.
M-173	Photo adapter for APS-C and Full Frame Reflex cameras.
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-113.1	Ring adapter, 30mm (for monocular and binocular microscopes).
M-005	Micrometer slide for software calibration, 1mm/10um, 10mm/100um.
15104	Cleaning kit.

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) - ITALIA - Tel.: +39 035.571.392 - Fax: +39 035.571.435 - 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® Hungary hungary@optikamicroscopes.com

X SERIES



Microscopes For Industry And Quality Control

XC-100L / XZ-1 / XZ-2

X Series - Range

This series has been designed to handle and observe samples of any dimension. Industrial microscopes incorporate many complex designs that aim to improve resolution and sample contrast. From models designed for routine analysis up to models dedicated to industrial laboratory and quality control, OPTIKA Microscopes is able to satisfy any demand in this field.

XC-100L



Portable microscope but also a **multifunctional testing instrument** for applications where magnifying-glasses are not good enough, such as quality control in mechanical, engraving and printing industry. It has to be used **directly on the specimen** to be inspected and it is equipped with WF10x/15.5mm **micrometric eyepiece** with cross divided into 0.1 millimeter. Powered by an inclined **adjustable xenon penlight**.

XZ-1



Bench-top monocular microscope offering **reliable image information in 2D and 3D**, being ideal for **measuring and viewing surfaces** with a zoom objective. It comes with WF10x/18mm **micrometric eyepiece** with cross divided into 0.1 millimeter and a double lighting unit with **halogen incident and transmitted light**.



X Series - Range

XZ-2



Bench-top binocular microscope offering **reliable image information in 2D and 3D**, being ideal for **measuring and viewing surfaces** with a zoom objective. It comes with a **CCD camera** (380 lines), **8" TFT LCD screen** and **LED ring light generator with brightness control** for incident illumination.

X Series - Comparison chart

Model	Head	Eyepiece	Objectives	Working Distance	Stand	Illumination
XC-100L	Monocular	WF10x/18mm micrometric	10x	7,7 mm	Portable stand	Incident illumination: xenon penlight
XZ-1	Monocular	WF10x/18mm	0,7x....4,5x zoom	90 mm	Pillar stand	Incident illumination: halogen bulbs 12V/10W Transmitted illumination: halogen bulbs 12V/10W
XZ-2	Binocular	WF10x/18mm	0,7x.... 4,5x zoom	96 mm	Pillar stand with 8" TFT LCD screen	Incident illumination: LED ring light with brightness control

X Series - Accessories

ACCESSORIES FOR XC-100L

- M-899 Pen illuminator.
- M-004 Eyepiece with micrometer WF10x/18mm.
- 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-005 Micrometer slide for software calibration, 1mm/10um, 10mm/100um.

ACCESSORIES FOR XZ-1

- M-001 Eyepiece H5x.
- M-003 Eyepiece WF16x/12mm.
- ST-012 White/black stage plate, 95mm diameter.
- ST-014 Glass stage, 95 mm diameter.
- ST-028 Halogen bulb 12V/10W.
- M-013 Halogen bulb 12V/10W, with dichroic mirror.
- ST-029 Dust cover type 12.
- 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-005 Micrometer slide for software calibration, 1mm/10um, 10mm/100um.

ACCESSORIES FOR XZ-2

- M-001 Eyepiece H5x.
- M-003 Eyepiece WF16x/12mm.
- M-004 Eyepiece with micrometer WF10x/18mm.
- 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-005 Micrometer slide for software calibration, 1mm/10um, 10mm/100um.

15104 - Lens cleaner, 50ml

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) - ITALIA - Tel.: +39 035.571.392 - Fax: +39 035.571.435 - 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® Hungary hungary@optikamicroscopes.com

Headquarters and Manufacturing Facilities

OPTIKA® S.r.l. Via Rigla, 30 - 24010 Ponteranica (BG) - ITALIA - Tel.: +39 035.571.392 - Fax: +39 035.571.435 - 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® Hungary hungary@optikamicroscopes.com