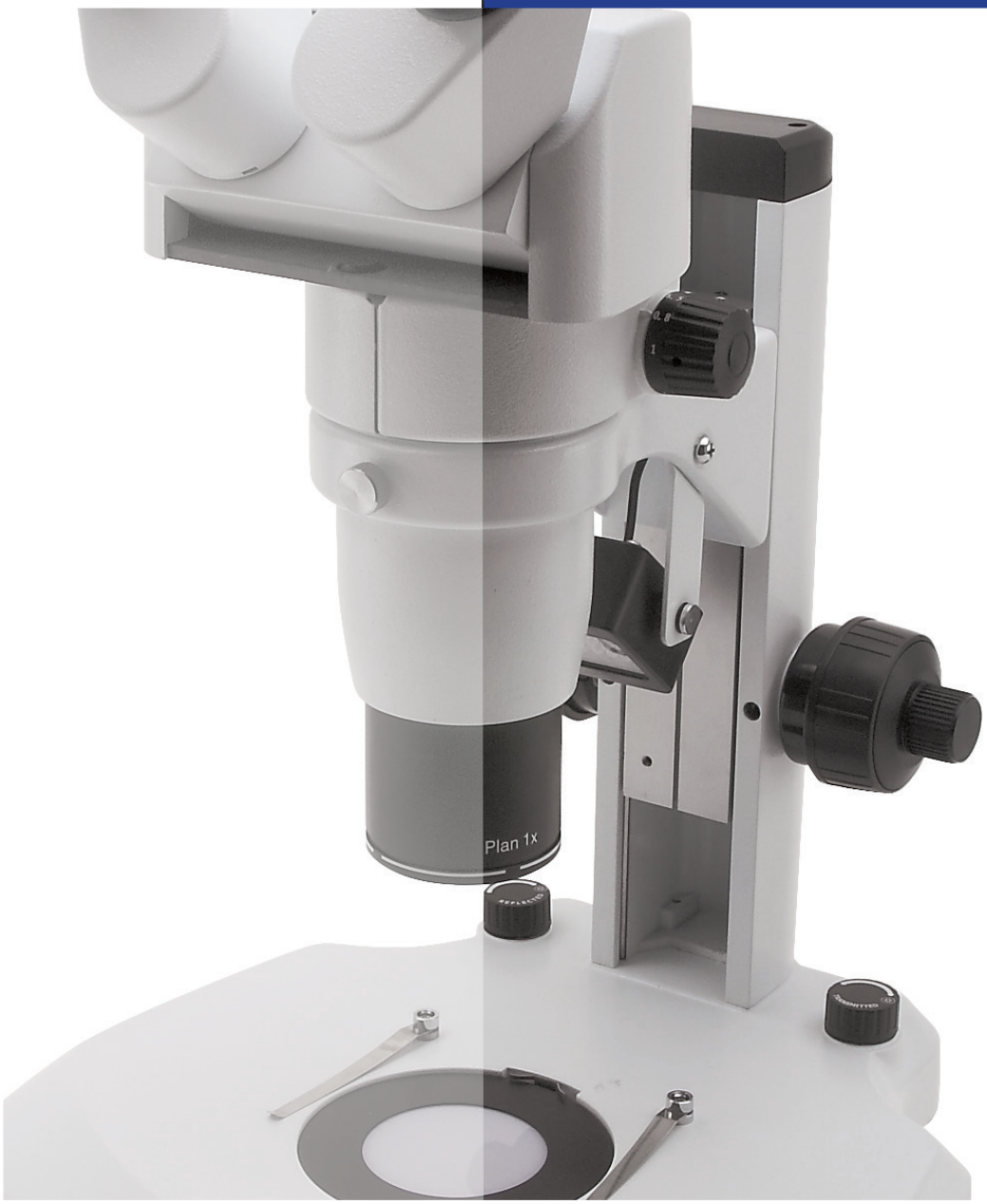
OPTIKA®
MICROSCOPES
ITALY

SZP Series



Advanced CMO Stereozoom Microscopes

SZP Series

Greenough Vs. CMO Stereo Microscopes

The Greenough design, introduced in the early twentieth century, consists of two identical, symmetrical optical systems each containing a separate eyepiece and objective, arranged in careful alignment with a single housing. The two optical paths are arranged at a precise angle, due to which they converge to the point that determines the working distance and thus the focal length. This design allows high numerical apertures because the objectives are very similar to those used in compound microscopes. The lower section of the microscope contains the objectives, while the upper end of the body tubes projects an image to the eyes.

CMO (Common Main Objective) stereo microscopes have

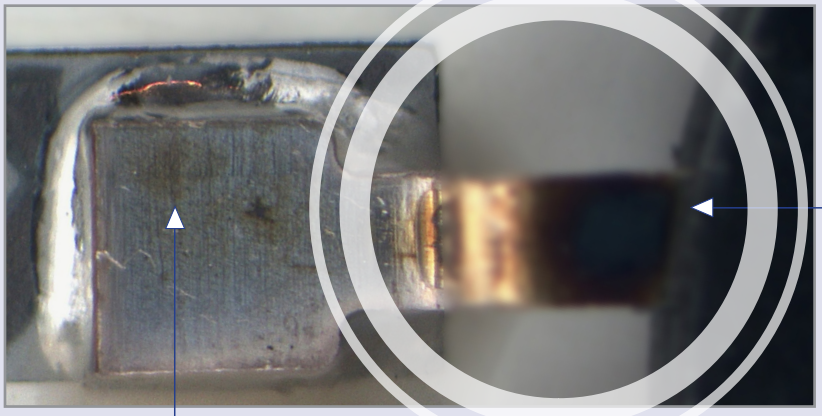
CMO Stereozoom Microscopes

the ability to collect more light than the Greenough design and feature greater optical aberration correction.
CMO stereo microscopes, unlike Greenough stereo microscopes, are by definition instruments whose optics are infinity corrected. This allows you to easily introduce accessories such as beamsplitters or aperture diaphragms thanks to which you can get a greater depth of field.

Get the most out of our accessories

ST-172 - Iris diaphragm module

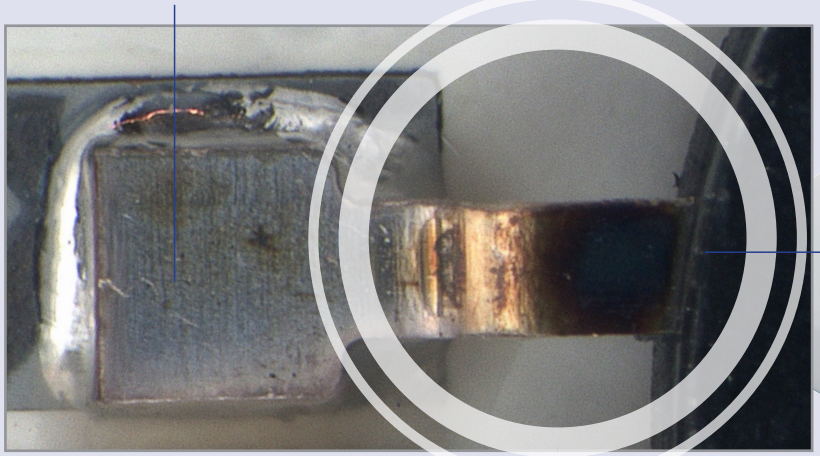
With this accessory, the depth of field of the final image can be adjusted, for applications where different planes all in focus are needed.



OUT-OF-FOCUS AREA

With iris diaphragm open

FOCUS PLANE



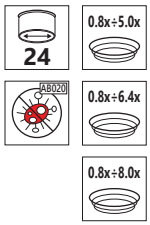
IN-FOCUS AREA

With iris diaphragm close

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

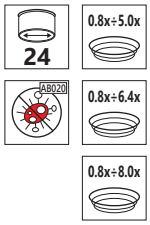
SZP Series - Heads

SZP-6, SZP-8, SZP-10



Part	Description
Head:	Binocular, 360° rotating on all stands and 30° inclined.
Interpup. distance:	Adjustable between 52 and 75 mm.
Dioptric adjustment:	On both eyepieces.
Eyepieces:	WF10x/24 mm, high eye-point.
SZP-6 zoom body:	Parfocal achromatic zoom 0.8x...5.0x (zoom factor 6.25:1).
SZP-8 zoom body:	Parfocal achromatic zoom 0.8x...6.4x (zoom factor 8:1).
SZP-10 zoom body:	Parfocal achromatic zoom 0.8x...8.0x (zoom factor 10:1).
Zoom positioning:	By click-stop mechanism
Objective lens:	Plan Achromatic 1x.
Working distance:	80 mm.
Optical system:	Galilean (Parallel, infinity corrected).

SZP-6e, SZP-8e, SZP-10e



Part	Description
Head:	Ergonomical binocular, 360° rotating on all stands and freely inclinable from 0° to 35°.
Interpup. distance:	Adjustable between 55 and 80 mm.
Dioptric adjustment:	On both eyepieces.
Eyepieces:	WF10x/24 mm, high eye-point.
SZP-6e zoom body:	Parfocal achromatic zoom 0.8x...5.0x (zoom factor 6.25:1).
SZP-8e zoom body:	Parfocal achromatic zoom 0.8x...6.4x (zoom factor 8:1).
SZP-10e zoom body:	Parfocal achromatic zoom 0.8x...8.0x (zoom factor 10:1).
Zoom positioning:	By click-stop mechanism
Objective lens:	Plan Achromatic 1x.
Working distance:	80 mm.
Optical system:	Galilean (Parallel, infinity corrected).

SZP-FL - Epi-Fluorescence Attachment

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 any SZP model.

Name	Excitation filter (nm)	Dichroic mirror cut-off (nm)	Emission filter (nm)
B Blue	460 - 500	505	510LP
G Green	510 - 550	570	575LP

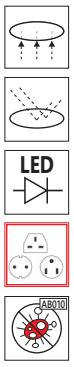
SZP-FL	HBO fluorescence attachment for SZP heads
Description:	SZP fluorescence attachment for biology, industrial inspection, forensics, etc. Essential tool for security printing and mineral research.
Illumination:	100W HBO high-pressure mercury bulb. Average lamp lifetime: 400 hours. Input voltage: 110/240Vac, 50/60Hz, 1A ; Fuse: F8AL 250V. Maximum input power: 125W. Current and time counter LED displays.
Photo Attachment:	Trinocular output Photo/Video port.

SZP Series - Stands

ST-155

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: 330x290 mm. Height: 40 mm. Fixed arm height: 340 mm.
Head not included.

ST-156



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: 330x290 mm. Height: 40 mm.
Fixed arm height: 340 mm. Head not included.

SZP Series - Optical Performance

SZP Heads

Optical performance SZP-6 / SZP-6e

Eyepiece	10x (ST-160)		15x (ST-161)		20x (ST-162)	
Field number (mm)	24		15		10	
Objective	Total magnification	Field of View (mm)	Total magnification	Field of View (mm)	Total magnification	Field of View (mm)
0.3x (W.D: 280 mm)	2.4x-15x	100.00-16.00	3.6x-22.5x	62.50-10.00	4.8x-30x	41.67-6.67
0.5x (W.D: 165 mm)	4x-25x	60.00-9.60	6x-37.5x	37.50-6.00	8x-50x	25.00-4.00
1x (W.D: 80 mm)	8x-50x	30-4.80	12x-75x	18.75-3.00	16x-100x	12.50-2.00
2x (W.D: 32.5 mm)	16x-100x	15-2.40	24x-150x	9.38-1.50	32x-200x	6.25-1.00

Optical performance SZP-8 / SZP-8e

Eyepiece	10x (ST-160)		15x (ST-161)		20x (ST-162)	
Field number (mm)	24		15		10	
Objective	Total magnification	Field of View (mm)	Total magnification	Field of View (mm)	Total magnification	Field of View (mm)
0.3x (W.D: 280 mm)	2.4x-19.2x	100.00-12.50	3.6x-28.8x	62.50-7.81	4.8x-38.4x	41.67-5.21
0.5x (W.D: 165 mm)	4x-32x	60.00-7.50	6x-48x	37.50-4.69	8x-64x	25.00-3.13
1x (W.D: 80 mm)	8x-64x	30.00-3.75	12x-96x	18.75-2.34	16x-128x	12.50-1.56
2x (W.D: 32.5 mm)	16x-128x	15.00-1.88	24x-192x	9.38-1.17	32x-256x	6.25-0.78

Optical performance SZP-10 / SZP-10e

Eyepiece	10x (ST-160)		15x (ST-161)		20x (ST-162)	
Field number (mm)	24		15		10	
Objective	Total magnification	Field of View (mm)	Total magnification	Field of View (mm)	Total magnification	Field of View (mm)
0.3x (W.D: 280 mm)	2.4x-24x	100.00-10.00	3.6x-36x	62.50-6.25	4.8x-48x	41.67-4.17
0.5x (W.D: 165 mm)	4x-40x	60.00-6.00	6x-60x	37.50-3.75	8x-80x	25.00-2.50
1x (W.D: 80 mm)	8x-80x	30.00-3.00	12x-120x	18.75-1.88	16x-160x	12.50-1.25
2x (W.D: 32.5 mm)	16x-160x	15.00-1.50	24x-240x	9.38-0.94	32x-320x	6.25-0.63

SZP Series - Accessories

Eyecups & Eyepieces

ST-160	WF10x/24 eyepiece, high eyepoint, focusable, with rubber cup
ST-161	WF15x/16 eyepieces (pair), focusable, with rubber cup
ST-162	WF20x/12 eyepieces (pair), focusable, with rubber cup
ST-163	WF10x/24 micrometric eyepiece, high eyepoint, focusable, rubber cup

Additional Lenses

ST-165	0.3x objective (w.d. 280mm)
ST-166	0.5x objective (w.d. 118mm)
ST-167	2x objective (w.d. 32.5mm)

Camera Adapters

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

Miscellaneous

15104	Cleaning kit
DC-002	Plastic dust cover, medium, 490(l)x490(h) mm
DC-003	TNT dust cover, medium, 600(l)x550(h) mm
DC-004	TNT dust cover, large, 700(l)x550(h) mm
M-005	Micrometric slide, 26x76mm, with 2 scales (1mm/100 & 10mm/100)
M-151	HBO 100W high-pressure mercury bulb for fluorescence
M-151.1	HBO 100W high-pressure mercury bulb for fluorescence (OSRAM)
ST-098	Polarising set (filters and rotating stage)
ST-170	Photo/Video beam splitter - 1 port
ST-171	Photo/Video beam splitter - 2 port
ST-172	Iris diaphgram module
ST-176	Protective glass for stereohead (only works with standard 1x lens)
SZP-FL	HBO fluo attachment, 3-pos. (B & G filter set), multi-plug
VP-SZP	IQ/OQ/PQ manual for SZP series
AB-020	Antibacterial surface treatment, only for newly purchased microscope

ST-172

ST-170

ST-171

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

ST-098

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

v 6.8.0 - OPTIKA reserves the right to make corrections, modifications, enhancements, improvements and other changes to its products at any time without notice.

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