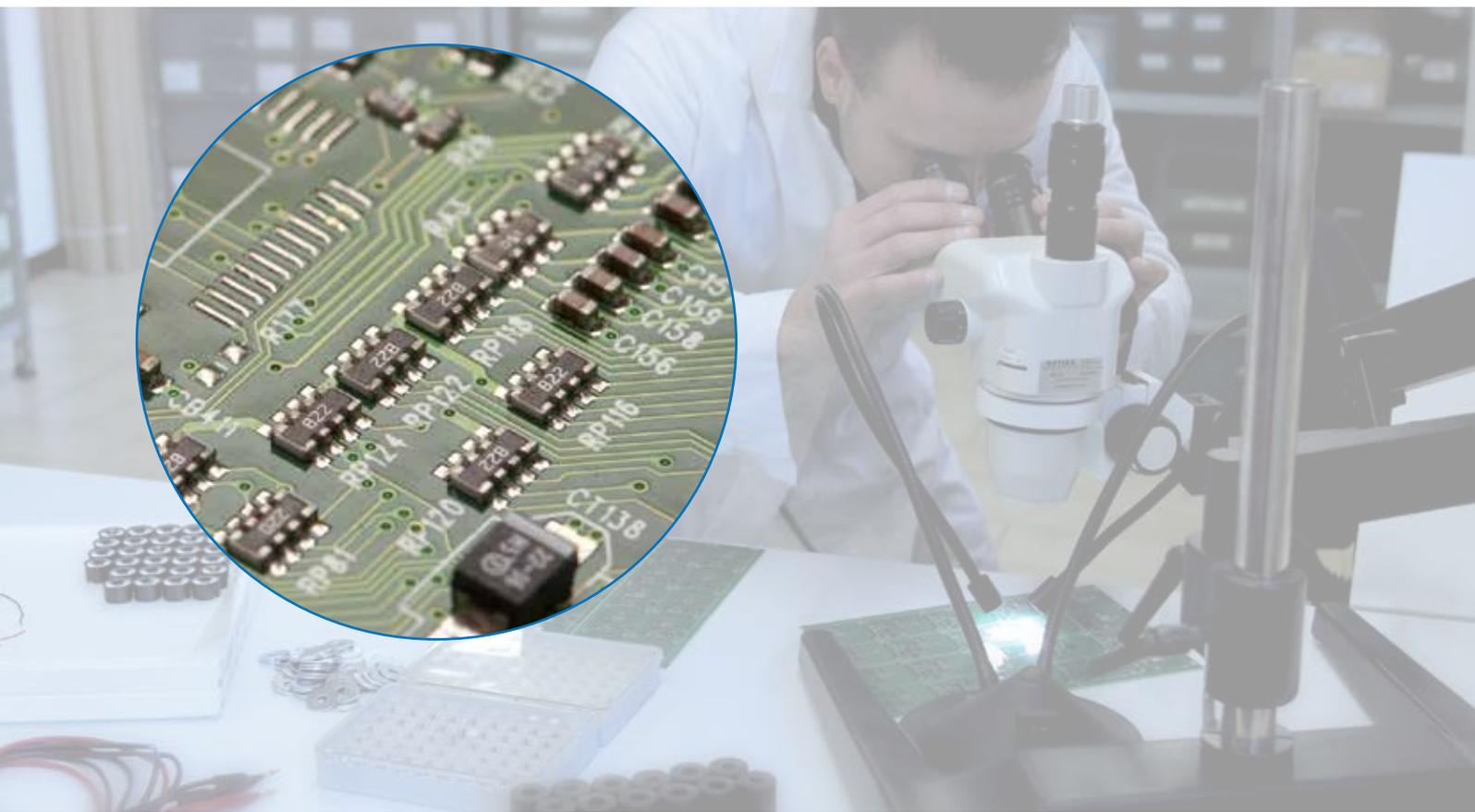


# INDUSTRIAL *microscopes*





- LAB SERIES - Entry-level professional stereomicroscopes page 157
- SZM SERIES - Professional stereozoom microscopes page 161
- SZN SERIES** - Laboratory stereozoom microscopes page 165
- MODULAR SERIES - Modular stereozoom microscopes for industry page 173
- SZM-SMD - Stereozoom microscope for SMD inspection page 183
- ACCESSORIES - Illumination and sample positioning page 187
- OPTIGEM SERIES - Gemological stereomicroscopes page 193
- INDUSTRY SERIES - Metallurgical and measuring microscopes page 201



# Icons

	Monocular		Magnification 400X		X-LED <sup>2</sup> illuminator
	Binocular		Magnification 1000X		X-LED <sup>3</sup> illuminator
	Trinocular		Incident light		X-LED <sup>8</sup> illuminator
	Field number 16		Transmitted light		1W LED illuminator
	Field number 18		Polarized light		LED illuminator
	Field number 20		Halogen lamp		Automatic light control
	Field number 22		Incandescant lamp		Infinity-corrected optics
	Field number 24		Dichroic lamp		Rechargeable battery
	Rotating head 360°		USB connection		Anti-fungus treatment

## LAB Series

Professional entry-level stereomicroscopes



# LAB Series

The LAB series can be considered as the entry-level of the OPTIKA professional stereomicroscopes range. The two models have been designed for end users who need professional quality at low cost.

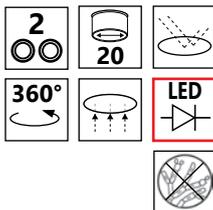
## LAB-10

Stereomicroscope 20x-40x, LED incident & transmitted illumination.

## LAB-20

Stereozoom microscope 7x...45x, LED incident & transmitted illumination.

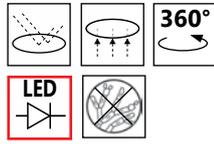
### LAB-10



# LAB Series



## LAB-20



### Heads

Binocular heads, 360° rotating and 45° inclined.

### Interpupillary distance

Adjustable between 51 and 75 mm.

### Eyepieces

WF10x/20 mm.

LAB-10: Dioptric compensation adjustable on left eyepiece tubes.

LAB-20: Dioptric compensation adjustable on both eyepiece tubes.

### Specimen stage

Fitted with a semi-transparent disc for transmitted light with specimen clips.

### Objectives

LAB-10: with double magnification (2x-4x) that can be selected by rotating the lens unit. Working distance 80mm.

LAB-20: continuous zoom 0,7x ...4,5x. (6,43:1 zoom factor).

Working distance: 85 mm.

### Stand

Fixed arm type with focusing mechanism.

### Focusing

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

### Illumination

Double adjustable illuminator for incident and transmitted light fitted with two high-efficiency LED light sources. The angle of the incident illuminator is adjustable. Voltage: 110/240V ac.

## LAB Series - Technical specifications

Model	Head	Eyepiece	Objectives	Working Distance	Stand	Illuminator
LAB-10	Binocular	WF 10x/20mm	2x - 4x selectable by rotating	80 mm	Pillar stand with fixed holder	Double incident and transmitted light. High-efficiency LED light sources with separate brightness controls
LAB-20	Binocular	WF 10x/20mm	0,7x...4,5x zoom	85 mm	Pillar stand with fixed holder	Double incident and transmitted light. High-efficiency LED light sources with separate brightness controls

# LAB Series - Accessories

## LAB

- ST-001.1 Eyepieces (pair) WF5x/22mm (for LAB series only).
- ST-401 Eyepieces (pair) WF10x/20 mm.
- ST-402 Eyepieces (pair) WF15x/15 mm.
- ST-403 Eyepieces (pair) WF20x/10 mm.
- ST-405 Eyepiece micrometer WF10x/20mm.
- ST-085 Additional lens 0,5x (w.d. 165mm).
- ST-086 Additional lens 1,5x (w.d. 47mm).
- ST-415 Eyecups (pair).
- ST-029 Dust cover type 12.
- ST-092 Protective glass for stereohead.
- ST-417 Round plastic stage for LAB 10 and LAB 20.
- M-114 CCD camera adapter 0,45x.
- M-116 CCD camera adapter 0,50x.
- M-173 Photo adapter for APS-C and Full Frame Reflex cameras.
- M-113.1 Ring adapter, 30mm (for monocular and binocular microscopes).

## 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.



LAB-10



LAB-20

## SZM Series

Professional stereozoom microscopes



# SZM Series

The stereomicroscopes of the SZM series are instruments designed for laboratory and industry applications.

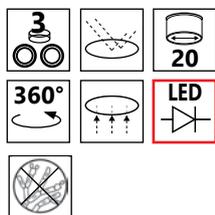
Their optical and mechanical qualities place them at the top of their category and their price/quality ratio is excellent. The stereomicroscopes share the same optical system consisting of binocular and trinocular heads with zoom objectives.

The six models of the SZM series find their proper application wherever professional instruments are required. Several accessories provide a wide choice of configurations and applications.

- SZM-1** Binocular stereozoom microscope 7x...45x, halogen incident & transmitted illumination.
- SZM-LED1** Binocular stereozoom microscope 7x...45x, LED incident & transmitted light.
- SZM-2** Trinocular stereozoom microscope 7x...45x, halogen incident & transmitted illumination.
- SZM-LED2** Trinocular stereozoom microscope 7x...45x, LED incident & transmitted light.
- SZM-3** Binocular stereozoom microscope 7x...45x, overhanging stand.
- SZM-4** Trinocular stereozoom microscope 7x...45x, overhanging stand.



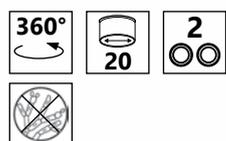
## SZM-LED2



# SZM Series



**SZM-3**



## 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

## Objectives

Parfocal achromatic zoom 0,7x...4,5x (6,428:1 zoom factor).

## 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

Models **SZM 1/2**: Pillar stand 30 mm diameter and 25 cm high, base: 26x20x6h cm.

Models **SZM-LED 1/2**: Pillar stand 32 mm diameter and 315 mm high, base 27x21x3h cm.

Models **SZM 3/4**: Overhanging stand 42 cm high, 45 cm horizontal arm length, base 23x23cm.

## Illumination

Models **SZM-1/2**: Double, adjustable incident and transmitted light, fitted with two 12V/15W halogen bulbs. The angle of the incident illumination is adjustable.

The two models **SZM-LED1/2** are equipped with a double high-power LED.

## SZM Series - Technical specifications

Model	Head	Eyepiece	Objectives	Working Distance	Stand	Illuminator
<b>SZM-1</b>	Binocular	WF 10x/20mm	0,7x....4,5x zoom	100 mm	Pillar stand	Incident and transmitted 12V/15W halogen
<b>SZM-LED1</b>	Binocular	WF 10x/20mm	0,7x....4,5x zoom	100 mm	Pillar stand	Incident: high power single X-LED Transmitted: LED diffusing disc
<b>SZM-2</b>	Trinocular	WF 10x/20mm	0,7x....4,5x zoom	100 mm	Pillar stand	Incident and transmitted 12V/15W halogen
<b>SZM-LED2</b>	Trinocular	WF 10x/20mm	0,7x....4,5x zoom	100 mm	Pillar stand	Incident: high power single X-LED Transmitted: LED diffusing disc
<b>SZM-3</b>	Binocular	WF 10x/20mm	0,7x....4,5x zoom	100 mm	Overhanging stand	Without illuminator
<b>SZM-4</b>	Trinocular	WF 10x/20mm	0,7x....4,5x zoom	100 mm	Overhanging stand	Without illuminator

# SZM Series - Accessories

## SZM

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.
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-088.SZM	Polarising set (filters and rotating stage) for SZM.
ST-088.SZMLED	Polarising set (filters and rotating stage) for SZM LED.
ST-040.SZM	Darkfield condenser SZM.
ST-040.SZMLED	Darkfield condenser SZM-LED.
ST-100.SZM	Hand moving stage SZM.
ST-100.SZMLED	Hand moving stage SZM-LED.
ST-666.SZM	Heating stage for stereomicroscopes SZM.
ST-666.SZMLED	Heating stage for stereomicroscopes SZM LED.
ST-110.SZM	Moving stage, with coaxial knobs SZM.
ST-110.SZMLED	Moving stage, with coaxial knobs SZM-LED.
ST-111.SZM	Moving stage, with micrometric screws SZM.
ST-111.SZMLED	Moving stage, with micrometric screws SZM-LED.
ST-041	Sample clip.
ST-089	Reflex camera adapter for FULL FRAME sensor.
ST-090	CCD camera adapter (for 1/3" sensors).
ST-090.1	CCD camera adapter (for 1/2" sensors).
ST-036	Eyecups (pair) type 2.
ST-012	White/black object-plate, type 2 dia. 95 mm. *
ST-014	Glass stage, type 2, dia. 95 mm. *
ST-038	Halogen bulb, 12V/15W.
ST-037	Halogen bulb, 12V/15W, with dichroic mirror.
ST-033	Dust cover type 13.
ST-666	Heating stage for stereomicroscopes.
M-114	CCD camera adapter 0,45x.
M-116	CCD camera adapter 0,50x.
M-173	Photo adapter for APS-C and Full Frame Reflex cameras.
M-113.1	Ring adapter, 30mm (for monocular and binocular microscopes).

\* For LED version special adapter required

## 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.

## SZN Series

Laboratory stereozoom microscopes



# SZN Series

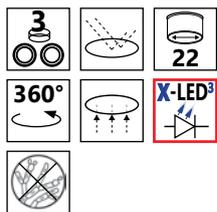
The stereomicroscopes of the SZN series are instruments designed for laboratory and industry applications.

Their optical and mechanical qualities place them at the top of their category and the price/quality ratio is excellent. The stereomicroscopes share the same optical system consisting of binocular and trinocular heads with zoom objectives.

The ten models of the SZN series find their proper application wherever professional instruments are required. Several accessories provide an ample choice of configurations and applications.

- SZN-1** Binocular zoom stereomicroscope 6,7x...45x, simple pillar stand.
- SZN-2** Trinocular zoom stereomicroscope 6,7x...45x, simple pillar stand.
- SZN-3** Binocular zoom stereomicroscope 6,7x...45x, stand with X-Led incident and Led transmitted illuminators.
- SZN-4** Trinocular zoom stereomicroscope 6,7x...45x, stand with X-Led incident and Led transmitted illuminators.
- SZN-5** Binocular zoom stereomicroscope 6,7x...45x, stand with X-Led incident (2 arms) and Led transmitted illuminators.
- SZN-6** Trinocular zoom stereomicroscope 6,7x...45x, stand with X-Led incident (2 arms) and Led transmitted illuminators.
- SZN-7** Binocular zoom stereomicroscope 6,7x...45x, simple overhanging stand.
- SZN-8** Trinocular zoom stereomicroscope 6,7x...45x, simple overhanging stand.
- SZN-9** Binocular zoom stereomicroscope 6,7x...45x, hinged overhanging stand.
- SZN-10** Trinocular zoom stereomicroscope 6,7x...45x, hinged overhanging stand.

## SZN-4



# SZN Series

## Heads

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

## Interpupillary distance

Adjustable between 55 and 75 mm.

Dioptic compensation on both eyepiece tubes.

## Eyepieces

EWF10x/22mm, high-point.

## Working distance

110 mm.

## Objectives

Parfocal achromatic zoom 0,67x...4,5x with continuously variable magnification (max. 45x in the standard configuration, can be increased to 225x by using additional accessories).

## Specimen stage:

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

## Focusing

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

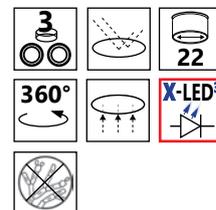
## Illumination

High efficiency X-LED<sup>3</sup> incident illuminators (single or double arm) and 100 mm white LED diffusing disc as transmitted illuminator (60 chip LEDs).

## Stands

The series has different stands for every requirement. Simple for vision without transmitted illumination; base for incident and transmitted illumination; overhanging stands (simple or hinged), that allow very large objects to be viewed and to be handled or worked.

## SZN-6



## X-LED

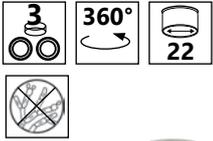
X-LED powered illumination system.



100mm wide illumination LED disc

# SZN Series - Models

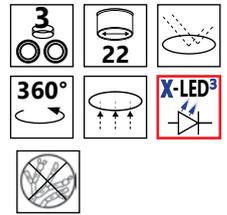
**SZN-2**



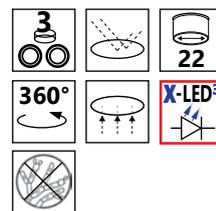
**X-LED**

X-LED powered illumination system.

**SZN-4**

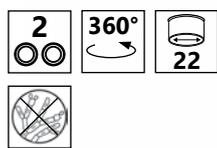


**SZN-6**

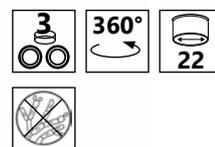


# SZN Series - Models

**SZN-7**

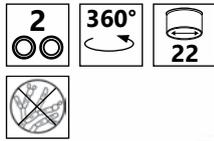


**SZN-8**

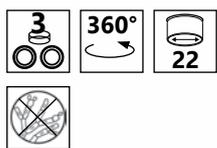


# SZN Series - Models

## SZN-9



## SZN-10



# SZN Series - Technical specifications

Model	Head	Eyepiece	Objectives	Working Distance	Stand	Illumination
<b>SZN-1</b>	Binocular	EWF10x/22	0,67....4,5x	110mm	Pillar stand with rack and pinion system	Without illumination.
<b>SZN-2</b>	Trinocular	EWF10x/22	0,67....4,5x	110mm	Pillar stand with rack and pinion system	Without illumination.
<b>SZN-3</b>	Binocular	EWF10x/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 <sup>3</sup> .
<b>SZN-4</b>	Trinocular	EWF10x/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 <sup>3</sup> .
<b>SZN-5</b>	Binocular	EWF10x/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 <sup>3</sup> .
<b>SZN-6</b>	Trinocular	EWF10x/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 <sup>3</sup> .
<b>SZN-7</b>	Binocular	EWF10x/22	0,67....4,5x	110mm	Simple overhanging stand	Without illumination.
<b>SZN-8</b>	Trinocular	EWF10x/22	0,67....4,5x	110mm	Simple overhanging stand	Without illumination.
<b>SZN-9</b>	Binocular	EWF10x/22	0,67....4,5x	110mm	Hinged overhanging stand	Without illumination.
<b>SZN-10</b>	Trinocular	EWF10x/22	0,67....4,5x	110mm	Hinged overhanging stand	Without illumination.

# SZN Series - Accessories

## Eyepieces

- 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.

## Additional lenses

- 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).

## Photo & Video adapters

- ST-146 Photo adapter for REFLEX camera with FULL FRAME sensor.
- ST-147 CCD camera adapter (for 1/3" sensors).
- ST-147.1 CCD camera adapter (for 1/2" sensors).
- M-173 Photo adapter for APS-C and Full Frame Reflex cameras.

## Additional Accessories

- ST-088.SZN Polarising set (filters and rotating stage).
- ST-040.SZN Darkfield condenser.
- ST-100.SZN Hand moving stage.
- ST-110.SZN Moving stage, with coaxial knobs.
- ST-111.SZN Moving stage, with micrometric screws.
- ST-666.SZN Heating stage for stereomicroscopes.
- M-114 CCD camera adapter 0,45x.
- M-116 CCD camera adapter 0,50x.
- M-113.1 Ring adapter, 30mm (for monocular and binocular microscopes).

## 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.

## MODULAR Series

Modular stereozoom microscopes for industry



## MODULAR Series - Heads

The MODULAR series has been designed to match professional needs in industrial field.

With a wide range of stereozoom heads and special stands, it allows you to build your own model on the basis of your needs.

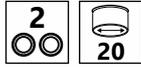
<b>SZM-B</b>	Stereomicroscope binocular zoom head 7x...45x, with eyepieces.
<b>SZM-T</b>	Stereomicroscope trinocular zoom head 7x...45x, with eyepieces.
<b>SZN-B</b>	Stereomicroscope binocular zoom head 6,7x...45x, with eyepieces.
<b>SZN-T</b>	Stereomicroscope trinocular zoom head 6,7x...45x, with eyepieces.
<b>SZP-6</b>	Stereomicroscope binocular zoom head 8x...50x, with eyepieces, GALILEAN optical system.
<b>SZP-6ERGO</b>	Stereomicroscope binocular zoom ERGO head 8x...50x, with eyepieces, GALILEAN optical system.
<b>SZP-8</b>	Stereomicroscope binocular zoom head 8x...64x, with eyepieces, GALILEAN optical system.
<b>SZP-8ERGO</b>	Stereomicroscope binocular zoom ERGO head 8x...64x, with eyepieces, GALILEAN optical system.
<b>SZP-10</b>	Stereomicroscope binocular zoom head 8x...80x, with eyepieces; GALILEAN optical system.
<b>SZP-10ERGO</b>	Stereomicroscope binocular zoom ERGO head 8x...80x, with eyepieces; GALILEAN optical system.



# MODULAR Series - SZM Heads



**SZM-B**



## SZM-B Binocular stereozoom head

45° inclined, 360° rotatable;  
WF10x/20mm high-point widefield eyepieces;  
Interpupillary distance: 51-75 mm;  
Dioptric adjustment: +/-5 dp;  
0,7x...4,5x zoom objective;  
Zoom ratio: 6,43:1;  
Working distance: 100 mm.



**SZM-T**



## SZM-T Trinocular stereozoom head

45° inclined, 360° rotatable;  
WF10x/20mm high-point widefield eyepieces;  
Interpupillary distance: 51-75 mm;  
Dioptric adjustment: +/-5 dp;  
0,7x...4,5x zoom objective;  
Zoom ratio: 6,43:1;  
Working distance: 100 mm.

# MODULAR Series - Accessories

## Eyepieces

- 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.

## Additional lenses

- 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).

## Photo & Video adapters

- ST-089 Reflex camera adapter for FULL FRAME sensor.
- ST-090 CCD camera adapter (for 1/3" sensors).
- ST-090.1 CCD camera adapter (for 1/2" sensors).
- M-173 Photo adapter for APS-C and Full Frame Reflex cameras.
- M-114 CCD camera adapter 0,45x.
- M-116 CCD camera adapter 0,50x.
- M-113.1 Ring adapter, 30mm (for monocular and binocular microscopes).



## How to connect the cameras to our microscopes.

Please refer to the Adapter reference list on Digital section.

# MODULAR Series - SZN Heads

## SZN-B Binocular stereozoom head

45° inclined, 360° rotatable;  
 WF10x/22mm high-point widefield eyepieces;  
 Interpupillary distance: 55-75 mm;  
 Dioptic adjustment: +/-5 dp;  
 0,67x...4,5x zoom objective;  
 Zoom ratio: 6,72;  
 Working distance: 110 mm.

## SZN-T Trinocular stereozoom head

45° inclined, 360° rotatable;  
 WF10x/22mm high-point widefield eyepieces;  
 Interpupillary distance: 55-75 mm;  
 Dioptic adjustment: +/-5 dp;  
 0,67x...4,5x zoom objective;  
 Zoom ratio: 6,72;  
 Working distance: 110 mm.



# MODULAR Series - Accessories

### Eyepieces

- 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.

### Additional lenses

- 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).

### Photo & Video adapters

- ST-146 Photo adapter for REFLEX camera with FULL FRAME sensor.
- ST-147 CCD camera adapter (for 1/3" sensors).
- ST-147.1 CCD camera adapter (for 1/2" sensors).
- M-173 Photo adapter for APS-C and Full Frame Reflex cameras.
- M-114 CCD camera adapter 0,45x.
- M-116 CCD camera adapter 0,50x.
- M-113.1 Ring adapter, 30mm (for monocular and binocular microscopes).



### How to connect the cameras to our microscopes.

Please refer to the Adapter reference list on Digital section.

# MODULAR Series - SZP Heads

## SZP-6 Stereomicroscope binocular zoom head 8x...50x, with eyepieces, GALILEAN optical system

30° inclined, 360° rotatable;  
 WF10x/22mm high-point widefield eyepieces;  
 Interpupillary distance: 52-75 mm;  
 Dioptic adjustment: +/-5 diopters;  
 Objective: 1xPL;  
 0,8x...5x zoom objective;  
 Zoom ratio: 6:1;  
 Working distance: 80 mm.

## SZP-8 Stereomicroscope binocular zoom head 8x...64x, with eyepieces, GALILEAN optical system

30° inclined, 360° rotatable;  
 WF10x/22mm high-point widefield eyepieces;  
 Interpupillary distance: 52-75 mm;  
 Dioptic adjustment: +/-5 diopters;  
 Objective: 1xPL;  
 0,8x...6,4x zoom objective;  
 Zoom ratio: 8:1;  
 Working distance: 80 mm.

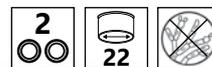
## SZP-10 Stereomicroscope binocular zoom head 8x...80x, with eyepieces; GALILEAN optical system

30° inclined, 360° rotatable;  
 WF10x/22mm high-point widefield eyepieces;  
 Interpupillary distance: 52-75 mm;  
 Dioptic adjustment: +/-5 diopters;  
 Objective: 1xPL;  
 0,8x...8x zoom objective;  
 Zoom ratio: 10:1;  
 Working distance: 80 mm.

Other available models SZP-6ERGO, SZP-8ERGO, SZP-10ERGO

Binocular ERGO head 0°-35° inclined, 360° rotatable  
 Diopter adjustment on both eyepieces +/- 5 diopters.

### SZP-6

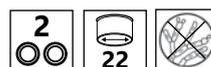


### ST-170

### ST-172



### SZP-ERGO



Stand not included

# MODULAR Series - Accessories

### Eyepieces

- ST-160 Eyepiece (pair) WF10x/22mm.
- ST-161 Eyepiece (pair) WF15x/15mm.
- ST-162 Eyepiece (pair) WF20x/12mm.
- ST-163 Eyepiece micrometer WF10x/22mm.

### Objectives

- ST-165 Objective 0,3x (w.d. 280mm).
- ST-166 Objective 0,5x (w.d. 118mm).
- ST-167 Objective 2x (w.d. 32,5mm).

### Photo & Video attachments and adapters

- 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 CCD camera adapter (for 1/3" sensors).
- M-114 CCD camera adapter 0,45x.
- M-116 CCD camera adapter 0,50x.
- M-113.1 Ring adapter, 30mm (for monocular and binocular microscopes).
- ST-176 Protective glass for SZP Series.



### How to connect the cameras to our microscopes.

Please refer to the Adapter reference list on Digital section.

## MODULAR Series - Stands

The MODULAR series has been designed to match professional needs in industrial field.

With a wide range of stereozoom heads and special stands, it allows you to build your own model on the basis of your needs.

<b>ST-150</b>	Large stand, pillar type.
<b>ST-151</b>	Large stand, pillar type, with LED illumination.
<b>ST-152</b>	Large stand, fixed arm type.
<b>ST-153</b>	Large stand, fixed arm type, with LED illumination.
<b>ST-155</b>	Large stand, fixed arm type, with LED illumination (incident & transmitted).
<b>ST-156</b>	Large stand, fixed arm type, with LED illumination, coaxial macro & micro focusing knobs.
<b>SZ-STL1H</b>	Simple overhanging stand, with focusing system and head holder.
<b>SZ-STL2H</b>	Hinged overhanging stand, with focusing system and head holder.
<b>SZ-STL8</b>	Pillar stand type, with double X-LED illuminator, ergonomic flexible arms and 60 chip Leds disc trans-illuminator.
<b>SZ-STL5</b>	Industrial stand, with table clamp and holder for wall mount.



# MODULAR Series - Stands

## ST-150



### ST-150

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

## ST-151



### ST-151

Large plain stand with head holder and focusing mechanism. LED trans-illuminator with intensity control. Pillar type. Base: 320x280mm. Pillar: Ø32x360mm.

## ST-152



### ST-152

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

## ST-153



### ST-153

Large plain stand with head holder and focusing mechanism. LED trans-illuminator with intensity control. Fixed arm type. Base: 320x280mm. Fixed arm: 360mm.

# MODULAR Series - Stands

## ST-155



### ST-155

Modern stand with large base. LED trans-illuminator and LED incident illuminator, both with intensity control. \*Head not included.

### ST-156

Modern stand with large base. LED trans-illuminator and LED incident illuminator, both with intensity control. Coaxial coarse and fine focusing system. \* Head not included.

## ST-156



## SZ-STL1H



### SZ-STL1H

Simple overhanging stand with head holder. Base dimensions: 230x230mm. Pillar: Ø32x380mm. Horizontal arm: 430mm. \* Head not included

# MODULAR Series - Stands

## SZ-STL2H

### SZ-STL2H

Hinged overhanging stand with head holder. Base dimensions: 260x210mm. Pillar: Ø32x380mm. Horizontal arm: 550mm.

\* Head not included



### SZ-STL8

Modern stand with small base. With 2 incident X-LED illuminators on flexible arms, and high brightness LED disc trans-illuminator (100mm diameter).

## SZ-STL8

# MODULAR Series - Stands

## SZ-STL5



### SZ-STL5

Industrial stand, table clamp and holder for wall mount.

Weight Capacity: 3kg~8kg.

Maximum Extension: 577mm.

Depth from Pole (Closed): 75mm.

Tilt adjustment: +/-90 degree.

Swing adjustment: +/-90 degree.

\* Head not included



## SZ-STL5

## SZ-STL5LED

Stand with white X-LED<sup>3</sup> incident illumination system. Intensity control using two dedicated knobs. LED power: 3.5W (x2), each comparable to a 50W halogen bulb.

Color temperature: 6300K.

LED average lifetime: approx. 50000h.

Provided power supply: 6V 2,5A.

\* Head not included

## SZ-STL5LED



## SZM-SMD Model

Stereozoom microscope for SMD inspection





## SZM-SMD Model

The SZM-SMD has been designed specifically for the inspection of solder connections, rework and repair of electronic circuits and for mounting small electronic components.

One-touch sliding movement allows the user to quickly change from vertical to oblique viewing.

### Head

Trinocular, 45° inclined, 360° rotating. Microscope for SMD inspection.

### Eyepieces

WF10X/20mm, high-point.

### Objectives

Zoom 0,7x...4,5x.

### Magnification

7x...45x

### Illumination

Optional.

### SMD attachment:

Rotatable 360°, vertical working distance 103mm.

Oblique working distance 103mm.

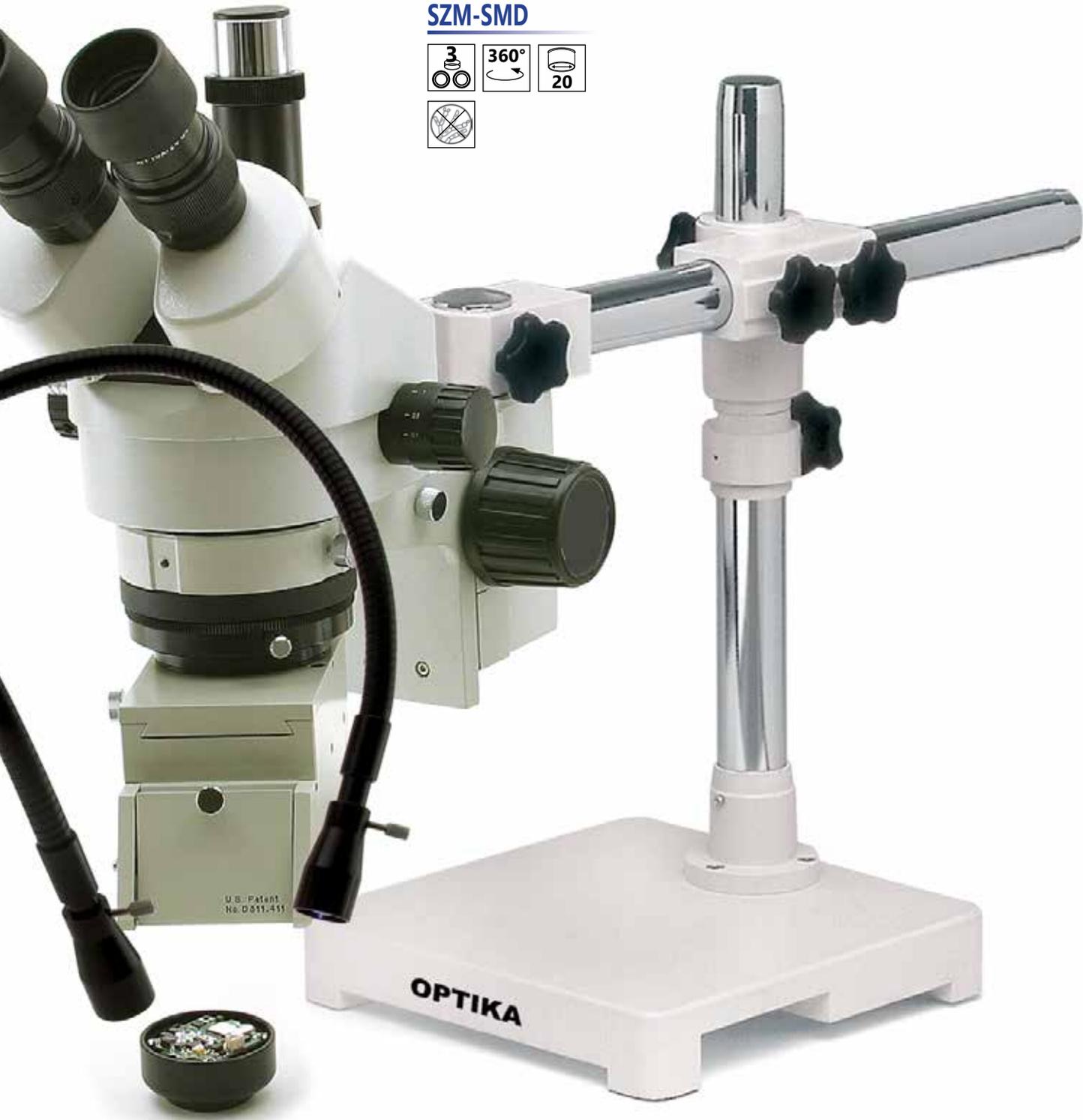
With inclination adjusting mechanism.

CLD-01 + CL-11.1





# SZM-SMD Model



### SZM-SMD


# SZM-SMD Model - Accessories

## Eyepieces

- 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.

## Photo & Video adapters

- ST-089 Reflex camera adapter for FULL FRAME sensor.
- ST-090 CCD camera adapter (for 1/3" sensors).
- ST-090.1 CCD camera adapter (for 1/2" sensors).
- M-173 Photo adapter for APS-C and Full Frame Reflex cameras.
- M-114 CCD camera adapter 0,45x.
- M-116 CCD camera adapter 0,50x.
- M-113.1 Ring adapter, 30mm (for monocular and binocular microscopes).



### How to connect the cameras to our microscopes.

Please refer to the Adapter reference list on Digital section.

## 15104 - Lens cleaner, 50ml

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



# ACCESSORIES

Illumination and sample positioning



# ACCESSORIES

To achieve the ideal work situation, it is important to combine the right microscope with the right accessories.

We offer WIDE range of devices: external illuminator, moving stages, heating stages.

Choose the right accessories is an essential process in order to obtain the best performance from your microscope.

- CLD-01** Cold light generator, 14W X-LED extra-efficiency system.
- CL-11.1** Double-arm guide for CLD-01, with focusing lenses.
- CL-12** Ring optical fiber guide for CLD-01.
- CL-15.1** Ring light LED illuminator, with brightness control.
- CL-20** Ring light fluorescent bulb illuminator.
- CL-30** Double-arm LED illuminator.
- CL-31** Double-arm LED illuminator, with brightness control.
- CL-41** Double-arm X-LED illuminator, with brightness control.



# ACCESSORIES Series - CLD-01

## Light source

High power 14W LED

## Chromaticity coordinates (x,y)

0.320, 0.320 (pure white)

## Optical power (with double-arm option)

Illuminance (at 10 cm distance): 70000 lux

## Power supply

Brightness control potentiometer.

External power supply provided.

Input: 110/240 Vac 50/60 Hz; output: 6 Vdc 5A

## Dimensions

Length: 200 mm

Width: 120 mm

Weight: 4,1 Kg

## 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.

# ACCESSORIES - 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°;

Power supply: 12Vdc, 1500 mA;

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°;

Power supply: 12Vdc, 1500 mA;

With brightness control.

## CL-41

### Double-arm X-Led illuminator, with brightness control.

With 3,6W high efficiency X-LED.

Chromaticity coordinates (x,y): 0.320, 0.320);

Luminous flux: 400 lm each arm;

Emission angle: 25°;

Power supply: 12Vdc, 1500 mA;

With brightness control.

## CL-31

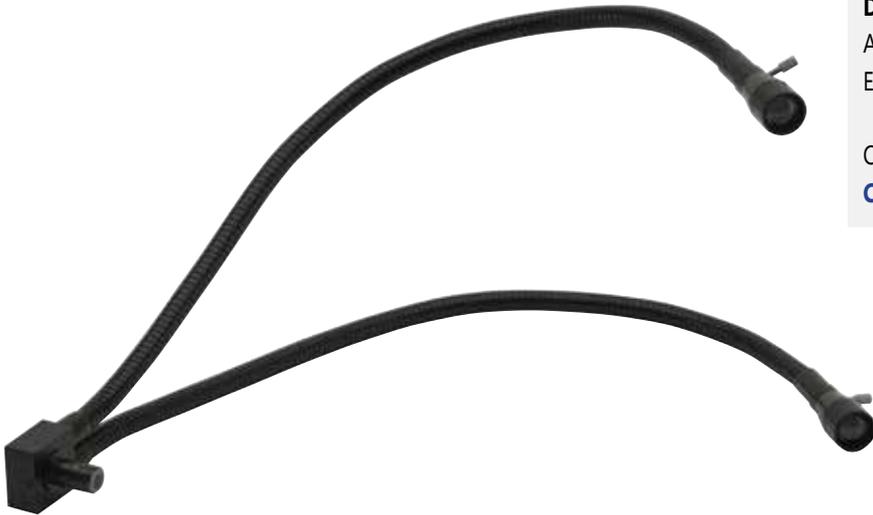


## CL-41



# ACCESSORIES - Illuminators

## CL-11.1



### **CL-11.1**

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

Arm length 500 mm.

Each arm fitted with focusable lens adapter.

Optional accessory:

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

### **CL-12**

**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.

### **CL-15.1**

**Ring light Led illuminator, with brightness control.**

Intensity light control. Diameter of the fixing ring: 60mm. Suitable for all series.

### **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-12



## CL-15.1



## CL-20



# ACCESSORIES

- ST-100** **Moving stage \***  
Manual positioning stage.  
Dimensions: 185x145mm.  
Range: 56mm (X) x 35mm (Y).
- ST-110** **Moving stage, with knobs \***  
Manual positioning stage, using knobs for X-Y movements.  
Dimensions: 180x155mm.  
Range: 75mm (X) x 54mm (Y).
- ST-111** **Moving stage, with micrometer screws \***  
Manual positioning stage, using micrometer screws.  
Dimensions: 185x145mm.  
Range: 25mm (X) x 25mm (Y).  
Micrometer screws resolution: 0.01mm.
- M-666** **Heating stage for biological microscopes\***  
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.  
Power supply: Input: 110/220Vac 50/60Hz. Power: 50W.
- ST-666** **Heating stage for stereomicroscopes \***  
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.  
Power supply: Input: 110/220Vac 50/60Hz. Power: 50W.

\* The model of microscope that will be used with this accessory must be specified.

**ST-100**



**ST-110**



**ST-111**



**M-666**



**ST-666**



## OPTIGEM Series

Gemological stereomicroscopes



# OPTIGEM Series

Optika Microscopes has designed a series dedicated to the science of Gemology.

These microscopes have been especially designed to observe samples of precious stones and jewels.

This series offers instruments equipped with multiple image-enhancing illumination systems, tilting stands and darkfield condensers developed for any gemological needs.

- SZM-GEM-1** Gemological stereozoom 7x...45x, binocular head with pillar stand.
- SZM-GEM-2** Gemological stereozoom 7x...45x, trinocular head with pillar stand.
- OPTIGEM-1** Gemological binocular stereomicroscope, tilting stand, incident & transmitted LED illumination system.
- OPTIGEM-2** Gemological trinocular stereomicroscope, tilting stand, incident & transmitted LED illumination system.
- OPTIGEM-3** Gemological binocular stereomicroscope, tilting stand, fluorescent bulb (incident) & halogen bulb (transmitted).
- OPTIGEM-4** Gemological trinocular stereomicroscope, tilting stand, fluorescent bulb (incident) & halogen bulb (transmitted).



# OPTIGEM Series - SZM-GEM - 1/2 models

## Heads

**SZM-GEM-1: Binocular rotating 360° and 45° inclined.**

**SZM-GEM-2: Trinocular rotating 360° and 45° inclined.**

Diopter adjustment on both eyepieces.

Interpupillary adjustment 51-75 mm.

## Eyepieces

Widefield eyepieces WF10x/20mm with field number 20.

## Objective

Parfocal achromatic objective 1x. Working distance: 100 mm.

Zoom range: 0,7x - 4,5x. Zoom factor: 6,428:1.

## Specimen stage:

Specimen clamps. Adjustable gemology clip.

## Focusing

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

## Microscope stand

Pillar stand height 25 cm. Base: 26x20x6h cm. Weight: 6 Kg.

## Illumination

Incident illumination: dichroic halogen lamp (12V/15W) with angle and brightness adjustment.

Transmitted illumination: pure white (6300K) LED system for observation in brightfield (with diffusive LED disc) and dark-field (with side-emitting LED ring).

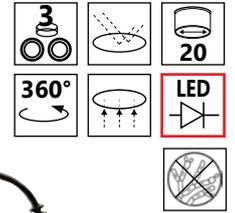
Through a selector it's possible to choose between 3 modes: brightfield only, darkfield only, or both brightfield and dark-field.

Provided with a lever for the insertion of a black background in order to improve the darkfield observation.

Voltage: 110/240Vac, 50/60Hz, 1A ; Fuses: T1A 250V

Max. required power: 30W.

## SZM-GEM-2



## SZM-GEM-1/2 models

These two models are typical gemological microscopes with fixed stand.

An ultrabright LED-based electronic condenser with intensity control, allows to switch from bright to dark field; it also produces perfectly the colour of daylight.

The condenser uses a new optical configuration especially created in order to obtain a perfect dark field application.

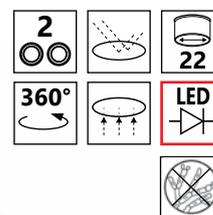
# OPTIGEM Series - OPTIGEM -1/2 models

The **OPTIGEM-1** and **OPTIGEM-2** are revolutionary 2-in-1 gemology instruments that can be used both as a vertical and as a horizontal microscopes, at the turn of a knob and without disassembling any part.

An ultrabright LED-based electronic condenser with intensity control, allows to switch from bright to dark field; it also produces perfectly the colour of daylight. The condenser uses a new optical configuration especially created in order to obtain a perfect dark field application. An additional flexible arm and velvet-field slider produces for extra contrast, crisp and vibrant images even in a brightly lit environment. A wide range of optional accessories completes these instruments: from gemology clip, an iris aperture diaphragm, a polarization analysis kit, an optical unit to switch the dark field 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 instrument usability. All the accessories can be stacked, in any order, while using the microscope in either horizontal or vertical configuration. The microscope body can be rotated through a full 360°, yet keeping the base sturdily fixed on the table, to show gems to a customer, or to share opinions with a colleague.



## OPTIGEM-1



### LED Illumination

Incident illumination: LED flexible arm with brightness adjustment.

Transmitted illumination: LED system for observation in brightfield (with diffusive LED disc) and darkfield (with side-emitting LED ring). Through a selector it's possible to choose between 3 modes: brightfield only, darkfield only, or both brightfield and darkfield.

Provided with a lever for the insertion of a black background in order to improve the darkfield observation. LED temperature color: 6300K (pure white).

External power supply provided. Input: 110/240Vac, 50/60Hz; Output: 12V 1A. Max. required power: 15W.

# OPTIGEM Series - OPTIGEM -1/2 models

## Heads

**OPTIGEM-1: Binocular rotating 360° and 45° inclined.**

**OPTIGEM-2: Trinocular rotating 360° and 45° inclined.**

Diopter adjustment on both eyepieces.

Interpupillary adjustment 51-75 mm.

## Eyepieces

Widefield eyepieces WF10x/22 with field number 22.

## Objective

Parfocal achromatic objective 1x. Working distance: 110 mm.

Zoom range: 0,7x - 4,5x. Zoom factor: 6,428:1.

## Specimen stage:

Adjustable gemology clip. 360° rotating base. Pair of rods for assembling optional accessories.

## Focusing

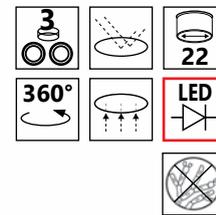
By means of a rack and pinion controlled by a pair of knobs placed on both sides of the stereomicroscope.

## Microscope stand

Rack-and-pinion stand (it can be inclined through full 90° for horizontal observation, and rotated 360°).

Base: 27x21x6h cm. Weight: 6 Kg.

## OPTIGEM-2



# OPTIGEM Series - OPTIGEM - 3/4 models

## OPTIGEM - 3/4 models

These models are classic gemological microscopes with tilting stand. 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.

## Heads

**OPTIGEM-3: Binocular rotating 360° and 45° inclined.**

**OPTIGEM-4: Trinocular rotating 360° and 45° inclined.**

Diopter adjustment on both eyepieces.

Interpupillary adjustment 55-75 mm.

## Eyepieces

Widefield eyepieces WF10x/22 with field number 22.

## Objectives

Parfocal achromatic objective 1x. Working distance: 110 mm.

Zoom range: 0,67x - 4,5x. Zoom factor: 6,71:1.

## Specimen stage:

Adjustable gemology clip. 360° rotating base.

## Focusing

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

## Microscope stand

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

Base: 305x260x70h mm.

Weight: 7 Kg.

## Illumination

Incident illumination: flexible arm with fluorescent tube 7W 6400K (pure white). Independent ON/OFF switch.

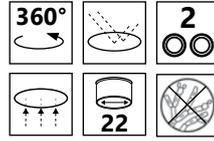
Transmitted illumination: system for observation with bright-field and darkfield, based on 30W halogen illumination and reflecting system. Brightness adjustment.

Iris diaphragm and removable black background for contrast enhancement for darkfield application.

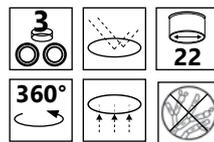
Input: 240Vac, 50Hz;

Max. required power: 45W.

## OPTIGEM-3



## OPTIGEM-4



# OPTIGEM Series - Technical specifications

Model	Head	Eyepieces	Objectives	Stand	Illumination
<b>SZM-GEM-1</b>	Binocular	WF10x/20mm	0,7 .... 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.
<b>SZM-GEM-2</b>	Trinocular	WF 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.
<b>OPTIGEM-1</b>	Binocular	WF10x/22mm	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.
<b>OPTIGEM-2</b>	Trinocular	WF10x/22mm	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.
<b>OPTIGEM-3</b>	Binocular	WF10x/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.
<b>OPTIGEM-4</b>	Trinocular	WF10x/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 Series - Accessories

## Accessories for SZM-GEM - 1/2:

- ST-230 Polarizing analysis kit (only for SZM-GEM series).
- ST-082 Eyepieces (pair) WF15x/15 mm.
- ST-083 Eyepieces (pair) WF20x/10 mm.
- ST-084 Eyepiece micrometer WF10x/20 mm.
- 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 CCD camera adapter (for 1/3" sensors).
- ST-090.1 CCD camera adapter (for 1/2" sensors).
- M-173 Photo adapter for APS-C and Full Frame Reflex cameras.
- M-114 CCD camera adapter 0,45x.
- M-116 CCD camera adapter 0,50x.
- M-113.1 Ring adapter, 30mm (for monocular and binocular microscopes).

## 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-082 Eyepieces (pair) WF15x/15 mm.
- ST-083 Eyepieces (pair) WF20x/10 mm.
- ST-084 Eyepiece micrometer WF10x/20 mm.
- 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 CCD camera adapter (for 1/3" sensors).
- ST-090.1 CCD camera adapter (for 1/2" sensors).
- M-173 Photo adapter for APS-C and Full Frame Reflex cameras.
- M-114 CCD camera adapter 0,45x.
- M-116 CCD camera adapter 0,50x.
- M-113.1 Ring adapter, 30mm (for monocular and binocular microscopes).

## 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.
- 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 CCD camera adapter (for 1/3" sensors).
- ST-147.1 CCD camera adapter (for 1/2" sensors).
- M-621 Halogen bulb 6V/30W.
- M-173 Photo adapter for APS-C and Full Frame Reflex cameras.
- M-114 CCD camera adapter 0,45x.
- M-116 CCD camera adapter 0,50x.
- M-113.1 Ring adapter, 30mm (for monocular and binocular microscopes).

## 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.

## INDUSTRY Series

Metallurgical and measuring microscopes



# INDUSTRY Series

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 monocular microscope for surface measurements, 100x magnification, incident light pen.

## **XZ-1**

Measuring monozoom microscope 7x...45x, incident & transmitted illumination.

## **XZ-2**

Measuring monozoom videomicroscope 7x...45x, with 8" LCD screen, incident ring LED illumination.

## **B-383MET**

Trinocular metallurgical microscope, IOS MET objectives, X-LED incident & transmitted illumination.

## **B-500MET**

Upright Metallurgical Microscope, IOS MET objectives, X-LED incident & transmitted illumination.

## **B-1000MET**

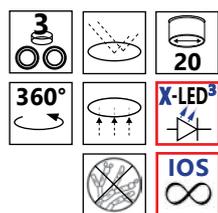
Upright advanced metallurgical microscope.

## **XDS-3MET**

Trinocular Inverted metallurgical microscope, IOS LWD MET Objectives.

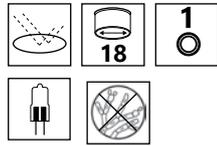


### **B-383MET**



# INDUSTRY Series - XC-100L

## XC-100L



### XC-100L

Portable microscope for measurements. Fitted with WF10x/18mm micrometric eyepiece with cross divided into tenths of a millimetre. 10x achromatic objective (total magnification 100x); focusing controlled by a rack and pinion mechanism; adjustable battery powered penlight lighting unit.



# INDUSTRY Series - XZ-1 and XZ-2

### XZ-1

Bench monocular microscope for measuring and viewing surfaces with a zoom objective.

Fitted with WF10x/18mm micrometric eyepiece with cross divided into tenths of a millimetre. 0.7x...4.5x achromatic zoom objective (max. magnification 45).

Focusing controlled by a rack and pinion mechanism.

Double lighting unit for incident and transmitted light fitted with low voltage halogen bulbs (12V/10W). Working distance 90 mm.

### XZ-2

Bench binocular microscope for measuring and viewing surfaces with a zoom objective and TFT LCD screen (8").

0.7x...4.5x achromatic zoom objective.

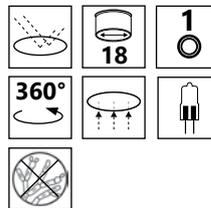
Focusing controlled by a rack and pinion mechanism.

Working distance: 96 mm.

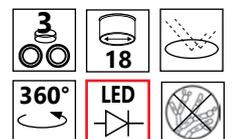
LED ring light generator with brightness control.

CCD colour camera (380 TVlines). 8" TFT LCD screen with electronic graduated measuring cross.

## XZ-1



## XZ-2



# INDUSTRY Series - B-383MET

## B-383MET - Upright metallurgical microscope

**Head:** Trinocular, 30° inclined, 360° rotating. Interpupillary adjustment 48-75 mm.

**Eyepieces:** WF10X/20mm.

**Nosepiece:** 5-position reversed revolving nosepiece. Ball bearing rotation.

**Objectives:** PLAN IOS MET (no cover slide) 4x/0.10, 10x/0.25, 20x/0.40, 50x/0.75.

**Focusing system:** Coaxial coarse and fine.

**Stage:** Double layer mechanical sliding stage, dimensions 216x150mm, moving range 78x54mm.

Belt-drive in X direction. Glass insert for sample support.

**Condenser:** Abbe condenser, sliding-in, N.A. 1.25 with centering system.

**Illumination:** Transmitted light: X-LED<sup>3</sup>, with manual brightness control.

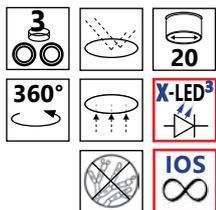
**Power supply:** External power supply: Input 100-240Vac 50-60Hz / Output 6Vdc 1A.

**Metallurgical Attachment:** High-power white X-LED<sup>3</sup>; field and aperture diaphragms.

**Filters:** Blue, polarizer & analyzer.



## B-383MET



# INDUSTRY Series - B-500MET

## B-500MET - Upright metallurgical microscope

**Head:** Trinocular, 30° inclined, 360° rotating.

**Eyepieces:** WF10X/22mm.

**Nosepiece:** 5-positions, reversed.

**Objectives:** PLAN IOS MET (no cover slide) IOS 5x/0.15, 10x/0.3, 20x/0.45, 50x/0.55, 100x/0.9 (dry).

**Magnifications:** 50x, 100x, 200x, 500x, 1000x.

**Focusing system:** Coaxial coarse and fine.

**Stage:** Double layer with mechanical sliding stage, 175x145 mm, moving range 76x52 mm.

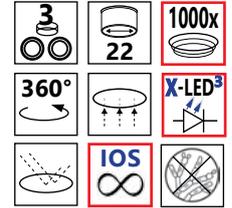
**Condenser:** 0,7 N.A. swing-out type, with iris diaphragm, centrable and focusable.

**Illumination:** OPTIKA X-LED<sup>3</sup> system. Brightness is adjustable.

**Metallurgical Attachment:** High-power white X-LED<sup>3</sup> system with brightness control; field and aperture diaphragms (centrable). Simple sliding darkfield system.

**Filters:** Blue, polarizer & analyzer.

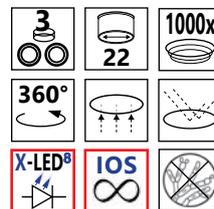
## B-500MET



# B-1000MET Model



## B-1000MET



### B-1000MET

Type:

**UPRIGHT ADVANCED METALLURGICAL MICROSCOPE**

Description:

Microscope for advanced and research applications.

Dye-cast frame, with high stability and ergonomy, for transmitted and incident light observation.



**Stage**

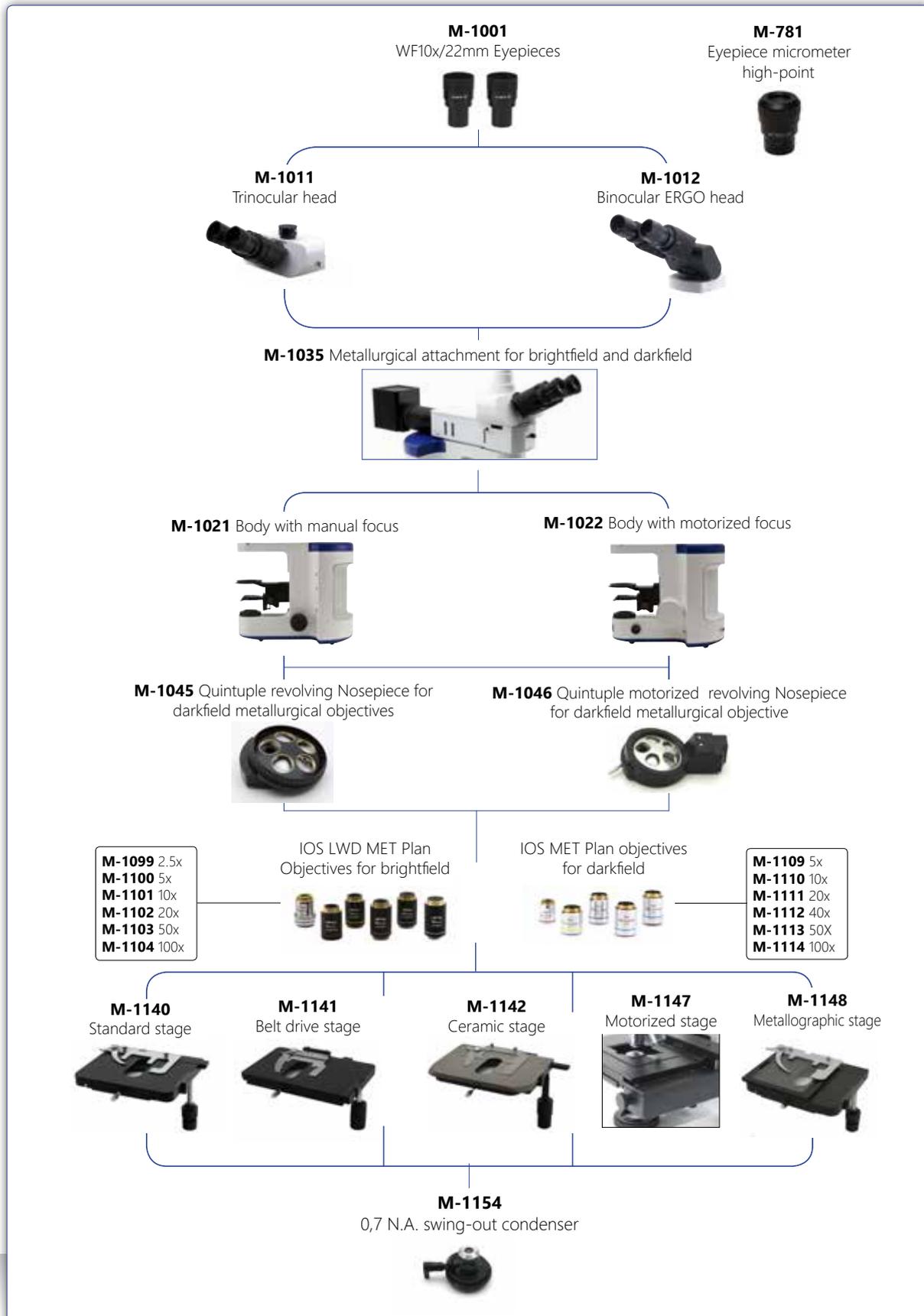
Maximum sample height: 43mm.



Version for material analysis (with brightfield and darkfield Epi-Illumination).  
Transmitted illumination X-LED<sup>8</sup> (8W power).  
Special attachment with built-in 100W halogen lamp.

# B-1000MET Model - Configuration chart

BUILD THE MICROSCOPE THAT SUITES YOUR NEEDS BY CHOOSING AMONG THE COMPONENTS OF CONFIGURATION CHART:



# INDUSTRY Series - XDS-3MET

## XDS-3MET



### XDS-3MET - Inverted metallurgical microscope

**Head:** Trinocular, 45° inclined.

**Eyepieces:** WF10X/22mm.

**Nosepiece:** 5-positions.

**Objectives:** LWD PLAN IOS MET (no cover slide): 5x/0.15, 10x/0.3, 20x/0.45, 50x/0.55.

**Magnifications:** 50x, 100x, 200x, 500x.

**Focusing system:** Coaxial coarse and fine.

**Stage:** 250x230mm; mechanical stage with lowered ergonomic coaxial controls.

X-Y range: 120x80mm.

**Diaphragms:** Field and aperture diaphragms (centrable).

**Illumination:** 12V/50W halogen bulb in external case. Centrable bulb and brightness control.

**Filters:** Blue, polarizer & analyzer.



# INDUSTRY Series - Technical specifications

Model	Head	Eyepiece	Objectives	Working Distance	Stand	Illumination
<b>XC-100L</b>	Monocular	WF10x/18mm micrometric	10x	7,7 mm	Portable stand	Incident illumination: xenon penlight
<b>XZ-1</b>	Monocular	WF10x/18mm	0,7x....4,5x zoom	90 mm	Pillar stand	Incident illumination: halogen bulbs 12V/10W Transmitted illumination: halogen bulbs 12V/10W
<b>XZ-2</b>	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



Model	Head	Eyepieces	Objectives	Nosepiece	Stage	Focusing	Condenser	Illumination
<b>B-383MET</b>	Trinocular	WF10x/20mm	PLAN IOS MET 4x, 10x, 20x, 50x	Quintuple reversed	Double layer mechanical sliding stage, dimensions 216x150mm, moving range 78x54mm. Belt-drive in X direction. Glass insert for sample support.	Coaxial coarse and fine system, with limit stop	Abbe condenser, sliding-in, N.A. 1.25 with centering system.	<b>Transmitted light:</b> X-LED <sup>3</sup> , with manual brightness control. <b>Metallurgical Attachment:</b> High-power white X-LED <sup>3</sup> system with brightness control.
<b>B-500MET</b>	Trinocular	WF10x/22mm	PLAN IOS MET (no cover slide) 5x, 10x, 20x, 50x, 100x (dry)	Quintuple reversed	Double layer with mechanical sliding stage, 175x145 mm, moving range 76x52 mm. Glass insert for sample support.	Coaxial coarse and fine system, with limit stop	Brightfield condenser: 0,7 N.A. swing-out type, with iris diaphragm, centrable and focusable	<b>Transmitted illumination:</b> X-LED <sup>3</sup> illumination system. <b>Metallurgical Attachment:</b> High-power white X-LED <sup>3</sup> system with brightness control.
<b>B-1000MET</b>	See the configuration chart for your own configuration							
<b>XDS-3MET</b>	Trinocular	WF10x/22mm	LWD PLAN IOS MET (no cover slide) 5x, 10x, 20x, 50x	Quintuple reversed	250X230mm; mechanical stage with lowered ergonomic coaxial controls. X-Y range: 120x80 mm	Coaxial coarse and fine system, with limit stop	-----	12V/50W halogen bulb in external case. Centrable bulb and brightness control.

# INDUSTRY Series - Accessories

## **XC-100L - Measuring microscope**

- M-899 Pen illuminator.
- M-004 Eyepiece with micrometer WF10x/18mm.
- M-114 CCD camera adapter 0,45x.
- M-116 CCD camera adapter 0,50x.
- M-173 Photo adapter for APS-C and Full Frame Reflex cameras.

## **XZ-1 - Measuring monozoom microscope**

- M-001 Eyepiece H5x.
- M-003 Eyepiece WF16x/12mm.
- M-005 26x76 mm micrometric slide. Range 1 mm, div. 0,01 mm.
- ST-012 White/black object-plate, type 2 dia. 95 mm.
- ST-014 Glass stage, type 2, dia. 95 mm.
- ST-028 Halogen bulb 12V/10W.
- M-013 Halogen bulb 12V/10W, with dichroic mirror.
- ST-029 Dust cover type 12.
- M-114 CCD camera adapter 0,45x.
- M-116 CCD camera adapter 0,50x.
- M-173 Photo adapter for APS-C and Full Frame Reflex cameras.

## **XZ-2 - Measuring monozoom videomicroscope**

- M-001 Eyepiece H5x.
- M-003 Eyepiece WF16x/12mm.
- M-004 Eyepiece with micrometer WF10x/18mm.
- M-005 26x76 mm micrometric slide. Range 1 mm, div. 0,01 mm.
- M-114 CCD camera adapter 0,45x.
- M-116 CCD camera adapter 0,50x.
- M-173 Photo adapter for APS-C and Full Frame Reflex cameras.

## **B-383MET - Upright metallurgical microscope**

- M-160 Eyepiece WF10x/20mm.
- M-161 Eyepiece WF15x.
- M-162 Eyepiece WF20x.
- M-163 Micrometer eyepiece WF10x/20mm.
- M-005 26x76 mm micrometric slide. Range 1 mm, div. 0,01 mm.
- M-144 Objective 4x/0,10 E-PLAN IOS.
- M-145 Objective 10x/0,25 E-PLAN IOS.
- M-146 Objective 20x/0,40 E-PLAN IOS.
- M-147 Objective 40x/0,65 E-PLAN IOS.
- M-149 Objective 60x/0,80 E-PLAN IOS.
- M-148 Objective 100x/1,25 E-PLAN IOS (Oil).
- M-337 Objective PLAN IOS MET 4x/0.10.
- M-338 Objective PLAN IOS MET 10x/0.25.
- M-339 Objective PLAN IOS MET 20x/0.40.
- M-335 Objective PLAN IOS MET 50x/0.75.
- M-173 Photo adapter for APS-C and Full Frame Reflex cameras.
- M-114 CCD camera adapter 0,45x.
- M-116 CCD camera adapter 0,50x.
- M-069 Solar battery pack.

## **B-500MET - Upright metallurgical microscope**

- M-680 Ergo binocular head 30°-60°.
- M-780 Eyepiece EWF10x/22mm.
- M-601 Eyepiece WF15x/16mm.
- M-781 Eyepiece micrometer EWF10x/22mm.
- M-005 26x76 mm micrometric slide. Range 1 mm, div. 0,01 mm.
- M-693.1 Objective IOS LWD MET PLAN 5x/0,15.
- M-694.1 Objective IOS LWD MET PLAN 10x/0,3.
- M-695.1 Objective IOS LWD MET PLAN 20x/0,45.
- M-696.1 Objective IOS LWD MET PLAN 50x/0,55).
- M-698.2 Objective IOS MET PLAN 100x/0,90.
- M-613 Polarising set (filters only).

- M-615 Lambda filter for polarising set.
- M-614 Rotating table for polarising set.
- M-619 Photo adapter for REFLEX camera with FULL FRAME sensor.
- M-699 Universal adapter for OPTIKAM & DIGI cameras (only models with eyepiece adapter, 23mm).
- M-620 CCD camera adapter (for 1/3" sensors).
- M-620.1 CCD camera adapter (for 1/2" sensors).
- M-622 Halogen bulb 12V/50W (only for XDS-3MET).
- M-034 Dust cover type 5.
- M-975 Blue filter, 45 mm diameter.
- M-977 Green filter, 45 mm diameter.
- M-979 Yellow filter, 45 mm diameter.
- M-989 Frosted glass filter, 45 mm diameter.
- M-690 Eyecup (pair).
- M-114 CCD camera adapter 0,45x.
- M-116 CCD camera adapter 0,50x.
- M-173 Photo adapter for APS-C and Full Frame Reflex cameras.

## **XDS-3MET - Inverted metallurgical microscope**

- M-625 Eyepiece EWF10x/22mm.
- M-601 Eyepiece WF15x/16mm.
- M-602 Eyepiece micrometer EWF10x/22mm.
- M-005 26x76 mm micrometric slide. Range 1 mm, div. 0,01 mm.
- M-735 Objective IOS LWD MET PLAN 5x/0,15.
- M-736 Objective IOS LWD MET PLAN 10x/0,3.
- M-737 Objective IOS LWD MET PLAN 20x/0,45.
- M-738 Objective IOS LWD MET PLAN 50x/0,55.
- M-746 Objective IOS LWD MET PLAN 100x/0,80.
- M-619 Photo adapter for REFLEX camera with FULL FRAME sensor.
- M-699 Universal adapter for OPTIKAM & DIGI cameras (only models with eyepiece adapter, 23mm).
- M-789 CCD camera adapter (for 1/3" sensors).
- M-789.1 CCD camera adapter (for 1/2" sensors)
- M-622 Halogen bulb 12V/50W (only for XDS-3MET).
- M-036 Dust cover type 7.
- M-114 CCD camera adapter 0,45x.
- M-116 CCD camera adapter 0,50x.
- M-173 Photo adapter for APS-C and Full Frame Reflex cameras.
- M-788 Photo adapter for REFLEX camera with FULL FRAME sensor.

## **B-1000MET - Metallurgical microscope**

- M-005 26x76 mm micrometric slide. Range 1 mm, div. 0,01 mm.
- M-613 Polarizing set (filters only).
- M-615 Lambda filter for polarizing set.
- M-617.1N Phase contrast set with IOS PLAN objectives 40x.
- M-781 WF10x/22mm micrometer eyepiece (10mm, 0.1mm div.).
- CL-35 Halogen Lamp 24V 100W (only for metallurgical attachment M-1035).
- M-690 Eyecup (pair).
- M-619 Photo tube adapter for full frame SLR camera.
- M-173 Photo adapter for APS-C and Full Frame Reflex cameras.
- M-699 Universal adapter for OPTIKAM & DIGI cameras (only models with eyepiece adapter, 23mm).
- M-620 CCD camera adapter (for 1/3" sensors).
- M-620.1 CCD camera adapter (for 1/2" sensors).
- 15008 OPTIKA immersion oil 10ml.
- M-114 CCD camera adapter 0,45x.
- M-116 CCD camera adapter 0,50x.
- 15104 Lens cleaner, 50ml



### **How to connect the cameras to our microscopes.**

Please refer to the Adapter reference list on Digital section.



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## Headquarters and Manufacturing Facilities

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