Motic®

MORE THAN MICROSCOPY

IND

INDUSTRY

SELECTED PRODUCTS FOR INDUSTRY
APPLICATIONS IN YOUR LABORATORY

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Motic was established in 1988 as a high-tech industrial enterprise specialized in manufacturing conventional compound microscopes. Owned by Speed Fair Co., Ltd., the company has grown into a global brand with sales offices in Canada, Germany, Hong Kong, Spain and the United States.

Within this catalogue, Motic presents selected products for all kind of industry applications in your laboratory.

Our Metallurgical microscopes are meant for flat, reflective samples in all material environments. The BA310-MET series of upright models is designed for surface inspection of small and medium sized specimen. Huge, bulky samples require the inverted concept of AE2000-MET with focusing through the revolving nosepiece.

Motic's BA310-POL is a flexible microscope for the detection of birefringence in transparent samples like crystals, fibers or polymer sections. Our CCIS© Optical System ensures superb image results in laboratory and factory.

Finest apochromatic image quality can be achieved by Motic's OEM-ready solutions. VIS-100/200 instruments are video inspection systems with a clear focus on pure digital visualization. The PSM-1000 microscope is an incident light microscope with light guide illumination and best possible image quality.

Stereo microscopes are ubiquists: No laboratory work in material professions and life sciences can be envisioned without this kind of microscope. Motic's SMZ-161/171 models are powerful instruments for any kind of 3-D visualization.

All microscopes offered by Motic have the potential to become a digital work station by integrating our CMOS cameras, equipped with self-developed software. We envision this digitalization of our microscopes to empower your lab for the tasks of today and tomorrow.

The following pages contain our lines of industry microscopes for your study. We also welcome you to become more acquainted with our products by visiting www.moticeurope.com or contacting your local Motic representative.

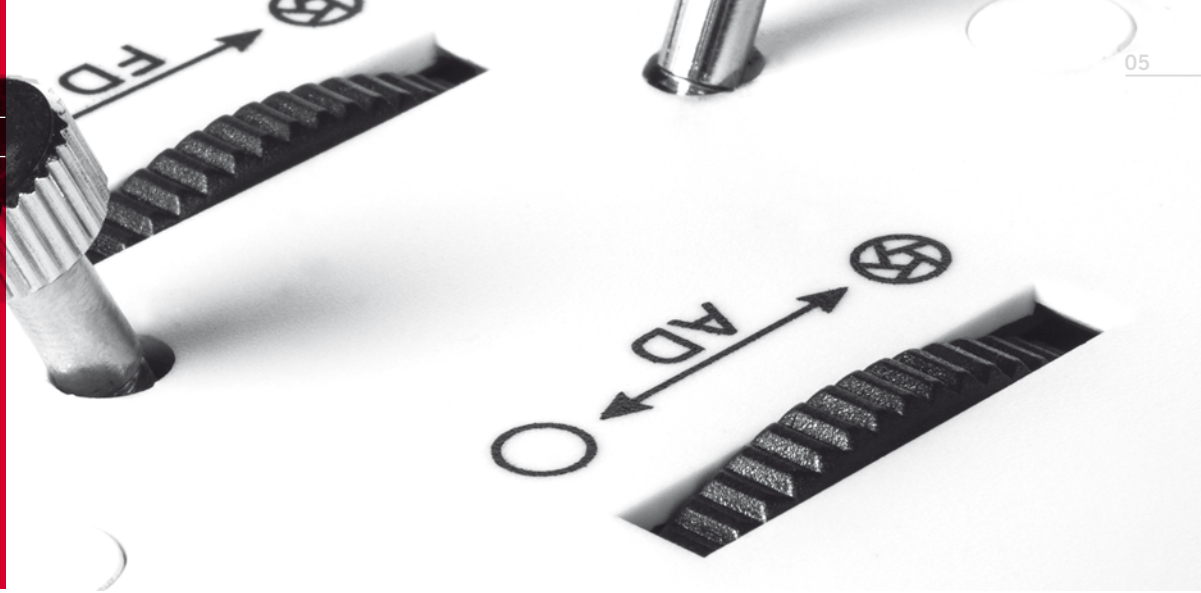
Your Motic team

INDUSTRY

SELECTED PRODUCTS FOR YOUR LABORATORY

BA310MET SERIES

BASIC METALLURGICAL MICROSCOPES



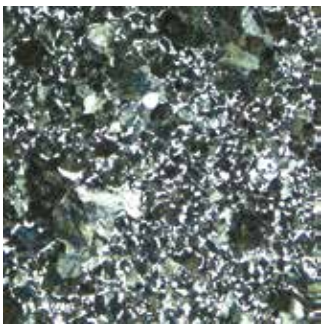
UPRIGHT METALLURGICAL MICROSCOPES

The BA310-MET series of upright metallurgical microscopes is dedicated to flat, opaque samples in all material professions. Industrial quality control, failure analysis in automotive industries, but also teaching environments in technical schools - the BA310-MET microscope series satisfies all requirements for a robust, powerful material microscope.

All models come with a bright 50W incident light halogen illumination. Exchangeability with an LED light source is given. Stands with transmitted light option extend the application range to compound or purely transparent specimen. The BA310-MET-H model is especially designed for the treatment of more bulky samples.

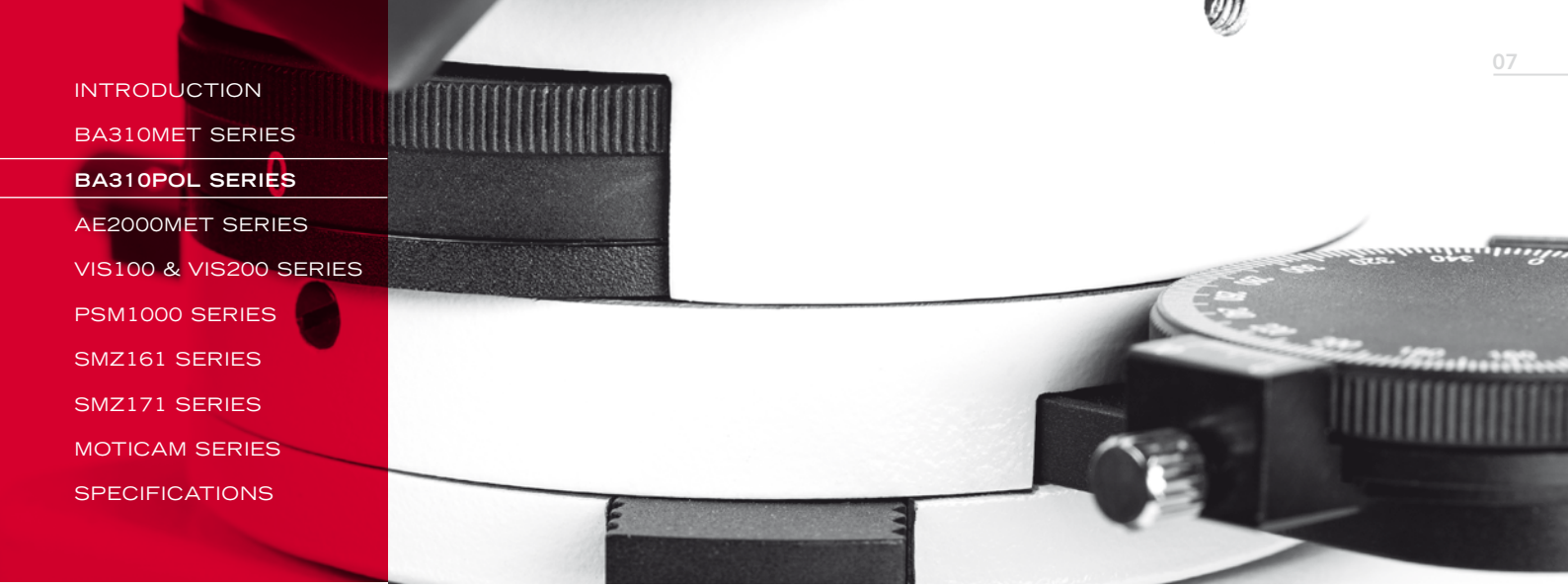
High performance LWD objectives from Motic's CCIS© Infinity Optics deliver clear and highly resolved images. Extra resolution power is given by optional EC-M Plan objectives.

An excellent mechanical performance guarantees a long lifetime of all models even under rough conditions of a modern QC lab.



BA310POL SERIES

ADVANCED POLARIZATION MICROSCOPE

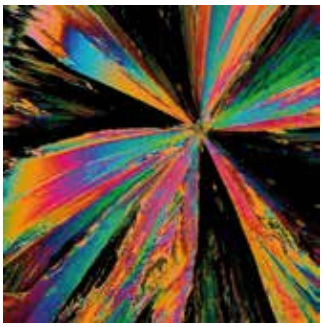


UPRIGHT POLARIZATION MICROSCOPE

The BA310-POL microscope is a high-class instrument, designed for applications in geosciences and industry. Transparent samples of polymers, fibers, textiles or glass materials, but also any birefringent sample from natural sciences can be treated for structure analysis.

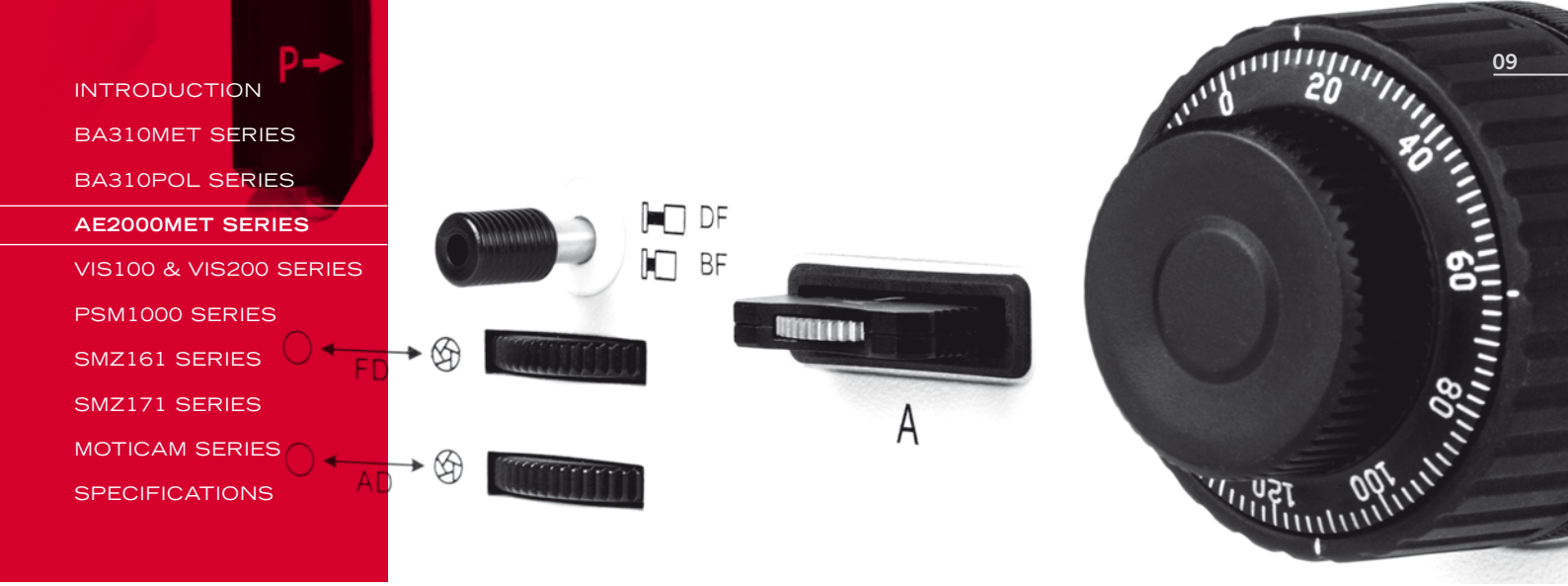
A strain-free setup of all optical components delivers a high contrast with crisp and clear images. Individually centrable EC-Plan Achromatic objectives, together with a smooth movement of rotating stage, guarantee precise positioning of the sample, thus ensuring reproducible imaging results.

A set of compensators is ready for semi-quantitative investigations. The intermediate Bertrand module carries the focusable and centrable Bertrand lens, a 360° rotatable analyser and the compensator slot, necessary for the conoscopic investigations of crystals and minerals.



AE2000MET SERIES

INVERTED METALLURGICAL MICROSCOPE

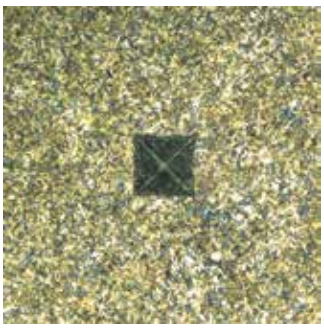


INVERTED METALLURGICAL MICROSCOPE

The AE2000-MET Inverted metallurgical microscope is especially designed for large, opaque samples in industrial inspection. Heavy specimen from automotive industry can perfectly be treated, as focusing of the sample is done by the 5-fold nosepiece. The smooth movement of the 3-plate stage allows a precise positioning.

Highlight of this microscope system is a complete series of LM Plan Achromatic BF/DF objectives. This set delivers excellent images with high contrast and resolution in brightfield as well as in darkfield use. All BF objectives from BA310-MET series can also be used without restrictions in optical performance.

The powerful 100W Halogen light source gives plenty of resources for light consuming methods like dark-field and POL contrast. An implemented “AUTO-OFF” mode turns off the illumination after 15 minutes. An exemplary manufacturing quality guarantees a long lifetime of the instrument even under rough conditions of an industrial manufacturing process.



VIS100 & VIS200 SERIES

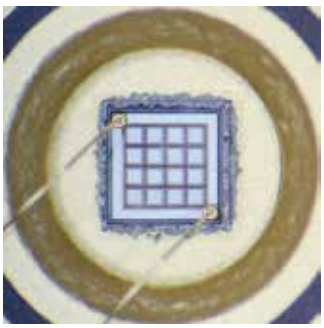
VIDEO INSPECTION SYSTEMS

VIDEO INSPECTION SYSTEMS FOR INDUSTRY

The VIS systems are compact setups for all video inspection purposes in industrial labs. A simple quality check as well as an integration into a wafer probe station: all control tasks can be performed fast and convenient by pure monitor visualization.

The standard basis of a VIS setup are objectives from the PSM-1000 range: Infinity corrected Plan Apochromatic lenses with unique working distances and outstanding image quality. A high transmittance from Near UV to Near IR wavelength range allows an implementation into probe stations. For more affordable solutions, LM Plan Achromatic lenses from the BA310-MET series can be applied.

Starting with a single-objective setup, VIS systems with a motorized quadruple nosepiece for remote magnification change are available. External light sources as well as an integrated coaxial LED illumination for an individually tailored solution help to integrate quality inspection into the industrial workflow.



PSM1000 SERIES

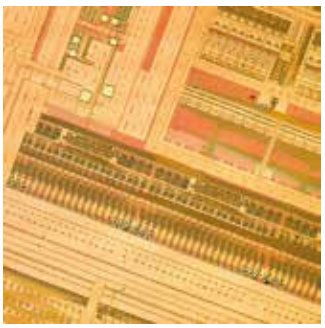
INCIDENT LIGHT MICROSCOPE

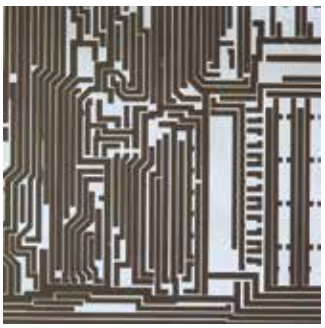
INCIDENT LIGHT MICROSCOPE FOR STUNNING IMAGE QUALITY

The PSM-1000 microscope is an OEM-ready instrument for best possible imaging results of flat, reflective specimen. Metallurgical samples as well as semiconductors can be treated with Plan Apochromatic LWD objectives of stupendous resolution power. A large Field of View with an erect, true sided image allows fast orientation and manipulation work.

Single centration of each objective position perfectly keeps the details of the viewing field. Optional objectives with parfocality adjustment capability additionally optimize ease of use when changing magnification.

The high transmittance of the objectives and tube lens turret from NUV (355nm) to NIR (1064nm) facilitates the implementation of the PSM-1000 into laser probe stations. The smooth focus drive allows finest focusing even under high magnifications.





SMZ161 SERIES

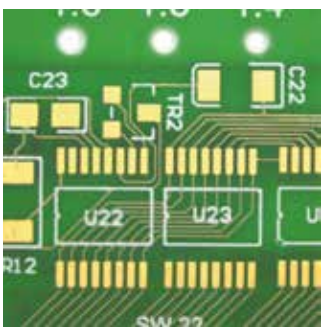
BASIC STEREO MICROSCOPES

BASIC STEREO MICROSCOPES

The SMZ-161 models are basic stereo microscopes for all kind of 3-D visualization. Compact and robust, this instrument with its small footprint fits perfectly to the limited space of a quality control lab, but also into teaching environments of technical schools.

The moderate magnification power of a stereo microscope allows an easy access to the sample even for unexperienced users. Technical repair work with tweezers and other tools is facilitated by the erect, upright image. Easy to use, these instruments are ready to deliver crisp and distorsion-free images. Incident and transmitted light for opaque and transparent specimen are integral part of basic packages; plug-in and start working.

For individual setups, auxiliary objectives and alternative eyepieces allow to extend the magnification range. For large-dimensioned samples, special stands and external illumination devices are optional.



SMZ171 SERIES

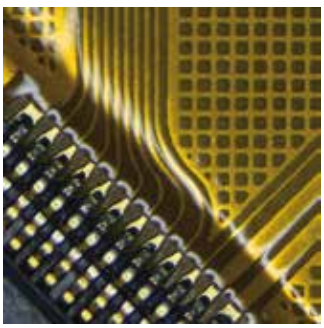
FLEXIBLE STEREO MICROSCOPE SOLUTIONS

FLEXIBLE STEREO MICROSCOPE SOLUTIONS

The SMZ-171 models are high-performance stereo microscopes in demanding applications. For research tasks in all material sciences, these stereo microscopes are essential tools in daily work. Superb resolution power is paired with a stunning three-dimensionality. A bright LED illumination is the basis for a spectacular color fidelity.

Extended working distances of the objectives give handling freedom for any manipulation and inspection of opaque and transparent workpieces. OEM-ready, the optics can be implemented also in ESD-sensible environments of manufacturing electronic industries.

Special stands for treatment of large-dimensioned specimen and additional illumination options underline the system's flexibility for difficult visualizations.



MOTICAM SERIES

DIGITAL MICROSCOPY SOLUTIONS

UPGRADE YOUR MICROSCOPE AND GET A DIGITAL WORK STATION

Accurate documentation is a constant task in the industrial workflow. Any member of the Moticam series of digital cameras delivers excellent live images, ready for post-capture handling.

The Moticam series of digital c-mount cameras delivers excellent live images, ready for presentations and further storage. All Motic cameras come equipped with the new Motic Images Plus 3.0 proprietary Software for data processing and measuring purposes.

Besides the standard USB cameras, which work through a computer, we offer solutions to fit with every user need. The new Moticam Full HD cameras are ideal for the presentation of High Resolution images on an HDMI screen without computer, as they can be easily controlled with the help of a mouse.

The Wi-Fi models are dedicated to run under tablet and smartphone control through our free “MotiConnect” App, whereas the tablet cameras with touch screen in first instance work as a fixed monitor solution, but may also create a hotspot for remote tablet/smartphone access.

SPECIFICATIONS

BA310-MET, AE2000-MET & BA310-POL SERIES
COMPARISON TABLE

Model	BA310MET	BA310MET-T
Optical system	CCIS®	CCIS®
Observation system	Swiveling Siedentopf 30°	Swiveling Siedentopf 30°
Interpupillary distance (mm)	48-75	48-75
Eyepieces	N-WF 10X/20	N-WF 10X/20
Eyepieces diopter adjustment	+/- 5 dpt	+/- 5 dpt
Trinocular light split	20/80	20/80
Nosepiece	Reversed quintuple	Reversed quintuple
Standard objectives	LM Plan Achromats	LM Plan Achromats
Objective magnification range	5X up to 100X	5X up to 100X
Additional objectives	EC-M Plan 20X/50X	EC-M Plan 20X/50X
Objective mounting thread RMS standard (W 4/5" x 1/36")	Yes	Yes
Built-in coaxial mechanical stage	Yes	Yes
Stage size (mm)	180 x 140	max. 300 x 180
Mechanical stage X&Y range (mm)	75 x 50	max. 150 x 100
Focus mechanism	Coaxial; tension adjustment	Coaxial; tension adjustment
Minimun fine focus precision (µm)	2	2
Maximum sample height	30	30
Incident illumination	50W Halogen; 3W LED	50W Halogen; 3W LED
Halogen / LED interchangeability	Yes	Yes
Transformer	External	External/Internal
Power supply	110-240V (CE)	110-240V (CE)
Transmitted light option	No	30W Full Koehler
Dimensions (mm)	508 x 198 x 465	508 x 198 x 465
Contrast techniques		
Brightfield	Yes	Yes
Darkfield	No	No
DIC	No	No
POL Contrast	Yes	Yes

BA310MET-H	AE2000MET	BA310POL	Model
CCIS®	CCIS®	CCIS®	Optical system
Siedentopf 30°	Swiveling 360° with 45° inclination	Siedentopf 30°	Observation system
55-75	48-75	55-75	Interpupillary distance (mm)
N-WF 10X/20	N-WF 10X/20	N-WF 10X/20	Eyepieces
+/- 5 dpt	+/- 5 dpt	+/- 5 dpt	Eyepieces diopter adjustment
50/50	20/80	20/80; 0/100 optional	Trinocular light split
Reversed quintuple	Tilted, quintuple	Reversed quadruple	Nosepiece
LM Plan Achromats	BF/DF LM Plan Achromats	Strain-free EC Plan Achromats	Standard objectives
5X up to 100X	5X up to 50X	4X up to 60X	Objective magnification range
EC-M Plan 20X/50X	BF/DF LM Plan 100X; LM Plan Achromats	No	Additional objectives
Yes	No; M32	Yes	Objective mounting thread RMS standard (W 4/5" x 1/36")
Yes	Yes	No	Built-in coaxial mechanical stage
180 x 140	280 x 180	Diameter 160	Stage size (mm)
100 x 80	50 x 50	34 x 26	Mechanical stage X&Y range (mm)
Coaxial; tension adjustment	Coaxial; tension adjustment	Coaxial; tension adjustment	Focus mechanism
2	2	2	Minimun fine focus precision (µm)
120	not limited	18	Maximum sample height
50W Halogen; 3W LED	100W Halogen	30W Halogen	Incident illumination
Yes	No	No	Halogen / LED interchangeability
External	External	Internal	Transformer
110-240V (CE)	110-240V (CE)	110-240V (CE)	Power supply
No	No	only TL	Transmitted light option
369 x 486 x 391	693 x 280 x 361	404 x 198 x 456	Dimensions (mm)
			Contrast techniques
Yes	Yes	Yes	Brightfield
No	Yes	No	Darkfield
No	No	No	DIC
Yes	Yes	Yes*	POL Contrast

** 360° rotatable analyzer, Bertrand lens and compensator slot included in intermediate tube*

SPECIFICATIONS

VIS100/200 & PSM1000 SERIES
COMPARISON TABLE

Model	VIS100/200	PSM1000
Optical system	Infinity	Infinity
Observation system	Camera*	Siedentopf 30°
Interpupillary distance (mm)	-	55-70
Eyepieces	N-WF 10X/20*	WF 10X/24
Eyepieces diopter adjustment	-	+/- 5 dpt
Trinocular light split	-	50/50
Nosepiece	1-4 pos; mechanical & motorized	Forward quadruple
Standard objectives	ELWD Plan Apochromats	ELWD Plan Apochromats
Objective magnification range	2X up to 100X	2X up to 100X
Additional objectives	LM & EC-M Plan; NIR	ULWD Plan Apochromats; NIR
Objective mounting thread RMS standard (W 4/5" x 1/36")	M26 x 0.706; RMS adapter available	No; M26 x 0.706
Built-in coaxial mechanical stage with sample holder	Yes	Yes
Mechanical stage X&Y range (mm)	75 x 50	150 x 100
Focus mechanism	Coaxial; tension adjustment	Coaxial; tension adjustment
Minimun fine focus precision (µm)	1	1
Incident illumination	3W LED	External
Transmitted light option	No	No
Contrast techniques		
Brightfield	Yes	Yes
Darkfield	No	No
DIC	No	No
POL Contrast	No	Yes

**Monocular tube optional*

SPECIFICATIONS

SMZ161 & SMZ171 SERIES
COMPARISON TABLE

Model	SMZ161	SMZ171
Optical system	Greenough	Greenough
Observation angle	45°; 60° optional	45°; 60° optional
Interpupillary distance (mm)	50-75	52-75
Standard eyepieces	WF10X/20	WF10X/23
Optional eyepieces	15X; 20X	15X; 20X
Diopter adjustment	+/- 5dpt on both eyepiece tubes	+/- 5dpt on eyepieces
Standard magnification range	7.5X-45X	7.5X-50X
Additional objectives	0.3X; 0.5;X 0.63X; 0.75X; 1.5X; 2X	0.3X; 0.5;X 0.63X; 0.75X; 1.5X; 2X
ESD compatible objectives	Yes	Yes
ESD compatible stands	No	Yes
Zoom ratio	1:6	1:6.7
Working distance (mm)	110	110
Focus tension adjustment	Yes	Yes
Illumination Halogen	10W Incident & Transmitted	No
Illumination LED	Yes	3W LED Incident & Transmitted
Transmitted light with reflector	Yes	Yes, tiltable
CCD Adapters	0.35X; 0.5X; 0.65X; 1X	0.35X; 0.5X; 0.65X; 1X
SLR Adapters	Yes; 2.5X, 4X	Yes; 2.5X, 4X
Implementation of fiber optics (transmitted stand)	No	Yes
Dimensions LxWxH (mm)	237 x 170 x 397	303 x 239 x 405
Weight (Kg)	3,7	6.2

Motic®

Canada | China | Germany | Spain | USA

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EN | ES | FR | DE | IT | PT

Motic Instruments (Canada)
130 - 4611 Viking Way. Richmond, BC V6V 2K9 Canada
Tel: 1-877-977 4717 | Fax: 1-604-303 9043

Motic Deutschland (Germany)
Christian-Kremp-Strasse 11, D-35578 Wetzlar, Germany
Tel: 49-6441-210 010 Fax: 49-6441-210 0122

Motic Hong Kong (Hong Kong)
Rm 2907-8, Windsor House, 311 Gloucester Road, Causeway Bay, Hong Kong
Tel: 852-2837 0888 | Fax: 852-2882 2792

Motic Europe (Spain)
C. Les Corts 12, Pol. Ind. Les Corts. 08349 Cabrera de Mar, Barcelona, Spain
Tel: 34 93 756 62 86 | Fax: 34 93 756 62 87

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