

Motic®

MORE THAN MICROSCOPY



LS

LIFE SCIENCES

SELECTED PRODUCTS FOR LIFE SCIENCE
APPLICATIONS IN YOUR LABORATORY



INTRODUCTION	02
BA210 SERIES	04
BA310 SERIES	06
BA410E SERIES	08
AE2000 SERIES	10
AE31E SERIES	12
SMZ161 SERIES	14
SMZ171 SERIES	16
MOTICAM SERIES	18
SPECIFICATIONS	20

◀ CONTENTS

Motic was established in 1988 as a high-tech 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 likes to present selected offerings for all kind of Life Science applications in your laboratory.

The BA series of Upright microscopes is designed for advanced school and university usage as well as demanding research work. Motic's CCIS® Infinity Optics ensures superb image results for students and scientists.

Our AE series of Inverted microscopes is meant for any live cell application in microbiology labs of universities and pharmaceutical industry.

Stereo microscopes are cosmopolitans as well as ubiquitous: No scientific teaching nor laboratory work can be imagined without. Motic's SMZ series of stereo microscopes delivers 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. As an integrated solution or as an add-on: we envision this digitalisation of our microscopes to empower you for the tasks of today and tomorrow.

The following pages contain our lines of Life Science 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 Europe Team

LIFE SCIENCES CATALOGUE



LIFE SCIENCES

SELECTED PRODUCTS FOR LIFE SCIENCE
APPLICATIONS IN YOUR LABORATORY



BA210 SERIES

BASIC BIOLOGICAL MICROSCOPE



INTRODUCTION

BA210 SERIES

BA310 SERIES

BA410E SERIES

AE2000 SERIES

AE31E SERIES

SMZ161 SERIES

SMZ171 SERIES

MOTICAM SERIES

SPECIFICATIONS



BASIC UPRIGHT MICROSCOPE FOR TEACHING ENVIRONMENTS

The BA-210 microscopes are basic, yet powerful instruments for all teaching environments in schools and universities. Based on Motic's CCIS® Infinity Optical System, they deliver crisp and clear images, thus enabling an effective training in all biological and medical curricula.

A small footprint, easy grip for carrying and a convenient power cord storage prove Motic's dedication to the special demands of educational environments.

The Elite version of BA-210 is a refined microscope with EC-Plan Achromat objectives for improved color fidelity, field flatness and contrast. A rackless stage gives even more safety to unexperienced users. LED & Halogen light source can easily be interchanged. A RoHS compliant manufacturing process prohibits student contact to lead-containing materials.

All BA-210 models are upgradeable with Phase contrast and POL contrast, giving access to more advanced microscopic methods.



HAL  LED



BA310 SERIES

ADVANCED BIOLOGICAL MICROSCOPE





ADVANCED BIOLOGICAL MICROSCOPE FOR UNIVERSITY AND LABORATORIES

The BA-310 models are advanced Upright microscopes for university and laboratory. Routine laboratory work as well as ambitious teaching in all biomedical fields can easily be performed. Full Koehler illumination is implemented for examination of low-contrast samples. A most flexible Phase contrast, Darkfield and POL contrast as well as Multi-Viewing-Devices are ready for junior research work.

The BA-310 Elite microscopes furthermore are prepared for a turn-key Fluorescence solution with LED light source. Easy usage and secure handling - the Fluorescence method now can be implemented in education programs of medical schools. Optional Non-Cover-Glass (NCG) objectives, designed for non-covered slide samples, enlarge the application spectrum for fast examination of smears and aspirates.



BA410E SERIES

CLINICAL & LAB MICROSCOPE PLATFORM





MICROSCOPE PLATFORM WITH SUPERB IMAGING OPTIONS

The Elite version of Motic's established BA410 flagship model displays the highest level of optical performance. A complete set of Plan Apochromatic lenses is now available for maximum demands in colour reproduction and resolution. The BA410E allows a profound diagnosis in pathology, haematology and cytology with their requirements for best colour fidelity. Increased Numerical Apertures provide an expanded resolution power for a more detailed specimen evaluation.

The AUTO ON-OFF function with its energy-saving aspect improves lab safety: a final instrument check before closing time is no longer necessary. A light memory function, based on a coded 6-fold nosepiece, memorizes the light intensity of each nosepiece position. When changing to a specific objective, the last illumination setup of this position is recalled. Once coordinated, there is no need to adjust the illumination when changing magnification. For increased illumination power, a 100W Halogen version is available.

The rackless stage concept, well known from BA210/BA310 Elite models, is now adopted in this flagship model. A ceramic stage insert for highest abrasion resistance guarantees a perfectly flat placing of the glass slide for a lifetime.



AE2000 SERIES

ROUTINE LIVE CELL MICROSCOPE



INTRODUCTION
BA210 SERIES
BA310 SERIES
BA410E SERIES
AE2000 SERIES
AE31E SERIES
SMZ161 SERIES
SMZ171 SERIES
MOTICAM SERIES
SPECIFICATIONS

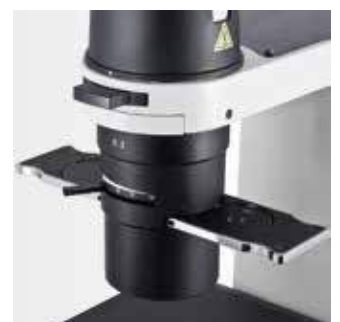


BASIC MICROSCOPE FOR MICROBIOLOGY

The AE-2000 Inverted microscopes are intelligent and smart instruments for routine live cell studies in microbiology. Easy to use, a clever Phase contrast setup (one illumination ring for 10X up to 40X objectives) helps to eliminate handling errors. Powerful Long-Working distance objectives from Motic's CCIS® System are prepared to deliver perfect image results with adherend and floating cell cultures in petri dishes and well plates. An optional 4X Phase objective enables fast screening of large areas.

Excellent manufacturing quality ensures maximum satisfaction and reliability during daily work. Easy interchangeability of Halogen and LED light source is guaranteed by a simple "pull out-plug in" of the respective illumination device.

With an innovative energy-saving AUTO ON-OFF function (IR-sensor based), the AE-2000 is GoingGreen, completely fulfilling the RoHS rules how to treat hazardous substances.



AE31E SERIES

UPGRADEABLE LIVE CELL MICROSCOPE PLATFORM



INTRODUCTION

BA210 SERIES

BA310 SERIES

BA410E SERIES

AE2000 SERIES

AE31E SERIES

SMZ161 SERIES

SMZ171 SERIES

MOTICAM SERIES

SPECIFICATIONS

REFINED LIVE CELL MICROSCOPE PLATFORM

The AE31 Elite is a refined inverted microscope with an extended focus on practical aspects. The AUTO ON-OFF via IR sensor is implemented now; no need for a final check before leaving the lab. The energy-saving aspect of this feature is valid all the working day. The new Light Memory function, based on an encoded 5-fold nosepiece, will recall the last light intensity setup when changing to the respective objective. Once aligned, no need to adjust the illumination when changing the magnification.

To harmonize the optical setup of our CCIS® Infinity concept, the AE31 Elite works with the newest generation of LWD Plan Achromatic lenses: Only one Phase ring is needed for Phase 10X up to 40X; the objective Phase 4X for fast screening is available as an option.

The tube lens configuration is in harmony with the complete BA series of Upright microscopes. From this series, all accessories like c-mounts, additional eyepieces, etc. can be used without restriction on AE31E. A fully corrected intermediate image is ready for digital access. Upgrade options like Fluorescence are still strong features within this Inverted microscope series.



SMZ161 SERIES

BASIC STEREO MICROSCOPE



INTRODUCTION

BA210 SERIES

BA310 SERIES

BA410E SERIES

AE2000 SERIES

AE31E SERIES

SMZ161 SERIES

SMZ171 SERIES

MOTICAM SERIES

SPECIFICATIONS

Motic
SMZ-161

BASIC STEREO MICROSCOPE FOR TEACHING

The SMZ-161 model is a basic stereo microscope for all kind of 3-D visualization in schools and universities. Compact footprint for easy cabinet storage, student-proof features like lockable eyepieces: this instrument is ready to demonstrate three-dimensionality of various biological and medical structures to the students.

The moderate magnification power of a stereo microscope as well as the erect, upright image allows a fast access to the specimen also for unexperienced users. Easy to use, these instruments deliver crisp and distortion-free images. Incident and transmitted light sources for opaque and transparent specimen are integral part of the 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 SOLUTION



INTRODUCTION

BA210 SERIES

BA310 SERIES

BA410E SERIES

AE2000 SERIES

AE31E SERIES

SMZ161 SERIES

SMZ171 SERIES

MOTICAM SERIES

SPECIFICATIONS



FLEXIBLE STEREO MICROSCOPE SOLUTION FOR RESEARCH

The SMZ-171 models are high-performance stereo microscopes in demanding applications. For research tasks in all biomedical sciences, these stereo microscopes are essential tools for daily work. Superb resolution power is paired with a stunning three-dimensionality. A bright LED illumination is the basis for a spectacular color fidelity. LED as a “cool” light source is especially recommended when it comes to heat sensitive biological samples. A tilting reflector allows oblique transmitted illumination. For more illumination power, a light guide with external cold light source can be coupled into the base.

Extended working distances of the objectives give handling freedom for any manipulation of opaque and transparent specimen. Biological preparation work of animals and plants is easily done.

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



MOTICAM SERIES

FLEXIBLE DIGITAL SOLUTIONS





UPGRADE YOUR MICROSCOPE AND GET A DIGITAL WORK STATION

Accurate documentation is becoming an increasingly important task in natural sciences. 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

BA SERIES COMPARISON TABLE



Model	BA210	BA210E
Optical system	CCIS®	CCIS®
Observation system	Siedentopf 30°; 360° rotation	Siedentopf 30°; 360° rotation
Interpupillary distance (mm)	55-75	55-75
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 quadruple	Reversed quadruple
Standard objectives	EF-N Plan Achromat	EC Plan Achromat
Objective magnification range	4X up to 100X	4X up to 100X
Additional objectives	No	No
Positive and negative phase objectives	EC-H Plan Phase	EC-H Plan Phase
Plan-Apochromatic objectives	No	No
Objective mounting thread RMS standard (W 4/5" x 1/36")	Yes	Yes
Built-in coaxial mechanical stage with sample holder	Yes	Yes
Stage size (mm)	140 x 135	150 x 150
Mechanical stage X&Y range (mm)	76 x 50	80 x 30
Upper limit stop	Preset; adjustable	Preset; adjustable
Condenser (Focusable Abbe type)	N.A. 1.25 + iris diaphragm + slot for Phase contrast sliders	N.A. 1.25 + iris diaphragm + slot for Phase contrast sliders
Focus mechanism	Coaxial; tension adjustment	Coaxial; tension adjustment
Minimum fine focus precision (µm)	2	2
Z-axis movement (mm)	25	20
Filter holder with fixing cap	Yes	Yes
Illumination	3W LED; mirror	30W Halogen; 3W LED; mirror
Halogen / LED interchangeability	No	Yes
Illumination position	Built-in	Built-in
Koehler	No	No
Multi-Viewing-Devices	No	No
Transformer	Built-in	Built-in
Power supply	110-240V (CE)	110-240V (CE)
Auto ON-OFF	No	No
Light manager	No	No
Filters included	Blue filter included in Halogen version	No
Dimensions (mm)	360 x 190 x 395	360 x 220 x 398
Weight (Kg)	7,2	7,2
Contrast techniques		
Brightfield	Yes	Yes
Phase contrast	Slider	Slider
Simple polarization	Yes	Yes
HBO Fluorescence	No	No
LED Fluorescence	No	Yes

**BA310****BA310E****BA410E****Model**

BA310	BA310E	BA410E	Model
CCIS®	CCIS®	CCIS®	Optical system
Swiveling Siedentopf 30°;360° rotation	Swiveling Siedentopf 30°;360° rotation	Siedentopf 30°; 360° rotation	Observation system
48-75	48-75	50-75	Interpupillary distance (mm)
N-WF 10X/20	N-WF 10X/20	N-WF10X/22	Eyepieces
+/- 5 dpt	+/- 5 dpt	+/- 5 dpt	Eyepieces diopter adjustment
20/80; optional 0/100	20/80; optional 0/100	20/80; optional 0/100	Trinocular light split
Reversed quintuple	Reversed quintuple	Reversed sextuple	Nosepiece
EF-N Plan Achromat	EC Plan Achromat	EC-H Plan Achromat	Standard objectives
4X up to 100X	4X up to 100X	2X up to 100X	Objective magnification range
No	EC Plan Achromat NCG	Plan Fluor	Additional objectives
EC-H Plan Phase	EC-H Plan Phase	EC-H Plan Phase	Positive and negative phase objectives
No	No	Plan apochromat objectives PL APO	Plan-Apochromatic objectives
Yes	Yes	Yes	Objective mounting thread RMS standard (W 4/5" x 1/36")
Yes	Yes	No; separate rackless stage	Built-in coaxial mechanical stage with sample holder
175 x 140	180 x 170	180 x 170	Stage size (mm)
76 x 50	80 x 55	80 x 55	Mechanical stage X&Y range (mm)
Preset; adjustable	Preset; adjustable	Preset; adjustable	Upper limit stop
N.A. 0.90/1.25 + iris diaphragm	N.A. 0.90/1.25 + iris diaphragm	Swing-out Abbe N.A. 0.90	Condenser
+ slot for Phase contrast sliders	+ slot for Phase contrast sliders	with iris diaphragm	(Focusable Abbe type)
Coaxial; tension adjustment	Coaxial; tension adjustment	Coaxial; tension adjustment	Focus mechanism
2	2	1	Minimum fine focus precision (µm)
20	20	27	Z-axis movement (mm)
Yes	Yes	Yes	Filter holder with fixing cap
3W LED	30W Halogen; 3W LED	50W Halogen / 100W Halogen	Illumination
No	Yes	No	Halogen / LED interchangeability
Built-in	Built-in	External	Illumination position
Yes	Yes	Yes	Koehler
Dual/3-head/5-head	Dual/3-head/5-head	Dual/3-head/5-head	Multi-Viewing-Devices
Built-in	Built-in	Built-in 50W, external 100W	Transformer
110-240V (CE)	110-240V (CE)	110-240V (CE)	Power supply
No	No	Yes	Auto ON-OFF
No	No	Yes	Light manager
Blue filter included in Halogen version	Blue	Blue	Filters included
400 x 200 x 400	400 x 220 x 400	550 x 242 x 435 (50W); 592 x 242 x 435 (100W)	Dimensions (mm)
8,6	8,6	14,2	Weight (Kg)
			Contrast techniques
Yes	Yes	Yes	Brightfield
Slider & Turret	Slider & Turret	Slider & Turret	Phase contrast
Yes	Yes	Yes	Simple polarization
No	No	Yes	HBO Fluorescence
No	Yes	No	LED Fluorescence

SPECIFICATIONS

AE SERIES COMPARISON TABLE



AE2000



AE31E

Model	AE2000	AE31E
Optical system	CCIS®	CCIS®
Observation system	Swiveling 360° with 45° inclination	Swiveling 360° with 45° inclination
Interpupillary distance (mm)	48-75	48-75
Eyepieces	N-WF 10X/20	N-WF 10X/22
Eyepieces diopter adjustment	+/- 5 dpt	+/- 5 dpt
Trinocular light split	20/80	20/80; 0/100 optional
Tilting tube	No	No
Nosepiece	Tilted, quadruple	Tiltet, quintuple
Standard objectives	New generation Plan Achromats	New generation Plan Achromats
Objective magnification range	4X up to 40X	4X up to 40X
Phase objectives	4X up to 40X	4X up to 40X
Universal Phase ring for objectives 10X up to 40X	Yes	Yes
Objective mounting thread RMS standard (W 4/5" X 1/36")	Yes	Yes
Stage plate with lateral extensions	Yes	Yes
Stage size (mm)	200 x 239	200 x 239
Attachable stage with inserts	Yes	Yes
Condenser	N.A. 0.3 + iris diaphragm + slot for Phase slider; WD 72mm	N.A. 0.3 + iris diaphragm + slot for Phase slider; WD 72mm
Focus mechanism	Coaxial, with tension adjustment	Coaxial, with tension adjustment
Minimum Fine focus precision (µm)	2	2
Z-axis movement (mm) of nosepiece	8	10
Illumination	30W Halogen; 3W LED	30W Halogen; 100W Halogen; 3W LED
Halogen / LED interchangeability	Yes	Yes (30W Halogen - 3W LED)
Koehler	No	Yes
Auto ON-OFF	Yes	Yes
Light manager	No	Yes
Transformer	Internal	Internal
Filters included	Blue, Green	Blue, Green
Dimensions (mm)	556 x 218 x 496	556 x 200 x 529; 629 x 200 x 595 (100W)
Weight (Kg)	12,2	11,7 (30W); 13,2 (100W)
Contrast techniques		
Brightfield	Yes	Yes
Phase contrast	4X up to 40X	4X up to 40X
Relief Contrast	No	No
HBO Fluorescence	No	Yes

SPECIFICATIONS

SMZ SERIES COMPARISON TABLE



SMZ161



SMZ171

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; 0.5X; 0.63X; 0.75X; 1.5X; 2X	0.3X; 0.5X; 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
Halogen Illumination	10W Incident & Transmitted	No
LED Illumination	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 light)	No	Yes
Dimensions LxWxH (mm)	237 x 170 x 397	303 x 239 x 405
Weight (Kg)	3,7	6.2

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