





## Biological Catalogue

Every year heralds another step, another milestone for biological and medical diagnosis techniques and research methods, likewise for Motic as we continue to expand our offerings to meet the needs of decreasing budgets but increasing expectations. From our beginnings in educational biological microscopy to our current offerings of fluorescence microscopy, we have strived to design, manufacture, and support microscopes to exceed your requirements.

Though Motic remains an infant amongst mature giants, we have accumulated a unique philosophy of "Plug and Play", or in a biological frame of reference, "Plug and Analyse".

All microscopes offered by Motic have the potential to become an analysis station with the integration of our expanding line of digital application cameras equipped with our self-developed analysis software to increase task potentials and the overall life span of the microscope. We envision total digitalisation of our line of microscopes to empower you to complete the tasks of today and tomorrow.

The following pages contain our biological line of microscopes for 2006. As we continue to improve the excellence and functionality of our microscopes, we may need to make changes without prior notice. We warmly welcome you to become acquainted with us by visiting our website [www.motic.com] and/or contacting your local Motic representative with your questions and curiosity.

Motic Microscopes.

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Elmatik AS, Türi 9, 11314 Tallinn Estonia tel. +372 650 3875 tel. +372 650 3876 fax +372 655 8019 e-mail: elmatik@elmatik.e

## FLUORESCENCE MICROSCOPY

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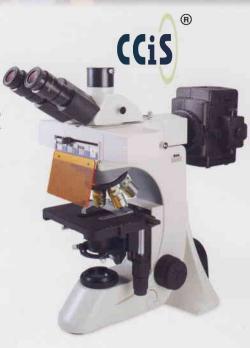
## **BA400 EPI**

#### **UPRIGHT FLUORESCENCE MICROSCOPE\***

Expanding the application possibilities of the BA400, the EPI Fluorescence attachment effortlessly fits on top of the BA400 to provide reflected light fluorescence imaging.

- Colour Corrected Infinity Optical System [CCIS\*]
- T-shaped, 3-cassette slider mount [excluding dummy cassette], HBO 100W centrable attachment







## **AE30/31 EPI**

#### **INVERTED FLUORESCENCE MICROSCOPE\***

The EPI Fluorescence attachment for the AE30/31 inverted microscope increases the amount of examination and manipulation of cells and tissue culture available from other observations.

- Colour Corrected Infinity Optical System [CCIS®]
- 3-cassette slider [excluding dummy cassette] with HBO 100W centrable attachment [bottom mount]

\*Please refer to the AE30/31 section or AE30/31 catalogue for more detail of basic system

#### **AVAILABLE FLUORESCENCE CASSETTE FILTERS**

Filter Set	Exciter (nm)	Dichroic (nm)	Barrier (nm)
DAPI and Hoechst	D350/50x	400DCLP	D460/50m
FITC FITC/RSGFP/Fluo 3/DiO Acradine Orange [+RNA]	D480/30x	505DCLP	D535/40m
TRITC [Rhodamine]/Dil/Cy3	D540/40x	565DCLP	D605/55m
Texax Red / Cy3.5	D560/40x	595DCLP	D630/60m
Cy5, Alexa Fluor 633, Alexa Fluor 647	HQ620/60x	Q660LP	HQ700/75m
Cyan GFP	D436/20x	455DCLP	D480/75m
Endow GFP Bandpass Emission	HQ470/40x	Q495LP	HQ525/50m
Yellow GFP BP [10C/Topaz]	HQ500/20x	Q515LP	HQ535/30m

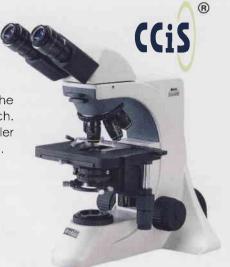


## **BA400**

### MODULAR HIGH PERFORMANCE MICROSCOPE

The BA400 is a modular design for personalisation and adaptation to the different requirements of laboratory and clinical inspection, and research. Combining the CCIS® optical system with an external lamphousing for Koehler illumination provides continuous, constant crisp and informative observation.

- Increased working distance CCIS® Plan Achromat objectives
- Hassle free Epi-Fluorescence attachment with three filter cassette capacity



Optical System	Colour Corrected Infinity Optical System [CCIS®]	
Observation Tube Widefield binocular 30° [F.N. 22] Widefield trinocular 30° [F.N. 22]- light distribution 20/80 Widefield trinocular 30° [F.N. 22]- light distribution 0/100		
Nosepiece	Reversed quintuple	
Stage	174 x 145mm surface; 76 x 50mm movement; hard coated with coaxial movement and left o right hand controls; torque adjustment of X and Y axis controls	
Condenser	Swing-out Achromat (N.A. 0.9/0.13) condenser 4-position N.A. 1.25 Phase Contrast turret condenser [10x, 20x, 40x, 100x, and BF] Phase and Dark field Contrast N.A. 1.25 turret condenser [10x, 40x, 100x and DF (10x-40x)]	
Focus	42mm stroke; torque adjustment for coarse; focus lock; 1 µm minimum increments; silicon coated focus controls	
Illumination	Externally mounted, Transmitted 6V/30W Quartz Halogen Koehler Illumination	
Accessories	Phase and dark field contrast condensers, gout diagnosis polariser kit, high resolution built-in digital head; photo/digital documentation adapters	



BAT400 - 2 HEAD



BAT400 - 3 HEAD

## **BAT 400**

#### **MULTI OBSERVATION SYSTEM**

Designed for simultaneous discussion and observation by researchers and laboratory technicians as well as facilitating the necessary visual aid for teaching and training, the BAT400 is available in three versions to suffice your requirements.



**BAT400 - 5 HEAD** 

## BA SERIES

## **Biological Catalogue**

## **BA300**

#### VERSATILE UPRIGHT MICROSCOPE

The BA300 combines the ruggedness of a well-constructed stand for abusive environments and the versatility of accessories to mould comfortable to applications ranging from educational to routine clinical focused. Employing the superior CCIS® optical system with an ergonomic layout, the BA300 delivers continuous flawless hours of observation and usage.

Optical System	Colour Corrected Infinity Optical System [CCIS®]	
Observation Tube	Widefield binocular 30° [F.N., 20] Widefield trinocular 30° [F.N., 20] - light distribution 20/80 Widefield trinocular 30° [F.N., 20] - light distribution 0/100	
Nosepiece	Reversed quintuple	
Stage	174 x 145mm surface; 76 x 50mm movement; hard coated with right hand controls; coaxial movement	
Condenser	N.A., 0,90 Abbe condenser with slider stop; 4-position Phase Contrast (10x, 20x, 40x, 100x, BF) turret condenser; Phase and Dark field Contrast [PH 10x, 40x, 100x, and DF (10x-40x)] turret condenser	
Focus	42mm stroke; 2µm minimum increments torque adjustment for coarse; focus lock; silicon coated focus controls	
Illumination	Transmitted 6V/30W Quartz halogen Koehler illumination	
Accessories	Phase Contrast slider; simple dark field slider; high resolution built-in digital head; photo/digital documentation adapters	





## **BA200**

#### ADAPTABLE UPRIGHT MICROSCOPE

The compact footprint for space conscious environments combined with the CCIS® optical system provide the ideal solution for educational and inspection facilities. The BA200's modular format extends its capacity to various tasks based upon the different components combinations.

Optional high resolution built-in digital head transforms the BA200 into a documentation and analysis system.

Optical System	Colour Corrected Infinity Optical System [CCIS®]	
Observation Tube  Widefield binocular 30° [F.N. 18]  Widefield trinocular 30° [F.N. 18]- light distribution 20/100  Widefield trinocular 30° [F.N. 18] - light distribution 0/100		
Nosepiece	Reversed Quadruple	
Stage	Ball bearing mechanical stage: 140 x 135mm surface Travel range: 76 x 50mm; coaxial movement	
Condenser	N.A. 1,25 Abbe Condenser with slider slot, focusable	
Focus	25mm stroke; 2µm minimum increments; torque adjustment for coarse; focus lock; silicon coated focus controls	
Illumination	Built-in transmitted 6V/20W halogen critical illumination	
Accessories Simple phase contrast sliders (10x and 40x); simple dark field slider; simple polariser kit attachment; high resolution built-in digital head; photo/digital documentation adapters		

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#### **BA SERIES ACCESSORIES**



#### **Fluorescence Attachment**

Easily integrated into the BA400 arm, the Epi Fluorescence attachment accommodates 3 filter cassettes for excitation observation.



#### Fluorescence Filter Sets

Available for excitation ranges of 300nm - 625nm, these cassettes effortlessly fit into the BA400 slider.



#### **Magnification Changer**

The BA400 magnification changer offers additional magnifications of 1x, 1.6x, and 2.5x as well as Bertrand lens.



#### Phase/Dark Field Contrast Condenser

The N.A. 1.25 condenser provides the convenience of phase contrast [10x, 40x, and 100x] with the option of dark field [10x - 40x] observation. [BA300/400]



#### **4-Position Phase Contrast Condenser**

The N.A. 1.25 condenser is equipped for phase contrast imaging [10x, 20x, 40x, and 100x] while providing the benefit of bright field for simultaneous observation methods.



#### Simple Phase Contrast Slider

The simple phase contrast slider equipped with 10x and 40x phase annuli when combined with the Plan Phase objectives and the BA300's N.A 0.90 Abbe condenser is the ideal choice for laboratory screening. [BA300]



#### Simple Phase Contrast

Offered in magnification specific phase annuli [10x and 40x], the simple phase sliders with the E Plan Phase objectives provides convenience and functionality in one. [BA200]



#### **Simple Polarisation Attachment**

The attachment conveniently mounts onto the condenser [or collector lens] for rapid transition between bright field and simple polarised observations. [BA200/300]



#### **Gout Diagnosis Kit**

Available for the BA400, the Gout Diagnosis kit is Motic's unique and rapid method of detecting Gout and psuedo-Gout for increase specimen processing. Utilising a First Order Red Compensator [535nm].



#### DMBA200 High Resolution Digital Head

Transforming the BA200 into an analysis and documentation station, the high resolution built in DMBA200 digital head offers the possibility of expanding the role and power of the microscope. Equipped standard with Motic Images Plus software.



#### **DMBA300 High Resolution Digital Head**

The high resolution built in DMBA300 head offers the aspects of digitalisation in a convenient format to document and analyse the specimen. Equipped standard with Motic Images Plus software.



#### DMBA400 High Resolution Digital Head

Preparation, screening, observation, and analysis with one microscope is the possibility with the DMBA400 with a built in high resolution camera. Equipped standard with Motic Images Plus software.

# AE SERIES

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## AE 30/31

## **Application Driven Inverted Microscope**

A class leading inverted microscope, the AE30/31 offers the upscale function of external and centrable Koehler illumination in the routine realm. Ruggedness of design ensures years of continuous and reliable performance with accessories upgrades for further practicality.

- System expansion modularity permits application driven accessories attachment when needed with minimum down time.
- Minimum footprint for space conscious laboratories and clinics requiring application rich inverted microscopy.



Optical System	Colour Corrected Infinity Optical System [CCIS®]	
Observation Tube	Siedentopf Widefield binocular 45° [F.N. 22], 380mm viewing height Siedentopf Widefield trinocular 45° [F.N. 22] - light distribution 20/80, 400mm viewing height Siedentopf Widefield trinocular 45° [F.N. 22] - light distribution 0/100, 400mm viewing height	
Nosepiece	Tilted quintuple, waterproof mechanisms	
Stage	200 x 260mm surface, fixed, plain stage; attachable mechanical stage	
Condenser	ELWD N.A. 0,30 (W.D. 72mm) slider stopper, LWD N.A. 0.50 [W.D. 28mm] Focusable for objectives 4x - 40x	
Focus	Z-axis movement via nosepiece (stage fixed); coaxial movement with 10mm stroke movement; 1µm minimum increment	
Illumination	Transmitted 6V/30W Quartz Halogen Koehler Illumination	
Accessories	Phase Contrast sliders; Haemacytometer holder; photo/digital documentation adapters	



## **AE 20/21**

#### **Functional Inverted Microscope**

Established to bring inverted microscopy to levels of routine clinical preparation, the AE 20/21's functionality exceeds the expectations of a basic inverted microscope. Available with an optional phase contrast, the AE20/21's responsibility can cover both screening and preparation, thus an asset in space conscious labs.

Optical System	Colour Corrected Infinity Optical System [CCIS®]	
Observation Tube	Siedentopf Widefield binocular 45° [F.N. 20], 370mm viewing height Siedentopf Widefield trinocular 45° [F.N. 20] - light distribution 20/80, 390mm viewing height	
Nosepiece	Tilted quadruple, waterproof mechanism	
Stage	200 x 260mm surface, fixed, plain stage; attachable mechanical stage	
Condenser	ELWD N.A. 0.30 (W.D. 72mm) Focusable, slider stop	
Focus	Z-axis movement via nosepiece (stage fixed); coaxial movement with 10mm stroke movement; 2µm minimum increment	
Illumination	Transmitted 6V/30W Quartz Halogen Koehler Illumination	
Accessories	Phase Contrast annuli rings; Auxiliary stages; Haemacytometer Holder; Photo/digital documentation adapters	

# AE SERIES ACCESSORIES

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#### Accessories



#### Fluorescence Attachment

Easily integrated into the back of the AE30/31, the Epi Fluorescence attachment accommodates 3 filter cassettes for excitation observation. [AE30/31]



#### Fluorescence Filter Sets

Available for excitation ranges of 300nm - 625nm, these cassettes effortlessly fit into the AE30/31 cassette slider. [AE30/31]



#### LWD N.A. 0.5 Condenser

The Long Working Distance [W.D. 28mm] N.A. 0.5 condenser is available for those observation methods requiring a higher N.A. than the standard ELWD N.A. 0.30. [AE30/31]

#### **Phase Contrast Accessories**



#### Centrable Phase Slider

Designed for routine clinical and culture screening environments, the centrable Phase slider is equipped with a PH1 and PH3 phase annuli as well as a bright field slot. [AE30/31]



#### PH3 Phase Contrast

Combining the PH3 Phase Ring with the Long Working Distance E Plan Achromat Phase objective expands the functionality of the AE20/21 through higher phase contrast imaging and screening.

#### **Mechanical and Auxiliary Stages**



#### Universal Mechanical Stage

Universal in design for either left or right-handed operators, the mechanical stage incorporates rapid response, even when the handle is tilted, with the resolution to prevent the loss of the specimen. Accepts various diameter petri dish holders. [AE30/31]



#### **Mechanical Stage**

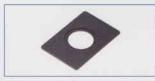
Designed for rapid response and convenience of use, the mechanical stage accepts various diameter petri dish holders. [AE20/21]



#### **Auxiliary Stage**

Attachable to the existing working area to increase the overall work surface to accommodate applications involving oversized specimens or manipulators.

#### Petri Dish and Haemacytometer Holders



#### Ø35mm Petri Dish Holder

Inserts into AE series' well plate holder of the mechanical stage for Ø35mm petri dishes.



#### Ø 54mm Petri Dish Holder

Inserts into AE series' well plate holder of the mechanical stage for Ø54mm petri dishes.



#### Ø 65mm Petri Dish Holder

Inserts into AE series' well plate holder of the mechanical stage for Ø65mm petri dishes.



#### Haemacytometer Holder

Convenient holder for Haemacytometer types dishes and slides.

## MOTICAM 2000/MOTICAM 2300

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## **MOTICAM 2000**

#### PRACTICAL DIGITAL MICROSCOPY

Integrating a 1/2" chip sensor producing 2.0-megapixel live images with a compact design, the Moticam 2000 is a practical application digital camera for microscopy analysis. Real time analysis is available in the Moticam 2000 preview window for instantaneous results and conclusions. Numerous preview and output sizes are available to suit the necessary requirement of the application.

Equipped standard with numerous eyepiece adapters to retrofit practicality any microscope.

Chip Size	1/2"	
Effective Pixels	2 megapixels	
Max. Still Image Resolution	1600 x 1200	
Scanning Mode	Progressive Scan Method	
Compatibility	TWAIN	
Max Frame Rate	10fps @ 1600 x 1200, 40fps @ Binning	
Max Data Transfer	480MB/sec through USB 2.0	
Minimum Illumination	3 Lux	
Camera Power Supply	5V self-power through USB 2.0 cable	
Minimum System Requirements	P3, 1GHz, 256MB RAM, 32MB Display, Windows XP or 2000, USB 2.0 connection G4, 1GHz, 256MB RAM, 32MB Display, OSX, USB 2.0 connection	
Included Software	Motic Images Plus 2.0 for Windows and Macintosh (2 CD)	



## **MOTICAM 2300**

#### **COMPACT HIGH RESOLUTION CAMERA**

3.0-megapixel live imaging in a compact size, the Moticam 2300 offers an ideal and cost effective extension for microscopy analysis. Real time analysis is available in the Moticam 2300 preview window for instantaneous results and conclusions. The Moticam 2300 is TWAIN compliant for integration into existing software and image capture systems for convenience.

Equipped standard with Motic Images Plus software and numerous eyepiece adapters to retrofit practicality any microscope.

Chip Size	1/2"	
Effective Pixels	3 megapixels	
Max. Still Image Resolution	2048 x 1536	
Scanning Mode	Progressive Scan Method	
Compatibility	TWAIN	
Max Frame Råte	10fps @ 2048 x 1536, 40fps @ Binning	
Max Data Transfer	480MB/sec through USB 2.0	
Minimum Illumination	3 Lux	
Camera Power Supply	5V self-power through USB 2.0 cable	
Minimum System Requirements	P3, 1GHz, 256MB RAM, 32MB Display, Windows XP or 2000, USB 2.0 connection G4, 1GHz, 256MB RAM, 32MB Display, OSX, USB 2.0 connection	
Included Software	Motic Images Plus 2.0 for Windows and Macintosh (2 CD)	

## MOTICAM 3000 / 3000C

#### HIGH SENSITIVITY AND COOLED CAMERAS

The Moticam 3000 provides the combination of high sensitivity with low noise to ensure even images up to a maximum resolution of 2080 x 1542 [in real time and captured]. Equipped standard with Motic Images Advanced software, the Moticam 3000 continues the Motic philosophy of "Plug and Analyse".



Moticam 3000C with its Peltier-cooled system is ideal for fluorescence imaging.

Chip Size	1/2"	
Effective Pixels	3.3 megapixels	
Max Still Image Resolution	2080 x 1542	
Pixel Size	3.45µm x 3.45µm	
Cooling Device [3000C version]	Peltier Device	
Scanning Mode	Progressive scan method	
Binning Options	2x2, 3x3, 4x4 [colour, black/white]	
Noise Reduction	9.8e-	
Transfer Speed	20MHz 8-bit; 10MHz 10-bit via IEEE 1394 Firewire	
White Balance	Automatic / Manual	
Minimum System Requirements	Pentium 4, 1GHz or higher, 256MB RAM, 32MB Display, Windows 2000 & XP	
Included Software	Motic Images Advanced 3.2	



## MOTICAM 5000 / 5000C

#### HIGH RESOLUTON AND COOLED CAMERAS

Designed for maximum resolution of 2580 x 1944 imaging, the Moticam 5000's low noise disturbance ensures the optimum amount of analysis without discrepancies. Utilising the manual or automatic shutter function and background calibration [software driven], long exposures can be capture with minimum to no noise for accuracy.

The Moticam 5000C incorporates a Peltier cooling system for noise reduction and cooling to 10° below ambient.

Chip Size	2/3"	
Effective Pixels	5.0 megapixels	
Max Still Image Resolution	2580 x 1944	
Pixel Size	3.4µm x 3.4µm	
Cooling Device [5000C version]	Peltier Device	
Scanning Mode	Progressive scan method	
Binning Options	2x2, 3x3, 4x4 [colour, black/white]	
Noise Reduction	9.8e-	
Transfer Speed	20MHz 8-bit; 10MHz 10-bit via IEEE 1394 Firewire	
White Balance	Automatic / Manual	
Minimum System Requirements	Pentium 4, 1GHz or higher, 256MB RAM, 32MB Display, Windows 2000 & XP	
Included Software	Motic Images Advanced 3.2	

## ANALYSIS SOFTWARE DOCUMENTATION ADAPTERS

**Biological Catalogue** 

## MOTIC IMAGES ADVANCED

#### **DOCUMENTATION AND ANALYSIS SOFTWARE**

Motic Images Advanced image analysis software contains processing tools to satisfy most professional users.

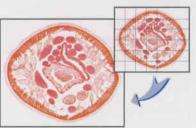
Supporting Motic's Megapixel chip devices, this software is a one-stop platform for image quantification. Do accurate and reliable measurements, automatic or manual segmentation with different customisable features and then export all data gathered to Excel with a single click of the mouse. View images in a virtual 3D format based on image pixel intensity to give different perspective of your sample. Different filtering and image manipulation and optimisation devices are also provided.

Advanced comes equipped standard with Motic Assembly and Multi Focus add-on modules.

- Motic Assembly stitches up to 400 [20x20] images together into single large image
- Motic Multi Focus combines up to 100 images of different focal planes into a single smooth image, and even compensates for stereomicroscopy shift.







Motic Images Assembly

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## **DOCUMENTATION ADAPTERS**

#### PHOTO AND VIDEO/DIGITAL CAMERA ADAPTERS

To expand the utility of Motic microscopes, a series of photo and video/digital camera adapters are offered for integration of Motic digital application cameras or third party documentation systems.

#### PHOTOMICROGRAPHY\*

Phototube adapter - requires combination with one of the below photo eyepieces



2.5X Photo Eyepiece



4.0X Photo Eyepiece

\*Final adapter must be provided by camera manufacturer

#### DIGITAL DOCUMENTATION

Connection to digital video/camera requires the necessary adapter to match the chip sensor size.

Adapter	Sensor Size
0.5x Camera Adapter	1/2" Camera Chip Sensor
0.65x Camera Adapter	2/3" Camera Chip Sensor
1.0x Camera Adapter	1/3" - 2/3" Camera Chip Sensors

# Elmatik AS, Türi 9, 11314 Tallinn Estonia tel. +372 650 3875 tel. +372 650 3876 fax +372 655 8019 e-mail: elmatik@elmatik. CCIS SER ES OBJECTIV

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#### **BA** Upright series objectives



#### **EF PLAN ACHROMAT**

Cost-effective Achromat objectives ensure field flatness up to F.N. 20 and suitable for usage in education, training, and clinical screening. [BA200 usage]



#### **PLAN ACHROMAT**

Designed for routine and research related tasks, these Achromat objectives empower a flatness up to F.N. 22 with sharp contrast and low chromatic aberration. [BA300/400 usage]



#### PLAN ACHROMAT PHASE

High performance with field flatness up to F.N. 22, these objectives provide excellent phase-contrast image for cell distinction. [BA300/400 usage]

#### **BA400** Upright series objectives



#### N PLAN ACHROMAT \*

Excellent contrast and field flatness up to F.N. 22, combined with greater working distances establish these Achromat objectives for clinical, routine, research applications.



#### N PLAN ACHROMAT PHASE \*

These objectives provide high contrast phase contrast imaging with greater working distances for applications needing the extra room for documentation marking. Field flatness up to F.N. 22.



#### **PLAN FLUORITE**

Spherically corrected for three colours and high contrast, the Plan Fluorite are excellent objectives for fluorescence observations and photomicrography and digital documentation.

#### AE20/21 Inverted series objectives



#### **E PLAN ACHROMAT INVERTED**

Cost effective and waterproofed, these Achromat Inverted objectives provide field flatness up to F.N. 20 for screening and pathological preparation.



#### E PLAN ACHROMAT PHASE INVERTED

Excellent phase contrast for cell culture observation with field flatness of F.N. 20, these objectives are ideal continuous screening and preparation.



#### LONG WORKING DISTANCE E PLAN **ACHROMAT / PHASE**

Providing the extra working distance needed for inverted microscopy, both the E Plan and E Plan Phase provide crisp imaging and field flatness of F.N. 20.

#### AE 30/31 Inverted series objectives



#### **PLAN ACHROMAT INVERTED**

Crisp and high contrast imaging with a waterproof casing, the Plan inverted objectives are designed for culture specimens and entry level fluorescence imaging.



#### **PLAN ACHROMAT PHASE INVERTED**

Dedicated for cell culture observation and other clinical observations, these objectives offer excellent contrast in both bright field and fluorescence imaging.



#### LONG WORKING DISTANCE PLAN **ACHROMAT / PHASE**

Combining the high contrast and excellent resolution of Plan principles with the working distances required make these objectives ideal for applications of observation to screening to research.

<sup>\*</sup>Check with your local Motic dealer for availability

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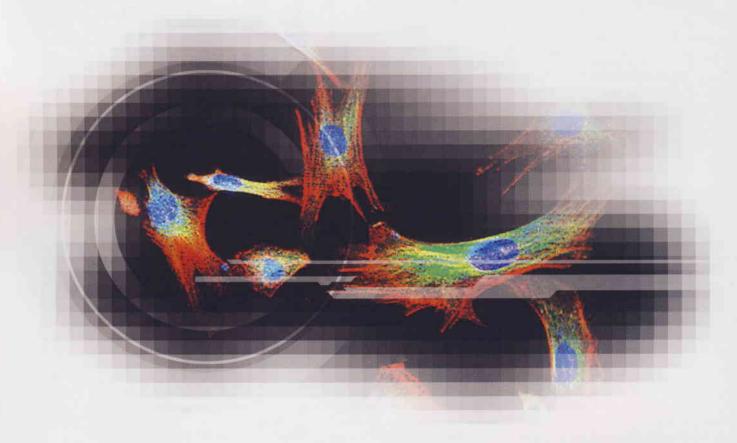
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Description		N.A.	W.D. (mm)	F.N.	Cover Glass	Immersion
EF PLAN	EF PLAN 4x	0.1	6.3	20	*	
	EF PLAN 10x	0.25	3.9	20	0.17	
	EF PLAN 40x	0.65	0.4	20	0.17	
	EF PLAN 60x	0.8	0.14	20	0.17	
	EF PLAN 100x	1.25	0.12	20	0,17	Oil
E PLAN PH	E PLAN PH 10x	0.25	1,9	22	0.17	
	E PLAN PH 40x	0.65	0.4	22	0.17	
PLAN	PLAN 4x	0.1	7.0	22	*	
	PLAN 10x	0,25	4.3	22	0.17	
	PLAN 20x	0.4	1.3	22	0.17	
	PLAN 40x	0,65	0.4	22	0.17	
	PLAN 100x	1.25	0.13	22	0.17	Oil
PLAN PH	PLAN PH 10x	0.25	4.3	22	0.17	
	PLAN PH 20x	0.4	1.3	22	0.17	
	PLAN PH 40x	0.65	0.4	22	0.17	
	PLAN PH 100x	1.25	0.13	22	0.17	Oil
N PLAN	N PLAN 2x	0.05	6.3	22		
	N PLAN 4x	0.1	20.5	22		
	N PLAN 10x	0.25	8.3	22	0.17	
	N PLAN 20x	0.45	1.0	22	0.17	
	N PLAN 40x	0.7	0.4	22	0.17	
	N PLAN 60x	0.8	0.3	22	0.17	
	N PLAN 100x	1.25	0.13	22	0.17	Oil
N PLAN PH	N PLAN PH 10x	0.25	8.3	22	0.17	
	N PLAN PH 20x	0.45	1.0	22	0.17	
	N PLAN PH 40x	0.7	0.4	22	0.17	
	N PLAN PH 100x	1.25	0.13	22	0.17	Oil
PLAN FLUAR	PLAN FLUAR 4x	0.13	20.5	25		
	PLAN FLUAR 10x	0.3	10.5	25	0.17	
	PLAN FLUAR 20x	0.5	1.9	25	0.17	
	PLAN FLUAR 40x	0.75	0.58	25	0.17	
	PLAN FLUAR 50x	1.0	0.17	25	0.17	Oil
	PLAN FLUAR 60x	1.0	0.17	25	0.17	Oil
	PLAN FLUAR 100x	1.3	0.2	25	0.17	Oil

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Description		N.A.	W.D. (mm)	F.N.	Cover Glass	Immersion
E PLAN INV	E PLAN 4x	0.1	14.2	20	~	
	E PLAN 10x	0.25	6.3	20	1.1	
E PLAN LWD INV	E PLAN LWD 20x	0.40	5.5	20	1.1	
	E PLAN LWD 40x	0.60	2.1	20	1.1	
	E PLAN PH 10x	0.25	6.3	20	1.1	
E PLAN PH LWD INV	E PLAN PH LWD 20x	0.40	5.5	20	1.1	
	E PLAN PH LWD 40x	0.60	2.1	20	1.1	
PLAN INV	PLAN 4x	0.1	23.5	22	2	
	PLAN 10x	0.25	7.5	22	1.1	
PLAN LWD INV	PLAN LWD 20x	0.4	7.0	22	1.1	
	PLAN LWD 40x	0.6	2.8	22	1.1	
	PLAN PH 10x	0.25	7.5	22	1,1	
PLAN PH LWD INV	PLAN PH LWD 20x	0.4	7.0	22	1.1	
	PLAN PH LWD 40x	0.6	2.8	22	1.1	



## Motic

Web Site: http://www.motic.com

Motic Incorporation Ltd. (HONG KONG) Rm 2907-8, Windsor House, 311 Gloucester Road, Causeway Bay, Hong Kong

Tel: 852-2837 0888 Fax: 852-2882 2792

**Motic Instruments Inc. (CANADA)** 180-4320 Viking Way Richmond, B.C. V6V 2L4 Canada Tel: 1-877-977 4717 Fax: 1-604-303 9043

For inquiries in UK (UK)
Saracens House, 25 St. Margarets Green, Ipswich, IP4 2BN, Suffolk, UK
Tel: 44-(0)-14732 81909 Fax: 44-(0)-14732 11508

Motic Deutschland GmbH (GERMANY) Gewerbepark Spilburg, Spilburgstrasse 1 D-35578 Wetzlar Germany Tel: 49-6441-210 010 Fax: 49-6441-210 0122

Motic Spain, S.L. (SPAIN)

Polígon Industrial Les Corts, Camí del Mig, 112 08349 Cabrera de Mar, Barcelona Spain Tel: 34-93-756 6286 Fax 34-93-756 6287

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Design Change: The manufacturer reserves the right to make changes in instrument design in accordance with scientific and mechanical progress, without notice and without obligation.



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