Motic®

MORE THAN MICROSCOPY



LS

BA410E

RESEARCH MICROSCOPE PLATFORM



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The BA410 Elite is Motic's brand new approach for a professional research microscope with best image quality options. Universities and laboratories with applications in hematology, cytology and histology will look for this flexible microscope platform with a superb performance in optics and mechanics.

Following Motic's CCIS© Infinity concept, the new Plan Apochromatic objectives may be chosen to get maximum image fidelity. Expanded resolution power in terms of numerical aperture and a stunning color reproduction allow a most reliable sample evaluation in all biomedical environments. The established EC-H Plan Achromatic bright field objectives are integral part of the standard configurations, while Phase contrast is feasible with positive and negative Phase lenses.

The BA410E stand carries an encoded 6-fold nosepiece which memorizes the light intensity setting for each objective position. This light memory function replicates the last setting once the respective objective position is swung in again. The rackless stage without prominent gear rack allows a safe and fast throughput of slides. A ceramic stage insertion withstands abrasion during a long lifetime.

Plenty of illumination power is already supplied by the 50 Watt Halogen version, while the 100 Watt stand is especially recommended in combination with multi-viewing devices. The built-in IR-sensor activates the Auto ON-OFF function in case the microscope is left by the user.

The complete BA410E microscope is manufactured in accordance with European RoHS standards to avoid contact with lead-containing materials. An anti-fungus treatment is applied to all parts of the microscope in order to protect the system in humid environments.

Your Motic Europe team

BA410E

RESEARCH MICROSCOPE PLATFORM



THE MECHANICS

RACKLESS STAGE | EYEPIECE TUBES



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SMART FUNCTIONALITY WITH ERGONOMIC IMPACT

Motic's BA410E displays maximum functionality and ergonomics in all mechanical aspects. Elegant and robust, the microscope stand follows all needs for an intense daily use.

The BA410E standard eyepiece tubes guarantee fatigue-free viewing in terms of viewing angle and improved interpupillary distance, while the "butterfly" movement may increase the viewing height by 60mm for individual positioning.

The rackless stage with its extended travel range enables a fast screening of 2 slides simultaneously, and the ceramic stage insert gives best resistance to mechanical abrasion. The minimum of 1 micron in z-movement allows ultra-smooth focusing of samples under high magnifications.

An optional 4-position filter holder can be inserted into the microscope base for flexible use of various filters in transmitted light.

EYEPIECE TUBES | "Butterfly" movement







THE OPTICS

OBJECTIVES | EYEPIECES



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NEW PLAN APOS FOR NEW INSIGHTS

The Plan Apochromatic correction is the paramount of microscope objective construction. Flatness and color fidelity of the image is driven to the maximum, while expanded numerical apertures reveal new details of the sample. Chromatic and spherical aberrations are minimized for high definition images with true color reproduction.

Within the BA410E, Motic's CCIS© Infinity concept presents this apochromatic level of performance in a complete set of optional bright field objectives, compatible to all BA series models of upright microscopes. Highest quality demands from pathology, histology and hematology can now be satisfied for a reliable diagnosis in routine and research work of hospitals and other biomedical labs.

All significant optical components cooperate for a perfect image: condenser, objectives, tube lens and eyepieces. Since the intermediate image is already fully corrected, no colored fringes will affect professional digital results. A new LWD condenser allows the use of on-stage devices like counting and heating chambers without losing the full Koehler setup.





THE ILLUMINATION

LIGHT SOURCES | LIGHT MEMORY FUNCTION



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A CLEVER AND POWERFUL LIGHT MANAGEMENT

To utilize the potentials of Motic's new developments, the optical concept has to take care about power and quality of illumination. The 50 Watt Halogen stand works fine even with light consuming contrast methods (DF, POL), while the 100 Watt stand is recommended for multi-viewing setups.

The light memory function of the BA410E is based on an encoded 6-fold nosepiece which memorizes the light intensity setting for each nosepiece position. The system replicates this intensity setting once the respective position is swung in again. Any new setting is taken as an overwriting of the former setup.

The built-in IR-sensor activates the Auto ON-OFF function in case the microscope is left for more than 15 minutes and reactivates the microscope by return of the user. From an environmental perspective, this feature saves energy and increases lab safety.

An optional 4-position filter housing in the base of the BA410E stand gives opportunity to utilize any filter desired for an individual illumination quality.

IR-SENSOR



FILTER HOUSING



Auto ON-OFF



THE ACCESSORIES

CONTRAST METHODS | MULTI-VIEWING DEVICES



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NEW TECHNOLOGIES AND WELL-KNOWN TRADITION

Besides the standard packages, the BA410E series offers a variety of optional accessories. Maximum flexibility is given by a Phase turret condenser with all necessary illumination rings, including a darkfield ring, and of course, a respective brightfield position.

Maximum simplicity is offered for the POL contrast. The BA410E setup consists of a polarizer, placed on top of the collector lens, and the rotatable analyzer, pushed into a slot on the front of the microscope stand. A second slot may be used for semi-quantitative analysis with an available First Order Red compensator.

To share the complete visual information, the BA410E series offers multi-viewing devices. Depending on the teaching situation, a face-to-face setup is possible as well as a side-by-side installation. Maximum information can be transferred from teacher to student. A built-in LED pointer helps to emphasize regions of interest. A maximum of 4 additional student positions is possible, while the teacher microscope stand gives plenty of illumination power also for light consuming contrast methods.

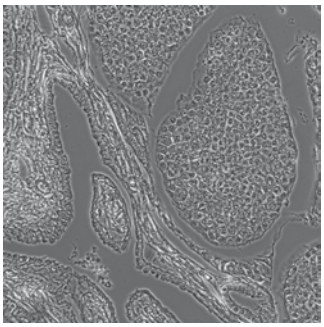


TURRET CONDENSER



PH OBJECTIVES





THE ACCESSORIES

CONTRAST METHODS | FLUORESCENCE



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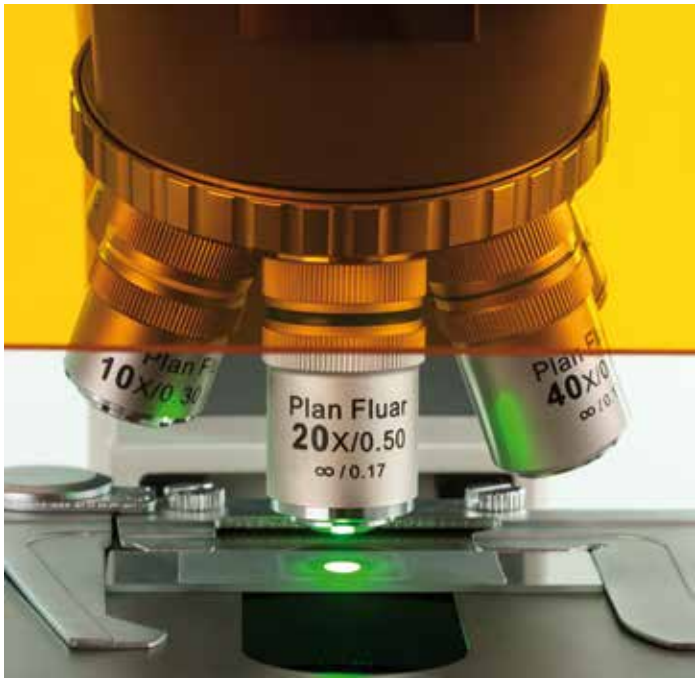


CLASSIC FLUORESCENCE

The modular concept of the BA410 Elite allows an easy upgrade to an EPI-Fluorescence microscope by using the established fluorescence attachment with slider mechanism. This device may carry up to 4 filter cubes.

A complete range of filter cubes is available, covering all routine applications from UV up to NIR excitation. Equipped with band pass barrier filters, multi color applications can also be performed.

The 100 Watt HBO lamp house with integrated mirror for improved light management offers a powerful excitation for brighter signals. In order to avoid unnecessary fading, the excitation intensity can be adjusted by the power supply. In combination with a CCD camera from Motic's Professional series, excellent images results are ensured.



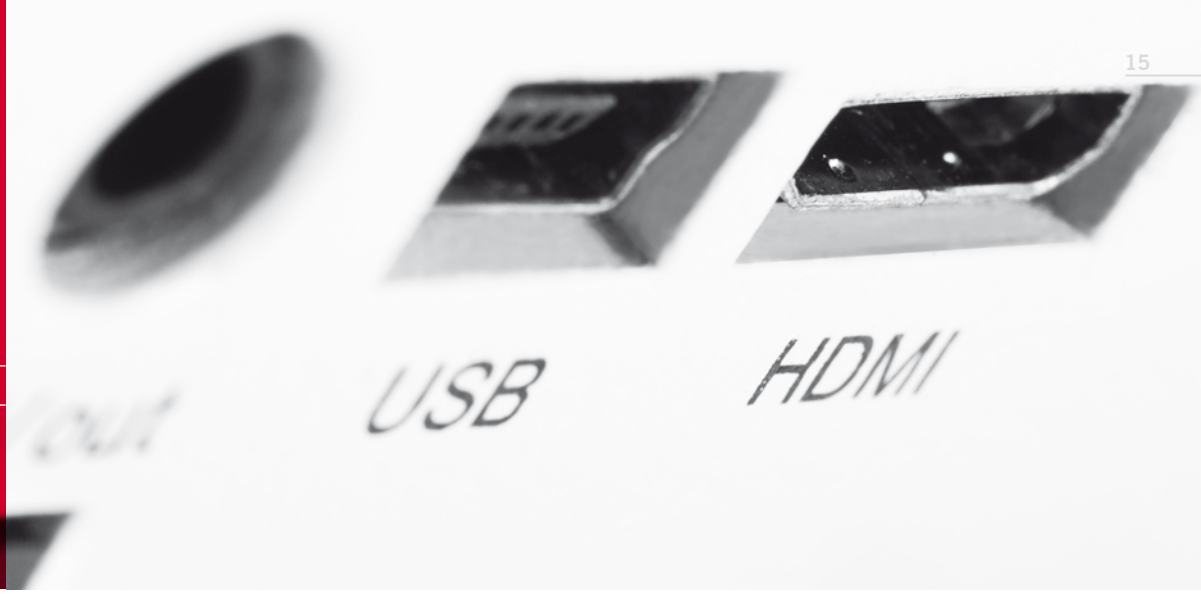


DOCUMENTATION

STANDARD PHOTOMICROGRAPHY | DIGITAL DOCUMENTATION



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REPRODUCIBLE DOCUMENTATION RESULTS OF HIGH RELIABILITY

Documentation is a key issue in every aspect of microscopy, with highest importance in biomedical applications and industrial quality control. The BA410E follows this requirement like all Motic BA microscopes with traditional methods (photomicrography) or more flexible c-mount solutions.

Traditional photomicrography requires the trinocular version of the BA410E. This setup delivers high resolution images of small fields. Live images can be supplied by the software of the SLR camera manufacturer.

A more convenient approach is provided by Motic's philosophy of easy digitization. The combination of the BA410E with a member of the Moticam camera series delivers excellent live images with a large field that can easily be saved for future analysis. The necessary c-mount adapter has to be chosen in relation to the chip size of the digital camera. All Motic cameras come equipped with a complete software package to transform the BA410E into an analysis and documentation station.

For limited bench-top space, Moticam 580 and Moticam 580INT are ideal solutions, as both cameras can deliver High Definition images through an HDMI port without a computer.





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BA410E
STANDARD CONFIGURATION
& OPTIONAL ACCESSORIES





	General Specifications	Optional Configuration
Optical system	CCIS®	
Observation system	Siedentopf 30°	
Interpupilary distance (mm)	48-75	
Eyepieces	N-WF 10X/22	N-WF 12.5X/18; N-WF 15X/16
Eyepieces diopter adjustment	+/- 5 dpt	
Reticles (Ø25mm)		Crosshair 10mm/100 divisions Crossed double scale 10mm/100 divisions
Trinocular light split	100:0/20:80	100:0/0:100
Nosepiece	Reversed sextuple	
Objectives EC-H Plan Achromats	4X/0.10; 10X/0.25; 40X/0.65; 100X/1.25 Oil	2X/0.05; 20X/0.45; 60X/0.80
Objectives EC-H Plan Achromats +/- Phase		10X/0.25; 20X/0.45; 40X/0.65; 100X/1.25 Oil
Objectives Plan Fluar		4X/0.13; 10X/0.30; 20X/0.50; 40X/0.75; 50X/1.0 Oil; 100X/1.30 Oil
Objectives Plan Apo		4x/0.15; 10X/0.35; 20X/0.65; 40X/0.95; 100X/1.30 Oil
Objective mounting thread RMS standard (W 4/5'' X 1/36'')	Yes	
Built-in coaxial mechanical stage with ceramic stage insert	Yes	
Stage size (mm)	180 x 170	
Travel range (mm)	80 x 55; rackless	
Upper limit stop	Preset; adjustable	
Condenser	Swing out Abbe type N.A.0.9; aperture diaphragm	Phase contrast 5 position turret condenser (BF, DF, PH1, PH2, PH3) LWD Achromatic condenser N.A.0.65 (WD 10.8 mm) Abbe condenser 0.90/1.25; with slot for Phase/DF sliders
Focus mechanism	Coaxial; tension adjustment	
Fine focus precision (µm)	1	
Z-axis movement (mm)	27	
Filter holder with fixing cap	Yes	
Filter cassette 4 position		Yes
Illumination	Quartz halogen 12V/50W	LED 3W (LED module not included)
Halogen / LED interchangeability	External	
Illumination position	Yes	
Koehler	Yes	
Auto ON-OFF	Yes	
Light memory function		
Multi-Viewing devices	Built-in (50W); External (100W)	Dual/3-head/5-head
Transformer	110-240V (CE)	
Power supply	Blue	
Filters		Green, yellow, green interference, neutral density, didymium

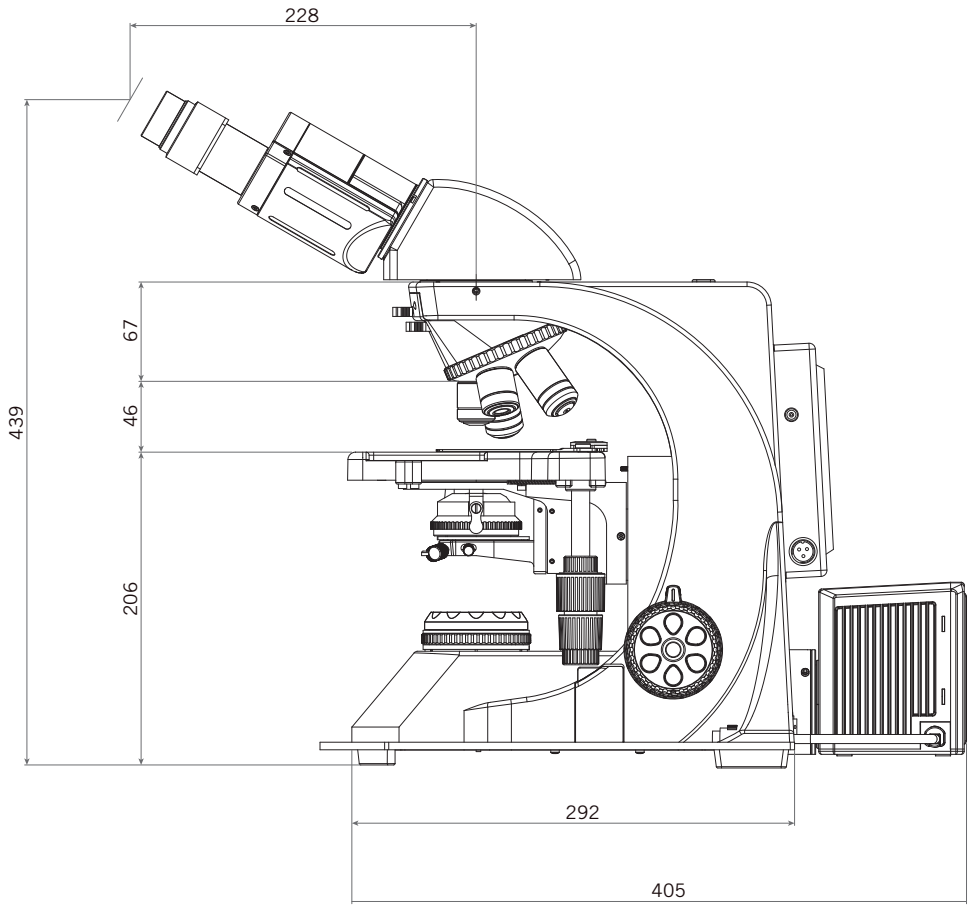
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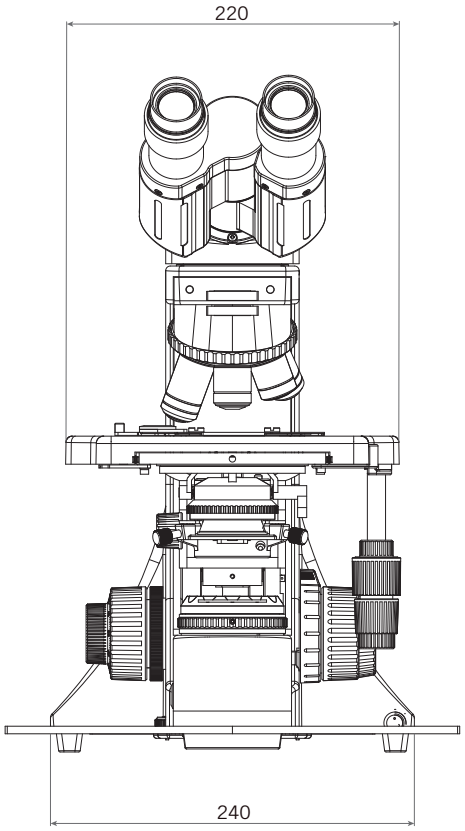
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BA410E

STANDARD CONFIGURATION & OPTIONAL ACCESSORIES
SCHEMATIC DIAGRAMS (units: mm)

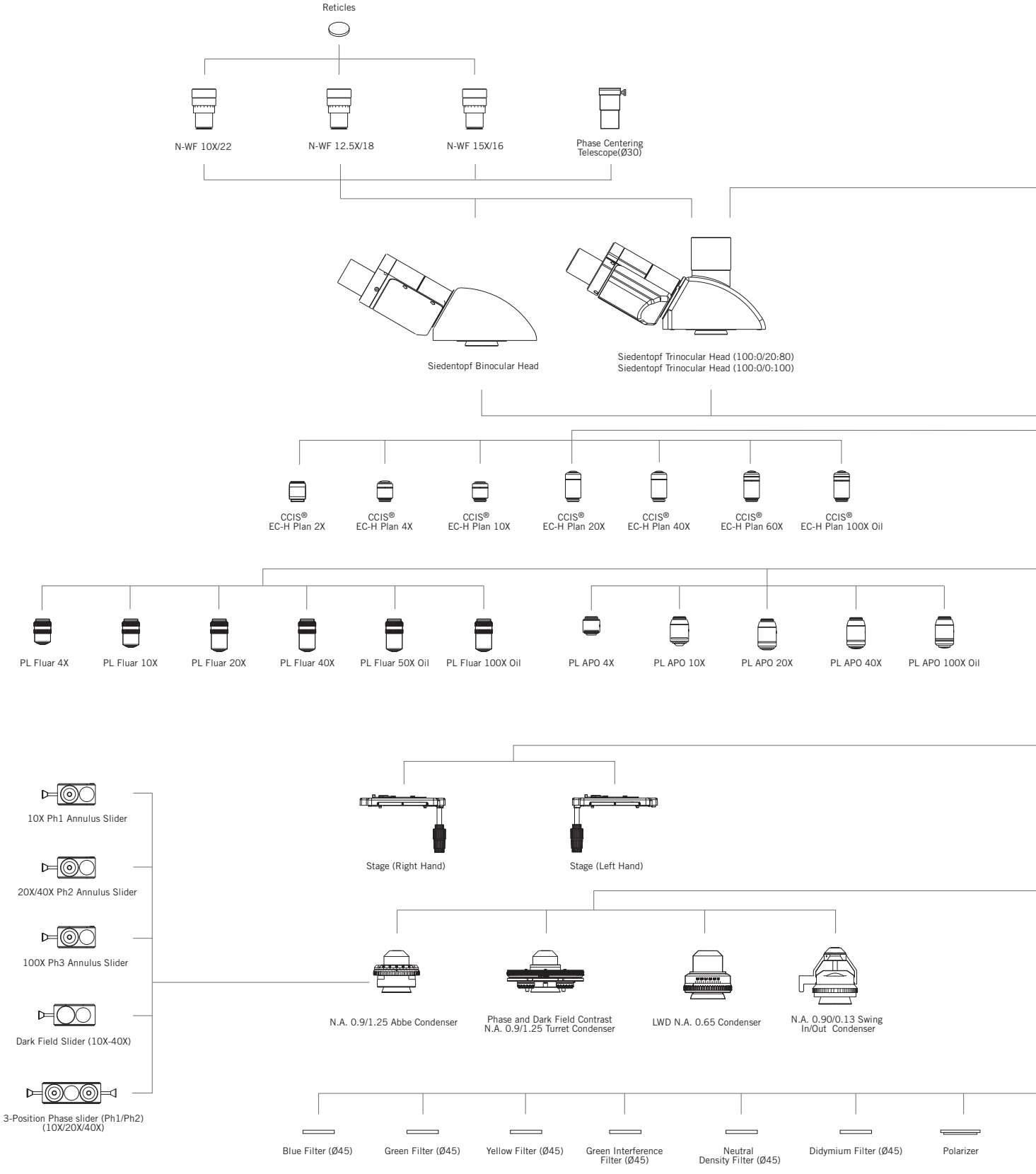
*	General Specifications	Optional Configuration
Dimensions (mm)	550 x 242 x 435 (50W); 592 x 242 x 435 (100W)	
Weight (Kg)	14,2	
Contrast techniques		
Brightfield	Yes	
Phase contrast		Slider & Turret
Darkfield		Slider & Turret
Simple Polarization		Yes
HBO Fluorescence		Yes





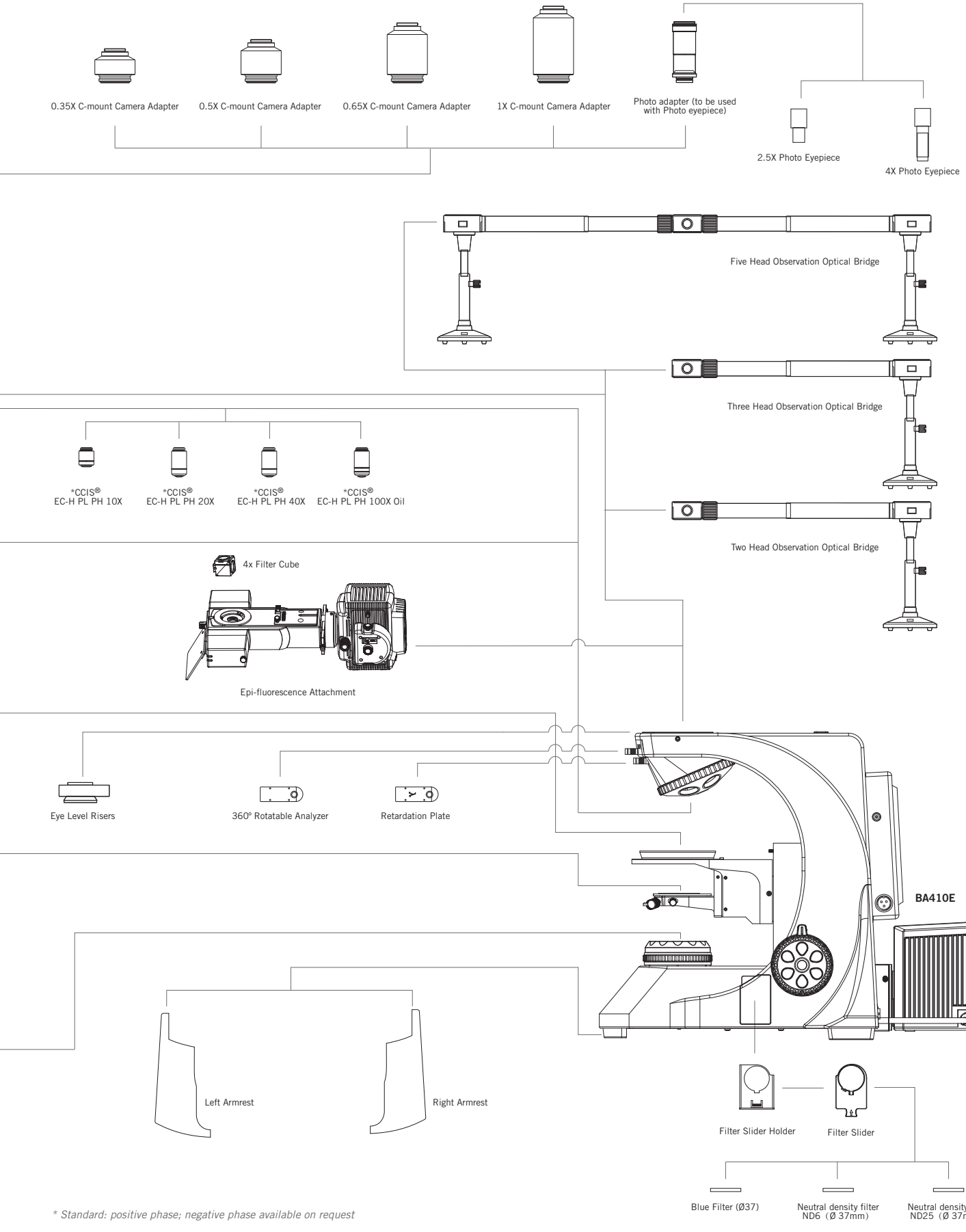
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BA410E
SYSTEM DIAGRAM



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BA410E
SYSTEM DIAGRAM



** Standard: positive phase; negative phase available on request*

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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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Official Distributor: