Motic®

MORE THAN MICROSCOPY

LS

AE31E

LIVE CELL MICROSCOPE PLATFORM

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The AE31 Elite is Motic's new statement for a professional inverted microscope providing best image quality, ergonomic design and clever illumination features. The AE31E is the perfect platform for all kind of routine microbiology applications in clinical and pharmaceutical laboratories with best options for university research environments.

In full accordance with Motic's CCIS© Infinity System, the new LWD Plan Achromatic objectives with an intelligent Phase contrast concept deliver a remarkable image quality. Phase contrast is an integral part of all standard packages, while the optional 4X Phase objective is dedicated to fast screening.

The AE31E stand carries an encoded 5-fold nosepiece with a light memory function. The illumination intensity for each objective position is memorized and replicated once the respective objective is swung in again. Rich illumination power is given by the 30 Watt Halogen light source in a Full-Koehler configuration, simply interchangeable with 3W LED modules of different color temperatures. For maximum power requests, a 100W Halogen version is available.

The Auto ON/OFF function, based on a built-in IR-sensor, deactivates the microscope in case it is left by the user; no need for a final instrument check when work is finished.

An upgrade with fluorescence is offered for the entry level of research applications. Documentation is facilitated by the 100:0/0:100 light split option for shortest possible exposure times.

The complete AE31E microscope is manufactured in compliance with European RoHS standards to avoid contact with lead-containing materials. An anti-fungus treatment is applied to all parts of the microscope to protect the system in humid environments.

Your Motic Team

AE31E

LIVE CELL MICROSCOPE PLATFORM

THE MECHANICS

STAND & STAGE | EYEPIECE TUBES

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SMART FUNCTIONALITY WITH ERGONOMIC BASIS

Motic's AE31E displays maximum functionality and ergonomics in all its mechanical aspects. Elegant and robust, the microscope stand follows all needs for an intense daily use. The fixed stage plate with optional lateral extensions carries a glass or metal insert for quick overview and comfortable change of objectives. An attachable x/y object guide for a convenient sample evaluation under high magnifications is available.

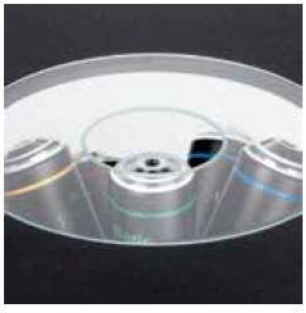
The fine focus with a step size of 2 microns allows a smooth drive through cell cultures by the Long-Working-Distance objectives. For best possible documentation of fluorescence images, a 100:0/0:100 trinocular light split for maximum luminous efficiency can be supplied.

The AE31E eyepiece tubes guarantee a fatigue-free work in terms of viewing angle and improved interpupillary distance, while the "butterfly" movement may increase the viewing height by 60mm for individual positioning.

EYEPIECE TUBES | Extended "Butterfly" adjustment

METAL STAGE INSERT

GLASS STAGE INSERT



THE OPTICS

OBJECTIVES | EYEPIECES

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NEW LWD PLAN ACHROMATS FOR EFFICIENT WORK

Motic's new LWD Plan Achromatic objectives for inverted microscopes carry a clever concept for Phase contrast. One illumination ring (Ph1) covers the objective magnifications from 10X up to 40X: no need to move the Phase ring slider. The optional 4X Phase lens needs Phase ring Ph0 and is dedicated to quick and efficient sample screening.

An optimized multi-layer coating for improved contrast as well as carefully selected glass quality for better transmission leads to significantly brighter images. Motic is pleased to offer this newly developed optics following the RoHS standard for lead-free manufacturing.

All 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.

PLAN ACHROMAT PHASE OBJECTIVES (PL & LWD PL)

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 illumination concept has to take care of power and quality. All stand versions carry the Full-Koehler setup. The 30 Watt Halogen light source is standard in the AE31E and displays a full interchangeability with 3 Watt LED modules of different color temperatures (4500K, 6000K). The 100 Watt Halogen version is recommended for maximum illumination power.

The light memory function of the AE31E is based on an encoded 5-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 adjustment 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.

100 WATT HALOGEN VERSION

THE ACCESSORIES

CONTRAST METHODS | FLUORESCENCE

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NEW TECHNOLOGIES AND WELL-KNOWN TRADITION

The basic packages of the AE31E already offer the full functionality of a microbiology working platform. An immediate start of work is possible, keeping further add-on options in mind. Phase contrast from 10X to 40X objective magnification is an integral part of all standard packages. The easy upgrade with fluorescence rests upon the established fluorescence attachment with slider mechanism.This device may carry up to 3 filter cubes. A complete range of filter combinations is available, covering routine applications from UV up to NIR. Equipped with band pass barrier filters, multi color stainings can also be treated.

The 100 Watt HBO lamp house with integrated mirror for increased light intensity offers a powerful excitation for brighter signals. In combination with a Moticam digital camera, excellent image results are ensured.

MECHANICAL STAGE

FILTER CUBES SLIDER MECHANISM

3-POSITION PHASE SLIDER

DOCUMENTATION

STANDARD PHOTOMICROGRAPHY | DIGITAL DOCUMENTATION

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REPRODUCIBLE DOCUMENTATION RESULTS WITH HIGH RELIABILITY

Documentation is a key issue in every aspect of microscopy, with special importance in biomedical applications like microbiology. The AE31E allows to follow this requirement by traditional photomicrography or more flexible C-mount solutions. Traditional photomicrography requires the trinocular version of the AE31E, offering a 100:0/0:100 trinocular light split for shortest possible exposure times. This setup delivers high resolution images of small fields. Live images for presentation and discussion may 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 AE31E with a member of Motic's camera series delivers excellent live images which can easily be presented to a larger public and saved for future analysis. All Moticams come equipped with a proprietary software package to transform the AE31E into an analysis and documentation station. For limited bench-top space, the model Moticam 580 is ideal for the presentation of High Definition images on an HDMI screen without a computer. Motic's new tablet cameras allow a quick sample inspection without having a look through the eyepieces.

MOTICAM TABLET SOLUTIONS

SPECIFICATIONS

AE31E
STANDARD CONFIGURATION
& OPTIONAL ACCESSORIES

	General Specifications	Optional Configuration
Optical system	CCIS®	
Observation system	Swiveling 360° with 45° inclination	
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	20/80	0/100
Nosepiece	Quintuple, side orientated	
Plan Achromat objectives	4X/0.10; Ph 10X/0.25; LWD Ph 20X/0.3; LWD Ph 40X/0.5	Ph 4X/0.10; 10X/0.25; LWD 20X/0.3; LWD 40X/0.5
Objective mounting thread RMS standard (W 4/5'' X 1/36'')	Yes	
Phase ring	Ph1 - universal phase ring from 10X up to 40X	Ph0 - for Ph 4X
Size stage plate (mm)	200 x 239	
Attachable x/y stage with inserts		Yes
Condenser	ELWD condenser N.A. 0.3 (WD 72mm)	LWD condenser N.A. 0.5 (WD 28mm)
Focus mechanism	Coaxial; tension adjustment	
Fine focus precision (µm)	2	
Z-axis movement (mm)	10	
Illumination	30W Halogen/3W LED; 100W Halogen	
Halogen / LED interchangeability	Only in 30W version	
Illumination position	Built-in	
Koehler	Yes	
Auto ON/OFF	Yes	
Light memory	Yes	
Transformer	30W Halogen/3W LED Built-in; 100W external	
Power supply	110-240V (CE)	
Filters	Blue, Ground glass, Green	Didymium, ND filters
Dimensions (mm)	556 x 200 x 529 for 30W; 629 x 200 x 595 in 100W	
Weight (Kg)	11,7 (30W); 13,2 (100W)	
Contrast techniques		
Brightfield	Yes	
Phase contrast	Yes	
HBO Fluorescence		Yes

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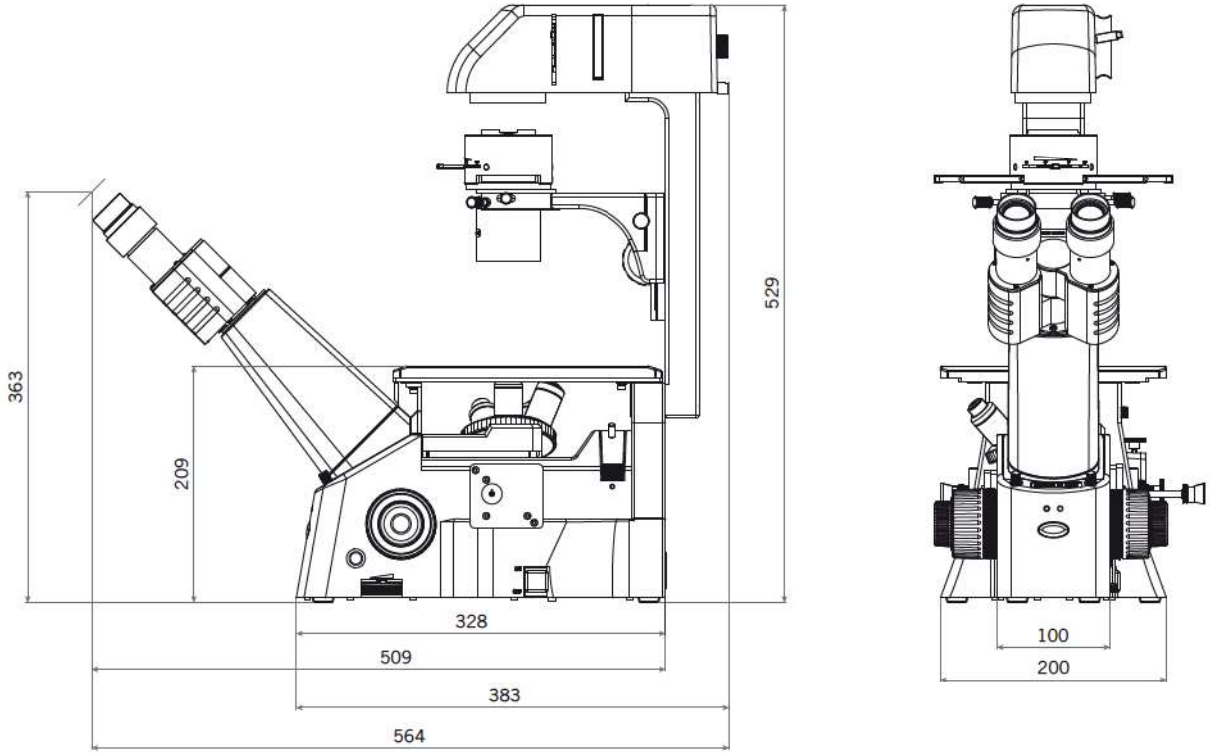
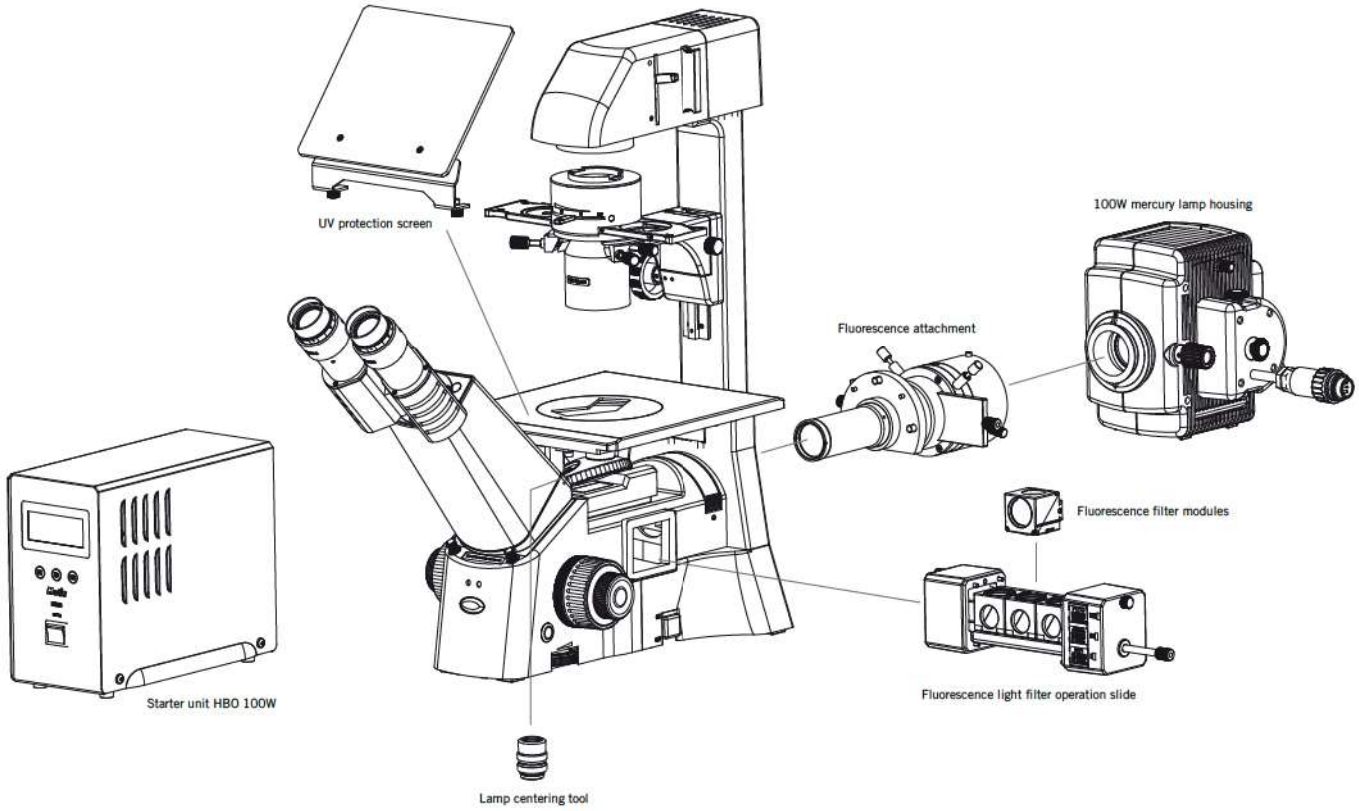
AE31E
SCHEMATIC DIAGRAMS (units: mm) & HBO FLUORESCENCE DIAGRAM





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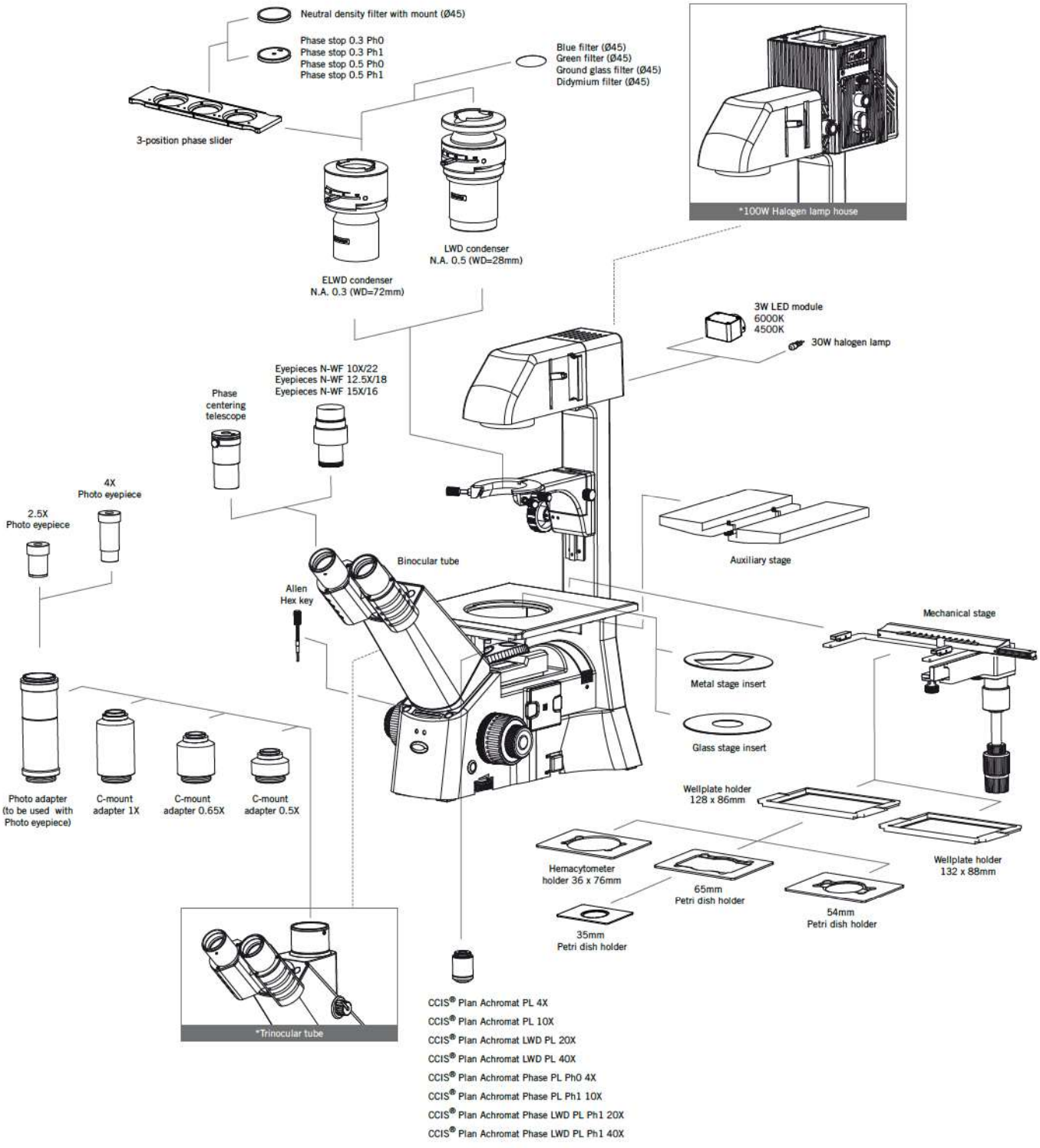
AE31E
SYSTEM DIAGRAM



**Tube version (binocular; trinocular) as well a illumination (30W Hal/3W LED; 100W) are integral part of the respective microscope model and not interchangeable.*

HIGHLIGHTS

OBJECTIVES | PHASE CONTRAST | ILLUMINATION

OBJECTIVES

New LWD Plan Achromatic objectives
Significantly brighter images thanks to an optimized multi-layer coating as well as carefully selected glass quality.

PHASE CONTRAST

New Phase Contrast concept
No need to move the phase ring slider, one illumination ring (Ph1) covers the objective magnifications from 10X up to 40X.

ILLUMINATION

Light memory function
The encoded 5-fold nosepiece memorizes the illumination intensity for each objective position, no need to adjust it again.

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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: