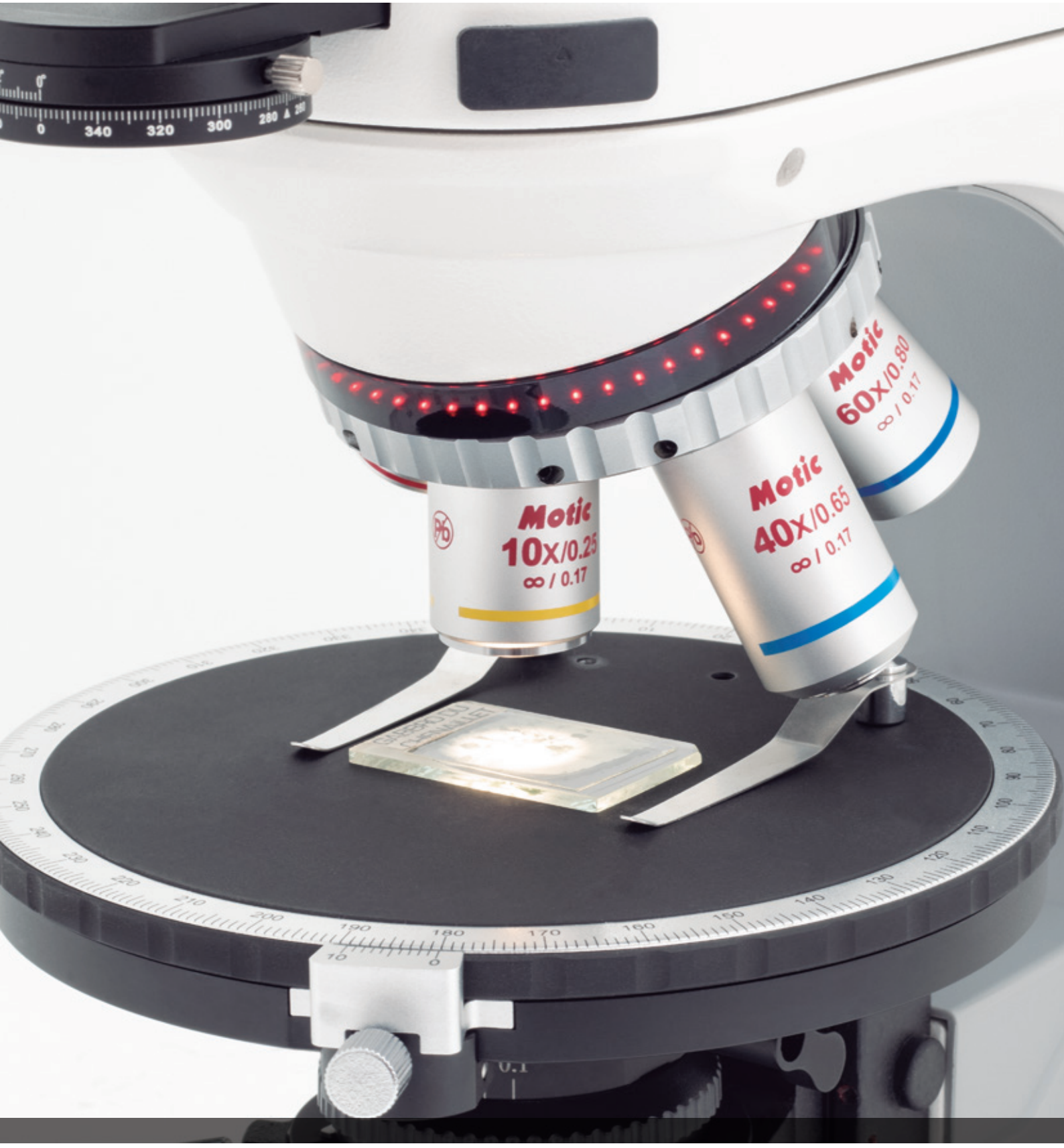
Motic®

MORE THAN MICROSCOPY

TEC POL SERIES



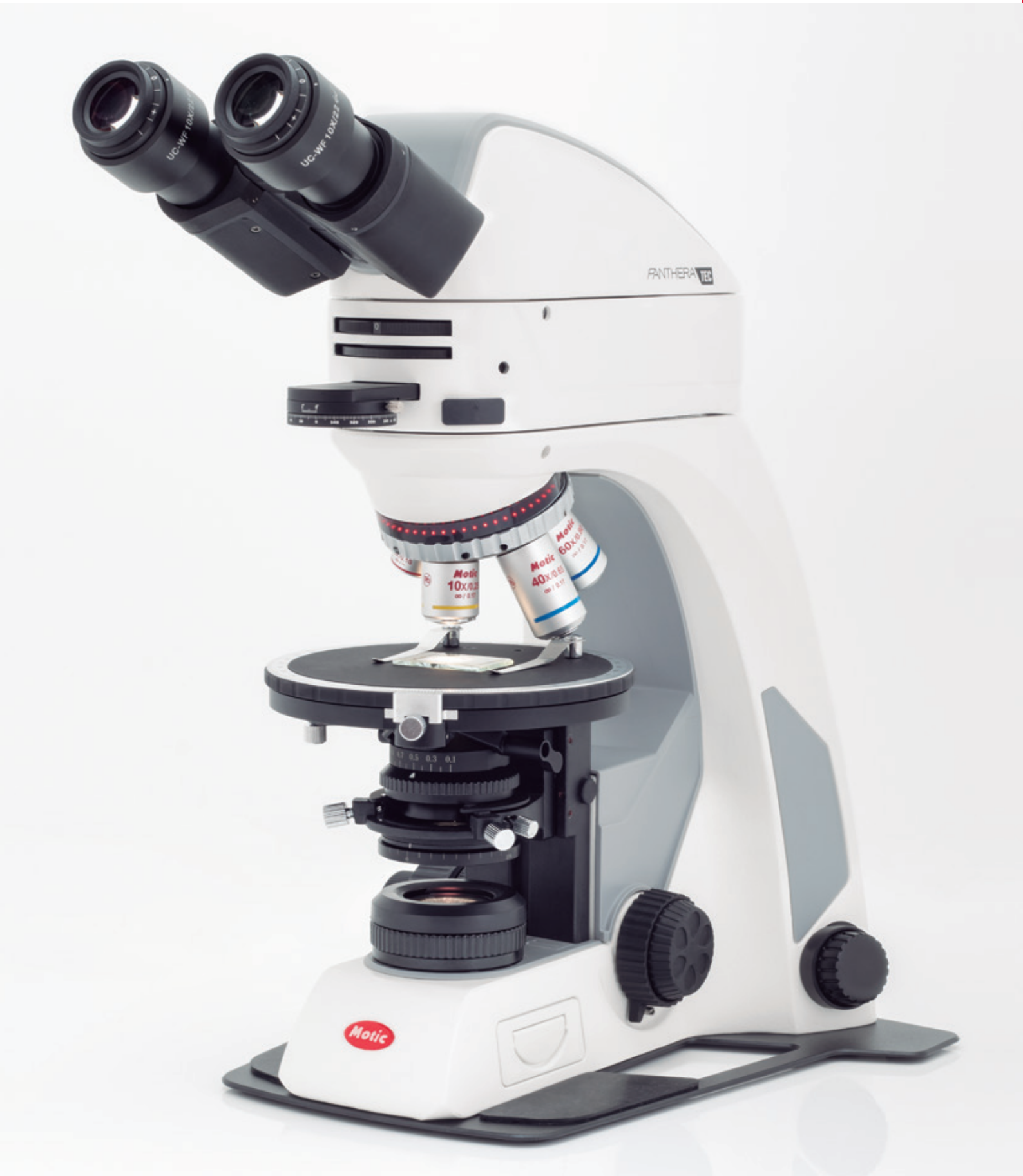

# PANTHERA TEC POL SERIES

FLEXIBLE MICROSCOPE SYSTEM FOR POLARIZING MATERIALS

# PANTHERA TEC POL SERIES

## POWERFUL SOLUTIONS FOR INCIDENT AND TRANSMITTED LIGHT METHODS

The Panthera TEC POL series fills a last gap in the Panthera family: Polarization microscopes for all material sciences, ready to handle transparent samples like fibers and foils with their inherent birefringence. The Incident light models for opaque materials work out the specific reflectivity (bireflection) of flat surfaces. To extend the application fields, all microscopes carry an intermediate tube with Bertrand lens to analyze the crystal structure and interference figures of gems, precious stones and minerals.



UC Plan Achromat objectives (strain-free) for FOV 22mm

Transmitted and transmitted/ incident stand options

Transmitted light: LED/HAL light source interchangeable

Integrated focusable/ centerable Bertrand lens

Motic LightTracer: Coded nosepiece & Digital light intensity knob

## FLEXIBLE MICROSCOPE SYSTEM FOR POLARIZING MATERIALS

The Panthera TEC POL models present a high flexibility for the inspection of all kind of polarizing materials, for transparent samples as well as for opaque specimen from technical education environments and industrial quality control. Even transparent birefringent structures from biology and medicine (heart muscle cells, secondary cell walls, etc.) can be detected by the Full Koehler illumination with exchangeable LED/Halogen light source. In incident light, a 3W LED is integrated in a Brightfield illumination setup with Aperture and Field diaphragm.

The Panthera TEC POL models feature UC Plan Achromat objectives with focus on a strain-free mounting for maximum darkness of the image background.

A 5-fold encoded nosepiece memorizes the light intensity for each objective position to replicate the illumination once the objective is swung in again.

The compact Epi illuminator carries a slot for polarizer and analyzer, ready to set up Polarization contrast and to reduce internal reflections. An Intermediate tube with focusable/centerable Bertrand lens is prepared for a conoscopic analysis of crystals and minerals in transmitted light.

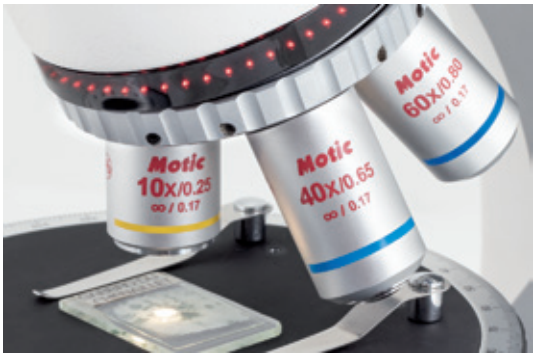
The extended 22mm Field of View (FOV) offers 21% more visual area in comparison to a basic 20mm FOV system. All trinocular versions (25° viewing angle) have a fixed beam split of 50/50 (visual/camera port).

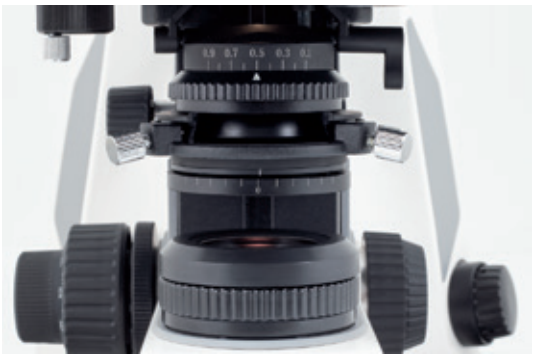
The Panthera TEC POL models are clearly focused on material sciences. The 3W LED incident light source can easily be changed to different color temperatures (3500K/5500K). The incident/transmitted stands additionally carry a Full Koehler illumination with LED/Halogen interchangeability.

The 360° rotatable stage runs smooth for an easy positioning of the sample, bringing interesting regions precisely into the crossing point of the eyepiece reticle.

With Panthera TEC POL models now also opaque industrial samples can be examined to detect bireflection of flat polished/etched surfaces.

Brilliant optics for significant image results, flexible setups with a smart illumination concept, models with integrated camera to document and to share images: The Panthera TEC POL series is ready to facilitate your daily work significantly.



# SPECIFICATIONS

## PANTHERA TEC POL

| Model | Panthera TEC POL | Panthera TEC POL Epi | Panthera TEC POL Digital | Panthera TEC POL Epi Digital | Panthera TEC POL (i) |
|---|---|---|---|---|---|
| Optical system | Colour Corrected Infinity Optical System (CCIS®) | | | | |
| Observation tube | Binocular or Trinocular head, Siedentopf type | | Binocular head, Siedentopf type with built-in digital camera | | |
| Sensor type | - | | CMOS | | |
| Sensor size | - | | 1/2.5" | | 1/3" |
| Capture resolution | - | | 5MP (2592x1944) | | 4MP (2592x1520) |
| Live display mode through (Wi-Fi) | - | | 1920x1080 (Full HD) | | 1280x720, 1920x1080 (Full HD) |
| Live display mode (through ethernet) | - | | 1280x720, 1920x1080 (Full HD) | | |
| Live display mode (through HDMI) | - | | 1280x720, 1920x1080 (Full HD) | | - |
| Data transfer | - | | Wi-Fi, HDMI, Ethernet | | Wi-Fi (2.4 & 5 GHz), Ethernet |
| Inclination | 25º inclined | | | | |
| Trinocular light split | Fixed 50:50 | | - | | |
| Interpupillary distance (mm) | 48-75mm | | | | |
| Diopter adjustment | On both eyepieces, +/- 4 diopter | | | | |
| Eyepieces | Widefield UC-WF10X/22mm with diopter adjustment | | | | |
| Nosepiece | Reversed quintuple, coded with single centering holes | | | | |
| Intermediate Body | Rotatable analyzer 360º, Bertrand lens and slot for compensators | Epi-illuminator LED with rotatable analyzer 360º, Bertrand lens, fixed polarizer and slot for compensators | Rotatable analyzer 360º, Bertrand lens and slot for compensators | Epi-illuminator LED with rotatable analyzer 360º, Bertrand lens, fixed polarizer and slot for compensators | Rotatable analyzer 360º, Bertrand lens and slot for compensators |
| Objective classification | CCIS® UC Plan Achromatic (strain-free), DIN | | | | |
| Objectives | 4X/0.1 (WD 30.5mm), 10X/0.25 (WD 17.4mm), 40X/0.65/S (WD 0.6mm), 60X/0.8/S (WD 0.35mm) | | | | |
| Objective mounting thread | W 4/5"x1/36" (RMS standard) | | | | |
| Stage | Circular rotating 360º, lockable | | | | |
| Stage size (mm) | Ø160mm | | | | |
| Travel range (degrees) | 1º increments, 0,1º vernier scale | | | | |
| Condenser | Focusable and centerable Achromat Swing-out Abbe condenser N.A. 0.90/0.13 (strain-free) and rotatable polarizer | | | | |
| Diaphragm | Iris diaphragm | | | | |
| Focus mechanism | Coaxial coarse and fine focusing system with tension adjustment | | | | |
| Fine focus precision | 2µm | | | | |
| Focusing stroke | 25mm | | | | |
| Upper limit stop | Upper limit stop preset but adjustable | | | | |
| Filter holder | On top of the illuminator with fixing cap | | | | |
| Illumination type (Incident light from Intermediate) | - | LED 3W with integrated field and aperture diaphragms | - | LED 3W with integrated field and aperture diaphragms | - |
| Illumination type (Transmitted light from stand) | Koehler Quartz halogen 6V/30W with intensity control | | | | |
| Illumination interchangeability | Halogen/LED and LED color temperature interchangeability | | | | |
| Illumination features | Motic LightTracer: Light memory, sleep mode (auto on-off), nosepiece LED light intensity and mode indicator | | | | |
| Power supply | 110-240V (CE) | | | | |
| Other features | USB 2.0 for external camera power | | USB 2.0 for external Devices (x2) | | - |
| Accessories included | Dust cover, power cord, Allen key, blue filter, halogen bulb, LED module, adjustable key for nosepiece, interference color chart, screws for metal extension support | | Dust cover, power cord, Allen key, blue filter, halogen bulb, LED module, adjustable key for nosepiece, interference color chart, screws for metal extension support, HDMI Cable and Wi-Fi USB dongle (except Panthera TEC POL (i)), calibration slide | | |
| **Contrast techniques** | | | | | |
| Brightfield | Yes | | | | |
| Polarization | Yes | | | | |

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