Motic®

MORE THAN MICROSCOPY

TEC

PANTHERA TEC POL

FLEXIBLE MICROSCOPE SYSTEM FOR POLARIZING MATERIALS

PANTHERA TEC POL

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 LED 3W & 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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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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