OLYMPUS®

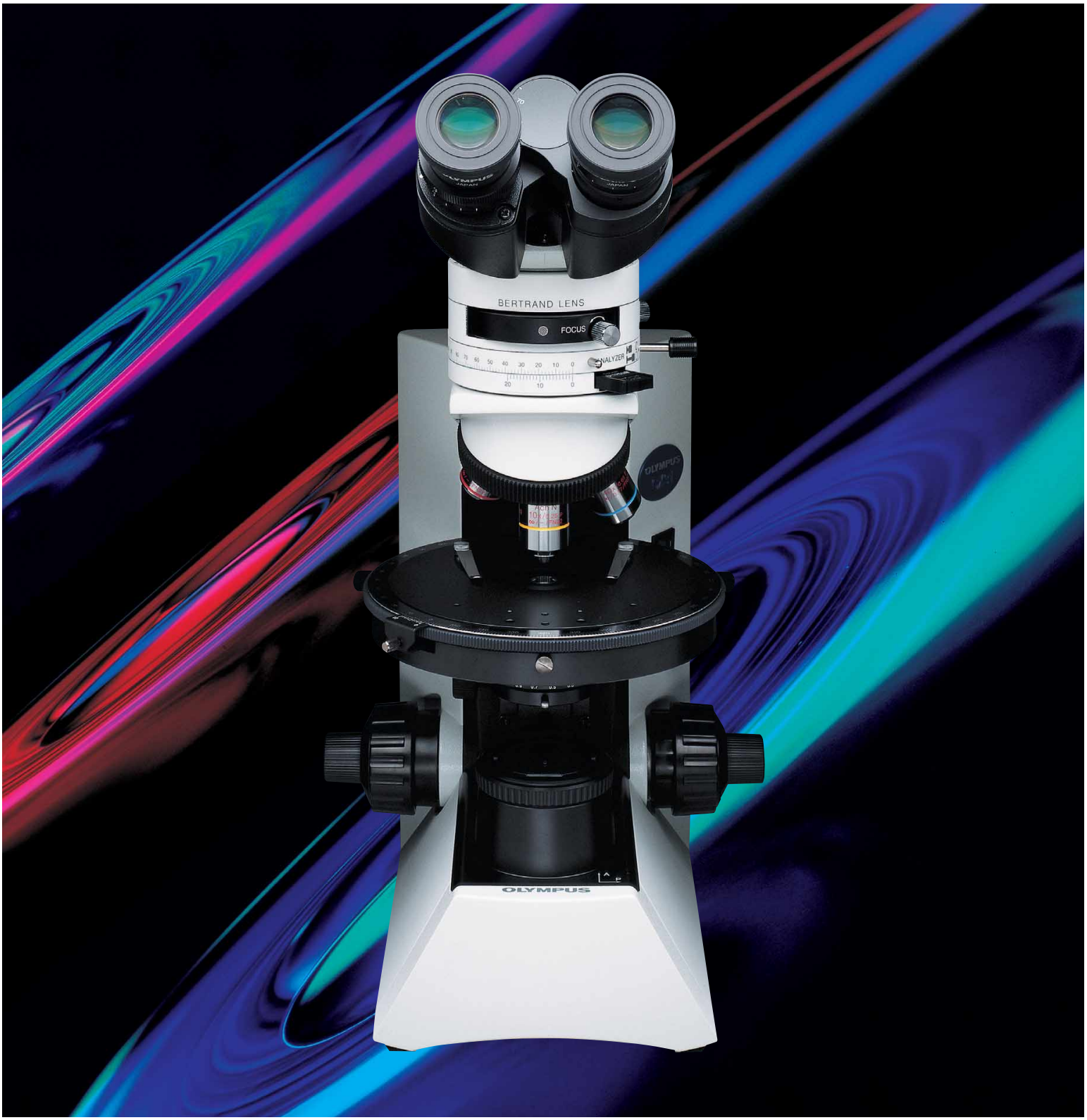
Your Vision, Our Future

POLARIZING MICROSCOPE

CX31-P

UIS2
World-leading optics

Quality, performance and versatility for multiple applications, from education to research



Polarizing microscope CX31-P: superb image clarity and sophisticated functions for high throughput in routine medical and industrial inspections.

The CX31-P is a high-quality polarizing microscope that's ideal for training, with the wide-ranging functions and superior durability required in every field of research.
Its excellent optical performance is matched with the versatility to meet the demands of many different kinds of applications, from double-refraction examination of the structure and characteristics of transparent specimens to complex analyses of rocks, fibers, macromolecules and new materials.

Central control, with compact intermediate attachment U-PA for orthoscopic and conoscopic observation
Every kind of operation is made easier by this microscope's central control, including the detachment/attachment of a Bertrand lens to switch between orthoscopic and conoscopic observations, focusing of conoscopic images, and rotation or detachment/attachment of analyzer and clump at any angle.

Compatibility with several compensators to meet various different needs
The same slot is used for attachment of a tint plate, a 1/4 wavelength plate and compensators for measuring retardation.

Special polarizing objective lenses with minimal distortion
The CX31-P accommodates high-performance polarizing observation objective lenses including the PLN4xP, ACHN-P series and UPLFL-P series. As well as minimizing optical distortion, these objective lenses feature improved polarizing performance to obtain sharp, high contrast images.

Precision adapter maintaining accurate center of field of view
U-CTAD centering adapters for objective lenses are provided for precise polarized observations and easy magnification change.

Superior frame rigidity prevents blurred images
Frame rigidity is crucially important, maintained by optimizing the alignment of systems inside the microscope body, including the focusing mechanism and stage supporting system. As well as stable and steady optical performance, the CX31-P features a rotatable stage with vernier for outstanding durability.

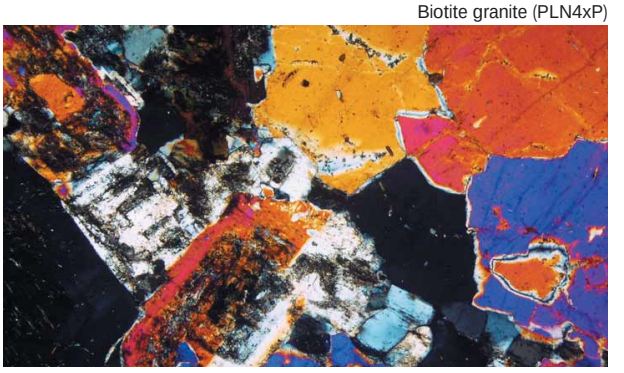
New binocular tube (U-BI30P) that prevents crossline slant
A newly developed binocular tube prevents the crossline slant that can be caused by adjusting the interpupillary distance. In addition, the direction of polarizing light oscillation can be precisely aligned.

Ideal for medical/biological applications, including gout inspection
Gout inspections can be performed simply and easily by attaching a U-GAN analyzer via the polarizing intermediate attachment U-KPA. This combination is also effective in making inspections for amyloid and urinary resident or observing living cells in muscular tissue.

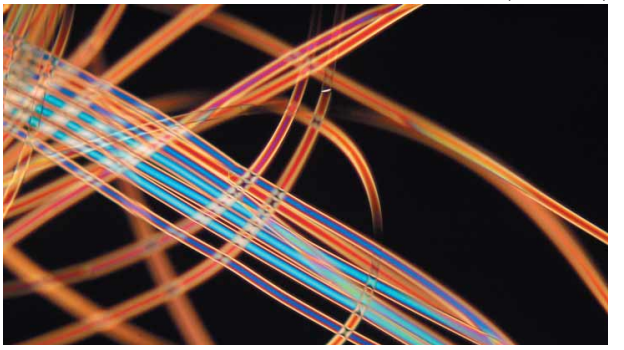
Easy attachment of mechanical stage
U-FMP mechanical stage can be attached, making it easy to move specimens into the desired position.

Trinocular observation tubes for integrating micro-imaging system
Trinocular observation tubes to attach Olympus digital cameras or various cameras are provided to allow micro-imaging.

Biotite granite (PLN4xP)



Tencel (ACHN20xP)



ACHN-P series objective lenses +U-CTAD centering adapters

U-FMP mechanical stage

Intermediate units

Compensators

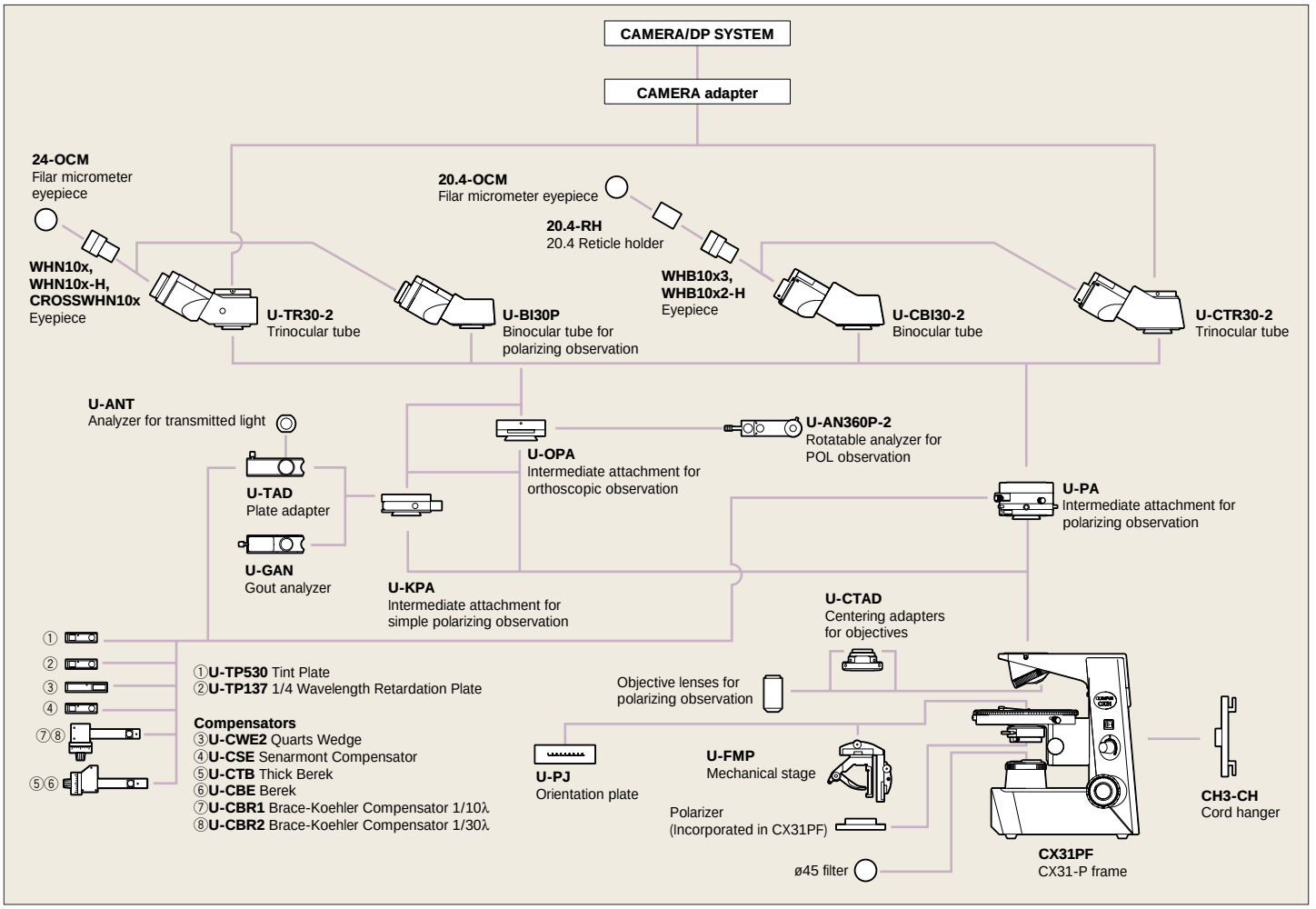
Plates

Plate	Applications
①U-TP530 tint plate	Can effect easily visible color changes even with faintly tinted samples.
②U-TP137 1/4 wavelength retardation plate	Used to change linear polarized light to circular polarized light and vice versa.

Measuring range of compensators

Compensators	Measurement range	Applications
③U-CWE2 quarts wedge	550-2,200 nm (4λ)	Approximate measurement of retardation level (crystal, macromolecules, etc.)
④U-CSE Senarmont	0-546 nm (1λ)	Measurement of retardation level (crystals, living organisms, etc.), Enhancement of image contrast (living organisms, etc.)
⑤U-CTB Thick Berek	0-11,000 nm (20λ)	Measurement of high retardation level (3λ<R*<20λ), (crystals, macromolecules, fibers, light elasticity strain, etc.) *R=retardation level
⑥U-CBE Berek	0-1,640 nm (3λ)	Measurement of retardation level (R*<3λ), (crystals, macro-molecules, fibers, living organisms, etc.) R=retardation level
⑦U-CBR1 Brace-Koehler 1/10λ	0-55 nm (1/10λ)	Measurement of low retardation level (living organisms, etc.)
⑧U-CBR2 Brace-Koehler 1/30λ	0-20 nm (1/30λ)	Enhancement of image contrast (crystal, macromolecules, etc.)

CX31-P SYSTEM DIAGRAM



CX31-P specifications

Item		Specifications	
Optics		UIS2 optical system (infinity-corrected)	
	Objective lens	Objective lenses for polarized light observation, ACHN-P series, UPLFL-P series and PLN4xP	
	Eyepiece	WHN10x, WHN10x-H, CROSSWHN10x	Field Number: 22
		WHB10x3, WHB10x2-H	Field Number: 20
Observation tube	Binocular	U-BI30P	Field Number 22
		U-CBI30-2	Field Number: 20
	Trinocular	U-TR30-2	Field Number 22, observation optical path binocular:straight tube = 100:0/20:80/0:100
		U-CTR30-2	Field Number: 20, observation optical path fixed binocular:straight tube= 50:50
Conoscopic Intermediate tube (U-PA)	Bertrand lens	Incorporated, detachable, focusable	
	Changeover between orthoscopic/conoscopic observation	Engage or disengage of Bertrand lens Position: ● IN Position: ○ OUT	
	Analyzer	Incorporated, detachable, 180° rotatable, lockable in any position 2° increments, minimum retardation resolution 6', using vernier scale	
	Slot for compensators	Tint plate (U-TP530), 1/4 wavelength retardation plate (U-TP137) and various compensators attachable	
Microscope Body	Illuminator	6V30W halogen lamp, pre-centered, pre-focused, with field diaphragm Power source incorporated, 100-120V/220-240V 0.85/0.45A 50/60Hz	
	Condenser	Strain-free polarizing condenser N.A. 0.9 (with oil immersion: 1.25), Aperture iris diaphragm incorporated Polarizer 360° rotatable, detachable	
	Stage	Polarizing rotatable stage with centering function 360° rotatable, lockable in any position 360° graduated in 1° increments (minimum retardation resolution 6', using vernier scale)	
	Revolving Nosepiece	Quadruple, fixed arm, inclined	
	Focusing	Rack & pinion Full stroke range: 25mm, Minimum graduation in fine movement: 2.5µm Upper limit stop mechanism in coarse movement Tension adjustment on coarse focus adjustment knob	

UIS2 objective lens* specifications

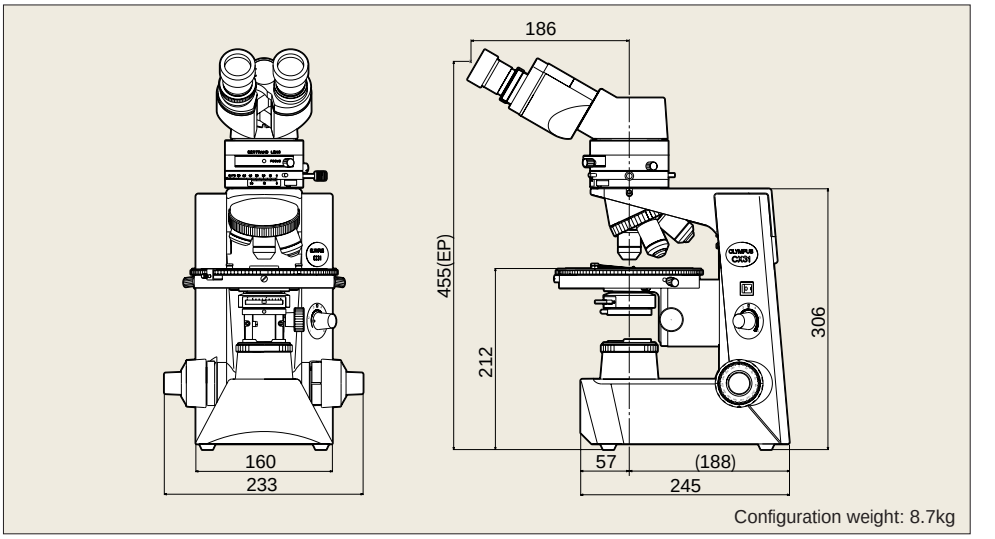
Model	Numerical Aperture	Working Distance
PLN4xP	0.1	18.5mm
ACHN10xP	0.25	6.0mm
ACHN20xP	0.40	3.0mm
ACHN40xP	0.65	0.45mm
ACHN100xOP	1.25	0.13mm

* All UIS2 objective lenses and WHN eyepieces: lead-free eco-glass

UIS objective lens specifications

Model	Numerical Aperture	Working Distance
UPLFL4xP	0.13	13.0mm
UPLFL10xP	0.30	3.1mm
UPLFL20xP	0.50	1.6mm
UPLFL40xP	0.75	0.51mm
UPLFL100xOP	1.30	0.10mm

CX31-P dimensions (Unit: mm)



Configuration weight: 8.7kg

•OLYMPUS CORPORATION has obtained ISO9001/ISO14001.

Specifications are subject to change without any obligation on the part of the manufacturer.

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