

OLYMPUS[®]

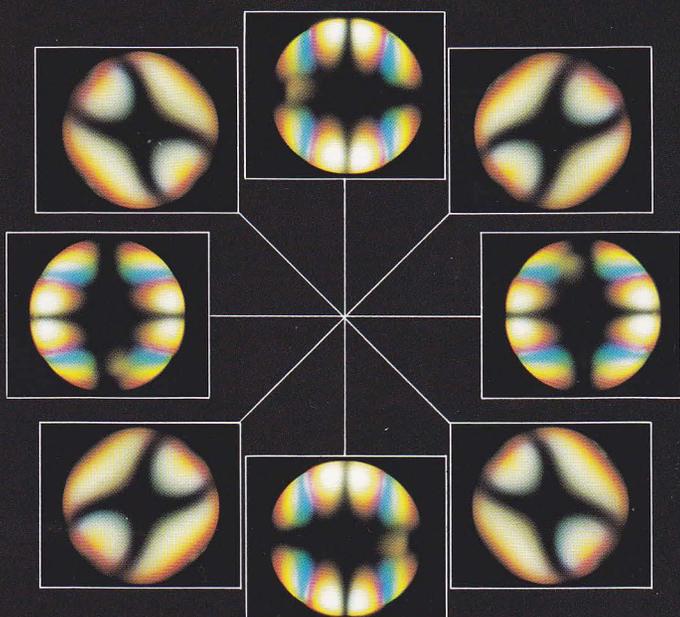
POLARIZING MICROSCOPES



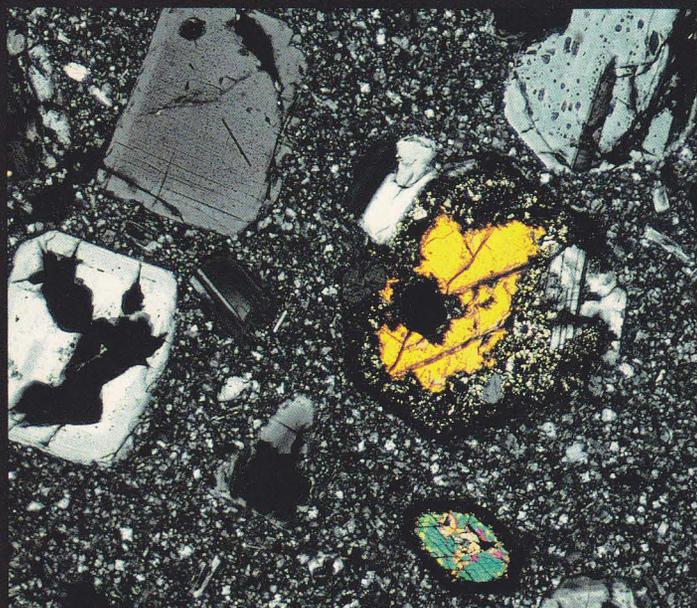
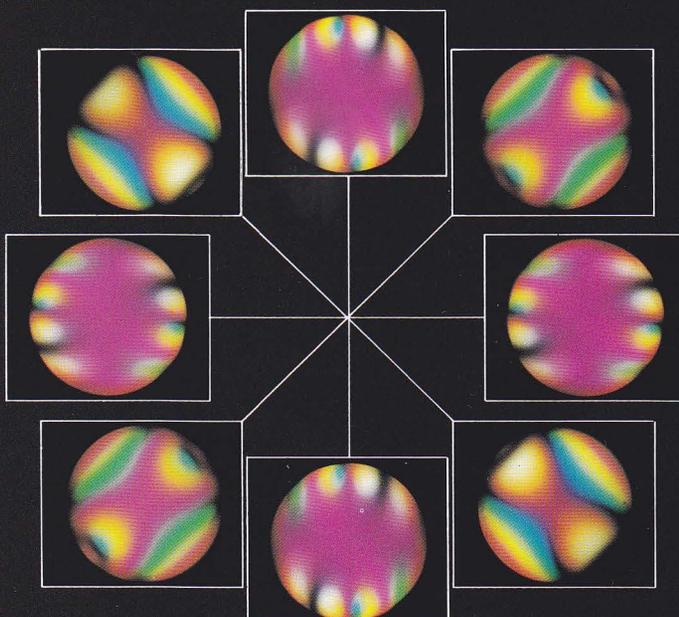
Polarizing microscopes are essential for research on materials with birefringent properties. The importance of polarizing microscopy, which has been employed widely in mineralogy and petrology, is continually expanding due to increasing applications in the fields of chemistry, pharmacology and research on artificial fibers. Together with a new series of long barrel (LB) objectives formulated for biological microscopy, Olympus has designed a range of strain-free long barrel objectives for the polarizing microscope which share the outstanding features of the biological LB objectives, such as high resolution, excellent image contrast, flatness, etc. Olympus has integrated these new polarizing LB objectives

with the Model VANOX (AH), the microscope that represents the pinnacle of Olympus microscope design, and with the highly sophisticated new Model BHS microscope. These new integrated polarizing system microscopes are now available as the Models AHP and BHSP. Additionally, the Model CHA-P microscope, utilizing conventional strain-free objectives, is available as a highly economical polarizing microscope for educational use. Based on over 60 years of experience in microscope design and manufacture, Olympus is confident that these newest Olympus polarizing microscopes fulfill the demand for a diverse range of superior quality.

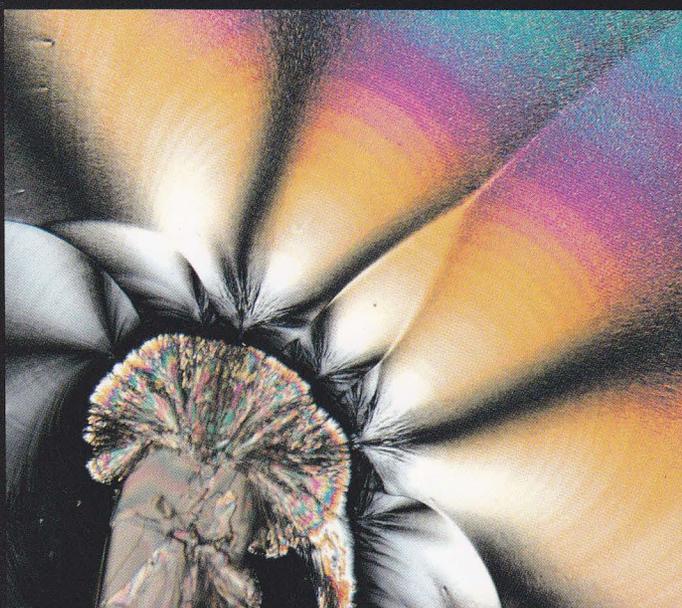
Conoscopic figures observed with a cleavage-flake of muscovite



Same as left, but with a tint plate inserted



Andesite PO D Plan 10x, NFK 3.3x.



Vitamin C PO D Plan 20x, NFK 3.3x.





Olympus has a variety of photo-micrography attachments available for high quality documentation. The state-of-the-art, fully automatic Model PM-10AD, in which a microprocessor has been integrated for automatic precision exposure, and the Model PM-10M manual photo-micrography attachments accommodate not only 35mm film but also 3 $\frac{1}{4}$ " x 4 $\frac{1}{4}$ " Polaroid and 4" x 5" sheet film. For microscopists using only 35mm film, the manual Model PM-6 is an attractive economical option.

Maximum precision for superlative research results

AHP

Polarizing Intermediate Attachment

Magnification 1X, accepts various compensator plates (20x6mm). Built-in, slide-out filter analyzer, rotatable through 180°, graduated in increments of 2°, with locking knob and depolarizer. Bertrand lens is mounted in rotating turret with focusing ring.

Revolving Nosepiece

Quadruple, with individual objective centering devices.

Strain-free Objectives

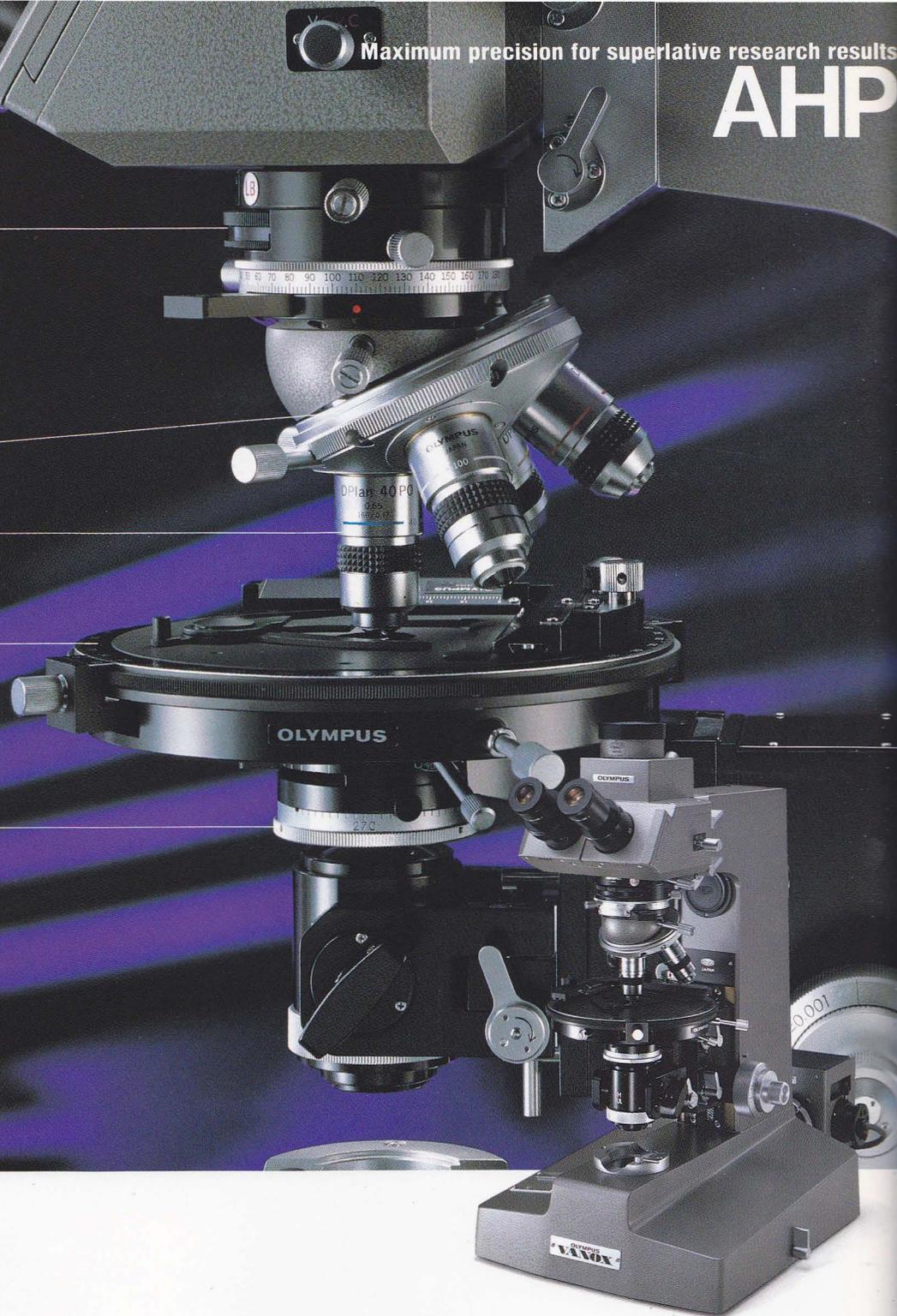
PO D Plan or PO D Achromat

Circular Rotatable Stage

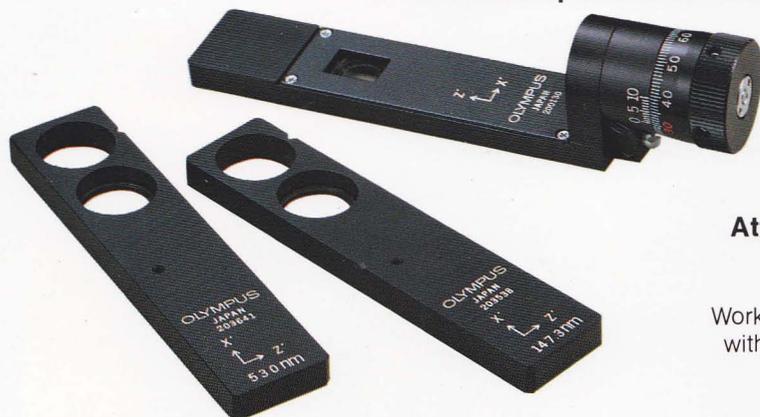
Rotatable through 360°, with 2 verniers reading to 6'. Outside diameter 170mm. Clamping screw for stage rotation. Click stop every 45° starting at any position. Two centering screws.

Polarizing Condenser

Swing-out top element, N.A. 0.9—0.25. Aperture iris diaphragm and graduated N.A. scale. Built-in polarizer, rotatable through 360°, with scale graduated in 5° increments. Click stop at position "0", can be fine adjusted.



Berek Compensator AH-CTP-3



Tint Plate AH-TP-530-2 and
1/4 Wavelength Retardation Plate AH-TP-147-2

Attachable Mechanical Stage AH-FMP (for AHP, BHSP)

Working range: 30mm x 30mm, with vernier scale reading to 0.1mm. Adjustable specimen holder, spring-loaded, for 28mm x 47mm metallurgical slides and 26mm x 76mm biological slides.



Ideal for routine and research use

BHSP

Polarizing Intermediate Attachment

Magnification 1X, accepts various compensator plates (20x6mm). Built-in, slide-out filter analyzer, rotatable through 180°, graduated in increments of 2°, with locking knob and depolarizer. Bertrand lens is mounted in rotating turret with focusing ring.

Revolving Nosepiece

Quadruple, with individual objective centering devices.

Strain-free Objectives

PO D Plan or PO D Achromat

Circular Rotatable Stage

Rotatable through 360°, with 2 verniers reading to 6'. Outside diameter 170mm. Clamping screw for stage rotation. Click stop every 45° starting at any position. Two centering screws.

Polarizing Condenser

Swing-out top element, N.A. 0.9—0.25. Aperture iris diaphragm and graduated N.A. scale. Built-in polarizer, rotatable through 360°, with scale graduated in 5° increments. Click stop at position "0", can be fine adjusted.



Objectives and Eyepieces

Two series of strain-free LB objectives for transmitted polarized light microscopy are available: PO D Ach with excellent resolution and PO D Plan with excellent resolution and image flatness.

Eyepieces have been newly designed in perfect conformity with the objectives, and their visual fields are wider than ever before. Three 10X eyepieces for viewing are included in the standard outfits. The WHK 10X features a field number of 20, high eyepoint which permits spectacle wearers to look through the microscope without removing glasses, and built-in light guard.

In addition to the standard features of the WHK 10X, the Micro-WHK 10X has a cross line and a micrometer (10mm scale ruled to 0.1mm on horizontal line), while the Cross-WHK 10X has a plain cross line.

The front lens assembly of both of these eyepieces is focusable. The NK 5X and Cross-NK 5X with a field number of 21 are also standard for the AHP.



Economical system—primarily for teaching

CHA-P

Since this system is not a standard stock item, delivery time is longer than that for the other two models.

Polarizing Intermediate Attachment

Magnification 1X, accepts various compensator plates (20x6mm). Built-in, slide-out filter analyzer, rotatable through 180°, graduated in increments of 2°, with locking knob and depolarizer. Bertrand lens is mounted in rotating turret with focusing ring.

Revolving Nosepiece

Quadruple, with individual objective centering devices.

Strain-free Achromatic Objectives

Circular Rotatable Stage

Rotatable through 360°, reading to 1°. Outside diameter 142mm. Clamping screw for stage rotation. Two centering screws.

Polarizing Condenser

Swing-out top element, N.A. 0.9—0.25. Aperture iris diaphragm and graduated N.A. scale. Built-in polarizer, rotatable through 360°, with scale graduated in 5° increments. Click stop at position "0", can be fine adjusted.



The standard CHA-P system incorporates the conventional PO 4X, 10X and 40X strain-free achromatic objectives but it can also accommodate PO 20X and 100X (oil) objectives. Eyepieces used with the Model CHA-P include the Micro WF 10X, which is designed with a cross line and a micrometer and focusable front lens like the Micro WHK 10X, and the WF 10X. Both of these are designed for use with the conventional objectives and have a field number of 18.

AHP/BHSP Standard Outfits

Module			AHP		BHSP			
			751	753	651	653	751	753
Microscope Stand	AHB-F-3		○	○				
	BHSP-F				○	○	○	○
Observation Tube	AH-BI	Trinocular, 30° inclined	○	○				
	BH2-BI30	Binocular, 30° inclined			○	○		
	BH2-TR30	Trinocular, 30° inclined					○	○
Polarizing Intermediate Attachment	AH-PA-LB	With Analyzer and Bertrand Lens	○	○				
	BH2-PA	With Analyzer and Bertrand Lens			○	○	○	○
Revolving Nosepiece	AH-PRE	Quadruple, Centerable	○	○				
	BH-PRE	Quadruple, Centerable			○	○	○	○
Circular Rotatable Stage	AH-SRP	Graduated, Centerable	○	○				
	BH2-SRP	Graduated, Centerable			○	○	○	○
Attachable Mechanical Stage	AH-FMP	Graduated	○	○				
Polarizing Condenser	AH-POC	N.A. 0.9-0.25 with Polarizer	○	○				
	BH2-POC	N.A. 0.9-0.25 with Polarizer			○	○	○	○
Compensator Plates	AH-TP-530-2	Tint Plate	○	○	○	○	○	○
	AH-TP-147-2	1/4 Wavelength Retardation Plate	○	○	○	○	○	○
	AH-CTP-3	Berek Compensator	○	○				
Lamp House	AH-LSH-3	With Lamp Centering Device	○	○				
	BHS-LSH	Pre-centered			○	○	○	○
Bulb	JC12V100W-HAL Halogen Lamp	X2	○	○				
	JC12V100W-HAL-L Halogen Lamp	X2			○	○	○	○
Power Cord	UYCP		○	○	○	○	○	
Centering Frosted Glass	AH-SG		○	○				
Strain-free Objectives	PO D Ach	4X/0.10, 10X/0.25, 20X/0.40, 40X/0.65, 100X/1.30	○		○		○	
	PO D Plan	4X/0.10, 10X/0.25, 20X/0.40, 40X/0.65, 100X/1.25		○		○		○
Eyepieces	NK 5X	F.N. 21	○	○				
	Cross NK 5X	F.N. 21 With Cross Line	○	○				
	WHK 10X	F.N. 20	○	○	○	○	○	○
	Cross WHK 10X	F.N. 20 With Cross Line	○	○	○	○	○	○
	Micro WHK 10X	F.N. 20 With Cross Line and Micrometer	○	○	○	○	○	○
Photo Eyepiece	NFK 3.3X		○	○			○	○
	NFK 5X		○	○				

CHA-P Standard Outfits

Module			CHA-P	
			051	651
Microscope Stand*1	CHAP-F		○	○
Observation Tube	CH-PMO	Monocular, 45° inclined	○	
	BH-PBI	Binocular, 30° inclined		○
Polarizing Intermediate Attachment	AH-PA-2	With Analyzer and Bertrand Lens	○	○
Polarizing Condenser	BH-POC	N.A. 0.9-0.25 with Polarizer	○	○
Compensator Plates*2	AH-TP-530-2	Tint Plate	○	○
	AH-TP-147-2	1/4 Wavelength Retardation Plate	○	○
Lamp Socket	CH-LSH-B		○	○
Bulb	6V10W-HAL	Halogen Lamp	X2	○
Strain-free Objectives	PO Ach	4X/0.10, 10X/0.25, 40X/0.65,		○
Eyepieces	AH-WF 10X			○
	AH-Micro WF 10X	With Cross Line and Micrometer		○

*1The microscope stand, circular rotatable stage and revolving nosepiece are a single unit.

*2Berek compensator AH-CTP-3 is available as option.



An unwavering will to remain at the forefront of scientific discovery, and an uncompromising commitment to quality have made the name of Olympus a synonym for high performance and reliability all over the world.

From cameras and microcassette recorders, to microscopes for various applications,

fiberscopes, and facsimiles,

Olympus has kept abreast of the most advanced technologies and discoveries, constantly striving to develop products which meet the new and more complex needs

**Progress
through
Precision**

of our rapidly changing society.

Precision engineering,

a long experience,

and R&D activities tuned to the requirements

of man in his search for a better life,

have earned Olympus its unparalleled position in the medical profession, in the photographic industry,

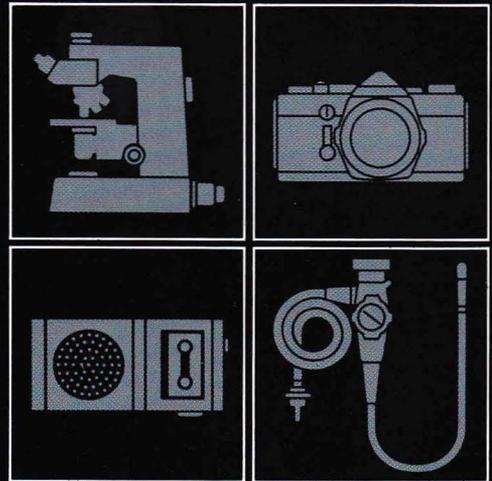
in the laboratory and the classroom,

and in the eyes of all those who benefit

from the functionality, accuracy,

versatility and economy of its products.

Photographic,
Medical,
Microscopic,
Measuring & Audio Equipment



OLYMPUS[®]

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