Outstanding optics and excellent design for sharper polarized light images

The new BX41-P is a new polarizing microscope from Olympus that offers exceptional performance in polarized light. This is the result of new refinements in combining Olympus’ original optical design with highly advanced UIS infinity-corrected optics. The UIS optical system ensures a consistent standard of optical microscope performance without deterioration, and eliminates magnification factors, even when polarizing elements are introduced into the light path. The BX41-P also features a newly extended line of compensators, which provide all the versatility required for handling observation and measuring applications from routine research to specialized geological studies at universities.

Enhanced operational ease and outstanding optical performance

- With the U-CPA conoscopic observation attachment, the changeover between orthoscopic and conoscopic observation methods is simple and quick — just slide the Bertrand lens control knob in or out.
- Newly developed U-SRG2 circular rotatable stage, which has two centering knobs and larger diameter than previous one, allows smoother sample rotation.
- An ergonomic Y-shaped frame ensures comfortable, efficient observation with less fatigue, even over prolonged periods.
- The high intensity 6V, 30W halogen light source combined with the UIS optical system and its high transmittance/reflection result in exceptionally bright and sharp images.
An extensive range of compensators is available
Six different compensators, tint plate and 1/4 wavelength retardation plate are available for the BX41-P microscope, allowing measurement of various retardation levels, ranging from 0 to 20λ. For easier measurement, the direct readout method is featured. Higher image contrast can be attained by using a Senarmont* or Brace-Koehler compensator to change the retardation level in the entire field of view.

* Used with monochromatic green filter, IF546 or IF550.

### Measuring range of compensators

<table>
<thead>
<tr>
<th>Compensator</th>
<th>Measurement range</th>
<th>Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thick Berek (U-CTB)</td>
<td>0-11,000nm (20λ)</td>
<td>Measurement of high retardation level (crystals, macromolecules, fiber, etc.)</td>
</tr>
<tr>
<td>Berek (U-CBE)</td>
<td>0-1,640nm (3λ)</td>
<td>Measurement of retardation level (crystals, macromolecules, living organisms, etc.)</td>
</tr>
<tr>
<td>Senarmont compensator (U-CSE)</td>
<td>0-546nm (1λ)</td>
<td>Measurement of retardation level (crystals, living organisms, etc.) Enhancement of image contrast (living organisms, etc.)</td>
</tr>
<tr>
<td>Brace-Koehler compensator 1/10λ (U-CBR1)</td>
<td>0-55nm (1/10λ)</td>
<td>Measurement of low retardation level (living organisms, etc.)</td>
</tr>
<tr>
<td>Brace-Koehler compensator 1/30λ (U-CBE2)</td>
<td>0-20nm (1/30λ)</td>
<td>Enhancement of image contrast (living organisms, etc.)</td>
</tr>
<tr>
<td>Quartz wedge (U-CWE)</td>
<td>500-2,200nm (4λ)</td>
<td>Approximate measurement of retardation level (crystal, macromolecules, etc.)</td>
</tr>
</tbody>
</table>

*R= retardation level
For more accurate measurement, it is recommended that compensators (except U-CWE) be used together with the interference filter 45IF546.

Unmatched sharpness in orthoscopic and conoscopic observations
With a U-CPA conoscopic observation attachment, changeover between orthoscopic and conoscopic observation is simple and quick. Focusing of conoscopic images is easy and accurate. Employing a Bertrand field stop makes it possible to obtain consistently sharp and clear conoscopic images.

An upgrade in polarization characteristics
ACH-P strain-free objectives reduce internal strain to an absolute minimum. Olympus has also totally redesigned its polarizers and polarizing condensers to further enhance performance in polarized light. This means a higher EF* value, resulting in unmatched image contrast.

* The EF (extinction factor) is the brightness ratio between parallel and crossed pol-filters.

<table>
<thead>
<tr>
<th>Item</th>
<th>N.A.</th>
<th>W.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plan FL 4xP</td>
<td>0.1</td>
<td>22.0mm</td>
</tr>
</tbody>
</table>

### PL-P Series

<table>
<thead>
<tr>
<th>Item</th>
<th>N.A.</th>
<th>W.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACH 10xP</td>
<td>0.25</td>
<td>6.1mm</td>
</tr>
<tr>
<td>ACH 20xP</td>
<td>0.40</td>
<td>3.0mm</td>
</tr>
<tr>
<td>ACH 40xP</td>
<td>0.65</td>
<td>0.45mm</td>
</tr>
<tr>
<td>ACH 100xOP</td>
<td>1.25</td>
<td>0.13mm</td>
</tr>
</tbody>
</table>

### ACH-P Series

Easy, accurate gout inspection
A transmitted light gout analyzer (U-GAN) and rotatable stage (U-SRG2) are provided for easy, accurate gout detection.

Simple pol option
With the use of U-SC3 swing out condenser, U-POT polarizer and U-ANT analyzer for transmitted light, it is possible to get optimal polarizing images from 1.25x to 100x.

Corresponds to reflected light observation
Reflected light illuminator and polarizing equipment can be attached simultaneously. BX-RLA2 complies with 100W halogen illumination and BX-KMA accepts 30W halogen illumination, both provides high intensity and long lifetime.

Cross-movement mechanical stage
Mounting an attachable cross-movement mechanical stage (U-FMP) onto the circular rotatable stage makes for improved observation efficiency. Interference between the mechanical stage and the objectives is eliminated, so that images of superb quality can be effortlessly observed with all objective magnification.
### BX41-P Specifications

<table>
<thead>
<tr>
<th>Item</th>
<th>Conoscopic and orthoscopic observation (U-CPA)</th>
<th>Orthoscopic observation (U-OPA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>F.N.</td>
<td>22</td>
<td>22</td>
</tr>
<tr>
<td>Bertrand lens</td>
<td>Focusable</td>
<td></td>
</tr>
<tr>
<td>Bertrand field stop</td>
<td>ø3.4mm diameter (fixed)</td>
<td></td>
</tr>
<tr>
<td>Analyzer slot</td>
<td>Position of slider in</td>
<td>Position of slider out</td>
</tr>
<tr>
<td>Analyzer (U-AN360P-2)</td>
<td>360° dial-rotatable</td>
<td>Rotatable minimum angle 0.1°</td>
</tr>
<tr>
<td>Revolving centerable nosepiece (U-P4RE)</td>
<td>Quadruple, centerable attachable components: 1/4 wavelength retardation plate (U-TAD), tint plate (U-TP530) and various compensators can be attached using plate adapter (U-FMP)</td>
<td></td>
</tr>
<tr>
<td>Stage (U-SRG2)</td>
<td>Polarizing rotatable stage with 3-point centering function. 360° rotatable, lockable in any position, 360° graduated in 1° increments</td>
<td></td>
</tr>
<tr>
<td>Condenser (U-POC-2)</td>
<td>Achromatic strain-free condenser (U-POC-2) 360° rotatable polarizer with swing-out achromatic top-lens, click stop at position “0°” is adjustable. N.A. 0.9 (top-lens in). N.A. 0.18 (top-lens out)</td>
<td>Aperture iris diaphragm: adjustable from 2mm to 21mm diameters</td>
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### BX41-P Dimensions

- **Conoscopic/Orthoscopic version weight:** approx. 16.6kg (36.6 Ibs.)
- **Orthoscopic version weight:** approx. 15.6kg (34.4 Ibs.)
- **Power consumption:** 300VA
- **Note:** The length marked with an asterisk (*) may vary according to the interpupillary distance setting.

### BX41-P System Diagram

- **Objectives for transmitted observation**
- **U-CPA Intermediate attachment for conoscopic and orthoscopic observation**
- **U-OPA Intermediate attachment for orthoscopic observation**
- **U-OPC-2 Intermediate attachment for orthoscopic observation**
- **U-OPC-2 Polarizing condenser**
- **U-SC3 Swing-out condenser**
- **U-AAC Abbe condenser**
- **U-AAC Achromatic/ Aplanatic condenser**
- **U-LS30-4 Lamp socket for 30W halogen**
- **BX-KMA Reflected light illuminator for BF/DF**
- **U-LH100L-3 100W halogen lamphousing**
- **U-PO3 Polarizer slider for reflected light**
- **U-POTP3 Polarizer**
- **U-LS30-3 360W halogen lamp socket**
- **TL4 External light source**
- **U-SCB2 Slide holder**
- **U-ST2 Mechanical stage**
- **U-POC-2 Polarizing condenser**
- **U-SCB2 Mechanical stage**
- **U-ANT Mechanical stage**
- **U-TP530 Filter**
- **U-CPA Intermediate attachment for conoscopic and orthoscopic observation**
- **U-OPA Intermediate attachment for orthoscopic observation**
- **U-OPC-2 Intermediate attachment for orthoscopic observation**
- **U-OPC-2 Polarizing condenser**
- **U-SC3 Swing-out condenser**
- **U-AAC Abbe condenser**
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- **U-ANT Mechanical stage**

### Specifications

- **ISO 9001 Certification**
- **ISO 14001 Certification**

*Please consult your nearest Olympus dealer for detailed information about available UIS optics accessories.*