euromex iScope Trinocular Polarizing Microscope User Manual

Contents

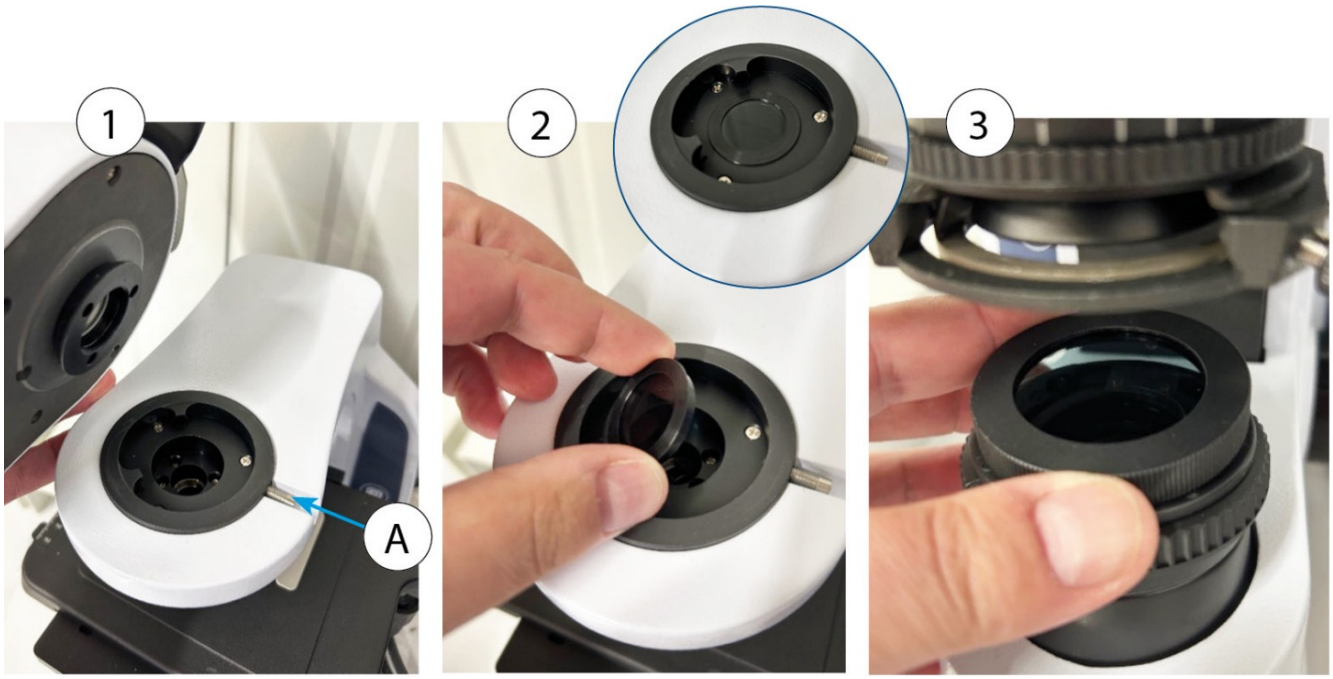
euromex iScope Trinocular Polarizing Microscope

Introduction

This manual is meant as a supplement to the standard iScope manual and only describes the functions and use of the polarisation elements of your iScope

Installing the polarisation set (IS.9601)

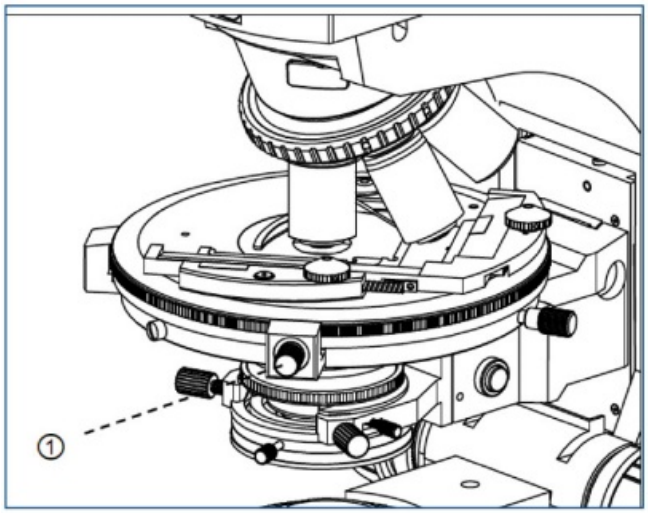
1. Unmount the iScope microscope head by loosening the Allen screw (A in ill 1)
2. Place the analyser into the opening (2)
3. Mount the microscope head back onto the microscope body
4. Mount polariser onto lamp house (3)
5. Ready for use



Basic controls

Stage Rotation

- When the stage rotation clamping knob (1) is loosened, the stage can be rotated 360° horizontally

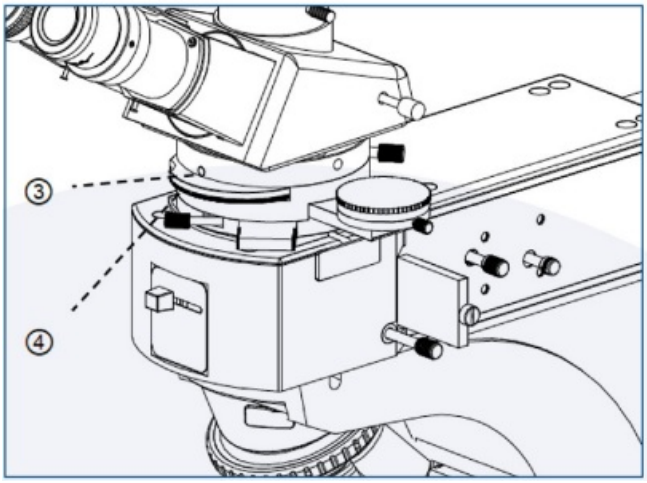


Using the Bertrand Lens

- By revolving the Bertrand lens dial (3), the Bertrand lens can be selected. At the “O” position, the lens is removed from the light path. At the “B” position, the lens is engaged

Focusing the Bertrand Lens

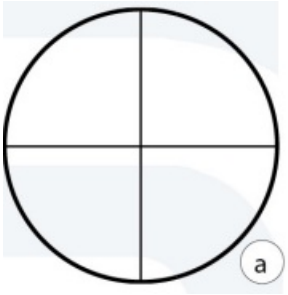
- During conoscopic observation, to focus the conoscopic image, turn the Bertrand lens focusing ring (4) slightly until a clear interference image is obtained in the eyepiece



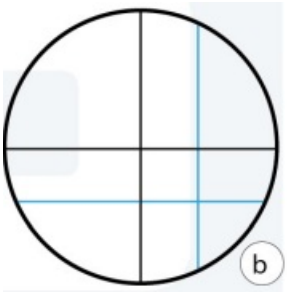
Adjustments before observation

Centring the objectives

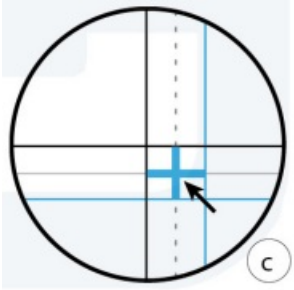
- All 360° centring objectives of the Euromex IS-series material microscopes are pre-centred in our factory.
- However, during transportation or after a long period of inactivity, the centring of these objectives may have been shifted
- Please follow the steps below to re-centre the objectives of a polarisation microscope
- Remove one eyepiece from the microscope head
- Insert the widefield eyepiece with a crosshairs into the tube of the eyepiece you just removed
- Position a microscope slide with a crosshairs reticule under the stage clamps
- Check if the objective with the smallest magnification is positioned in the optical path
- Position the round stage with the vernier on its “0” position
- Position the middle of the crosshairs of the microscope slide on top of the crosshairs of the eyepiece **(a)**



- Rotate the stage by 180°. A displacement might be observed **(b)**



- Move by hand the middle of the crosshairs of the microscope slide approximately halfway to the eyepiece crosshairs **(c)**



- Rotate the stage back to its “0” position
- The 4x objective is equipped with two adjustable screws inside the revolving nose piece for centering the objective.
- Use the centering screws to move the center of the eyepiece crosshairs towards the center of the crosshairs of the microscope slide
- Repeat steps 7 to 10 until the objective is centred
- Repeat steps 5 to 11 for the other objectives

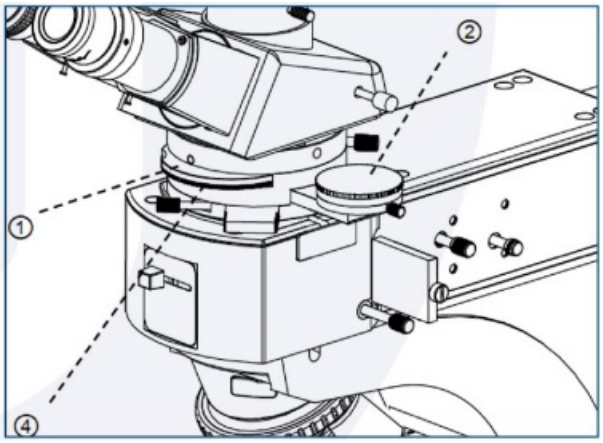
If the centring cannot be done correctly:

1. Check if the 4x objective is set in the central position of the centering screw’s correction range. This means that when the centration is changed by using the screws in the revolver, the cross of the slide should be able to move to all directions in an equal amount
2. Repeat this for the other objectives
3. If the centring is still unsuccessful, please check if the mechanical stage is correctly centred. The stage is fixed by four screws at the bottom of the stage.
    - Untighten the screws so the stage can be moved and align the stage around the lens of the condenser visually.
    - **Note** that the condenser should first be aligned precisely; the procedure is described in the iScope user manual

Orthoscopic observation

Orthoscopic observation is available for 4x to l00x objectives

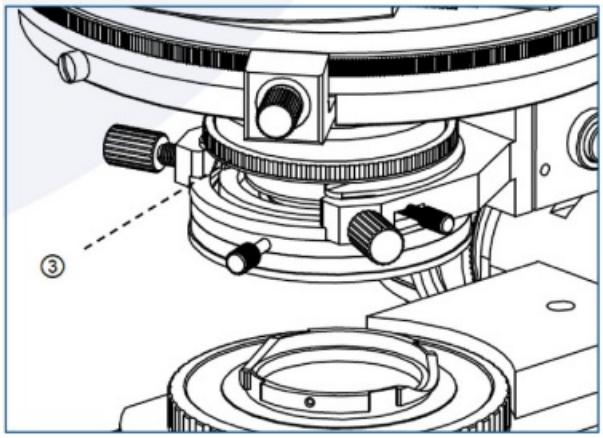
1. Revolve the Bertrand lens dial (1) to the “O” position to remove the Bertrand lens from the optical path
2. Swing out the top lens of the condenser
3. For a reflected illumination system, the polariser is fixed, and the analyser can be rotated 360 degrees. Rotate the analyser (2) until complete extinction is obtained
4. For transmitted illumination, the polariser can be rotated 360 degrees, turned until complete extinction is obtained
5. Place the specimen for orthoscopic observation
6. Insert test plates for further observation, test and study



Conoscopic observation

Use 20x to l00x objectives

1. Engage the polarizer and analyser for extinction position
2. Swing the condenser top lens into the light path
3. Revolve the Bertrand lens dial (1) to the “B” position to engage the lens into the light path
4. Open the aperture iris diaphragm (4) to its largest size
5. Revolve the focusing dial (1) of the Bertrand lens to focus on the conoscopic image



- **Note:** If the periphery of the conoscopic image is dark, move the condenser vertically to find the position where the periphery is brightest
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Documents / Resources

	euromex iScope Trinocular Polarizing Microscope [pdf] User Manual EN_13, iScope Trinocular Polarizing Microscope, iScope, Trinocular Polarizing Microscope, Polarizing Microscope, Microscope

References

- User Manual