iScope

polarisation

supplementary

user manual

euromex microscopes holland

v.427361

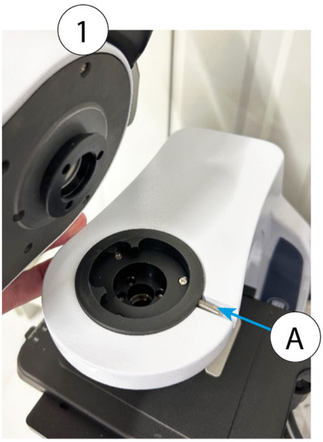
Contents

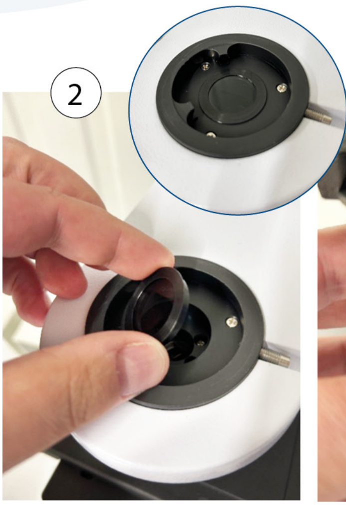
1.0 Introduction

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

2.0 Installing the polarization set (IS.9601)

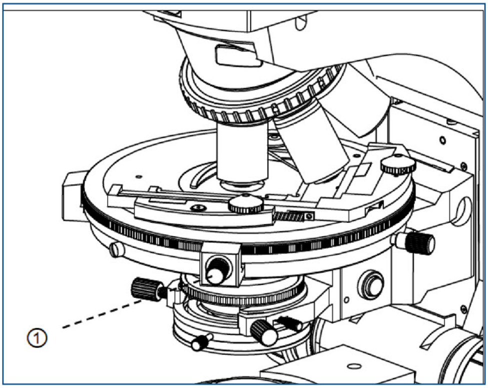
1. Unmount the iScope microscope head by loosening the Allen screw (A in ill 1)
2. Place analyser into opening (2)
3. Mount microscope head back onto microscope body
4. Mount polariser onto lamp house (3)
5. Ready for use





3.0 Basic controls

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

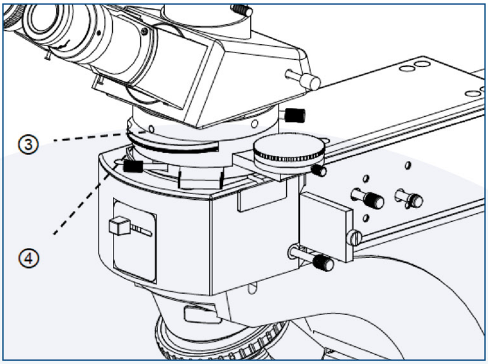


3.1 Using the Bertrand Lens

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

3.2 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



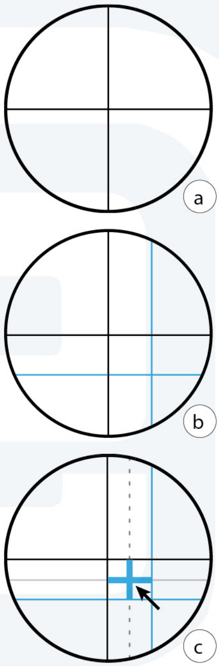
4.0 Adjustments before observation

4.1 Centering the objectives

All 360° centering objectives of the Euromex IS-series material microscopes are pre-centered in our factory. However, during transportation or after a long period of inactivity, the centering of these objectives may have been shifted

Please follow the steps below in order to re-center the objectives of a polarization microscope

6. Remove one eyepiece from the microscope head
7. Insert the widefield eyepiece with a crosshairs into the tube of the eyepiece you just removed
8. Position a microscope slide with a crosshairs reticule under the stage clamps
9. Check if the objective with the smallest magnification is positioned in the optical path
10. Position the round stage with the vernier on its “0” position
11. Position the middle of the crosshairs of the microscope slide on top of the cross-hairs of the eyepiece (a)
12. Rotate the stage by 180°. A displacement might be observed (b)
13. Move by hand, the middle of the crosshairs of the microscope slide, approximately half way to the eyepiece crosshairs (c)
14. Rotate the stage back to its “0” position
15. The 4x objective is equipped with two adjustable screws inside the revolving nosepiece 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
16. Repeat steps 7 to 10 until the objective is centered
17. Repeat steps 5 to 11 for the other objectives

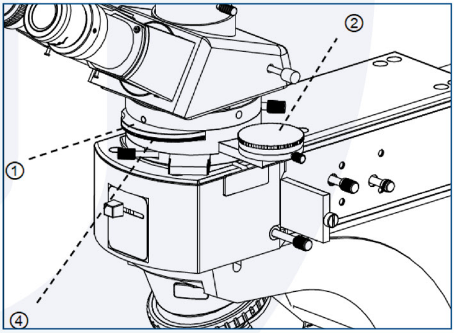


If the centering cannot be done correctly:

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 centering is still unsuccessful, please check if the mechanical stage is correctly centered. 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 in the correct manner, the procedure is described in the iScope user manual

5.0 Orthoscopic observation

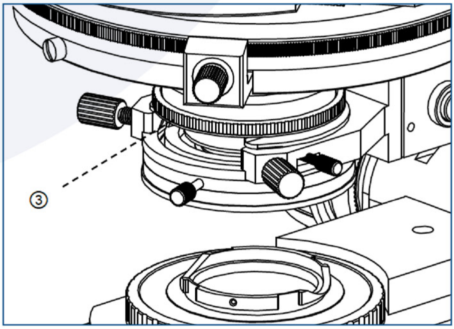
Orthoscopic observation is available for 4x to 100x objectives



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

6.0 Conoscopic observation

Use 20x to 100x objectives



1. Engage the polarizer and analyzer for extinction position
2. Swing the condenser top lens into the light path
3. Revolve the Bertrand lens dial (1) to "B" position, to engae 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