



Polarisation

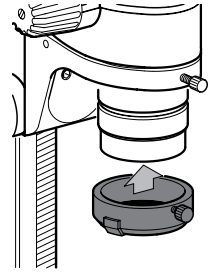
User Manual

Light admitted through polarisation

- Rotary polarisation table** When using the rotary polarisation table and analyser, double refracting materials such as crystals, rocks, bones, plastics, glass and liquid crystals can be investigated. The rotary polarisation table is used on the transmitted light stands. Even weak double refraction is visible when using the optional compensator red I. The alternating colour effects are among the most spectacular phenomena of microscopy.
- Angle measurements** With the help of a degree pitch from 0° – 360° and the nonius for $1/10^\circ$, angles can be measured and additional information can be gained on the character and structure of the double refracting elements.
- Accessories**
- Compensator red I for weak double refraction
 - Lens guide (adjustment range $76 \times 28\text{mm}$)
 - Grid plate with co-ordinate grid for centring

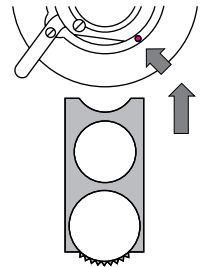
Assembly

Grid plate Insert grid plate with co-ordinate grid into eyepiece as is described in the stereo microscope's directions for use.

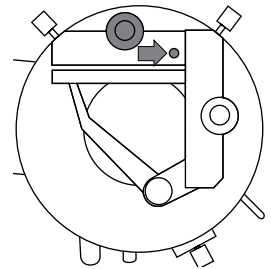


Analyser ► Use clamping screw to fasten analyser.

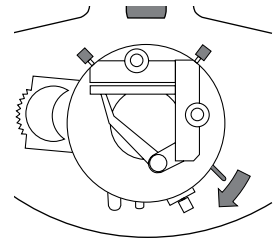
- Compensator red I**
- Use the red clamping screw to hold the rotary table.
 - Unfasten screw on base of rotary table.
 - Slide in compensator until it reaches the stop.
 - Tighten screw.



Lens guide ► Use rotary button to set hole in lens guide so that an Allen screw can be inserted and screw down into the rotary table.



- Rotary table**
- Place rotary table on the transmitted light stand so that the two red centring screws on the left and right are aligned symmetrically to the column.
 - Tighten lever.



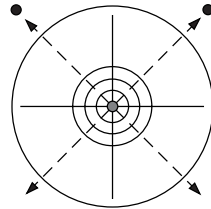
Centring rotary table



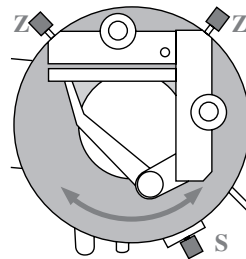
The rotary table always has to be centred whenever it is placed in a new position.

Exact angle measurements can only be taken when the rotary table is centred.

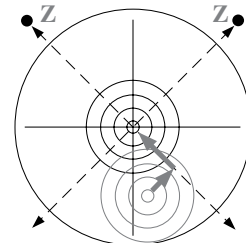
- A centred table also has the advantage of the specimen remaining within the field of vision during turning.
- The table is centred when its fulcrum is at the centre of the co-ordinate grid.



- ▶ Add specimen (flat, transparent section prepare).
- ▶ Unfasten red clamping screw (S).
- ▶ Turn table and observe fulcrum.

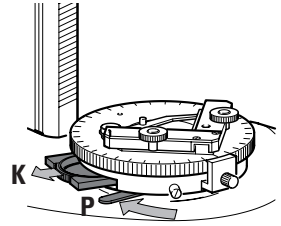


- ▶ If the fulcrum is not at the centre of the co-ordinate grid: use the red centring screws (Z) to move the fulcrum.

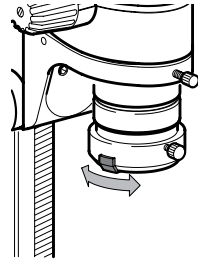


Aligning polariser/analyser

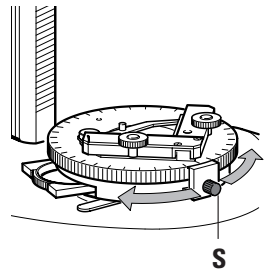
- ▶ Swivel in polariser: slide lever (P) clockwise.
- ▶ Pull out compensator red I (K).
- ▶ Switch light on.



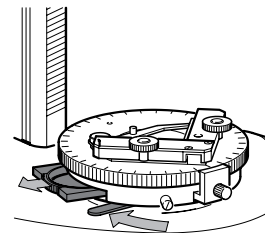
- ▶ Look into the binocular tube and move lever on analyser until the field of vision (without specimen) appears as dark as possible.



- ▶ Add specimen and focus.
- ▶ Unfasten clamping screw (S) and turn table.
- Depending on the position, change greyscale intensity and colour indications (interference colours).

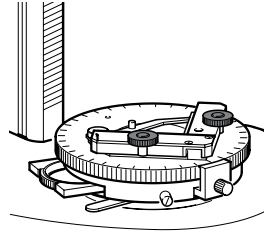


- ▶ Slide in compensator red I and turn with knurled ring.

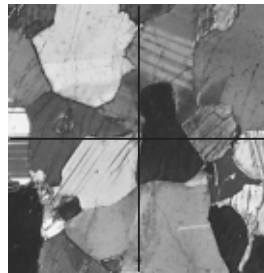


Measuring angles

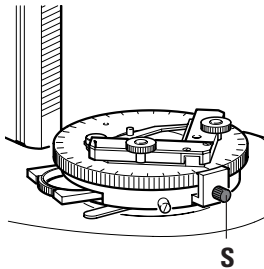
- **Angle pitch $0^\circ - 360^\circ$**
- **Nonius $1/10^\circ$**
- ▶ Use the rotary buttons on the lens guide to move the specimen until the vertex of the angle to be measured is in the centre of co-ordinate grid.



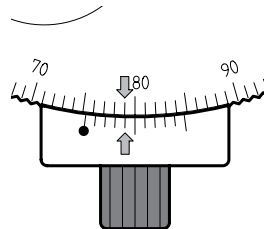
- ▶ Turn table until one axis of the co-ordinate grid lies on one lateral side of the angle.



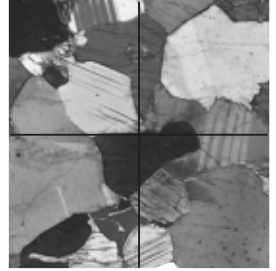
- ▶ Tighten clamping screw (S).



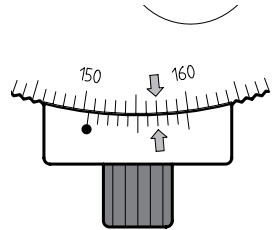
- ▶ 1. Note down reading.
In the example: 75.4°



- ▶ Loosen clamping screw.
- ▶ Turn table until the axis of the co-ordinate grid lies on the other lateral side.
- ▶ Tighten clamping screw.



- ▶ 2. Note down reading.
In the example: 150.7°
- ▶ Calculate difference between 1st and 2nd readings.
In the example: 75.3°



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