



EXC-500 Microscope Series

Gout Kit Installation

Gout Kit Components



Fig. 1

Installation

Adjust the the EXC-500 for Kohler illumination with the objective of your choice.

Polarizer (Fig. 1)

Install the polarizer onto the light port so its thumb screw faces toward the 3 O'clock position. This will set the orientation to East-West.

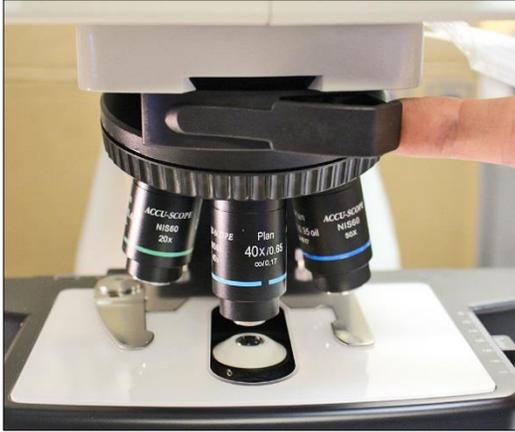


Fig. 2

Installation (continued)

Analyzer Dust Plug (Fig. 2)

Remove the dust plug from the slot above the nosepiece.

Analyzer (Fig. 3 & 4)

Slide the analyzer into the slot above the nosepiece as shown. It will automatically be in the North-South orientation. (Fig. 3)

Use the thumb screw provided to secure the analyzer. (Fig. 4)



Fig. 3



Fig. 4

Using the Gout Kit

A full wave retarder filter is incorporated into the Gout Kit polarizer (Fig. 1). The retarder can be rotated 90°. This enables distinction between true gout and pseudo-gout crystals.

Monosodium urate crystals are elongated prisms that have a negative birefringence.

The crystals will exhibit a yellow interference color when the crystals long axis is orientated parallel to the slow axis of the full wave retarder

45° degrees to the crossed polarizers).

If the crystals are **“true-gout”**, rotating the Polarizer (P1) will change the interference color to blue.

If the crystals are **“Pseudo-gout”** (pyrophosphate) the crystals will be blue when parallel to the slow axis of the full wave plate, changing to blue when P1 is rotated 90 degrees (from East-West to North-South).

Monosodium urate crystals grow in elongated prisms that have a

negative optical sign of birefringence which generates a yellow (subtraction) interference color when the long axis of the crystal is oriented parallel to the slow axis of the first order retardation plate. Rotating the crystals through 90° changes the interference color to blue (addition color). In contrast, pseudo-gout pyrophosphate crystals, which have similar elongated growth characteristics, exhibit a blue interference color when oriented parallel to the slow axis of the retardation plate and a yellow color when perpendicular.