

Lx 500 Dark Field Kit User Manual

To ensure proper use of this instrument as well as to avoid injury while operating instrument, understanding this manual completely before use is highly recommended.

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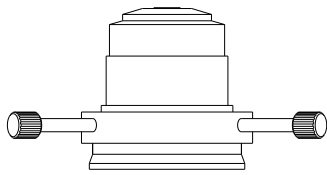
INTRODUCTION

Darkfield microscopy is a specialized illumination technique that capitalizes on oblique illumination to enhance contrast in specimen that are not imaged under normal brightfield illumination conditions. After the direct light has been blocked by an opaque stop in the substage condenser, light passing through the specimen from oblique angles at all azimuths is diffracted, refracted and reflected into the microscope objective to form a bright image of the specimen superimposed onto a dark background.

Ideal specimen for darkfield illumination include minute living aquatic organism, diatoms, small insects, unstained bacteria, yeast and protozoa. Non-biological specimen include mineral and chemical crystals, colloidal particles, dust-count specimens, and thin sections of polymers and ceramics containing small inclusions.

PACKING LIST

Lx 500 Dark Field Attachment



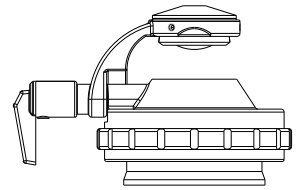
1



2



3



4

1. Darkfield condenser (9144044)
2. 100X (SL, Oil) Achromatic objective (Iris) (9121105)
3. Immersion oil bottle (PK-035)
4. Abbe Condenser with Flip-Top Lens NA-1.25, oil, optional (9144048)

Please make sure all contents of the Phase Contrast Kit are intact. If any physical damage is visible, please contact your local distributor.

INSTALLATION

1. Remove brightfield condenser from substage assembly and gently push in darkfield condenser in its place as shown in Fig.1
2. Secure the darkfield condenser by tightening the thumbscrew provided as shown in Fig. 2
3. Remove the 100X objective from nosepiece adapter and attach 100X (SL, Oil) achro objective (Iris) as shown in Fig.3
4. Bring the darkfield condenser to its top most position and pour a drop of immersion oil (PK-035) as shown in Fig. 4
5. Firmly place the specimen slide over the darkfield condenser in a way so that it touches the drop of the oil as shown in Fig. 5.

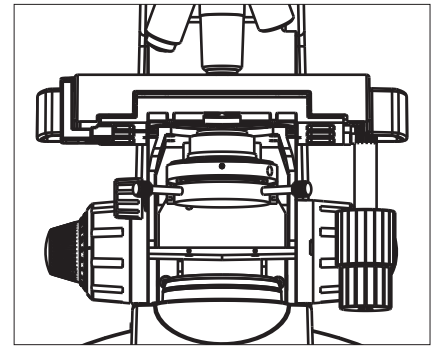


Fig. 1

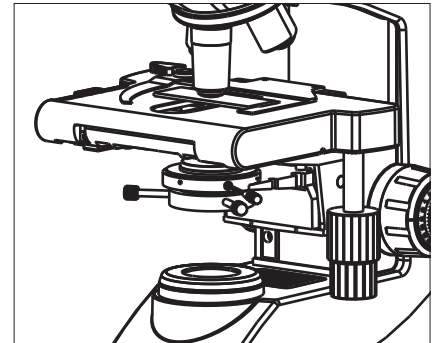


Fig. 2

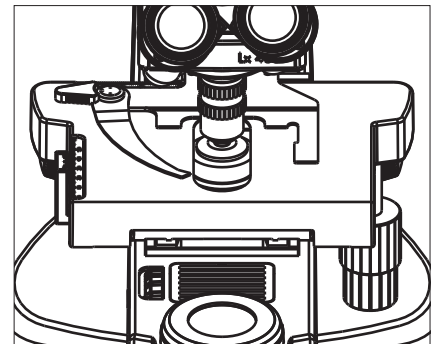


Fig. 3

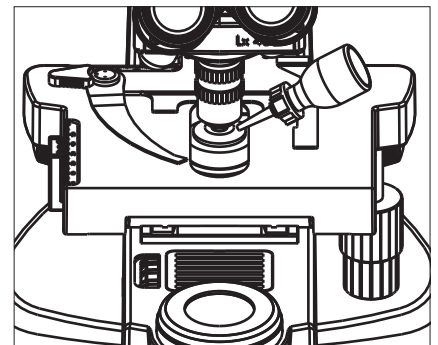


Fig. 4

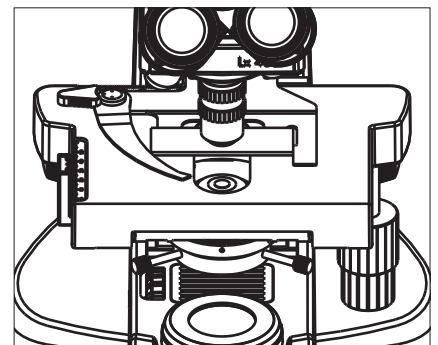


Fig. 5

CALIBRATING THE INSTRUMENT

6. Engage 4X objective in field. while viewing through the eyepiece focus specimen slide, a bright ring of light will appear in field of view. Bring this ring of light in the center of the field by manipulating two thumbscrews provided on the condenser bracket as shown in Fig. 6

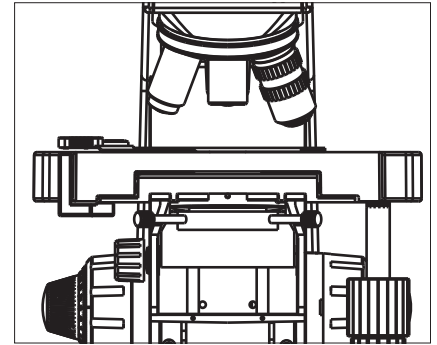


Fig. 6

7. Again pour a drop of immersion oil on slide as shown in Fig. 7

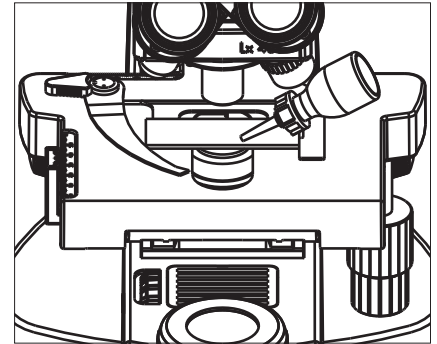


Fig. 7

8. Engage 100X (Oil Immersion) darkfield objective in field of view. Keep open the Iris provided in the 100X objective by turning knurled ring clockwise. Contrast in the darkfield can be increased or decreased by adjusting the opening of Iris in 100X objective.

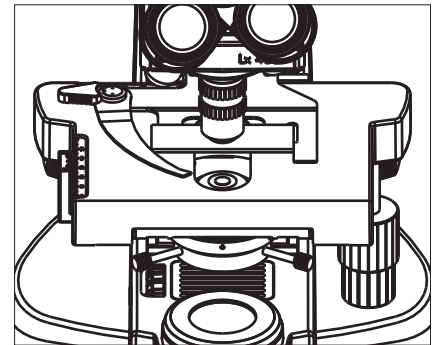


Fig. 8

Note : An optional darkfield condenser can also be used in place of brightfield condenser for darkfield observation. In that case you will have to replace normal abbe condenser with flip-top lens NA 1.25, oil (9144048) but result will not be so good as with 9144044 darkfield condenser.

CARE & MAINTENANCE

- Loose particles can be removed from the surface of the darkfield condenser, diaphragm, or darkfield annulus by gently wiping them with lens tissue dampened with Acetone or Methanol.
- It is better to avoid leaving finger prints on the surface of darkfield condenser.
- When not in use for long time, it is recommended to store the darkfield attachment in its original packaging.

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