

User Manual

Darkfield Kit

Model A191BOIL

MicroscopeNet.com

i Caution

1. Keep the darkfield kit out of direct sunlight, high temperature or humidity, and dusty environments. Ensure that the microscope is located on a smooth, level and firm surface.
2. Do not attempt to disassemble any components, such as, objectives or condenser.
3. Keep the components clean; remove dirt and debris regularly. Accumulated dirt on metal surfaces should be cleaned with a damp cloth. More persistent dirt should be removed using a mild soap solution. **Do not use organic solvents for cleansing.**
4. The outer surface of the optics should be inspected and cleaned periodically using an air stream from an air bulb. If dirt remains on the optical surface, use a soft cloth or cotton swab dampened with a lens cleaning solution (available at most of the camera stores). All optical lenses should be swabbed using a circular motion. A small amount of absorbent cotton wound on the end of a tapered stick makes a useful tool for cleaning recessed optical surfaces. Avoid using an excessive amount of solvents as this may cause problems with optical coatings or cemented optics or the flowing solvent may pick up grease making cleaning more difficult.
5. Store the instrument in a cool, dry environment. Put the kit back to the storage box when not in use.

1 Parts Illustration



Fig. 1

2 Installing the darkfield condenser

- 1) Replace the 100X bright field objective on nosepiece with the 100X darkfield objective.
- 2) Loosen the thumb screw; take off the condenser from the holder.
- 3) Insert the darkfield condenser into the condenser holder and tighten the thumb screw.

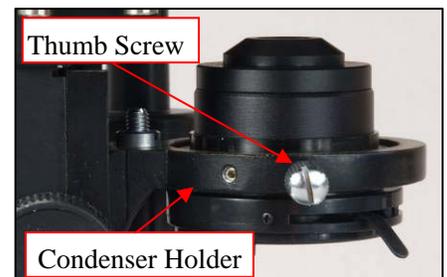
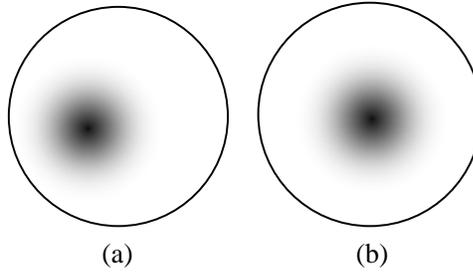


Fig. 2

3 Operation

1) Centering the oil darkfield condensers

- Turn the 40X objective to the light path.
- Turn the condenser focus knob (or focus knob) to raise the condenser slowly from its lowest position, till a dark spot showed in the viewing field as shown in the figure (a).
- Turn the condenser translational centering screws to move the dark spot to the center as shown in the figure (b).



Note:

- The dark spot has a fuzzy edge.
 - The dark spot becomes larger when the condenser closes to the objective.
 - The distance between the top of the condenser and the objective is about 8mm when the dark spot shows in the field of view. The distance might be various when using different models and types of microscope.
- 2) Raise the condenser till the top lens is close to the opening of stage. Apply a drop of immersion oil on the top lens of condenser.
 - 3) Place the slide on the stage.
 - 4) Raise the condenser and let the oil drop contact the underside of the slide. If air bubbles exist in the oil, clean the oil from the condenser lens and bottom of slide and repeat the procedures.
 - 5) Turn the focus knob to focus the specimen.
 - 6) When using the 100X oil darkfield objective, apply a drop of immersion oil on the specimen, adjust the iris ring to get proper brightness and contrast of view field.

Note:

- The condenser works with 100X oil objective and low power objectives (4X, 10X, etc) as well.
- Immersion oil is needed on the top lens of condenser for darkfield observation.
- Immersion oil is needed between the 100X oil objective and slide.

4 Specifications

Model	A191BOIL
NA	1.36 – 1.25
Mounting Size	37 mm in diameter