User Manual

Phase Contrast Kit

Model A1PHC1

MicroscopeNet.com

i Caution

1. Keep the phase contrast kit out of direct sunlight, high temperature or humidity, and dusty environments. Ensure the microscope is located on a smooth, level and firm surface.
2. Do not attempt to disassemble any components, like telescope, objectives or condenser.
3. Keep the kit 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 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

1. Phase Contrast Objective
2. Centering Telescope
3. Annular Ring Switch
4. Phase Contrast Condenser
5. Blue Filter

2 Installation & Operation

2.1 Install the Phase Contrast Kit

1) Replace the bright field objective(s) on nosepiece with the phase contrast objective(s) (1).
2) Loosen the thumb screw in Fig.2; take off the condenser from the holder.
3) Insert the phase contrast condenser into the condenser holder as shown in Fig.3, tighten the thumb screw.

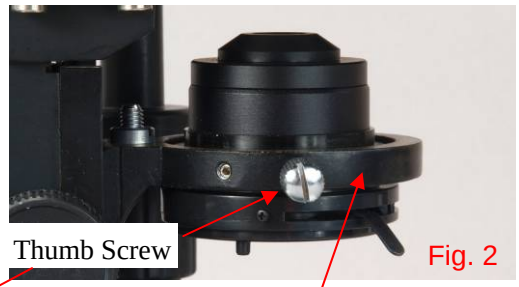

Fig. 2

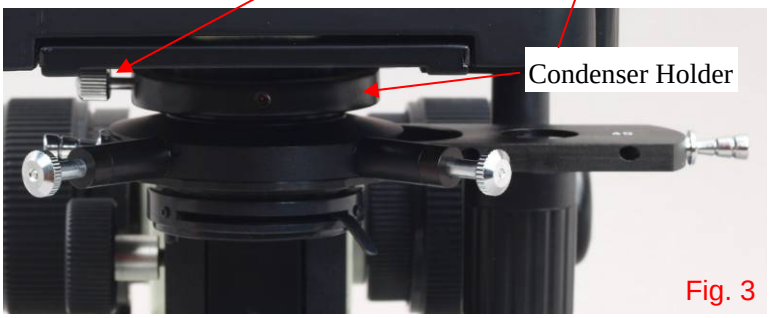

Fig. 3

Note: *there are 2 phase contrast objectives: 10X and 40X, and there are 2 condenser annular rings on the annular ring switch (3): 10X and 40X. The corresponding objective and annular ring must work together, i.e.,* ***10X*** *phase contrast objective must work with* ***10X*** *condenser annular ring, and so on.*

2.2 Centering the condenser ring plate

1) Connect the power cord to the microscope and insert the plug into a power outlet.
2) Turn the desired phase contrast objective into light path. Slide the annular ring switch to the required annular ring corresponding to the phase contrast objective in the light path.
3) Remove one eyepiece from the microscope eyepiece tube and insert the centering telescope (2).
4) Observe from the telescope. The bright ring and dark ring should be coincided with each other as shown in Fig.4 (d).
5) If the ring images are not clear, turn the top of telescope until both ring images are in focus.
6) IF the bright ring is still obscure as in Fig.4 (b), adjust the condenser focusing knob.

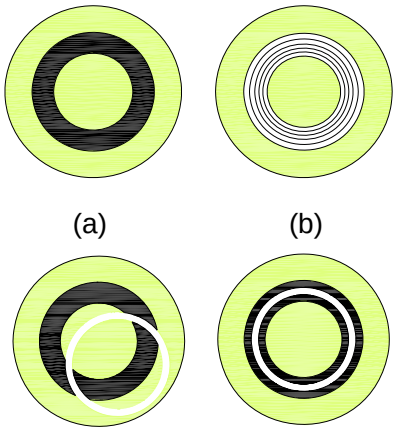

Fig. 4

7) If the two ring images are not coincided as shown in Fig.4 (c), adjust the two centering screws on the phase contrast condenser (4).
8) Remove the centering telescope (2) and replace the eyepiece.

2.3 Perform the phase contrast observation

Perform the phase contrast observation the same way as a normal bright field

microscope.

Note: *when change to another phase contrast objective and corresponding condenser ring plate, the focusing and centering of bright ring and dark ring should be repeated following the procedures from 2.2-2) to 2.2-8).*

Tips:

1. *Make the illumination as bright as possible.*
2. *The thinner the specimen, the better the image.*
3. *Slide the annular ring switch to the middle position, the phase contrast condenser will work as a normal bright field condenser.*

3 Specifications

Model	A1PHC1
Phase Contrast Objective	Achromatic Plan 10X/0.25, 160/0.17 with built-in phase plate Achromatic Plan 40X/0.65, 160/0.17 with built-in phase plate, spring
Condenser	Abbe condenser, NA1.25 with iris diaphragm
Annular Ring Switch	For 10X phase contrast objective For bright filed objective For 40X phase contrast objective
Centering Telescope	Focusing adjustable