



INSTRUCTIONS

U-PCD2

Phase Contrast Condenser

This instruction manual is for use of the Olympus Phase Contrast Condenser Model U-PCD2. To ensure the safety and obtain optimum performance and to familiarize yourself fully with the use of this unit, we recommend that you study this manual thoroughly before operating the microscope. Retain this instruction manual in an easily accessible place near the work desk for future reference.



A X 7 3 5 7

BEFORE USE

This unit employs the UIS2/UIS optical system and should be used only with UIS2/UIS microscopes, eyepieces and objectives. Less than optimum performance may result if inappropriate accessories are used.

Caution:

If the condenser is used in a manner not specified by this manual, the safety of the unit may be impaired. In addition, the unit may also be damaged. Always use the unit as outlined in this instruction manual.

1 FEATURES

1. 3 kinds of the light annuli are built into this turret condenser, allowing the following observations by changing the light annuli.

Phase contrast observation: 10X, 20X, 40X, 100X

Darkfield observation: 10X or higher

Brightfield observation

2. This phase contrast condenser makes it possible to center each light annuli.

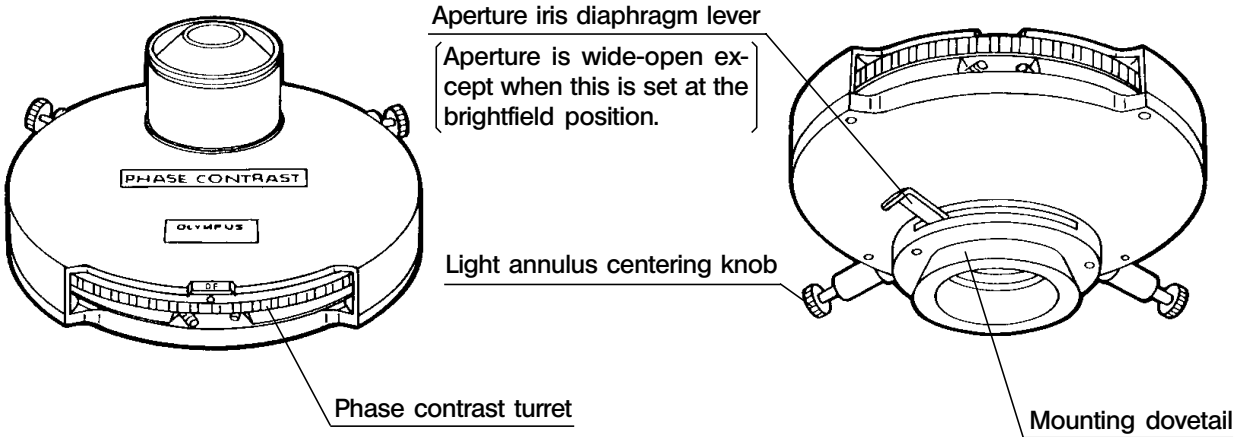
3. Applicable phase contrast objectives are as follows:

UIS2 series UPlanFLN 10Xph, 20Xph, 40Xph, 100XOph
PlanN 10Xph, 20Xph, 40Xph, 100XOph

UIS series UPlanFI 10Xph, 20Xph, 40Xph, 100XOph
Ach 10Xph, 20Xph, 40Xph, 100XOph
Plan 10Xph, 20Xph, 40Xph, 100XOph

2 NOMENCLATURE

Phase Contrast Turret Condenser



3 ASSEMBLY

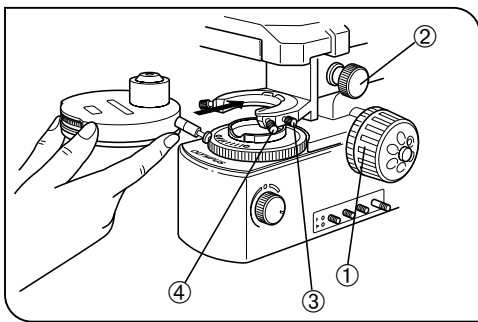


Fig. 1

■ Mounting on the Microscope

1. Rotate the coarse adjustment knob ① to fully raise the stage.
★ Be careful not to raise the stage too much to avoid accidental contact with the objective lens and specimen.
2. Lower the condenser holder with the condenser height adjustment knob ② until it stops at the lower limit.
3. Loosen the condenser clamping knob ③.
4. Insert the phase contrast turret condenser into the dovetail guideway of the condenser holder until the positioning pin of the condenser is engaged in the positioning groove of the mounting dovetail guideway.
5. Tighten the clamping knob of the condenser holder.
6. Raise the condenser holder until it stops at the upper limit.

4 OPERATION

■ Center the Phase Contrast Condenser

1. Rotate the phase contrast turret until the letter "0" can be seen in the central window, and open the aperture iris diaphragm fully.
2. Place a specimen on the stage, bring the 10X objective into the light path and focus on the specimen.
3. Reduce the field iris diaphragm of the microscope frame.
4. While looking through the eyepieces, move the condenser up and down with the condenser height adjustment to focus on the image of the field iris diaphragm.
5. Adjust the condenser centering knobs ④ to bring the diaphragm image into the center of the field of view.

(Figs 1 & 2)

- Widening the diameter of the field iris diaphragm progressively, repeat this operation until the reduced image of the diaphragm becomes inscribed in the circle which indicates the field of view.
- When opening the field iris diaphragm, the image may be out of focus. Re-focus with the condenser height adjustment knob.

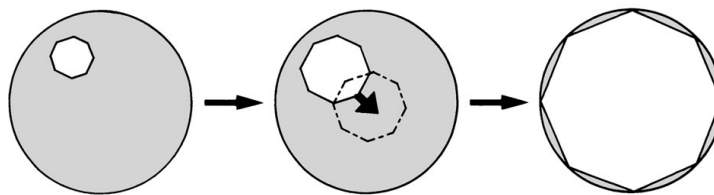


Fig. 2

■ Phase Contrast Observation

1. Swing the objective of your choice into the light path.
2. Rotate the phase contrast turret until the turret index dot indicates the Ph number seen through the central window which corresponds to the Ph number indicated on the side of objective lens.
3. Focus roughly on the specimen.
4. Remove one of the eyepieces, and insert the centering telescope U-CT30 into the eyepiece sleeve.
5. Rotate the top lens assembly of the U-CT30 to bring the bright ring (light annulus in the condenser) and the dark ring (phase annulus in the objective) in focus.
6. Rotate the two light annulus centering knobs ① of the condenser until the light annulus and phase annuli are concentric and superimposed. (Fig. 3)

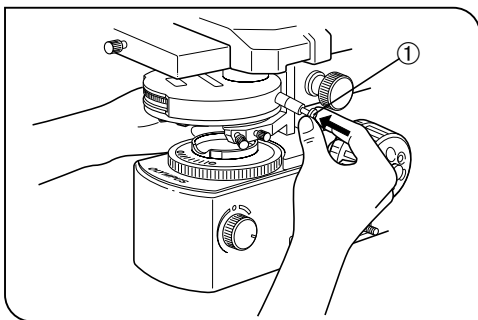
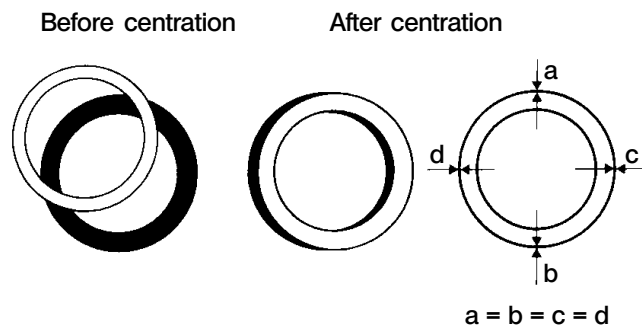


Fig. 3



★ The other phase annuluses should be centered in the same manner.

In case Ph1 is indicated on both 10X and 20X objectives, for observation purposes, once the phase annulus is aligned for 10X, it's unnecessary to realign the phase annulus for 20X.

However, for the purpose of photomicrography, it is recommended the phase annulus be aligned for each objective even though the same Ph number may be indicated on the objective lens.

7. Remove the U-CT30, and insert the eyepiece back into the eyepiece sleeve.

Now you can start your phase contrast observation with any phase contrast objective and corresponding light annulus as desired.

■ Darkfield Observation

1. Rotate the turret until "DF" can be seen in the central window.
2. Engage the 10X or higher objective.

★ Objectives with NA 0.7 or lower NA and objectives with iris diaphragm can be used.

3. Place the specimen on the stage and move the stage up and down to bring the specimen into focus.
4. Move the condenser up and down until uniform darkfield illumination is attained.
5. Open the field iris diaphragm to the extent that even brightness is attained.

★ Keep eyes away from the eyepieces while changing the objective during darkfield observation, or changing from darkfield to another observation mode.

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