

## Setting up your Richter Optica U2 Microscope for simple phase contrast observations

Shown below is the simple phase contrast kit used on the Richter Optica model U2 Microscope. It consists of one 40x Phase Contrast objective lenses, a centering telescope and a phase slider.

### To install:

- First attach the 40x phase lens into the nosepiece



- Next, you'll need to remove the existing plug in the condenser and insert the phase slider in its place.



- Not all phase contrast microscopes are the same but generally they rely on similar techniques to set up the system for optimum results. In the system shown below, the condenser has 5 settings, 4x, 10x 40x, 100x, PH. 4x-100x are for your brightfield settings with no Phase. Move your slider to the PH setting when using the 40x Phase lens.

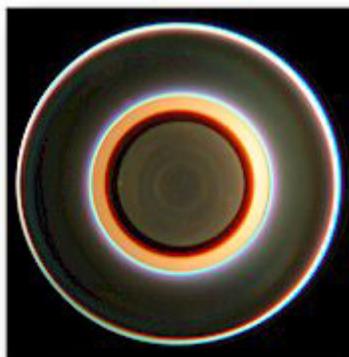
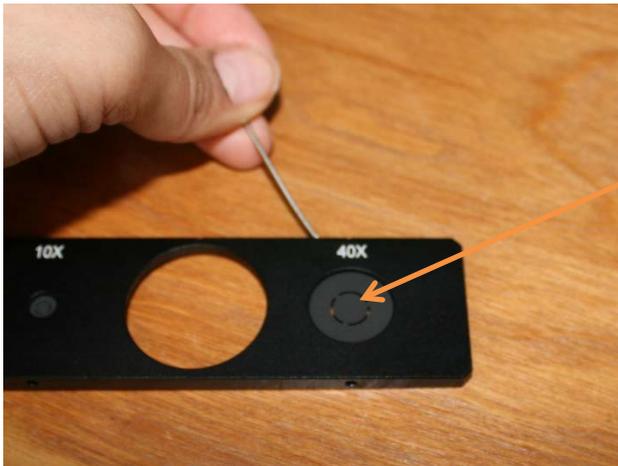


**To begin observation:**

- To set use your microscope for phase contrast, first set the condenser at BF for 4x and focus on the specimen. Then do the same with the 10x. Make sure you are adjusting the height of the condenser for optimum image quality.
- Next, set the condenser turret to the phase setting.
- Rotate the 40x Phase lens into the optical path and adjust if necessary on the specimen.
- Pull the phase slider out away from the microscope until you hear it click into place on the 40x setting.
- Next, you will need to remove one of the eyepiece lenses and insert the centering telescope in its place. The set screw is used to focus the centering telescope.



- When looking through the centering telescope, you will see two rings. They may or may not be concentric. By using a small allen wrench, you center the 40x ring on the phase slider so that the rings you see when looking through the telescope are concentric (see the image below).



***Image once aligned and optimized for Phase Contrast***

- Finally, remove the centering telescope and replace the eyepiece lens. Put your specimen back on the stage and you are ready for phase contrast observations.