Instruction on Centering Phase Contrast and Dispersion Staining Condenser and Properly Achieving Koehler illumination

For Meiji Techno America models MT6130, MT6120, MT6820, MT6830

Step 1: Need to align the ring slip when using dispersion staining objective. Please find attached simple manual below

Step 2: When dispersion staining objective is used, only polarizer have to engage. Analyzer must remove from the slot.

(Also check the prepared sample slide if it was expired because that can change the colour as it use reflective index 1.550 that has an expiry date.)
How to get proper color with Chrysotile Sample

- **Make sure rotatable swing out polarizer located on the lamp house is properly made the orientation in cross polar.**
- **Make the condenser alignment.**

Then you will get a right blue and magenta colour.

Note: Please note that stage is not centerable, instead of the stage use two short drivers to center the objective from the nosepiece. Strain free objective 10X in fix position and objectives must install in centerable nosepiece position.

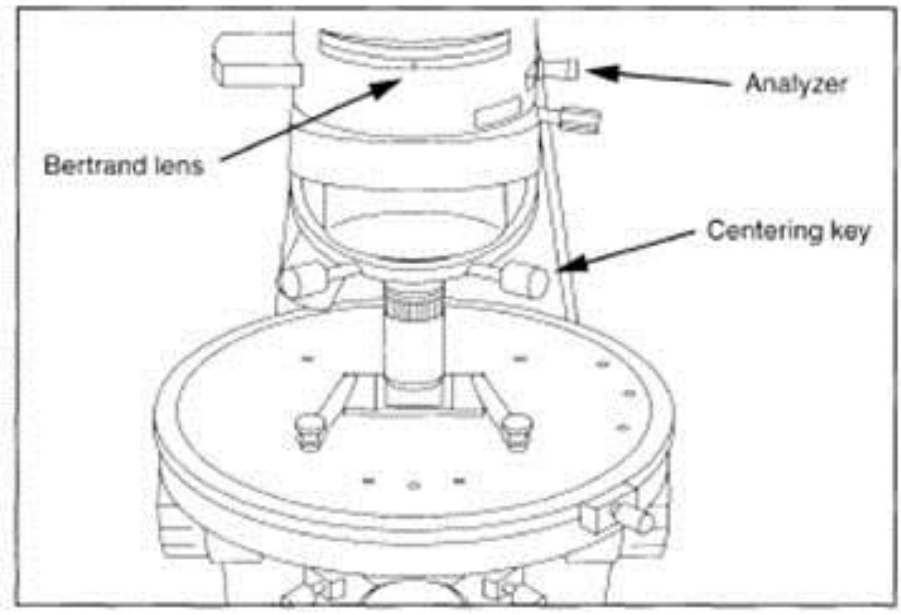
Note: Please refer to the Section 1.0 to center the objectives and Section 2.0 to adjust the koehler light on the next pages of this manual.

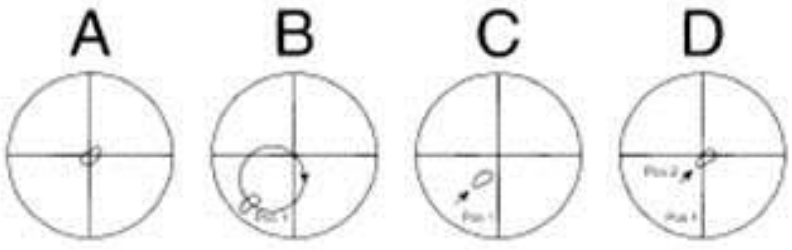
1.0 Centering the Objectives

When objectives are not centered, specimens may leave the field of view when rotating the stage. Perform the steps below if objectives are not centered properly:

1. Before starting, make sure that the 10X objective is installed in the fixed hole of the nosepiece. This is the position that does NOT have centering screws. All objectives will be adjusted against the 10X position.
2. Make sure the Bertrand Lens, the analyzer and any other sliders are clear of the optical path and the iris on the illuminator is open all the way.
3. Use a small grain or some type of target and place it in the center of the field of view with the 10X objective and bring it into focus as shown below in “A”.
4. Center the target by rotating the stage and evaluatng how centered the target appears.
5. Once the target is centered, move to the next highest objective and insert the centering keys into the nosepiece for that position.
6. Bring the specimen again into focus and note its position in the field of view.
7. Rotate the stage until the target moves farthest away from the crossline at the as shown below in “D” (Position 1).
8. Adjust the centering screws on the nosepiece until the target is midway between Position 1 and the crossline as shown in “D”
9. Rotate the stage and evaluate centricity. One may need to repeat this procedure until the target stays in the center of the crossline when the stage is rotated (“D”).

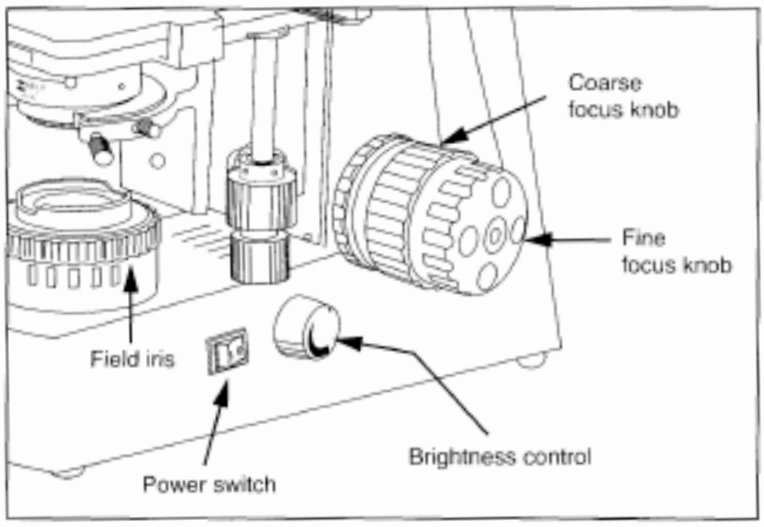
Repeat these steps for all other objectives in the nosepiece. To maintain centering, it is important that objectives be handled very gently and only touched on the knurled portion when changing objectives.





2.0 Achieving Koehler Illumination

- Turn on the miscroscope Power switch and set the illumination to a comfortable level.
- Establish one field of view by adjusting the inter-pupillary distance of the Siedentopf viewing head.
- Make sure that the Bertrand Lens, analyzer and any other sliders are clear of the optical path and that the iris diaphragm on the condenser is all the way open.
- Rack up the condenser to its highest position or until the top element of the condenser is approximately 1mm below the bottom of the slide.
- Place a familiar specimen on the stage. Using the 10X objective, bring the specimen into focus.
- While viewing the specimen, close down the field diaphragm just enough so that the inner edge of the iris leaves are visible as shown in figure “A”.
- Use the condenser focusing knob to slightly lower the condenser to bring the edge of the iris leaves into sharp focus as shown in figure “B”.
- By using the two condenser centering screws, adjust the iris opening so it is centered in the middle of the field of view as shown in figure “C”.
- Open up the field diaphragm so that it just clears the edge of the field of view as shown in figure “D”.



"A" "B" "C" D

MEIJI TECHNO CO.,LTD.

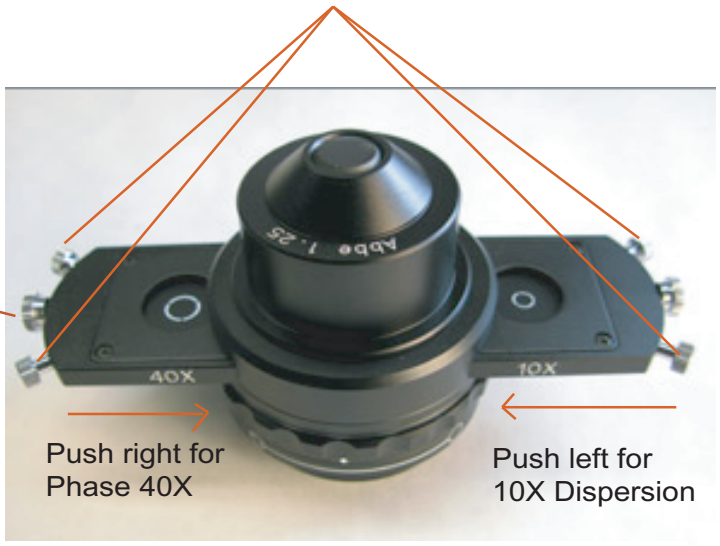
MEIJI TECHNO
322-1, Chikumazawa,Miyoshi-machi,Iruma-gun
Saitama 354-0043, Japan

Tel :81-(0)49-259-0111
Fax :81-(0)49-259-0113
E-mail:meiji@meijitechno.co.jp
http://www.meijitechno.com

MEIJI TECHNO

Instruction on centering phase contrast and dispersion staining condenser

After slidinging into corresponding objective magnification such as Dispersion 10X or U plan Phase 40X, remove one eyepiece, replace with Centering Teclescope, then using two centering screws, please align the ring slit to match the phase plate of the objectives.



Rotate the 10X objective into the working position. Close the "Iris Adjustment" by cranking the knob all the way to the left. When looking into the eyepieces, one will see the aperture hole of the diaphragm. It may or may not be centered in the field of view or FOV. You may also need to focus the microscope so the edges of the aperture hole are clear to see.

Place each hand on each of the "Condenser Centering Screws" while at the same time, looking into the eyepieces and adjusting the centering screws until the aperture hole is in the center of the FOV.

MEIJI TECHNO CO.,LTD.

MEIJI TECHNO

322-1, Chikumazawa,Miyoshi-machi,Iruma-gun
Saitama 354-0043, Japan

Tel :81-(0)49-259-0111
Fax :81-(0)49-259-0113
E-mail:meiji@meijitechno.co.jp
http://www.meijitechno.com

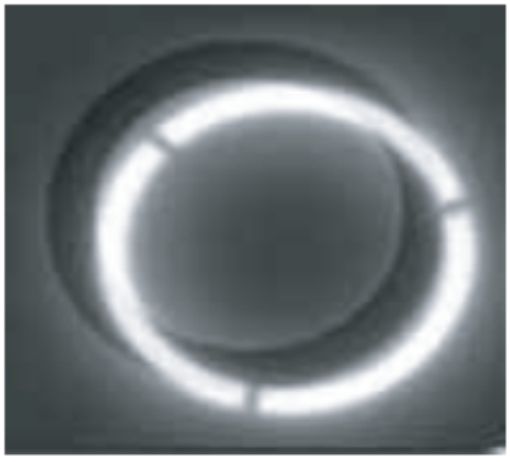
MEIJI TECHNO

When centered, the aperture will be in the center of the field of view as demonstrated in the picture at left.

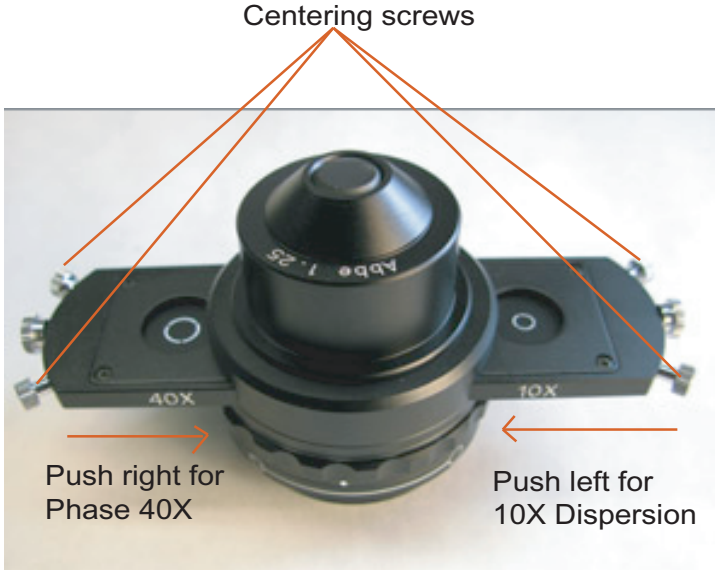
Next, remove the right eyepiece and in its place, insert the centering telescope.

The top of the centering telescope has a focus adjustment which will be held in one hand with the other hand holding the body.

While looking into the centering telescope, adjust the focus so you may get a sharp image of the phase annuli to be adjusted.



When the annuli are not aligned, one will see an image similar to the picture at left: one light ring is not aligned with the other.



After slidinging into corresponding objective magnification such as Dispersion 10X or U plan Phase 40X, remove one eyepiece, replace with Centering Teclescope, then using two centering screws, please align the ring slit to match the phase plate of the objectives.