

## Setting up and using the phase contrast device



Figure – Adjusting the phase contrast device - Conversion

- The phase contrast device is used to microscopy specimens with low contrast.
  - The phase contrast device is only included in the scope of delivery for models MBL4000-T-PH-LED; MBL4000-T-F-PH-LED.

### Setting the phase contrast device

#### ⇒ Procedure

1. Replace the objectives in the revolving nosepiece with the **phase contrast objectives (1)**.
  - These phase contrast objectives are marked **PHP** and the writing on the objectives is **green**. There is no 4X phase contrast objective.
    - ✓ The correct objectives for phase contrast microscopy are screwed in.
2. Replace the condenser with the **phase contrast device (2)**.
  - ⓘ The condenser of the MBL4000 series phase contrast device can be used in bright-field and also in phase contrast. The phase contrast device has no dark-field setting.
    - ✓ The correct condenser for phase contrast microscopy is screwed in.
3. Underneath the mechanical stage, on the left-hand side of the microscope, turn the **knurled screw (5)** as far anti-clockwise as possible (away from the user).
  - ✓ The **phase contrast device (2)** is turned up as far as it will go.
4. Remove one eyepiece and replace it with the **centring telescope (4)**.
5. Use the lamp control to switch on the illumination and set a comfortable intensity.
6. Select the **10X phase contrast objective (1)** in the **revolving nosepiece** and set the **10X** selection on the knurled ring (3) of the **phase contrast device (2)**.

#### ↪ Continuation – Setting up the phase contrast device

→ Continuation – Setting up the phase contrast device



Figure – Setting the phase contrast device - Settings

7. Look through the **centring telescope (4)**, loosen the **screw on the centring telescope (6)** and slide the **centring telescope (4)** in and out until the visible light and dark rings are in **focus (8)**.
8. Use the **adjustment screws (7)** on the **phase contrast device (2)** to slide the **light-coloured ring over the dark ring (9)**.  
To do this, first push the thinner rod of the **adjustment screws (7)** inwards and then turn the **adjustment screws (7)**.
  - ☞ The dark ring is larger than the light ring, so the dark ring does not disappear completely.
    - ✓ The phase contrast device is set correctly.
9. Now adjust the light intensity, the height of the condenser, the field diaphragm and the aperture diaphragm, see instructions in chapter [4.2](#).
  - ☞ These settings correctly adjust the contrast, resolution and depth of field.

⇒ **Result**

The phase contrast device is set and phase contrast microscopy is prepared.

- Please note that phase contrast objectives in bright-field microscopy lead to a loss of quality in the microscope image. Phase contrast objectives are not suitable for bright-field microscopy.
- If not all magnifications are required in phase contrast microscopy, we recommend replacing only one or two objectives with phase contrast objectives.
  - ☞ This makes it easy to switch back and forth between phase contrast and bright-field.