

# Standard Operating Procedure for Changing the Keyence Microscope Lens

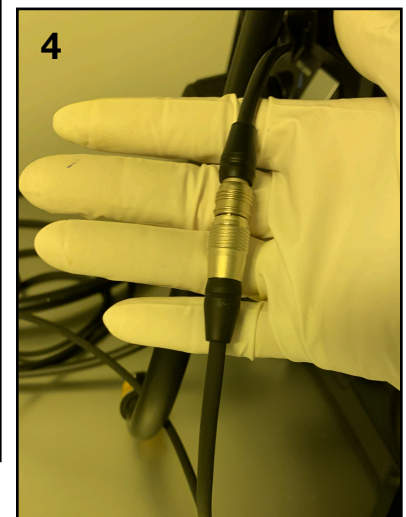
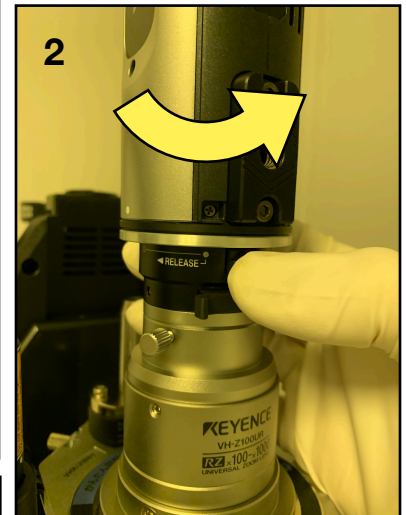
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## General Information

- Two lenses are available for use: a 1000x lens (VH-Z100UR), and a 5000x lens (VH-Z500T).
  - VH-Z100UR Features:**
    - 100x to 1000x zoom
    - Coaxial (full and directional) illumination, ring light, combination coax/ring lighting, differential interference contrast lighting, and polarized lighting
    - 25 mm working distance
    - A high-pass filter is available to avoid photoresist exposure
  - VH-Z500T Features:**
    - 500x to 5000x zoom
    - Coaxial (full and directional) illumination, partial lighting, and polarized lighting
    - 4.4 mm working distance
- The lenses are interchangeable. A camera and light source are connected to the mounted lens.
- The computer automatically recognizes the connected lens body.

## Removing the Lens from the Microscope

- Retrieve the empty case for the lens that you are removing from the cabinet.
- Pull the illumination fiber optic (coaxial) out of the left side of the lens body (see Figure 1). Carefully set it on the table. Do not touch the end.
- Remove the camera from the top of the lens body (see Figure 2):
  - Press and hold the release button at the top of the lens.
  - Rotate the camera to the right (counter-clockwise) so that the white alignment dot on the camera is lined up with the white dot on the lens body. Then, pull up on the camera to remove it.
- Mount the camera in the “Camera Holder” on the back of the microscope stand (see Figure 3). Use the white alignment dots to correctly insert the camera. Rotate it to the left (clockwise) to lock it into place.
- If you are removing the VH-Z1000UR, disconnect the cable shown in Figure 4.



6. Loosen the thumb screw at the back of the lens (see Figure 5), then lift up on the lens to remove it from the mounting rod.
7. Place the lens in its dedicated storage case.

### Installing the Lens on the Microscope

1. Retrieve the case containing the lens that you want to install from the cabinet above the monitor.
2. After the other lens has been removed from the microscope stand (see the section above), remove the desired lens from its dedicated case.
3. Place the lens on the mounting rod and tighten the thumb screw at the back of the lens (see Figure 5).
4. If you are installing the VH-Z1000UR, connect the communication cable shown in Figure 4.
5. Remove the camera from the “Camera Holder” on the back of the microscope stand.
  - Press and hold the release button at the base of the mount (see “a” in Figure 3).
  - Rotate the camera to the right (counter-clockwise) so that the white alignment dot on the camera is lined up with the white dot on the base. Then, pull up on the camera to remove it.
6. Mount the camera on the top of the Lens. Use the white alignment dots to correctly insert the camera (see Figure 6). Rotate it to the left (clockwise) to lock it into place.
7. Insert the illumination fiber optic (coaxial) into the left side of the lens body (see Figure 1).
8. Return the empty case to the cabinet above the monitor.

