

Keyence VHX-7000 user manual

Version of 2026-08-20.

1. Introduction

This manual explains how to operate the Keyence VHX-7000

2. Login on CAE

Login with your “CMi” username and password on the Zone 04 CAE computer.

3. Safety

- Never touch the objective lenses.
- Objectives must not be removed.
- Do not attempt to clean the objectives.
- Ensure positioning pins are fully inserted before moving the stage.
- Verify sufficient clearance before using autofocus.
- Keep the stage surroundings clear.

4. Operation

Stage/loading/unloading

Action	Procedure
Load 6-inch or 8-inch wafers	Remove the 4-inch positioning pins and store them in the box next to the microscope. Install the pins in the appropriate 6-inch or 8-inch positions.
Move the stage	Use the XY stage joystick for large movements or double-click the observation window for small displacements. Double-clicking also starts autofocus.
Load / unload samples	Move the stage to the load position before loading or unloading a sample.

Observation window

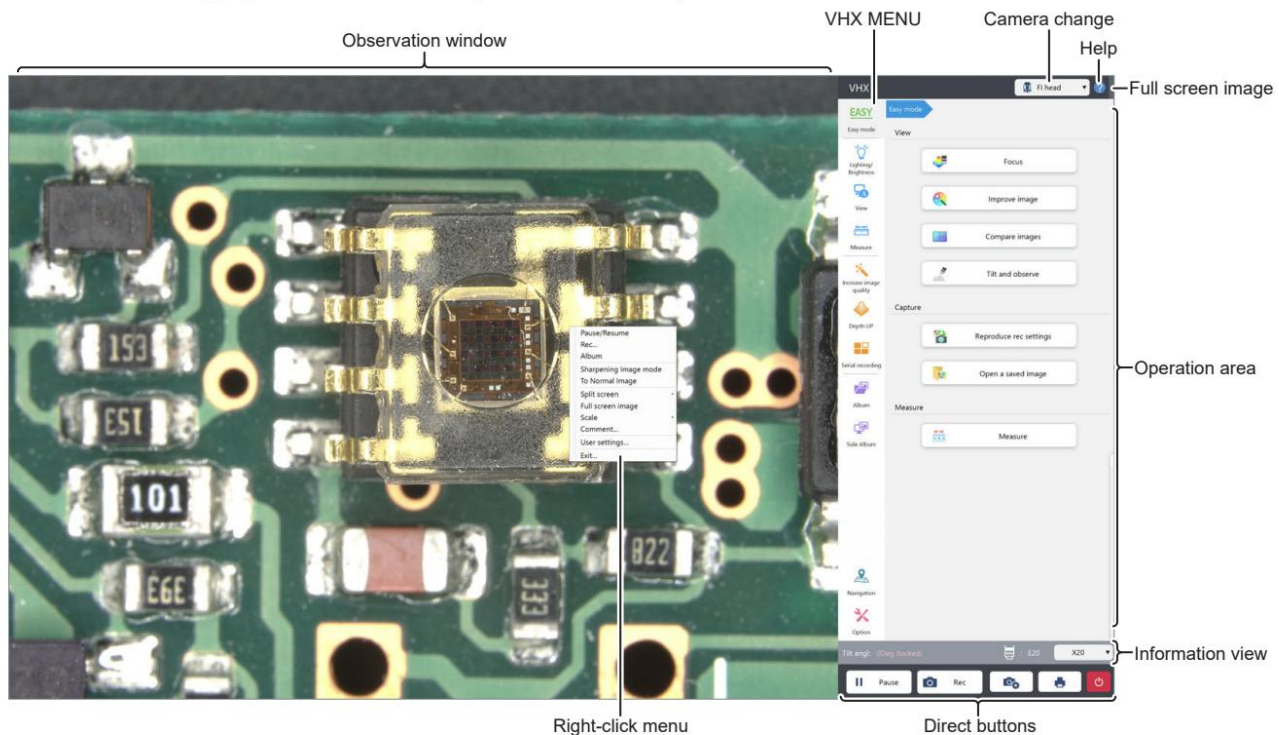


Figure 1: Software overview

Figure 1 show the software window. When the right mouse button is clicked over the observation window the following options appear:

Function	Description
Pause/Resume	displays frozen and live image
Rec	captures the displayed image
Album	allows playback and editing of captured image files.
Sharpening Image mode	applies vivid color enhancements and profile emphasis to the image
Split screen	splits the observation window to compare images
Scale	displays a scale on the observation screen

VHX Menu

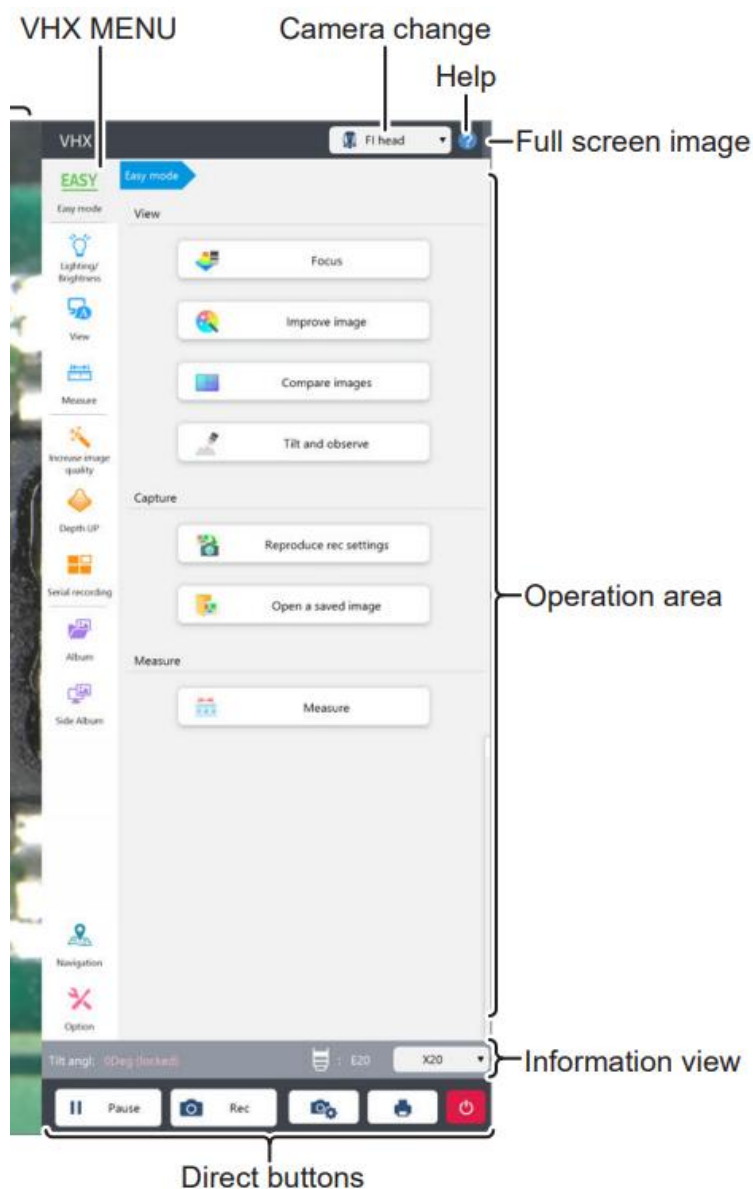


Figure 2: VHX Menu

Figure 2 shows the VHX menu, located on the right side of the software window. The following options are available:

Menu	Purpose
Easy Mode	Quick access to common functions (“focus”, “improving image”, “comparing image”, etc)
Lighting/brightness	Illumination settings
View	Change zoom, split screen
Measure	Measurements tools such as distances, areas, and angles of the object
Increase Image Quality	Advanced enhancement (increase the resolution HDR, remove glare, change the illumination direction)

Depth UP	Extended depth-of-field, it can be used to form a 3D image.
Serial Recording	Image stitching
Album	Image review and management

Console

The console allows for use of all primary functions during the manual use mode of the Keyence microscope. Only the most important functions will be described. For further information please refer to the official VHX-7000 manual present on the desktop of the Keyence computer.

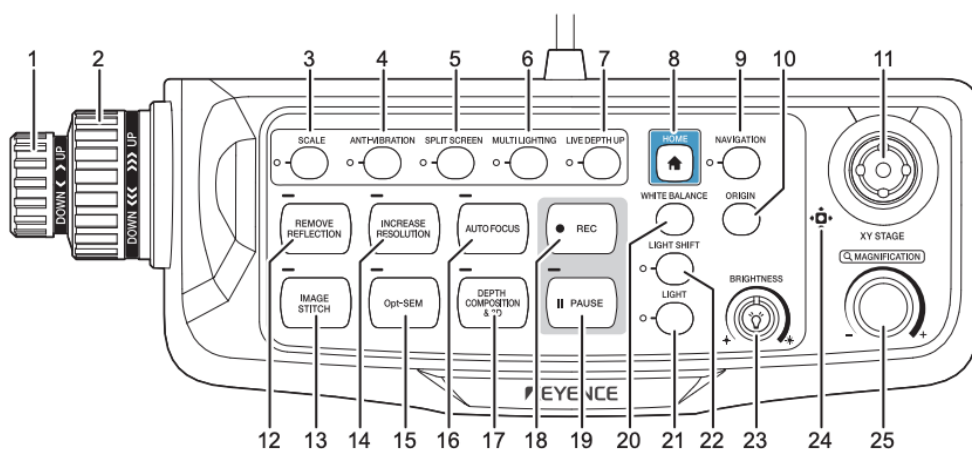


Figure 3: Console for control of the Keyence microscope.

No.	Control	Function
1-2	Fine and Coarse Focus	Adjust the Z position for focusing.
3	Scale	Show or hide the scale bar.
4	Anti-Vibration	Reduces vibrations. May create artefacts on fine structures, especially in darkfield mode.
8	Home	Restore default imaging settings. Does not move the stage.
9	Navigation	Show or hide the navigation window.
10	Origin	Move the XY stage to its centre position.
11	Joystick	Move the XY stage. Stage speed decreases with increasing magnification.
12	Remove Reflection	Reduce glare on reflective samples using multiple illumination conditions.
13	Image Stitch	Open the image stitching menu.

16	Autofocus	Automatically focus the image using the area defined by the green square.
17	Depth Composition / 3D	Combine multiple focal planes into a single image. Useful for samples with large height variations.
18	REC	Capture and save the current image.
19	Pause	Freeze or resume the live image.
20	White Balance	Adjust the white balance.
21	Light	Turn the illumination on or off.
22	Light Shift	Change the illumination direction to enhance surface topography.
23	Brightness	Adjust image brightness.
24	XY Stage LED	Blinking: stage initialization in progress. Solid: stage ready.
25	Magnification	Change magnification.