

User Manual

Trinocular Zoom Stereo Microscope Body

Model HV43N

The logo for OMAX, consisting of the word "OMAX" in white, uppercase, sans-serif font, centered within a solid blue rectangular background.

OMAX

Table of Contents

I. Caution.....	1
II. Care and Maintenance	1
1 Components Illustration.....	2
2 Installation	2
3 Operation.....	3
4 Specifications	5
5 Troubleshooting Guide	5

I. Caution

1. Find the “UP” sign and place the Styrofoam container on the table or bench so that the arrow is pointing upward. Open the shipping carton carefully to prevent any accessories or small items (i.e. eyepieces) from dropping and being damaged.
2. Do not discard the molded Styrofoam container. The container should be retained should the microscope ever requires reshipment.
3. Keep the instrument out of direct sunlight, high temperature or humidity, and dusty environments. Ensure that the microscope is located on a smooth, level and firm surface.
4. The boom stand is heavy. Put it on a sturdy and level surface. Be careful during assembly, operating, or moving it.

II. Care and Maintenance

1. Do not attempt to disassemble any component including eyepieces, objectives or focusing mechanism.
2. Keep the instrument clean; remove dirt and debris regularly. Accumulated dirt on metal surfaces should be cleaned with a damp cloth. More persistent dirt should be removed using a mild soap solution. **Do not use organic solvents for cleansing.**
3. The outer surface of the optics should be inspected and cleaned periodically using an air stream from an air bulb. If dirt remains on the optical surface, use a soft cloth or cotton swab dampened with a lens cleaning solution (available at camera stores). All optical lenses should be swabbed using a circular motion. A small amount of absorbent cotton wound on the end of a tapered stick makes a useful tool for cleaning recessed optical surfaces. Avoid using an excessive amount of solvents as this may cause problems with optical coatings or cemented optics or the flowing solvent may pick up grease making cleaning more difficult.
4. Store the instrument in a cool, dry environment. Cover the microscope with the dust cover when not in use.

1 Components Illustration



- 1. Eyepiece
- 2. Diopter Ring
- 3. Eyepiece Tube
- 4. Swapping Lever
- 5. Zoom Knob
- 6. Objective Housing

2 Installation

2.1 Installing the microscope body and photo tube

- 1) The microscope body should work with a boom stand or table stand, which has a microscope body holder to hold the microscope.
- 2) Loosen the body lock thumb screw on the focus block ring holder.
- 3) Insert the trinocular head into the ring holder, make sure it seats on the ring firmly, and tighten the locking screw.
- 4) Screw on the photo tube (**Fig. 1**).

(The microscope stand is sold separately.)



Fig. 1

2.2 Change the Eyepieces

- 1) Loosen the set screw on each eyepiece tube.
- 2) Take off the eyepieces.
- 3) Insert the eyepieces you want to use into the eyepiece tube. Tighten the set screw on each eyepiece tube.

3 Operation

3.1 Focusing

There is no focusing mechanism with the microscope body.

Normally, the focusing mechanism is on the stand. The following is a focus adjustment of microscope body working with a boom stand:

- 1) Put the specimen under the microscope.
- 2) Turn the zoom adjusting knob to the maximum magnification (4X).
- 3) Set the lower edge of diopter adjusting ring to their original positions (**Fig. 2**).

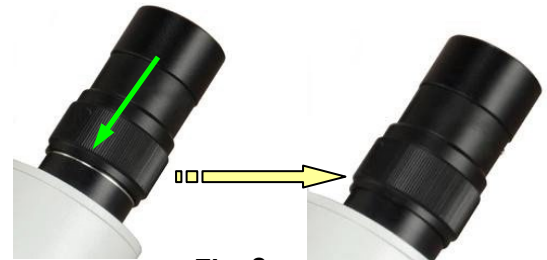


Fig. 2

This is important for par-focal when you zoom in or out. The only case you need to turn the diopter off the white line is that you have different eye sights between your two eyes.

- 4) Observe the specimen through the right eyepiece and make the image clear by turning the focusing knob. If you couldn't get the specimen focused, you may need to adjust the height of the horizontal bar by moving it along the stand post. Refer to the notes in red below if you still have problems.
- 5) Rotate the zoom adjusting knob to the minimum magnification (1X).
- 6) Observe the specimen through the right eyepiece and make the image clear by turning the right diopter adjusting ring.
- 7) Redo the step (2), (4), (5) and (6) till the right adjusting ring is more precise.
- 8) Do the step (5) and make the image clear which is observed through the left eyepiece by turning the left diopter adjusting ring.
- 9) Turn the zoom adjusting knob to get the desired magnification.
- 10) If auxiliary objective lens is applied, the working distance changed significantly and the horizontal has to be moved up or down accordingly.

3.2 Adjusting interpupillary distance

While observing with both eyes, adjust the prism housing along the direction of arrowhead of the **Fig. 3**. The interpupillary distance is correct when the left and right fields of view converge completely into one image.

3.3 Using eye guards

- 1) For users who do not wear glasses, hold the diopter-adjusting ring to prevent them from rotating and turn the eyepiece until the eye guards fit the observer well.
- 2) For users who wear glasses, take the eye guards off before observation.



Fig. 3

3.4 Mounting the 0.5X auxiliary objective

- 1) Loosen and take off the cover (the black piece on the bottom of objective housing).
- 2) Screw on the thread auxiliary objective lens (**Fig. 4**).



Fig.4

3.5 Mounting the illumination device (optional, may not included in your package)

- 1) Screw on the 48mm thread ring light adapter.
- 2) Attach the ring light on the ring light adapter with tube-side facing down.
- 3) Tighten the 3 screws to lock the ring light on the adapter (**Fig. 5**).
- 4) Connect the power adapter (some models have the adapter built-in the light unit) to the ring light and power outlet.

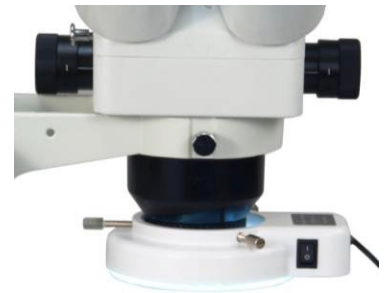


Fig. 5

Note:

- The illumination is optional and may have different color and shape from the one in the figure, depending on the model purchased.

3.6 Installation and operation camera (optional, may not included in your package)

- 1) Insert the camera into the photo tube, and then connect the camera to a computer (USB/wi-fi models) or monitor (HDMI models). (**Fig. 6**)
- 2) Bring the microscope into focus by following the procedures in **3.1**.
- 3) Pull out the shutter pin as shown in **Fig. 7**.
- 4) If the image is not clear, rotate the photo tube's adjustment ring up or down until the image is clear, then tighten the lock screw.



Fig. 6

Note:

- After pulling out the shutter pin, the left eyepiece will be disabled.

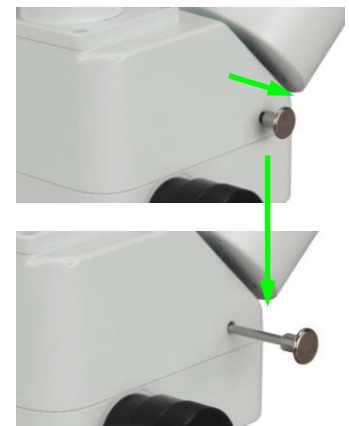


Fig. 7

4 Specifications

Model	HV43N
Total Magnification	7X - 45X (10X eyepieces), 14X – 90X (20X eyepieces)
Microscope Body	Trinocular, 45° inclined, 360° swiveling Adjustable Interpupillary distance 55 ~ 75mm (2-3/16" ~ 2-15/16") Adjustable diopter on both eyepiece tubes
Eyepieces	1 pair of SWF10X/22 1 pair of WF20X
Objectives	Zoom 0.7X – 4.5X
Auxiliary Objective Lens	0.5X
Aux Lens Mounting Diameter	50mm
Stand Mounting Diameter	84mm

5 Troubleshooting Guide

Problem	Cause	Solution
Totally dark in the view field	The cover of objective housing is still on	Take off the lens cover
Vision Issues	Eyes do not align with the eyepieces	Adjust the interpupillary distance
	The right and left eyepiece do not focus the same	Verify the eyepieces match
		Adjust the diopters to the same position
Dirt or dust on the view	Dirt or dust on the eyepiece lens, objective lens, auxiliary lens	Clean the lens with a camera cleaning kit
	Dirt or dust on specimen	Clean the specimen
Image Blur when zoomed	Diopter adjustment of the eyepieces is not complete	Complete diopter adjustment
	Focus adjustment is not complete	Complete focus adjustment