

User Manual

3D VGA Industrial Inspection Microscope

Model PD512VGA Series



MicroscopeNet.com

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i. Caution

1. Do not discard the microscope container. The container should be retained should the microscope ever requires reshipment.
2. 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.
3. If any specimen solutions or other liquids splash onto the stage, wipe up the spillage immediately. Otherwise, the instrument may be damaged.

ii. Care and Maintenance

1. Do not attempt to disassemble any component including eyepieces, objectives or focusing assembly.
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 solvent 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 and dry environment. Cover the microscope with the dust cover when not in use.

1. Components Illustration



- | | | |
|----------------------|----------------|--------------------|
| 1. Stand Post | 5. Focus Block | 9. Microscope Body |
| 2. Microscope Holder | 6. Stage Plate | 10. Zoom Ring |
| 3. Thumb Screw | 7. Base | 11. Ring Light |
| 4. Focus Knob | 8. Camera | 12. 3D Attachment |

2. Installation

2.1 Installation of the stand post

- 1) Find the 4 holes on the base for stand post.
- 2) Align the 4 threaded holes on the bottom of the post to the 4 holes on the base.
- 3) Turn 4 screws into the holes, and then tighten them by Allen key.



2.2 Installation of the microscope body

- 1) Loosen the thumbscrew on the microscope holder.
- 2) Insert the microscope body into the holder. Be certain that the scale of the zoom ring is facing toward you.
- 3) Tighten the thumb scale on the holder.



2.3 Installation of the ring light

- 1) Slip the ring light on the microscope body from the bottom.
- 2) Align the tips of the screws to the groove.
- 3) Tighten the screws on the ring light.



2.4 Installation of the 3D attachment

Install the 3D attachment onto the thread of the 1X objective as shown in the figure.



2.5 Installation of the camera

- 1) Thread on the camera onto the top of the microscope (the camera may have been installed before shipping out)
- 2) Connect the camera and a monitor (with VGA port) with a VGA cable.
- 3) Connect the power adapter of camera.

3. Operation

3.1 Placing specimen

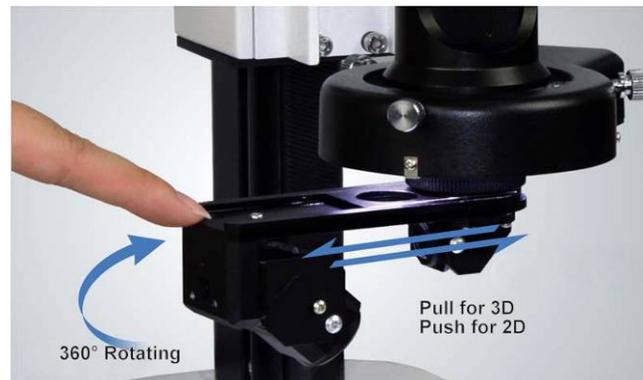
Place the specimen on the center of the stage plate.

3.2 Focusing (2D)

- 1) Push the 3D attachment in so that the center opening is in the light path.
- 2) Turn the focus knob so that the distance between the surface of specimen to be examined to the bottom of the objective lens is about 95mm.
- 3) Turn the zoom ring to its lowest position (0.3X).
- 4) Adjust the focus knob until the specimen is in focus. Then move the specimen slightly and carefully so that the observing area is in the center of screen.
- 5) Adjust the zoom ring to zoom the viewing in or out.
- 6) Adjust the focus knob if necessary.

3.3 3D Observation

- 1) Pull out the 3D attachment as shown in the picture.
- 2) Turn the 3D attachment as shown in the picture and move the specimen slightly to find the spot to be examined.
- 3) Adjust the focus knob as necessary.



4. Specifications

Model	PD512VGA
Total Magnification	Zoom 7X ~ 150X (using 17" monitor and 1X objective lens)
Eyepiece	N/A
Zoom	0.3X ~ 2.2X, ratio = 7:1
Objectives	1X
Working Distance	95mm (3-3/4")
Field of View	3.5mm ~ 25mm (1/8" ~ 1")
Depth of field	6mm ~ 0.086mm (1/4" ~ 0.003")
Focusing Mechanism	Focusing knobs on both sides Rack and pinion adjustment, stroke 165 mm (6-1/2")
Camera	Resolution:1280x1024 pixel 1/2" CMOS, 35ft/s VGA port
Light	72 matrix LED ring light 4 individual controlled sections
3D attachment	360 degree rotating 36 degree viewing angle Slide in/out for 3D/2D observation
Stand	Body holder diameter: ID 50mm (2") Base size: 315mm x 305mm Stage plate: black/white plastic, OD 95mm
Dimension	31.5cm x 30.5cm x 35cm (12-3/8" x 12" x 13-3/4")
Net weight	4.5 kg (9 lb 14 oz)

5. Troubleshooting Guide

Symptom	Cause	Remedy
Stains or dust on the field of view	Stains or dust on the eyepieces or objectives	Clean the lens with a camera cleaning kit
	Stains or dust on the specimen	Clean the specimen
Can not focus	The focus block/objectives is too far away or too close to the specimen and out of the range of focus stroke	Adjust the focus knob so that the distance between the objective and specimen is about 95mm.
Live view window is too dark	Light is not enough	Increase the intensity of the ring light
	Set up in software is not proper	Increase the exposure time Increase the brightness values increase the gain values