



1600 Series

Cynmar Zoom Stereo Microscopes

The 1600 Series Zoom Microscopes are binocular or trinocular stereo microscopes which can magnify objects to show stereo upright images. They provide clear high-contrast images, both wide field and long working distances. They can be used for medical and health, farming and forestry, schools and scientific research institutes, as well as for the inspection, assembling, and repair of tiny spare parts in electronics and precision machine industries.

Specifications:

- Zoom range: 0.7x to 4.5x
- Eyepiece field size: 22mm
- Binocular tubes inclined at 45°, rotates 360°
- Interpupillary adjustment: 53-75mm
- Diopter adjustments: -5 to +5
- Anti-mildew coating on all optics
- Modes of illumination: transmitted light, reflected light, and mixed light illumination
- Bulbs: 12V-10W halogen reflector bulb and 12V-10W halogen bulb
- Dimensions: 15.7" tall (399mm)
 Base size: 10 ¼" x 11 ½" (260mm x 290mm)

Eyeiece type	Magnification	Field view (mm)	Focus (mm)	Remark
Wide field view	10X	20	25	
Plan eyepiece	15X	15	16.7	Optional

Specifications with Standard Eyepieces and Optional Accessories			
Equipment	Magnification	Field Diameter	Working Distance
10x WF Eyepiece only	7x to 45x	28.6 to 4.4 mm	90 mm
15x WF Eyepiece only	10.5x to 67.5x	32.4 to 3.3 mm	90 mm
10x WF Eyepiece with Auxillary 0.5 Lens	3.5x to 22.5x	57.2 to 8.9 mm	137 mm
15x WF Eyepiece with Auxillary 0.5 Lens	5.3x to 33.75x	42.9 to 6.7 mm	137 mm
10x WF Eyepiece with Auxillary 1.5 Lens	10.5x to 67.5x	19 to 2.96 mm	48 mm
15x WF Eyepiece with Auxillary 1.5 Lens	15.8x to 101.3x	14.3 to 2.2 mm	48 mm

Components:

1. Eyepiece shade
2. Eyepiece
3. Diopter ring
4. Eyepiece tube
5. Binocular
6. Reflection illumination
power plug
7. Trinocular
8. CCD adjusting tube
9. CCD adapter
10. Zoom knob
11. Objective hood
12. Holding knob
13. Focus adjustment knob
14. Backstop
15. Power plug and socket
16. Power supply
17. Transmitted light brightness
adjustment knob
18. Specimen clip
19. Translucent plastic stage
20. Reflection light brightness
adjustment knob
21. Tube holding screw
22. Lamp cover
23. Reflection light angle
adjustment screw
24. Power switch

Operation:

1. Plug into outlet.
2. When using transmitted illumination (Fig. 1), you should turn on the power switch (#24) first, then turn on the transmitted light brightness adjustment knob (#17). Place the translucent plastic stage on the base. When using the microscope with reflected illumination, you should plug in the light cord for the reflected illumination (#6) and adjust the brightness of the light with the adjustment knob (#20). Now adjust the angle and brightness of the reflected illumination to satisfy your needs. When using the microscope with mixed illumination, you should turn on both light brightness adjustment knobs and adjust their brightness to obtain satisfactory mixed illumination.
3. If you want to change the angle of observation, you can loosen the tube holding screw (#21), and then turn the binocular or trinocular to any angle you desire. Then tighten the holding screw.
4. Turn the diopter ring (#3) to "0" and the zoom knob (#10) to 4.5x, observe the right tube with your right eye and turn the focus adjustment knob (#13) until you obtain a clear image. Next follow the same procedure to adjust the left eye as you did to adjust the right eye.
5. Turn the zoom knob (#10) from 4.5x to 0.7x. If the image isn't clear, you should observe the left and right eyepiece tubes with the respective eye and adjust the

respective diopter ring (#3) to make the image clear. Turn the zoom knob (#10) to 4.5x again. If the image isn't clear, you should adjust the focus adjustment knob (#13) to make the image clear. By following the above adjustments, you can obtain a clear image from 4.5x to 0.7x.

6. Observe the image with both eyes, adjust the interpupillary distance of the eyepiece tube (#4) until both fields of view are in superposition.
7. When using the trinocular microscope, you can connect a CCD camera to the scope with CCD adapter (#9). You should observe with each of the eyepieces and adjust according to the directions 4 and 5 above until the image is clear. Then you can observe the monitor. If the monitor image isn't clear, you should adjust the CCD adjusting tube (#8) to make the image clear. If the image position on the monitor isn't satisfactory, loosen the CCD adapter holding screw and turn the CCD adapter (#9) to change the angle of the image on the monitor. Then tighten the screw again.
8. To increase the life of the bulbs, before turning off the microscope, turn down the transmitted light brightness adjustment knob and the reflection light brightness adjustment knob.

Replacing the bulbs:

1. Switch off the power supply and unplug the microscope.
2. Reflected illumination: loosen lamp cover (#22), remove the bad lamp and install a new one. Tighten the lamp cover again.
3. Transmitted illumination: remove translucent plastic stage (#19), remove the bad lamp and install a new one. Replace translucent plastic stage.

Maintenance:

1. Clean the lens: Clean the lens with lens tissue or a soft cloth immersed with an alcohol.
2. Cleaning the painted parts: Wipe with a damp cloth and dry.
3. Cover the microscope when not in use and store in a clean, dry place.

Warning: Do not disassemble the microscope. If you have problems, call our service department at 1-800-223-3517

Limited Warranty

Purchase of items branded Cynmar® are warranted against defects in workmanship and materials for 90 days from the original purchase date. Should there be a defect or malfunction of the product, Cynmar® will repair or replace the product (at its option) free of charge excluding shipping charges, which remain the responsibility of the Purchaser. This limited warranty is void if the product has been subjected to damage, unreasonable use, improper service, modification, or other causes not arising from defects in original materials or workmanship.

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