

SZ3 Series Stereo Microscope Instruction Manual



Please read the Instruction Manual carefully before installation and keep it for future use.

INSTRUCTION MANUAL

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1 Before use

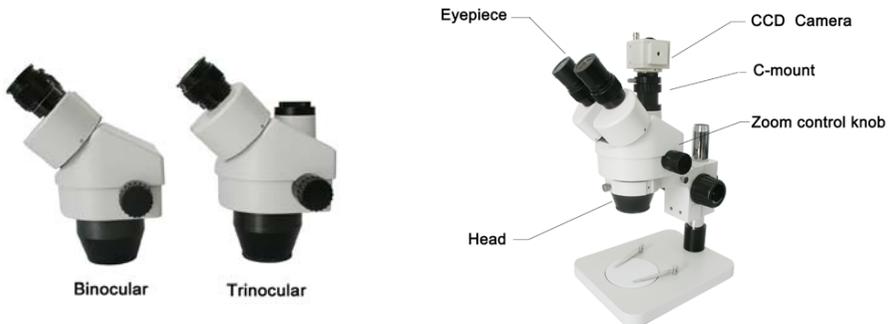
1-1 NOTICE

- 1) Microscope ought to be placed in a dry and clean place. Do not expose the microscope in the sun directly. Avoid high temperature and violent vibration.
- 2) As microscope is a precision instrument, handle with care, avoiding impact or abrupt movement during transportation.
- 3) To keep the image clear, do not leave fingerprints or stains on the surfaces of the lens.
- 4) Never turn the left and right focusing knob in the adverse direction at the same time, otherwise the microscope will be damaged.
- 5) Hold the camera with one hand for fearing of falling when you take the films out of the big camera.

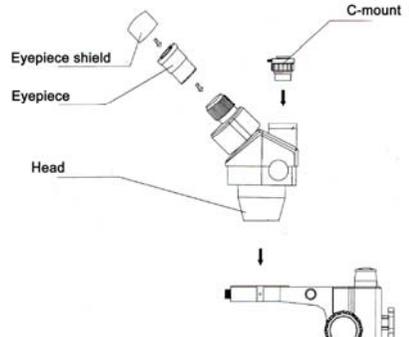
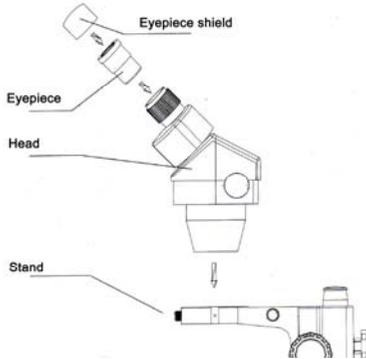
1-2 MAINTENANCE

- 1) All lenses must be kept clean. Fine dust on surface of the lens should be blown off with hand blower or wiped off gently with a soft lens tissue; Fingerprints or oil marked on it should be wiped off with a tissue moistened with a small amount of xylene or a 3:7 mixture of alcohol and ether.
- 2) Never use the organic solution to clean the other surface (especially the plastic surfaces). If necessary, please choose the neutral detergent.
- 3) Do not take the microscope apart for fearing that it is damaged.
- 4) After using, cover the microscope with the dust-cover, provided and store it in a dry and clean place free from moisture to prevent rust.
- 5) To keep the performance of the microscope, please check it periodically. The detail can be gotten from the agent nearby.

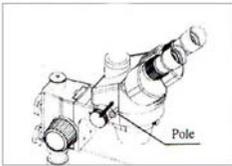
2 Nomenclature



3 Assemblage



4 Operation

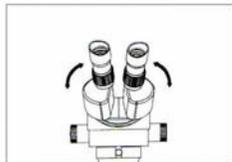
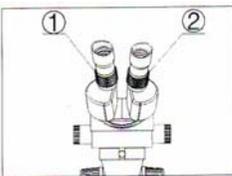


4-1 Choose the optical system

1) You can alternate the binocular observation and video capture by pushing or pulling pole. You can attain binocular observation by pushing the pole inside, or attain video capture by pulling it outside. No matter what optical system is chosen, push or pull the pole thoroughly.

4-2 Adjust the specimen slide

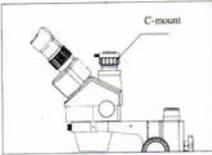
- 1) Turn the zoom control knob to the maximum magnification.
- 2) Turn the diopter adjusting ring to the zero.
- 3) Observe the specimen through the right eyepiece and make the image clear by turning the focusing knob.
- 4) Rotate the zoom control knob to the minimum magnification.
- 5) Observe the specimen through the right eyepiece and make the image clear by turning the right diopter adjusting ring ②.
- 6) Redo the step (1), (3), (4) and (5) till the right adjusting ring is more precise.
- 7) Do the step (4) and make the image clear which is observed through the left eyepiece by turning the left diopter adjusting ring ①.



4-3 Adjust the interpupillary distance

- 1) Adjust the prism housing along the direction of arrowhead of the third picture on the left till the observation is comfortable.

Fig. 4



4-4 Use Eyepiece shields

- 1) For user who does not wear glasses, hold the diopter-adjusting ring to prevent them from rotating and turn the eyepiece till the eyepiece shields fit the observer well.
- 2) For user who wears glasses, take the eyepiece shields off before observation.

4-5 Adjust the CTV

- 1) Adjust the CTV to suitable position by rotating C-mount.
- Note: The range of the adjustment: 1~2mm in general.

5 Technical parameter

| Eyepiece | Standard configuration | | Auxiliary objectives | | | | | |
|----------|------------------------|---------------|------------------------|---------------|-----------------------|---------------|-----------------------|---------------|
| | Working distance 100mm | | 0.5X | | 1.5X | | 2X | |
| | Magnification | Field of view | Magnification | Field of view | Magnification | Field of view | Magnification | Field of view |
| | | | Working distance 165mm | | Working distance 45mm | | Working distance 30mm | |
| 10X /20 | 7X | 28.6 | 3.5X | 57.1 | 10.5X | 19 | 14X | 14.3 |
| | 45X | 4.4 | 22.5X | 8.9 | 67.5X | 3 | 90X | 2.2 |
| 15X /15 | 10.5X | 21.4 | 5.25X | 42.8 | 15.75X | 14.3 | 21X | 10.7 |
| | 67.5X | 3.3 | 33.75X | 6.7 | 101.25X | 2.2 | 135X | 1.7 |
| 20X/10 | 14X | 14.3 | 7X | 28.6 | 21X | 9.5 | 28X | 7.1 |
| | 90X | 2.2 | 45X | 4.4 | 135X | 1.5 | 180X | 1.1 |

- ★ Working distance is fixed regardless of the magnification factor.
- ★ Total mag. = Zoom mag. × Eyepiece mag. × Auxiliary objective mag.
- ★ Diameter of field of view (mm) = $\frac{\text{Field number of eyepiece}}{\text{Zoom mag.} \times \text{Auxiliary objective mag.}}$
- ★ Photo adaptor mag. = Zoom mag. (×Auxiliary objective mag.)×Eyepiece mag.
- ★ TV adaptor mag. = Zoom mag. (×Auxiliary objective mag.)× C-mount TV adaptor middle
- ★ Field of video view is 83%

6 Troubleshooting

The performance of the microscope can't be made fully because of unfamiliar using, this table will give some advices.

6-1 General troubleshooting

| Trouble | Cause | Remedy |
|---------|--|-------------|
| | Interpupillary distance is not correct | Readjust it |

| | | |
|---|---|---|
| 1、 Double images | Diopter adjustment is not correct | Readjust it |
| | Magnification of each eyepiece is not the same size | Mount the same size eyepiece |
| 2、 Dirt appears in field of view | Dirt on the specimen | Clean the specimen |
| | Dirt on the surfaces of eyepiece | Clean the surface |
| 3、 Image is not clear | Dirt on the surfaces of objectives | Clean the objectives |
| 4、 Image is not clear while the focus changing. | Diopter adjustment is not correct | Readjust the diopter |
| | Focus is not correct | Readjust the focus |
| 5、 The focusing knob is not smooth. | The focusing knob is too tight | Loosen it to a suitable position |
| 6、 The image is obscure because of the head slipping down by itself during observation. | The focusing knob is too loose | Tighten it to a suitable position |
| 7、 Incision image appears in the field of view or of the video view. | The pole is not in correct position | Pull or push it to the correct position |
| 8、 Eyes fell tired easily | Diopter adjustment is not correct | Adjust the diopter |
| | Brightness of light is not correct | Adjust the brightness |