

# **STEREO MICROSCOPE**

## **FS SERIES**

### **INSTRUCTIONS**



Please read the User Manual before using the microscope

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## 1 Before use

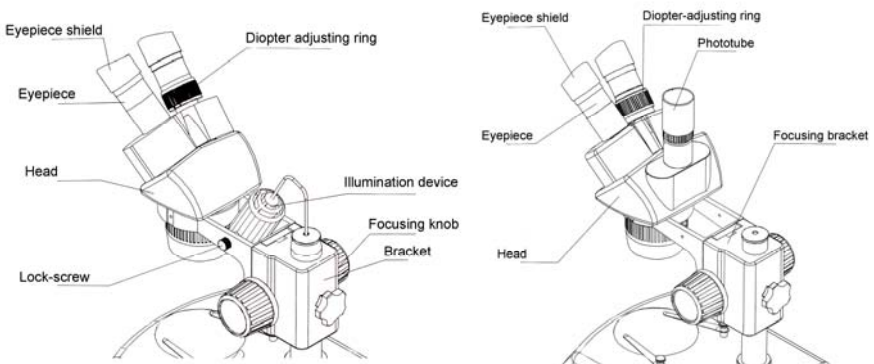
### 1-1 NOTICE

- 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, be sure to cover the microscope with the dust-cover provided and store it in a dry and clean place free from moisture to prevent rust.

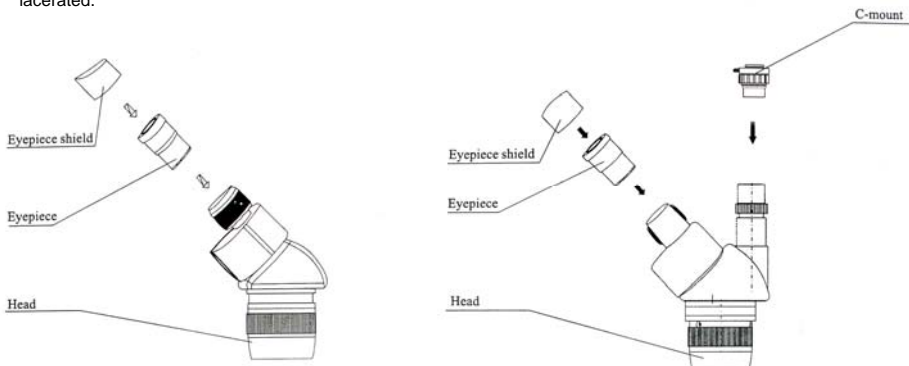
## 2 Nomenclature



### 3 Assemblage

This is an assembly sketch map for FS series and the numbers show the assembly order.

Before installation, be sure every surface is clear. While installing the microscope, avoid the surfaces being blurred or lacerated.



★Mount the C-mount to the video camera and then to the video adapter.

### 4 Operation

#### 4-1 Adjust the diopter focus

(1) Turn the focusing knob and observe the specimen through the right eyepiece till the image of specimen is clear.

(2) Observe the specimen through the left eyepiece and adjust the diopter adjustment ring ① till the image is clear. (Fig.1)

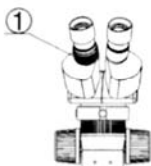


Fig.1

#### 4-2 Adjust the interpupillary Distance

(1) Adjust the prism housing along the direction of arrow of the Fig.2 till the observation is comfortable

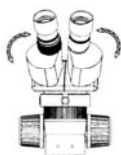


Fig.2

#### 4-3 Use Eyepiece Shields

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

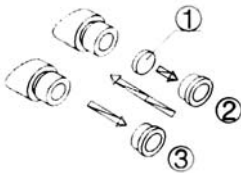


Fig.3

#### 4-4 Mount and Remove the Optional Eyepiece Micrometer

- (1) Turn and remove the mounting ring ② from the eyepiece. (Fig.3)
- (2) Clean the eyepiece micrometer ①, and mount it to mounting ring with the inscription side downward.
- (3) Gently twist the mounting ring with the eyepiece micrometer into the eyepiece till tightening ② securely.
- (4) To remove the eyepiece micrometer, take down the mounting ring by twisting and take out of the micrometer, and then wrap it in clean soft paper for storage.

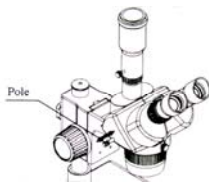


Fig.4

#### 4-5 Choose the optical system

- (1) You can alternate the binocular observation and video capture by pushing or pulling" the pole" .You can attain binocular observation by pushing "the pole" inside, or attain video capture by pulling it outside.(Fig.4)

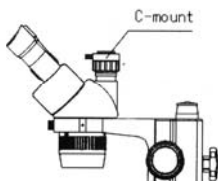


Fig.5

#### 4-6 Adjust the CTV

- (1) Adjust the CTV to a suitable position by rotating C-mount.

**Note:** The rang of the adjustment: 1~2mm in general. (Fig.5)

## 5 Optical data

Objective magnification	Working distance (mm)	Eyepiece					
		WF10( $\Phi$ 20mm)		WF15( $\Phi$ 15mm)		WF20( $\Phi$ 10mm)	
		Mag.	Filed of view	Total Mag.	Filed of view	Total Mag.	Filed of view

1X	100	10X	20	15X	15	20X	11
2X		20X	10	30X	7.5	40X	5
3X		30X	6.7	45X	5	60X	3.3
4X		40X	5	60X	3.75	80X	2.5

★Working distance is fixed regardless of the magnification factor.

★Diameter of field of view (mm) =  $\frac{\text{Field number of eyepiece}}{\text{Zoom mag.}}$

★ Video adaptor mag. = Objective mag.x C-mount Video adaptor middle

## 6 Troubleshooting

Trouble	Cause	Remedy
(1) Too bright or dark	The brightness is not appropriate	Adjust the brightness correctly
(2) Dirt appears in the field of view	Dirt on the specimen	Clean the specimen
	Dirt on the eyepieces' surfaces	Clean the surface
	Dirt on the objectives' surfaces	Clean the surface
(3) Double image	Wrong papillary distance	Readjust papillary distance
	Wrong diopter adjustment	Readjust it
	Different magnification	Mount the same size eyepiece
(4) Image not clear	Dirt on the objectives' surface	Clean the objectives
(5) Image blurs when zooming	Wrong diopter adjustment	Readjust it
	Wrong focusing adjustment	Readjust it
(6) Incision image appears in the field of view or the video view	Light path selecting lever is not in correct position	Set it to right position
(7) When adjusting focus, the image on the monitor is not clear	Wrong focal depth of the video	Readjust the focal depth by adjusting the adjust ring on TV adapter