

sisco

OPERATION

MANUAL



Stereoscopic Microscope
MSC-ST60

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1. Before use

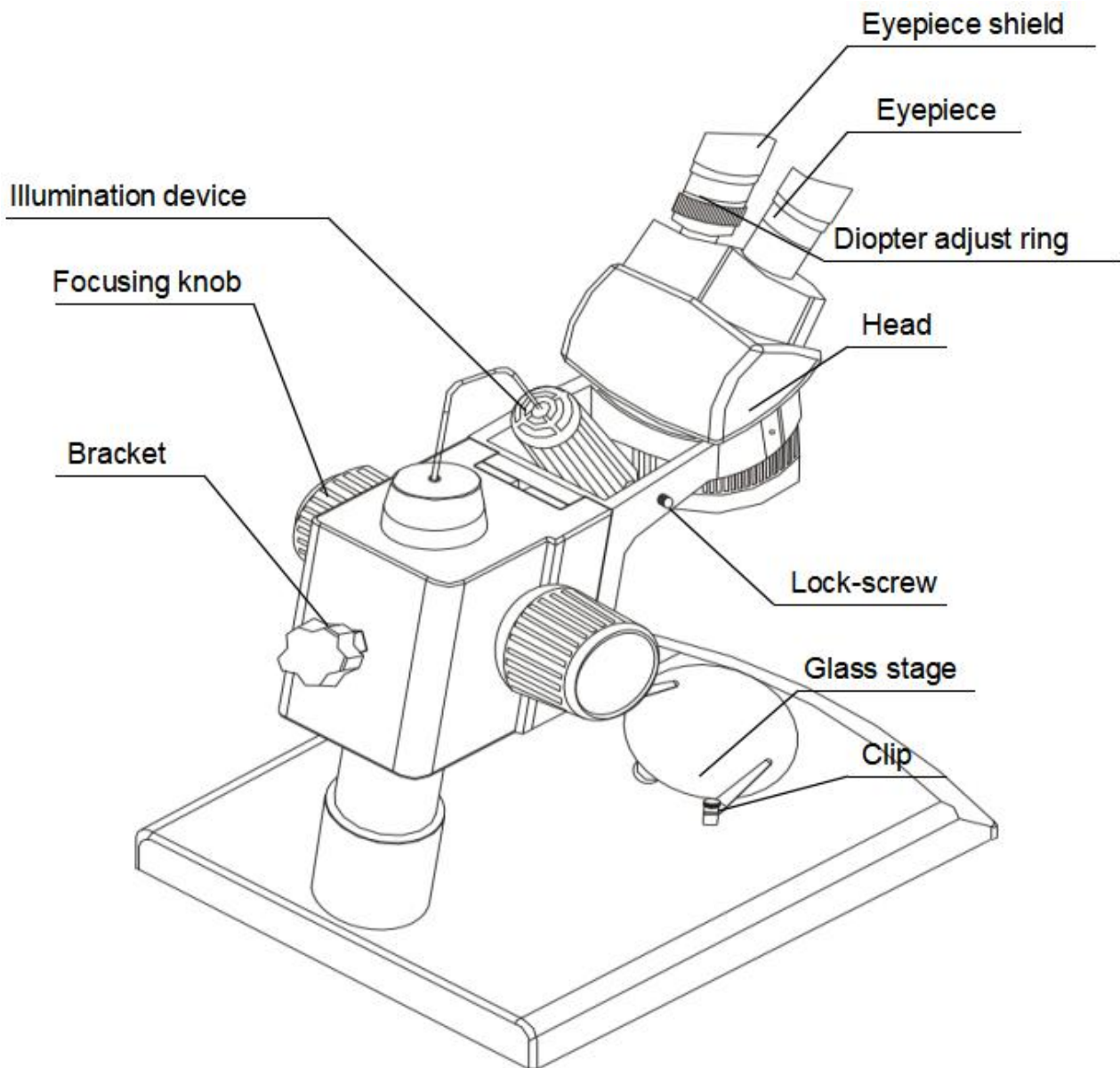
1-1 Notice

- 1) Microscope ought to be place in a dry and clean place. Do not expose the microscope in the sun directly. Avoid high temperature and violent vibration.
- 2) Microscope is a precision instrument, so 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.

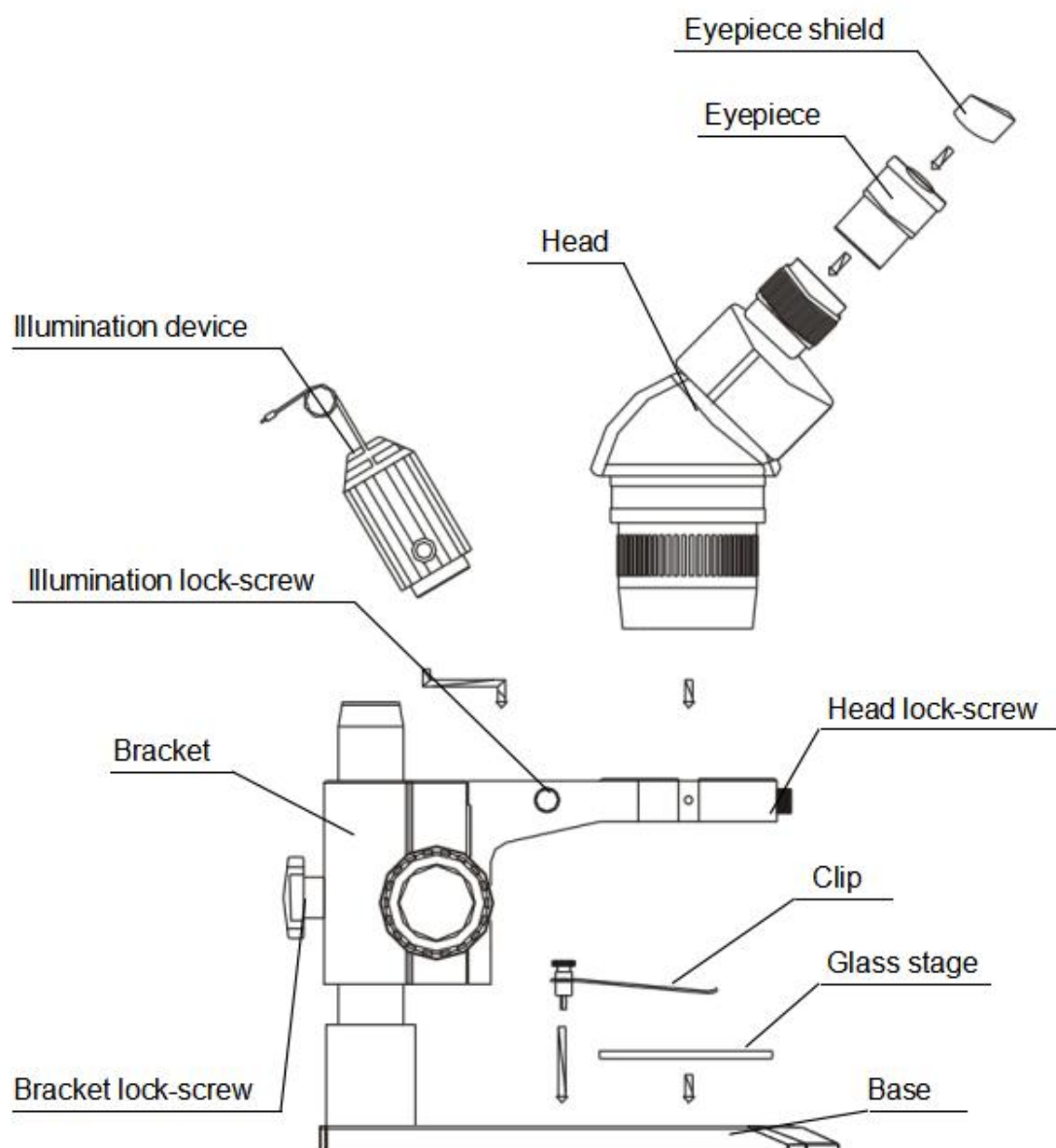
1-2 Maintenance

- 1) All lenses must be kept clean. Fine dust on the 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 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.

2. Part Name



3. Assemble



4. Operation

4-1 Use the glass stage

1) Press the glass stage on the sunken place then the other side of the glass stage will be lifted.(Fig.1)

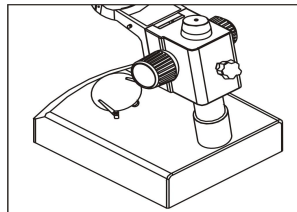


Fig. 1

4-2 Adjust the degree of tightness of the focusing arm

1) If you want to adjust the degree of tightness of the focusing arm, you can hold one of the focusing knob and turn another one to attain a suitable position. The degree of tightness relies on the direction to be turned. The clockwise direction is tight, otherwise, is loose.

2) The suitable position of the tightness can make the adjustment more comfortable and prevent the focusing bracket from slipping down by its weight during the observation. (Fig. 2)

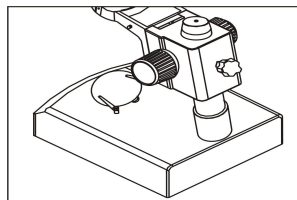


Fig. 2

4-3 Set the specimen slide

1) Set the specimen in the center of stage plate. If necessary ,clamp the slide with the clips.

2) Turn on the light.

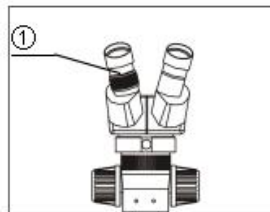


Fig. 3

4-4 Adjust diopter and focus

- 1) Turn the focusing knob and observe the specimen through the right eyepiece till the image of the specimen is clear.
- 2) Observe the specimen through the left eyepiece and adjust the diopter adjustment ring ① till the image is clear.(Fig. 3)

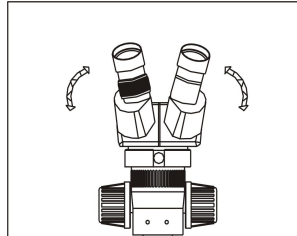


Fig. 4

4-5 Adjust the interpupillary distance

Adjust the prism housing along the direction of arrow of the Fig.4 till the observation is comfortable.

4-6 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 shield fit the observer well.
- 2) For user who wears glasses, take the eyepiece shields off before observation.

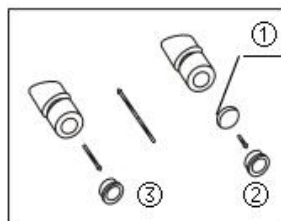


Fig. 5

4-7 Install and remove the optional eyepiece micrometer

- 1) Turn and remove the mounting ring ② from the eyepiece.(Fig.5)
- 2) Clean the eyepiece micrometer①, and mount it to the mounting ring with the inscription side downward.
- 3) Gently twist the mounting ring with the eyepiece micrometer into the eyepiece till tightening② securely.
- 4) To remove the eyepiece micrometer, take down the mounting ring by twisting and take out of the micrometer, and the wrap it in clean soft paper for storage.

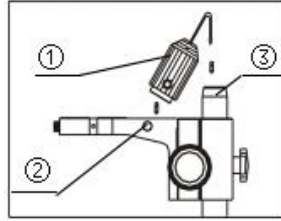


Fig. 6

4-8 Install the illumination device

- 1) Insert the illumination device ① in the bracket with the protrudent side toward the lock-screw ② and tighten the lock-screw.(Fig.6)
- 2) Put the plug into the socket of the pillar stand ③.

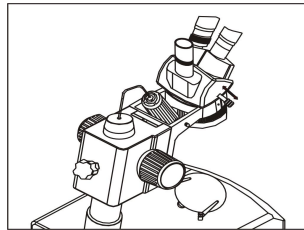


Fig. 7

4-9 Replace the lamps

- 1) Take the lamp out of the jack.
- 2) Put a new lamp into the jack thoroughly.
- 3) Recover the stage plate.(Fig.11)

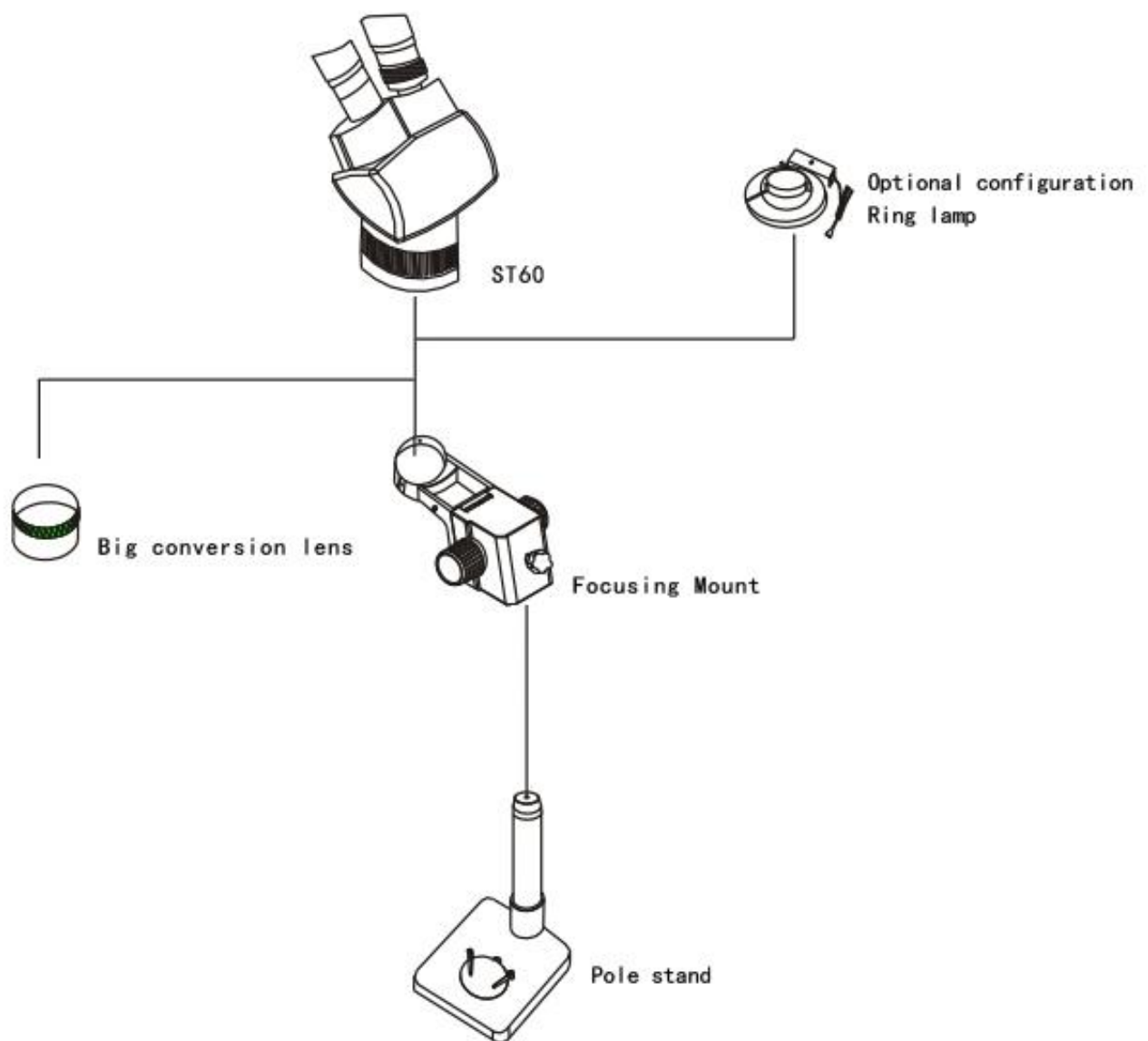
Note:

- ① Before replacing the lamps, turn off the power first.
- ② Avoid violence while the lamp is plugged into the jack.

5. Configuration

Configuration		Model
Parts	Specification	MSC-ST60
Eyepieces	Wh10*20	O
	Wh15*15	
	Wh20*10	
Objectives	1X/100mm	
	2X/100mm	O
	3X/100mm	
	4X/100mm	O
Binocular	ST60	O
Big conversion lens	0.5/165mm	
	1.5/45mm	
	2/30mm	
Focusing arm	Focusing Mount	O
Stand	Pole stand, for more options	O
Illuminator	12V15W Halogen light reflection light source	O
Box	Inside foam	O
	Outside carton	

Note: The items marked “O” included and others for option



6. Technical parameter

6-1 Optical parameter

Objective Mag.	Working Distance (mm)	Eyepiece		Eyepieces (option)			
		Wh10X20		Wh15X15		Wh20X10	
		Mag.	Objective field	Mag.	Objective field	Mag.	Objective field
1X	100	10X	20	15X	15	20X	11
2X		20X	10	30X	7.5	40X	5
3X		30X	6.7	45X	5	ST60X	3.3
4X		40X	5	ST60X	3.75	80X	2.5

6-2 Auxiliary objective (optional)

Auxiliary objectives	Magnification	Working distance (mm)
0.5	0.5X	165
1.5	1.5X	45
2	2X	30

★ Working distance is fixed regardless of the magnification factor.

★ Total mag.=Objective mag. X Auxiliary mag. X Auxiliary mag.

$$\text{Diameter of field of view (mm)} = \frac{\text{Eyepiece field}}{\text{Objective mag. X Auxiliary objective mag.}}$$

★ Photo adaptor mag.=Objective mag.(X Auxiliary objective mag.)X Photo eyepiece mag.

6-3 The base electrical specification

Model		MSC-ST60
Parts		
Power supply		220V-50Hz 110V-50/ST60Hz
Illuminate	Top light	12V/15W halogen lamp

6-4 Configuration parameter

Parts \ Model		MSC-ST60
Head	Objective magnification	2X、4X Optional:(1X、2X)(1X、3X)
	Working distance	100mm
	Observation angle	45°
	Interpupillary distance adjustment	Linkage between left and right eyepiece tube Range of single adjustment:54-75mm
	Diopier adjustment	Range of single adjustment : $\pm 5D$
	Mount with auxiliary objectives	Screw hole: M48*0.75
Objective	Field of view	$\phi 20\text{mm}$
Main body	Mount the head	Mount the head in the bracket hole whose diameter is $\phi 76\text{mm}$
	Focusing device	The degree of adjustable by rotating the focusing knob. Range of single adjustable :49 mm
	Glass stage	Diameter : $\phi 95\text{mm}$
	Clips	Put it on the base from top

7. Troubleshooting

The performance of the microscope can't be made fully because of unfamiliar using. This table will give some advice.

Trouble	Cause	Remedy
1.Double images	Interpipillary distance is not correct	Readjust it
	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 the field of view	Dirt on the specimen	Clean the specimen
	Dirt on the surface of eyepiece	Clean the surface
3.Image is not clear	Dirt on the surface of the objective	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.Eyes fell tired easily	Diopter adjustment is not correct	Adjust the diopter
	Brightness of light is not correct	Adjust the brightness
8.Bulb does not work when the switch is on	No power in	Check the connection with the power supply
	The bulb was not insert correct	Insert it correctly
	Bulb is wrong	Replace with a new one
9.Bulb is burned out suddenly	Use the wrong bulb	Replace with a correct one
	The voltage is too high	Control the voltage Eg :use voltage regulator
10.Brightness is not enough	Use the wrong bulb	Replace with a correct one
	The voltage is too low	Increase the input voltage
11.The bulb flickers or the brightness is unstable	The bulb will burn out soon	Replace with a new one
	The bulb was not inserted correctly	Insert it correctly