



BS-3012 Series Stereo Microscope

User Manual



BS-3012A



BS-3012B

It is recommended strongly that you study this manual thoroughly before using the microscope. Retain this manual in an easily accessible place near the work table for future reference.

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1. Before use

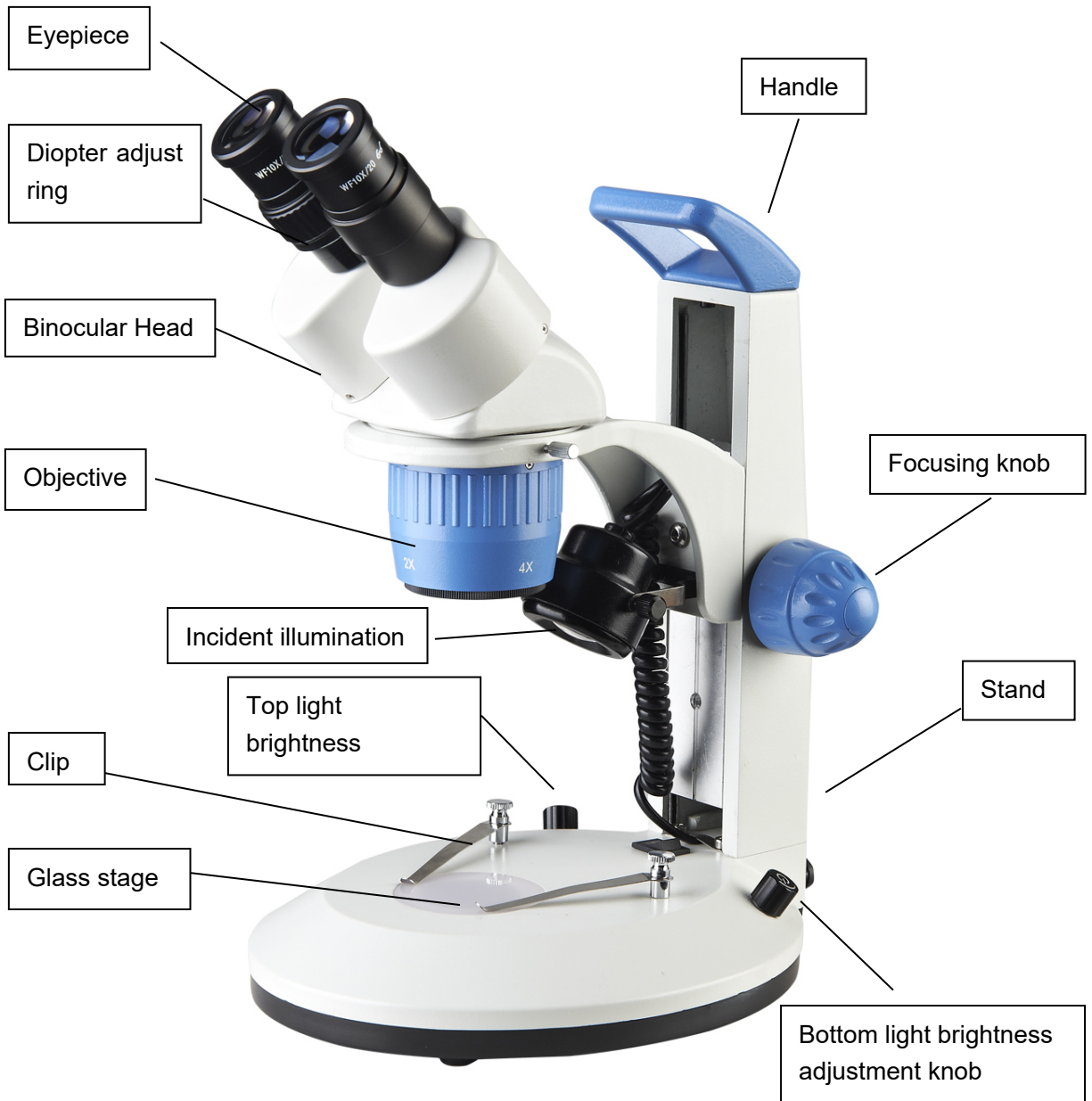
1-1 **Notice**

- 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) 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.

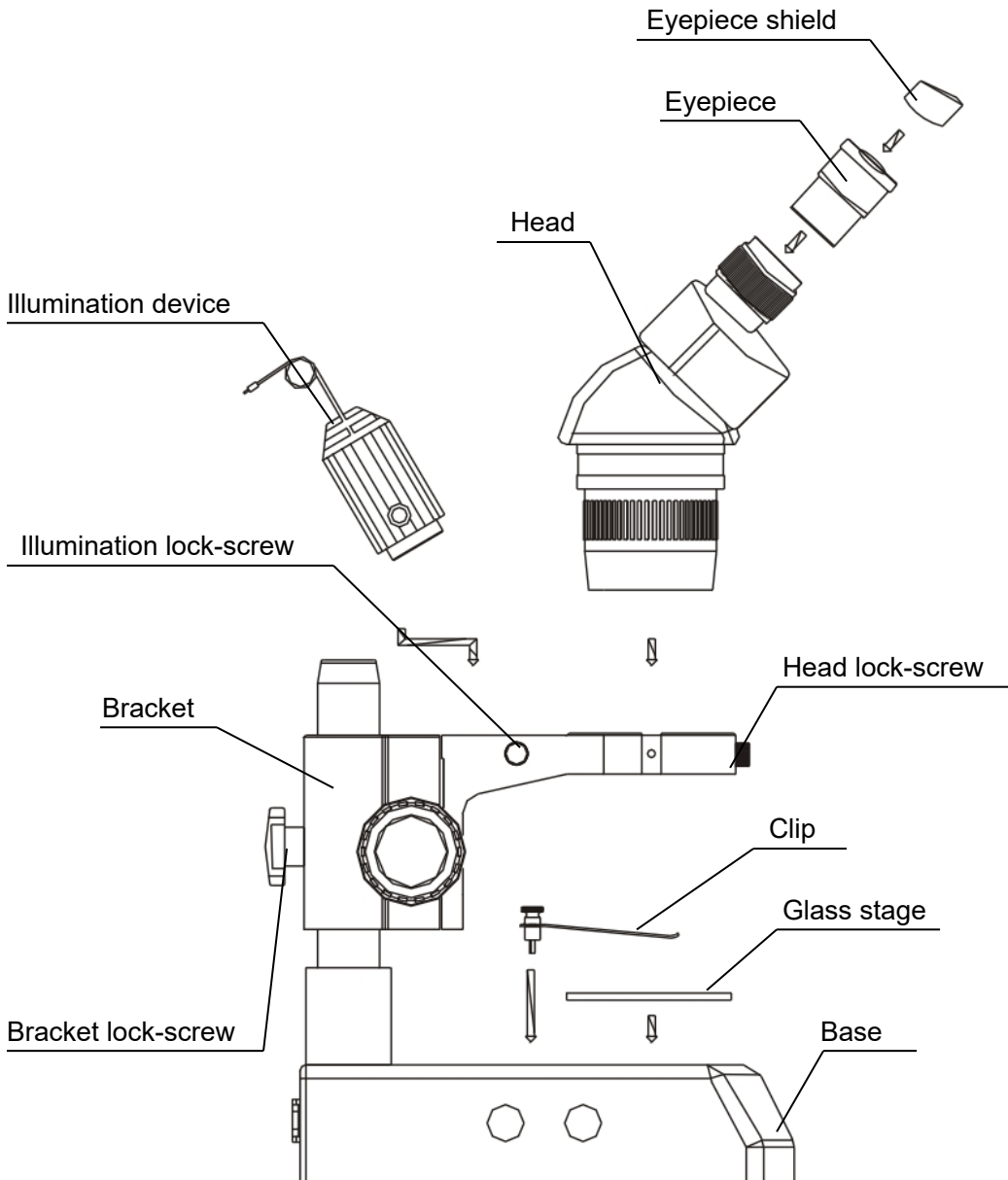
1-2 **Maintenance**

- 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. Nomenclature



3. Assemblage



4. Operation

* The following figures may not be exactly the same as real product, just help you to understand the microscope operations.

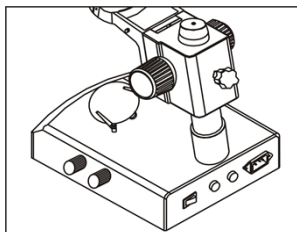
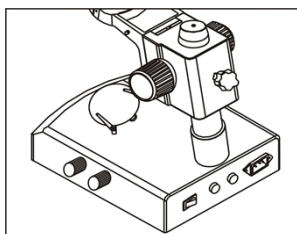


Fig. 1

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)



4-2 Adjust the tightness of the focusing arm

- 1) If you want to adjust the tightness of the focusing arm, you can hold one of the focusing knob and turn another one to opposite direction to attain a suitable tightness. The tightness relies on the direction to be turned. The clockwise direction is tight, otherwise, is loose.(Fig.2)
- 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)

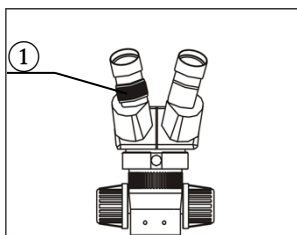


Fig. 3

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.

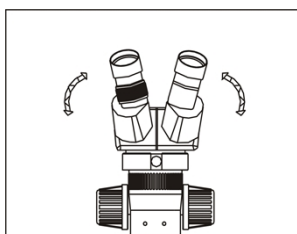


Fig. 4

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)

4-5 Adjust the interpupillary distance

Adjust the prism housing along the 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.

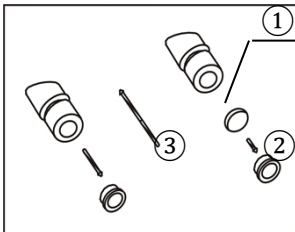


Fig. 5

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

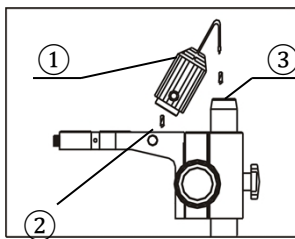


Fig.6

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).

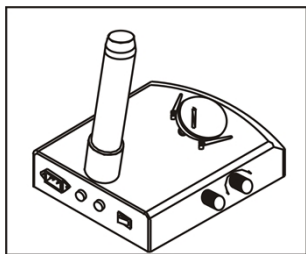


Fig.7

4-9 Adjust the brightness of the bottom light

- 1) Turn the adjustable light knob according to the sign marked on the base, along the clockwise the brightness will be increased, otherwise it will be weakened. (Fig.9)

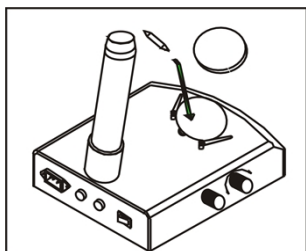


Fig.8

4-10 Replace the lamps

- 1) Press the stage on the sunken place then the other side will be lifted. (Fig.8)
- 2) Take the lamp out of the lamp socket.
- 3) Plug a new lamp into the lamp socket thoroughly.
- 4) Recover the stage plate.(Fig.8)

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

4-11 Replace the fuse

- 1) Screw the fuse tube out with a screwdriver and pull the fuse out of the tube ①.
- 2) Remove the fuse and mount it in an adverse way.(Fig. 9)

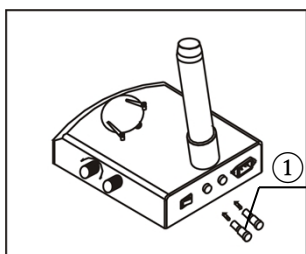


Fig. 9

5. Configuration chart

5-1 BS-3012 Series Configuration

Configuration		Model	
Parts	Specification	BS-3012A	BS-3012B
Eyepieces	WF10X/20mm	●	●
	WF15X/15mm	○	○
	WF20X/10mm	○	○
Objectives	1X/W.D.100mm	○	○
	2X/W.D.100mm	●	●
	3X/W.D.100mm	○	○
	4X/W.D.100mm	●	●
Auxiliary Objective	0.5X, W.D.: 165mm	○	○
	1.5X, W.D.: 45mm	○	○
	2X, W.D.: 30mm	○	○
Viewing Head	Binocular Head, Inclined at 35°, 360° rotatable, Interpupillary Distance 55-75mm	●	●
Focusing arm	76mm	●	●
Stand	Without illumination	●	
	With incident and transmitted LED illumination		●
Ring fluorescence Light	8W, 110V/220V ring fluorescence light	○	○
Box	Inside foam, Outside carton	●	●

Note: “●” Standard outfit, “○” optional.

6. Technical parameter

6-1 BS-3012 series optical parameter

Objective	Working Distance (mm)	Eyepiece		Eyepieces (option)			
		WF10X/20mm		WF15X/15mm		WF20X/10mm	
		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	60X	3.3
4X		40X	5	60X	3.75	80X	2.5

6-2 Auxiliary objective for BS-3012 series(Used to extend the magnification)

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

★ Working distance is fixed regardless of the magnification factor.

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

Diameter of field of view (mm)= _____
Objective mag. X Auxiliary objective mag.

★ Photo adapter mag.=Objective mag.X Auxiliary objective mag.X Photo eyepiece mag.

6-3 Configuration parameter of BS-3012 series

Parts		Model	BS-3012A/B(1X,2X)	BS-3012A/B(1X,3X)	BS-3012A/B
			Objective magnification	1X, 2X	1X, 3X
Head	Working distance	100mm			
	Observation angle	45°			
	Interpupillary distance adjustment	55-75mm			
	Diopier adjustment	Range of single adjustment:±5D			
	Mount for auxiliary objectives	Screw hole: M48*0.75			
Eyepiece	Field of view	φ20mm			
Main body	Mount the head	Mount the head in the bracket hole whose diameter isφ76mm			
	Focusing device	The degree of adjustable by rotating the focusing knob. Range of single adjustable: 49 mm			
	Glass stage	Diameter: φ95mm			
	Clips	Put it on the base from top			

7. Trouble shooting

The microscope can't achieve full performance because of unfamiliar using. This following table will give some advice to help you make good use of the microscope.

Trouble	Cause	Remedy
1. Double images	Interpupillary distance is not correct	Re-adjust it
	Diopter adjustment is not correct	Re-adjust 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 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
9. 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
10. Bulb is burned out suddenly	Use the wrong bulb	Replace with a correct one
	The voltage is too high	Control the voltage or use voltage regulator
11. Brightness is not enough	Use the wrong bulb	Replace with a correct one
	The voltage is too low	Increase the input voltage
12.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