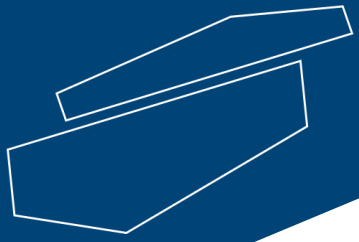
LYNX MICROSCOPES

Stereomicroscope, L90

Please read the User Manual carefully before using it and follow all operating and safety instructions!



User manual

English

User Manual

EN

Stereomicroscope, L90

Preface

Users should read this Manual carefully, follow the instructions and procedures, and beware of all the cautions when using this instrument.

Service

If help is needed, you can always contact your dealer or Labbox via www.labbox.com (declare an incident). Please, provide the customer service representative with the following information:

- Serial number
- Description of the problem
- Your contact information

Warranty

This instrument is guaranteed to be free from defects in materials and workmanship under normal use and service, for a period of 24 months from the date of invoice. The warranty is extended only to the original purchaser. It shall not apply to any product or parts which have been damaged on account of improper installation, improper connections, misuse, accident or abnormal conditions of operation.

For claim under the warranty, please contact your supplier.

Before use

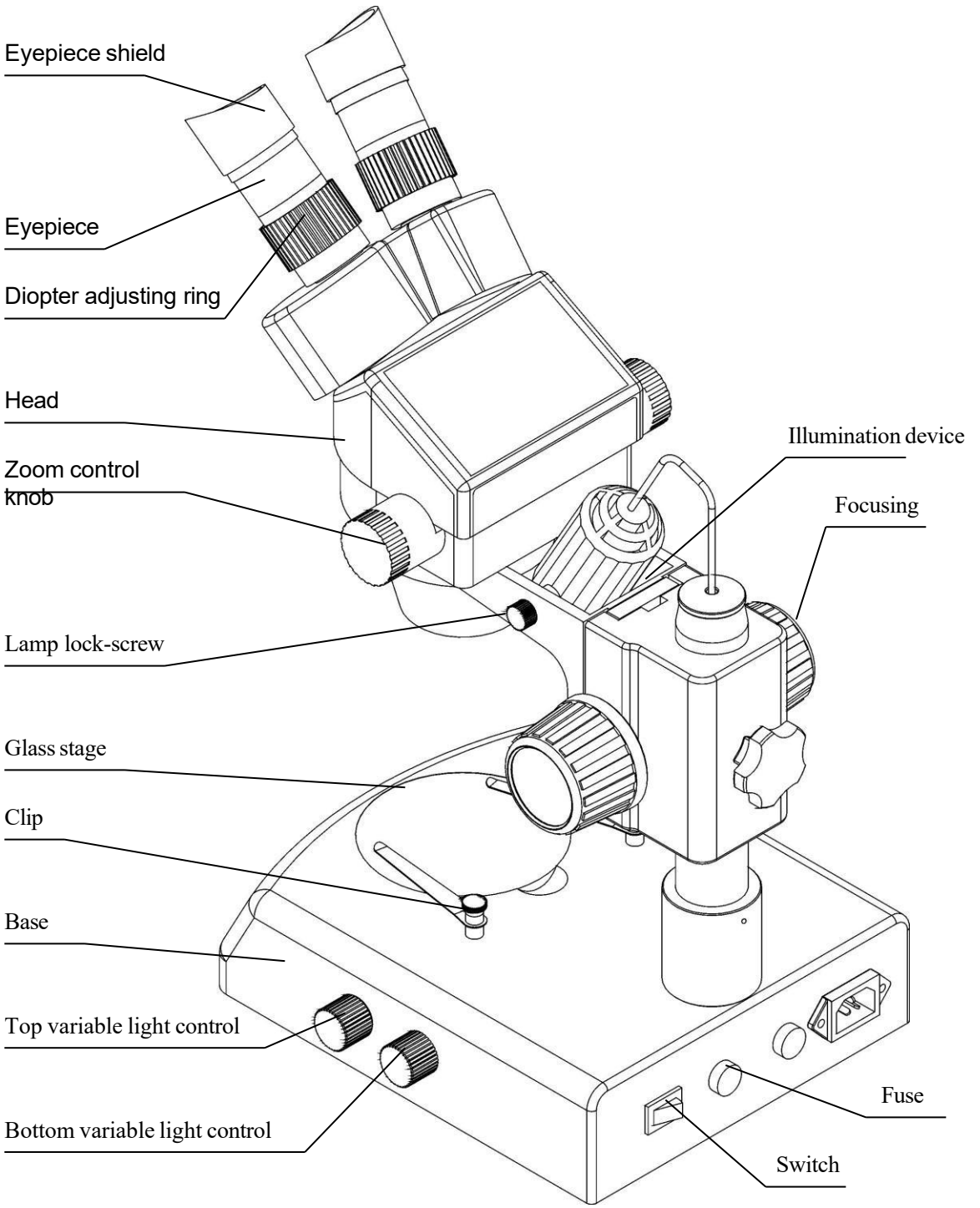
NOTICE

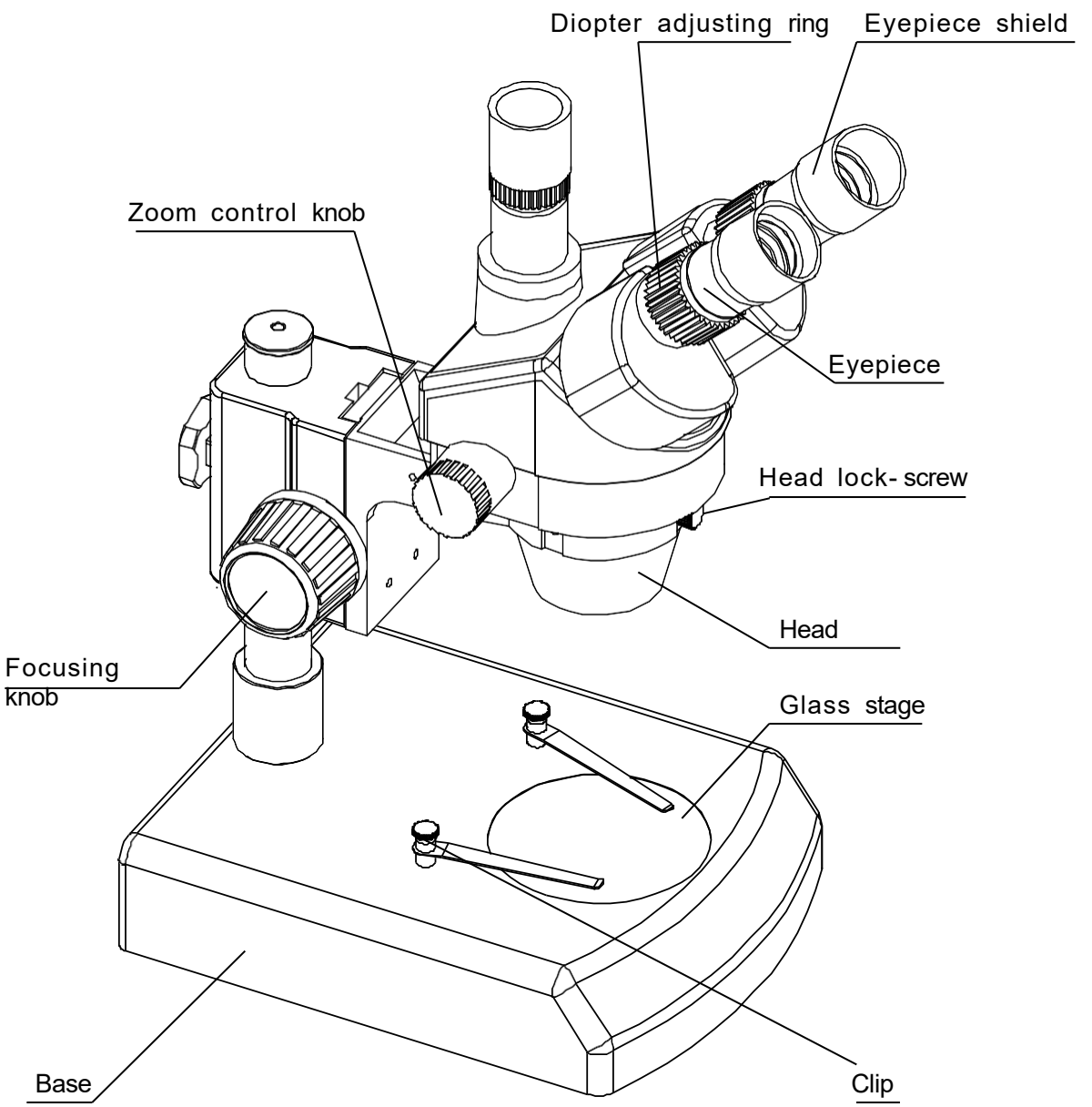
1) The microscope ought to be placed in a dry and clean place. Do not expose the microscope to the sun directly. Avoid high temperature and violent vibration.
2) As microscope is a precision instrument, handle with care, avoiding impact or abrupt movement during transportation.
3) To keep the image clear,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

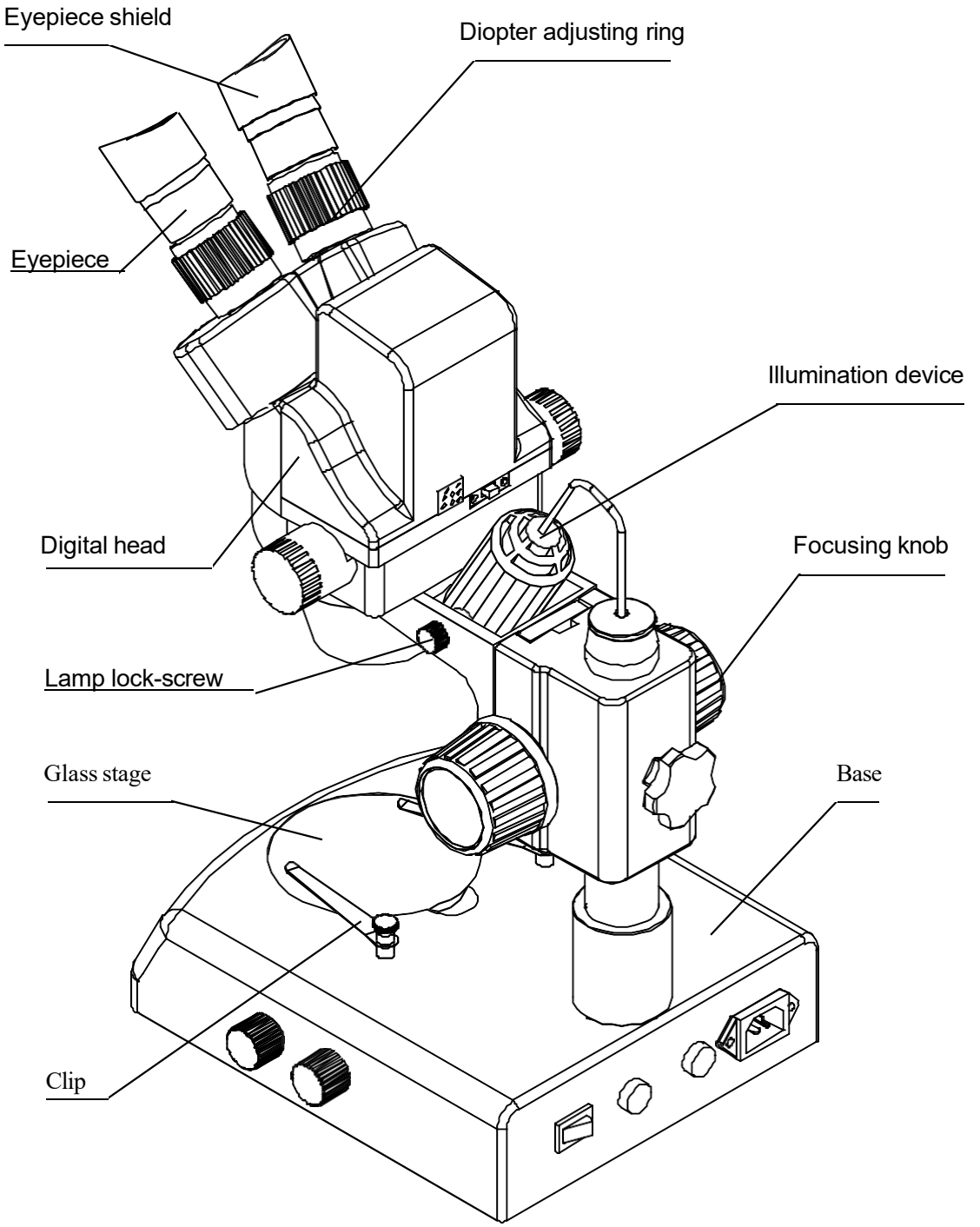
MAINTENANCE

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 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 fear that it is damaged.
4) After using it, 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.

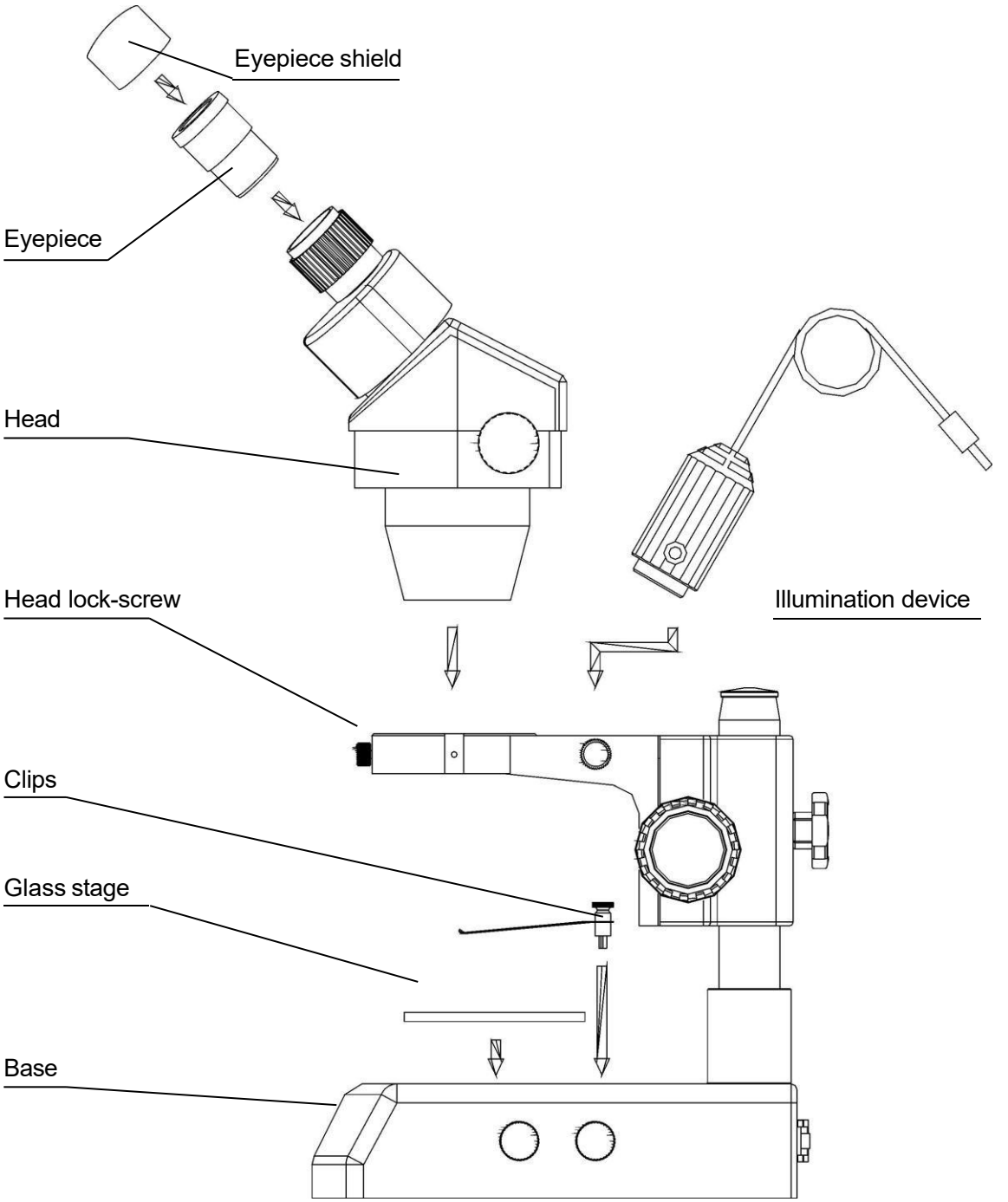
1. Nomenclature

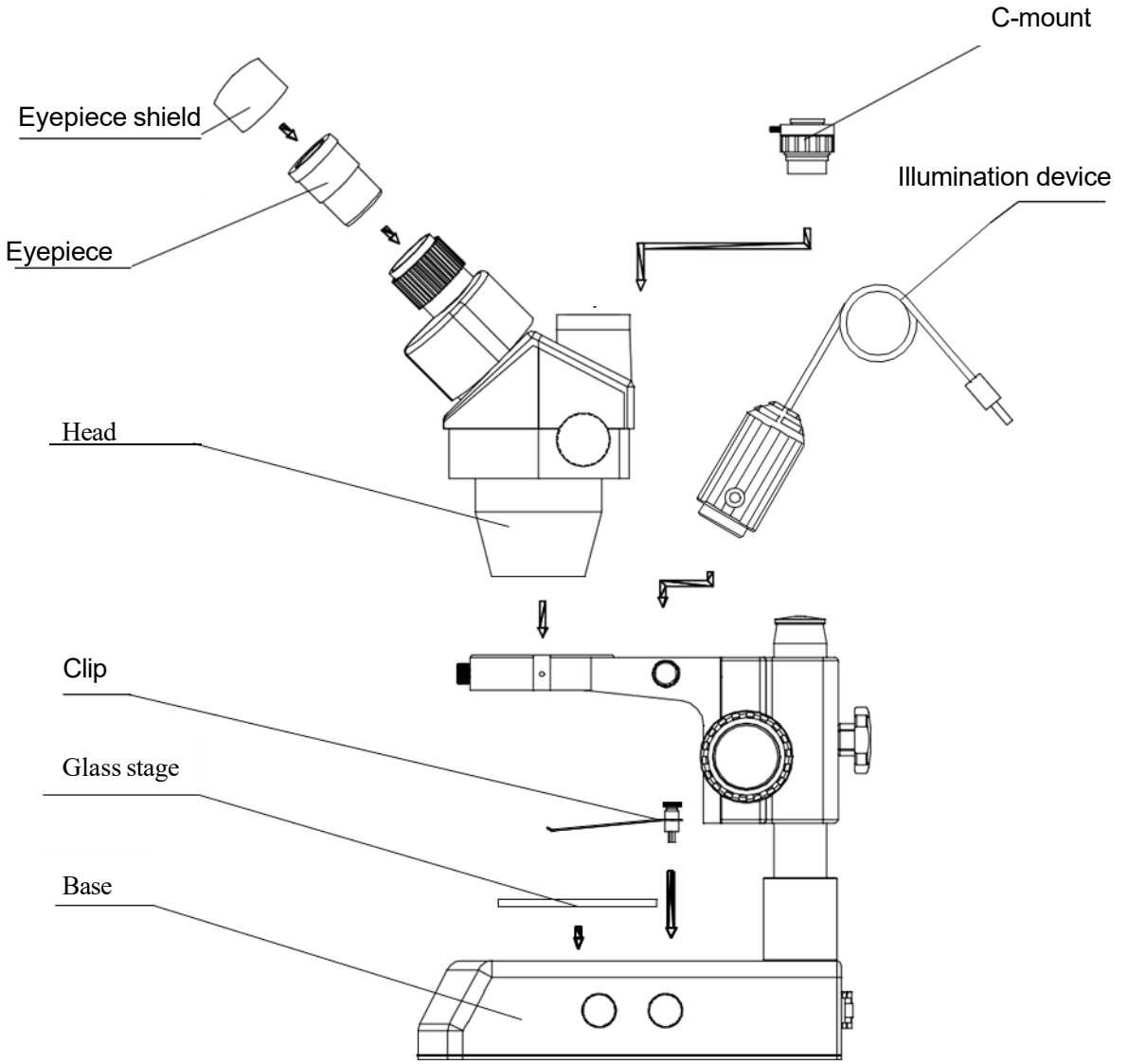



Diopter adjusting ring
Eyepiece shield
Zoom control knob
Eyepiece
Head lock- screw
Head
Focusing knob
Glass stage
Base
Clip


Eyepiece shield
Diopter adjusting ring
Eyepiece
Illumination device
Digital head
Focusing knob
Lamp lock-screw
Glass stage
Base
Clip

2. Assemblage




C-mount
Eyepiece shield
Illumination device
Eyepiece
Head
Clip
Glass stage
Base

3. Operation

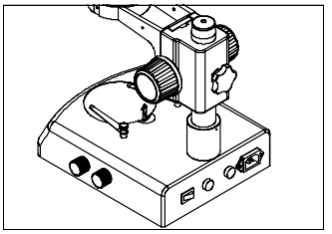


Fig.1

3-1 *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)

3-2 *Adjust the degree of tightness of the focusing arm.*

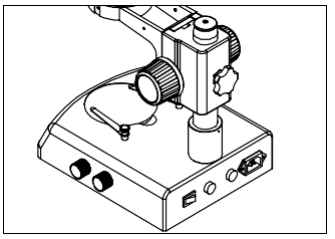


Fig.2

1) If you want to adjust the degree of tightness of the focusing arm, you can hold one of the focusing knobs 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 tightness can make the adjustment more comfortable and prevent the focusing bracket from slipping down by its weight during the observation. (Fig.2)

3-3 *Set the specimen slide*

1) Set the specimen on the center of stage plate. If necessary, clamp the slide with the clips.
2) Turn on the light.

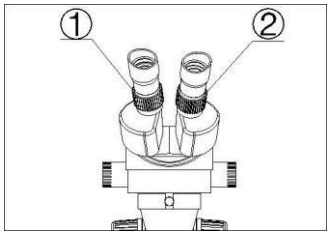


Fig.3

3-4 *Adjust the specimen slide*

1) Turn the zoom control knob to the maximum magnification.
2) Turn the diopter adjusting rings to 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 ring②. (Fig.3)
6) Redo the step (1), (3), (4) and (5) till the right adjusting ring is more precise.
7) Do step (4) and make the image clear which is observed through the left eyepiece turning the left diopter adjusting ring ①. (fig.3)

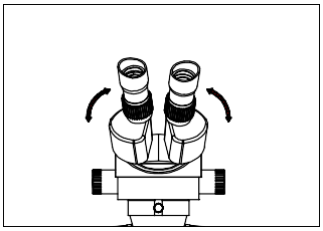


Fig.4

3-5 *Adjust the interpupillary distance*

1) Adjust the prism housing along the direction of the arrowhead of Fig.4 till the observation is comfortable.

3-6 *Use Eyepiece shields*

1) For user who do 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 wear glasses, take the eyepiece shields off before observation

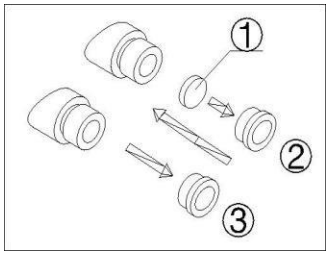


Fig.5

3-7 *Mount and Remove the Optional Eyepiece Micrometer*

1) Turn and remove the mounting ring② 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 ring③ by twisting and take out of the micrometer, and then wrap it.

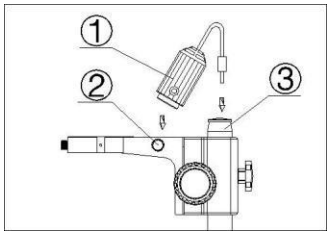


Fig.6

3-8 *Install the illumination device*

1) Insert the illumination device① in the bracket with the protrudent side toward the lock-screw② and tighten the lock-screw. (Fig.6)
2) Put the plug into the socket of the pillar stand③.

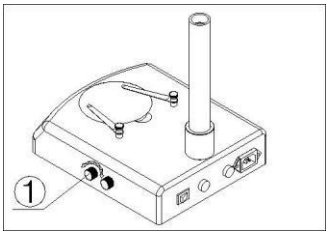


Fig.13

3-9 *Adjust the brightness of the bottom light*

1) Turn the adjustable light knob① according to the sign marked on

The base, along the clockwise the brightness will be added, otherwise it will be weakened. (Fig.13)

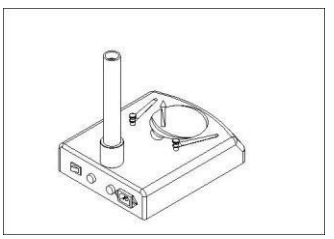


Fig.14

3-10 *Replace the lamps*

1) Press the stage on the sunken place then the other side will be lifted. (Fig.14)

2) Take the lamp out of the jack.

3) Put a new lamp into the jack thoroughly.

4) Recover the stage plate. (Fig.15)

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

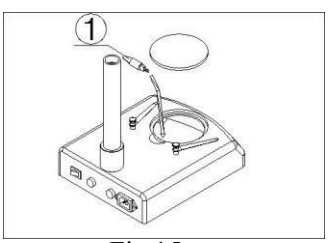


Fig.15

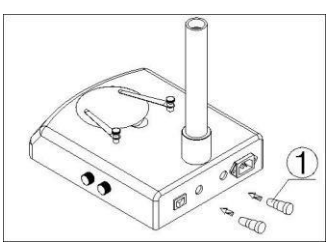


Fig.16

3-11 *Replace the fuse*

1) Screw the fuse tube out with a screwdriver and then pull the fuse out of the tube①.

2) Renew the fuse and mount it in an adverse way. (Fig.16)

4. Technical parameters

Eyepiece	Standard configuration		Auxiliary objectives					
			0.5X		1.5X		2X	
	Working distance100mm		Working distance165mm		Working distance 45mm		Working distance 30mm	
	Magnification	Field of view	Magnification	Field of view	Magnification	Field of view	Magnification	Field of view
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

4-1 *The base electronic specification of ZT45 series*

Parts \ Model		CL3
Power supply		220V-50Hz、110V-50/60Hz
Transformer		Input: 220/110VAC Output: 12V DC/45W
Illuminator	Top light	12V/15W halogen lamp or LED lamp
	Bottom light	12V/15W halogen lamp or LED lamp

5. Troubleshooting

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

5-1 *General troubleshooting*

Trouble	Cause	Remedy
Double images	Interpupillary correct distance is not	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 surfaces of eyepiece	Clean the surface
3 Image is not clear	Dirt on the surfaces of the 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 The image on the monitor is not clear when the focusing knob is turned.	The focus of video is not correct	Readjust the focus of video to a correct position
9 Eyes fell tired easily	Diopter adjustment is not correct	Adjust the diopter
	Brightness of light is not correct	Adjust the brightness
10 Bulb does not work when the switch is on	No power supply	Check the connection with the power supply
	The bulb was not inserted correctly	Insert it correctly
	Bulb is wrong	Replace with a new one
11 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
12 Brightness is not enough	Use a wrong bulb	Replace with a correct one
	The voltage is too low	Increase the input voltage
13 The bulb flickers	The bulb will burn out soon	Replace with a new one

Nota importante para los aparatos electrónicos vendidos en España

Instrucciones sobre la protección del medio ambiente y la eliminación de aparatos electrónicos:

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De conformidad con la Directiva 2012/19/UE, los usuarios de la Unión Europea de aparatos eléctricos y electrónicos, tienen la posibilidad de devolver sus RAEE para su eliminación al distribuidor o fabricante del equipo después de la compra de uno nuevo. La eliminación ilegal de aparatos eléctricos y electrónicos es castigada con multa administrativa.

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L'élimination illégale d'appareils électriques et électroniques est punie d'amende administrative.

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