

Video Integrated Microscope INSTRUCTIONS

This instruction manual is for the operation guide, troubleshooting and maintenance to video integrated microscope. Please study this manual thoroughly before operating, and keep it with the instrument. The manufacturer reserves the rights to the modifications by technology development. On the basis of operation ensured, technical specifications may be subject to changes without notice.

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Before Use

1. Operation

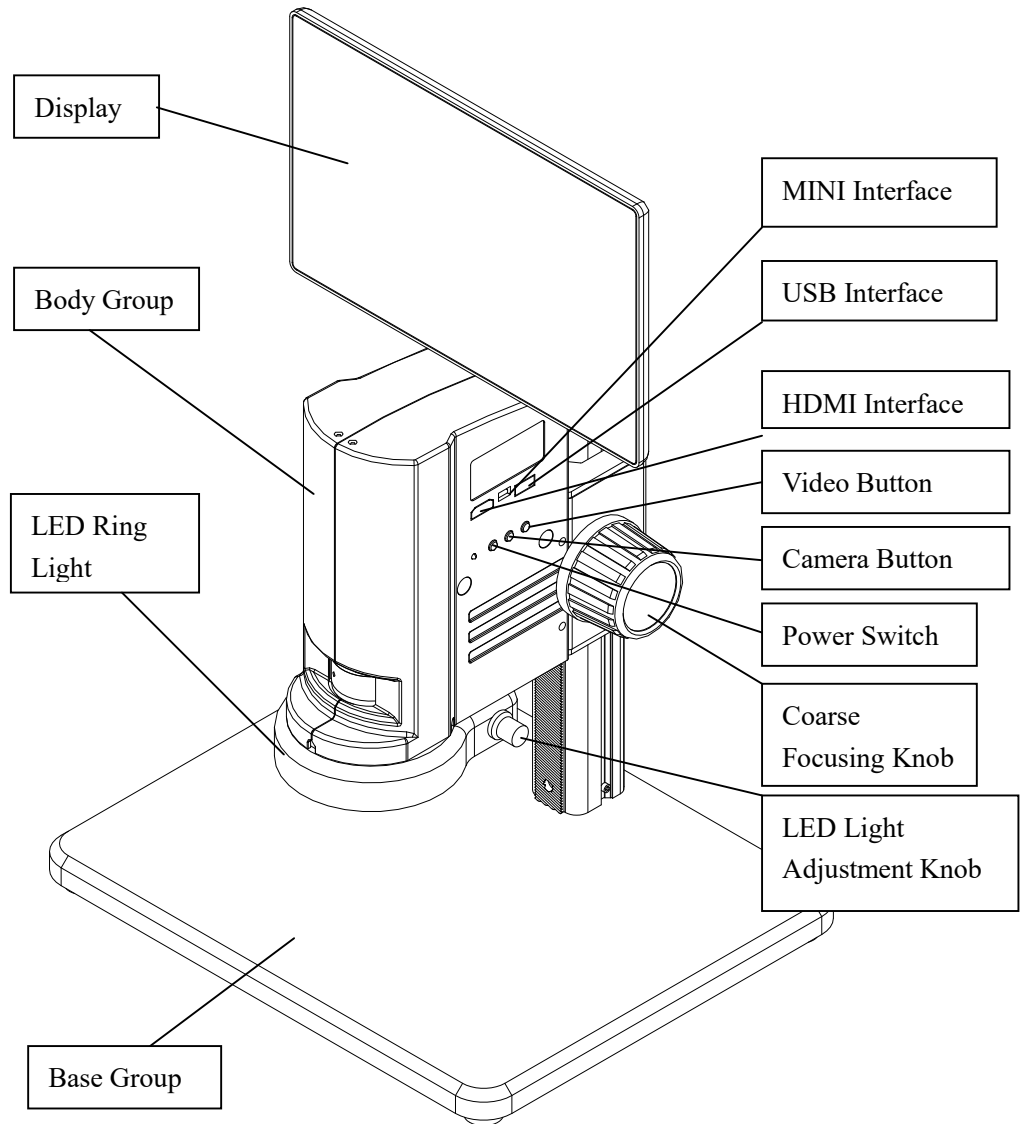
- 1) Do not expose the microscope in the sun directly. The microscope ought to be placed where is dry and clean. Avoid high temperature and violent vibration.
- 2) As the microscope is a high precision instrument, always operate it with care, and avoid physical shock or crash during the transportation.
- 3) To keep the image clear, please do not leave fingerprints or stains on the surfaces of lens.
- 4) Never rotate the left and right focusing knobs in reverse direction; otherwise the microscope will be damaged.

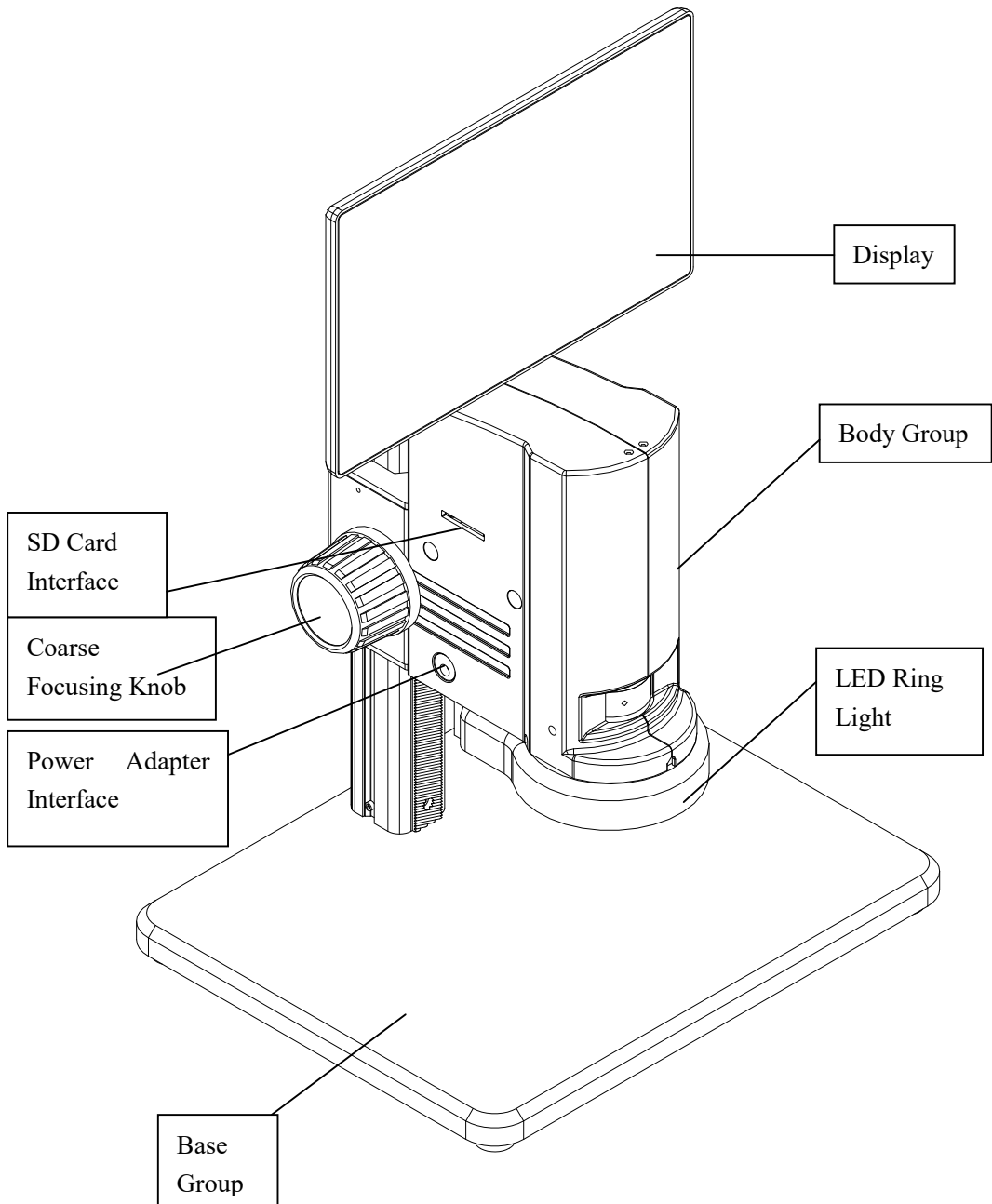
2. Maintenance

- 1) Keep all the surface of the lens clean. Wipe the lens gently with a soft lens tissue or blow away the dust. Carefully wipe off oil or fingerprints on the lens surfaces with tissue moistened with a little of 3:7 mixture of alcohol and ether.
- 2) Do not use organic solution to wipe the surface of other components, especially the surface of plastic components. Please use the neutral detergent if necessary.
- 3) Never disassemble the microscope yourself, otherwise it will influence its function or damage it.
- 4) After using, cover the microscope with a dust cover to prevent it from the dust, and store it in a place free from moisture to avoid rusting.
- 5) To keep the performance of the microscope, please check it periodically. For more details, please contact the agents nearby.

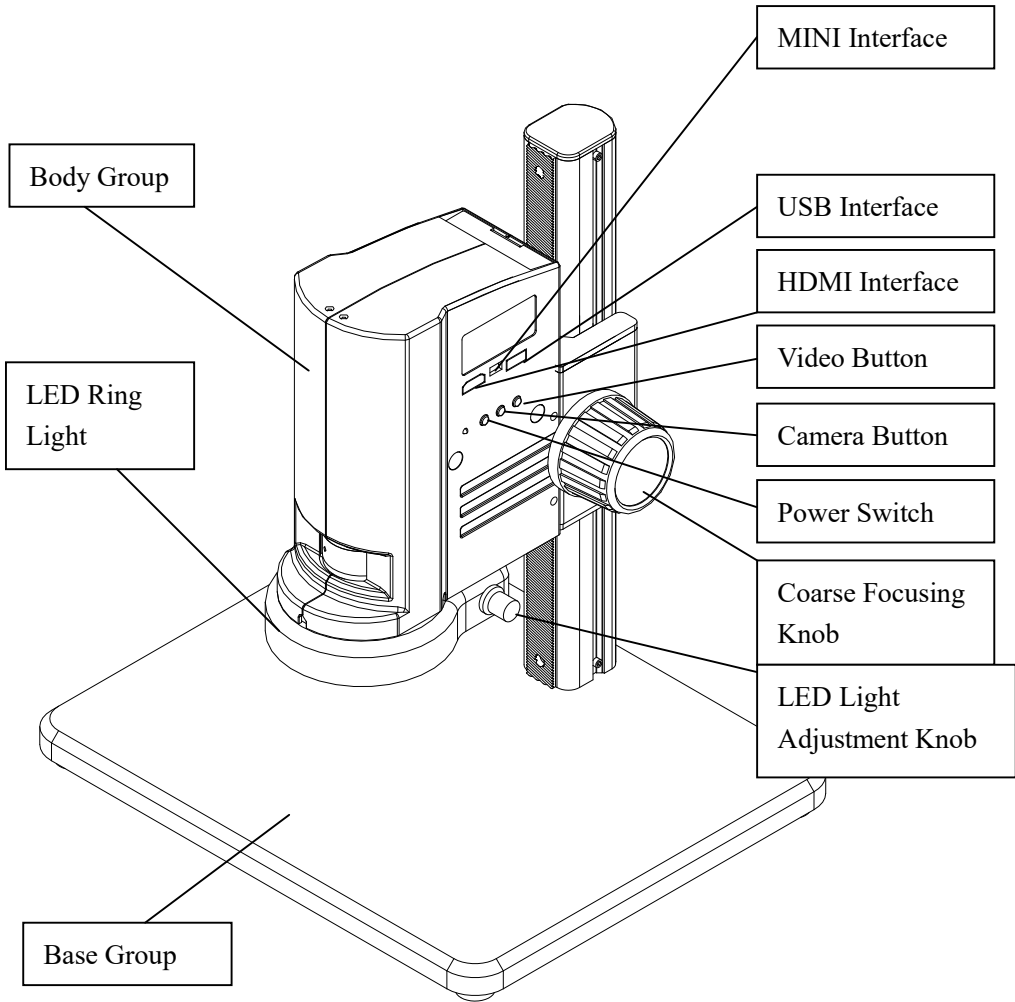
1. Components

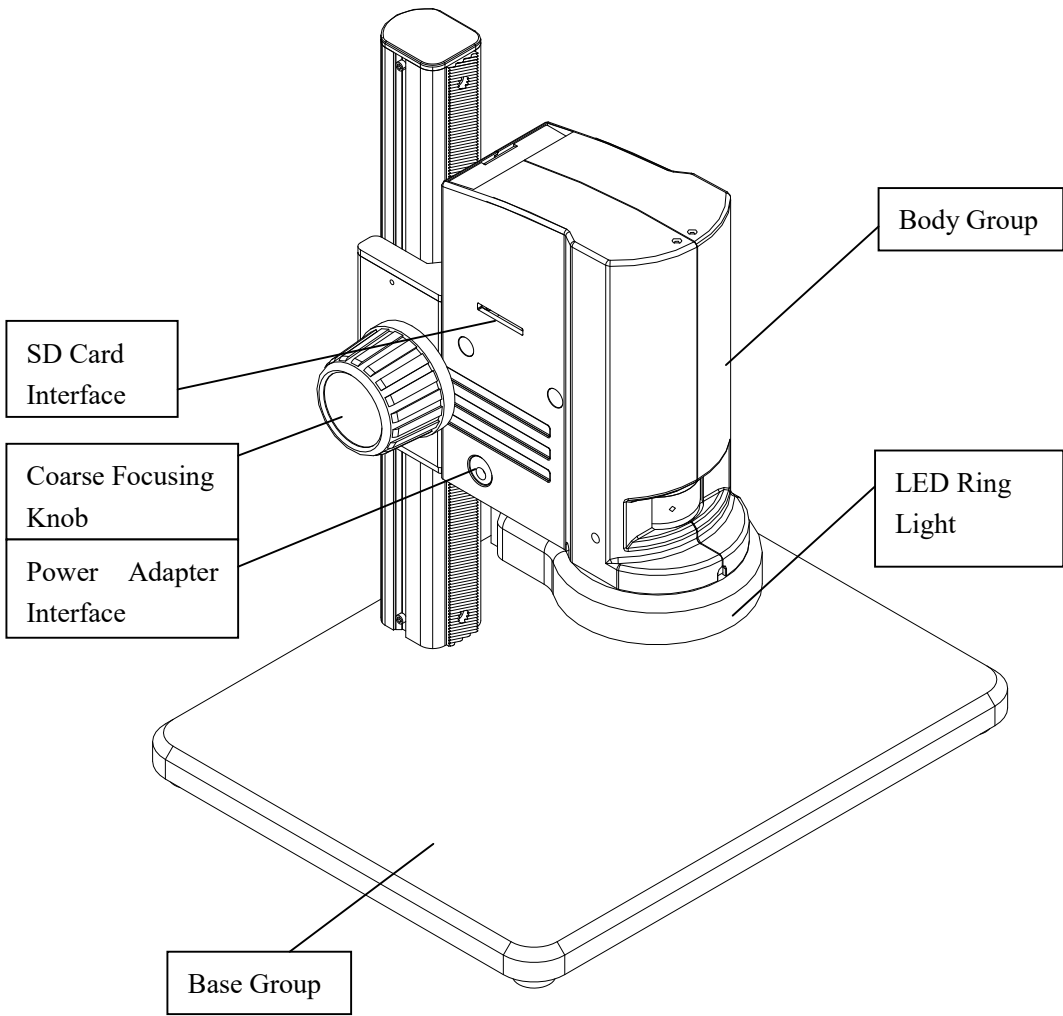
1-1 Video Integrated Microscope (with Display)





1-2 Video Integrated Microscope (without Display)





2. Assembling

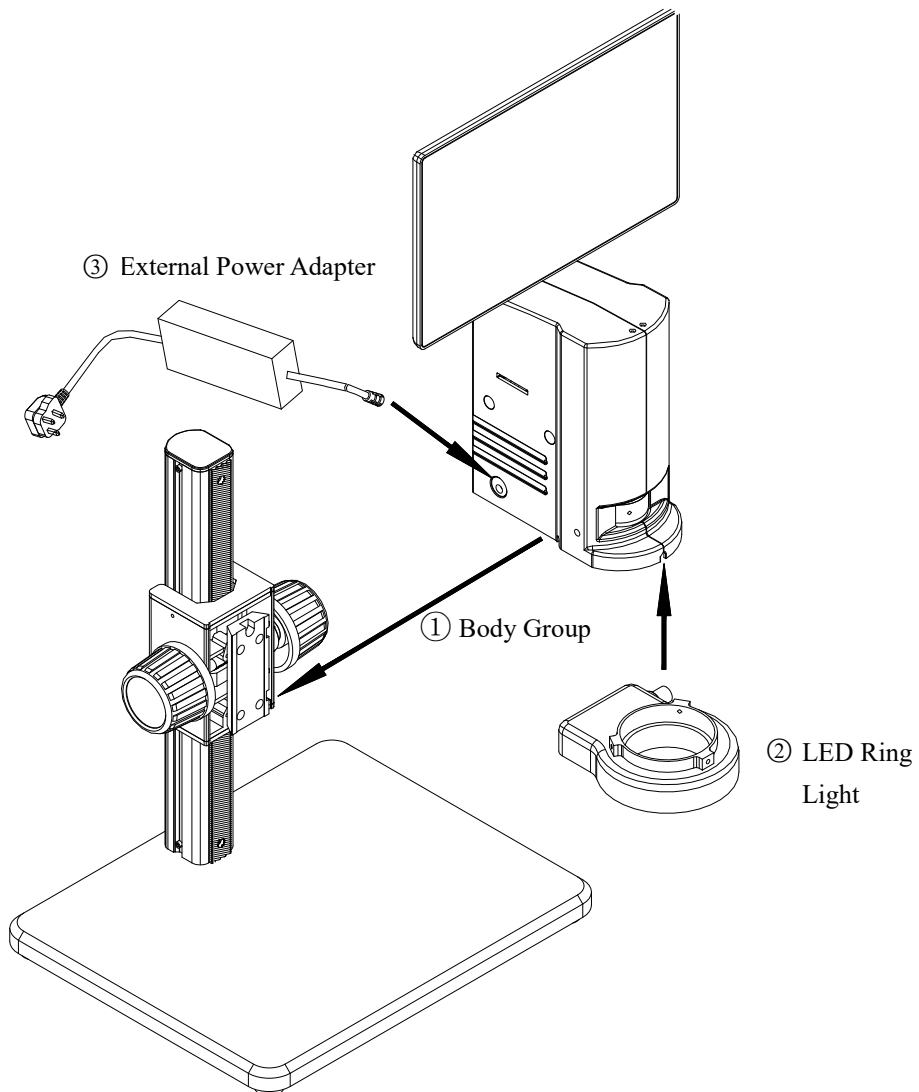
2-1 Assembling Scheme

Following is the Assembling Scheme to describe how to assemble the components, and the numbers denote the assembling order.

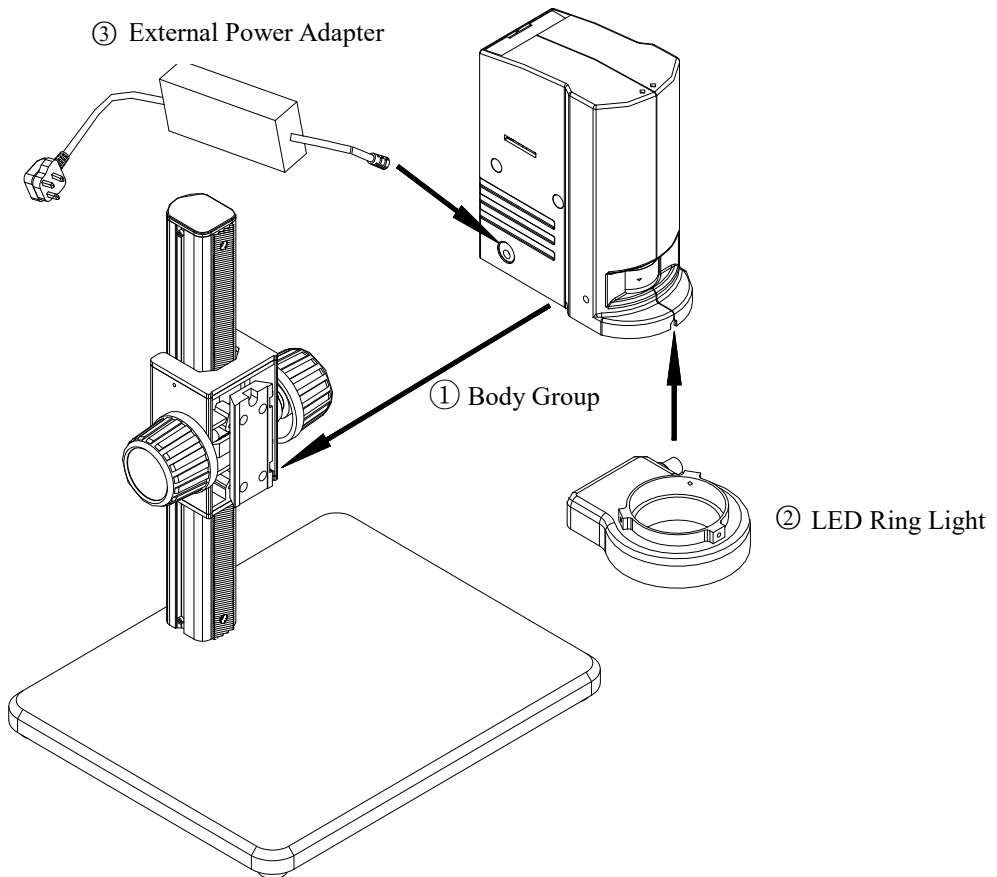
★ Before assembling, make sure there is no dust, dirt or other materials which will disturb it. Assemble carefully and do not scrap any part or touch the glass surface.

★ Preserve the hexagon spanner, and it will be used when changing the parts.

Video Integrated Microscope (with Display)



Video Integrated Microscope (without Display)



2-2 Assembling Steps

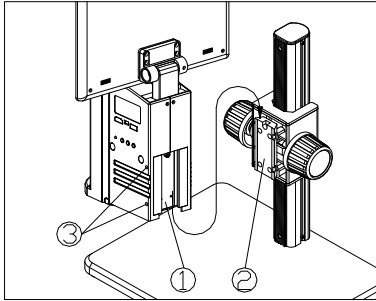


Fig. 1

2-2-1 Assemble the Microscope Body

- 1) Match the dovetail interface ① of the microscope body with the dovetail groove ② of the focus bracket group, and insert it from top to bottom as the direction shown in the figure, fix the screw in the screw groove.
- 2) Tighten the M4 inner hexagon screw on the body group ③ with a M4 inner hexagon spanner (side length 2mm). (See Fig. 1)

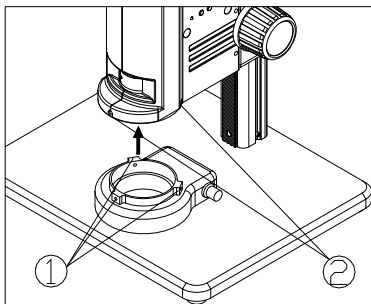


Fig. 2

2-2-2 Assemble the LED Ring Light

- 1) Move the LED ring light close to the microscope body according to the arrowhead direction, align the three screw holes ① with the thread groove ②, and lock the screw with a M4 inner hexagon spanner (side length 2mm). (See Fig. 2).

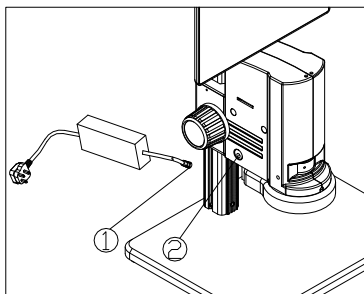


Fig. 3

2-2-3 Connect the Power Cord

- 1) Insert the external adapter plug ① into the power supply adapter socket ② of the microscope body to the bottom, and the power will be switched on. (See Fig. 3)

★ Don't use strong force when the power cord is bended or twisted, otherwise it will be damaged.

★ Use the special wire supplied by our company. If it's lost or damaged, choose an external power adapter with the same specifications (power cord/charger).

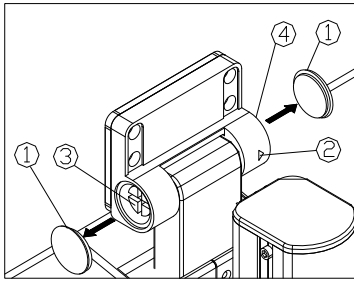


Fig. 4

2-2-3 Adjusting screen's degree of tightness

1) Cuspidal tool opening the cap nuts① in two sides, Allen wrench screwing off two M3 hexagon screws② from the cap screws④, and screwing flat nuts ④ to adjust tightness meanwhile Straight screwdriver keeping rotation axle③ still. (See Fig. 4)

2) Tightening two M3 hexagon screws②, then put cap nuts back.

★ When they shipment, the tightness is uitable.

3. How to Use

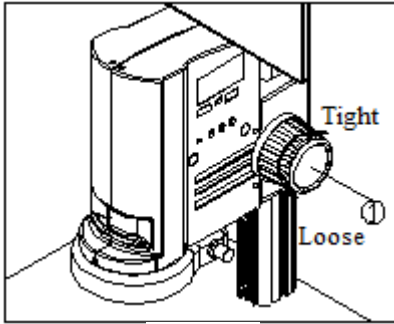


Fig. 5

3-1 Adjust the Focusing Tension

- 1) To adjust the focusing tension, grip the left knob and rotate the right knob①. It will be tighten when rotated in clockwise, while loosen in counter-clockwise. (See Fig.5)
- 2) Adjust the focusing tension to appropriate position, to prevent the microscope body declining with the bracket when observing, and also make focusing more comfortable.

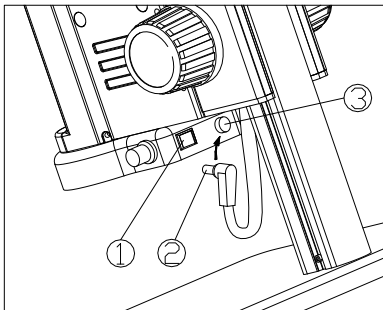


Fig. 6

3-2 Set Illumination

- 1) Insert the power cord plug② of body group into the ring light interface③, then turn on the switch① to start the light source. (See Fig.6)
- 2) Rotate the light adjustment knob④ to adjust the illumination brightness. Rotate the light adjustment knob clockwise to raise the brightness, while counter-clockwise to decrease the brightness. (See Fig.7)

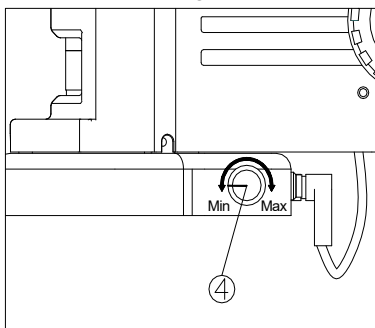


Fig.7

3-3 Place the Specimen

- 1) Put the specimen on the base and let the observation point exactly below the microscope. (See Fig.8)

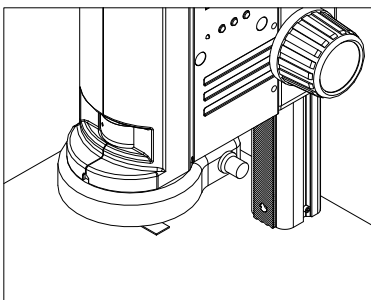


Fig. 8

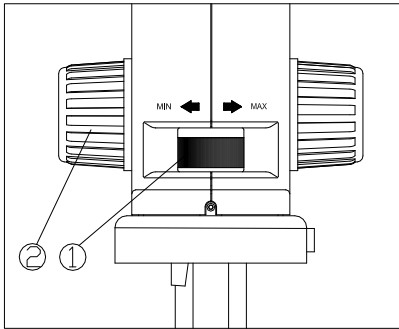


Fig. 9

3-4 Adjust the Focus

- 1) Rotate the zoom adjustment ring① to the maximum magnification.
- 2) Observe the output image, if it is not clear, rotate the focusing knob② to make it clear.
- 3) Rotate zoom adjustment ring to the minimum magnification. Observe the output image until it is clear. (See Fig.9)

★ **High low magnification parfocality is set to best position when this product is produced.**

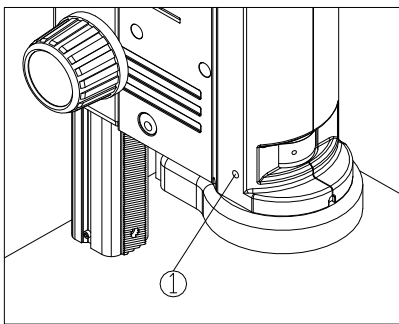


Fig.10

3-5 Fix the Magnification

- 1) If use a fixed magnification for long term or use with shake, tighten and fix the magnification lock-screw① with a M4 inner hexagon spanner (side length 3mm). (See Fig. 10)

3-6 Use the Button and Interface

- 1) Press down the on-off key① for 3-5 seconds, the indicator⑦ will turn from orange to green, which means the microscope is starting up. (See Fig. 11)

★ **It means the camera is working when the indicator flashes.**

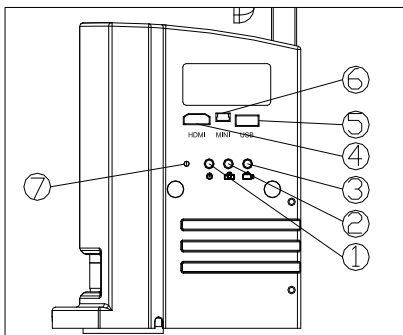


Fig. 11

- 2) Camera button②, when the camera is working, press once for take one photo.
- 3) Video button③, when the camera is working, press down for the first time to start recording, and press again to end recording.
- 4) HDMI cable interface④, connect the HDMI cable to output the high definition image signal.
- 5) USB interface⑤, connect the USB cable with the devices as mouse and USB disk.

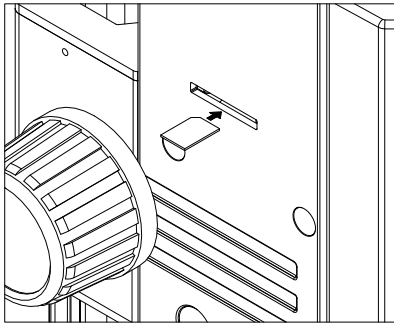


Fig. 12

6) MINI interface⑥, connect the MINI cable to output the USB function image.

7) SD card is as shown in the figure, face the chamfer to the left and insert it to the bottom. (See Fig. 12)

4. Troubleshooting

As the performance of microscope can't play fully due to unfamiliar operations, the table below can provide some solutions.

Problem	Cause	Solution
1. Stain or dust is observed in the video.	Stains have accumulated on the specimen.	Clean the specimen.
	Stains have accumulated on the CCD surface.	Clean the CCD surface.
2. The video image is unclear.	Stains have accumulated on the lens surface.	Clean the lens.
	Focusing is not correct	Adjust the focusing
3. The video image doesn't display.	The power switch isn't on.	Turn on the switch button of microscope body.
	The external power cable isn't connected well.	Reconnect the external power cable.
4. The image is too bright or too dark.	The LED ring light illumination has a problem.	Adjust the brightness of LED ring light.
	Display adjustment properties	Open the display menu of settings to adjust the brightness.
5. The display is no response and flash back.	The operation is too often and disorder, which results in error feedback of system.	Restart it.
6. The focus knob is not flexible.	The lock-screw is too tight.	Loosen the lock-screw
7. The image is not clear due to the self-decline of the microscope body.	The focusing knob is too loose.	Tighten it.
8. It can't zoom.	The zoom adjustment ring is locked.	Loosen the magnification lock-screw.
9. LED does not shine when powered on.	No power.	Check the connection of Power Cord.
	The LED light is burnt out.	Replace a suitable light source.
10. LED light is burnt out suddenly.	Voltage is too high.	Use a suitable external power adapter.
11. The illumination brightness is not enough.	Voltage is too low.	Use a suitable external power adapter.