
User Manual

MF-(BG)-LED CX23-3T



Guangzhou Micro-shot Technology Co., Ltd

www.m-shot.com

sales@m-shot.com

Thank you for buying our product!

This unit is a precision optical instrument. Our product has been design to provide the highest level of safety, however, improper operation or negligence in following the instructions in this manual may cause personal injuries and property losses.

In order to ensure your safety, prolong the life of this unit and maintain it properly, please read this manual carefully before operating this unit.

Caution!

This manual uses the following symbols for safety reminders. Be sure to observe these warnings in order to operate this unit properly and safely.



Warning!

Negligence in heeding the warning of this symbol may cause personal injury or damage to this unit!

Caution!

Negligence in heeding the caution of this symbol may affect the viewing performance of this unit.

Reminder!

Provide instructions and skills in operating this unit.



Pay attention to environmental protection.

CONTENT

1. Content	1
2. General note.....	2
3. Properties of product.....	2
4. Configuration.....	2
5. Constructure.....	4
6. Installation.....	5
7. Operation.....	6

1. General note

The products is produced according to medical equipment technology requirement (serial no. MJ-08-1), according to Chinese standard 《GBT 2985-2008》 and industry standard 《JB/T 5479-1999》 requirement.

2. Properties of product

The upgrade LED fluorescent microscope adopts infinity optical system, take use of LED light source as fluorescent illumination to bring user a full field of view, high contrast fluorescence imaging performance. At the same time, it has no influence of bright field observation.

3. Configuration

1) Specification

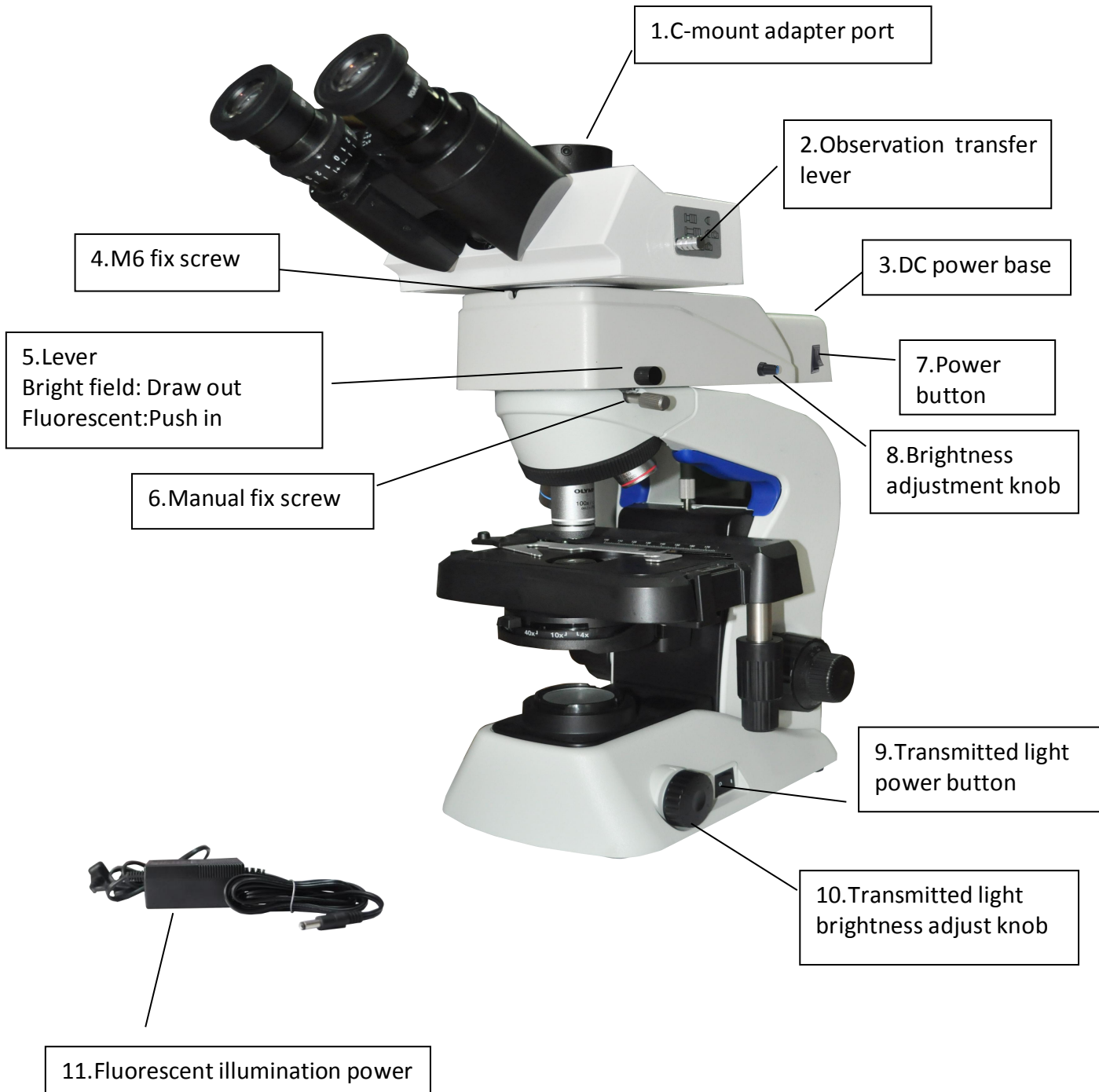
Optical system	Inifinity optical system
Fluorescent illumination	Blue :EF 460nm~490nm,DM >500nm,BF>510nm Green:EF 510nm~550nm, DM>570nm, BF>590nm
Transmitted illumination	Built-in transmitted illumination system, LED Power Consumption 0.5 W (nominal values)
Focusing	Stage height movement (coarse movement stroke: 15 mm), coarse adjustment limit stopper, Torque adjustment for coarse adjustment knob, Fine focus knob (minimum adjustment gradations: 2.5 μ m)
Revolving Nosepiece	Fixed quadruple nosepiece
Observation Tube	30° inclined binocular tube Interpupillary distance adjustment range: 48 - 75 mm, Eyepoint adjustment: 370.0 - 432.9 mm Light path: 100:0,50:50,0:100
Stage	Wire movement mechanical fixed stage Traveling range: 76 mm (X) x 30 mm (Y), Specimen holder, Specimen position scale
Condensor	Abbe condensor, NA1.25 (immersion oil) ,built in aperture diaphragm

Objective	Plan 4x NA: 0.10 WD: 27.8 mm Plan 10x NA: 0.25 WD: 8 mm Plan 40x NA: 0.65 WD: 0.6 mm Plan 100xOil NA: 1.25 WD: 0.13 mm
Working surrounding	Indoor,temperature: 5° C~40° C (41° F~104° F) ,Maximum relative humidity relative 80%, temperature 31° 。
Size and weight	198 (W) X 238(D)X 384(H)mm/8 kg

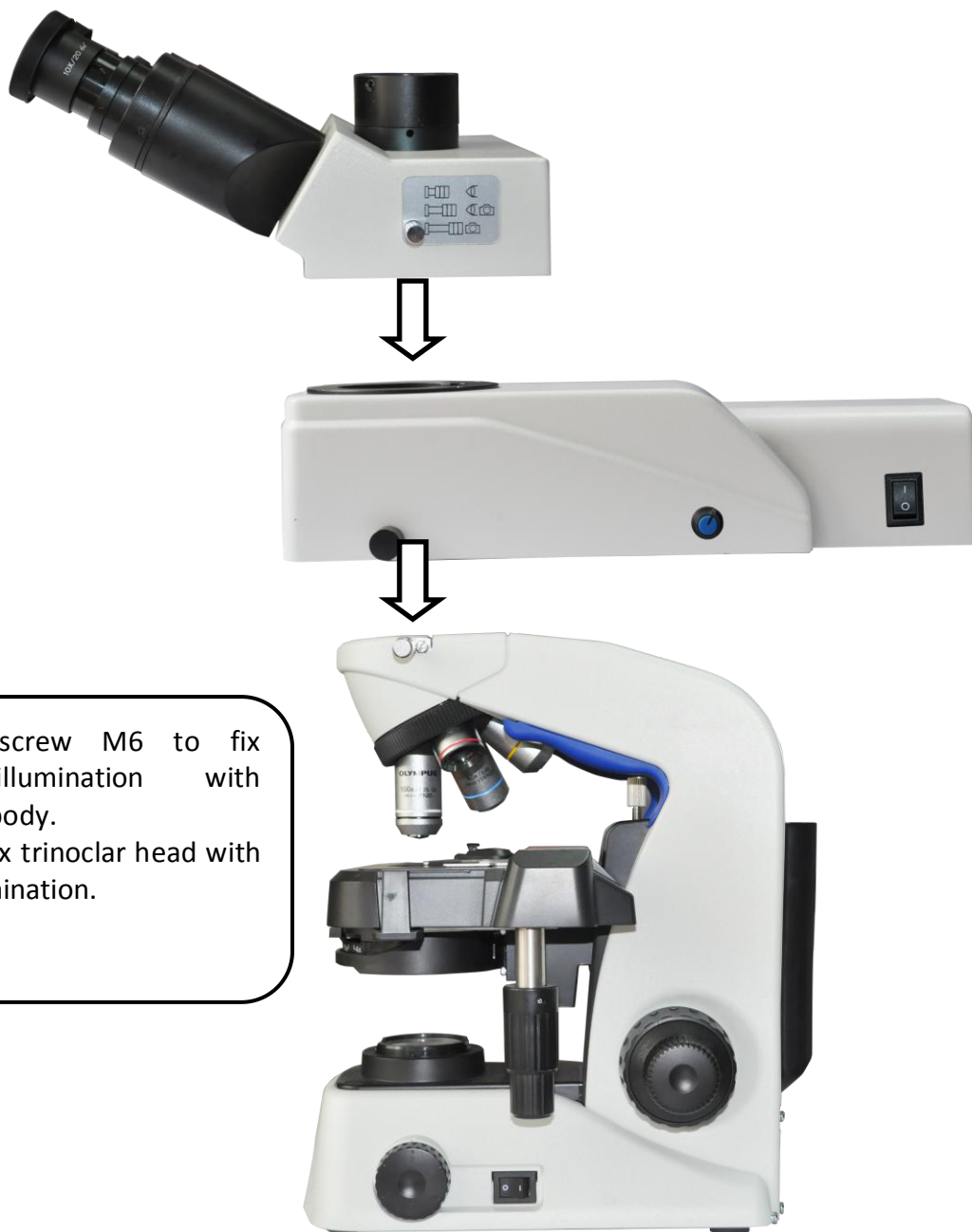
2) Objectives

Type	Magnification times	N.A.	W.D. (mm)	Reolsuiton (um)	Remark
Infinity plan achromatic objective	4X	0.1	27.8	3.36	
	10X	0.25	8.0	1.34	
	40X	0.65	0.6	0.52	
	100XO	1.25	0.13	0.27	

4. Constructure



5. Installation



1. Manual fix screw M6 to fix fluorescence illumination with microscope host body.
2. M6 screw to fix trinocular head with fluorescence illumination.
3. Set eyepieces

6.Operation

1) fluorescence observation:

1. Fluorescent light source adapter 11 connect the DC power socket 3, the switch button 7 according to "I", which is connected to power. Close the transmission light switch 9.

2 .The switch lever 5 into the fluorescent light field.

3.Specimen on the stage, will be transferred to the objective position, focusing on specimen. The condenser is down regulated, one can make the image to achieve the most clear position.

4 With the eyepiece, adjusting the pupil distance and visibility.

5.Adjust the brightness adjustment knob 8 to achieve satisfactory lighting conditions, the default is the maximum brightness.

6. Conversion of different magnification lens, the need to use a micro focus adjustment.

7. The weak fluorescence brightness and observed using the camera should be the eyepiece tube switching rod 2 is completely pulled out to the 3rd gear, for the camera to capture the weak fluorescence.

2), Bright field observation:

1. Turn off the drop shot fluorescent lighting switch button 7.

2 Bright field fluorescence switch rod 5 to the end of the module in the bright field observation stalls.

3.The right light switch 9 transmission microscope body according to the "I" side, the power supply is switched on.

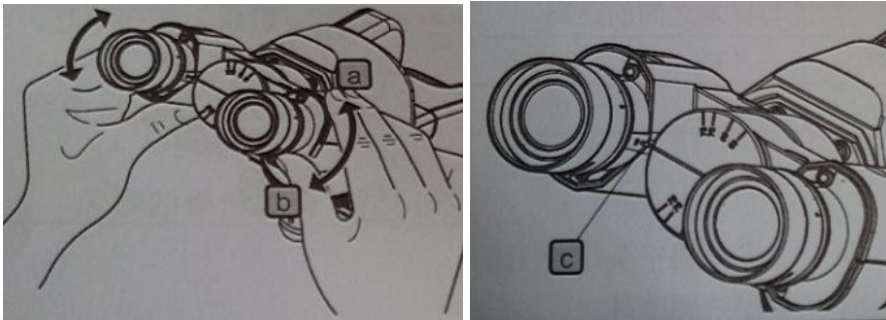
4.The lifting position 4 adjusting the condenser, the brightness knob and the aperture, in order to achieve satisfactory lighting condition.

5 Different magnification lens, using micro focusing handwheel slightly adjusted. Observed by 4X and 10X objective, appropriate lower condenser, the lighting is more uniform. With the 100X objective, need to put the cedar oil specimen and the objective lens in between.

Warning: Please turn off power when do not use the instrument!

3) adjust the pupil distance

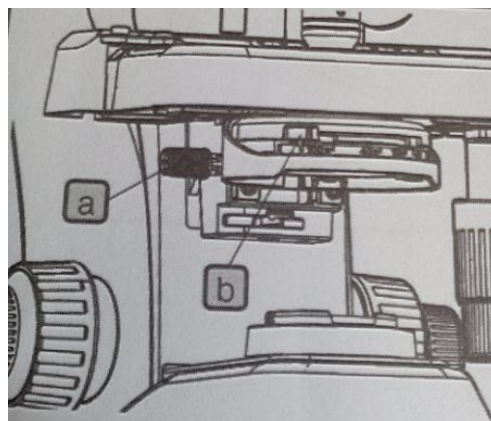
Interpupillary distance adjustment is based on the distance between the eyes of the distance between the two lens adjustment. This method helps to observe a single microscope image, reduce eye fatigue in the observation process. While maintaining the level around the eyepiece to a or B, while moving in the direction of binocular parts, left and right field match. On the left side of the eyepiece sleeve index value C said ipd.



4) adjust the position of condenser and aperture

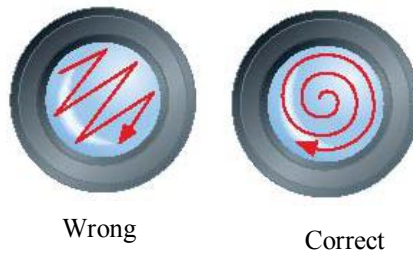
Usually in the highest position using the condenser. If the whole observation field of view is not enough, it can reduce the condenser and increase the brightness.

1. turn the lens height adjustment knob a, the focus mirror to move to the highest position;
2. aperture limit rod B indicates the magnification of the objective lens (4X, 10X, 40X, 100X). The rotating and twisting aperture limit rod is used for indicating the front facing toward the same magnification indicator as the objective lens.



8 instrument maintenance and maintenance

- (1) the host power switch for power supply control, observation is completed or suspended, the switch "O" press, cut off the power supply, so as to avoid the electrical components of the instrument is still in the working state. When not in use, the power plug should be pulled out from the power socket and properly keep all kinds of connection lines.
- (2) equipment should be kept clean, can use clean cloth (or silk and absorbent cotton dipped in a little ethanol will shots of the oil and the fuselage of the Qing clean, until completely cooled, dried cover dust cover.
- (3) to clean the lens: use hair ball blowing to or with a soft brush to wipe the lens on the dust; heavy dirt and fingerprints available lens paper or soft cloth dipped in a little alcohol and ether mixture gently wipe (both alcohol mixing ratio from 20% to 30% aether 70 ~ 80%)..



- 4) clean the surface of the instrument can be cleaned with a soft cloth to wipe the dirt; available neutral detergent scrub weight.
- (5) custody: for a long period of time without the use of a microscope, please turn off the power to the instrument, lighting fully cooled, the microscope of the dustproof cover, stored in a dry, ventilated, clean and free of acid and alkali vapor, so as to avoid the lens mold.
- (6) regular inspection: in order to maintain the performance of the microscope, to deal with the periodic inspection and maintenance of equipment.
- (7) in the use of ethanol and other organic solutions, should maintain environmental ventilation, and away from the source of fire or easy to produce sparks of equipment.



注意

Do not use organic solvent (such as alcohol, ether and diluent etc.) to wipe the surface of the instrument, the instrument to avoid surface peeling paint. Proposals before the dustproof cover, in microscopic moving parts coated with a layer of no corrosion of the lubricant, the objective and the eyepiece placed in a container with a drying agent

Thank You!