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ΒΙΟΛΟΓΙΚΟ ΜΙΚΡΟΣΚΟΠΙΟ
مجهر بيولوجي

GIMA 31000

Modello / Model / Modèle / Vorlage
Modelo / Modelo / Πρότυπο / قالب : L1200B

Fabbricante / Manufacturer / Fabricant / Hersteller
Fabricante / Fabricante / Παραγωγός / الشركة المصنعة
GUANGZHOU LISS OPTICAL INSTRUMENTCO., LTD.
No. 81 Tao Jin Bei Road, Guangzhou, China
Made in China

REF L1200B(HBG)

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M31000-M-Rev.4.11.24

The (model L1200B) biological microscope is equipped with achromatic objectives and wide field eyepieces. With binocular the observer can get the clear image in the wide field. It's suitable for scientific research, medical, health work and teaching demonstration in the colleges.

I. SPECIFICATIONS

1. Eyepieces

Type	Magnification	Focus (mm)	Field (mm)	Remark
Wide field eyepiece	10X	25	φ18	

2. Objectives

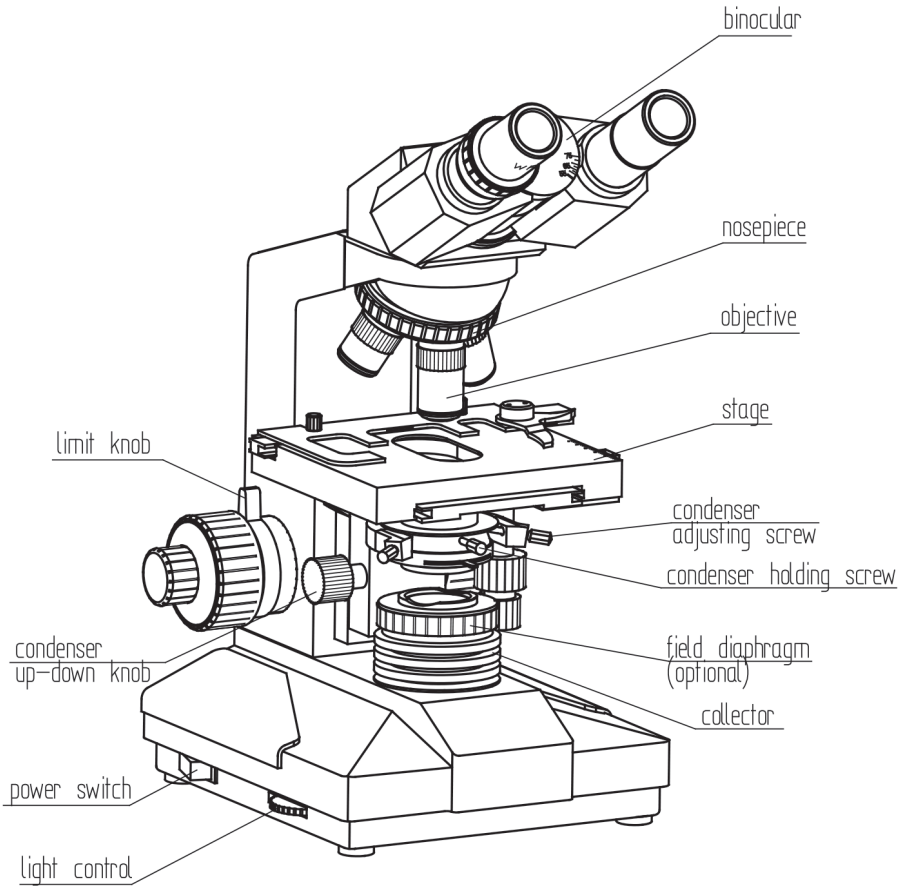
Type	Magnification	N.A	W.D (mm)	
			Achromatic	Semi-Plan
Achromatic or Semi- Plan Achromatic	4X	0,1	37,4	23,1
	10X	0,25	6,6	4,1
	40X	0,65	0,64	0,6
	100X (oil)	1,25	0,19	0,38

3. Total Magnification

Objectives / Total Magnification / Eyepieces	4X	10X	40X	100X
10X	40X	100X	400X	1000X
16X	64X	160X	640X	1600X

4. Condenser numerical aperture: NA=1.25;
5. Stage cross travel range: longitudinal 35mm traverse 75mm;
6. Fine focusing knob: minimum division: 0.002mm;
7. Interpupillary distance adjustment range: 53-75mm;
8. Light sources: 12V 20W halogen lamp brightness adjustment;
9. Power supply: AC Voltage 85V~265V 50/60Hz;
10. Anti-fungus: Yes.

II. COMPONENTS



L1200B Fig. 1

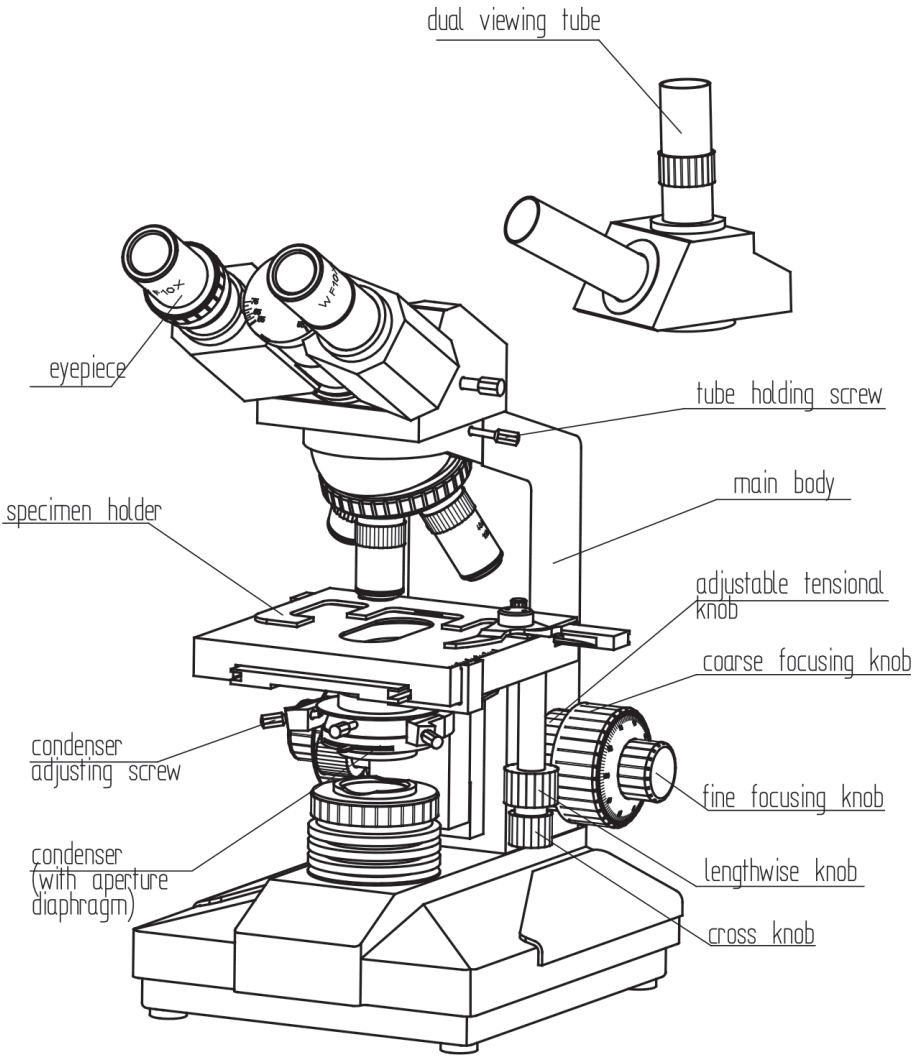

dual viewing tube
eyepiece
tube holding screw
main body
specimen holder
adjustable tensional knob
coarse focusing knob
condenser adjusting screw
fine focusing knob
condenser (with aperture diaphragm)
lengthwise knob
cross knob

Fig. 2

III. INSTALLATION

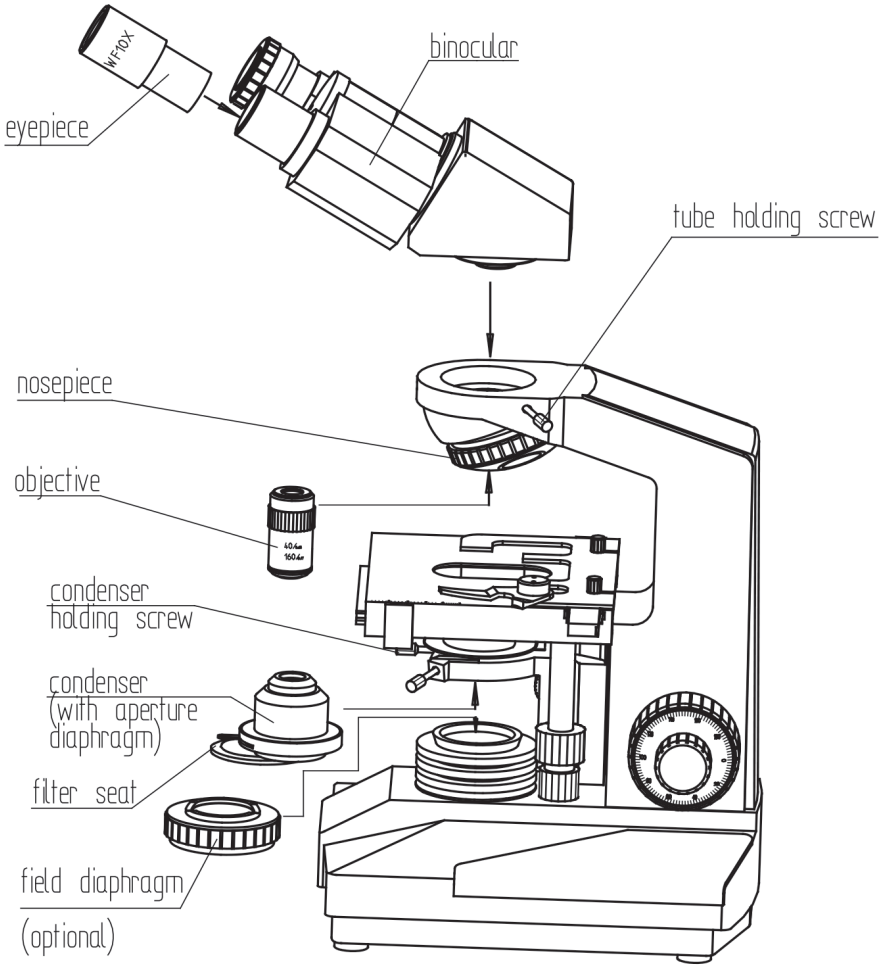


Fig. 3

IV. OBSERVING OPERATION

1. Press the power switch on the side “I”, which means the circuits is got through;
2. Set the 10X objective into operation position by turning the nosepiece, then focus the specimen which is on the stage;
3. Adjust interpupillary distance and diopter when watching with binocular;
4. Adjust the up & down position of the condenser, light control and aperture diaphragm in order to getting satisfied luminal effect. When watching with 4X or 10X objective, bring down the condenser propriety to get symmetrical light;
5. While interchange other objectives turn the nosepiece and refocus slightly with the fine focusing knob. When use the 100X objective, may be sure to put a drop of cedar wood oil between the objective and the specimen.

V. THE OPERATIONS OF EACH UNIT

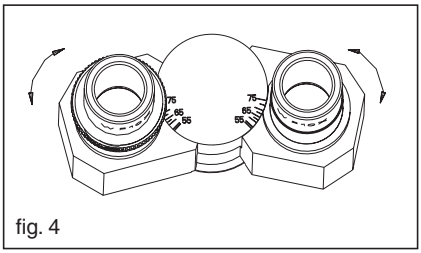


fig. 4

1. Adjust of interpupillary distance

Put the specimen on the stage and ring the specimen into exact focus. Adjust the interpupillary distance of binocular until the right-left field of view can be composed one. (Fig.4)

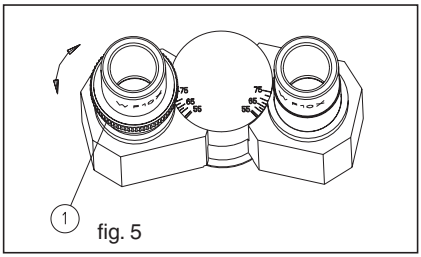


fig. 5

2. Adjustment of diopter

Put the specimen on the stage. Turn the 40X objective to working position. Firstly, observe at right column with right eye, adjust coarse-fine focusing knob to image clearly. Secondly, observe at left column with left eye, adjust the diopter control ① to image clearly.(Fig.5)

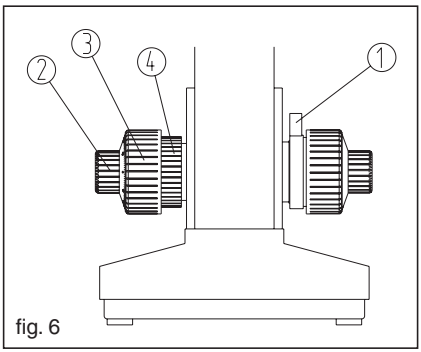


fig. 6

3. Coarse/Fine focusing

The instrument used coaxial coarse/fine focusing mechanism. The adjustable tensional knob ④ used for adjusting the tension of the coarse focusing knob ③ to prevent the stage from naturally sliding down. The limit knob ① prevents accidental specimen/objective contact. ② is fine focusing knob.(Fig.6)

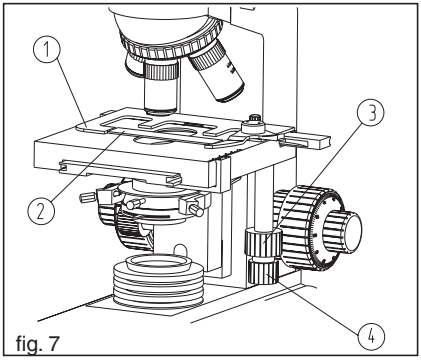


fig. 7

4. Stage

The convenient specimen holder ① on stageis used for holding slide glass ②, lengthwise knob③/cross knob ④ are coaxial, the stage move expediently.(Fig.7)

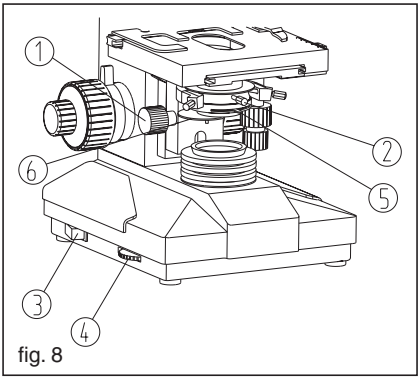


fig. 8

5. Elevated condenser
The condenser is moved up or down via turning up-down knob ①. The condenser can be taken down easily if unscrews the condenser holding screw ②, filter plate places on the filter seat. (Fig.8)

6. Power switch and adjustable brightness
Turn on the power switch ③, adjust the light control ④ until image can be observed comfortably.

Note: Don't let the light control at the lightest position so long that reducing the life-span of the lamp. (Fig.8)

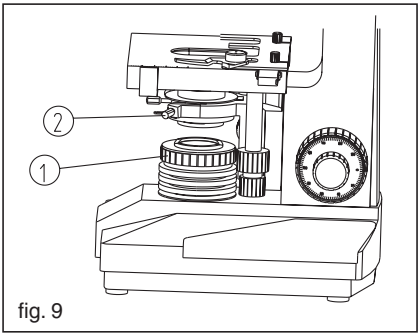


fig. 9

7. Adjusting of field diaphragm (optional)
Switch on the power, put the specimen on the stage, then turn the 10X objective into the working position, observe with 10X eyepieces. Turning the up/down condenser knob and reach the image of field diaphragm. Then concenter field diaphragm and optical axis with adjusting screw ②. Turn the ring ① of field diaphragm when the field diaphragm more than the field of eyepiece. Using 4X objective, the adjust method as so. (Fig.9)

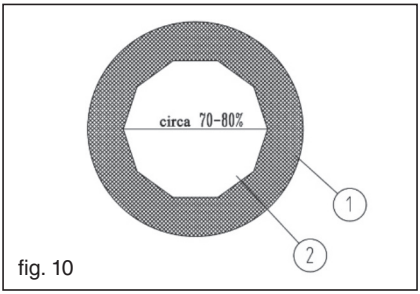


fig. 10

8. Aperture diaphragm
The aperture diaphragm lever ⑤ can be turn to adjust NA of the illuminal system (Fig.8).Removing the eyepieces, watch through the eyepiece tube, adjusting screw is used while the diaphragm image is eccentric with the objective pupil ①. Turn the aperture diaphragm for getting an image with advisable contrast. Usually, adjusting diameter of the aperture diaphragm image ② to 70-80 percent of the objective pupil can get it. (Fig.10)

VI. EXCHANGE THE LAMP AND FUSE (Fig.11)

1. Switch off the power supply and pull out the plug of electrical wire.
2. Incline the microscope, loose the screw ② of fixing lamp base boards ③ on the middle part of bottom, and removes lamp baseboard from bottom.
3. Pull out the old lamp from lamp base ④.
4. Insert the new lamp ⑤ into lamp base ④.Notice the properly touching.
5. Clean the new lamp with absolute alcohol.
6. Reinstall lamp base board ③ on bottom with screw ②.
7. Mount the lamp well, plug in electrical wire, turn on the power supply, turn objective lens into light path, adjust condenser upwards and downwards, and make light enter view field. If light spot is offset the center of view, loose the screw ⑥ slightly and move the lamp base ④, make lamp spot into center, then tighten up the screw ⑥ to use immediately.
8. Loose the screw of fuse ①, put out the bad fuse, mount the new fuse, and tighten the screw of fuse ① and use.

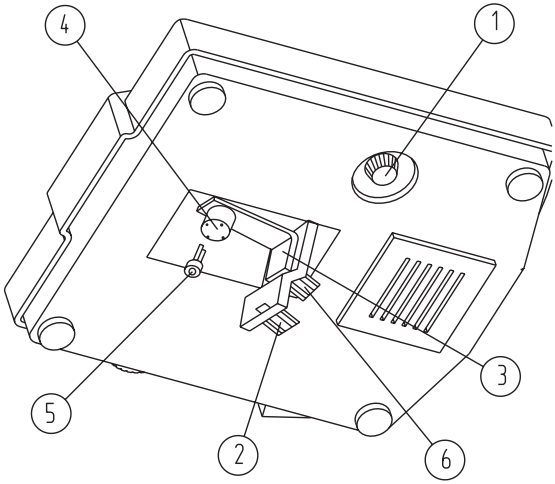


fig. 11

The specification of fuse: φ5, 3A

VII. MAINTENANCE

1. Sweep the lens

Sweep the lens by lens tissue or soft fabric immersed with mixed liquid of alcohol/ether or diethyl benzene. Cleaning the oil on the 100X objective whenever finish operating.

2. Clean the painted parts

The dust on the painted parts can be removed by gauze, for the grease spots, the gauze immersed slightly with aviation gasoline is recommended. Do not use organic solvents such as alcohol, ether or other thinner etc., for cleaning the pointed parts or plastic components.

3. Avoid disassembling the microscope

Being a precise instrument, do not disassemble the microscope casually that may cause serious damage to its performance.

4. Being not used

Cover the microscope with polymethyl methacrylate or polyethylene and places where there is dry and modules. Suggest that storage all objectives and eyepieces in closed container with drying agent.

	Caution: read instructions (warnings) carefully		Follow instructions for use
	Product complies with European Directive		Date of manufacture
	Keep away from sunlight		Keep in a cool, dry place
REF	Product code	LOT	Lot number
	WEEE disposal		

***Disposal**: The product must not be disposed of along with other domestic waste. The users must dispose of this equipment by bringing it to a specific recycling point for electric and electronic equipment.*

GIMA WARRANTY TERMS

The Gima 12-month standard B2B warranty applies.