XSP-73 SERIES OF BIOLOGICAL MICROSCOPE

OPERATION MANUAL

Fybikon art.nr: 10100 og 10107

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I. Application

XSP-73 Series of bio-microscopes mainly used for observing and testing biologic clips in agricaultural research institutes and middle schools. It is also used for routir test, clinical test and teaching demonstration in medical and health establishments an labouratories and so on . The magnification of XSP-73 is from 40X to 1000X.

II. Principle and Structure

The optical imaging and illumination principle of XSP-73 series of bio-microscope ai showed as diagraml:

1. The imaging system is composed of objective6, prism7 and eyepiece9. The objective6 magnify the specimen0 primarily, and the light rays are refracted to 45° by prism7 and get the image on eyepiece image plan0', then magnification is educed by the product of magnification of objective and that of eyepiece.

2. The illumination system is composed of lampl, collector2, diaphragm3 and condenser4.The light rays from lamp1 go pass the collector2 and illuminate diaphragm3, then they will be converged by condenser4. This system can illuminate the observed specimen0 on the stage5 for visual observation . You can illuminate by reflector to take the place of lampl.

Structure as diagram2

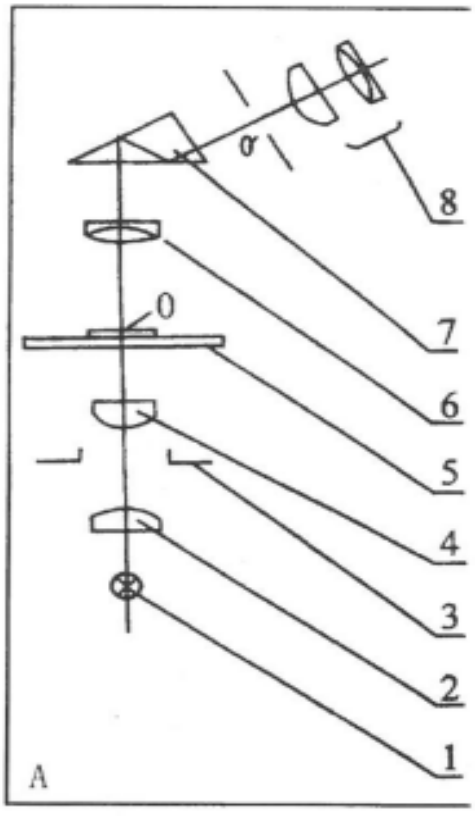
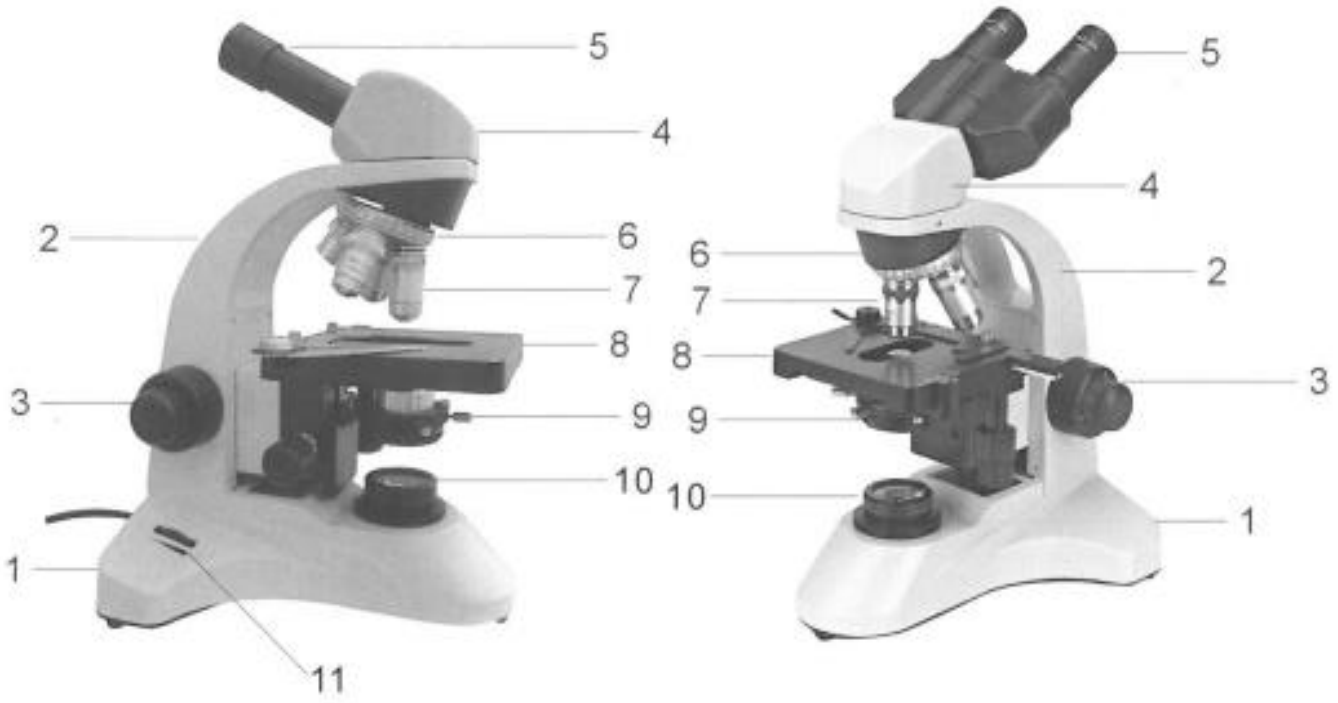


Diagram1



XSP-73 OF BIOLOGICAL MICROSCOPE

1-STAND 2-ARM 3-RISE AND FALL SUPPORT 4-EYEPIECE HEAD 5-EYEPIECE 6-NOSEPIECE 7-OBJECTIVE 8-STAGE 9-CONDENSER 10-COLLECTOR OF LIGHT SOURCE 11- BRIGHTNESS ADJUSTING

III. Specification

1. Mechanical tube length: 160mm
2. Objectives

Magnification	Numerical aperture(NA)	Working distance
4X	0.1	37.5
10X	0.25	7.63
40X	0.65	0.63
100X	1.25	0.2

C

3. Eyepieces

Magnification	Focal distance	Diameter of View-field(mm)
10X	25	Φ1X

D

4. Total magnification

Objectives / Total magningication / Eyepieces	4X	10X	40XS	100XS
10X	40X	100X	400X	1000X

5. Coarse focal range: 8mm
6. Stage size: 140mmX135(mm)
7. Condenser:

   XSP-73: NA1.25 ABBE condenser with iris diaphragm and filter
8. Illumination:

   XSP-73: halogen lamp 6V 20W
9. Net weight: approx 4Kg
10. Measurement (including binocular head): 240(L)X210(W)X380(H)

IV. Standard outfit of XSP-73 Series of Biology Microscope

Outfit		Model		
		XSP-73A	XSP-73B	XSP-73C
Eyepiece head	monocular head	●		
	compensation free Binocular head		●	●
	4X	●	●	●
Objectiece	10X	●	●	●
	40XS	●	●	●
	100XS	●	●	●
Eyepiece	WF10X	●	●	●
Nosepiece	Quadruple	●	●	●
Stage	double layler mechanical stage	●	●	●
Condenser	ABBE condenser	●	●	●
Illumination	halogen Lamp 6V 20W	●	●	●
Cedarwood oil		●	●	●

V. Operation Instruction and Notes

1. Preparation for observation: Install the objectives and eyepieces. Put the specimen on the middle of the stage, then move to the center of circular orifice of stage and pin it in the position with slide clips. Turn on the lanp or adjust the reflector to illuminate the specimen equally and filled up view-field.
2. Turn to the 4X objective and adjust the coarse focus knob to find an image in the view-field of eyepiece, then adjust the position of specimen until an clear image can be observed inthe center of eyepiece view-field.
3. Transform the objectives to high magnification in sequence, and adjust the coarse/ fine focus knob and the position of specimen, the position of collector and aperture of diaphrahm will also be adjusted until obtaining a satisfactory image.
4. After operation, the instrument must be put in order, if 100X(oil) objective is used, you should wipe it clearly immediately. Moreover, don't hit the objective of high magnification against the glass under the specimen

VI. Maintenance

1. Exam the connection of enery component part is firm when opening the package and installing the microscope. Be careful not overexert to break the instrument.
2. Operate correctly and put the dust cover on the microscope after work to prevent from the dust and oil stain.
3. Do't dismantle the instrument rashly besides the replaceable components to avoid changing the correct position.
4. Please keep the microscope in a dry and cool place and away from the pollution and corrosion. When the objectives and eyepieces won't be used for a long time, plase put them into a dry box.
5. Please send the instrument to the special repair shop if it goes out of order.