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A11.1007

Biological Microscope

Instruction Manual



To ensure the safety and obtain satisfactory performance, please study this instruction manual thoroughly before start to use your instrument.

I. Application

A11.1007 microscope has modern frame and can fit 45°inclined monocular, binocular, trinocular head on it. Double layer mechanical stage with adjustable long handle and coaxial coarse/fine focus knob make the operation easily. It is also provided with high quality achromatic objectives, wide field eyepieces and LED lamp adjustable brightness, which guarantee the best image. It is widely used for examination, teaching demonstration, bacteriology and cystoscopy in colleges and university, medical and health establishments, research institutes and department of forestry and agriculture and so on.

II. Specification of Standard Accessories

1. Objectives

Category	Magnification	Numerical aperture	Working distance
Achromatic Objectives (black or white)	4X	0.10	37.5
	10X	0.25	7.316
	40X	0.65	0.632
	100X(oil)	1.25	0.198

2. Eyepieces

Designation	Magnification	Field Of View Diameter	Focal Length
Wide Field	10X	18mm	24.94mm
Wide Field	16X(Optional)	11mm	15.58mm

Eyepieces	Objectives			
	4X	10X	40X	100X
10X	40X	100X	400X	1000X
16X (optional)	64X	160X	640X	1600X

3. Total magnification 40x-1000x, up to 1600x (optional)

4. Mechanical tube length: 160mm

5. Objective to primary image distance: 195mm

6. Stage size: 140mm X 132mm, moving range: 75 X 45mm

7. ABBE condenser, N.A. =1.25 with iris diaphragm

8. Coarse/fine focal range: 20mm

9. Illumination: 3W LED with adjustable brightness

10. Net weight: 6 kg

11. Measurement (including viewing head): 262mm(L) X 204mm(W) X 389mm(H)

III. Structure (showed as diagram)

A11.1007 microscope is composed of nine main component parts:

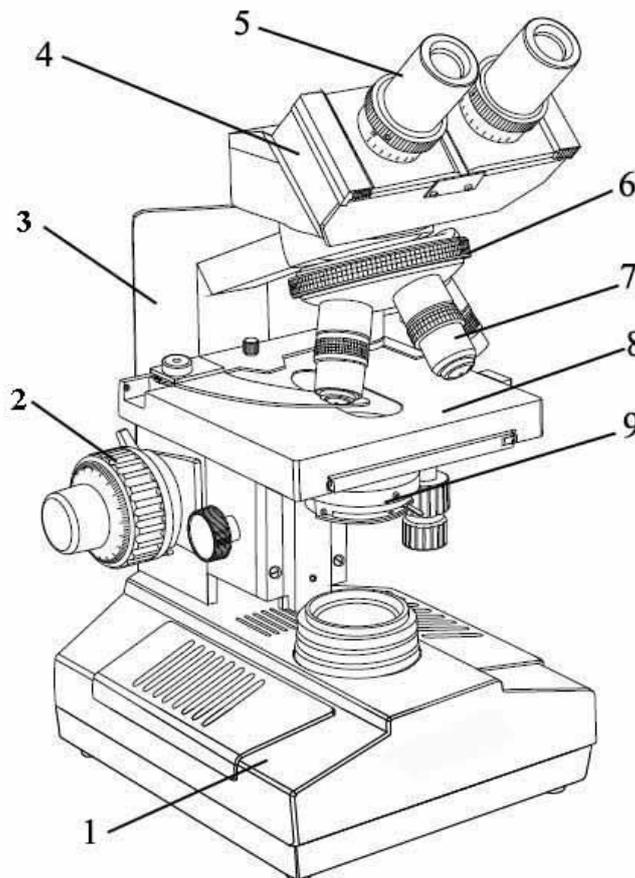
1. Stand: It's the base bearing total weight of microscope, which built in illumination system, electronic parts and connecting control.
2. Rise and fall support: It connects with stage, arm and condenser. Stage and condenser can move vertically through it for proper operation.
3. Arm: It's the central part connecting the frame and every main component part. It's provided with coaxial coarse/fine focus system, with tension adjustable knob and limited stopper. It guarantees the stage rise and down smoothly.
4. Viewing head: It can fit on 45°inclined monocular, binocular, or trinocular head.
5. Eyepieces: Using WF10X or WF16X (optional) wide field eyepiece.
6. Nosepiece: It guarantees comfortable and precise rotation by quadruple revolving nosepiece.
7. Objective: 4X, 10X, 40(S) and 100X(S, Oil) high-quality achromatic objectives make the imaging clearly.
8. Stage: Using double layer mechanical stage, it can be operated much easily by coaxial knob in low position.
9. Condenser: ABBE condenser N.A =1.25 with iris diaphragm.

IV. Operation Instruction

1. Insert the eyepieces into the eyepiece tube, and screw objectives into the nosepiece in sequence of different magnification from low to high. Then put the specimen on the stage and secure it in the position with tablet and move it to the center of stage.
2. Turn on the power switch and adjust the brightness from dark to bright slowly. After working, you must adjust the brightness to a little dark before you tune it off.
3. Observe the specimen from lower magnification objective firstly and move the specimen to the center of view field, then rotate higher magnification objective. You may use the fine focusing knob to obtain the clear image. When 100X (S, Oil) objective is used, you should fill up with cedar wood oil (without bubble) between the front of objective and the specimen surface. After working, it should be wiped with a few xylenes immediately.
4. Observe the specimen from lower magnification objective firstly and move the specimen to the center of view field, then rotate higher magnification objective. You may use the fine focusing knob to obtain the clear image. When 100X (S, Oil) objective is used, you should fill up with cedar wood oil (without bubble) between the front of objective and the specimen surface. After working, it

should be wiped with a few xylenes immediately.

5. In order to obtain bright and clear image, the illumination must be adjusted .When different objective is chosen, you should adjust the iris diaphragm of the condenser and different brightness of the light.
6. When the lamp needs to replace, you should shut off the power switch and replace it after the lamp is cool. NOTE: The contact must be firmed, and the filament center should be adjusted.



A11.1007 Microscope Structure Diaphragm

**1-STAND 2- RISE AND FALL SUPPORT 3- ARM 4-BINOCULAR HEAD
5-EYEPIECE 6-NOSEPIECE 7-OBJECTIVE 8-STAGE 9-CONDENSER**

V. Maintenance

1. Exam the connection of every component parts 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 strain.
3. Don't dismantle the instrument rashly besides the replaceable lest the correct

position should be breached.

4. Keep the instrument in dry and cool place and away from the pollution and corrosion.
5. Please send the instrument to the special repair shop if it goes out of order.
6. When the objectives and eyepieces won't be used for a long time, please place them into a dry box , and put the dust cover onto the microscope.

VI. Standard Outfit of A11.1007 Biological Microscope

Objective	4X, 10X, 40(S), 100X(S, Oil)	•
Eyepiece	WF10X	•
	WF16X	optional
Viewing Head	Sliding Binocular Head	•
	Sliding Trinocular Head	optional
Nosepiece	Quadruple	•
Stage	Double Layer Mechanical Stage	•
Illumination	3WLED or 6V / 20W Halogen Lamp	•
Condenser	Abbe Condenser N.A=1.25	•

VII. Packing List of Instrument

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|---|--------------|
| 1. Mainframe | 1 PC |
| 2. Viewing head | 1 PC |
| 3. Objectives: 4X, 10X, 40X(S), 100X(S,O) | 1 PC of each |
| 4. Eyepiece WF 10X | 1 PAIR |
| 5. 3W LED or 6V/20W halogen lamp | 1 PC |
| 6. Fuse BGX1-20 (1.0 A) | 1 PC |
| 7. Green filter | 1 PC |
| 8. Cedar wood oil | 1 BOTTLE |
| 9. Operational manual | 1 COPY |
| 10. Power cable | 1 PC |
| 11. Dust cover | 1 PC |
| 12. Desiccant | 1 PACKET |
| 13. Eyepiece WF 16X | OPTIONAL |
| 14. Plain-concave mirror | OPTIONAL |
| 15. Yellow & blue filter | OPTIONAL |
| 16. Wooden box | OPTIONAL |