# BIOLOGICAL MICROSCOPE

# MODEL XSZ-107BN

# INSTRUCTION MANUAL

1. APPLICATIONS:

The biological microscope model XSZ-107BN, can be widely used in medical and sanitary establishments, laboratories, institutes, network of agricultural research, colleges and universities for clinical microscope inspections and used as instructional equipment. They also can be used in research work such as biology, bacteriology, cytology, histology and pharmaceutical chemistry.

2. SPECIFICATIONS:

1. EYEPIECE

| Designation | Magnification | Dia of the Field of View | Focal Length |
|---|---|---|---|
| Wide Field | 10X | 18MM | 24.94MM |
| Plan Field | 16X | 13MM | 15.58MM |

2. OBJECTIVE

| Designation | Magnification | Numerical Aperture | Working Distance |
|---|---|---|---|
| | 4X | 0.10 | 17.912MM |
| Achromatic | 10X | 0.25 | 2.04MM |
| | 40X | 0.65 | 0.65MM |
| | 100X | 1.25 | 0.09MM |

3. TOTAL MAGNIFICATION:

| Objective / Total Magnification / Eyepiece | 4X | 10X | 40X | 100X |
|---|---|---|---|---|
| 10X | 40X | 100X | 400X | 1000X |
| 16X | 64X | 160X | 640X | 1600X |

4. Abbe Type Condenser N.A. =1.25

With An Adjustable Iris Diaphragm

5. Coarse Focusing Range: 30 MM

With An Coarse Focusing Stopper

6. Fine Focusing Range: 30MM

Fine Focusing Division Interval: 0.002MM

7. Area of the Stage: 140X 149MM

Specimen Shifting Range: Transversal 75MM

Longitudinal 50MM

8. 6V20W Built-In Brightness Variable Lamp

3. STRUCTURE:

1. MOUNTING

Mounting is the base of the microscope. It supports the all weight of the microscope. This mounting has four rubber foots and that makes the instrument stable.

2. ILLUMINATION SYSTEM:

In order to make the observed specimen have enough brightness and make the resolving power of the objectives be used fully, this instrument adopt 6V20W built-in brightness Variable lamp. Turn the iris of the condenser and make the aperture of condenser and make the aperture of condenser suitable for the aperture of objective. The condenser is composed of two parts. One is installed on trestle. This trestle can move up and down by rack and gear. The light axis of the condenser must coincide with the light axis of this instrument. When the diverge, adjust 3 crews in the trestle of the condenser. The other is installed on the mounting.

3. MECHANICAL STRAGE

The mechanical stage can make the specimen move transversely and longitudinally.

4. EYEPIECE, OBJECTIVE AND NOSEPIECE

The microscope imaging system is composed of eyepiece and objective. According to their magnifications, rotate the objectves into the treaded holes of the nosepiece so that when turning the nosepiece, you can change the objectives and get the needed magnifications swiftly. The nosepiece adopts precise and advanced structure. When changing the objectives, the center

area of the field view always locates within the range of observing and satisfies the focusing requirement. The eyepiece tube that the eyepieces are inserted into is inclined $45^0$ and so observing is comfortable and convenient.

5. COARSE AND FINE FOCUSING EQUIPMENT:

This instrument adopts coaxial coarse and fine focusing equipment. The knobs are located below the stage. So it is easy to operate. Coarse focusing range is 30mm. Fine Focusing range is 30m too.. There is knob beside each coarse focusing knob. Right one is used as tightness adjustment for coarse focusing knob. The other is used as coarse focusing stopper. When you see the specimen clearly, you may lock up the stopper. When you lower the stage and raise it again the stage is at the same level. When you do not need the location, you can turn the flange of the stopper and loose it.

## 4. USAGE:

1. Rotate the objective in sequence, according to their magnification, into the thread holes of the nosepiece. Insert the eyepiece into the inclined eyepiece tube

2. Put the specimen on the stage. Adjust it make the specimen in the center of the hole of the stage.

3. First use objective 10X, turn the coarse focusing knob and make the objective near specimen and then observe the image through eyepiece and turn the coarse focusing knob down until you can see the specimen image. After the turn the fine focusing knob until you get a sharp image. Because this instrument adopts precise and reliable nosepiece, you can always observe a clear image with different objectives.

4. Take out the lower condenses and put a plan-concave reflecting mirror and you can also observe the specimen image.

## 5. THE COMPLETE SET OF THE MICROSCOPE:

| ITEMS | CONTENTS | QUANTITY |
|---|---|---|
| 1 | Main Body | 1SET |
| 2 | Eyepiece WF10X,P16X | 2PCS APIECE |
| 3 | Objective 4X 10X 40X 100X | 1PC APIECE |
| 4 | Reflecting Mirror | 1PC |
| 5 | Spare Lamp | 1PC |
| 6 | Spare Fuse | 1PC |
| 7 | Cedar Oil | 1BOTTLE |
| 8 | Operation Instrument | 1COPY |

## 6. MAINTENCE:

1. The microscope is the same as other optical instrument. Need to be kept in cool, dry, dustless and acid less place. The instrument should be covered with dust guard after using.

2. Never disassemble the lens because they are corrected stringently. If there is stain on the lens, it can wipe out by alcohol, but you should pay attention not seep it into the inside of objectives so as not dissolve glues. Dust on the lens can be wiped away by clean brush.

3. Coarse and fine focusing equipment and nosepiece are precisely constructed and should not be dismantled without authorization.

4. When not in use, keep the objectives in the objective box and cover the eyepiece tube with eyepiece tube cover.