

**INMED**<sup>®</sup>  
O P T I C S

(BIOLOGICAL  
Microscope

# Caring for your Microscope



Operation Manual  
Manual de Operación  
Manuel d'utilisation  
Bedienungsanleitung  
操作手册  
オペレーションマニュアル  
사용 설명서

**IOM SERIES**

**FRONT COVER**

**5x7 inches**

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This instruction manual is for the Biological Microscope IOM series. To ensure the safety and obtain optimum performance and to familiarize yourself fully with use of this microscope, we recommend that you read this manual thoroughly before operating the microscope. Retain this instruction manual in an easily accessible place near the work desk for future reference.

**1. SAFETY NOTES**

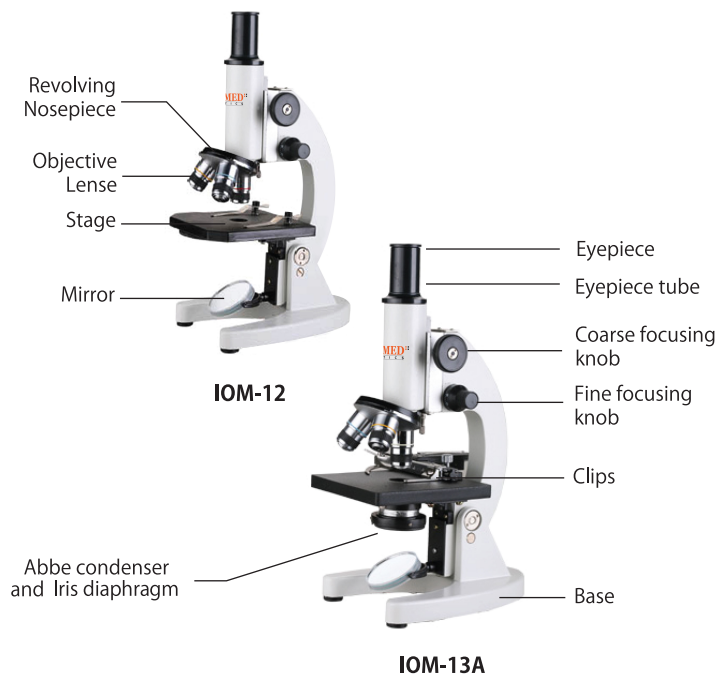
1. As the microscope is a precision instrument, always handle it with care, avoiding impact or abrupt movement during transportation.
2. Open the case carefully to avoid other accessories like lenses from dropping to the ground or being damaged.
3. Keep the instrument out of direct sunlight, high temperature or humidity, dusty and easy shaking surface. Make sure the surface is flat, horizontal and stable.
4. Store at room temperature of 19°C~40°C,  
Maximum relative humidity: 85%
5. When moving the microscope, carefully carry it by holding the handle and the base.

**2. CARE AND MAINTENANCE**

Your Inmed Optics Microscope is a precision optical instrument and should be treated with care at all times. Follow these maintenance suggestions and your microscope will need very little maintenance throughout its lifetime.

1. Clean the outside of the microscope with a slightly damp cloth.
2. Do not disassemble any parts of the microscope, as this will affect the function or reduce the performance of the microscope.
3. Do not use organic solution to wipe the surface of the other components. These parts, especially the plastic parts, should be cleaned with a neutral detergent.
4. Clean dust off optical surfaces with an air blower or soft cotton.
5. After use, cover the microscope with the dust cover provided, and keep it in a dry and clean place to avoid rust.

## 3. COMPONENTS NAME



The microscope is enclosed in a hard case container. Place the case in a lying position, make sure the case is not upside down to prevent the other small parts from scattering and to avoid unexpected damage. Check all parts carefully to ensure the arm and accessories are well secured. Install the objective into the nosepiece from the lowest magnification to the highest, in a clockwise direction from the rear. Insert the eyepiece tube.



#### **4. OPERATION**

##### **4.1 Angle of observation**

Adjust the angle with one hand pressing the U base and the other hand pulling the stand to a comfortable position for observation.

##### **4.2 Set the specimen slide**

Place a specimen on a glass slide, and fix it by the slide-holders of the mechanical stage. If you use the movable specimen holder, fix the specimen by slide-holders of the movable specimen holder. Adjust its position by using the switch of the movable specimen holder.

##### **4.3 Set illumination**

Tilt the mirror and reflect indirect light through the bottom of specimen stage. Never use the mirror to focus direct sunlight through your microscope. If viewed directly, it can be very harmful and may cause damage to your eyes.

##### **4.4 Adjust focus**

Adjust the coarse-focusing-knob to bring the slide into focus. Then lock the limit-stop-screw to avoid impact damage between the objective and slide. Adjust the fine-focusing-knob to get the image clear.

##### **4.5 Adjust condenser**

For the microscope with Abbe condenser, turn the Abbe condenser up or down to get the image brightness suitable for observation.

##### **4.6 Adjust diaphragm**

For the microscope with disc diaphragm, turn the diaphragm to select a aperture to get the background suitable brightness.

##### **4.7 Choose the objective**

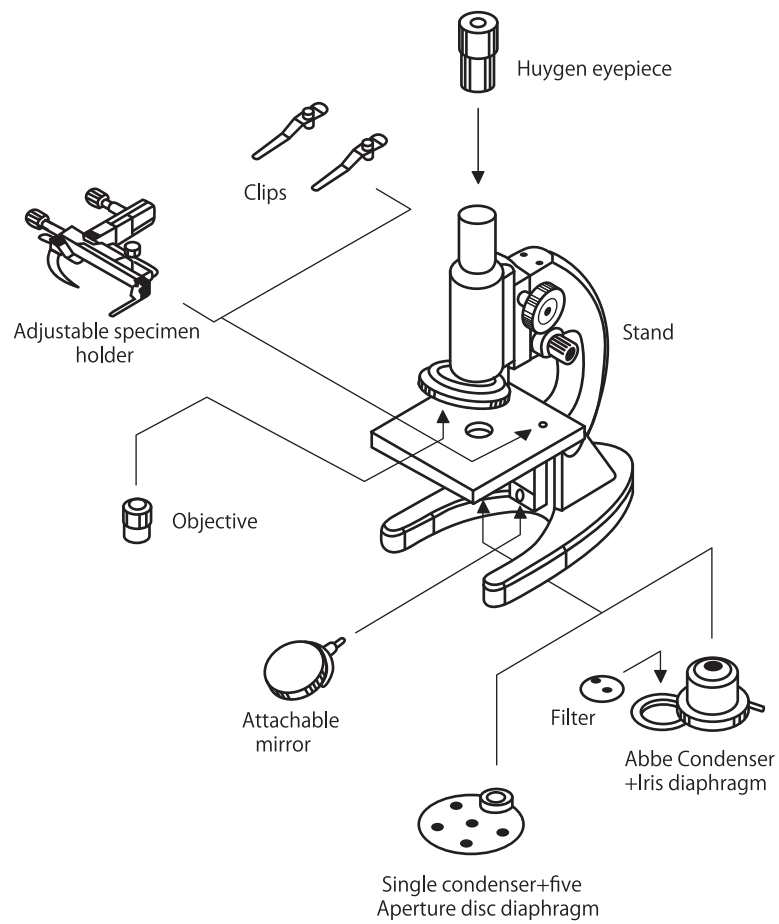
Turn the nosepiece to choose the objective. The objective selected should be set vertically right to the slide. First use the 4X objective in order to focus and reveal the general structural image. Then switch to the higher powered objectives (10X and 40X) to reveal smaller details.

## 5. GENERAL SPECIFICATIONS

Install		Model	
Parts	Specifications	IOM-12	IOM-13A
Huygens eyepiece	H5X		•
	H6X		
	H10X	•	•
	H12.5X		•
	H15X		
	H16X	•	
WF eyepiece	WF10X/18mm with pointer		
	WF10X/18mm with reticle		
	WF15X/13mm		
	WF20C/10mm		
185 objective	4X/0.10	•	
	10X/0.25	•	•
	40XS/0.65	•	•
	60XS/0.85		
	100XS/1.25(oil)		•
Monocular Head		•	•
Stand	Metal base and stand	•	•
Nosepiece	Triple nosepiece	•	•
	Quadruple nosepiece		
Stage	110mm×120mm	•	•
Cilps		•	
Movable Specimen Holder (60×30mm)	Black holder		
	White holder		•
Condenser	Abbe.NA1.25		•
Diaphragm	Five-aperture disc diaphragm	•	
	Iris diaphragm		•
Illumination	φ 50mm mirror	•	•
	Attachable light		
Filter	Blue		•



## 6. CONFIGURATION DRAWING



**7. OBJECTIVE**

Type	Magnification	Numerical Aperture (N.A)	Medium	Parfocal Distance (mm)	Magnification Market (color ring)
DIN achromatic objective 185mm	4X	0.10	air	35	Red
	10X	0.25	air	35	Yellow
	40X	0.65	air	35	Light blue
	60X	0.85	air	35	Deep blue
	100X	0.25	Cedar oil	35	White

**8. EYEPIECE**

Type	Huygens				Wide field		
Magnification	5X/6X	10x	12.5X	15X/16X	10X	15X	20X
Field of view (mm)	φ	φ	φ	φ	φ	φ	φ

**9. PARAMETER**

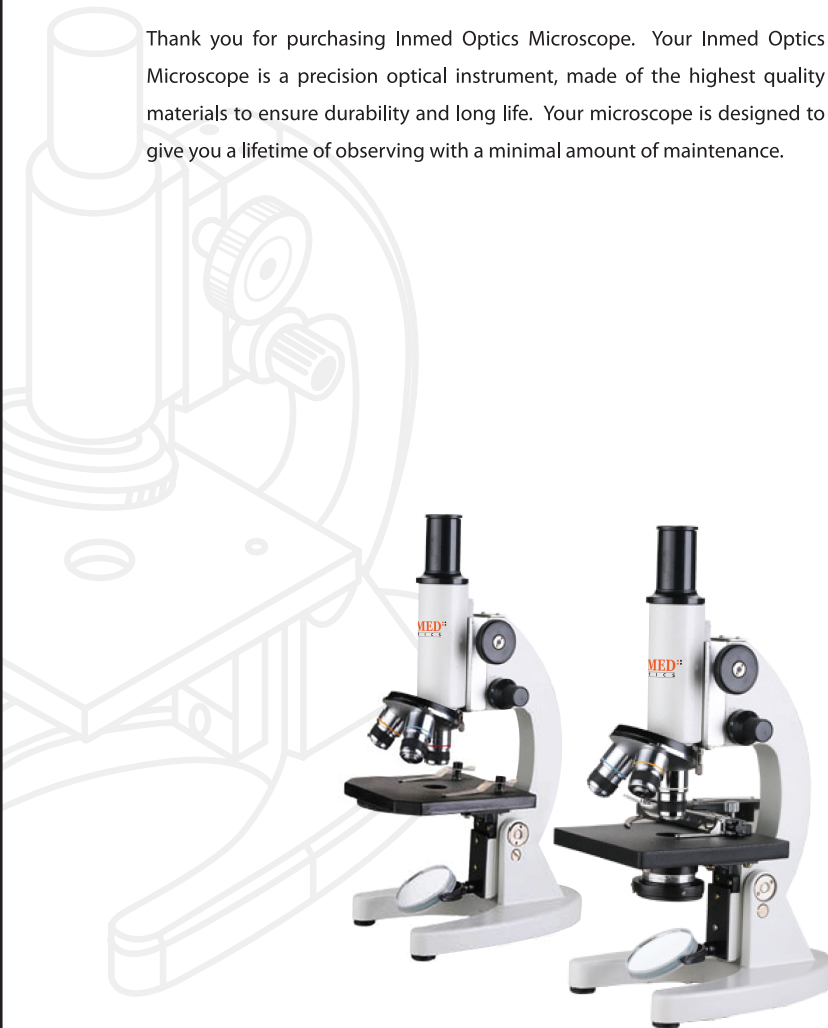
- (1) Total magnification: 20X~1600X
- (2) Field of view: φ0.08mm~φ4.5mm
- (3) Mechanical tube length: 160 mm
- (4) Object to primary image distance: 185mm

**10. TECHNICAL TERMS**

1. Total magnification = (magnification of objective )×(magnification of eyepiece)
2. Field of view=(line field of the eyepiece selected)÷(magnification of the objective selected)
3. N.A.=  $n \cdot \sin \alpha$  (max), N.A. is very important parameter which marks the features of the objective and condenser. The "n" is the refractive index of the medium (air or immersion oil) between the cover glass of the objective and the specimen. The "α" is the half of the aperture angle. The N.A. is bigger, the resolution of the objective is higher.
4. Object to primary image distance: the distance between the object plane to the primary image plane. The conjugate distance is fixed.
5. Mechanical tube length: The distance between the objective shoulder and the ocular shoulder.
6. The net weight is: 1.5kgs, and the gross weight is: 2.5kgs.



Thank you for purchasing Inmed Optics Microscope. Your Inmed Optics Microscope is a precision optical instrument, made of the highest quality materials to ensure durability and long life. Your microscope is designed to give you a lifetime of observing with a minimal amount of maintenance.





## Product Warranty Card

NAME:	DATE OF PURCHASE:
ADDRESS:	PURCHASE FROM:
MODEL:	REGISTRATION DATE:

Inmed Corporation warrants this products to be free from defects in material or workmanship within the specified warranty period under normal use. If fault is found, please return the equipment to the store where product was purchased. Inmed Corporation will repair or replace any defective part free of charge subject to the terms and conditions stated herein.

*For service, the unit is to be returned freight prepaid to:*

### **Inmed Corporation**

5 Calle Industria, Bagumbayan,  
Quezon City 1110, Philippines  
Tel: 02.8571.1888

**Please register your unit online at [www.inmed.com.ph](http://www.inmed.com.ph)**

**BACK COVER**

**5x7 inches**