

# WESTLAB III

## COMPOUND MICROSCOPE

### USER'S MANUAL



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We are here to serve you!

If you have any questions regarding Seiler's products or services,  
please feel free to contact us.



Register your product warranty online:  
<http://www.seilermicro.com/warranty-registration/>

# INTRODUCTION

To Our Valued Professionals,

On behalf of the Seiler Medical Division, I would like to thank you for your recent purchase. We stand by our products and are thrilled that when choosing one of the most important aspects of your practice, you chose us.

We are proud to say that, as a company, we have over 70 years' experience in the optical field. We have the expertise to provide you with modern, reliable devices that incorporate some of the most advanced optical design tools on the market. This product's intent is to amplify an image while providing the user with an exceptional level of comfort, improved visual acuity, and provide flawless maneuverability for any office or hospital.

All of our products are manufactured according to strict medical and ISO standards. We also ensure all optical components have undergone an anti-reflective, multi-layer treatment; guaranteeing the efficiency of the system and enhancing the longevity of all of our products. Along with strict manufacturing standards and rigorous testing, we also stand behind all of our products by offering a lifetime warranty on all optics and mechanics for microscopes purchased in the United States, as well as a 3-year warranty on all international purchases.

Every Seiler Medical Division team member is here to provide you with outstanding service, quality, and knowledge. Our number one priority is, and always will be, providing 100% customer satisfaction to every one of our customers. If you need any further information about the equipment or just have a question, please contact us using the information below.

Thank you again for your purchase and we look forward to serving all of your optical needs for years to come.

Sincerely,

**Dane Carlson**  
*Medical Division Manager*

## THE DIVISIONS OF SEILER INSTRUMENT



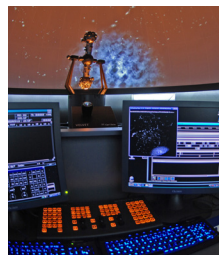
Manufacturing



Geospatial



Medical

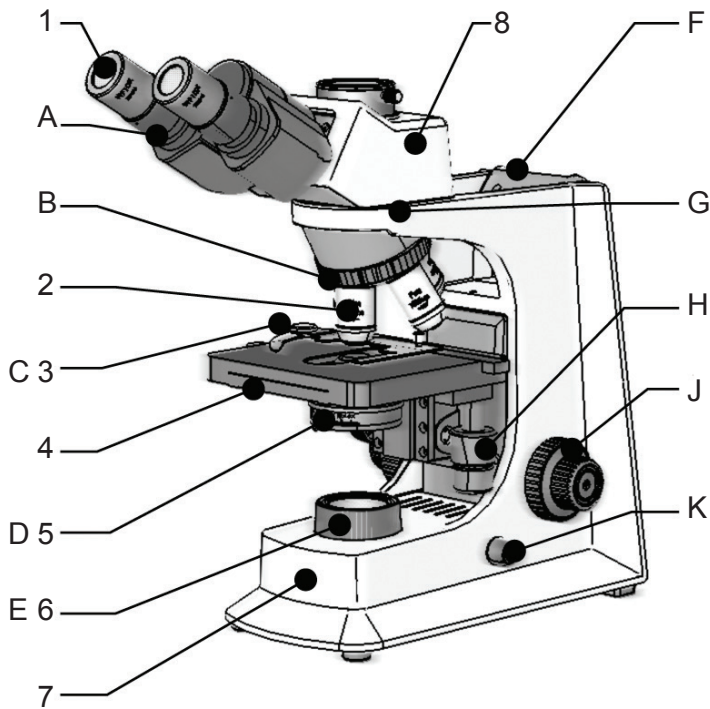


Planetarium

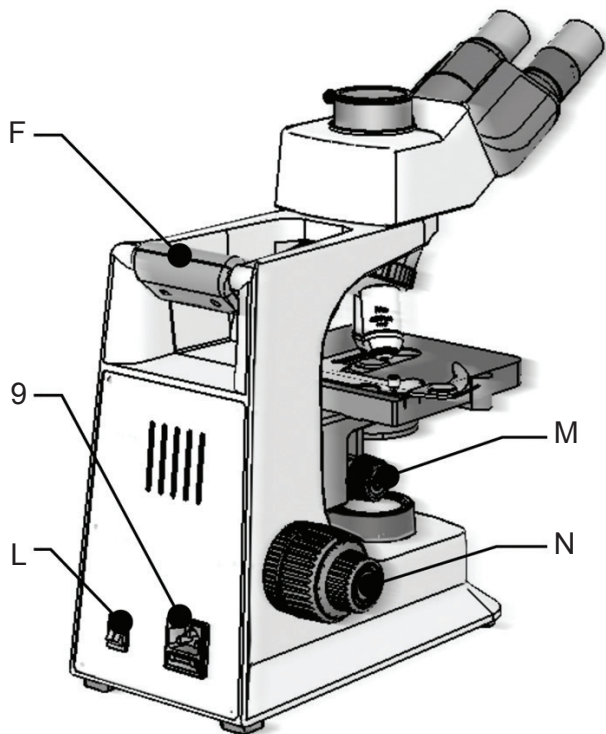


Design Solutions

# PARTS NAME



- 1. Eyepiece
- 2. Objective
- 3. Clamp
- 4. Mechanical Stage
- 5. Condenser
- 6. Light Collector
- 7. Main Body
- 8. Seidentopf Binocular Head  
(Trinocular Head)
- 9. Power Input Fuse



- A. Diopter Adjustment Ring
- B. Nose Piece
- C. Clamp Handle
- D. Handle of Iris Aperture Diaphragm
- E. Field Diaphragm Ring
- F. Body Handle
- G. Head Thumb Screw
- H. Mechanical Stage Moving Knob
- J. Right Coarse & Fine Focusing Knobs
- K. Potentiometer
- L. Power Switch
- M. Condenser Focusing Knob
- N. Tension Adjustment Ring  
Left Coarse & Fine Focusing Knobs

# SPECIFICATIONS

Total Magnifications Eyepiece	Objective	4X	10X	20X (Optional)	40X	100X
	10X	40X	100X	200X	400X	1000X

## Objectives

Objective	Numerical Aperture (N.A.)	Objective Field	Resolving Power	Working Distance
4X	0.10	5mm	2.8 $\mu$ m	6.73mm
10X	0.25	2mm	1.1 $\mu$ m	4.19mm
20X (S)	0.40	1mm	0.69 $\mu$ m	2.14mm
40X (S)	0.65	0.5mm	0.42 $\mu$ m	0.45mm
100X (Oil) (S)	1.25	0.2mm	0.22 $\mu$ m	0.12mm

## 2.3 The other specification

2.3.1 Mechanical tube length: 160mm

2.3.2 Conjugate distance: Finite 195mm  
Infinite

2.3.3 Head: Seidentopf binocular or trinocular, inclined 30°, rotatable 360°  
Interpupillary adjustable distance is 50-75mm  
Diopter adjustable range  $\pm 5$ ,  
Anti-fungal systems

2.3.4 Nosepiece: Quadplex nosepiece

2.3.5 Mechanical Stage: Size 145mm X 140mm  
X-Y travel 76mm X 52mm

2.3.6 Focusing systems: Coaxial coarse and fine focusing knobs  
Coarse stroke 26mm, fine division 2 $\mu$ m  
Condenser up-down range 22mm

2.3.7 Condenser: Abbe condenser, N.A. 1.25, Adjustable aperture  
Aperture center is adjustable

2.3.8 Illumination: Non-spherical System

2.3.9 Filter: Built in blue filter

2.3.10 Electric components: Input voltage AC85-265V, 50/60Hz  
Output voltage DC1.2-12V  
12V/20W halogen lamp  
Rotation potentiometer with power switch  
Fuse 2A 5 X 20

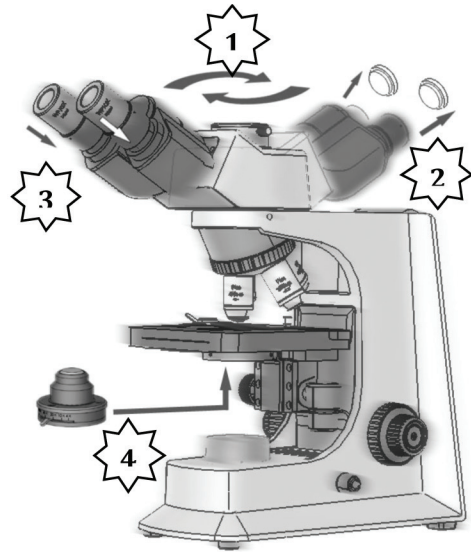
# INSTALLATION

Please clean the operation desk before installation. Take the microscope out of the carton and put it on the desk.

Make sure the supply voltage meets the instrument's requirement and the power switch is off.

Installation Instruction Fig.:

1. Turn the binocular (trinocular) head to working position;
2. Remove the dust plugs of the eyepiece tube;
3. Insert the eyepieces into binocular head;
4. Install Abbe Condenser



## 3.1 Eyepiece Tube

Loosen the Head Thumb Screw G, turn the tube to observing position, then tighten the Screw G.

3.2 Remove the eyepiece dust plugs.

## 3.3 Eyepiece

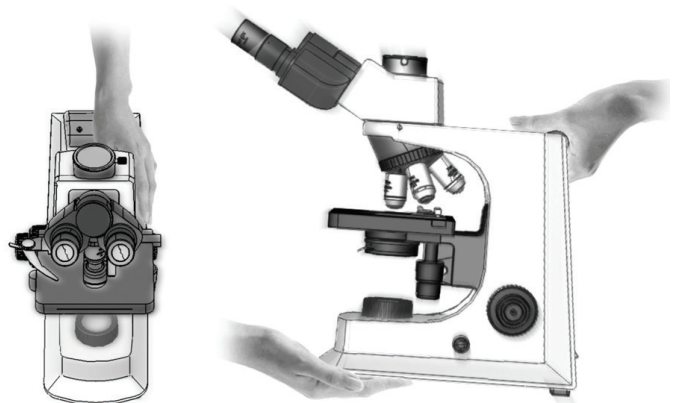
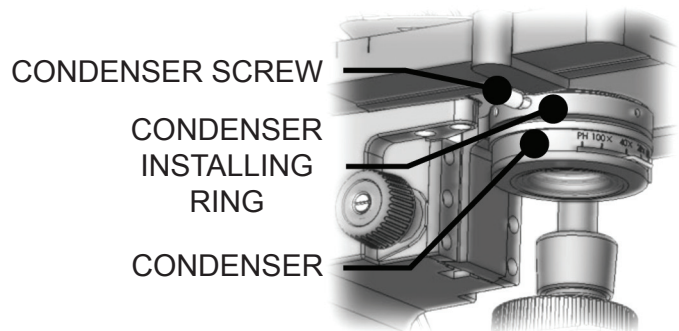
Take the eyepieces out of the carton, and insert into the tube. Please don't touch the lens of the eyepiece by hand.

## 3.4 Condenser

Factory Installed.

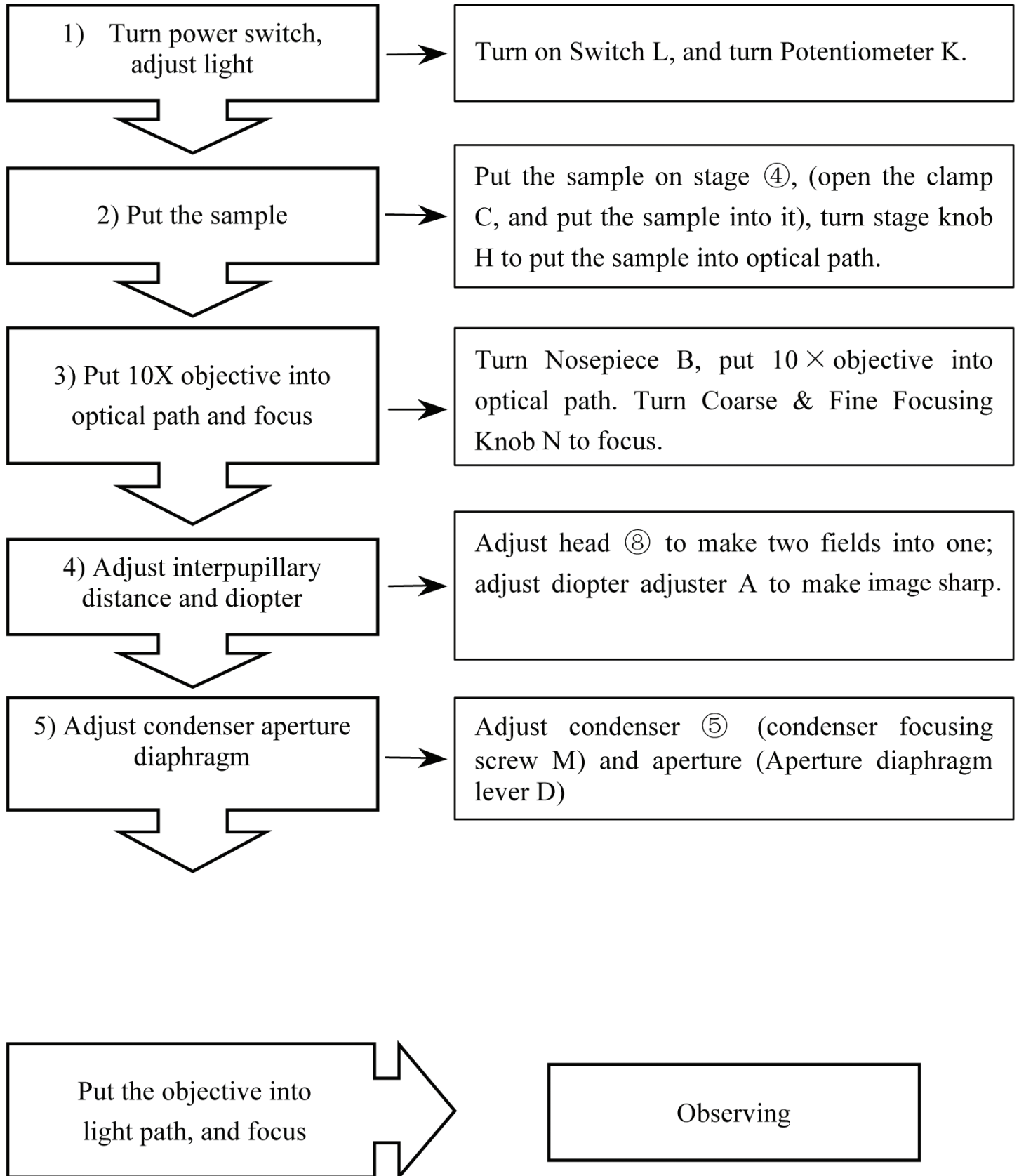
## 3.5 Power

Plug in power cord, turn on Switch L, and turn Potentiometer J.



# OPERATION

## 4.1 Bright field operation process instruction





# IMAGE COLLECTION

## 5.1 Installing

Connect the C-mount with CCD camera or connect camera with camera adapter, then connect it with c-mount, finally put it into microscope.

## 5.2 Using

First get a clear image from eyepiece, then pull out lever on the side of trinocular head, and collect image with camera. Clear image should be visible on the monitor screen. Adjust B14 fine focusing knobs to get it clear if image isn't clear.

# MAINTENANCE

## 6.1 Clean microscope

- 6.1.1 Don't touch the lens with hand, Dust on lens should be cleaned by soft brush or absorbent cotton or cleaned by absorbent cotton, lens paper with the mixture of alcohol and ether (proportion 1:4).
- 6.1.2 Alcohol and ether all are burnt early, please take them away from fire. Be careful when turning on and off power.
- 6.1.3 Don't clean painted metal and galvanizing metal with organic solvent such as alcohol, ether or the mixture of the both. Silicon cloth or soft cleaning preparation is suggested to clean it.
- 6.1.4 Plastic should be cleaned by soft cloth with clear water.

## 6.2 Environment of using and placing

- 6.2.1 Microscope should be used and placed in a cool, dry, non-dust, non-shake and non-corrosive gases environment.
- 6.2.2 Microscope should be used in environment of indoor temperature 0°-40°C and maximum relative humidity 85%.
- 6.2.3 Removing equipment is suggested to be installed when microscope used in heavy humidity area fungus and mist damage instrument.
- 6.2.4 Please pay attention to prevent microscope from violent shake and vibration in application and in carrying. Don't drag it on the surface of worktable to avoid damage to microscope and worktable.

### 6.3 Replacement Bulb

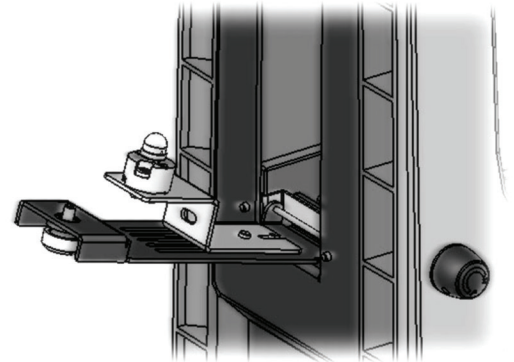
- 6.3.1 Turn off power, and pull out plug.
- 6.3.2 Wait until the bulb becomes cool.
- 6.3.3 Lay aside the microscope reliably, unscrew the knurled thumb screw of the lamp housing cover on the underside of the base.
- 6.3.4 Pull over the lamp housing cover.
- 6.3.5 Pull out the bulb to be replaced, hold a new bulb with a silk cloth (fingerprints and dust will affect the bulbs brightness and service life), and insert the contact pins fully into the bulb socket.
- 6.3.6 Close the lamp housing cover, and screw the knurled thumb screw.

\*After working for over 10 hours continuously, best to turn off the microscope for about 30 minutes.



### 6.4 Replacement of fuse

- 6.4.1 Cut off power of the microscope, and pull out the plug.
- 6.4.2 Unscrew fuse cap in the back of base, and take out the old fuse.
- 6.4.3 Replace a new fuse, then screw the fuse cap.



# TROUBLESHOOTING

Trouble	Cause	Remedy
Switch on but bulb dark	Plug is unreliable	Plug in again
	Bulb is broken	Change bulb
	Fuse is broken	Change fuse
Bulb is flickering or brightness is unsteady	Bulb is unstable	Insert it again
	Bulb is broken	Replacing bulb
Brightness of view field isn't enough or is Uneven	Bulb specification doesn't meet the requirement	Replacing bulb
	Brightness isn't adjusted correctly	Adjust rotation potentiometer
	Objective isn't in correct position	Make the objective in correct position
	The size of iris aperture is too small	Adjust the size of iris aperture
Brightness of view field isn't enough or is Uneven	Lens (objective, eyepiece, condenser, light collector) has dust	Clean it
	Position of condenser is too low	Higher condenser
Image isn't clear (contrast or definition isn't enough)	Cover glass of specimen doesn't meet the requirement	Use required thickness cover glass (0.17mm)
	Cover glass of specimen isn't in up direction	Place specimen correctly
	Surface of objective lens is dirty (especially it is easy for the front lens of 40X objective to dip in immersion oil)	Clean it
	Immersion oil isn't used for 100X objective (oil)	Use immersion oil
	Immersion oil doesn't meet the requirement	Use immersion oil supplied by us
	There is bubble in immersion oil	Clear the bubble way
	Size of iris aperture isn't proper	Adjust the size of iris aperture
	Position of condenser is too low	Readjust the position of condenser
One side of image is dark or image is moving as focusing	Objective isn't in correct position	Make the objective in correct position
	Specimen isn't placed correctly	Place specimen levelly on stage and clip it with clamp
Objective touches specimen as changing low times objective to high times objective	Cover glass of specimen isn't in up direction	Place specimen correctly
	Cover glass doesn't meet the requirement	Use required thickness cover glass (0.17mm)
Image observed by two eyes aren't in superposition entirely.	Interpupillary distance isn't adjusted correctly	Adjust interpupillary distance according to two eyes
It is easy for eyes to be tired during observing	Dioptr isn't adjusted correctly	Readjust dioptr

Dear Purchaser,

Congratulations on the purchase of your microscope. Your instrument has been carefully assembled and shipped to you. Please complete the Warranty Registration online at the link below and answer the questions to activate and guarantee your warranty. Retain this warranty document for your records.

Thank you for purchasing a Seiler microscope.

## INTERNATIONAL WARRANTY

Except as set forth in this Three (3) Year International Warranty, Seiler Instrument Company ("SIC") hereby warrants that each Seiler microscope product manufactured and/or sold by SIC shall be free from defects in materials and workmanship under normal use and service for three years. International Warranty includes mechanics, optics, and hardware (such as casters, knobs, tension band). This warranty is non-transferable and is valid only with respect to the original purchaser of the product. SIC obligation under this warranty shall be limited to repairing or replacing, at SIC facility and at SIC expense, any parts or components which are demonstrated to be defective. The purchaser shall be responsible for shipment of the product to SIC facility at 3433 Tree Court Industrial Blvd., St. Louis MO 63122, Attention: Micro Product Department, or such other facility as SIC may otherwise designate. Under certain circumstances which are pre-approved by SIC, necessary repairs may be made at the purchaser's facility. A return authorization is required before returning any product for warranty service by calling 1-800-489-2282 x347.

This warranty shall not apply to electronic and electrical components of the microscope or accessories such as video equipment, monitors and laptop which carry a three (3) year warranty OR any components which are consumable or are required to be replaced or disposed of in normal use of the product, such as lamps, fiber-optic cables and rubber eye cups OR any product which was purchased prior to April 29, 2016.

This warranty shall be void and of no effect: (1) if the product is damaged due to misuse, use in a manner other than pursuant to the instruction for the use of the product, abuse, physical mishandling or natural causes such as flood, fire, earthquake or other perils, as determined by SIC, or (2) if any repairs are made by persons unauthorized by SIC to perform such services.

The warranties set forth here are in lieu of any and all other warranties expressed or implied, including, without limitation, warranties of merchantability and fitness for a particular purpose. Purchaser's rights thereunder are granted in lieu of any other rights purchaser may have and purchaser hereby waives all other rights, warranties, remedies or guarantees whatsoever with respect to the product.

SIC shall not be liable for any reason to any third parties in respect of the product or its performance. Further, SIC shall not be liable for, and purchaser hereby releases SIC from any direct, indirect, consequential, special, incidental or punitive damages in respect to the product. In no event shall SIC be liable for any breach of warranty or other claim in an amount exceeding the purchase price of the product.

The customer is responsible for the shipping costs to Seiler Instrument Company. Seiler Instrument Company will pay the most economical method of shipping back to the customer. Any special shipping method will be paid by the customer.

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The warranties set forth here are in lieu of any and all other warranties expressed or implied, including, without limitation, warranties of merchantability and fitness for a particular purpose. Purchaser's rights thereunder are granted in lieu of any other rights purchaser may have and purchaser hereby waives all other rights, warranties, remedies or guarantees whatsoever with respect to the product.

SIC shall not be liable for any reason to any third parties in respect of the product or its performance. Further, SIC shall not be liable for, and purchaser hereby releases SIC from any direct, indirect, consequential, special, incidental or punitive damages in respect to the product. In no event shall SIC be liable for any breach of warranty or other claim in an amount exceeding the purchase price of the product.

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