

WARRANTY

WPI (World Precision Instruments, Inc.) warrants to the original purchaser that this equipment, including its components and parts, shall be free from defects in material and workmanship for a period of one year\* from the date of receipt. WPI's obligation under this warranty shall be limited to repair or replacement, at WPI's option, of the equipment or defective components or parts upon receipt thereof f.o.b. WPI, Sarasota, Florida U.S.A. Return of a repaired instrument shall be f.o.b. Sarasota.

The above warranty is contingent upon normal usage and does not cover products which have been modified without WPI's approval or which have been subjected to unusual physical or electrical stress or on which the original identification marks have been removed or altered. The above warranty will not apply if adjustment, repair or parts replacement is required because of accident, neglect, misuse, failure of electric power, air conditioning, humidity control, or causes other than normal and ordinary usage.

To the extent that any of its equipment is furnished by a manufacturer other than WPI, the foregoing warranty shall be applicable only to the extent of the warranty furnished by such other manufacturer. This warranty will not apply to appearance terms, such as knobs, handles, dials or the like.

WPI makes no warranty of any kind, express or implied or statutory, including without limitation any warranties of merchantability and/or fitness for a particular purpose. WPI shall not be liable for any damages, whether direct, indirect, special or consequential arising from a failure of this product to operate in the manner desired by the user. WPI shall not be liable for any damage to data or property that may be caused directly or indirectly by use of this product.

Claims and Returns

• Inspect all shipments upon receipt. Missing cartons or obvious damage to cartons should be noted on the delivery receipt before signing. Concealed loss or damage should be reported at once to the carrier and an inspection requested. All claims for shortage or damage must be made within 10 days after receipt of shipment. Claims for lost shipments must be made within 30 days of invoice or other notification of shipment.

Please save damaged or pilfered cartons until claim settles. In some instances, photographic documentation may be required. Some items are time sensitive; WPI assumes no extended warranty or any liability for use beyond the date specified on the container.

• WPI cannot be held responsible for items damaged in shipment en route to us. Please enclose merchandise in its original shipping container to avoid damage from handling. We recommend that you insure merchandise when shipping. The customer is responsible for paying shipping expenses including adequate insurance on all items returned.

• Do not return any goods to WPI without obtaining prior approval and instructions (RMA#) from our returns department. Goods returned unauthorized or by collect freight may be refused. The RMA# must be clearly displayed on the outside of the box, or the package will not be accepted. Please contact the RMA department for a request form.

• Goods returned for repair must be reasonably clean and free of hazardous materials.

• A handling fee is charged for goods returned for exchange or credit. This fee may add up to 25% of the sale price depending on the condition of the item. Goods ordered in error are also subject to the handling fee.

• Equipment which was built as a special order cannot be returned.

• Always refer to the RMA# when contacting WPI to obtain a status of your returned item.

• For any other issues regarding a claim or return, please contact the RMA department

**Warning: This equipment is not designed or intended for use on humans.**

*\* Electrodes, batteries and other consumable parts are warranted for 30 days only from the date on which the customer receives these items.*



High Intensity Optic Illuminator

INSTRUCTION MANUAL

Serial No. \_\_\_\_\_

091603



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USA

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www.wpiinc.com • www.wpi-medical.com  
www.nitricoxide.net • www.pipetter.com



**CAUTION:** Before using the illuminator, please make sure that it is free of all packing material.

## Light Guides

Insert the end of the light guide (sold separately) into the receptacle in the front panel of the Illuminator. Use the setscrew on the side of the receptacle to fix it in a position.

## Operation

The lamp is turned ON by using the red power switch on the right side of the front panel. It activates the cooling fan as well.

## Controls

The MSI-150 features both electronic and mechanical light control. There are two corresponding control knobs on the front panel of the light module.

### Aperture diaphragm control

The larger of the concentric knobs controls the aperture diaphragm. This changes the light output of the Optic Illuminator by mechanically restricting the light coupled to the light guide. Rotating the aperture diaphragm knob changes the light intensity

but keeps the color temperature constant. The maximum light intensity is achieved at the furthestmost clockwise position.

### Electronic Control

The smaller knob controls the current of the light source. When the current passing through the lamp is changed the light intensity is also changed but the color temperature of the lamp is changed as well. The maximum color temperature of about 3350°C is achieved at the furthestmost clockwise position.

**Note:** In experiments where the color temperature must remain constant during the duration of the experiment the Aperture diaphragm control must be used to change the intensity of light.

### Lamp-life extension switch

The Hi/Lo switch is used to restrict the lamp voltage. By setting it on “Lo” the output is limited by three to four volts, extending the lamp life.

### Filter holder

Double filter holder is located in the light guide receptacle. It accepts two 20 mm OD by 2 mm thick filters.

## Service

### Lamp replacement

The slide-out lamp module holds either an EJA or EKES lamp. To change the lamp, unplug the unit, and follow the instructions below:

1. Press the button on the receptacle, and pull the drawer straight out.
2. Press back the wire lever, located to the left of the lamp, with a steady, gentle force. This causes the lamp to glide up from its holder. Remove the lamp from the socket.

3. Hold the new lamp in one hand using a Kimwipe to prevent any oil residues on the lamp surface, which will decrease the lifetime of the lamp. Firmly push the lamp socket onto the two lamp pins until the socket contacts the glass base of the lamp (failure to fully insert the socket could cause premature socket failure).
4. Be sure that the short wire lever is in its' original, forward position, then gently – but firmly – press the lamp into the lamp holder until it seats all the way down.
5. Slide the drawer back into the housing, and snap it closed.

### Fuse breaker

The MSI-150 uses a three-amp fuse breaker, which can be reset if necessary.

## Ordering Information

- MSI-150** Illuminator w/ diaphragm, filter holder (115 V, 60 Hz)  
**MSI-150Z** Illuminator w/ diaphragm, filter holder (230 V, 50 Hz)

### Light Guides and Accessories

- 500186** Bifurcated Light Guide (with lenses)  
**R-8-8-WPI01** Ring Light Guide for PZM and PZMIII Series\*  
*\*Requires adapter #13338 for use with PZM and PZMIII stereo microscopes.*  
**13338** Ring Light Adapter (48 mm Δ) for PZM & PZMIII Series  
**SI-72-8** Flexible Light Guide, 72 in. (183 cm)  
**SI-40-8** Flexible Light Guide, 40 in. (102 cm)  
**L-32-32** Lens for SI-40-8  
**5475** Adapter for SMA-terminated Fiber Optic Cables  
**EJA** Replacement Lamp, 150 Watt