



# 502110 & 502125

## 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.**



## **World Precision Instruments, Inc.**

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*MPS-2 Micro-manifold Replacement Kit*

## **INSTRUCTION MANUAL**

www.wpiinc.com

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**World Precision Instruments**



The **MPS-2** micro-manifold consists of a molded acrylic eight-way fluid junction with either a 100  $\mu\text{m}$  ID (P/N **502110**) or 250  $\mu\text{m}$  ID (P/N **502125**) polyimide coated quartz tubing attached to the output passage. The eight input tubing adaptors are 1.9 mm OD. The passages leading to the 8-to-1 fluid junction are 200 by 300 microns. The dead volume of the junction is guaranteed to be less than 100 nL. The 250  $\mu\text{m}$  ID tubing is 49.1 nL per mm of tubing, and the 100  $\mu\text{m}$  ID tubing is 7.85 nL per mm.

### General Warnings and Cautions

- The micro-manifold output tips are somewhat flexible but not unbreakable — handle with care.
- All drug solutions should be filtered before to prevent clogging of the perfusion head.
- Tubing must be attached and removed gently so that the manifold is not damaged. If the tubing does not come off easily, try twisting the tubing or pushing it off from its tip.

### Getting Started

The output tubing is hand cut at about 50 mm long. If a shorter output tube is desired, make notch on the side with a sharp ceramic, carbide, sapphire, or diamond edge and pull off the end. In order to measure the total length of the output passage from the eight-way junction, take the distance from the tip of the tubing to the surface of the manifold, and add 0.6 mm.

Carefully connect the ends of the tubing to the micro-manifold. In this step, the manifold should not be connected to the holding rod. The force applied to the manifold when attaching the eight pieces of tubing may damage the female luer port. The tubing supplied with the MPS-2 (P/N **502109**) is 1/16 inch ID (1.6 mm) polyurethane.

Attach the micro-manifold to the male luer fitting on the stainless steel holder rod that comes with the MPS-2. Note that any male luer tip, such as the one at the end of a 1 mL syringe, can be used to hold the manifold. Fix the holder to a micromanipulator. We recommend WPI's **Kite-L** for this purpose. It has sufficient precision for the perfusion tip and an economical price. It has a left hand scale for placing on the left side of the microscope, leaving the right side free for the patch pipette.

### Cleaning the Micro-manifold

Manifolds must be cleaned after each use. Remove the tubing carefully so that the manifold is not damaged. If the tubing does not come off easily, try twisting the tubing or pushing it off from its tip. Press the provided cleaning adaptor onto the manifold from the tip end. Connect it to a syringe filled with filtered water and flush it. Unfiltered water may clog the manifold and permanently damage it. The manifold is made of PMMA material. It can only be washed with water. Any organic solvent, even alcohol, can permanently damage it. If alcohol must be used, only use ethyl alcohol and dry as soon as possible.

### 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 30 days 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.