

M325

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Three Axis Manual Micromanipulator

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 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.

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.



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INSTRUCTION SHEET

Serial No. _____



051309

World Precision Instruments

INTRODUCTION

The **M325** three axis manual micromanipulator is built of precision micrometer-actuated linear slides. Each slide is comprised of a large micrometer head and a spring return linear slide. The micromanipulator has been carefully designed to minimize wear in the moving components to achieve a long operational life without the necessity for frequent maintenance or adjustment. The micrometer head is graduated in 10 μ m steps which enable repeatable positioning to an accuracy of $\pm 2 \mu$ m.

Movement

A unique spring return mechanism is used to transmit movement of the micrometer spindle to the slide carriage - eliminating backlash, lost motion and reducing thread wear. Each linear slide utilizes ball bearings which enable the **M325** to carry loads of up to 1kg.

Toolholder

The toolholder can clamp onto tools with shaft diameters of 3.0-12.7mm and allows rotation around two axes. This provides a wide range of options for incorporating the manipulator into your workstations. The **M325** can also be configured very easily in left- or right-handed versions to allow several units to be positioned in close proximity. A quick-release clamp allows easy mounting onto any rod from 10.0-12.7mm diameter.

INSTRUMENT DESCRIPTION

Parts List

After unpacking, verify that there is no visible damage to the instrument. Verify that all items are included:

- (1) M325 Micromanipulator
- (1) M3301EH
- (1) 3327 Hex wrench
- (1) Instruction Sheet

Unpacking

Upon receipt of this instrument, make a thorough inspection of the contents and check for possible damage. Missing cartons or obvious damage to cartons should be noted on the delivery receipt before signing. Concealed damage should be reported at once to the carrier and an inspection requested. Please read the section entitled "Claims and Returns." Please contact WPI Customer Service if any parts are missing at 941.371.1003 or customerservice@wpiinc.com.

Returns: Do not return any goods to WPI without obtaining prior approval (RMA # required) and instructions from WPI's Returns Department. Goods returned (unauthorized) by collect freight may be refused. If a return shipment is necessary, use the original container, if possible. If the original container is not available, use a suitable substitute that is rigid and of adequate size. For further details, please read the section entitled "Claims and Returns."

CHANGING THE "HANDED-NESS"

Your **M325** can easily convert from a right-handed to a left-handed unit and vice versa. To convert a right-handed unit to a left-handed unit, follow these instructions. Reverse the instructions to convert a left-handed unit to a right-handed one.

1. Position the manipulator with the "Y" axis adjustment on the left, and "Z" axis adjustment facing toward you (Fig. 1).

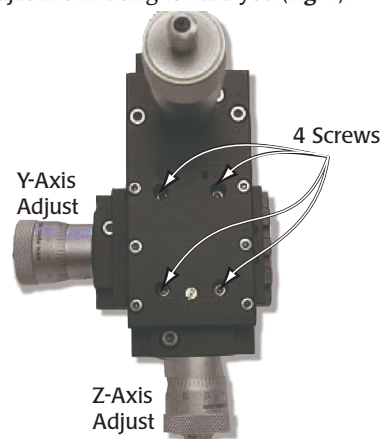


Fig. 1—Position right-handed micromanipulator to expose the four hex screws

2. Use the "Z" axis adjustment knob to align the access holes with the (4) screws that fasten the "Y" axis subassembly to the main unit (Fig. 1).
3. Using a 2.5mm hex wrench (WPI #3327), loosen and remove the (4) screws shown in Fig. 1. The manipulator disassembles into two parts, as shown in Fig. 2.

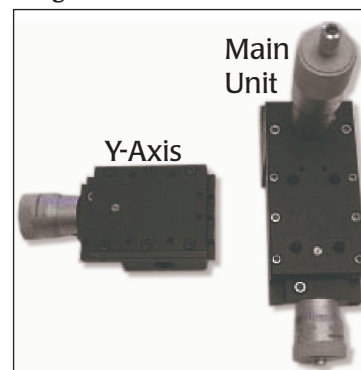


Fig. 2—Two parts of manipulator

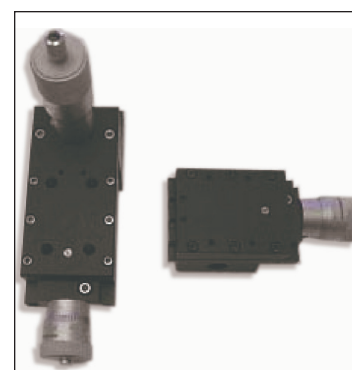


Fig. 3—Y-Axis rotated 180°

4. Rotate the "Y" axis subassembly 180°, so that the "Y" axis adjustment knob is on the right-hand side, as shown in Fig. 3.
5. Align the "Y" axis subassembly with the same access holes on the main unit, and reassemble to the main unit.

ACCESSORIES

Table 1: Accessories

Part Number	Description
5052	Steel Base Plate
5479	Steel Base Plate
14444	Optional Differential Micrometer Head (per axis)
15873	Optional Angled Electrode Holder (13cm long)
500475	Ball Joint, 7cm long, for \varnothing 8mm Holder
500476	Ball Joint, 4cm long, for \varnothing 4mm Holder
M9	Magnetic Stand Rotatable
M10	Magnetic Stand
M10L	Magnetic Stand
M3301EH	Replacement Electrode Holder (14cm long)

SPECIFICATIONS

Travel Range

X-axis	25mm
Y-axis	10mm
Z-axis	10mm

Resolution

X-axis	10 μ m
Y-axis	10 μ m
Z-axis	10 μ m

Shipping Weight: 4 lbs. (1.8 kg)