

**MM-33 MICROMANIPULATOR****MM-33 手动显微操作器***(Shown: MM-33A/R)*

Successfully used in conjunction with our other micromanipulators, the **MM-33** is available separately for those wishing a small, practical instrument in applications not requiring submicron accuracy.

The **MM-33** is the right choice for tight environments which require maximum versatility within a small space. The optional rotating base and tiltable X-axis provide even further flexibility.

Stainless steel cross-loaded roller bearings are designed to offer low friction and smooth linear motion with a minimum of side play. The pre-loaded rollers are set at 90 degrees to the hardened steel guides insuring constant contact and accuracy. This precise rack and pinion drive gives stable, drift-free movement with minimal backlash. The controls are placed one above the other

which makes for less hand movement and easier positioning. The scales for all axes are calibrated in 0.10mm increments and the fine micrometer adjustment for the X-axis thrust is calibrated at 0.01mm with estimates to 5 $\mu$ m.

The optional rotating base extends the utility of the **MM-33** by providing two additional rotating planes. The rotation in the horizontal plane (approximately 120 degrees) has a positive stop, quick release mechanism for fast insertion and removal of pipettes. The second rotating axis allows the **MM-33** to be tilted in a vertical plane from 0 to 70 degrees. The optional tiltable X-axis allows the fine axis to be tilted up to 45 degrees. An optional vertical lock is also available for locking the position of the vertical axis. These options should be ordered at the time of purchase since the modifications are factory installed.

马普科学仪器有限公司

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## INDIVIDUAL EXCURSIONS ARE AS FOLLOWS:

X-axis coarse movement: 37mm

X-axis fine movement: 10mm

Y-axis horizontal movement: 20mm

Z-axis vertical movement: 20mm

### FEATURES > MM-33

Compact design allows use in tight environments

Cross-loaded roller bearings for smooth, low friction movement

Rack and pinion drive gives stable movement with minimal backlash

### OPTIONS > MM-33

Rotating base allows horizontal rotation and vertical tilting

Rotating base allows horizontal rotation and vertical tilting

Vertical axis lock

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**US PRICES**  
► **MM-33**

*International prices are 5% higher.  
Prices subject to change without notice.*

**MICROMANIPULATOR**

**MM-33/R** Right-handed micromanipulator  
(with 1/2 inch rod clamps\*)

**MM-33/L** Left-handed micromanipulator  
(with 1/2 inch rod clamps\*)

**MM-33A/R** Right-handed micromanipulator with tilting  
mount for fine X-axis, vertical lock, rotating base, and  
two base clamps

**MM-33A/L** Left-handed micromanipulator with tilting  
mount for fine X-axis, vertical lock, rotating base, and  
two base clamps

(\*12mm rod clamps available upon request)

**ACCESSORIES**

**MM-33000<sup>1</sup>** Right-handed tilting mount for fine X-axis

**MM-33001<sup>1</sup>** Left-handed tilting mount for fine X-axis

**MM-33002** Rotating base with two base clamps

**X850447<sup>1</sup>** Vertical lock

**X330105** Base clamps (2) for clamping  
rotating base

**MM-33005<sup>1</sup>** Stationary mounting base

<sup>1</sup> Must be ordered with the MM-33 since this option is factory installed only.