

micromanipulators

Standard Manual Control

Classic design at a reasonable price

Micromanipulators are recognized as classic pieces of research equipment. How they work is precision engineering. How they 'feel' is art. These micromanipulators have set the standard worldwide for decades. They are the most popular and widely used. Selecting the correct micromanipulator for the application is important. If you are buying one instrument for general laboratory use, then select the *Ultraprecise Micromanipulator*, see page 301.

Its rigidity and scope make it ideal for any application. For repetitive work, where a number of stations may be required, the Standard Manual Control Micromanipulator with its numerous options generally meets any requirement. To hold freely mobile cells or manipulate larger cells, the Micromanipulator with Mechanical Joystick, see page 300, is flexible yet stable.



W4 60-0570 Left-Handed Standard Manual Control Micromanipulator with 1 Tool/Electrode Holder, Micropipettes not included



Standard Manual Control Micromanipulator with 2 Tool/Electrode Holders, Micropipette not included

- 20 mm of travel in lateral (Y-axis) and vertical (Z-axis) graduated in 0.1 mm increments
- 37 mm of travel in probe direction (X-axis) graduated in 0.1 mm increments plus 10 mm of travel with fine positioning in 0.01 mm increments
- All three control knobs located in a single plane for one-handed operation and close positioning of several instruments side-by-side
- For use with microscope magnifications up to 250x

These micromanipulators have three stacked, stainless steel roller bearing raceways providing movement in the X, Y and Z axes. Rack and pinion drives minimize backlash and provide fast positioning and long life. The lateral (Y-axis) and vertical (Z-axis) planes each have 20 mm of travel graduated in 0.1 mm increments. The probe direction (X-axis) has 37 mm

of travel. Two adjustments are provided. The coarse adjustment is graduated in 0.1 mm increments while the fine adjustment provides 10 mm of travel with precision positioning graduated in 0.01 mm increments.

A unique and valuable feature of these standard manual control micromanipulators is that the three control knobs are located in a single plane. This positioning permits one-handed control of a single instrument, without taking the operator's eyes from the microscope. It also allows several micromanipulators to be closely positioned side-by-side with all control knobs easily accessible. They are available for both right- and left-handed use.

Tool/Electrode Holder

Each micromanipulator is supplied complete with one or two tool/electrode holders. The second holder has two fine controls that allow movement of 8 mm in both the lateral (Y) and probe (X) direction independent of the micromanipulator. Two additional fine controls allow this second tool/electrode holder to be tilted and swiveled.

Tilt Base or Clamp Mounting

Each micromanipulator is offered with a choice of either a tilt base or a clamp to mount the micromanipulator on a 13 mm (1/2 in) OD vertical rod. Other clamps are available as accessories. For a selection of stands with 13 mm (1/2 in) OD rods, see the Stronghold Clamps, Stands and Lattices on the Harvard Apparatus website: www.harvardapparatus.com. The tilt base permits the micromanipulator to be tilted 80° from the vertical. The manipulators with clamp mount are supplied with a 1/2 in. to 10 mm bushing which permits mounting on a magnetic base, see page 304.

Standard Manual Control Micromanipulator

	One Holder	Two Holders
Right-Handed		
Clamp	W4 64-0056	W4 60-0569
Tilt Base	W4 64-0058	—
Left-Handed		
Clamp	W4 64-0055	W4 60-0570
Tilt Base	W4 64-0057	—

Order #	Product
W4 69-1066	10 mm Rod Clamp, for use with Magnetic Bases
W4 69-1067	12 mm Rod Clamp, for use with Magnetic Bases
W4 60-0604	Tool Holder, pkg. of 3
W4 64-1652	Rod Clamp, 1/2 in
W4 64-1652WB	Rod Clamp, 1/2 in with 1/2" to 10 mm bushing