INVERTED JOYSTICK WITH ADJUSTABLE HEIGHT AND TENSION FOR OPTIMAL ERGONOMICS

EXCEPTIONALLY SMOOTH AND RESPONSIVE MICROPIPETTE MOVEMENT

DIAGONAL MODE OPERATION FOR AXIAL PIPETTE MOVEMENTS

ONE-CLICK, AXIAL 'PULSE' OPERATION HELPS PENETRATE TOUGH MEMBRANES

JOYSTICK AND CONTROLLER INTEGRATED INTO A SINGLE UNIT

8 SPEEDS FROM COARSE TO ULTRA-FINE

TOUCH DECLUTCH

XENOWORKS™ MICROMANIPULATOR

The XenoWorks™ Micromanipulator is built upon our hugely successful MP-285 electrophysiology micromanipulator mechanical, with the addition of a smooth-moving, adjustable, inverted joystick. Because the motor drive is based on an electrophysiology design, the XenoWorks Micromanipulator is extremely stable and resistant to ambient vibration. This stability also makes this manipulator an ideal platform for use in conjunction with the PrimeTech PMM-4G or PMM-150FU Piezo Impact Drive, for applications such as animal and cellular research requiring microinjection, aspiration, and transfer into eggs, cells or tissue, including CRISPR, Nuclear Transfer & ICSI.

The redesigned XenoWorks joystick controller offers an unprecedented level of user comfort during operation. The controller circuitry is fully integrated into the joystick, fanless and completely silent. The use of an inverted, height-adjustable joystick user interface in conjunction with the functionally shaped base allows the operator to rest their hands and forearms on the bench surface, providing ease of use and improved ergonomics. The function keys and declutch mechanism can be located and activated by touch, removing the need to look away from the microscope, which will save time. Other time saving features are the user-defined Home position, two user-defined Work positions, and the Setup function, which centers the manipulator in all axes.

Lock functions for both the X and Y axes allow restricting movement to only two dimensions for maximum control during injections. The Z-Floor memory position is used to prevent the pipette from colliding with the bottom of the dish, while the equivalent function for the X axis is useful for injection into an array of eggs. The newly introduced Diagonal mode enables motion along the axis of the pipette. Combining diagonal mode with the new Pulse motion facilitates penetrating specimens with a resilient cuticle. To eliminate guesswork, the status of all functions and motions is shown in the convenient multifunction display.

The XenoWorks joystick is designed to enable the user to quickly develop an intuitive feel that makes it easy to precisely control position. Movements of the joystick are directly converted to proportional movements of the manipulator. Speed control, center of travel, and programmable positions are right at your fingertips. One unique feature of the joystick is the declutch mechanism that allows for rapid repositioning of the joystick without moving the pipette. The declutch ring is also used as the equivalent of a modifier key, which gives individual buttons additional functions. Combining this advanced joystick with the proven Sutter manipulator technology creates an ideal system for efficient microinjection.

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SUTTER INSTRUMENT®

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MADE IN USA

10-2022

XENOWORKS™ MICROMANIPULATOR

XWML XenoWorks Micromanipulator (Left) Includes: 3 axis motor drive (left-hand configuration), motor drive base plate, joystick controller, connecting cables, and manual

XWMR XenoWorks Micromanipulator (Right) Includes: 3 axis motor drive (right-hand configuration), motor drive base plate, joystick controller, connecting cables, and manual

SPECIFICATIONS
XENOWORKS MICROMANIPULATOR

Travel	25 mm on all three axes
Maximum Resolution	125 nm/microstep
Maximum Speed	3.25 mm/sec
Range	X & Y axis movement, per swing of the joystick handle: 50 µm (Speed 7) – 15.9 mm (Coarse) Z axis movement, per rotation of the knob: 10 µm (Speed 7) – 3.2 mm (Coarse)
Joystick Controller Features	• Inverted joystick • Adjustable height and tension • Independent control of X, Y, and Z movement • 2 user-defined Work positions • 1 user-defined Home position • Setup function • Touch declutch • Z-floor axis limit • Y-axis lock • X-axis lock • X-axis limit • Diagonal Mode • 8 Speed settings • Pulse Mode, 3µm diagonal advance
Dimensions	Mechanical: 112 mm x 185 mm x 145 mm Joystick Controller: 289 mm x 235 mm x 244 mm
Electrical	120/240 Volts 50/60 Hertz power line