



# MP-285/M & MP-225/M Motorized Micromanipulator Swinging Gate Headstage Mount Operating Instructions

REV. 1.60c ( 20131017)

The MP-285/M and MP-225/M motorized micromanipulators are normally equipped with a “swinging-gate” headstage mount. This document describes how to use the swinging gate, as this information may not be easy to locate within the manual for the contextual system of which the MP-285/M or MP-225/M is a part. The most important change in the latest version of the headstage mounting relates to the brake screw used to adjust and secure the rotating dovetail. In the previous version, a thumbscrew was used that allowed the dovetail to continuously rotate, thereby aiding in the removal of pipettes. In the current version equipped with the swinging gate, pipette removal is facilitated by opening the gate and a thumbscrew is used to keep the gate closed. Because the rotary dovetail on the swinging gate is intended to be set to a particular angle and left alone, the brake screw used for adjustment is now a set screw rather than a thumb screw.

## **OPERATION OF THE SWINGING GATE:**

1. The break screw on the swinging gate is a setscrew that must be turned with a hex key to adjust the angle of inclination of your pipette. Select the approximate angle by looking at the indexing ring and tighten the brake screw with the 1.5mm hex key provided. It is not intended that this screw be repeatedly loosened and tightened during normal operation. Pipette removal is accomplished by opening the swinging gate.
2. Open the swinging gate by loosening the black-capped clasp screw. About 3 turns of the screw are needed to allow the gate to swing open.
3. Close the gate by holding it firmly in the closed position and retighten the clasp screw. The design is such that the screw will draw the gate into its fully closed position. Accurate and secure repositioning is achieved by holding the gate closed and finger-tightening the screw. Do not use pliers or any other tool to tighten the clasp screw!
4. The four Phillips-head screws that mount the headstage mount to the front of the manipulator are accessible while the gate is open. If necessary, the gate can be moved to other positions on the face of the Z axis. The mounting screws must be tightened sufficiently to keep the headstage mount from moving on the front of the manipulator.

**SUTTER INSTRUMENT**

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