

# Patch Clamp Recording under a Stereoscopic Microscope

## Recommended Models

### for Blind Patch Clamp Recording

For use with Leica MZ series

**A compact three-axis manual manipulator enhanced by a single-axis remote-control water hydraulic system. Provides hand-shake-free fine movement in the same direction as the electrode.**

In recent years, motorized manipulators have come into wide use, while its automatic manipulation system is not easily adaptable to diverse objects. To the contrary, hydraulic and manually controlled manipulators permit precise maneuver by the operator's hand, which contributes to increased success rate and keeps the operator from missing target cells. That's exactly the technology Narishige has proven over the years.

### Water Hydraulic System

## MWS-1B

**1:5 cartridge system reduces drift occurrence to a minimum.**

Working Range: 2mm, Full Turn of Knob: 50 $\mu$ m,  
Minimum Graduation: 0.2 $\mu$ m

### Water Hydraulic System

## MWS-1A

**1:1 cartridge system permits longer working distance.**

Working Range: 10mm, Full Turn of Knob: 250 $\mu$ m,  
Minimum Graduation: 1 $\mu$ m

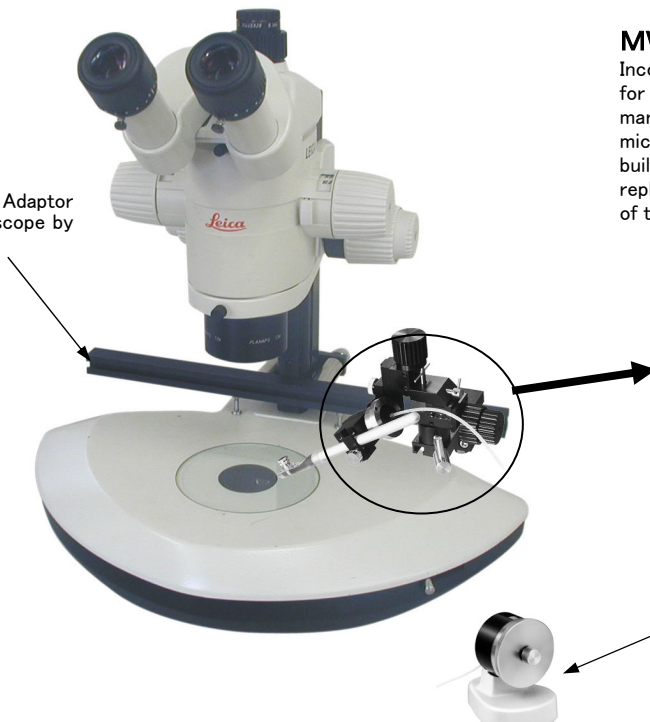
### Typical Combinations

	Example 1	Example 2
<b>Mounting Adaptor</b>	NL-10-2	NL-10-2
<b>Micromanipulator for patch clamp recording</b>	MWS-1B	MWS-1A
<b>Patch Clamp Headstage Holder</b>	For connecting to a patch amplifier, use an optionally available patch clamp headstage holder adaptable to each headstage model.	

※If a transmitted light stand TLST, TLBF/DF, TLRC, or TLRCi is used, please also obtain P-6-2 Adaptor Attachment.

#### NL-10-2

Manipulator Mounting Adaptor secured to the microscope by two mounting knobs.



#### MWS-1A/-1B

Incorporating a single-axis water hydraulic micromanipulator for fine approach toward an object into a three-dimensional manual manipulator used for initial rapid positioning of a microelectrode in the field of view under a microscope. The built-in rotation mechanism and return mechanism facilitate replacement of microelectrodes. Installable in the proximity of the main body of a microscope for enhanced stability.



#### MWS-1A/MWS-1B Controller

Remote control system permits operation free from vibration at the hands without having to touch the microscope. A controller can be placed in an easy-to-operate position.