

Setup of a Micromanipulation System for ICSI –1

The previous issue of Narishige Web News discussed the necessary equipment for ICSI application. This issue discusses installation methods of manipulation systems for ICSI.

Installation of Micromanipulator to a Microscope

Micromanipulators are fixed to the microscope to be used. A mounting adaptor is a platform for mounting micromanipulators on a microscope. A mounting adaptor is designed to fit a particular model of microscope and thus an appropriate adaptor has to be chosen in accordance with the intended microscope. After the mounting adaptor is fixed to the microscope, coarse manipulators are fastened to the mounting adaptor. Coarse manipulators are used to bring pipettes into focus in the field of view of a microscope. There are two types of coarse manipulators. Motorized or manual type is to be chosen in accordance with your requirements. Fine micromanipulators are then fastened to the coarse manipulators. The fine micromanipulators help to perform micromanipulation work under the microscope. The fine movement is hardly recognized without the aid of a microscope, however it provides the proper movement when observed under a microscope.

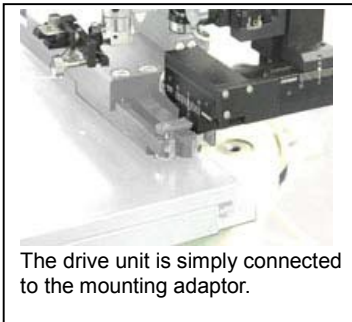
Recommended Model/Setup of Coarse-Fine Integrated Micromanipulator (NAI-2/NAI-3)



< Dedicated Adaptor for NAI-2/NAI-3 >
Mounting method is different according to the microscope. When necessary, the mounting arms can be adjusted to extend outward.

Key Point of Drive Unit: NAI-2/NAI-3 series fit only its designated microscope. It is designed to minimize adjustment of drive unit at the time of installation.

For installation, an incorporated designated mounting adaptor is fastened to the designated microscope and the coarse-fine integrated drive units are simply connected to the mounting adaptor whereby installation is almost finished. NAI-2/NAI-3 series eliminates varied adjustments such as left-right conversion and other adjustments which are necessary for installing conventional models (such as MM-89 and MMO-202ND).



The drive unit is simply connected to the mounting adaptor.

Key Point of Control Unit: NAI-2/NAI-3 are equipped with the easy to use conventional joystick controller .

Installation of Separate Coarse-Fine Models /Transition between Microscopes

Mounting Adaptor

Prepare the appropriate mounting adaptor for the microscope and fasten it securely at a right angle.

Coarse Manipulator (Adjust before fastening to the mounting adaptor)

Please refer to "[Web News No.45 Key Points for Installation: 3-Assembly](#)".

Y-axis (forward/backward) and Z-axis (upward/downward) should be adjusted so that the drive unit is positioned at the center of its working range. Refer to the scale on the drive unit for motorized coarse manipulators. In the case of manual coarse manipulators, the center of the working range is where the end of the outer slider is aligned to the end of the inner slider.

X-axis (right/left) should be adjusted so that the drive unit is positioned at the end of its working range in order for it to situate in the closest position to the illumination column. When installed on the right side, the drive unit is driven to the left end. This prevents the drive unit from hitting parts (such as a condenser or knob) of the microscope in its working range.

Fine Micromanipulator (Adjust before fastening to the coarse manipulator)

Each control knob has a scale. Rotate the control knobs to the center of the working range before installation. In the case of separate coarse-fine models, a drive unit is marked either R or L. When a drive unit is installed on the right side, it should be installed so that the surface of R faces you. For installation on the left side, the surface of L faces you. Adjust movement ratio of joystick so that the movement of pipette covers the entire field of view of the microscope. For movement ratio adjustment, please refer to "[Web News No.33 Useful Functions of the Hydraulic Joystick Controller](#)"

Finally, a universal joint and an injection holder are fastened to a fine micromanipulator. The universal joint is used to hold the injection holder at an angle. The injection holder holds a glass pipette.

If you have any questions or need further information, please contact us.