

NARISHIGE



MDO-974A

Oil Hydraulic-Motorized Hybrid Micromanipulator (with Open Chamber)

Oil Hydraulic-Motorized Hybrid drive offers precise control

MDO-974A is motor-driven oil-hydraulic micromanipulator suitable for in-vivo experiments on middle-sized animals, mainly NHP primates. Based on the manual oil-hydraulic mechanism of MO-97A, the hybrid model installed with stepping motor enables speed control as well as greater driving precision, which are impossible to be performed by manual model. As a merit of hydraulic part that originally required no electricity, the hydraulic-tubing line keeps some distance away from motor to animal's head, so that the sound or noise from the motor would be suppressed on the experiment. Operational setting for drive is absolutely easy to do, which is completed by entering speed directly, or entering distance and time. The range of drive speed is set as $0.1\mu\text{m/s}$ to $500\mu\text{m/s}$. The speed can be changed on the way to target, so you can make the electrode closer to the target with a fast speed, and then change it to slower speed as final small-step approach. The chamber is an open-type that is designed to accommodate multiple drive units and use with grid.



- * Distance between the control unit and motor unit can be extended from original 2.9m(9.5ft) in total to 7m(28.2ft) by MD-DCE-7 (sold separately).
- * Palm-sized compact controller MD-OH-1 (sold separately) is available.
- * Grid for the open chamber is available by customized order.

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Specification

Accessories included		MO-903E Chamber Chamber Cap Stainless Steel Guide Tube (ø0.7 × 60mm) Threaded Round Bar Connecting cable (2.9m) Power Cord (2.5m) Spare fuse (inside of fuse holder)
Length of hydraulic tubing		1.5m
Drive source		5-phase Stepping Motor
Movement range	Coarse	Z50mm
	Fine	X13mm Y18mm Z30mm (Motor-drive)
Setting range	Speed range	0.1μm/s ~ 500μm/s (0.1μm/s increment)
	Distance range	1μm ~ 30,000μm (1μm increment)
	Time range	1s ~ 60min (0.1s increment)
Working voltage		AC100V ~ 240V, 50/60Hz
Power consumption		15W
Dimensions/Weight	Drive unit	W61 × D46 × H130mm, 125g
	Motor drive	W98 × D32 × H56mm, approx. 250g
	Control unit	W180 × D260 × H95mm, 2.5kg

* The control unit controls one drive unit only; cannot control two or more drive units.

Specifications are subject to change without notice.

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