

CONFIGURATION AND SPECIFICATIONS



	SPECIFICATIONS
① PIEZO DRIVE UNIT MB-S	Traveling speed : 0.08mm/s (Max) Traveling resolution : Approx. 0.1 μ m (Min) Weight : 95g (Including wire)
② OPERATION BOX TS-1	Operation mode : 3 modes Utility mode Sleep/Active switch Speed : 16 levels Intensity : 16 levels Dimensions : 105(W) \times 145(D) \times 38(H) mm Weight : 600g (Including wire)
③ FOOT SWITCH OP-16	Driving : Left pedal Condition A/B selection : Right pedal Dimensions : 140(W) \times 280(D) \times 210(H) mm Weight : 620g (Including wire)
④ CONTROLLER PMAS-CT4G	Output : 1 Dimensions : 132.5(W) \times 110(D) \times 35(H) mm Weight : 3.5kg
OPERATING TEMP.	5 - 40 °C (Avoid high humidity)
ABOVE THE SEA LEVEL	0 - 2,000m
POWER	AC100-240V (\pm 10%), 50/60H, 60VA
ACCESSORIES	Spare fuse(T3:15A 250V, T1A 250V). Power code



* Specifications and design are subject to change without notice.
* Micropipette holder is not included in the system.
* PMM is to be used for research only.



APPLICATIONS

- **Intracytoplasmic sperm injection (ICSI)**
Kimura & Yanagimachi, Development (1995, mouse)
Yoshida et al., Nature protocols (2007, mouse)

- **Cloning by nuclear microinjection**
Wakayama et al., Nature (1998, mouse)
Onishi et al., Science (2000, pig)



- **Metaphase II transgenesis**
Perry et al., Science (2000, mouse)
- **Intracytoplasmic injection of transgenic sperm**
Hirabayashi et al., Transgenic Research (2002, rat)

- **Production of clone by somatic cell nuclear**
Kishigami et al., Nature protocols (2006, mouse)
- **Embryonic stem cell injection**
- **DNA injection**
- **Others: cell holding operations**



PiezoMicroManipulator

γ mm is **Gentle**

both for **Oocyte** and **Operator**

YOU ONLY FIT OUR PIEZO ONCE, SO FIT THE NO.1



Delicate perforation of the membranes and easy operation are essential for micromanipulation. With our knowledge and well established experience in microinjection, and our long-standing expertise in piezo technology demonstrated in the very popular PMM-150FU, Primetech has created the new PIEZO PMM4G. The improvements introduced in the PIEZO PMM4G include; a smaller and more effective drive unit, a more advanced user interface with a touch screen display, multiple programmable modes including Standard, Piezo-ICSI, and Expert, and a piezo design which offers a more gentle and effective impact.

GENERAL OUTLINE OF THE PMM

The **PRIME TECH PMM** (Piezo Micro Manipulator) was developed to simplify and secure the operations of micro manipulation of by utilizing a rapid deformation of piezo electric elements, which is an our original driving method. The PMM prevents the cell from being deformed or damaged inadvertently and the micro pipette can be smoothly inserted into the cell membrane. The PIEZO PMM4G has been improved: the perforate ability has been more effective and the operation has been easier than conventional "PMM-150FU" .



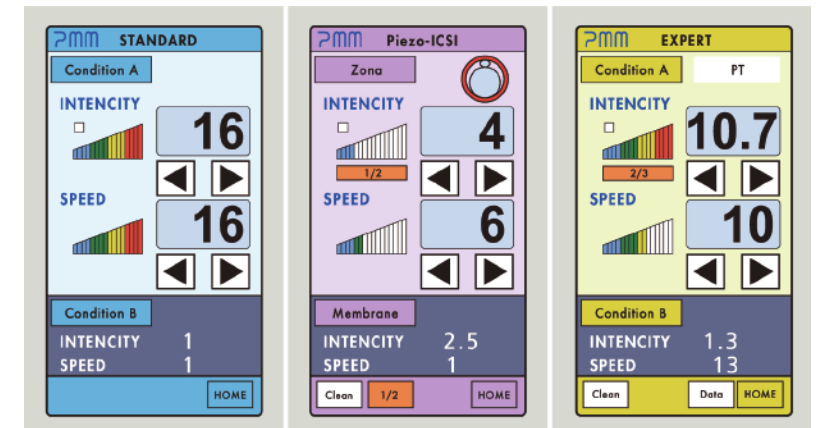
FEATURES



New type of user interface "TS-1"

TS-1 allows to set intensity much more minutely than conventional operation box "OP-15" .

- Color touch screen display
- Three modes for microinjection: Standard, Piezo-ICSI, Expert
- Easy setting of the operating speed and intensity
- Memory storage of the available programs
- Two conditions can be selected by simply touching the display.
- Compact and lightweight body



- Single pulse function
- Drive unit "MB-S" can be connected to the microinjector of each company: PRIME TECH, Sutter, Narishige etc.
- Mountable for many types of 3-dimensional micromanipulator: Sutter, Narishige, Leica etc.



Sutter XenoWorks Micromanipulator



Narishige Micromanipulator