

Specifications and Configurations

•Specifications

Model	PIEZO PMM6D	PIEZO PMM6U
PMM drive unit	MB-D-2	MB-U-2
Movement resolution	Min 0.1 μ m	Min 0.1 μ m
Weight	110 g	200 g
Touch panel	3 (STANDARD, Piezo-ICSI, EXPART)	
Number of conditions	6 (3 modes x 2 conditions)	
Utility mode	Screen brightness, Sound settings, etc.	
Clean function	Available (Piezo-ICSI, EXPART mode)	
Program memory	8 (in EXPART mode)	
INTENSITY setting	16 steps (1, 1/2, 2/3 increments)	
SPEED setting	16 steps	
Size	105(W) $\times$ 145(L) $\times$ 38(H) mm	
Weight	About 600 g (including cord)	
Foot switch	2 (PMM drive unit, condition switching)	
Size	132.5(W) $\times$ 110(L) $\times$ 35(H) mm	
Weight	About 620 g (including cord)	
Controller	Number of outputs 1 (PMM drive unit)	
Size	132.5(W) $\times$ 280(L) $\times$ 210(H) mm	
Weight	about 3.5 kg	
Accessories	Power cord	
Required power	AC 100 to 240 ($\pm$ 10 %), 50/60 Hz, 30 VA	
Operating temperature limit	0 to 40°C, humidity 85 % or less, non-condensing	



•Configurations

Product name	Component	Model	6D	6DT	6 DJ	6U	6 UT	6 UJ
Piezo Micro Manipulator	PMM drive unit	MB-D-2/MB-U-2	1 (MB-D-2)	1 (MB-D-2)	1 (MB-D-2)	1 (MB-U-2)	1 (MB-U-2)	1 (MB-U-2)
	Touch panel	TS -1-2	1	1	1	1	1	1
	Foot switch	OP-16-2	1	1	1	1	1	1
	Controller	P-MAS-CT6	1	1	1	1	1	1
Manual Injector	Pneumatic injector	PNJ-T2		1			1	
	Hydraulic injector	HDJ-M3			1			1

It can be connected to 3 axis micromanipulators and injectors from various companies.

*PIEZO PMM6D/6U may require an injection holder, injector connection tube, etc., depending on the injector.

•Micropipettes "PT Micropipettes for PMM"

High quality pipettes made by PMM manufacturer. Please contact us for more information.

PMM Method: Sample-gentle injection and Operator-easy switch operation

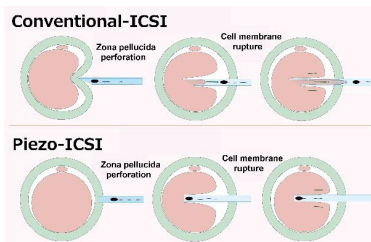
"Sample-gentle operation"

- No deformation on the sample, zona pellucida perforation, at the time of punctation.
- No suction or agitation of cytoplasm when cell membrane is ruptured.

"Operator-easy operation"

- Reliable zona pellucida perforation and cell membrane rupture by switch operation
- Easy to learn and teach

Example of ICSI operation



*Specifications and designs are subject to change without any notice.

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Piezo Micro Manipulator PIEZO PMM6

PIEZO PMM6D / PIEZO PMM6U



PRIME TECH LTD.



–Gentle and easy with injection–

Recent developments in the field of life and reproductive engineering, such as ICSI, nuclear transfer, and genetic recombination, are diversifying, and more and more advanced technology is required for micromanipulation. The PMM series is active in cutting-edge research sites around the world and continues to support numerous achievements.



The Piezo Micro Manipulator, PMM utilizes the driving force generated by the piezo element to demonstrate excellent puncture ability to various samples. "PIEZO PMM 6" is a piezo micro manipulation system that we have invested a wealth of expertise in as a pioneer of piezo injection.

Wide variety of applications

● Operation details

ICSI (including sperm immobilization), RNA, DNA, ES cell injection, nuclear transfer, biopsy, assisted hatching, and Injection to other cells.

● Subject

Oocytes and embryos of mammals such as mice, pigs, and bovines. Medaka eggs, sea urchin eggs, sea squirt eggs, mouse fetuses in the uterus, etc.

Configurations



PMM drive unit	1
Touch panel	1
Foot switch	1
Controller	1

Components

●PMM drive unit

<Selectable from 2 types depending on the application>

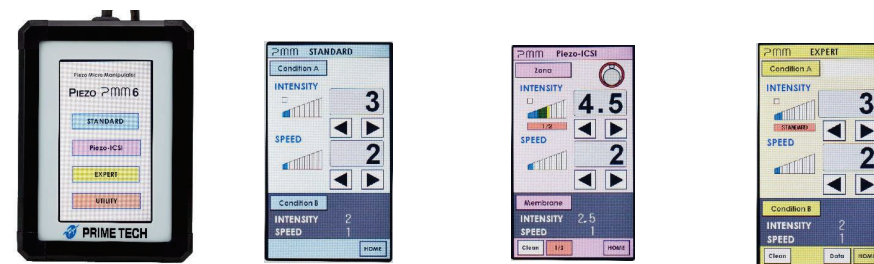
MB-D-2 	Medium output model is suitable for ICSI, ES-cell injection, biopsy manipulation, etc. No slide unit or adapter is required for installation. Easier handling by the adoption of injection holder fixing screws. This is the current mainstream model.
MB-U-2 	High-output model that allows puncture operation with a large-diameter pipette. It has supported many achievements in cloning and ICSI operations. Injection is performed by advancing toward the sample from the slide unit.

●Touch Panel

<LCD touch screen>

Touch screen type operational box that is easy to operate even in a dark environment around the microscope.

<3 modes × 2 conditions according to the operation>



MODE	STANDARD	Piezo-ICSI	EXPERT
Condition number	2 (A/B)	2 (Zona/Membrane)	2 (A/B)
INTENSITY value	16 steps (1 increment)	16 steps (1,1/2 increment)	16 steps (1,1/2,2/3 increment)
SPEED value	16 steps (1 increment) 1pulse function available	16 steps (1 increment) 1pulse function available	16 steps (1 increment) 1pulse function available
Clean function	None	Available	Available
Program memory	None	None	8 ways

●Foot switch

<PMM drive unit operation: left pedal>

PMM drive unit is driven by pedal operation. It is possible to drive the PMM drive unit while operating the microscope or manipulator.

<Condition switching right pedal>

Switch the condition by pedal operation. There is no need to move the line of sight to the touch panel, so it does not interfere while operating.