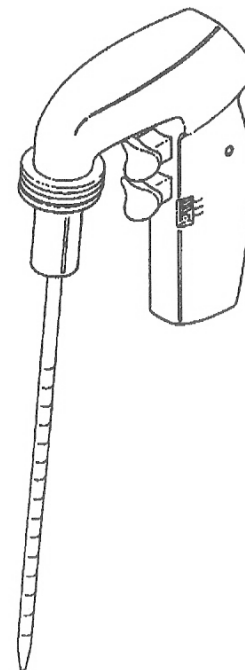


Pipette Mate

Pipette controller for liquid handling

User's Manual



- Thank you for your purchase of our Pipette Mate.
- Before proceeding to work with your Pipette Mate, carefully read this manual for proper use of it.

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Pipette Mate

Pipette controller for liquid handling

Features

- Light weight easy to grip design.
- The silicone pipette holder and nozzle cylinder can be autoclaved.
- Grip's adjustment hole allows adjustment of suction and discharge speed using a flat head screwdriver.
- Both glass and plastic pipettes (1 to 100 ml) can be used.
- Suction and discharge speed can be changed with mode selection switch.

Standard accessories

- Battery chargerx 1
- Filter (0.45µm (blue)/0.2 µm (white))x 1 each
- Standx 1

Please confirm that none of the above standard accessories are missing before using this unit.

Safety precautions

- For safe and proper use of the Pipette Mate, please be sure to carefully read the "Safety precautions" in this section and "CAUTIONS" on the next page before starting work with it.
- The contents of "CAUTIONS" are matters that require the user's attention, not only for using the Pipette Mate properly, but for preventing the user from accidents and physical damage.
- After reading this manual, please keep it in a convenient place for quick reference.

Please observe the following cautions to ensure the safe use of this product



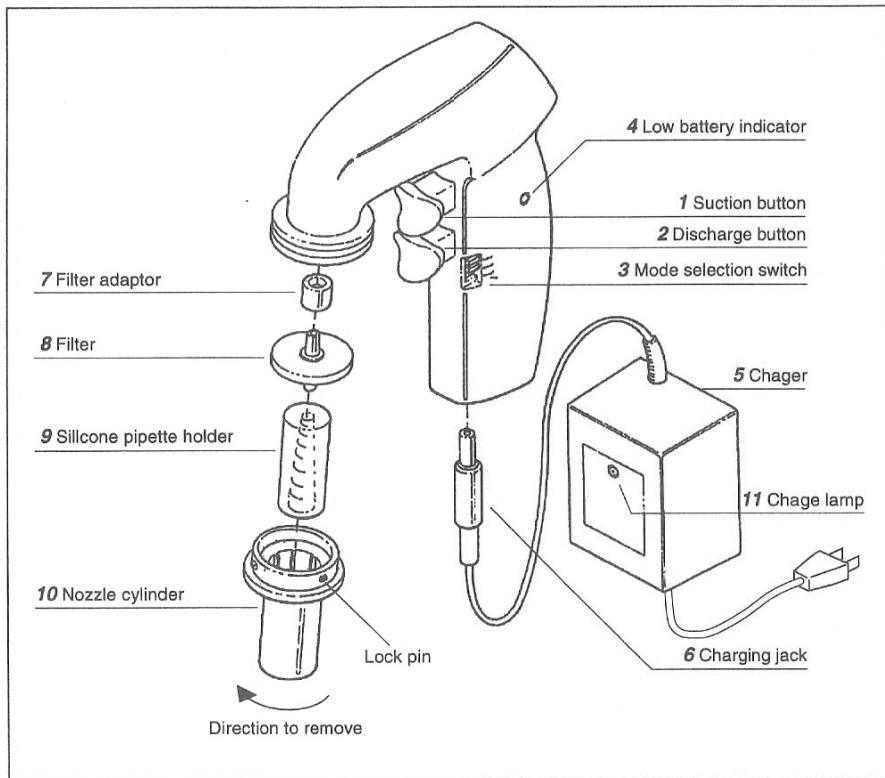
Be sure to observe the following instructions for using your Pipette Mate properly and safely.

If the user uses the Pipette Mate in the wrong way, disregarding the following instructions, it may result in injury to the user or/and other persons or physical damage to this instrument or/and other equipment.

1. Never use this instrument for any purpose except pipetting/fractioning of liquid.
2. Never modify this instrument, as this may cause an accident.
3. Never use this instrument for pipetting any liquid to be injected into the human body.
4. Never discharge any sample liquid while pointing the instrument at anybody because some kinds of liquids are harmful to humans.
5. Do not turn this unit sideways or upside down or remove the pipette while there is liquid in the pipette as this may be harmful to the product's performance.
6. Attach the pipette securely to the nozzle. When using a large pipette (such as a 100ml capacity type etc.) please support the pipette with your hand. If not attached securely the pipette could fall off, causing damage or scattering of the liquid.
7. When using liquids that are harmful to the body, be sure to take precautions such as covering your hands with medical gloves etc..
8. If liquid that is harmful to the body has splashed onto the unit, treat it properly before using it.
9. Do not use this unit to mix liquids etc.. This may cause the pipette to loosen, fall off or expose the outside of the unit to liquid.
10. Do not touch the silicon pipette holder or nozzle cylinder after autoclaving as they are extremely hot and you may burn yourself.
11. As this product contains polypropylene and silicone, do not use with volatile liquids which are incompatible with either of these materials.
12. Do not exceed specified suction capacity of the unit.
13. Make sure that the battery is sufficiently charged before using.
14. Never use flammable liquids.
15. If the unit gets abnormally hot during use, stop usage immediately and contact the distributor.
16. Do not use any other battery charger than the one included with this unit. Over-charging may cause damage to this unit or the battery.
17. If the unit is dirty, clean it with a soft cloth that has been moistened with a neutral detergent.
18. As this unit and the battery charger contain precision parts, do not remove the cover of either unit. There is danger of electric shock.
19. When not using the unit, remove the pipette and place it in the stand.
20. When handling test liquids follow the "handling cautions" specified by each test of liquid manufacturer.

Structure of unit and main parts

1. Battery : 1.2 V nickel metal hydride battery x 2
2. Battery charger
 - Japan : Input voltage 100/120 V, 50/60Hz, 2-pin
 - UK : Input voltage 230 V, 50 Hz, 3-pin
 - Europe : Input voltage 230 V, 50 Hz, 2-pin
 - USA : Input voltage 120 V, 60 Hz, 2-pin
 - India : Input voltage 230 V, 50 Hz, 3-pin
 - Australia : Input voltage 220/230 V, 50 Hz, 2-pin
3. Filter (drainage filter) : 25 mm x 0.45 µm
(accessory parts: 25 mm x 0.20 µm, 25 mm x 0.45 µm)
4. Outside casing material : ABS
5. Silicone pipette holder material : Silicone
6. Nozzle cylinder material : Polypropylene
7. Other resin material : ABS
8. Usable pipette : Glass/plastic (1 to 100 ml)
(Purchased separately)



Operation

1. Suction method

- 1) Carefully holding the pipette, attach it securely into the silicone pipette holder within the nozzle cylinder.
- 2) Select the operation speed (High, Low, G) with the mode selection switch (3).
Mode selection
HIGH : High speed suction/discharge.
LOW : Low speed suction/discharge.
G : Suction will be at low speed and discharge will be carried out at the natural air pressure within the unit.
- 3) Press the suction button (1).
(The harder the Aspirate trigger is pressed, the faster the suction will be.)
- 4) When suction of the desired amount is completed, release your finger from the button to return it to its original position.



Do not exceed the specified suction capacity. Doing so may result in performance loss of the product or quality loss.



During operation (when there is liquid in the pipette), do not turn the unit on its side or lean it at an angle that is more than necessary. If the liquid flows into the inside of the unit this will result in performance loss.

2. Discharge method

- 1) With the mode selection switch in the HIGH or LOW position, press the discharge button (2). Discharging will be carried out by the motor's air pressure. (The harder the Dispense Trigger is pressed, the faster the discharge will be.)
- 2) When discharge of the desired amount is completed, release your finger from the button to return it to its original position.
- 3) When the mode selection switch is set to the "G" position and the discharge button is pressed, discharging will be carried out by the natural air pressure within the unit.

3. Filter (drainage filter) replacement

- 1) Turn the nozzle cylinder (10) counter clock-wise to unlock it.
- 2) Turn the lock pin to the position where it can be pulled out and remove the nozzle cylinder.
- 3) Pull the silicone pipette holder (9) downward and remove it.
- 4) Pull the filter (8) downward and remove it.
- 5) Replace the filter and install the new one following the above steps in the reverse order.

* If you are worried about contamination from suction/discharge air please use a 0.2 µm filter.




Never force the nozzle cylinder when inserting or removing as this may damage the lock pin making locking impossible.



Never use without the filter as this may damage the instrument.

4. Recharging the battery (Room temperature: +10°C to +35°C)

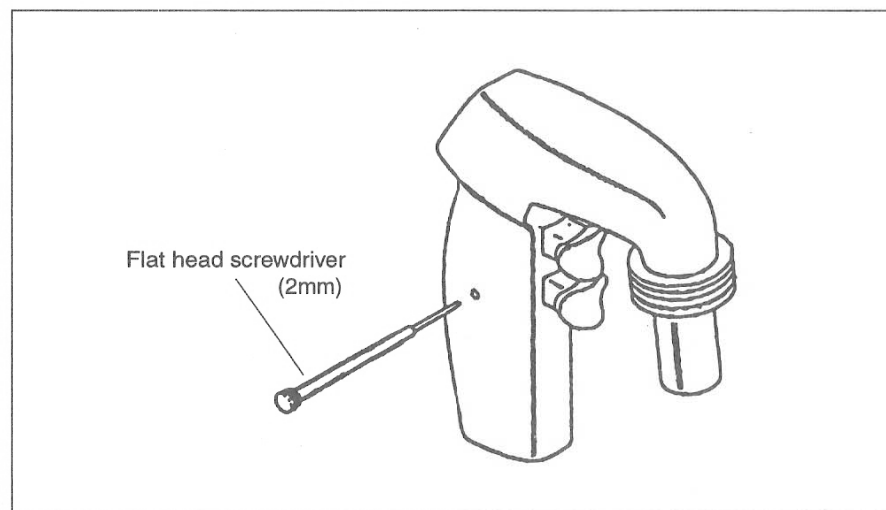
 During recharging, do not touch the power plug with wet hands. There is danger of electric shock.

- 1) Insert the charging jack into the terminal located at the bottom of the unit.
- 2) Connect the battery charger's power plug into the power outlet.
- 3) The battery charger's charge indicator (red) will light.
- 4) Place the unit on the provided stand.
- 5) When charging is finished the charge indicator (red) will go out.

- * Charging takes about 14 hours. (From a condition of almost no remaining charge).
- * Charging can be repeated from 500 to 1000 times.
- * When the battery's power becomes low, the charge warning lamp (red) will light when either the suction or discharge button is pressed.

5. Fine speed adjustment of suction and discharge (decrease of speed)

- 1) Insert a flat head screwdriver (2mm) into the adjustment hole on the side of the unit and turn clockwise to adjust the speed.
- * Depending on the adjusted position, suction may not operate in the LOW mode. We recommend that the unit be used in the adjustment position set at time of shipping.



6. Replacement parts list (Please state the name and parts code number listed below when ordering)

No.	Part name	Parts code number	Lot Qty.
1	Nozzle cylinder	PM-001	1
2	Silicone pipette holder	PM-002	1
3	Filter (0.45 μm)	PM-003	5
4	Filter (0.20 μm)	PM-004	5
5	Sterilized filter (0.45 μm)	PM-005	1
6	Stand	PM-007	1
7	Battery charger		
	Japan : 100/120 V, 50/60 Hz, 2-pin	PM-008	1
	UK : 230 V, 50 Hz, 3-pin	PM-009	1
	Europe : 230 V, 50 Hz, 2-pin	PM-010	1
	USA : 120 V, 60 Hz, 2-pin	PM-011	1
	India : 230 V, 50 Hz, 3pin	PM-012	1
	Australia : 220/230 V, 50 Hz, 2-pin	PM-013	1

7. Trouble shooting

Problem	Probable cause	Check point
Suction is slow/no suction	Dirty filter.	Replace filter.
	Damaged filter.	Replace filter.
	Battery power is depleted.	Recharge battery.
Cannot be charged (charge indicator lights)	Battery is exhausted.	Have the battery replaced at the distributor.
Cannot be charged (charge indicator does not light)	Power cord is not connected to power outlet.	Connect to power outlet.
	Battery charger is damaged.	Have the battery charger repaired (or purchase a new one) at the distributor.
	The charging plug is not connected.	Connect the plug to the unit's
Water leakage	Pipette is not attached securely.	Insert the pipette securely into the pipette holder.

If the problem persists even after the above points have been checked, stop usage of the unit immediately and ask the distributor to repair it.

At this time please confirm that there has been no contamination by chemicals that are harmful to the body.