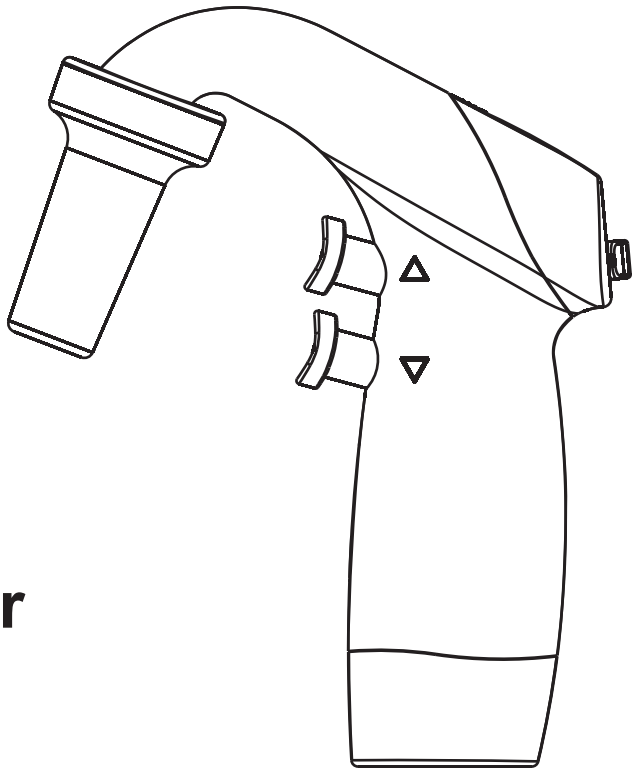
Controller Manual - 06-11-24

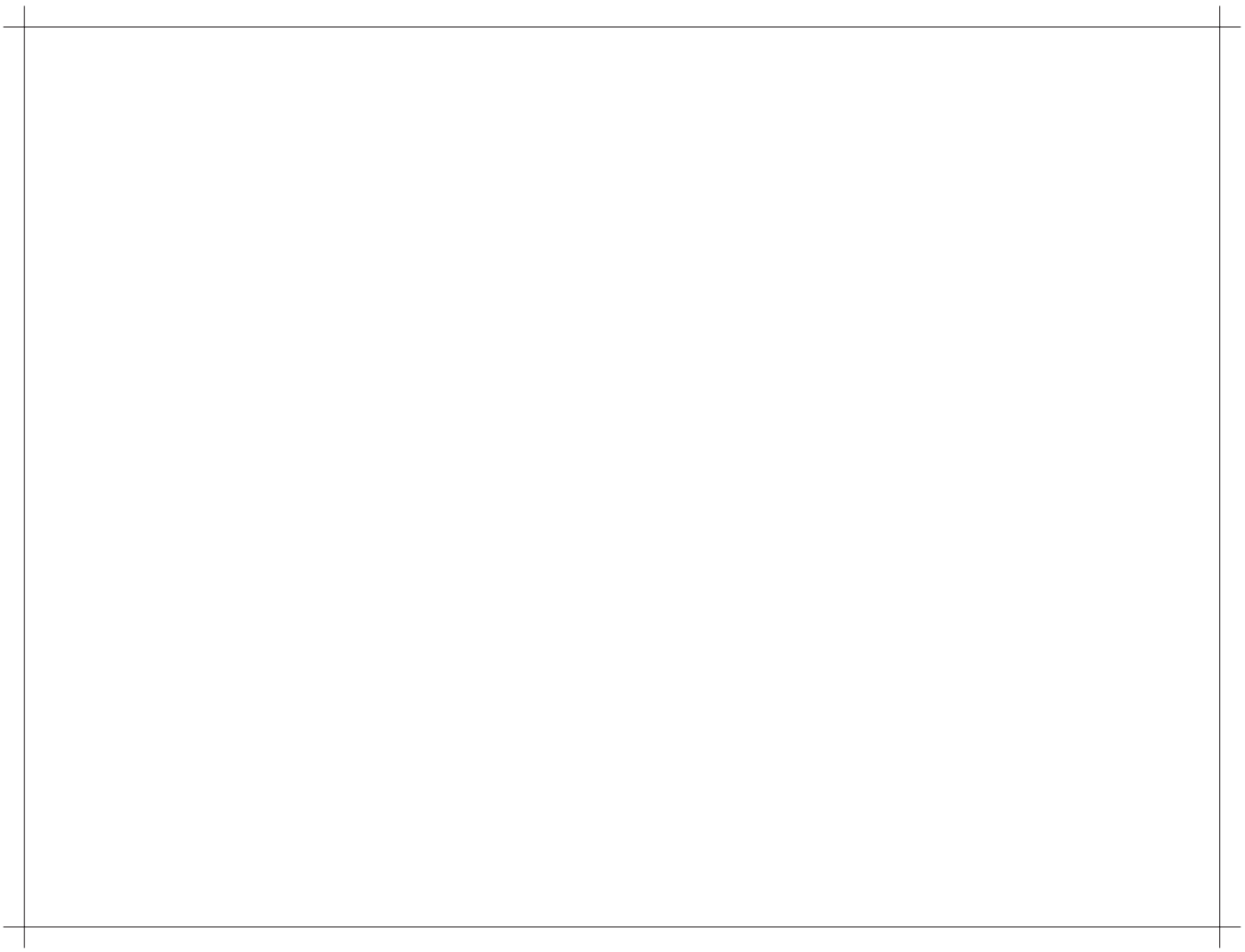
170.0 mm

128.0 mm



Pipette Controller

User Manual



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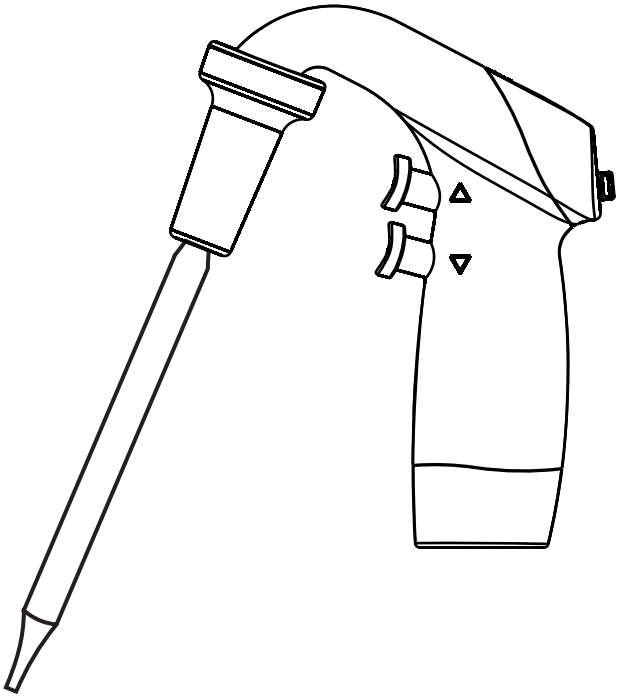
1. Introduction:

This Pipette Controller is an engine powered pipetting helper designed for cordless work with glass or plastic pipettes in 0.1 - 100 ml range. Ergonomically shaped and carefully modeled light weight handle, together with smooth push buttons and conveniently located slide switch ensure effortless pipetting even during extensive use. It has high performance micro pump with a powerful but quite engine with 3 speed modes. It is equipped with replaceable membrane filter, which protect the mechanism of device from contamination by vapors of solutions being drawn into the pipette. It has autoclavable nosepiece and a continuous working limit of 8 hours.



2. Safety:

Please read carefully!

The pipette controller is designed for use with hazardous materials, processes, and equipment. However, this manual cannot cover all potential safety issues. It is the user's responsibility to ensure compliance with relevant safety and health regulations and to establish necessary precautions before use.

- All users must read and follow the instructions in the user manual provided with the device, both before and during operation. The device should only be operated by trained and qualified personnel.
- Adhere to general hazard warnings and safety guidelines, such as wearing protective clothing, safety goggles, and gloves.
- When handling infectious or hazardous samples or media, follow standard laboratory safety protocols and observe the relevant regulations. Always refer to the manufacturer’s safety data sheets (SDS) for guidance.
- Use the device exclusively for pipetting or dispensing media, and ensure all usage falls within defined limits and restrictions. Follow the operating exclusions outlined in the manual.
- When working with flammable media, take precautions to prevent static electricity buildup (e.g., avoid dispensing into plastic containers and refrain from wiping instruments with a dry cloth). Never use the device in potentially explosive environments. If unsure, consult the manufacturer or dealer.
- Before each use, verify that the device is functioning properly. If any malfunctions occur (e.g., leaks or power issues), discontinue use immediately and refer to the troubleshooting section of the user manual. Contact the manufacturer if necessary.
- Always perform tasks in a way that ensures the safety of users and others. Avoid splattering and use only appropriate vessels. Never apply excessive force when operating, cleaning, or servicing the laboratory device.
- If the laboratory device is powered by a power adapter, batteries, or accumulators, regularly inspect all components and connections to ensure proper functionality. Do not operate the device or its accessories in unprotected, humid, or wet environments.

- Do not make any technical modifications. Only use original manufacturer replacement parts; power adapters or accumulators from other manufacturers, even if they are of identical size and specifications, are not permitted
- Do not disassemble the laboratory device or its accessories (e.g., power adapters, cables, racks, accumulators, or batteries) beyond what is specified in the user manual.
- Use only the original power adapter to charge the nickel-metal hydride battery.
- Keep the power adapter protected from moisture, and use it exclusively with this device.
- Discontinue use of the power adapter if the connection cable is damaged.
- Only authorized service technicians are allowed to perform repairs and internal maintenance on the instrument.

3. Intended use:

The pipette controller is intended for dispensing liquids. In-vivo application (in or on the human body) are not allowed. The pipette controller may only be operated by skill personnel who have received the appropriate training. All user must read operating manual carefully and must have become familiar with the device's mode of operation.

3.1. Limitations of use:

The Pipette controller is intended for pipetting liquids within the following physical limitations:

- from 10 to 40°C (from 50 to 104°F) (device and reagent)

3.2. Operating exclusions:

The pipette controller must not be used for liquids with vapors that can cause corrosion to the materials.

⚠ Warning

Operating the instrument in a potentially explosive atmosphere

The instrument must never be operated or charged in a potentially explosive atmosphere. Pipetting highly flammable media (flash point under 0 °C (32 °F), e.g. ether, acetone) is prohibited.

3.3. Storage conditions:

Store the unit and accessories in a cool and dry place in cleaned condition only.

Storage temperature from -20 to 50 C (-4 to 122 F)
Relative humidity: 5% to 95%.

CAUTIONS and Warnings:

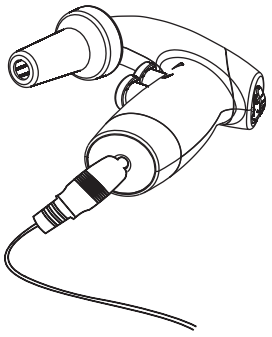
CAUTION! Poor safety due to incorrect accessories and spare parts.

- Only use accessories and original spare parts recommended by the supplier.
- The use of accessories and spare parts other than recommended by pipette controller may impair safety, functioning and precision of the device.
- Use only the original power adapter supplied by the manufacturer! Using another power adapter can damage the instrument and may cause the battery to explode.

CAUTIONS! Danger to individuals due to careless use.

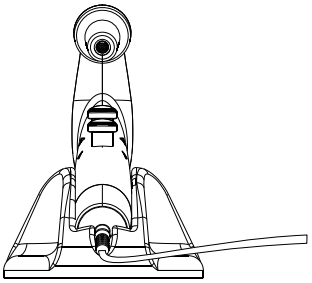
- Only initiate liquid dispensing if it is safe to do so.
- For all dispensing tasks, make sure that you are not endangering yourself or anyone else.

4. Charging:



- Plug the charger jack in to the Pipette Controller.
- Plug the charger in to a suitable wall socket. The red indication on charger will light up indicating charging process has started.
- Allow unit to charge for 3 - 4 hours (as this is a quick charger) for getting fully charged.
- Once batteries are fully charged, the charger automatically stops charging and the red indicator will turn in to green.
- This device has 2 Numbers of 1600 mAH NiMH type rechargeable batteries.

Notice!
- Remove the rechargeable battery if the device will not be used for an extended period (>1 month).
- Choose a secure location for storage (refer to the recommended storage condition).
- It is recommended to charge the controller at least once every three months, even if it is not in use.



- To maintain maximum capacity, only recharge the battery when the LED indicator turns red.
- Use only the original power adapter supplied by the manufacturer. Using another power adapter can damage the instrument and may cause the battery to explode.

⚠ Warning

Damaged power adapter or charging cable risk or injury due to electric shock.

> Do not use a damaged power adapter.
> If the charging cable is damaged, do not use the power adapter.

5. Pipetting:

First check the pipette to be used to ensure it is not damaged and has no dents or sharp edges in the upper part. Check whether the upper gripping part is dry. Carefully hold the pipette and insert it securely in to the silicon holder inside the nose cone. Once the pipette has been securely attached, always hold the instrument in a vertical position, tip down.

Speed Control: Set the pump speed using H / L / G Switch.

H : High Position - Fast aspirating and fast dispensing
L : Low Position - Slow aspirating and slow dispensing
G : Gravity Position - Slow aspirating and dispensing by gravity force only

It is recommended to choose **L** position for less volume pipettes up to 5 ml & **H** position for volumes greater than 5 ml.

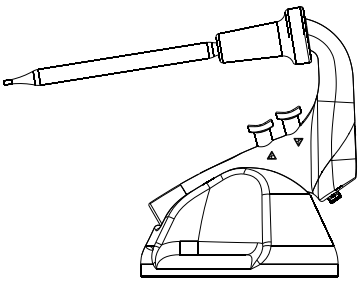
The speed of aspirating & dispensing can also be controlled manually by controlling the finger pressure on trigger buttons. Deeper the button is pressed, faster the liquid will aspirate or dispense.

Aspirating (Filling the pipette): Slowly press the upper pipetting trigger, the liquid will start aspirating. Fill the pipette slightly above the mark desired, adjusting the aspiration speed by finger pressure, particularly in the final stage, so as not to over fill the pipette. After filling pipette above desired volume press the lower trigger gently, dispense excessive liquid from the pipette until the meniscus of liquid aligns exactly with the required volume mark on the pipette.

Dispensing: Slowly press the lower pipetting trigger. The liquid will start dispensing.

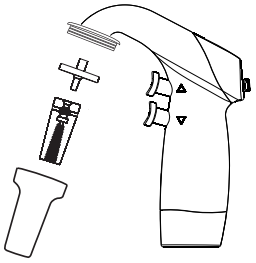
Note: It may happen that during gravitational force dispensing the pipette is not completely emptied due to the characteristics of pipettes used with the pipette controller.

6. Desktop stand with serological pipette:



- Pipette controller can hold the serological pipette while resting on it.

7. Replacing the filter:

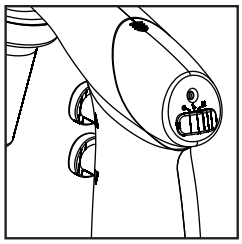


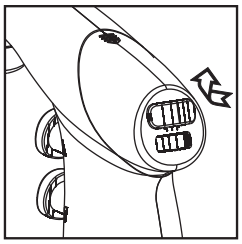
- Unscrew the nosepiece.
- Pull out the membrane filter and the silicon pipette holder.
- Rinse the silicon holder containing safety value using a wash bottle.
- Blow liquid out of the silicon holder and leave it until it is completely dry.
- Place the new membrane filter, assemble the device in reverse order and carry out leak test.

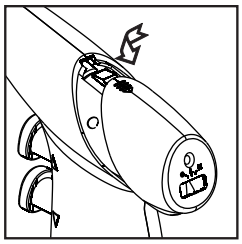
Note: Only use genuine manufacturer recommended filters and accessories.

8. Battery replacement:

Unlike most of the other common Pipette Controller the change of batteries is very simple with this instrument and can be carried out without exposing the inner mechanism and circuit. For replacing batteries first pull out **3** mode switch cover as shown in the figure by applying the pressure from its lower side. Now remove the batteries compartment cover pressing by embossed arrow and simultaneously sliding it back. Remove the batteries. Insert new batteries and reverse the above procedure. Put the batteries compartment and switch cover back in to their original place.







9. Pipette controller kit comprises:

- Pipette Controller
- Charger
- Desktop Stand
- Wall mount bracket
- Two spare membrane filters:
  1. 0.2 µm
  2. 0.45 µm
- Instruction Manual
- Warranty Card

10. UV sterilization:

The device is resistant to normal exposure to a UV disinfection lamp. The effects of the UV exposure may cause some color change.

11. Trouble shooting:

Trouble	Possible Cause	Remedy
Suction capacity is low or No aspiration	Low motor speed is selected	Increase motor speed
	Check valve is blocked	Clean the valve by flooding. If it is wet rinse it and dry.
		If it is displaced try to set it in the right position.
	Filter is dirty or wetted	Replace filter
	Batteries discharged	Charge batteries
	Pipette Holder is damaged	Replace it
	Battery defective	Replace batteries
	Battery wrongly inserted	Insert correctly
	Sterile nose cone not tightly screwed	Tighten the nose cone.
Pipette drips	Pipette not securely positioned in silicon pipette holder	Reattach firmly.
	Pipette holder is damaged	Replace
Reduced operating time with fully charged batteries.	Wrong battery type	Use only original batteries.

Trouble	Possible Cause	Remedy
LED charge indicator does not light up/blink after the power adapter is connected and power is supplied.	Battery plug not firmly inserted	Firmly insert the battery plug
	Battery or power adapter defective	Replace battery/power adapter
	Wrong power adapter	Use only original supply unit
	Instrument defective	Send instrument for repair
Low battery capacity	Battery defective	Replace the battery

Note: If the troubleshooting table above does not solve the problem, contact your authorized dealer or the manufacturer directly.

12. Technical data:

Technical data	Values
Power adapter	Input: 100-240 V~50/60Hz, 0.3A Max, Output: 2.4V 500mA
Battery	Battery pack NiMH 1.2 V, 1600mAh
	Charging time- 3 to 4 h
	Maximum operation time: approx. 8 h
	Charging temperature: +10 °C to +35 °C

13. Product markings:

Symbol or Number	Meaning
XXZXXXXX	Serial number
Quick Response Code	Contains serial number
CE	With this mark, we confirm that the product complies with the requirements set out in the EC Directives and has been subjected to the specified testing procedures.
UK CA	**UKCA: United Kingdom Conformity Assessed** With this mark, we confirm that the product complies with the requirements set out in the UK Designated Standards.
	This electrical instrument may not be disposed of in household waste.

14. Warranty:

We shall not be liable for the consequences of improper handling, use, servicing, operating or unauthorized repairs of the instrument or for the consequences of normal wear and tear, especially of wearing parts such as pistons, seals, valves and the breakage of glass. The same applies for failure to follow the instructions of the operating manual. We are not liable for damage resulting from disassembly beyond that described in the operating manual or if non-original spare parts or components have.