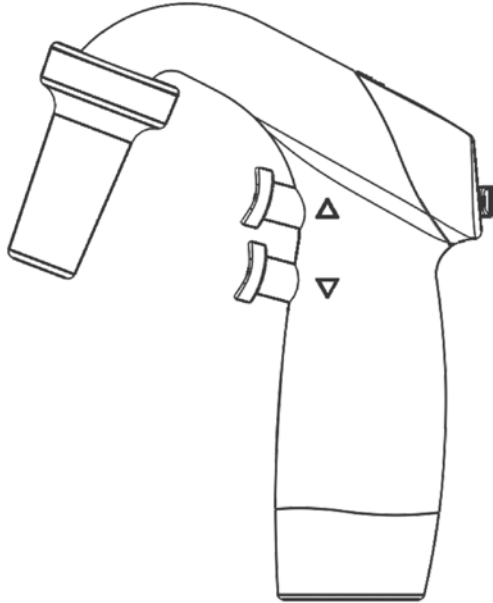


OPERATION MANUAL



LLG-Pipette Controller easy

Thank you very much for purchasing
this Pipette Controller.

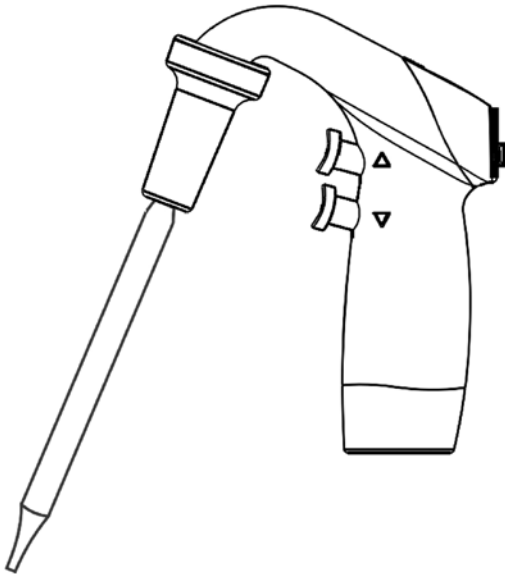
Please read the following instructions carefully
and always keep this manual within easy reach.

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1. Introduction

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



2. Scope of Delivery

- LLG-Pipette Controller easy
- Charger
- Desktop Stand
- Wall mount bracket
- Two spare membrane filters
 - 0.2 μm
 - 0.45 μm
- Operation Manual

3. Intended Use

The LLG-Pipette Controller easy 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 skilled personnel who have received the appropriate training. All users must read the operating manual carefully and must have become familiar with the device's mode of operation.



Warning for intended use

WARNING! Damage to health due to infectious health and pathogenic germs.

- When handling infectious liquids and pathogenic germs, follow the national regulations, the biological security level of your laboratory, the safety data sheet and manufacturer's application notes.
- Wear your personnel protective equipment.



WARNING! Risk of explosion due to explosive atmospheres and explosive substances.

- Do not use the pipette controller in explosive atmospheres.
- Do not operate the pipette controller in rooms where explosive substances are handled.
- Do not use the pipette controller to dispense explosive, easily flammable (flash point < 21 °C), highly flammable (flash point < 0 °C) or highly reactive substances.
- Do not use the pipette controller for dispensing substances, which could generate an explosive atmosphere.



WARNING! Damage to health due to toxic, radioactive or aggressive chemicals.

- Wear your personnel protective equipment.
- Observe the national regulations for handling these substances.
- Observe the safety data sheet and manufacturer's application notes.

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

The use of accessories and spare parts other than recommended may impair safety, functioning and precision of the device.

The device cannot be held liable or the manufacturer cannot accept any liability for damage resulting from the incorrect use or non-recommended accessories and spare parts, or from the improper use of such equipment.

- Only use accessories and original spare parts recommended by the supplier.
- **Charger Specification:** Use the charger recommended in the tool kit for pipette controller charging to impair safety and to prevent battery blast.
Input: 100-240 V~50/60 Hz, 0.3 A Max, Output: 2.4 V 500 mA

**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.

NOTICE! Damage to the device due to penetration of liquids.

- Only immerse the serological pipette into the liquid.
- Do not put the pipette controller down when the pipette tip is filled.
The pipette controller should not come in to the contact with liquid.

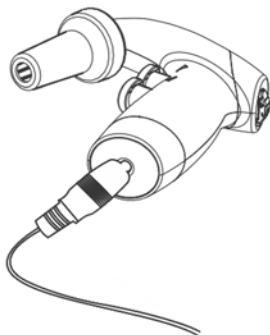
NOTICE! Damage to device due to missing pipette.

- Use the pipette controller only when a pipette has been inserted.

4. Charging

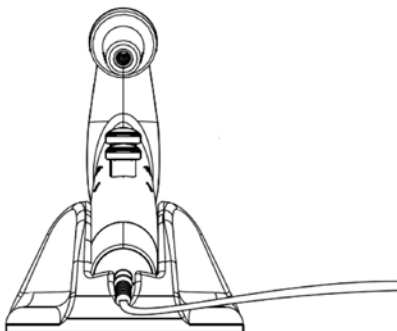
The LLG-Pipette Controller easy has a low battery LED indicator. If the LED lamp lights up, it means that the batteries are discharged and they should be charged. The original charger supplied along has protection against overcharging, short circuit & over tempered. The mains voltage must conform to the specification of charger. Use of different chargers may damage the batteries.

- Plug the charger into the Pipette Controller.
- Plug the charger into a suitable wall socket. The red indication on charger will light up indicating that the 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 and the red indicator will turn to green.
- This device has two (2) of 1000 mAH NiMH type rechargeable batteries.



Note: It is recommended to charge batteries every 3 months if the controller is not in use. Even during the charging process, use of the pipette controller is possible.

Charging on Desktop stand: The pipette controller can also be charged conveniently when it is placed on the desktop stand.



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 into 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.

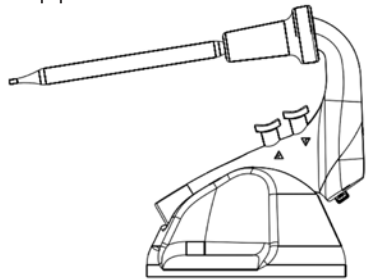
It is recommended to choose L position for less volume pipettes up to 5 ml & H position for volumes greater than 5 ml. The speed of aspirating & dispensing can also be controlled manually by controlling the finger pressure on trigger buttons. The deeper the button is pressed, the faster the liquid will be aspirated or dispensed.

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. Do not overfill the pipette. After filling the pipette above the 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.

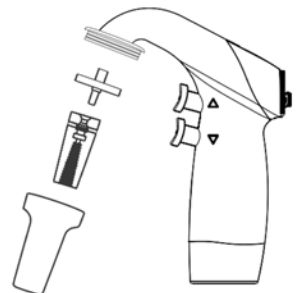
Desktop stand: the pipette controller can hold a serological pipette while resting on it.



6. Replacing the filter

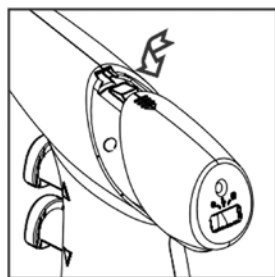
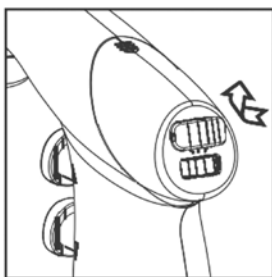
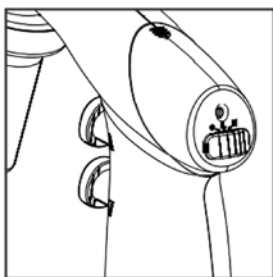
- Unscrew the nosepiece.
- Pull out the membrane filter and the silicon pipette holder.
- Rinse the silicon holder which includes a valve using a wash bottle.
- Blow liquid out of the silicon holder and leave it until it is completely dry.
- Place the new membrane filter, assemble the device in reverse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

Note: Only use genuine manufacturer recommended filters and accessories.



7. Battery Replacement

Unlike most of the other common Pipette Controllers, 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 the 3 mode switch cover as shown in the figure by applying pressure from its lower side. Now remove the batteries compartment cover by pressing embossed arrow and simultaneously sliding it back. Remove the batteries. Insert new batteries and reverse the above procedure. Put the batteries in the compartment and switch cover back into their original position.



8. Trouble Shooting

Trouble	Possible Cause	Remedy
Suction capacity is low or No aspiration	Low motor speed is selected	Increase motor speed
	Check valve is not 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
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 it

Note: If recommendations in the trouble shooting section do not solve current problems, contact your authorized dealer.

9. Ordering Information

Part code	Description
6.263 683	LLG-pipette controller easy, EU-plug
6.263 684	LLG-pipette controller easy, UK-plug
6.263 687	Battery charger with EU-plug for LLG-pipette controller easy
6.263 688	Battery charger with UK-plug for LLG-pipette controller easy
6.263 689	Desk Top Stand for LLG-pipette controller easy
6.263 698	NiMH battery for LLG-pipette controller easy, pack of 2

10. Warranty

This product is warranted to be free from defects in material and workmanship for a period of three (3) years from date of purchase.

This warranty is valid only if the product is used for its intended purpose and within the guidelines specified in this instruction manual. This warranty does not cover damage caused by accident, neglect, misuse, improper service, natural forces or other causes not arising from defects in original material or workmanship. This warranty does not cover any incidental or consequential damages, commercial loss or any other damages from the use of this product.

The warranty does not cover damage to paint or finish and defects or damages caused by physical and chemical abuse or normal wear and tear. The warranty is invalidated by any nonfactory modification, which will immediately terminate all liabilities on us for the products or damages caused by its use. The buyer and its customer shall be responsible for the product or use of products as well as any supervision required for safety. If requested the products must be returned to the distributor in well packed and insured manner and all shipping charges must be paid.

Information on the disposal of electrical and electronic devices in the European Community:

The disposal of electrical devices is regulated within the European Community by national regulations based on the European Directive 2012/19/EU on waste electrical and electronic equipment (WEEE). According to these regulations, any devices supplied after 13.06.2005 in the business to business sphere, to which this product is assigned, may no longer be disposed of in municipal or domestic waste. They are marked with the following symbol to indicate this. As disposal regulations within the EU may vary from country to country, please contact your supplier if necessary.

PRODUCT DISPOSAL



In case the product is to be disposed of, the relevant legal regulations are to be followed.

Notes

A large grid of graph paper for taking notes, consisting of 20 columns and 30 rows of small squares.



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