



O-PETTE

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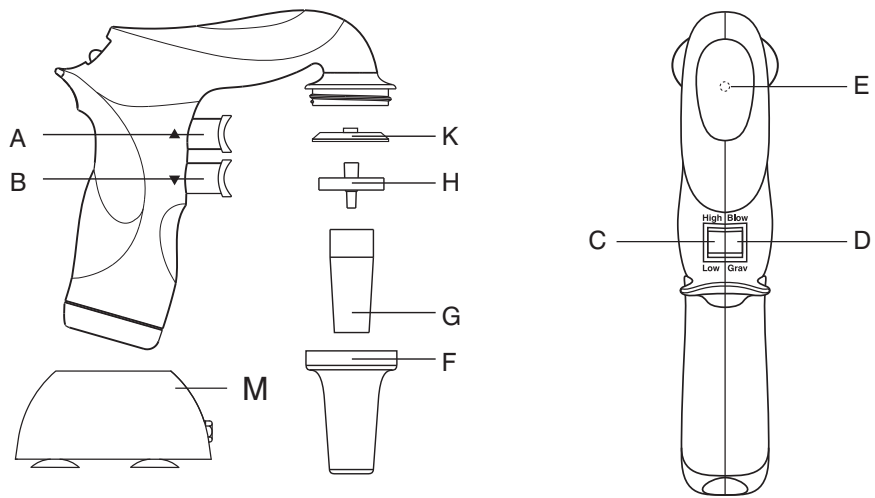
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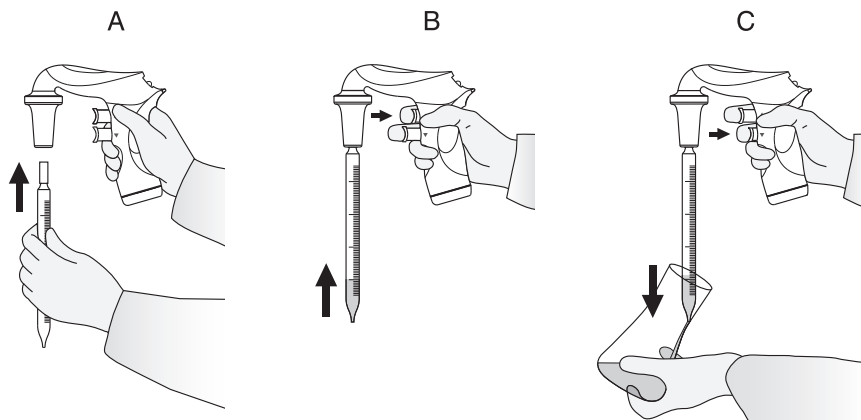
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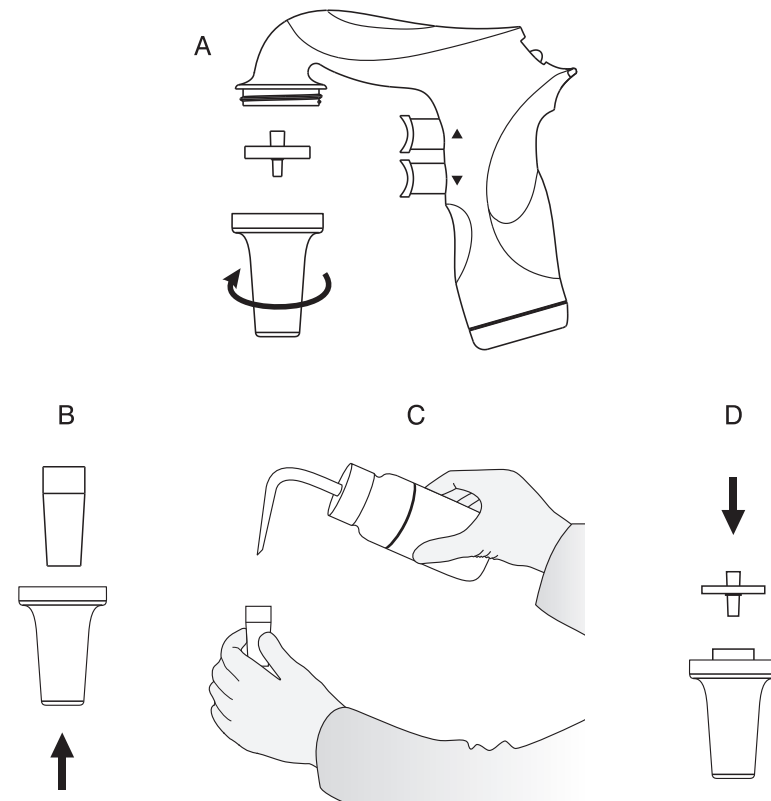
- A - Aspiration button - PP
- B - Dispense button - PP
- C - Suction speed switch - PP
- D - Dispense mode switch - PP
- E - Indicator
- F - Nosepiece - PP
- G - Pipette holder - SI

- H - Membrane filter - PP / PTFE
- J - Charger 9V: EU, US, UK, AU
INPUT: 100-240V, 50/60Hz, 0.3A
OUTPUT: AC DC 9V, 230mA
- K - Connector gasket - SI
- M - Charging stand
NiMH battery
Casing - PP

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3



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1 - INTRODUCTION

The pipette controller is designed for pipetting liquids with serological pipettes. The device works with all types of glass and plastic serological pipettes in the range of 0.5 ml to 100 ml.

The pipette controller is equipped with replaceable membrane filters that protect against cross contamination. The filters also prevent contamination of the mechanism by reagent vapors.

The pipette controller features a two speed control system which enables very fast dispensing of large volumes and precise measuring of small volumes.

Fig. 1 shows the external parts of the pipette controller and a description of the materials used in the construction.

2 - WORK SAFETY INSTRUCTIONS

Before operating the pipette controller, all users should read these instructions carefully.

Using the pipette controller a manner inconsistent with the operating instructions may result in damage to the device.

Any required repairs to the pipette controller should be performed at an authorized service center. Repair elsewhere may void the warranty.

- While using the pipette controller, follow general laboratory safety guidelines. Protective clothing, goggles and gloves should be worn.
- The pipette controller shall be used for measuring liquids only in the manner specified in this manual. Liquids to be measured are limited by the chemical and mechanical resistance of the device, as well as user safety.
- The pipette controller should not be used in environments where there is a risk of explosion.
- Information and instructions provided by the reagent manufacturer must be observed.
- Use only original spare parts and accessories.
- Only the original charger, supplied by the manufacturer, should be used for charging the battery and powering the device.
- If the pipette controller malfunctions, discontinue use immediately. Clean the device in accordance with the operating instructions and contact the manufacturer for repair.
- Avoid excessive force while using the pipette controller.

3 - LIMITATIONS OF USE

- Substances that damage PP, SI, EPDM and POM should not be measured with the pipette controller.
- The pipette controller shall not be used in environments where a risk of explosion is present.
- Flammable liquids shall not be measured – in particular substances with a flash-point below 0 °C (ie ether, acetone).
- The pipette controller shall not be used for drawing acids with a concentration above 1 mol.
- The pipette controller shall not be used with substances with a temperature above 50°C.
- The ambient operating range of the pipette controller is +10 °C to +35 °C.

4 - GETTING STARTED

Before operation be sure that the pipette controller battery is charged. When the pipette controller starts working very slowly it means that the recharging is necessary. The indicator lights when the charger is connected.

The pipette controller must be charged before use. Alternatively, the charger can be connected and the pipette controller can be used while charging. Only the original charger should be used.

The line voltage must conform to the specification on the charger.

It is recommended to recharge the battery for at least 11 hours.

Follow the instructions in section 8 of this manual for charging the pipette controller.

5 - ASPIRATING AND DISPENSING LIQUIDS

Attaching a pipette

Before attaching a pipette, check for damage. The pipette should be free of dents, chips and sharp edges on the section that is held by the pipette controller. Be sure that this section is dry.

Hold the pipette close to the end that is to be inserted in the pipette controller and push it into the pipette holder until resistance is felt (fig. 2A). Do not apply excessive force as this may cause the pipette to break and injure the user. A pipette that is correctly seated in the holder will not tilt to the side.

After seating the pipette, hold the pipette controller so that the pipette is in a vertical position, pointing downward. It is possible to lay the pipette controller on the wings with a pipette attached. It is not recommended to leave a pipette attached to the device for an extended period of time (ie overnight).

Do not lay the pipette controller on its side while there is liquid in the pipette.

Filling the pipette

Before aspiration is started, set the suction speed using the HIGH/LOW switch (fig. 1C).

- HIGH position – fast aspiration
- LOW position – slow aspiration

It is recommended too choose the LOW position for pipettes with a volume of up to 5 ml, and the HIGH position for pipettes with a volume greater than 5 ml. Holding the pipette controller so that the pipette is in a vertical position, immerse the pipette end in the liquid to be drawn up (fig. 2B) and press the aspiration button gently. The filling speed depends on how much pressure is applied to the aspirating button. The more pressure applied, the faster the liquid is drawn up.

It is recommended to draw a slightly greater volume of liquid than is required. Adjust the aspiration speed while filling as to not overfill the pipette.

Setting the volume

After filling the pipette, wipe the tip with absorbent paper to remove any liquid from the outside surface of the pipette. The volume can then be precisely adjusted. Gently press the dispensing button (fig. 2C) until the meniscus of the liquid in the pipette aligns exactly with the required volume mark. The speed of aspiration can be adjusted by varying the pressure applied.

Emptying the pipette

Tilt the receiving vessel and place the pipette tip in contact with the vessel wall. Gently press the dispense button (fig. 2C). The speed of dispensing is adjusted by varying the pressure on the dispensing button. The greater the pressure applied, the faster the liquid flow.

The pipette controller has two dispensing modes. The modes are selected with the GRAV/BLOW switch (fig. 1D).

- GRAV position – When the GRAV mode is selected, the liquid in the pipette is dispensed by gravity flow only. Flow rate is adjusted by the pressure applied to the dispense button.

Attention:

During gravimetric dispensing the pipette is not completely emptied due to the characteristics of pipettes used with the pipette controller.

- BLOW position - the liquid in the pipette is dispensed in constrained mode - the liquid is forced out of the pipette. The dispensing speed is regulated by the depth of pressing applied to the dispense button. When the button is pressed to the end position the rapid emptying with the blow out is executed.

Attention:

Due to the characteristics of graduated pipettes, in order to diminish the splashing of the liquid in the last stage of emptying the pipette, the speed of the dispensing should be reduced.

6 - TROUBLESHOOTING

If the pipette controller fails to function properly, refer to the troubleshooting table below to isolate and remedy the problem.

Problem	Possible cause	Action
The pipette falls out (the holding force of the pipette is too small), or tilts to the side too much.	The pipette holder is dirty or wet (fig. 1G).	Take the pipette out of the holder. Disassemble the pipette holder and check for mechanical damage. Clean, wash and dry the pipette holder.
	The pipette holder is damaged.	If the holder is damaged, replace it with a new one.
The pump is working, but the pipette controller does not draw liquid or draws liquid very slowly.	The filter is dirty (fig. 1H).	Take the pipette out of the holder. Disassemble the pipette holder. Take out the filter - check it for impurities - if it is dirty, replace it with a new one.
	The pipette holder is blocked (fig. 1G).	Check the holder for blockage - remove any obstacles, then rinse it and dry.

The pipette holder and/or the connector gasket is damaged (fig. 1K).	Check the pipette holder and the connector gasket for mechanical damage - if there is damage, replace the damaged part with a new one.
Liquid leaks from the pipette (the aspiration and the dispense buttons are not pressed)	<p>The pipette is damaged. Check the pipette for damage - cracks, dents - if present, replace the pipette with a new one.</p> <p>The pipette is inserted incorrectly. Check whether the pipette has been correctly inserted in the holder.</p> <p>The pipette holder, the filter, or the connector gasket is installed incorrectly. Check whether all parts are present and correctly installed.</p> <p>The pipette holder and/or the connector gasket is damaged (fig.1G, fig. 1K). Check the pipette holder and the connector gasket for mechanical damage - if there is damage, replace the damaged part with a new one.</p>

If the problem cannot be remedied using the above guide, contact Ornat to obtain service. Before returning the pipette controller for service, it should be cleaned and decontaminated. A decontamination form and RA number must be obtained from Ornat before sending for service.

7 - REPLACING THE FILTER AND CLEANING THE HOLDER

Follow the safety instructions in section 2 when disassembling the device.

If, over time, the drawing efficiency of the pipette controller deteriorates, the cause may be a dirty filter. If this is the case, the filter must be replaced following the directions below and illustrated in figure 3.

- Remove the pipette.
- Unscrew the nosepiece (fig. 3A).
- Remove the membrane filter (fig. 3A) and the pipette holder (fig. 3B).
- Rinse the holder using a wash bottle (fig. 3C).
- Blow any remaining liquid out of the holder and allow it to dry completely before reassembling.
- Install new membrane filter (fig. 3D) and assemble the device in reverse order.

8 - CHARGING THE BATTERY

When the pipette controller starts working very slowly it means that the recharging is necessary. The indicator lights when the charger is connected. It is also possible to charge the batteries with the charging stand delivered with the product (fig. 1M).

Note:

The pipette controller should be charged only with the original charger. The line voltage must conform to the specification on the charger. Use of a charger other than that supplied may damage the battery of the pipette controller.

Charging:

1. Ambient charging temperature 10° to 30°C.
2. Charging is accomplished with the charger included with the pipette controller.
3. A full charge is accomplished in 11 – 14 hours.

The pipette controller has a NiMH battery with a capacity of 1300 mAh.

The service life of the battery is approximately 1000 charging cycles. For optimum battery life, the battery should be completely discharged before recharging. It is recommended to recharge the battery for at least 11 hours.

Note:

Allow the battery to charge fully and do not interrupt the charging cycle. If the cycle is interrupted, the battery should not be recharged until it is completely discharged.

9 - MAINTENANCE

The pipette controller requires no routine maintenance. The external parts of the pipette controller may be cleaned by wiping down with isopropyl alcohol.

The nosepiece and pipette holder may be autoclaved at 121 °C for 20 minutes. The filters included in the set may be sterilized by autoclaving at 121 °C for no more than 15 minutes.

Attention: After autoclaving, allow the silicone pipette holder to cool down.

Storage

Store the pipette controller in a dry place. The storage temperature should be between -20 °C and +50 °C.

When not in use, the pipette controller should be placed in the bench stand included with the unit or stored using the optional wall hanger.

The wall hanger may be fitted on a wall on a hook or stuck with the adhesive tape attached to the hanger. The surface for the hanger should be smooth, clean and degreased. After cleaning the surface, it should be wiped with isopropyl alcohol and left to dry. Before sticking the wall hanger remove the protective film from the tapes attached to the hanger. The hanger should be stuck by pressing it hard to the surface and by leaving it attached without any load for a period of 24 hours.

Note: Do not store the pipette controller with a pipette attached.

10 - COMPONENTS

The pipette controller pipette controller is supplied with the following components:

- Charger
- Charging stand
- Membrane filter 0.2 μm – 2 pieces
- Instruction manual
- Wall hanger

11 - ORDERING INFORMATION

The pipette controller comes with a universal charger and a set of adapters in different versions: EU, US, UK and Australia. Choose your country used adapter and connect to the housing. To mount, remove or change the adapter refer to fig. 4.

12 - SPARE PARTS

Item in fig.1	Description
F	Nosepiece
G	Pipette holder
H	Membrane filter 0.2 μm
	Membrane filter 0.45 μm
J	Universal charger 9V: EU, US, UK, AU
K	Connector gasket
M	Charging stand
N	Wall hanger

13 - PRODUCT DISPOSAL

According to Directive 2012/19/EU of the European Parliament and of the Council of 4th of July 2012 on waste electrical and electronic equipment as amended, pipette controller is marked with the crossed-out wheeled bin and must not be disposed of with domestic waste.



In accordance with the requirements of Directive 2006/66/EC of 6 September 2006 on batteries and accumulators and waste batteries and accumulators, batteries must be disposed of in accordance with national regulations.

The crossed out wheeled bin symbol is printed in the product instruction manual and on the packaging. In order to recycle the used product, send it to the nearest service centre or to the manufacturer. For contact details please go to www.ornat.co.il

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