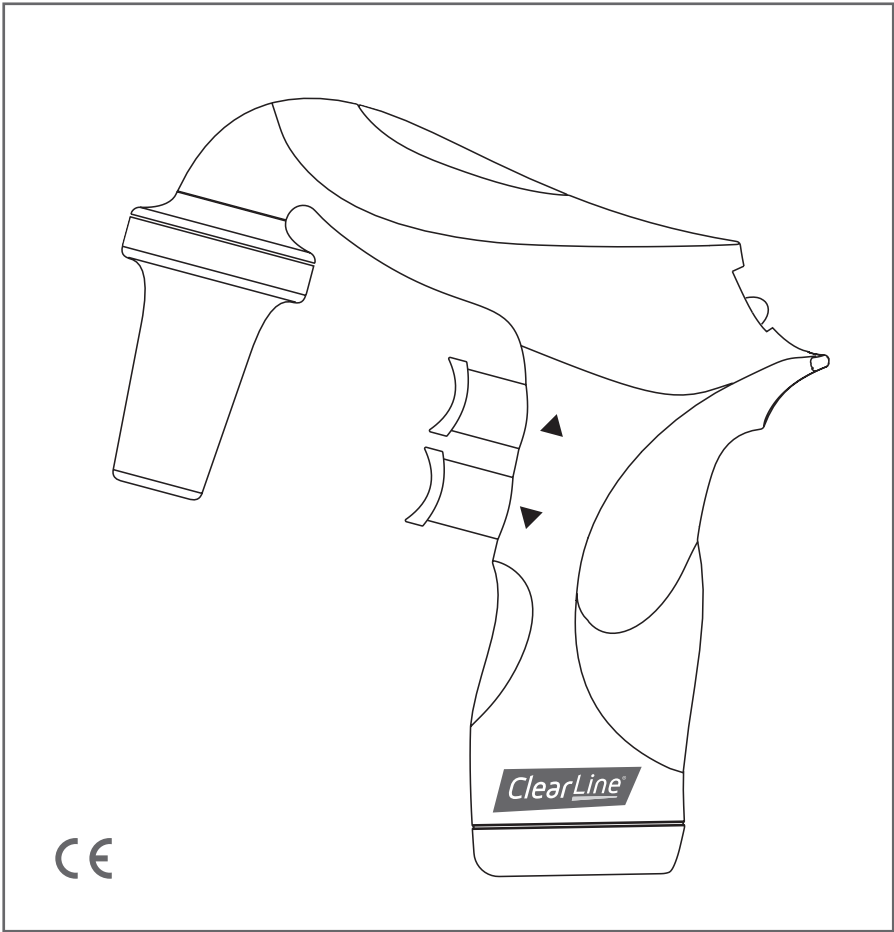
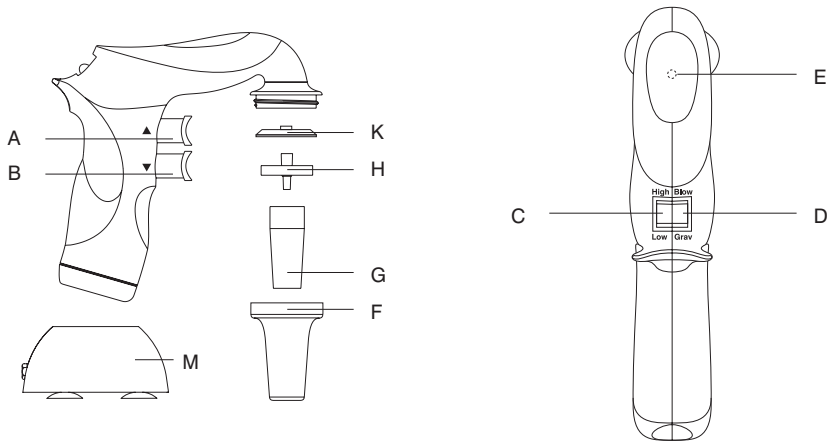


ClearLine®



1**ENGLISH**

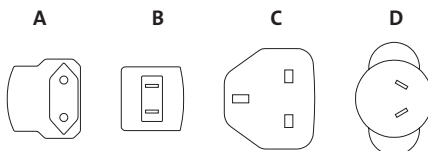
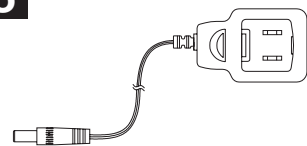
- A - Aspiration button
- B - Dispense button
- C - Suction speed switch - PP
- D - Dispense mode switch - PP
- E - Low battery indicator
- F - Nosepiece - PP
- G - Pipette holder - SI
- H - Hydrophobic filter - PP / PTFE
- K - Connector gasket
- M - Charging stand

NiMH battery
Casing - PP

FRANÇAIS

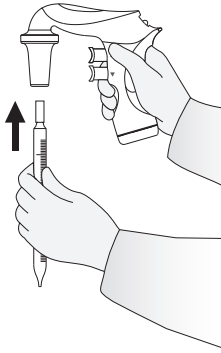
- A - Bouton d'aspiration
- B - Bouton de distribution
- C - Selecteur de vitesse
- D - Selecteur du mode de distribution
- E - Indicateur de charge
- F - Nez en PP
- G - Embout en Silicone
- H - Filtre hydrophobe en PTFE/PP
- K - Joint connecteur
- M - Station de charge

Accumulateur NiMH
Support - PP

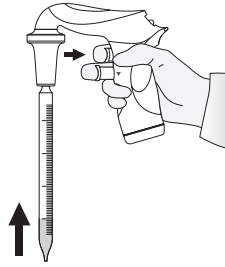
4**5**

2

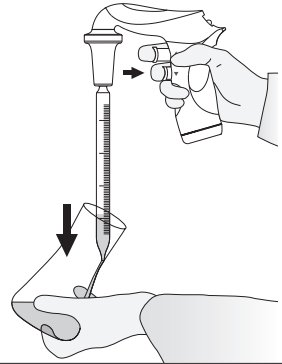
A



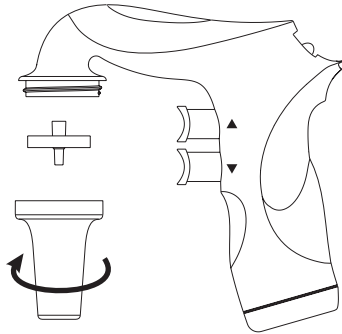
B



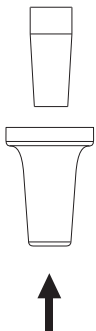
C

**3**

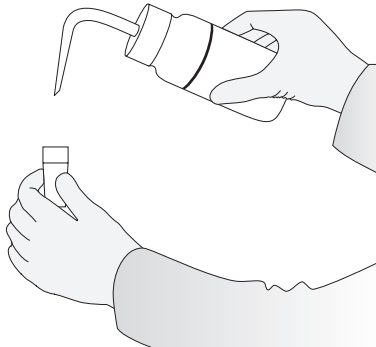
A



B



C



D

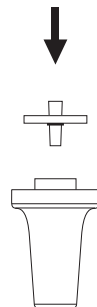


Table of Contents

- 1. Introduction5
- 2. Work Safety Instructions5
- 3. Limitations of Use5
- 4. Getting Started.....6
- 5. Aspirating and Dispensing Liquids.....6
- 6. Troubleshooting7
- 7. Replacing the Filter8
- 8. Charging the Battery8
- 9. Maintenance9
- 10. Components.....10
- 11. Ordering Information10
- 12. Spare Parts10
- 13. Product Disposal10

1. Introduction

The ClearLine pipette controller is a device intended for pipetting liquids with the use of measuring pipettes. It can work with all types of glass or plastic pipettes in the volume range from 1 ml to 100 ml.

The ClearLine is equipped with replaceable membrane filters, which protect the mechanism of the device from contamination by the vapours of solutions being drawn into the pipette.

The two-step drawing speed control system enables both very fast dispensing of large volumes and precise measuring of small volumes.

Fig. 1 shows the external parts of the pipette controller with a description of the materials used.

2. Work Safety Instructions

Before starting the work with the ClearLine every user should read these operating instructions carefully.

Using the device inconsistently with the operating instructions may result in damaging the device.

The device should be maintained only at an authorised service centre, otherwise the manufacturer will be relieved from any liability under the warranty.

- During the work with the ClearLine general safety regulations regarding risks related with laboratory work should be observed. Protective clothing, goggles and gloves should be worn.
- The ClearLine shall be used only for measuring liquids in conditions specified by the manufacturer, which are limited due to the chemical and mechanical resistance of the device, as well as the user safety.
- The pipette controller should not be used in an environment where explosion risk is present.
- The information and instructions provided by the manufacturers of the reagents must be observed.
- Only original spare parts and accessories, recommended by the manufacturer, shall be used.
- Only the original charger, supplied by the manufacturer, shall be used for charging the battery.
- In case of incorrect functioning of the pipette controller, work shall be stopped. The device shall be cleaned in accordance with the operating instructions and/or sent for repair to an authorised service centre.
- In the case of mechanical damage to the casing, the device shall be immediately sent for repair to an authorised service centre.
- The use of excessive force during work shall be avoided.

3. Limitations of Use

- The ClearLine may not be used for measuring substances, the vapours of which damage the following plastics: PP, SI, ABS, EPDM, POM.
- The pipette controller may not be used in an environment where explosion risk is present.
- Flammable liquids shall not be measured - in particular substances with flash-point below 0 °C (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 for drawing solutions with a temperature above 50 °C.
- The pipette controller may work in temperature range from +10 °C to +35 °C.

4. Getting Started

Before starting the work check whether the battery inside the pipette controller has not become discharged. To check this press the aspiration button (fig. 1A) and watch whether the low battery indicator lights up (fig. 1E). If the indicator does not light up, the pipette controller is ready for work.

If the low battery indicator lights up, the pipette controller shall be left for charging (recommended action), or the charger shall be connected and the work continued during charging. The ClearLine may be charged only with the original charger.

The mains voltage shall conform with the specification on the charger.

Charging shall be done in accordance with section 8 of the instruction manual.

5. Aspirating and Dispensing Liquids

Attaching a pipette

Before attaching a pipette check whether the pipette is not damaged, has no dents or sharp edges in the gripping part. Check whether the gripping part is dry.

The pipette shall be gripped as close to the upper end as possible and carefully inserted into the pipette holder until resistance is noticed (fig. 2A). Do not apply excessive force so as not to damage thin pipettes and to avoid injury risk. A pipette that has been correctly attached and sealed in the holder should not tilt to the sides.

After attaching a pipette hold the device in such a way as to keep the pipette in vertical position. The shape of the device casing makes it possible to put aside the pipette controller with an attached pipette. After finished work it is recommended not to leave the device with an attached pipette for a longer period, for example overnight or over a weekend.

Do not put aside the pipette controller if there is liquid in the pipette.

Filling the pipette

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

- HIGH position - fast aspirating
- LOW position - slow aspirating

It is recommended to choose the LOW position for pipettes with a volume up to 5 ml, and the HIGH position for pipettes with a volume greater than 5 ml. Holding the pipette controller in such a way that the pipette is in vertical position immerse the pipette end in the liquid to be drawn up (fig. 2B), and press the aspiration button gently. The pipette filling speed depends on how deep the aspiration button has been pressed. The deeper the button is pressed the faster the liquid is aspirated into the pipette.

It is recommended to draw a slightly greater liquid volume than required (due to meniscus above the required volume mark), adjusting the aspiration speed, particularly in the final filling stage, so as not to overfill the pipette.

Setting the volume

After filling the pipette its end shall be dried with absorbent paper, that does not leave impurities, in order to remove the solution rests from the outside surface of the pipette. Then set the required liquid volume precisely. Pressing the dispense button gently (fig. 2C), dispense the excessive liquid from the pipette until the meniscus of the liquid aligns exactly with the required volume mark on the pipette.

Emptying the pipette

Holding the vessel in inclined position, place the pipette end in contact with the vessel wall and press the dispense button gently (fig. 2C). The dispensing intensity may be adjusted depending on how deep the dispense button has been pressed. The deeper the button is pressed the faster the outflow of liquid from the pipette.

The ClearLine has two dispense modes. The dispense mode is selected with the GRAV/BLOW switch (fig. 1D).

- GRAV position - the dispense is effected in gravity mode, which means that the liquid flows out of the pipette by its own weight. The outflow speed is adjusted depending on how deep the dispense button has been pressed.
- BLOW position - the dispense is effected in gravity mode like in the GRAV mode, however, when the dispense button is pressed to the end position, the pump is started and fast emptying of the pipette with a blow is effected.

Attention:

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

6. Troubleshooting

If during your work the functioning of the pipette controller is incorrect, check the cause and remove the fault.

| 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 and/or the connector gasket is damaged (fig. 1K). | Check the pipette holder and the connector gasket for mechanical damage - if there is a damage, replace the damaged part with a new one. |

| Problem | Possible cause | Action |
|--|---|--|
| Liquid leaks from the pipette (the aspiration and the dispense buttons are not pressed). | The pipet is damaged. | Check the pipette for damage - cracks, dents - if present, replace the pipette with a new one. |
| | The pipet is inserted incorrectly. | Check whether the pipette has been correctly inserted in the holder. |
| | The pipette holder, the filter, or the connector gasket is installed incorrectly. | Check whether all parts are present and correctly installed. |
| | 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. |

If the above actions do not remedy the incorrect functioning of the pipette controller, the device shall be sent to Dominique Dutscher service.

Before sending the product should be cleaned and decontaminated.

7. Replacing the Filter

Note: The work safety instructions given in section 2 shall be observed when disassembling the pipette controller.

The filter replacement is necessary, if drawing efficiency deterioration is observed.

The direct reason may be dirty filter after a long period of use.

The procedure is shown in (fig. 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 liquid out of the holder and leave it until it is completely dry.
- Install new membrane filter (fig. 3D) and assemble the device in reverse order.

8. Charging the Battery

The ClearLine has a low battery indicator. If the control lamp (fig. 1E) lights up, when the aspiration button is pressed, it means that the battery is discharged and should be charged. It is also possible to charge the batteries with the charging stand delivered with the product (fig. 1M).

Note:

The ClearLine may be charged only with the original charger. The mains voltage must conform with the specification on the charger.

Using other chargers than the original one may damage the battery of the pipette controller.

Charging the battery in the pipet controller is controlled by a time circuit, which controls the entire process. When the battery has been charged, the charging circuit disconnects automatically. This is indicated by the control lamp (fig. 1E), which shines continuously.

Charging:

1. Charging temperature: 10 °C to 35 °C.
2. Charging is done with the charger included with each pipette controller. Battery charging is signalled by the control lamp, which flashes during charging.
3. Full charging time: 11-14 hours.
4. The charging condition is signalled by the control lamp, which starts shining continuously when the charging is complete.

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

The service life of the battery: approx. 1000 charging cycles, if used correctly. It is not possible to overcharge the battery, if all instructions of the manufacturer are followed.

Note:

Charging shall not be interrupted. If the charging process is interrupted, the next charging may take place after the battery has been completely discharged.

9. Maintenance

Cleaning

The ClearLine does not require any maintenance. The external parts of the pipette controller may be cleaned with a swab moistened with isopropyl alcohol.

The nosepiece and the pipette holder may be autoclaved at 121 °C for 20 minutes. The filters included in the set may be sterilised by autoclaving at 121 °C for not more than 15 minutes.

Ultra violet (UV) sterilization

The outer body of the pipet controller is UV resistant, which was confirmed by many tests. The recommended distance from the radiation source to exposed element should be not less than 50 cm.

Prolonged and very intense UV exposure can cause de-coloration of pipet controller parts, without affecting its performance.

Storage

The ClearLine shall be stored in a dry place. The allowable storage temperature: -20°C to +50 °C.

During breaks in the work the pipette controller shall be placed in the wall hanger included with the pipette controller.

The pipetting 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. Before sticking the pipetting hanger remove the protective film from the tapes attached to the hanger.

Note:

Do not store the pipette controller with a filled pipette.

10. Components

The ClearLine pipette controller is supplied with the following components:

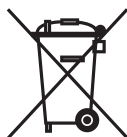
- Universal power supply
- Charging stand
- Wall mount
- Membranefilter 0.2 µm
- Instruction manual

11. Ordering Information

The pipet controller (Cat. No. 060863) comes with a universal charger and a set of adapters in different versions: EU, US, UK, and AUS (fig. 4 and 5). Choose your country's adapter and connect to the housing.

12. Spare Parts

| Item in fig.1 | Part name | Catalogue no. | Number of pieces in pack |
|---------------|--|---------------|--------------------------|
| F | Nosepiece grey for ClearLine pipette controller | 060873 | 1 |
| G | Pipette holder silicone for ClearLine pipette controller | 060874 | 1 |
| H | Hydrophobic PTFE filter 0,2 µm for ClearLine pipette controller | 060875 | 1 |
| | Hydrophobic PTFE filter 0,45 µm for ClearLine pipette controller | 060876 | 1 |
| K | Connector gasket for ClearLine pipette controller | 060877 | 1 |
| M | Charging stand for ClearLine pipette controller | 060878 | 1 |

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. For information on product recycling, please contact your nearest service center or the manufacturer.