



# Eppendorf Pipet Helper®

**Operating Manual**

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# 1 Operating instructions






## 1.1 Using this manual

- ▶ Read this operating manual completely before using the device for the first time. Observe the instructions for use of the accessories where applicable.
- ▶ This operating manual is part of the product. Please keep it in a place that is easily accessible.
- ▶ Enclose this operating manual when transferring the device to third parties.
- ▶ The current version of the operating manual for all available languages can be found on our webpage [www.eppendorf.com/manuals](http://www.eppendorf.com/manuals).

## 1.2 Danger symbols and danger levels

### 1.2.1 Danger symbols


The safety instructions in this manual have the following danger symbols and danger levels:

	<b>Biohazard</b>		<b>Toxic substances</b>
	<b>Cuts</b>		<b>Material damage</b>
	<b>Hazard point</b>		

### 1.2.2 Danger levels

<b>DANGER</b>	Will lead to severe injuries or death.
<b>WARNING</b>	May lead to severe injuries or death.
<b>CAUTION</b>	May lead to light to moderate injuries.
<b>NOTICE</b>	May lead to material damage.

## 1.3 Symbols used

Depiction	Meaning
1.	Actions in the specified order
2.	
▶	Actions without a specified order
•	List
<i>Text</i>	Display or software texts
	Additional information

## 2 Safety

### 2.1 Intended use

The pipette controller is a product for general laboratory use intended for dispensing liquids in combination with the appropriate pipettes. In-vivo applications (applications in or on the human body) are not allowed. The pipette controller may only be operated by trained and skilled personnel who have received the appropriate training. All users must have read the operating manual carefully and familiarized themselves with the device's mode of operation.

### 2.2 Warnings for intended use

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#### **WARNING! Damage to health due to infectious liquids and pathogenic germs.**

- ▶ When handling infectious liquids and pathogenic germs, observe the national regulations, the biosafety level of your laboratory, and the manufacturers' Safety Data Sheets and application notes.
- ▶ Wear your personal protective equipment.
- ▶ Consult the "Laboratory Biosafety Manual" (source: World Health Organization, Laboratory Biosafety Manual, as amended) for comprehensive regulations on the handling of germs or biological material of risk group II or higher.



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

- ▶ Wear your personal protective equipment.
- ▶ Observe the national regulations for handling these substances.
- ▶ Observe the manufacturers' Safety Data Sheets and application notes.



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

The use of accessories and spare parts other than those recommended by Eppendorf may impair the safety, functioning and precision of the device. Eppendorf cannot be held liable or accept any liability for damage resulting from the use of accessories and spare parts other than those recommended or from improper use.

- ▶ Only use accessories and original spare parts recommended by Eppendorf.



#### **CAUTION! Danger to people due to grossly negligent 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.
-

### 3 Product description

#### 3.1 Product overview

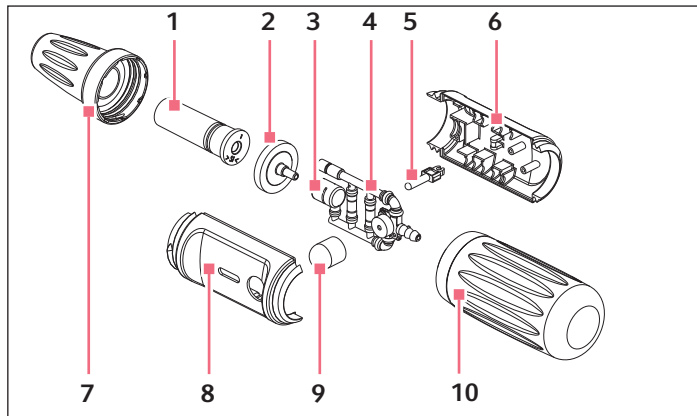


Fig. 3-1: Main illustration

1 Pipette adapter

2 Membrane filter

3 Filter adapter

4 Valve unit

5 Lever

6 Lower part of housing with batch number

7 Aspirating cone

8 Upper part of housing

9 Blow-out bulb

10 Aspirator bulb

### 3.2 Delivery package

Quantity	Description
1	Pipet Helper (with inserted membrane filter)
1	Membrane filter 3.0 µm
1	Operating manual

### 3.3 Warranty

For warranty claims, contact your local Eppendorf sales partner. If the Pipet Helper is misused, no warranty claim may be made. All wear parts are excluded from warranty.

### 3.4 Materials



**NOTICE!** Aggressive substances may damage components, consumables and accessories.

- ▶ Check the chemical resistance before using organic solvents or aggressive chemicals.
- ▶ Only use liquids whose vapors do not attack the materials used.

The Pipet Helper assemblies are made of the following materials:

Component	Material
Housing, aspirating cone	Polypropylene (PP)
Aspirator bulb, blow-out bulb, filter adapter, pipette adapter, tubing and valves	Silicone
Filter membrane, valve ball	Polytetrafluorethylene (PTFE)

If handled properly, the liquid will remain in the serological pipette and none of the components listed above will come into contact with the liquid.

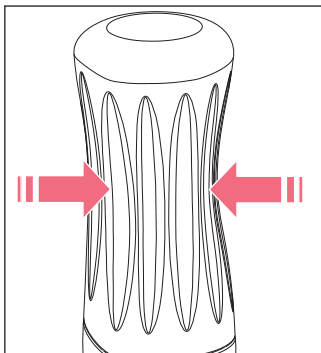
### 3.5 Features

The Pipet Helper is a manual pipette controller. You can pipette with measuring pipettes, volumetric pipettes, and blow-out pipettes (Pasteur pipettes are unsuitable). The pipettes can be made of glass or plastic. Via a valve unit, the liquid is aspirated with underpressure and then dispensed gravimetrically.



## 4 Operation

### 4.1 Venting the aspirator bulb



- ▶ Squeeze the aspirator bulb.

### 4.2 Inserting the pipette



**WARNING! Risk of cuts from shattered glass pipettes.**

Glass pipettes are fragile and may cause severe cuts if they break.

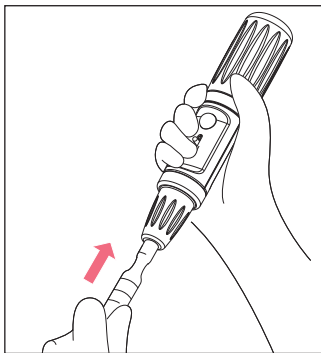
- ▶ Do not use force to insert glass pipettes.
- ▶ Wear your personal protective equipment.
- ▶ Use a towel to protect the hand used for insertion.

#### Prerequisites

- Aspirator bulb vented.

**Operation**

Eppendorf Pipet Helper®  
English (EN)



1. Hold the pipette by the upper part.
2. Carefully insert the pipette into the aspirating cone until the pipette is positioned securely and air-tight. Liquid can be aspirated.

### 4.3 Aspirating liquid

For the complete filling of large pipettes, the aspirator bulb has to be vented several times.



**NOTICE! Damage to the device due to a missing or damaged membrane filter.**

- ▶ Do not use the pipette controller without the membrane filter inserted.
- ▶ Replace a damaged membrane filter.

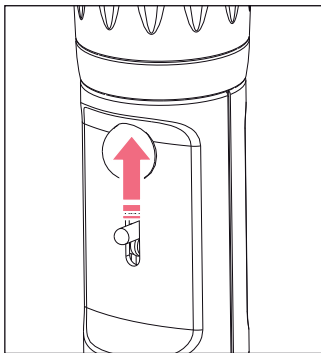


**NOTICE! Damage to device due to penetration of liquid.**

- ▶ Only immerse the pipette tip in the liquid.
- ▶ Do not put the pipette down when the pipette tip is filled.
- ▶ The pipette itself may not come into contact with the liquid.



Observe the type and particular handling of the pipette used.



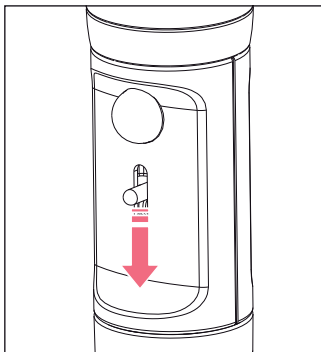
1. Immerse the pipette into the liquid.
2. Carefully push the lever upwards.  
The further the lever is pushed upwards, the faster the liquid is aspirated.
3. Draw liquid until the desired scale marking is reached.
4. Wipe the pipette against the tube inner wall and pull it out.

## 4.4 Dispensing liquid

### 4.4.1 Flow-out

A valve will be opened during flow-out.

- i** Observe the type and particular handling of the used pipette.



1. Almost vertically place the pipette tip on the tube inner wall.
2. Press the lever downward.  
The liquid drains from the pipette as a result of atmospheric pressure.

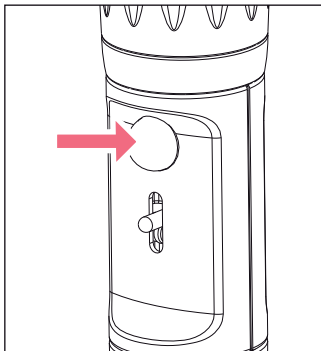
#### 4.4.2 Blow out

##### Prerequisites

- Only blow-out pipettes (see labeling on the pipette).

Remaining liquid can be removed by means of blow out.

- i** Observe the type and particular handling of the used pipette.



1. Almost vertically place the pipette tip on the tube inner wall.
2. Press the lever downward.  
The liquid drains from the pipette as a result of atmospheric pressure.
3. Press the blow-out bulb.  
The remaining liquid is blown out.

## 5 Troubleshooting

### 5.1 General errors

Problem	Cause	Solution
Liquid drips out of the pipette.	• Membrane filter inserted incorrectly.	▶ Remove membrane filter and reinsert it.
	• Pipette not inserted far enough.	▶ Continue to carefully insert the pipette.
	• Valve unit damaged.	▶ Replace valve unit.
	• Pipette damaged.	▶ Replace pipette.
Aspiration capacity reduced.	• Membrane filter wetted.	▶ Replace membrane filter.
	• Valve unit damaged.	▶ Replace valve unit.
Pipette loose.	• Pipette adapter damaged.	▶ Replace pipette adapter.
Aspirator bulb vents autonomously.	• Aspirator bulb is damaged.	▶ Replace aspirator bulb.
	• Valve unit damaged.	▶ Replace valve unit.

## 6 Maintenance

### 6.1 Disassembling the Pipet Helper



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

- ▶ Wear your personal protective equipment.
- ▶ Observe the national regulations for handling these substances.
- ▶ Observe the manufacturers' Safety Data Sheets and application notes.

If liquid has entered the pipette clamp, the aspiration capacity may be decreased, or pipette clamp assemblies may be damaged. The pipette clamp must be disassembled in order to clean or replace the assemblies.

1. Unscrew aspirator bulb and the aspirating cone.
2. Remove the pipette adapter and the membrane filter.
3. Remove the membrane filter from the pipette adapter.
4. Pull apart the housing.

### 6.2 Cleaning



**NOTICE! Damage to device from unsuitable cleaning agents or sharp or pointed objects.**

Use of unsuitable cleaning agents may damage the device.

- ▶ Do not use corrosive cleaning agents, strong solvents or abrasive polishes.
- ▶ Check the compatibility with the materials used.
- ▶ Please note the information on chemical resistance.
- ▶ Do **not** clean the device with acetone or organic solvents with a similar effect.
- ▶ Do **not** use sharp or pointed objects to clean the device.



Special servicing is not required.

### 6.2.1 Cleaning the pipette controller

- i** The pipette controller may be exposed to the UV light in a sterile bench ( $\geq 254$  nm) for a certain period of time.

To clean contaminated surfaces, proceed as follows:

1. Wipe the housing using a damp cloth.
2. Disinfect surfaces using alcohol (ethanol, propanol) or a disinfectant containing alcohol.
3. Rinse the pipette adapter with cleaning liquid (e.g., water).

### 6.2.2 Autoclaving the pipette controller with steam



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**NOTICE! Damage to device due to incorrect handling.**

- ▶ Do not use any additional disinfectants, decontamination agents, or sodium hypochlorite during autoclaving or UV irradiation.
- 

The pipette controller is completely steam autoclavable.

### 6.2.3

Prerequisites

- The pipette controller is disassembled.
- The aspirator bulb is unscrewed.
- 121 °C
- 1 bar positive pressure
- 20 minutes

- i** The membrane filter can be autoclaved once.

- ▶ Autoclave all device parts

## 6.3 Exchanging the valve unit

The valve unit must be replaced when liquid has penetrated into it.

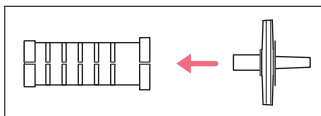
Prerequisites

The Pipet Helper is disassembled.

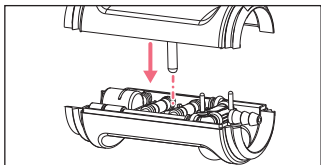
1. Insert the new valve unit into the lower part of housing.

The Pipet Helper can be assembled.

## 6.4 Assembling the Pipet Helper



1. Insert the membrane filter into the pipette adapter.
2. Insert the pipette adapter into the aspirating cone.



3. Insert the lower part of housing into the upper part of housing from above. The lever must move smoothly inside the hole.
4. Tighten the aspirating cone and the aspirator bulb.

## 6.5 Checking the leak tightness

1. Insert the pipette.
2. Fill the pipette with water.
3. Hold the pipette vertically.
4. Observe the pipette outlet for approx. 30 seconds.

**i** Do not touch the pipette.

No water may be allowed to escape.

5. If water escapes, disassemble the pipette clamp and carefully reassemble it.

## 6.6 Decontamination before shipment

If you are shipping the device to Eppendorf SE or a distribution partner of Eppendorf SE to be inspected, please note the following:



**CAUTION! Use of a contaminated device may result in personal injury and damage to the device.**

- ▶ Clean and decontaminate the device in accordance with the cleaning instructions before shipping or storage.
- 

Hazardous substances are:

- solutions presenting a health hazard
- potentially infectious agents
- organic solvents and reagents
- radioactive substances
- proteins presenting a health hazard
- DNA

1. Please note the information in the "Decontamination certificate for product returns" document.

You can find it as a PDF file on our webpage [www.eppendorf.com](http://www.eppendorf.com).

2. Enter the batch number of the pipette controller on the decontamination certificate.

3. Enclose the fully completed decontamination certificate for returned goods with the pipette controller.

4. Send the pipette controller to Eppendorf SE or a distribution partner of Eppendorf SE.

The address details of Eppendorf SE can be found on the last page of this operating manual. You will find the responsible distribution partner on

[www.eppendorf.com/worldwide](http://www.eppendorf.com/worldwide).



## 7 Technical data

### 7.1 Ambient conditions

Environment	For indoor use only. The surroundings must not be moist.
Ambient temperature	10 °C – 40 °C
Relative humidity	10 % – 95 %, non-condensing.
Atmospheric pressure	795 hPa – 1060 hPa Can be used up to an altitude of 2000 m above MSL.

### 7.2 Weight/dimensions

Weight	116 g
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### 7.3 Pipettes

Types	Measuring pipette, volumetric pipette, blow-out pipettes
Volume range	0.1 mL – 100 mL
Outer diameter port	4 mm – 9.2 mm

#### 7.3.1 Liquid

Temperature	4 °C – 40 °C
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## 8 Transport, storage and disposal

### 8.1 Transport

- ▶ Use the original packaging and the transport securing devices for transport.

	Air temperature	Relative humidity	Atmospheric pressure
General transport	-20 °C – +50 °C	10 % – 95 %	300 hPa – 1060 hPa
Air freight	-20 °C – +50 °C	10 % – 95 %	300 hPa – 1060 hPa

### 8.2 Storage

	Air temperature	Relative humidity	Atmospheric pressure
In transport packing	-20 °C – +50 °C	10 % – 95 %	700 hPa – 1060 hPa
Without transport packing	-20 °C – +50 °C	10 % – 95 %	700 hPa – 1060 hPa

## 9 Ordering Information

Order no. (International)	Order no. (North America)	Description
4423 000.010	4423000010	<b>Eppendorf Pipet Helper</b>
4423 605.010	4423605010	<b>Aspirating cone</b>
		<b>Membrane filter</b> 10 pieces
4423 601.014	4423601014	3 µm, non-sterile
4423 602.010	4423602010	<b>Aspirator bulb</b>
4423 603.017	4423603017	<b>Pipette adapter</b>
4423 604.013	4423604013	<b>Valve unit</b>

### 9.1 Serological pipettes

Order no. (International)	Order no. (North America)	Description
		<b>Eppendorf Serological Pipet 1 mL</b>
0030 127.692	0030127692	4 bags of 200 (800 pieces), sterile
		<b>Eppendorf Serological Pipet 2 mL</b>
0030 127.706	0030127706	4 bags of 150 (600 pieces), sterile
		<b>Eppendorf Serological Pipet 5 mL</b>
0030 127.714	0030127714	4 bags of 100 (400 pieces), sterile
		<b>Eppendorf Serological Pipet 10 mL</b>
0030 127.722	0030127722	4 bags of 100 (400 pieces), sterile
		<b>Eppendorf Serological Pipet 25 mL</b>
0030 127.730	0030127730	4 bags of 50 (200 pieces), sterile
		<b>Eppendorf Serological Pipet 50 mL</b>
0030 127.749	0030127749	4 bags of 40 (160 pieces), sterile



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