USER GUIDE

CAPP Maestro Electronic Pipettes

AHN

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Tips to improve pipetting technique and results

CAPP*Maestro* pipettes are designed for optimal use with CAPP EXpellPlus pipette tips. Use the appropriate pipette tip size from a high quality manufacturer.

Work in a controlled environment. Environmental factors that affect pipetting volumes include: changes in temperature, changes in air pressure, vibrations and movement within the solution that is being pipetted.

Pre-rinsing tips helps the polypropylene tip, which is naturally hydrophobic, to adjust to the aqueous solution being pipetted. CAPP recommends three pre-rinse cycles of aspiration and dispense for each sample pipetted.

To eliminate unwanted liquid on the outside of the tip, it is recommended to touch-off the outside of the tip to the side of the vessel containing the sample. Unwanted droplets hanging from the bottom of the tip can be eliminated by touching the droplet to the surface of the aqueous solution.

Proper tip immersion depth is important for aspirating an accurate sample. Immersing the tip too deeply could cause extra liquid to be aspirated because of the additional force exerted by the aqueous sample.

A shallow immersion depth could cause the tip to lose contact with the aqueous solution and aspirate a sample that is too small. The ideal tip immersion depth is between 2 to 5mm deep during sample aspiration.

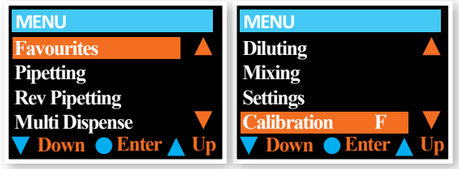
Immediately after aspirating the sample, pause for a second to allow the sample to fully equilibrate within the tip, before removing the tip from the solution.

Try to keep the pipette as vertical as possible during use. Do not incline the pipette more than 15° while aspirating or dispensing.

After dispensing the sample, touch-off the tip onto the wall of the receiving vessel container, to ensure complete delivery of the sample.

Minimize handling of the pipette and tip to avoid transferring of body heat. The transfer of heat affects the size of the air cavity in the tip and within the body of the pipette. It can affect the amount of sample aspirated and dispensed.

Additional Functions



- **Favourites** – a fast path to store, use or edit your favourite protocols
- **Reverse Pipetting** – the pipetting technique recommended for viscous liquids, whereby, after pressing the trigger once to dispense the liquid, the remaining liquid on the tip is discarded
- **Multi Dispense** – options are: *Repeat Dispense*, where you press the trigger to dispense each time; *Auto Dispense,* where you set a time gap for automatic dispense; and *Sequential Dispense*, where you dispense a different volume each time
- **Diluting** – available as simple *Diluting* or *Diluting+Mixing*
- **Mixing** – available as simple *Mixing*, *Pipette+Mixing* or *Diluting+Mixing*
- **Settings** – *Speed*, *Sound*, *User ID* or *Product ID*
- **Calibration** – Enter the factory password 0000 or choose to *Edit* the password. Choose between *1, 2, 3 point calibration,* or *Restore Factory's Calibration*

Cleaning the Pipette

External cleaning is recommended using normal cleaning agents such as water with mild detergents, antiseptic agents or 60-70% ethanol.

CAPP recommends that cleaning of internal components should be undertaken by a trained professional in an authorised CAPP service centre.

Autoclaving

The lower part of CAPP*Maestro* pipette is completely autoclavable. Autoclaving must not exceed 121°C for a period of 20 minutes.

Please contact **info@ahn-bio.com** or your closest authorised service provider for instructions on how to disassemble the lower part.

Warranty and Service

The CAPP*Maestro* pipette is guaranteed for a period of one year from the date of delivery against defects in materials and workmanship of the product.

The warranty covers the costs of defective materials and labour. The warranty does not cover common wear and tear or customer misuse.

CAPP recommends servicing pipettes on an annual basis to keep them in optimal working condition.

To maintain the validity of the warranty, CAPP pipettes must be serviced by CAPP authorised service centres.

The CAPP factory warranty is void if repairs are performed by a non-CAPP authorised service centre. A complete list of CAPP authorised service centres can be found on the CAPP website.

Your pipette has been engraved with a serial number (two letters and six digits) on the body of the pipette. Please refer to the serial number for all inquiries relating to the pipette.



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CAPP*Maestro* Electronic Pipette Technical Specification

Cat. No.	Colour Code	Volume Range [µL]	Test Volume [µL]	Inaccuracy (±) %	Inaccuracy (±) µL	Imprecision (±) %	Imprecision (±) µL
M10-1	⚪	0.2-10µL	1	2.5	0.0025	1.8	0.018
			5	1.2	0.06	0.8	0.04
			10	1	0.1	0.5	0.05
M100-1	🟡	5-100µL	10	2.5	0.25	1	0.1
			50	0.9	0.45	0.3	0.15
			100	0.7	0.7	0.2	0.2
M200-1	🟡	10-200µL	20	2.5	0.5	0.7	0.14
			100	0.8	0.8	0.3	0.3
			200	0.6	1.2	0.2	0.4
M1000-1	🔵	50-1000µL	100	2	2	0.6	0.6
			500	0.8	4	0.15	0.75
			1000	0.8	8	0.2	2
M5000-1	🟢	500-5000µL	500	2.4	12	0.6	3
			2500	0.8	20	0.2	5
			5000	0.6	30	0.15	7.5

CAPP

info@ahn-bio.com

CAPP*Maestro* Pipettes



User guide

CAPP*Maestro*

Pipette Description

The **CAPP***Maestro* pipette is designed to give you the utmost convenience and efficiency in all of your pipetting needs.

Our digital interface allows direct, easy access to each function. You can tailor the pipette to your own needs with the personalized “Favourites” menu.

We want to make this pipette easy and comfortable for you, which is why we have created a very ergonomic pipette body. The two hand-rests are specifically designed to reduce stress and minimise the risk of health issues such as CTS and tendonitis.

Features

The **CAPP***Maestro* is an electronically-driven, air-displacement pipette, designed to aspirate and dispense liquid volumes.

The **CAPP***Maestro* pipette accurately aspirates and dispenses volumes between 0.2µL and 5000µL. It accurately performs the functions of pipetting, reverse pipetting, multi-dispensing, diluting and mixing.

What’s Included?

Your package includes:

1 Battery
1 Charger
2 Tips
2 Screws
1 Screwdriver

Safety

Before using your **CAPP***Maestro*, please read the entire manual carefully.

- The **CAPP***Maestro* should only be used as a liquid dispensing device, holding volumes in the range specified on the pipette. It may only be used with compatible tips
- Do not use the pipette in environments where there may be explosive substances
- Do not use the pipette to handle explosive, radioactive or highly reactive substances
- Observe all national regulations for handling toxins, radioactive chemicals, infectious liquids and pathogenic germs
- Wear proper protective gear
- When operating with corrosive chemicals or organic solvents, first ensure that they are compatible with the pipette tips and pipette
- Any repair should only be carried out by CAPP-authorised service personnel
- Only use original spare parts and accessories

Fitting the battery

1. Make sure the battery is properly inserted into the battery compartment.



2. Secure the battery cover into the pipette by using the screwdriver and the two screws supplied in the box.



Charging the battery

1. Insert the DC-in plug of the power adaptor into the DC-in jack in the pipette (located on the right side of the pipette, above the power switch).

2. Connect the power plug of the power adaptor with the external power source.

3. The light on the power adaptor should turn red. It will turn green when the pipette is fully charged.



Operation

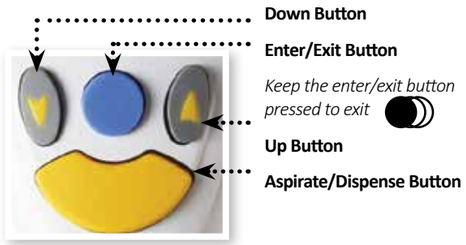
To turn the pipette on, slide the ON/OFF switch up (located on the right side of the pipette). The Product ID and User ID will appear on the screen momentarily. Then the MENU will appear on the screen.

When performing operations, hold the pipette with your hand placed between the hand rest and the thumb rest.

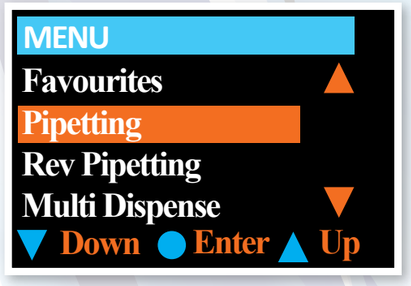
To turn the pipette off, slide the ON/OFF switch down.



Display overview



Pipetting



1. Select Pipetting from the MENU.

2. Select the desired volume by using the UP/DOWN arrow keys, then select ENTER.

3. Before operation, ensure the correct sized tip is mounted to the tip cone.

   CAPP EXpellPlus tips are recommended for optimal use with **CAPP***Maestro* pipettes.

4. Place the tip in the liquid and press the trigger to aspirate the volume.

   Immediately after aspirating the sample, pause for a second to allow the sample to fully equilibrate within the tip before removing the tip from the solution.

5. Place the tip in the sample vessel and press the trigger to dispense the liquid.

6. Press the tip ejector to discard the tip. To improve your pipetting, refer to the last page of this manual.

CAPP*Maestro* electronic pipettes have an intuitive and friendly user interface.

For further support on how to use the additional protocols, download the **CAPP***Maestro* function flowchart in the “General Literature” section of our website **www.capp.dk**, or contact **info@ahn-bio.com**

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