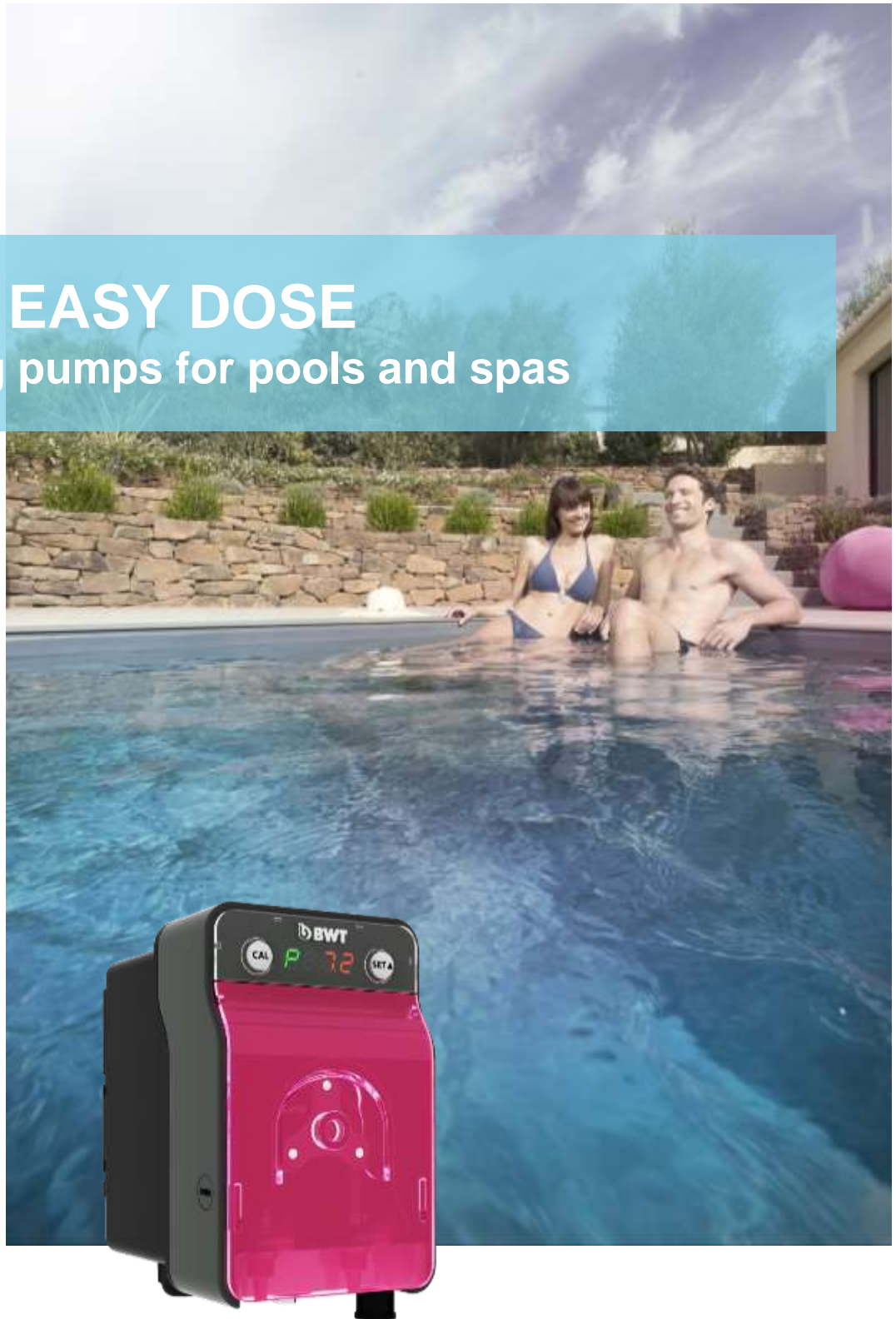


BWT EASY DOSE

Dosing pumps for pools and spas



INSTALLATION, OPERATING AND MAINTENANCE INSTRUCTIONS

To be read carefully and kept for future reference

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9. Important safety notice

Learn first aid

Commit emergency numbers to memory and display them close to the pool (FRANCE):

- Fire brigade: 18
- Ambulance: 15
- Anti-poison centre:



CAUTION

This appliance may be operated by children aged 8 years and older and persons with reduced physical, sensorial or mental capacities, or lacking experience and knowledge, if they are properly supervised or have been given proper instruction in the safe use of the appliance and have understood the risks entailed. Children should not be permitted to play with the appliance. Cleaning and upkeep to be performed by the user should not be carried out by children without supervision.

CAUTION

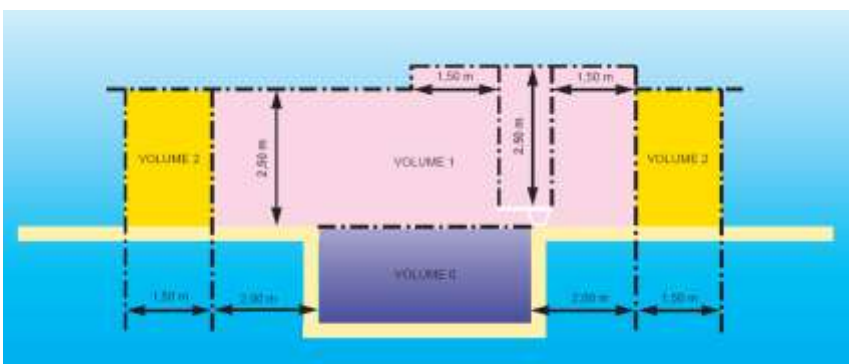
The power supply must be equipped with a means of cutting power to all active poles (live(s) and neutral) upstream from the device, in order to allow the panel to be systematically de-energised prior to any technical intervention. This mechanism must be located close to the device.

CAUTION

If the power cable is damaged, it must be replaced by the manufacturer or their authorised distributor.

CAUTION

The BWT EASY DOSE control panel must be located at a minimum distance from the pool as specified by the regulations in effect in the country of installation. In France, this distance is 3.5 metre. However, this distance may be reduced to 2.0 metres if the power supply of the device is protected by a 30 mA residual current device (volume 2 below).



Standard NF C15-100, part 7-702.

WARNIN

We strongly recommend that you equip your electrical installation with a device to protect it from surges associated with lightning. Damage to electrical and electronic components of BWT EASY DOSE resulting from surges associated with lightning are not covered by any guarantee.

10. General information

The **BWT EASY DOSE** analysing/ regulating system that you have just acquired is a high tech device, designed and built with care to ensure your comfort and peace of mind. Its ease of use, simplicity and technical sophistication will ensure absolute control over the quality of the water in your pool.

The **BWT EASY DOSE** analysing/ regulating systems are designed for family pools with a water volume between 5 m³ and 130 m³ in the case of indoor pools and between 5m³ and 110 m³ in the case of outdoor pools. There are 4 models available:

- **BWT EASY DOSE_pH**: regulates the pH of the pool water, either by adding pH minus, or by adding pH plus, depending on the pool's requirements.
- **BWT EASY DOSE_Redox**: regulates the disinfectant concentration via the ORP value.
- **BWT EASY DOSE_Redox for electrolyzers**: regulates the disinfectant concentration in pools equipped with a salt water electrolyser. It slaves operation (stop/ start) of the electrolyser in order to attain a programmed ORP setpoint value, without exceeding it. It does not inject any product.
- **BWT EASY DOSE_FlocculInt**: injects flocculant into the pool's hydraulic circuit at a constant rate.

WARNING

We strongly advise against using these devices to regulate the treatment of water in spas that are hydraulically independent of a swimming pool.

The use of probes or interfaces that do not comply with the technical characteristics set out in this manual is prohibited.

The following instructions contain all the information you need to install, operate and maintain your new equipment.

10.1 Storage and transport

Your **BWT EASY DOSE** must be stored and transported in its original packaging to prevent damage.

Environmental conditions for transport and storage:

Temperature : 0 °C à 60 °C

Air humidity: Maximum 90% without condensation

Non corrosive atmosphere, no solvent fumes

Disposal of packaging: Components made of paper, cardboard plastic or any other recyclable material should be brought to a suitable sorting facility.

Disposal of the device at end of life:



10.2 Guarantee

The filter is covered by the provisions of legal consumer guarantees as regards compliance and protection against hidden defects.

BWT POOL PRODUCTS also offers a sales guarantee which may only be activated if the product was stored, handled, installed, used and maintained in accordance with the instructions set out in this document.


Thus, this product benefits from a 2 year guarantee, offered by BWT POOL PRODUCTS, starting on the initial date of invoice by BWT POOL PRODUCTS to the client company.

NOTA BENE: The probes, mounting kits, injection kits, tubing, standard solutions, end of tank valves are not covered by the manufacturer's commercial guarantee.













11. Content of the package






BWT EasyDose_pH

 <p>A: 1 x Crystal PVC suction tubing 4 mm x 6 mm (2 m)</p>	 <p>B: 1 x Polyethylene return tubing (2 m)</p>	 <p>C: 1 x injection valve, FPM (3/8" unions)</p>	 <p>D: 1 x PSS3 probe housing (1/2" GAS union)</p>	 <p>E: 2 x saddle clamps, 50 mm, tapped 1/2"</p>	 <p>F: Tank floor suction strainer (PP foot)</p>
 <p>G: Mounting kit (screw $\phi=6$ mm)</p>	 <p>H: pH sensor</p>	 <p>P: Buffer solution, pH 7</p>	 <p>J: Bottle for rinsing probes with running water</p>	 <p>K: coupling nut to connect the tubing to the pumps</p>	 <p>F: Reducer for injection valve (1/2" M to 3/8" F)</p>









BWT EasyDose_ORP

 <p>A: 1 x Crystal PVC suction tubing 4 mm x 6 mm (2 m)</p>	 <p>B: 1 x Polyethylene return tubing (2 m)</p>	 <p>C: 1 x injection valve, FPM (3/8" unions)</p>	 <p>D: 1 x PSS3 probe housing (1/2" GAS union)</p>	 <p>E: 2 x saddle clamps, 50 mm, tapped 1/2"</p>	 <p>F: Tank floor suction strainer (PP foot)</p>
 <p>G: Mounting kit (screw $\phi=6$ mm)</p>	 <p>H: ORP probe (Platinum electrode)</p>	 <p>I: Buffer solution, 465 mv</p>	 <p>J: Bottle for rinsing probes with running water</p>	 <p>K: coupling nut to connect the tubing to the pumps</p>	 <p>F: Reducer for injection valve (1/2" M to 3/8" F)</p>

BWT EasyDose_ORP for electrolyser

				
A: 1 x PSS3 probe housing (1/2" GAS union)	B: Saddle clamp, 50 mm, tapped 1/2"	C: Mounting kit (screw $\phi=6$ mm)	D: ORP probe	E: Buffer solution 465 mv

BWT EasyDose_Flocculant

					
A: 1 x Crystal PVC suction tubing 4 mm x 6 mm (2 m)	B: 1 x Polyethylene return tubing (2 m)	C: 1 x injection valve, FPM (3/8" unions)	D: 2 x saddle clamps, 50 mm, tapped 1/2"	E: Reducer for injection valve (1/2" M to 3/8" F)	F: Tank floor suction strainer (PP foot)
					
G: Mounting kit (screw $\phi=6$ mm))	I: coupling nut to connect the tubing to the pumps				

11.1 Technical specifications

Specifications	EasyDose pH	EasyDose ORP	EasyDose ORP_Electrolyser	EasyDose Flocc
Measurement range	3.2 ÷ 8.2 pH (*1)	400÷999 mV (*1)	400÷999 mV (*1)	---
Measurement accuracy	± 0.02 pH	± 2 mV	± 2 mV	---
Instrument resolution	± 0.1 pH	± 10 mV	± 10 mV	---
Pump flow rate	1.5 l/h	1.5 l/h	No pump	15 to 150 ml/h
Power supply	220 - 240 Vac 50/60 Hz			100 ÷ 240 Vac 50/60 Hz
Electricity consumed	9 Watt			
Dosing method	ON-OFF with adjustment of the setpoint		Electrolyser ON/OFF, with adjustment of the setpoint	Adjustable injected volume
Pumps status	Standby – Active		No pump	Standby– Active
Display screen	4 digits with 7 segments			
Probe calibration	Automatic			No probe
Max. back pressure	1.5 bar	1.5 bar	No pump	1.5 bar
Weight	0,95 kg			
Dim. (Width–Height–Depth)	89 x 138 x 118 mm (3.85" x 5.3" x 4.6")			
Schuko plug (Female)	None	None	230 Vac 8A	None

(*1) The pump features galvanic insulation and insulation of the measurement signal.

12. Installation and connections

CAUTION

BWT EASY DOSE equipment should only be installed and connected by properly qualified persons. It must be installed in accordance with the safety regulations in effect in the country of installation!!

CAUTION

Always cut the primary power supply before energising the device or manipulating the outputs. Never open the device while it is energised! Interventions for maintenance and repair should only be carried out by trained and accredited personnel.

12.1 Selecting the installation site

To ensure the safety of users and correct operation of your BWT EASY DOSE please respect the following installation instructions:

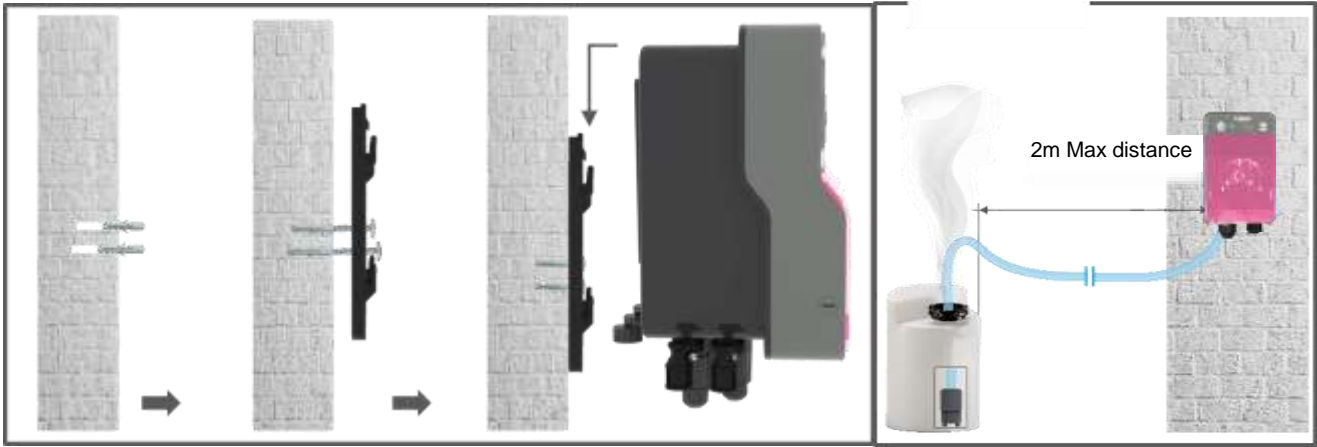
- The control panel must be located at a distance from the pool that complies with the regulations in effect in the country of installation.
- The device must be protected against rain and splashing, freezing and direct sunlight.
- The ambient temperature must be between 0 and 50°C.
- Humidity must not be at saturation.
- The installation site must be properly ventilated, to prevent the creation of a corrosive atmosphere or an atmosphere saturated with solvent fumes.
- Choose a location not subject to vibrations, the support surface must be stable and solid, clean and perfectly flat.

In the event that these instructions are not followed:

- The device could be damaged
- Measurements may be falsified
- The guarantee may be void!

12.2 Installation on the wall mounted bracket





WARNING

The BWT EASY DOSE casing has a protection rating of IP54, this rating is only guaranteed if the cover is closed, the screws are tightened, and the cables match the diameter of the cable glands!

12.3 Wall mounting procedure

8. Cut the mains power supply.
9. Check that the filtration pump is stopped.
10. Close the valves on the hydraulic circuit and switch the filter valve to “closed”.
11. Drill the number of holes required to mount the wall bracket referring to the interaxial distances indicated.
12. Tap bushings into the holes using a hammer.
13. Begin by tightening the top screws, then the bottom screws, do not tighten fully.
14. Once the screws are all in place, tighten in a crosswise sequence

WARNING

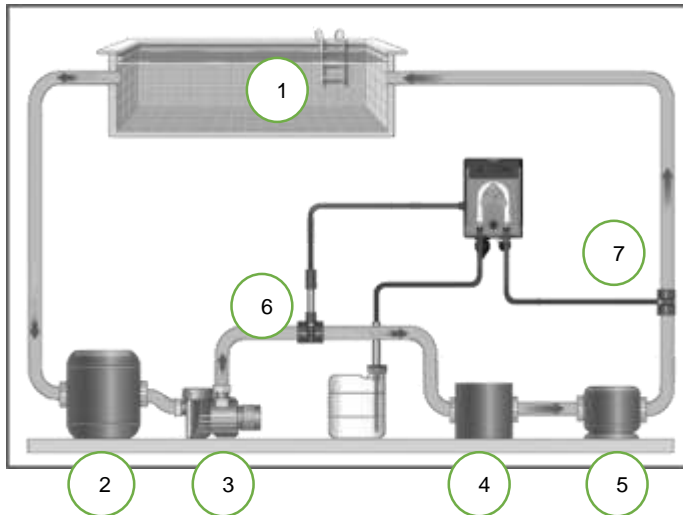
When closing the front cover of the casing, take care not to damage the waterproofing or pull on the cables located between the cover and the printed circuit board !

12.4 Installing the saddle clamps to hold the probes and the product injection rods

In order to make sure that the values measured by the probes are as representative of the pool water as possible, the probes must be mounted between the pump return and the filter multi-port valve inlet. In any case they must always be located upstream from any heating devices and upstream from the injection of any chemicals.

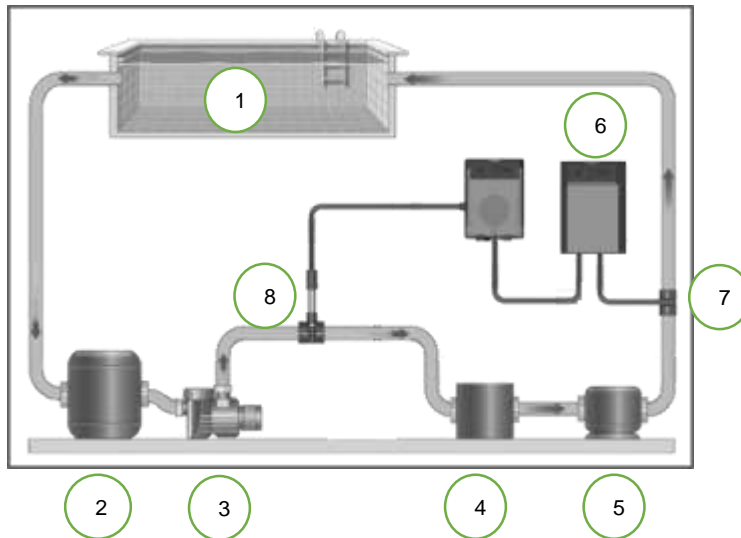
Product injection sites must be located downstream from any devices, just before the water is returned to the pool.

BWT EasyDOSE pH and ORP



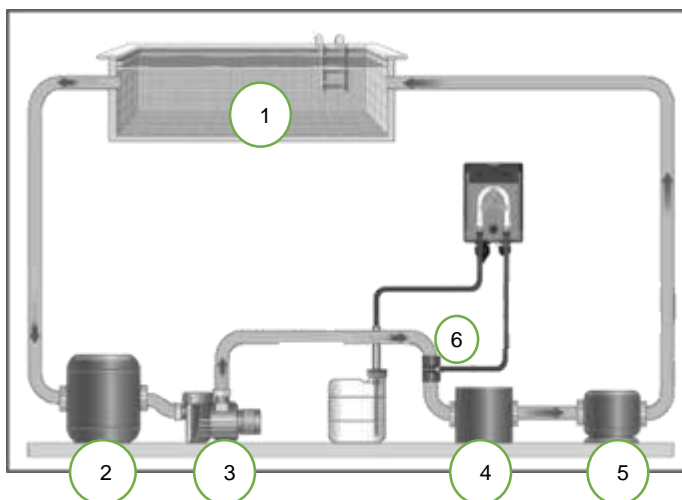
- 9. Pool
- 10. Buffer tank (overflow pool only)
- 11. Filtration pump
- 12. Sand filter
- 13. Heating
- 14. pH or ORP probe
- 15. Injection of chemicals
- 16. Chemical storage tank

BWT EasyDOSE ORP for electrolyser



- 9. Pool
- 10. Buffer tank (overflow pool only)
- 11. Filtration pump
- 12. Sand filter
- 13. Heating
- 14. Electrolyser (panel)
- 15. Electrolyser cell
- 16. ORP probe

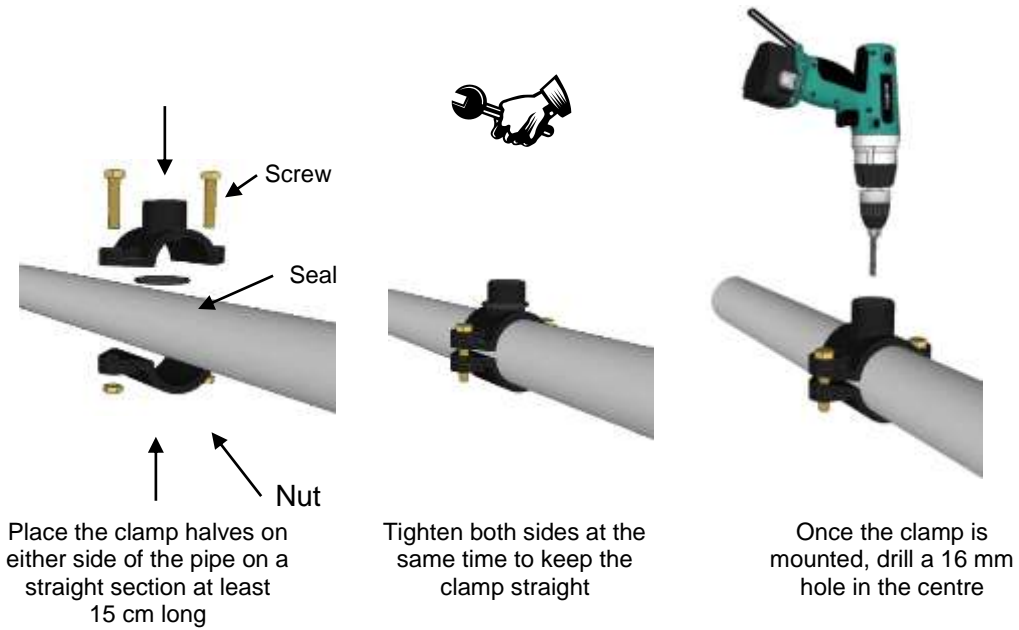
BWT EasyDose Floc



- 7. Pool
- 8. Buffer tank (overflow pool only)
- 9. Filtration pump
- 10. Sand filter
- 11. Heating
- 12. Injection of flocculant

The probe saddle clamps may be installed on a by-pass circuit so that they may be hydraulically isolated to allow faster and simpler dismantling and in order to allow filtration to continue to run (notably during active winterizing).

12.4.1 Mounting the pipe saddle clamps

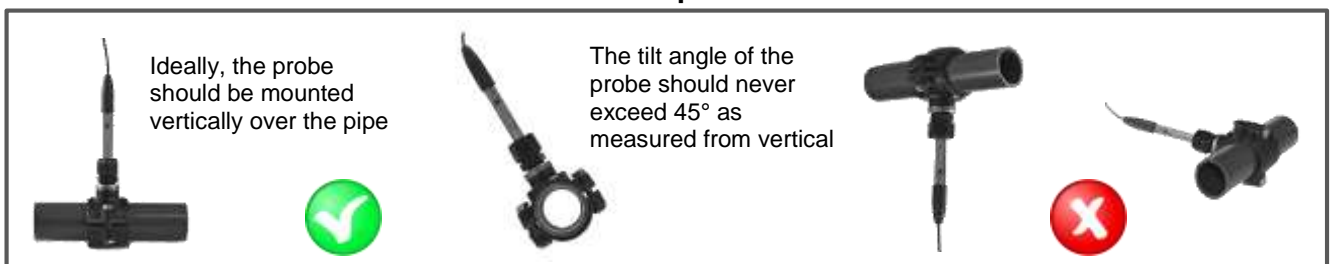


12.4.2 Mounting the probe housing assembly



Placement of the probes

Water pressure should not exceed 1.5 bar



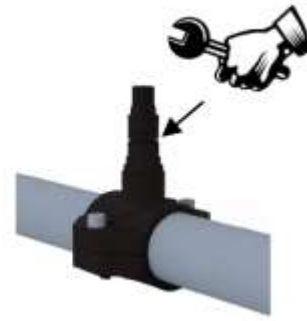
12.4.3 Mounting the injection kit



Teflon tape



Screw the union onto the saddle clamp



Tighten the injection valve onto the union

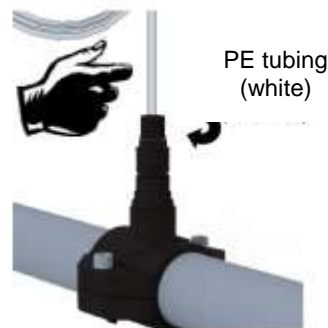
Wrap Teflon around the threading of the probe housing



Loosen the injection valve nut.



Thread the PE tubing through the cap and push it onto the valve cone.

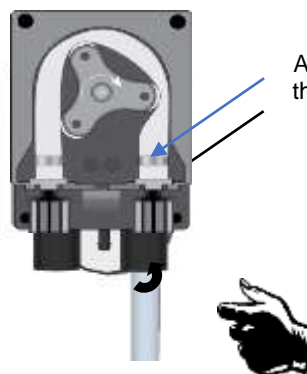


Tighten the cap with the PE tubing (white) onto the valve.

PE tubing (white)



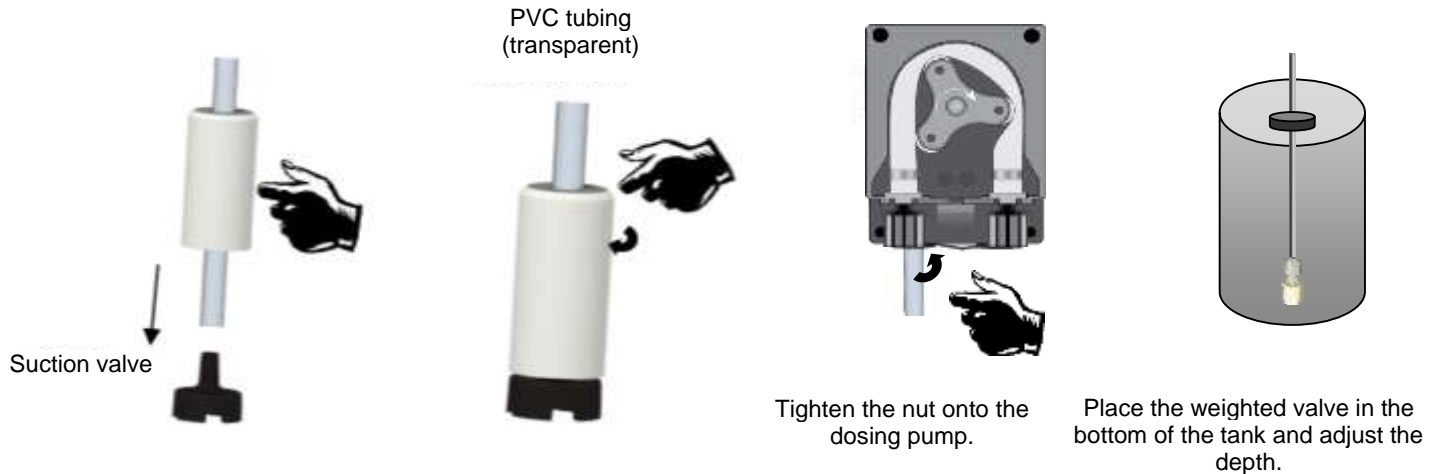
Repeat the same procedure on the dosing pump side.



Screw the cap with the PE tubing (white) onto the pump.

Arrow indicating the pump output

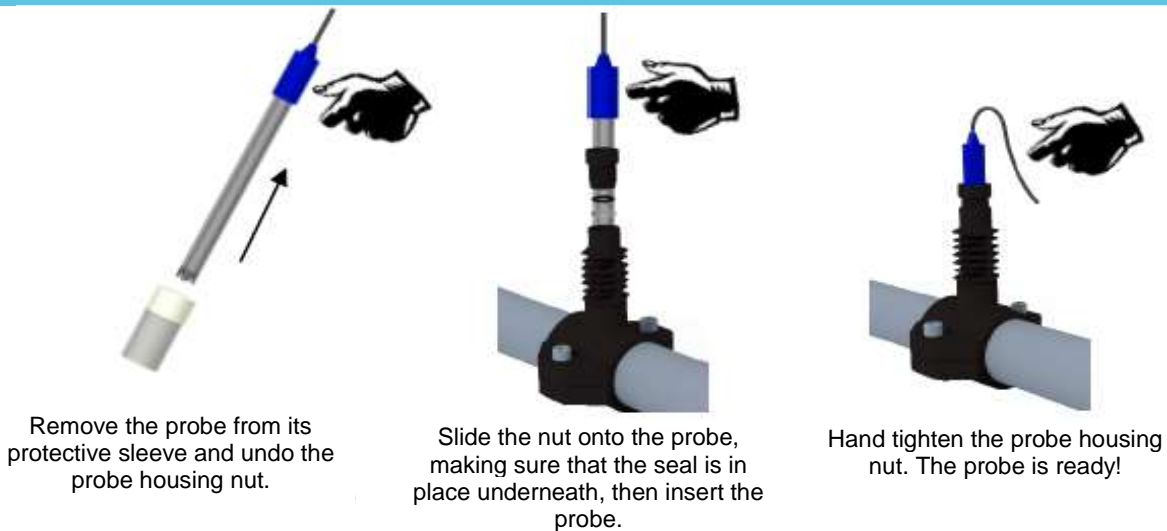
12.4.4 Mounting the suction kit



12.4.5 Mounting the pH and/ or ORP probes

WARNING

Probes are delicate. They must be regularly maintained and calibrated using the buffer solutions provided with the device. In the event of a fault, there is a risk that excess chemical could be injected and that water quality could be degraded.

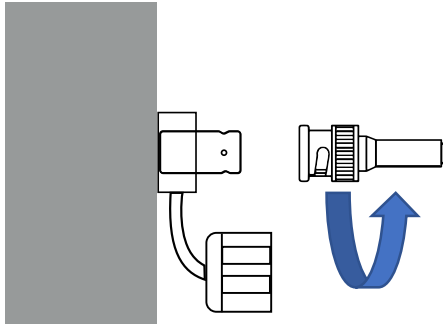


WARNING

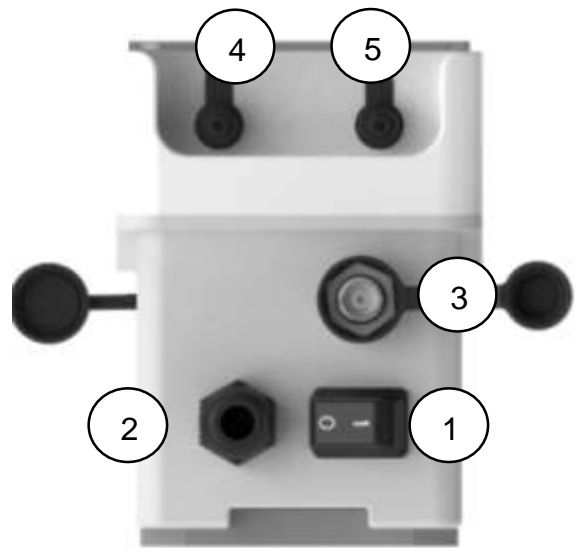
If the probes are mounted on a by-pass loop, make sure that the shut off valves are open while the device is in operation.

13. Electrical connections

6. ON-OFF switch
7. Power cable
8. BNC connector for pH or ORP probe
(NB : Floc version, no probe)
9. Suction tube union
10. Return tube union



Mounting the probe on the BNC connector



14. Parameter setting and operation

14.1 BWT Easy Dose flocculant




Switch positions

1 : Normal dosing position

The pump runs at the selected speed when the device is powered on.

The pump speed can be set at between 10 and 100% of its maximum speed.

To set the pump speed, press the  key to scroll through the values until the required setting is displayed, then release it. 3 seconds later, the displayed value is saved to memory, and "mem" is displayed on screen.

0: The pump is stopped.

14.2 BWT Easy Dose pH

Switch positions :

1 : Normal dosing position

The pump runs while the device is powered on and the pH is above the selected setpoint.

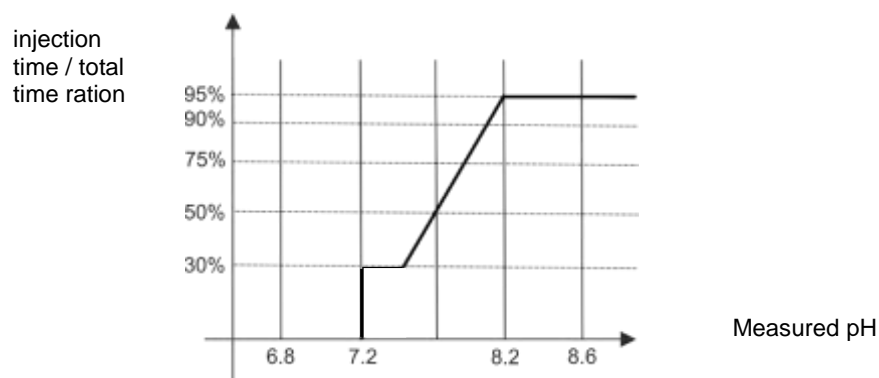
The pump speed is automatically adjusted by the device according to the proportional dosing principal.

Example :

Setpoint = 7.2 pH


Dosing method = Acid

Proportional band = 1.0 pH (value cannot be adjusted) => proportional dosing between 7.2 and 8.2 as shown in the graph below:






0: The pump is stopped.

Setting the parameters:

- e. Set the switch to 0
- f. Press the  key down for 3 seconds to access the parameter setting menu (SETUP) : .
 4. Choose the pH dosing method: **Acid** (injection of acid to reduce the pH) or **Alka** (injection of base to increase the pH)
 5. Overdosing alarm (OFA): set continuous injection time period after which the pump will stop (between 0 and 60 minutes)
 6. Time delay before energising of the probe (POD): set the time delay to between 0 and 60 minutes

Setting the setpoint:

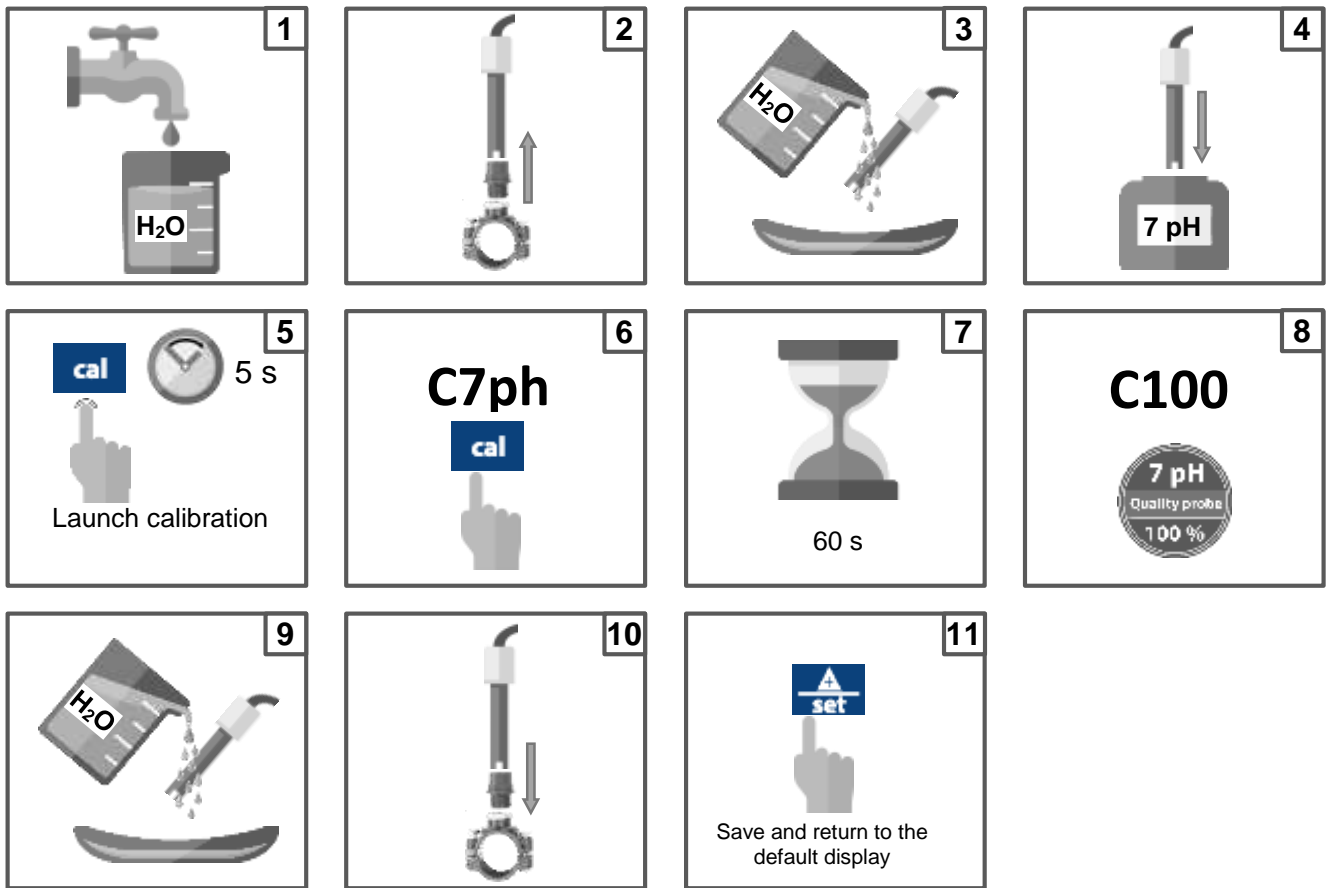
- j. Set the switch to 1
- k. Press the  key until the setpoint value flashes, then press  key to scroll through the setpoint values until the desired value is displayed
- l. Release the  key, 3 seconds later, **mem** will be displayed

Nota Bene :

- the pH setpoint can be adjusted between 6.2 and 8.2, in increments of 0,1.
- if the measured value is below 6.2 or above 8.2, the screen will flash.
- the probe measurement range is between 3.8 and 8.2

pH probe calibration:

Set the ON/OFF switch to 1, and follow the steps below:



14.3 BWT Easy Dose Rédox

Switch positions:

1 : Normal dosing position

The pump runs while the device is powered on and the ORP setpoint has not been reached

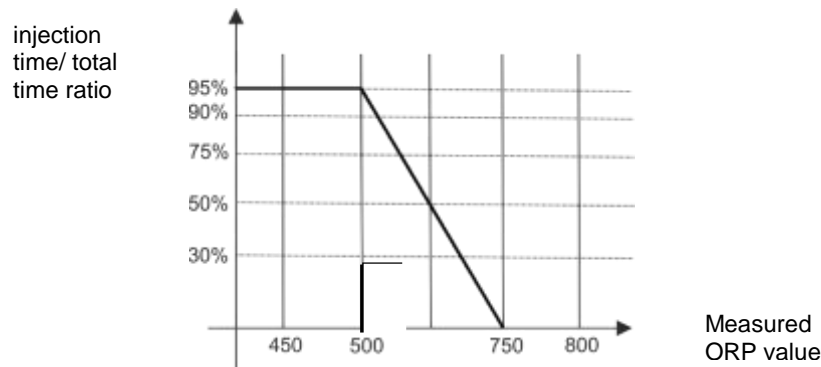
The pump speed is automatically adjusted by the device according to the proportional dosing principal

Example :

Setpoint value = 750 mV


Dosing method = High

Proportional band = 250 mV (value cannot be adjusted) => proportional dosing between 500 and 750 mV as shown in the graph below:






0: The pump is stopped.

Setting the parameters:

- Put the switch to 0
- Press the  key down for 3 seconds to access the parameter setting menu (SETUP) :
 - Choose the ORP dosing method: **Low** (injection of Chlorine to increase the ORP)
 - Overdosing alarm (OFA): set continuous injection time period after which the pump will stop (between 0 and 60 minutes)
 - Time delay before energising of the probe (POD): set the time delay to between 0 and 60 minutes

Selecting the setpoint:

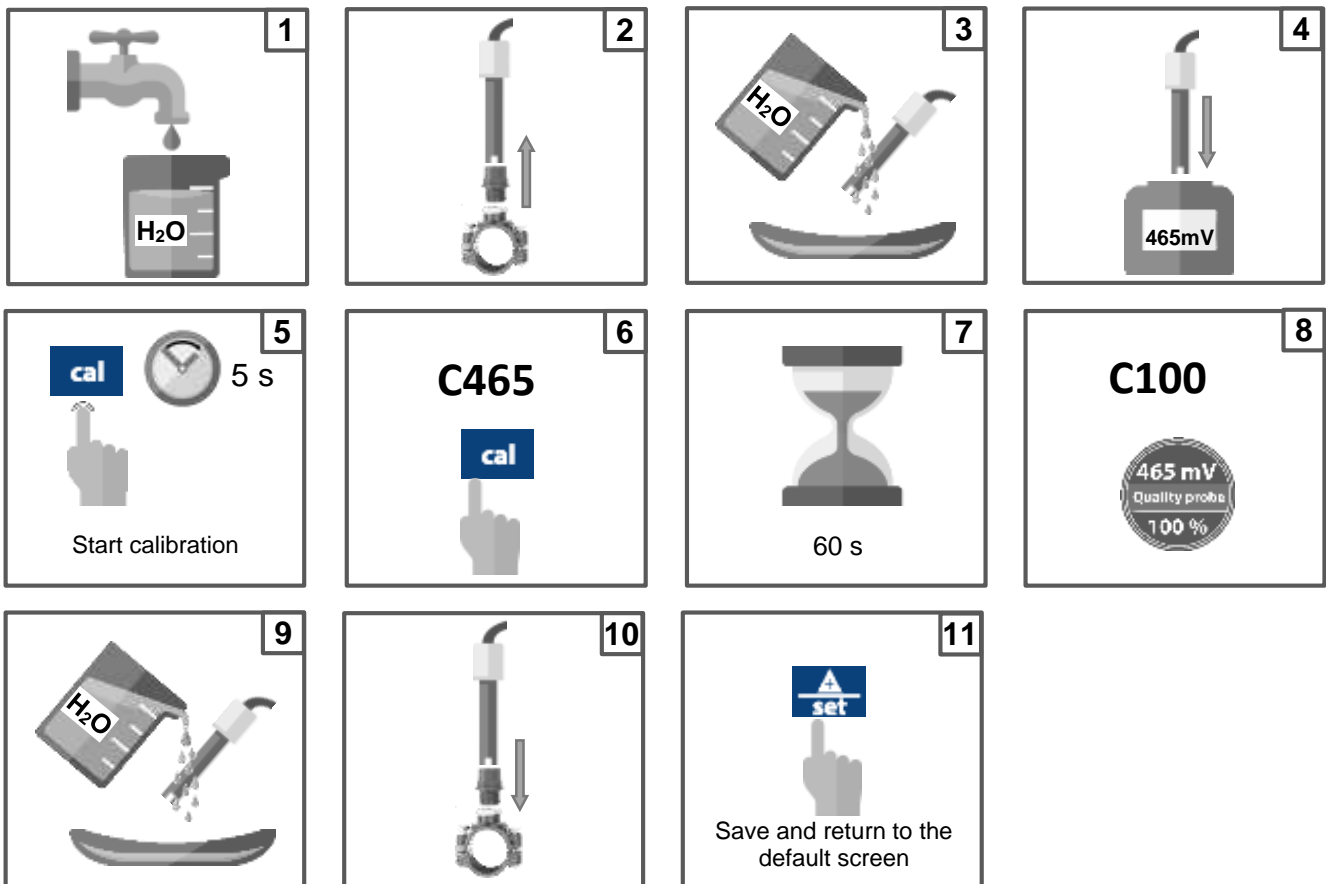
- Put the switch to 1
- Press the  key until the setpoint flashes, then press  again to scroll through the values until the desired value is displayed
- Release the  key, 3 seconds later **mem** will be displayed on screen

Nota Bene :

- the ORP setpoint can be adjusted between 450 and 980 mV in increments of 10 mV.
- If the measured value is below 400 mV or above 999 mV, the screen will flash.
- The ORP probe measurement range is between 400 and 999 mV.

Calibration of the ORP probe

Put the switch to 1 and follow the steps below:






14.4 BWT Easy Dose ORP Electrolyser

Switch positions:

1 : Normal position to control generation of Chlorine by the electrolyser. The electrolyser generates Chlorine when both EASY DOSE and the electrolyser are energized, the devices are connected to each other, and the ORP setpoint has not been reached.

0: EASYDOSE is stopped, the electrolyser does not produce Chlorine.


Selecting the setpoint:

- Put the switch to 1
- Press the  key until the setpoint value flashes, then press  again to scroll through the setpoint values until the desired value is displayed.
- Release the  key, 3 seconds later **mem** will be displayed on screen.

Nota Bene :

- the ORP setpoint can be adjusted between 450 and 980 mV in increments of 10 mV.
- If the measured value is below 400 mV or above 999 mV, the screen will flash.
- The ORP probe measurement range is between 400 and 999 mV.

15. Alarms

Alarm	EasyDose pH	EasyDose Rédox	Actions
Out of Range measure	888 (flashing)	888 (flashing)	<ul style="list-style-type: none"> Inspect the probe, replace it if necessary Press  to open the alarm relay

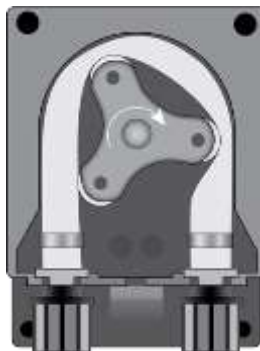
16. Maintenance

Replacing the compression tube in a persitaltic pump:

NB : always turn the roller head assembly clockwise



Open the pump casing and remove the tube by pulling upwards on the lefthand union.



Position the roller head as shown in the image by turning it clockwise.



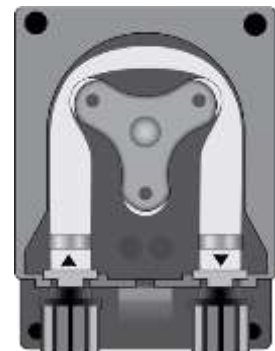
Free the lefthand union completely, and rotate the roller head to free the tubing above the righthand union.



Position the roller head as shown in the image above.

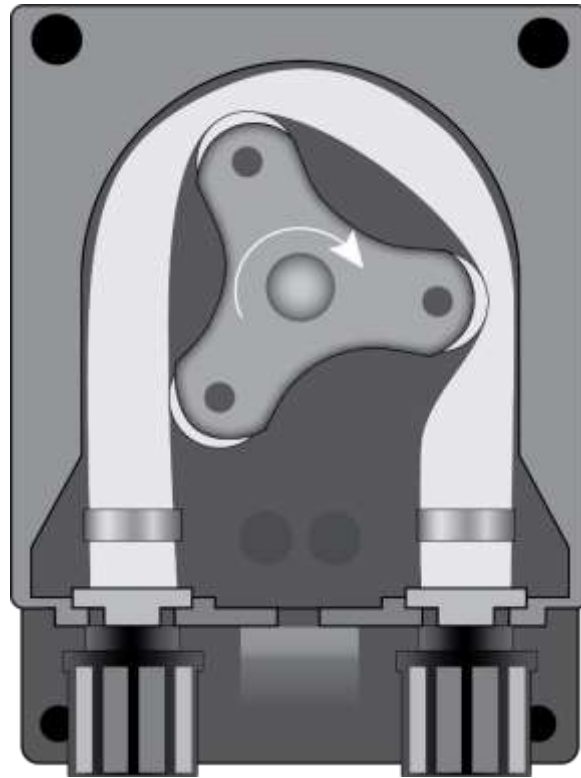


Insert the tube in the lefthand union and push it into its housing behind the arms of the roller head. Rotate the roller head in the direction indicated by the arrow, walk the tube to the emplacement for the return union and insert the union into its emplacement.



Close the protective lid, pressing down well to ensure it is properly clipped into position.

Provisions for extended shutdown of the device



If the device needs to be stopped for a long period of time, the lines should be purged and rinsed with clear water using the pump.

Next, position the pump wheels as shown in the image, by rotating the roller head clockwise. This will facilitate subsequent recommissioning.

