

# PP60 Redox

PERISTALTIC PUMP FOR REDOX MEASURING  
AND CHLORINE DOSING





## General safety information

This user manual contains basic information that should be observed during assembly, start-up, operation, and maintenance. Therefore, this user manual must be read by installers and operators prior to assembly and start-up, and must be accessible to every user of this unit. Additionally, all further safety information in this document absolutely must be observed. Read and follow all instructions. In order to minimize the danger of injury, do not allow children to use this product. Hazards from non-compliance with safety information. Non-compliance with safety information can result in hazards to persons, the environment, and the equipment. Non-compliance with safety information will result in a forfeit of any potential right to damage compensation.

### Insufficient personnel qualification

Hazards in the event of insufficiently qualified personnel, potential consequence: Injury, heavy material damage.

- The system operator must ensure compliance with the required qualification level.
- Any and all work may only be performed by correspondingly qualified personnel.
- Access to the system must be prevented for insufficiently qualified persons, e.g. via access codes and passwords.

### Potential overdosing of chemical agents

Despite PP60 Redox comprehensive safety functions, it is possible that a probe failure and other errors could lead to an overdosing of chemical agents. Potential consequence: Injury, heavy material damage.

- Design your installation such that uncontrolled dosage is not possible in the event of a probe failure or other errors, and/or such that uncontrolled dosage is recognized and halted before damage is incurred.
- Uncontrolled overdose of chemicals can cause harm to health and property. Even though the device contains a number of security elements can not be ruled out that in case of failure of the measuring probes, or the whole device may result in overdose of chemical agents. Install the equipment so that uncontrolled overdose of chemicals was not possible and that uncontrolled overdose has been detected in time before causing any harm. It is necessary to use chemicals in such quantities that an overdose will not cause dangerous concentration of chemical agents. Do not use chemicals in too large packages or with too high concentration.

### Gaseous chlorine produced from dosing in standing water if dosing outputs are not closed via the filter pump

If the flow switch is stuck or experiences another error, there is a risk of dosing into standing water. Poisonous chlorine gas can be yielded when sodium hypochlorite and pH minus come together.

### Non compliance with informational text

There is a great deal of informational text indicating hazards and their avoidance. Not observing informational text may lead to hazards. Potential consequence: gravest degree of injury, heavy material damage.

- Read all informational text carefully.
- Cancel the process if you are unable to exclude all potential hazards.

## Use of new functions

Because of the continued development, a PP60 Redox unit may contain functions, which are not completely described in this version of the user manual. The use of such new or extended functions without a profound and secure understanding by the operator may result in malfunctions and severe problems. Potential consequence: Injury, heavy material damage.

- Make sure to get a profound and secure understanding of a function and relevant boundary conditions, before you start to use it.
- Check for an updated version of the user manual or additional documentation available for the relevant functions.
- Make use of the integrated help function of the PP60 Redox to get detailed information on functions and their parameter settings.
- In case it should not be possible to get a profound and secure understanding of a function based on the available documentation, do not use this function.

## Overdosing if pH value is wrong

If disinfection is enabled before the pH value is stable in the ideal range of 7.0 to 7.4, then it may lead to heavy overdosing of chlorine or bromine. Potential consequence: Injury, heavy material damage.

- Do not start disinfection with chlorine until the pH value is stable in the ideal range between 7.0 and 7.4.

## Conditions before using

Make sure you have a newest and updated version of the user manual and other documentation for all functions of the unit. Use and read the integrated help features. In case of not understanding the information about certain features of the unit, do not use these features.

## Handling chemicals for pool water treatment

The chemicals used with the PP60 Redox must be handled in a safe manner to prevent damage or personal harm. Aseko recommends you always use personal protective safety equipment when handling the pH and chlorine agents. Refer to the Materials Safety Data Sheet (MSDS).

**WARNING:** Never mix the pH agent with the chlorine agent. When carrying out maintenance on the clear plastic tubes or valves always rinse with clean water to prevent mixing of the pH and chlorine agents.



# What's in the box



Redox probe Long Life #12016



Injection valve #12005



Suction tube weight #12023



Measuring Water Valve 2 pcs #12006



Dowels and screws



PE Tube 1/4" (6.35 mm) transparent #12008



# Accessories

Glue head 1/4" #12134



Redox buffer 650  
#12091



Redox buffer 475  
#12063



Photometer  
# 13076



ASEKO Pool Tester  
#12170



# Original aseko chemicals



CHLOR PURE 20I  
#12075



CHLOR PURE 5I  
#12059

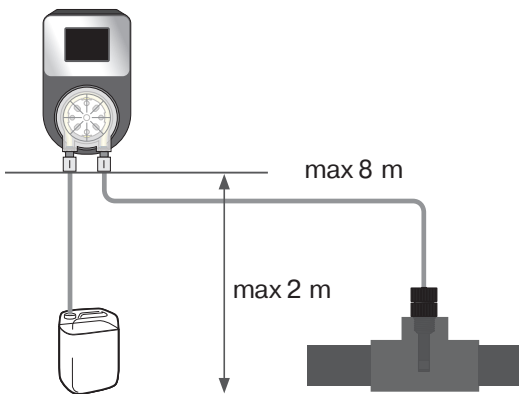
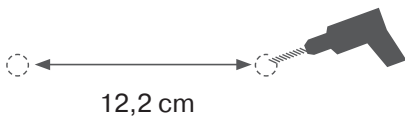
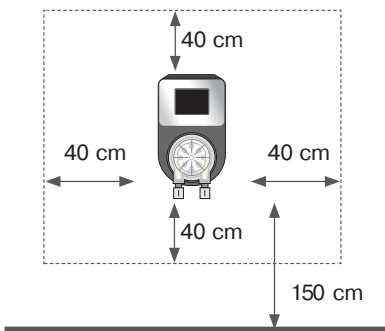
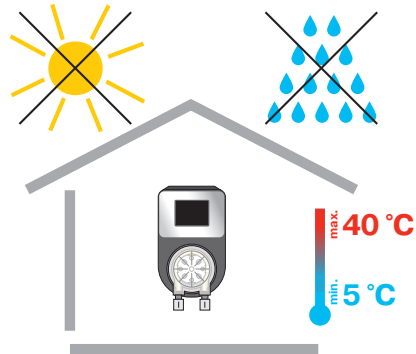
# Peristaltic pump PP60 Redox

PP60 Redox automatically regulates the redox value of the pool water by dosing of chlorine. Redox value is measured by a Redox probe Long Life. The Redox value is shown on the touch display. The touchscreen also serves to set all the necessary parameters. During operation, the required dose of the reagent is calculated from the measured value and the dose is then disposed into the pool water. The PP60 Redox is composed of a control unit, a measuring probe, and a dosing pump with a maximum pump power of 60 ml / min.

## Technical information

### WARNING

PP60 Redox power supply must be connected together with the power supply of the circulation pump. Switching off the circulation pump must switch off the PP60 Redox, otherwise inaccurate measurement and incorrect dosing would occur.



## Installation of PP60 Redox

PP60 Redox is to be wall mounted in dry and dust-free environment with temperature ranging from +5 °C to +40 °C. To mount the device, use the mounting holes that are accessible after opening the front cover of the device. To mount the device use screws supplied with the device.

**WARNING:** The location temperature should permanently be in the range from +5 °C to +40 °C.

Direct sunlight, high humidity and dust may lead to damage to PP60 Redox.

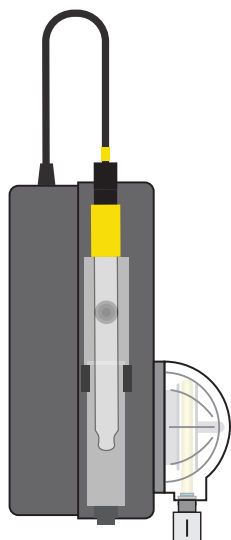
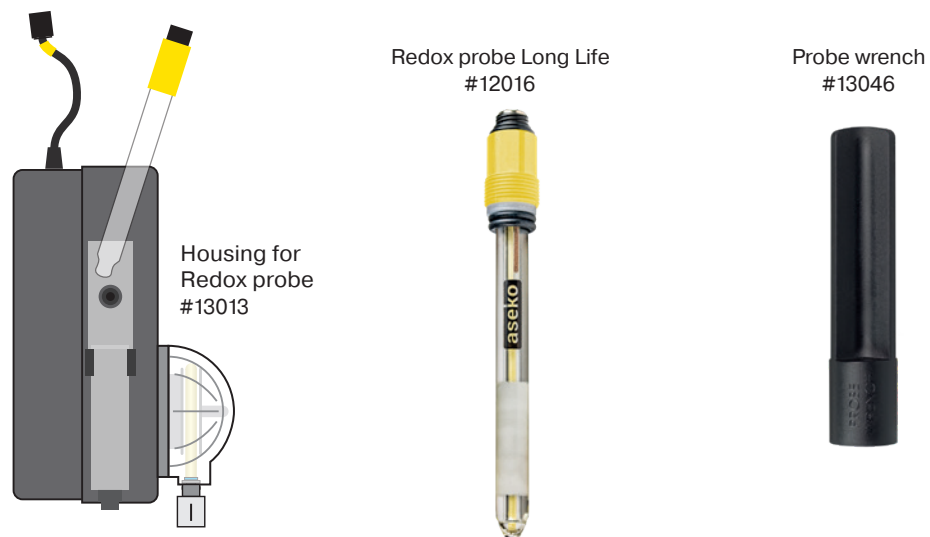
- Before installing, ensure that pool water is chemically clean and free of dirt.
- The maximum distance of injection valves from peristaltic pump of PP60 Redox must not be greater than 8 m.
- Vertical distance between PP60 Redox and the bottom of containers must not exceed 2 m.

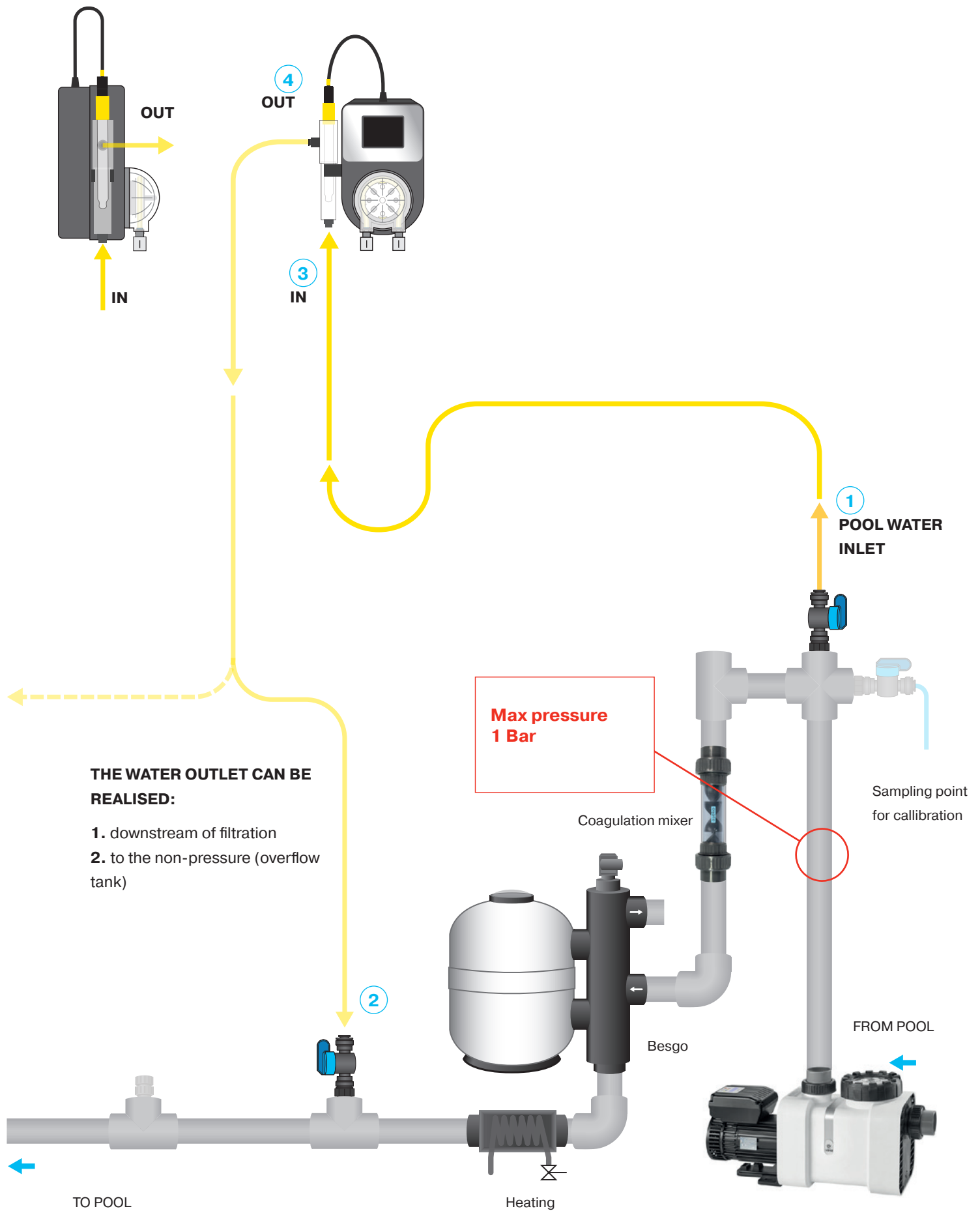
# Probe installation

1. Carefully insert the Redox probe into the housing.
2. Hand tighten or use the attached plastic wrench socket for probes.
3. Connect the connector and lock it by tightening a connector ring.

After probes have been inserted, slightly tightened and connectors have been connected, PP60 Redox is ready for connection to the water system of your pool.

**WARNING:** Only hand tighten the probes or use the attached plastic wrench socket for probes. Do not use pliers or steel wrench.

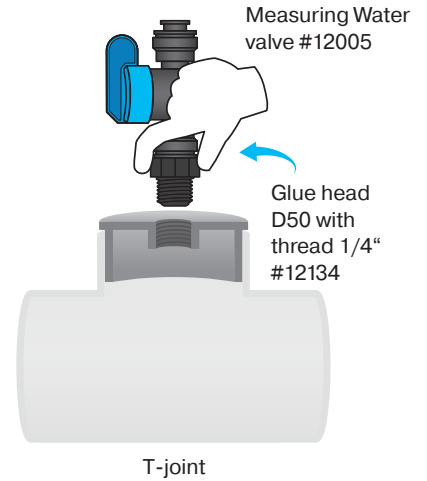






# Pool Water Connection

Screw the **measuring water valve** in the glue head D50 with thread G1 / 4 “#12134, glued to the T-piece. **Tighten the measuring water valve into the head by hands only. Do not use pliers or other tools.**

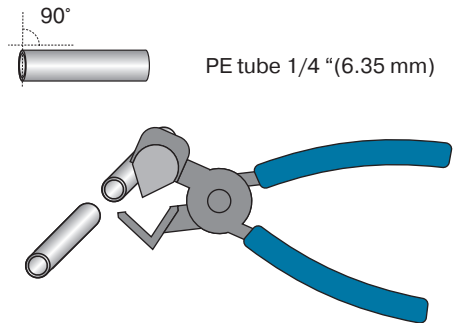


- 1 Connect the **MEASURED WATER SUPPLY** to the pipe **behind the pump, and before the filter and before the coagulation mixer.**
- 2 Connect the **MEASURED WATER DRAINAGE** to the pipe **behind the filter** and behind the heating or into the overflow tank or skimmer.

To connect the measured water to the PP60 Redox use PE tube 1/4 “(6.35 mm) #12008, which is part of the packaging.

## WARNING

Cut the PE tube at an angle of 90° to ensure tight joints. The cut must be clean. Use special pliers #13325 to cut plastic tubes. Do not use common scissors or knives!



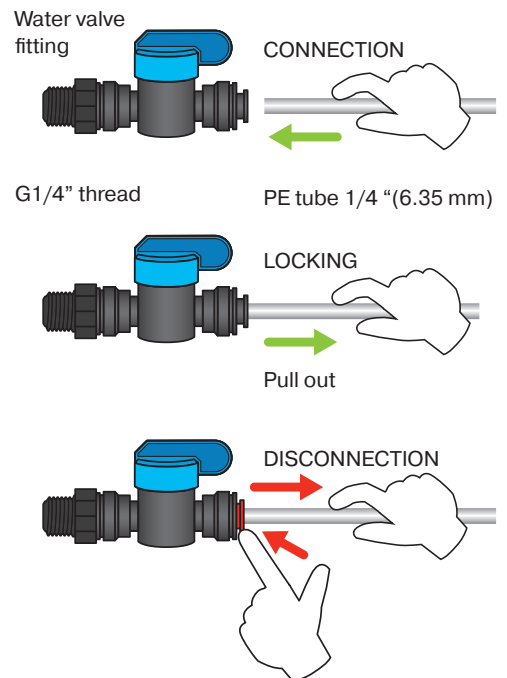
The measured water is easily connected to PP60 Redox using the **Speedfit** push-in fitting.

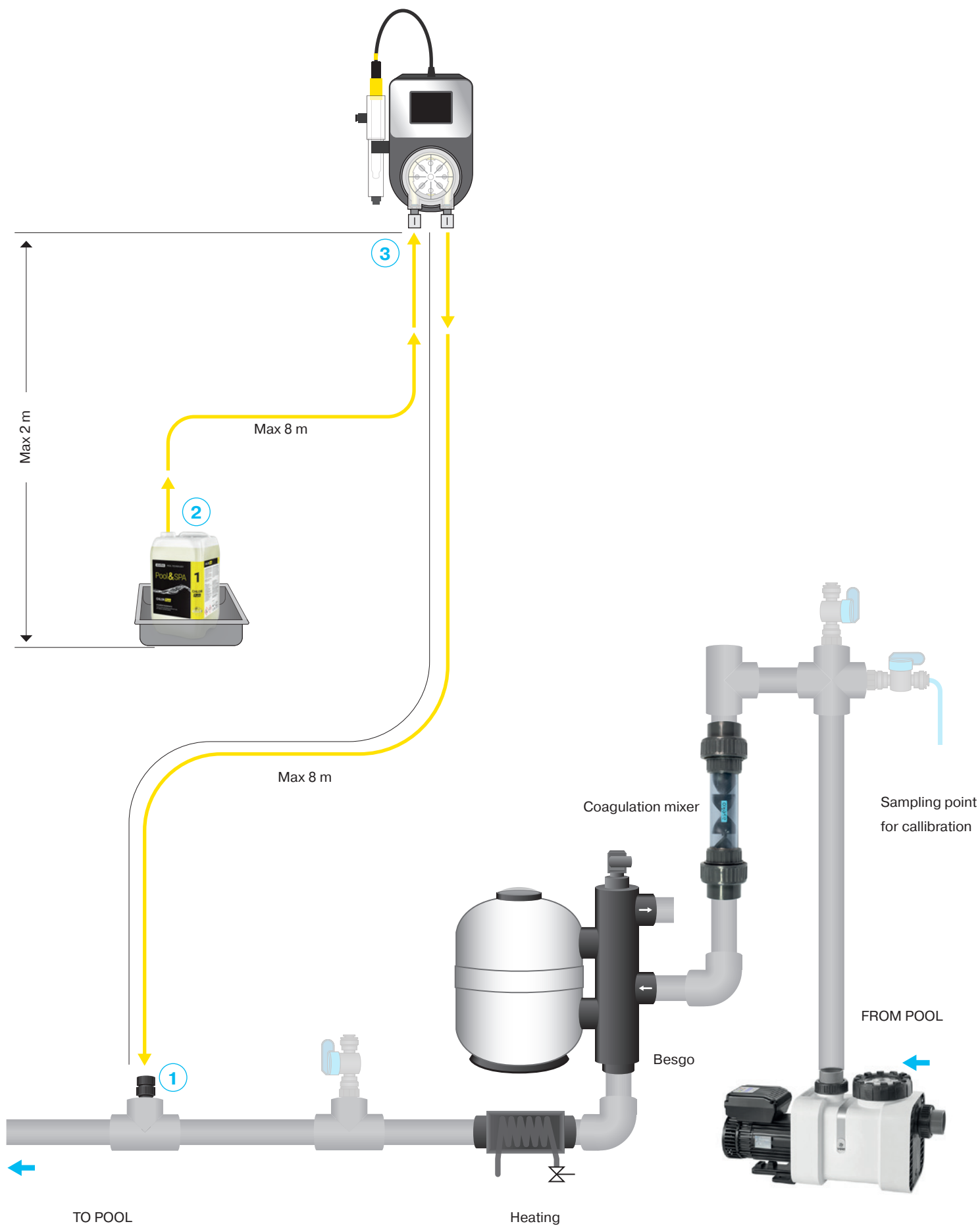
**CONNECTION** Push the connecting pipe into the Speedfit fitting and pull out the hose to secure.

**DISCONNECT** push and hold the Speedfit round collet and pull out the connecting pipe.

- 3 **INLET** of the measured water to the PP60 Redox  
Connect the tube to the bottom Speedfit of the measured water filter.
- 4 **OUTPUT** of the measured water from PP60 Redox  
Connect the tube to the side Speedfit on the probe housing.

Once connected, PP60 Redox is ready to measure disinfectant content in your pool.





# Pool Chemicals Connection

Screw the **injection valve** in the glue head D50 with thread G1 / 4 " #12134, glued to the T-piece. **Tighten the injection valve into the head by hands only. Do not use pliers or other tools.**

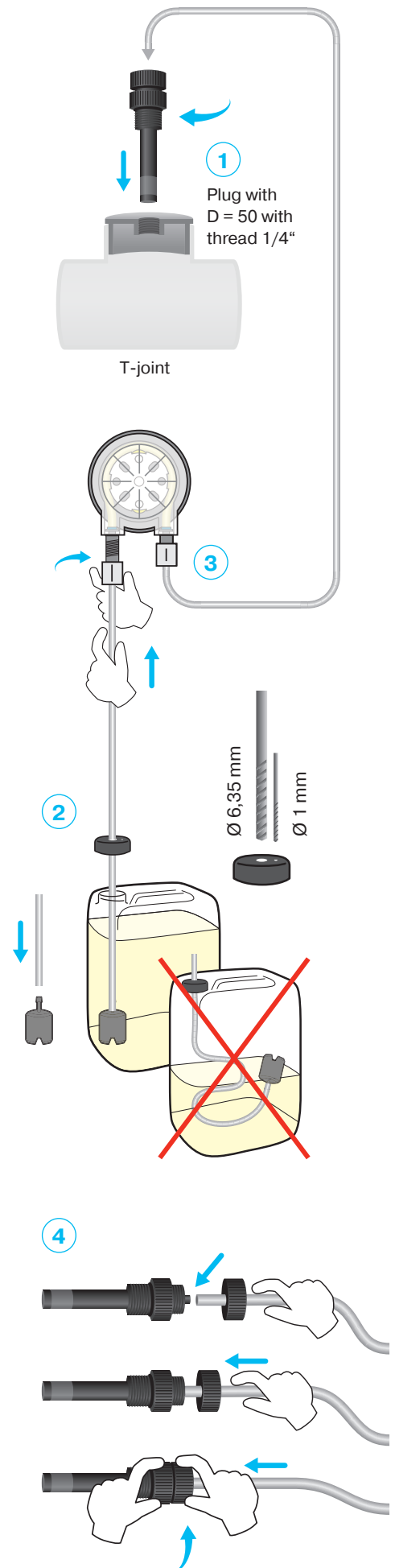
- 1 Install the **CHLORPURE INJECTION VALVE** to the pipe **behind the filter and behind the MEASURED WATER DRAINAGE.**

To connect reagents from cans to the PP60 Redox and from the PP60 Redox to the injection valves use PE Tube 1/4 "(6.35 mm) #12008, which is part of the packaging.

## WARNING

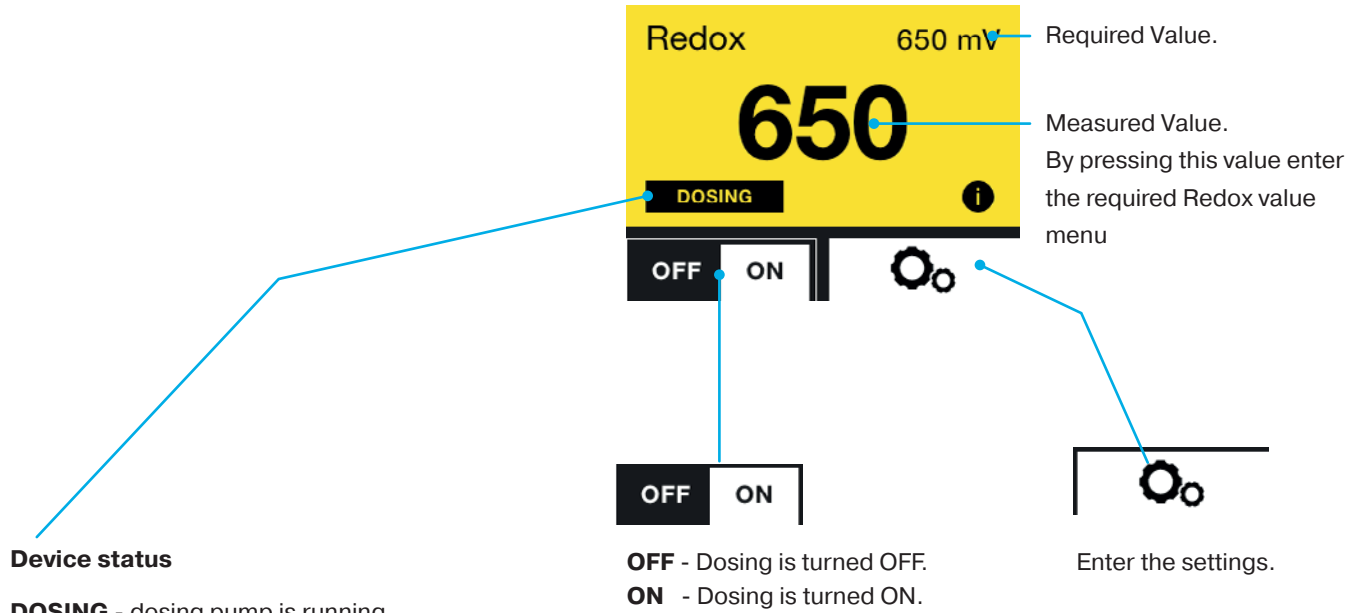
Cut the PE tube at an angle of 90° to ensure tight joints. The cut must be clean. Use special pliers #13325 to cut plastic tubes. Do not use common scissors or knives!

- 2 **CANISTER CONNECTION** Drill 6.35 mm and 1 mm diameter holes in the can's cap. Pass the tube through the hole in the cap so that it reaches the bottom of the can. Place the suction tube weight at the end of the tube.
- 3 **PUMP CONNECTION** Connect the can with the left (suction) connector of the pump using a PE tube from the can.
- 4 **INJECTION VALVE CONNECTION** Pass the tube through the injection valve nut, connect the tube onto the injection valve and tighten the nut firmly by hand. Connect the tube from injection valve with the right (discharge) connector of the pump.



# Orientation in the menu

When the mains cable is plugged in, the touch display of the device lights up.

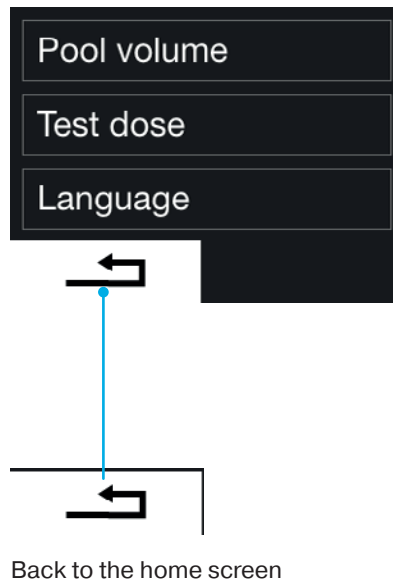


## Device status

**DOSING** - dosing pump is running

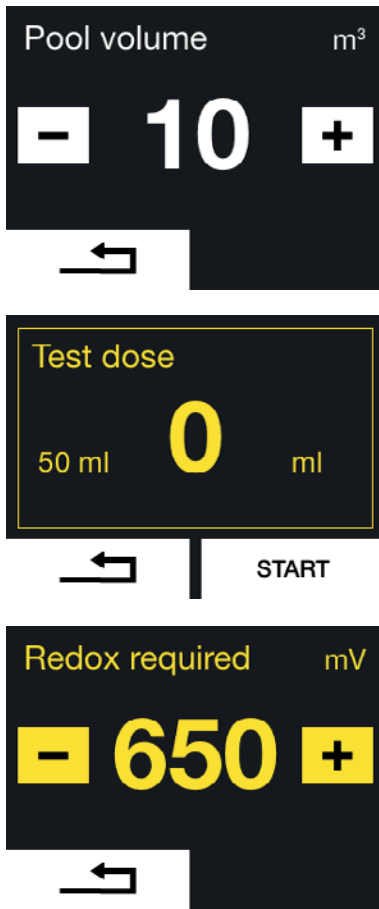
**MEASURING** - dosing pump is not running, the required value is equal to measured value

**STABILIZING** - dosing pump is not running, the unit is waiting for stable measured value.



# Initial setup

PP60 Redox is switched on by connecting to the power supply.



1. Turn on the unit
2. Select preferred language. Enter the settings and in the language menu select one of available languages.
3. Test the connections tightness. In the settings menu, select **Test dose**. The display shows the dose in ml. Press the **START** button to start manual dosing and monitor the liquid in the transparent tubes up to the inlet to the pipe. When the liquid reaches the pipe, stop the manual dose by pressing **STOP**. Check whether the liquid in the tube is not falling back. If the liquid is falling back look for leakage of the PE Tube.  
**RECOMMENDATION: During the initial connection tightness test, replace the chemical canister with containers of water to avoid chemical spillage.**
4. Set your pool volume. Enter the settings and in the Pool volume menu enter the volume of your pool.  
**WARNING:** The pool volume has effect on the maximum safe dose, enter the value correctly.
5. Set the required Redox value. On the home screen **press the measured value** to enter the required Redox value menu and set the required value. To determine optimal Redox value follow chapter
6. Start the circulation pump and check that the water flows to the probe.

# Optimal required Redox value

For the correct functionality of the REDOX probe, you must observe the following conditions:

## pH of the pool water

The pH value should be between **6.8 and 7.5**.

**The pH of the pool water must be stabilized.**

If the pH value fluctuates, the value of the Redox changes accordingly.

## Determination of the required chlorine value in pool water

The required concentration of chlorine in pool water varies with the temperature of the pool water. However it should never be less than 0.3 mg/l. Determine the required value using the table located on the left.

| Chlorine content mg/l | Water temperature |
|-----------------------|-------------------|
| 0.3 to 0.5            | 24 to 26 °C       |
| 0.5 to 0.8            | 26 to 32 °C       |
| 0.8 to 1              | Over 32 °C        |

### WARNING

Before proceeding to setting of the required values, keep the probe connected to the water for at least 1 hour, ideal 24 hours, to stabilize its measurement.

## How to set the required Redox value

Set the required REDOX value to **650 mV**

Use the tester to check if the **chlorine content in pool water is within the range of 0.5 - 1.2 mg/l**.

## Fine-tuning

Use the colorimeter or Pool Tester to measure the chlorine value of the pool water. If the manually measured chlorine value in pool water is:

- **ADEQUATE**, your ASIN AQUA Home is ready to maintain the required concentration of chlorine in pool water.
- **LOW**, increase the required REDOX mV value in the menu.
- **HIGH**, reduce the REDOX mV value in the menu.

**Every 10 mV corresponds approximately to 0.1 mg/l of chlorine in the pool water.**

### EXAMPLE:

The chlorine value in the pool water is 0.3 mg/l - the displayed value is 650 mV. If you want to increase the chlorine value to 0.5 mg/l. You have to increase the preset value of the redox by 20 mV to 670 mV.

### NOTE:

The relationship of Redox potential and chlorine value in pool water cannot be determined by the exact table. The correct value of the Redox must be observed by several check measurements.



Maximum hourly  
disinfection dose  
20 ml/m<sup>3</sup>  
per hour exceeded without  
reaching the target value.

RESOLVED



## Error messages

### Maximum hourly disinfection dose 20 ml/m<sup>3</sup> per hour exceeded without reaching the target value.

If this error pops up, check the following:

#### 1. Agent Run Out

- Check liquid levels on a regular basis, refill in time.

#### 2. Dosing Pump does not Dose

- Leakage in connection of PE tubes or they are damaged.
- Failure of dosing pump. Check whether pump is running. If so, check the hose inside the pump for damage or breakage and replace it, if required.

#### 3. Injection Valve Clogged

- Impassable injection valve.  
Check the valve for being clogged with impurities or deposits or the rubber seal for being damaged.
- Failure of dosing pump. Check whether pump is running.  
If so, check the hose inside the pump for damage or breakage and replace it, if required.

#### 4. No Water Flow to Probe

- Check condition of connecting tubes from the measuring water valve to the measured water inlet to probes.
- Check condition of the measured water valve and its seals.

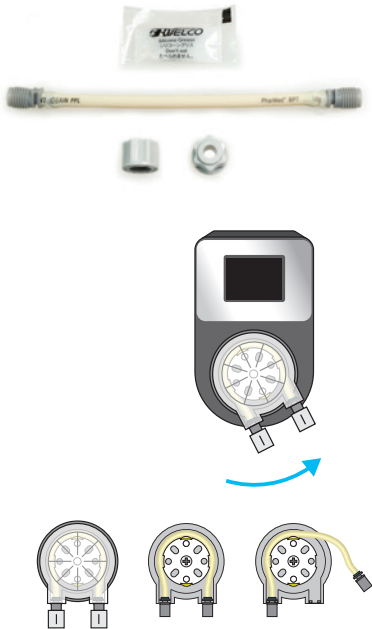
#### 5. Probe out of Service

- Take the probe out and check it for mechanical damage.
- Clean the probe.
- Perform calibration if necessary.
- It is recommended to replace the probes with the new probes every two years.

# PP60 Redox maintenance

To ensure the optimum efficiency, perform visual checks and maintenance of PP60 Redox on a regular basis.

#12073 Replacement tube kit for PP 60



## Pump Hose Replacement

To prevent the pump from failing, it is recommended to replace the hose #12073 every 24 months.

### In doing so, proceed as follows:

- Switch off PP60 Redox.
- Turn the pump cover cassette counterclockwise and take it out of PP60 Redox.
- Release both hose ends and take it out of the cassette.
- Lubricate the new hose with the supplied special grease.
- Insert the lubricated hose into the cassette.
- Place the cover cassette back on PP60 Redox and turn it clockwise to lock it.
- Use new nuts, which are part of the replacement hose set, for connection of the PE tube.

#12005 Injection valve



## Injection Valve Maintenance

On a regular basis, check throughput of the injection valves, rubber band integrity, remove scale and impurities.

In case of private pools, replace injection valve rubber bands every 2 years. In case of public pools, replace injection valve rubber bands every year.

#13087 Injection valve rubber



Fuse T 80 mA #13095



## Fuse replacement

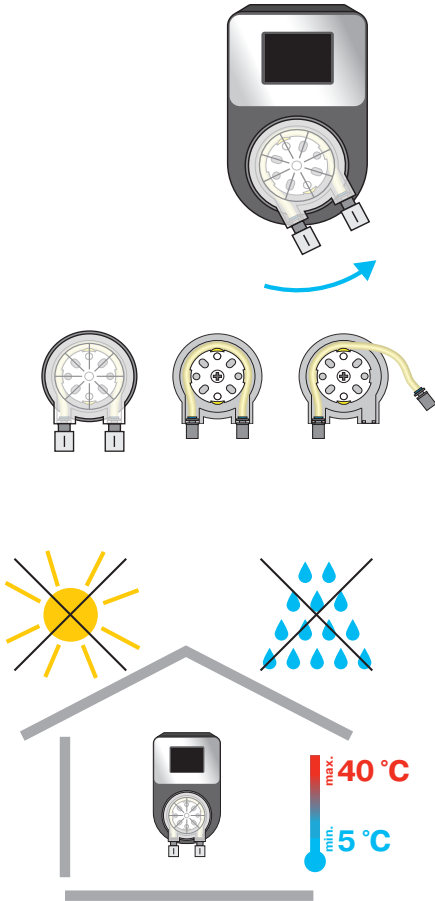
If the input voltage to the peristaltic pump is OK and the pump does not work, the mains fuse may have failed. The fuse is located on the PCB inside of the device. To replace the fuse follow the procedure below:

1. unplug the power cord
2. unscrew and remove the front cover of the device
3. replace fuse T 80 mA with a new one.
4. restore the device to its original state



# Winterizing - storage during winter

The device and all accessories must be dismantled, winterized and moved to a suitable location. To disassemble and winterize the PP60 Redox, follow the instructions below.



#12154 Probe storing sump



#12082 Probe storing liquid



## Storing of pool chemicals, connecting PE tube and dosing pumps

- If the chemicals are left in a place where the temperature does not drop below 0°C, turn OFF the PP60 Redox. Disconnect the dosing pumps from the PP60 Redox and remove the inner tube from the pump. Leave the tube connected to the connecting PE tube. Put the pump cartridges without the inner tubes back onto the PP60 Redox. Store the chemical barrels and connecting PE tube in a place where the temperature is between +0 - +40 °C.
- If chemicals remain in a location where the temperature drops below 0°C, SWITCH OFF PP60 Redox. Remove the connecting PE tubes from the chemical barrels and place them in a container with water. Turn on PP60 Redox. Go to the TEST DOSE menu and START the dosing manually. When the connecting PE tube is completely filled with water, turn OFF the relay test. Remove the water container and perform the TEST DOSE again to completely fill the connecting PE tube with air. When the connecting PE tube is completely filled with air, stop the TEST DOSE and turn OFF the PP60 Redox. Disconnect the connecting PE tubes from the dosing pumps and from the injection valves. Store the chemical barrels in a place where the temperature is between +0 - +40 °C.

## Storage of the PP60 Redox

Disconnect the PP60 Redox mains cable from the 230 V / 50 Hz socket. Move the PP60 Redox unit in a place where the temperature is between +5 - +40 °C and the humidity does not exceed 70%.

## Winterizing of probes

### Winterizing of redox probe

Remove the probe from the housing, dry it with a paper towel and place it in a storage sump filled with a special storage liquid. See probes manual at the website [manuals.asekopool.com](http://manuals.asekopool.com).

A series of horizontal blue lines spanning the width of the page, intended for writing or drawing.

A series of horizontal blue lines for writing, spaced evenly down the page.



USER'S MANUAL

# PP60 Redox

