

BWT Medo Connect



BWT Medo Connect analysers/controllers for swimming pools

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1 Important note on safety

Learn life-saving techniques

Memorise and display the first aid numbers near the pool
(FRANCE):

- Fire brigade: 18
- SAMU: 15
- Poison Control Centres(24/7) :

ANGERS	02 41 48 21 21
BURGUNDY	05 56 96 40 80
LILLE	08 00 59 59 59
LYON	04 72 11 69 11
MARSEILLE	04 91 75 25 25
NANCY	03 83 22 50 50
PARIS	01 40 05 48 48
TOULOUSE	05 61 77 74 47



CAUTION

This appliance may be used by children of at least 8 years of age and by persons with reduced physical, sensory or mental capabilities or lacking experience or knowledge, if they are properly supervised or if they have been given instructions on the safe use of the appliance and are aware of the risks involved. Children must not play with the appliance. Cleaning and maintenance by the user must not be carried out by children without supervision.

CAUTION

A means of de-energising all active poles (phase(s) and neutral) must be provided on the power supply, upstream of the appliance, so that the product can be systematically de-energised before any technical intervention. This device must be located close to the appliance.

CAUTION

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

CAUTION

The BWT Medo Connect cabinet must be positioned at a minimum distance from the pool basin specified by the regulations applicable at the place of installation. In France, this distance is 3.5 metres. However, if the power supply to the unit is specifically protected by a 30 mA residual current device, this distance can be reduced to 2.0 metres (volume 2 below).



standard NF C15-100, part 7-702.

BWT Medo Connect

WARNING

It is strongly recommended that your electrical installation be equipped with a lightning surge protection device. For any resulting damage to the electrical and electronic components of the BWT Medo Connect, the warranty shall be void.

2 General

The **BWT Medo Connect** analysers/controllers you have just purchased are high-tech electronic devices, carefully designed and built for your pleasure and peace of mind. The simplicity, user-friendliness and technicality of the **BWT Medo Connect** will guarantee you perfect control of the water quality of your pool.

They are designed to regulate the pH, and the disinfectant level via the ORP, of water in private family pools with a volume of between 10m³ and 120m³.

WARNING

It is strongly discouraged to use these appliances to regulate the water treatment of spas that are hydraulically independent from a pool.

These appliances can also directly regulate the free chlorine concentration of the water with an "open cell" amperometric probe, rather than the ORP. It is **not supplied with the appliance as delivered**. This amperometric probe is mounted on a specific analysis chamber. Only equipment that matches the features of the **BWT Medo Connect** is allowed.

Probes or interfaces that do not comply with the technical specifications in this manual must not be used.

The **BWT Medo Connect** is available in 2 designs:

- Pre-assembled panel assembly
- Free-standing mounting

The **BWT Medo Connect** series allows the user to choose between two control modes: proportional with cyclic control, or 'on/off' with hysteresis.

In the following instructions you will find all the information you need to install, use and maintain your new equipment.

2.1 Signs and symbols



Identification of a DC voltage or current



Identification of an AC voltage or current



Protective earth



Functional earth

2.2 Storage and Shipment

It is necessary to store and transport your **BWT Medo Connect** in its original packaging to prevent damage.

Ambient conditions for shipment and storage:

Temperature: 0 °C to 60 °C

Air humidity: Maximum 90% non-condensing

Non-corrosive environment, no solvent vapours

Disposal of packaging :



Items such as paper, cardboard, plastic or any other recyclable item must be taken to a suitable sorting centre.

2.3 Warranty

This product benefits from the legal guarantees (called "compliance" and "against hidden defects") to the final consumer.

PROCOPI-BWT also grants a commercial guarantee, which can only be activated if the product has been stored, handled, installed, used and maintained in accordance with the recommendations in this manual.

This product then benefits from the following BWT commercial guarantee as of the date of its initial invoicing by **PROCOPI-BWT** to the client company:












3 years on the controller

OBSERVATION: The probes and their mounting kit, the injection kits, the tubing, the calibration solutions, the end of tank valves, are not covered by the manufacturer's commercial guarantee.

3 Package content

Medo Connect pH















 <p>A: PVC Crystal 4x6 suction hose (4 m)</p>	 <p>B: Polyethylene delivery hose (5m)</p>	 <p>C: FPM Lip valve (3/8" GAS)</p>	 <p>D: PSS3 probe-holder (1/2" GAS)</p>	 <p>E: Tapping saddle for securing PSS3 onto 2" hose ($\phi=50\text{mm}$) (3pcs)</p>	 <p>F: Reducer for injection valve (1/2" M to 3/8" F)</p>
 <p>G: Foot filter (PP riser)</p>	 <p>I: Mounting bracket kit ($\phi=6$ mm screws)</p>	 <p>L: Temperature sensor</p>	 <p>M: pH probe</p>	 <p>N: pH 4 Buffer solution</p>	 <p>O: pH 7 Buffer solution</p>
 <p>P: Empty bottle for wash probe with water</p>	 <p>Q: Ferrules peristaltic tubes</p>				

BWT Medo Connect

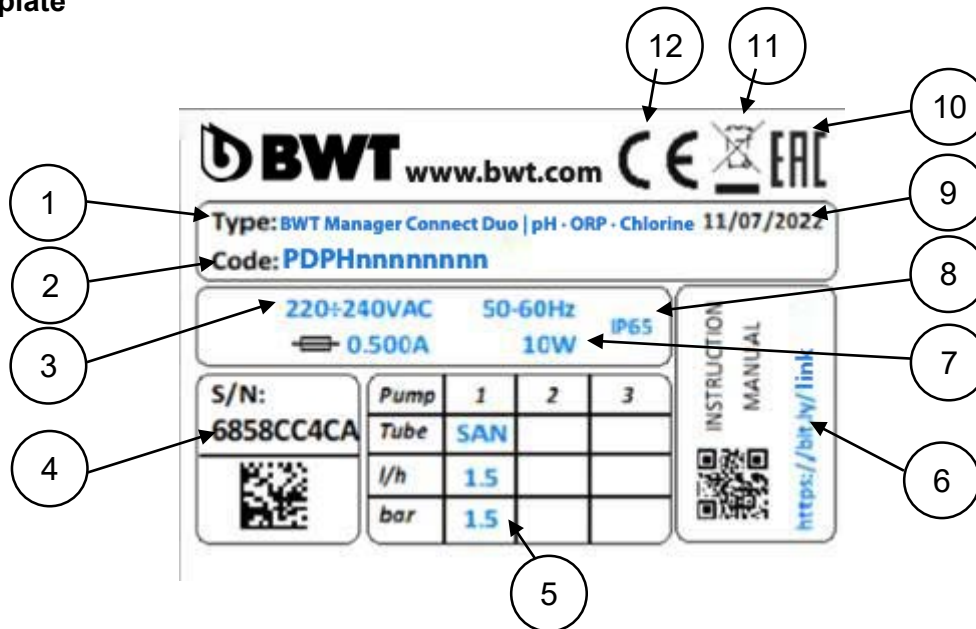
Medo Connect ORP



 <p>A: PVC Crystal 4x6 suction hose (4 m)</p>	 <p>B: Polyethylene delivery hose (5m)</p>	 <p>C: FPM Lip valve (3/8" GAS)</p>	 <p>D: PSS3 probe-holder (1/2" GAS)</p>	 <p>E: Tapping saddle for securing PSS3 onto 2" hose ($\phi=50\text{mm}$) (3pcs)</p>	 <p>F: Reducer for injection valve (1/2" M to 3/8" F)</p>
 <p>G: Foot filter (PP riser)</p>	 <p>I: Mounting bracket kit ($\phi=6$ mm screws)</p>	 <p>L: Temperature sensor</p>	 <p>M: Redox probe (<i>Platinum Electrode</i>)</p>	 <p>N: 465 mv Calibration solution</p>	 <p>O: Ferrules peristaltic tubes</p>

BWT Medo Connect

3.1 Nameplate



1	Product model	7	Maximum current values
2	Product reference	8	Casing protection class
3	Power supply range	9	Production date
4	Serial Number	10	EAC approval
5	Pump characteristics	11	Specifically recyclable product
6	Manual download link	12	CE approval



In accordance with the EU Directive 2012/19/EU, this symbol indicates that electrical appliances may not be disposed of in household or industrial waste. According to the regulations in force, consumers in the European Union are obliged to return their old equipment to the manufacturer who will dispose of it free of charge.



In accordance with the Low Voltage Directive (2014/35/EU), the Electromagnetic Compatibility Directive (2014/30/EU) and the RoHS2 Directive (2011/65/EU), this symbol indicates that the device has been designed in compliance with the above-mentioned directives.

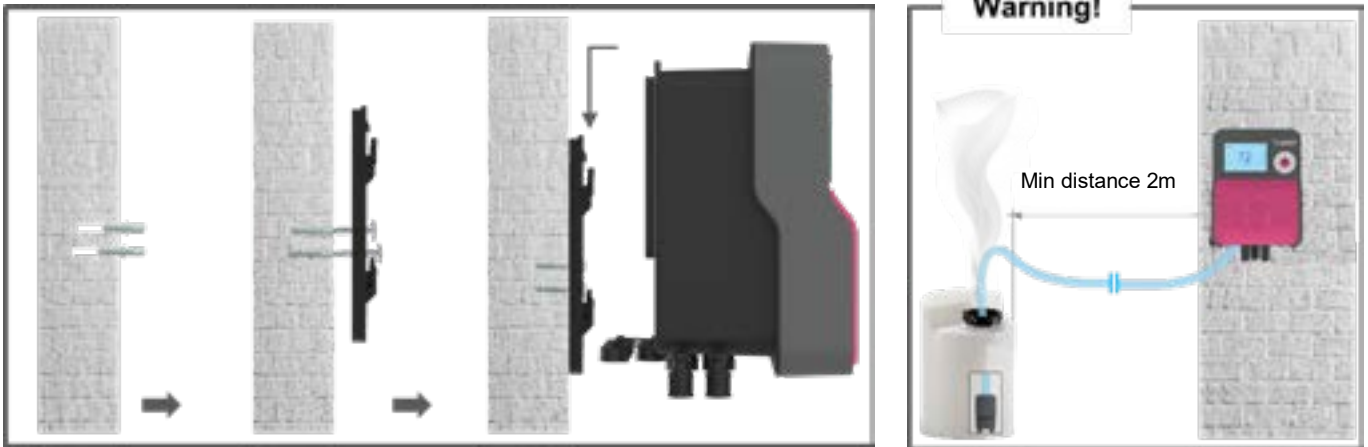
BWT Medo Connect

3.2 Technical specifications

Specifications	Medo Connect pH	Medo Connect ORP
Dimensions (H-W-D)	H: 210 x W:163 x D:130 mm	H: 210 x W:163 x D:130 mm
Weight	1.85 kg	1.85 kg
Pump state	Pause – Supply	Pause – Supply
Probe calibration	Automatic	Automatic
Power Supply	220-240Vac 50-60Hz	220-240Vac 50-60Hz
Consumption (W)	20Watt	20Watt
Device accuracy	± 0.1 pH; ±1°C	±10mV; ±1°C
Accuracy	±0.02pH; ±0.5°C	±3mV; ±0.5°C
Range	0-14pH; 0...+55°C	-99 -1000mV; 0...+55°C
Pump flow rate (l/h)	1.5 l/h	1.5 l/h
Max. back-pressure	1.5bar	1.5bar
Relay contact (number 3)	250 Vac 10A (resistive load)	250 Vac 10A (resistive load)
Fuse	500 mA (timed)	500 mA (timed)



3.3 Wall mounting bracket installation



3.4 Main functions

Main functions		
Function	Feature(s)	Description (s)
Measurement/Control Channels	Scale for the pH function Scale for the Redox function	Measuring range: 0.00 to 14.0pH Resolution: 0.1 pH Accuracy: 1% Measurement range: -99 to 1000mV Resolution: 10mV. Accuracy: 1%
Regulation mode	User selectable, On/Off with hysteresis or Linear Proportional with cyclic control	Dosing power for treatment
Setpoint	pH: 0 to 14 pH in 0.1 pH steps ORP: 0 to 1000 mV in 10mV steps	
Direction	Up or down action (pH and ORP)	
Alarms	High and low measurement values, probe faults, daily product injection time.	Definition of alarm thresholds.
Closed loop control	Remote control of the regulation Flow compensation	Control on a filter contact or a flow meter.
Calibration	By identification of a reference device or with specific calibration liquids. (See accessories)	
Maintenance	Maintenance support	Manual control of dosing devices for pump priming

4 Installation and connections

CAUTION

The installation and connection of the **BWT Medo Connect** equipment should only be carried out by trained and qualified personnel.
The installation must comply with the applicable standards and safety regulations!

CAUTION

Always switch off the mains supply before switching on the device or manipulating the outputs.
Never open the unit when it is powered up!
Maintenance and repairs must only be carried out by authorised and specialised personnel.

4.1 Choice of installation site

To ensure the safety of users and the proper operation of your **BWT Medo Connect**, please observe the following guidelines for installation:

- The enclosure must be located at a distance from the pool in accordance with the regulations applicable at the installation site
- The unit must be protected from rain and splashing water, frost and direct sunlight.
- The ambient temperature should be between 0 and 40°C
- Moisture should not be saturated
- The installation site must be properly ventilated, in particular to avoid corrosive atmospheres and environments with high concentrations of solvent vapours
- Choose an installation site that is free of vibration, on a stable and solid, clean and undistorted surface (level).

In case of non-compliance with these instructions:

- The unit may be damaged
- Measurements can be disrupted
- The guarantee shall be void!

WARNING

The IP54 protection rating of the BWT Medo Connect enclosure is only guaranteed if the front cover is closed, the screws are tightened and the cables match the diameter of the cable glands!

4.2 Wall mounting procedure

1. Turn off the general power supply
2. Check that the filter pump is switched off.
3. Close the hydraulic valves and set the filter valve to "closed".
4. Drill the required number of holes (3 holes of \varnothing 8 mm for free-standing mounting, 4 holes of \varnothing 10 mm for pre-installation) according to the centre distances specified in §2.3
5. Insert the dowels with a hammer.
6. Start by securing the unit with the upper screws, then with the lower screws, without tightening them.
7. Once all the screws are in place, tighten them crosswise

WARNING

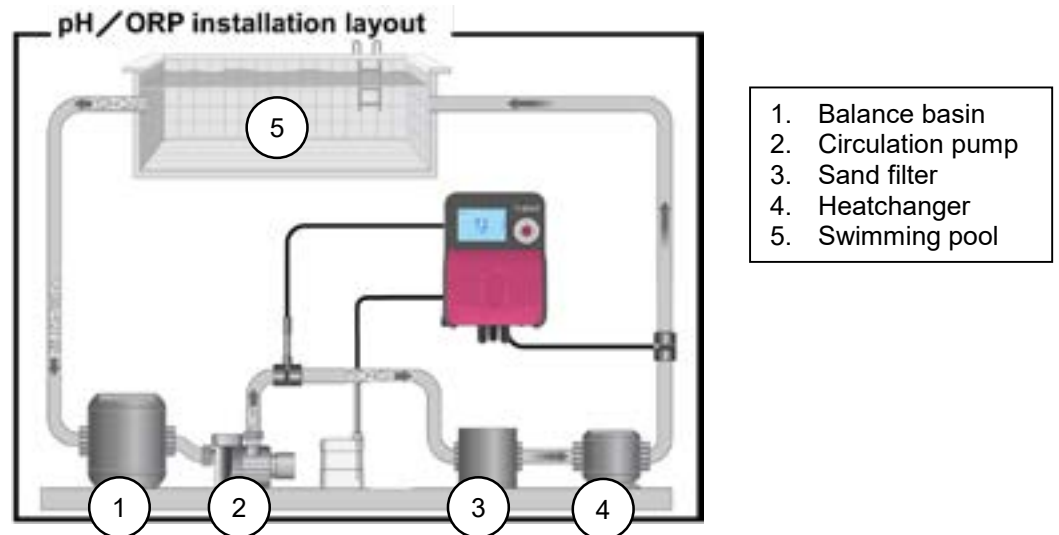
When closing the front cover, take care not to damage the seal or pull the cables between the cover and the PCB!

4.3 Installation of tapping saddles for probes ("free-standing" version) and product injections

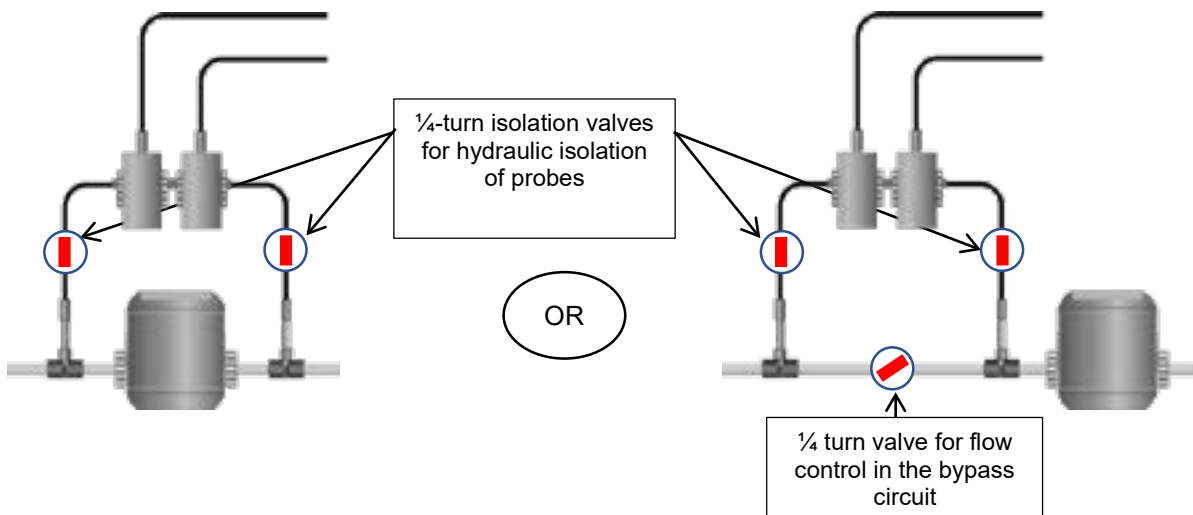
4.3.1 Recommended for installation as a "free-standing" version:

In order for the values measured by the probes to be as representative as possible of the water in the pool, the probes should be positioned between the pump discharge and the inlet to the filter's multi-way valve. In any case, they should be located before any heater and before the injection of chemicals.

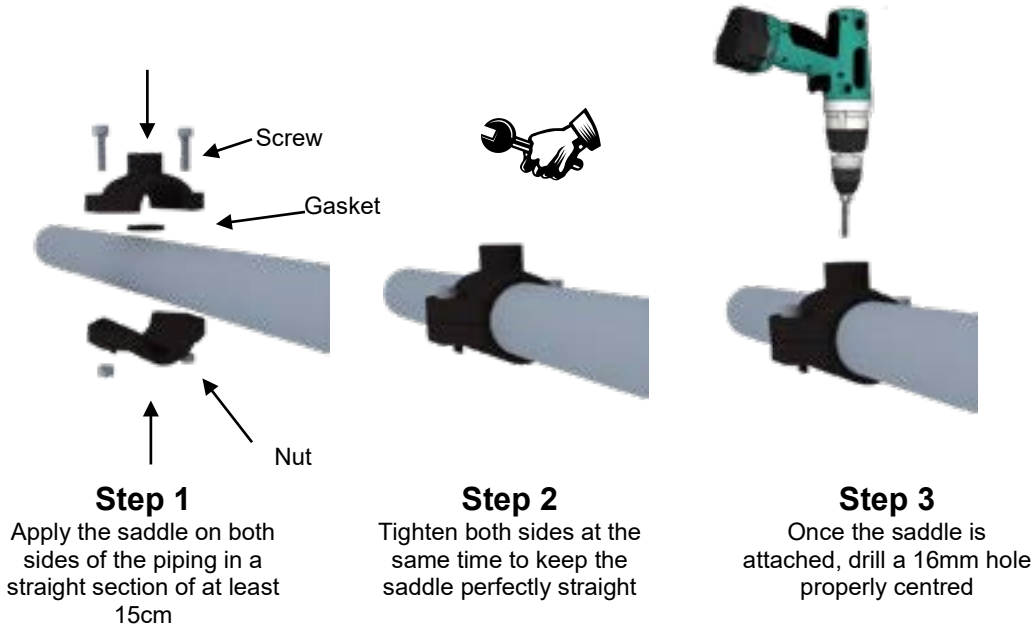
The injection of chemicals should be done after all devices, just before the water is returned to the pool.



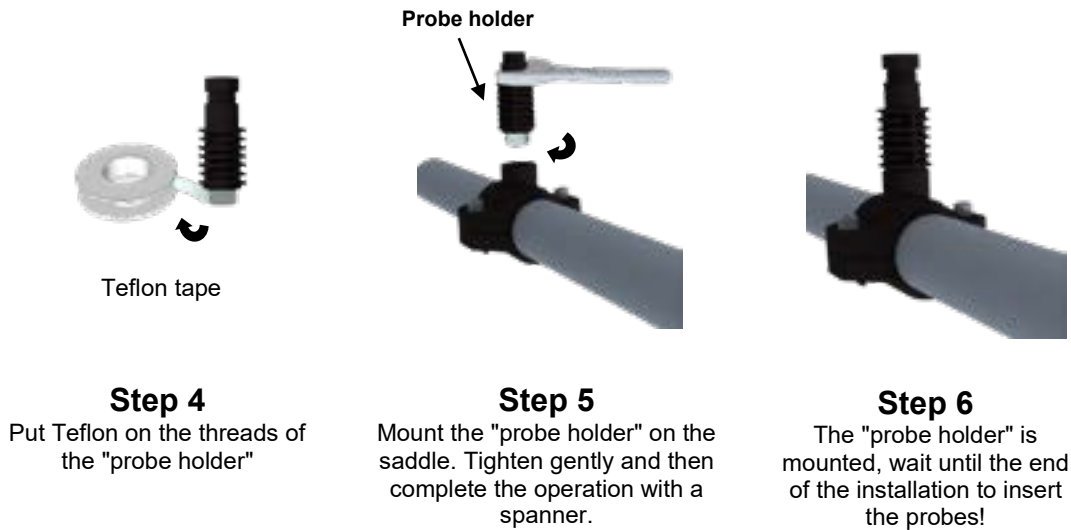
It is possible to mount the tapping saddles on a bypass circuit in order to isolate them hydraulically for easier and faster removal of the probes ("no water pressure") and to leave the filtration running (especially during active wintering)



4.3.2 Procedure for mounting the tapping saddles



4.3.3 Procedure for mounting the probe connection kit



NOTE: The pH and/or ORP probes can be mounted at +/- 90° to the vertical axis. However, we recommend that this is done vertically. This makes maintenance easier.

4.3.4 Procedure for mounting the injection kit

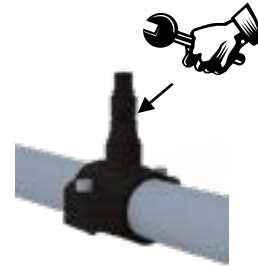


Teflon tape

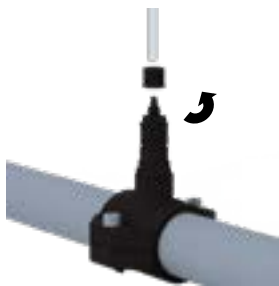
Step 7
Apply Teflon to the threads of the fitting and the injection valve.



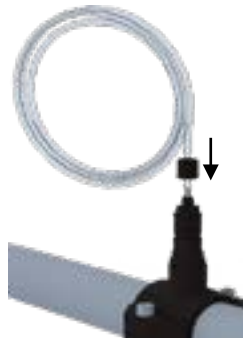
Step 8
Screw the fitting onto the tapping saddle.



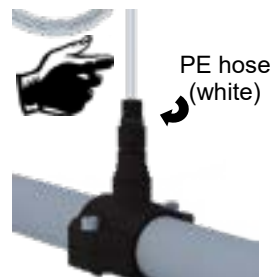
Step 9
Tighten the injection valve on the fitting.



Step 10
Unscrew the injection valve nut.



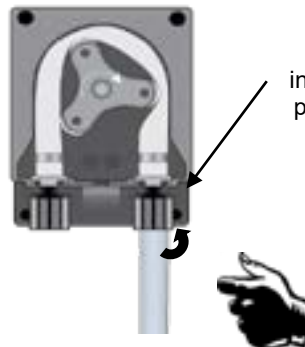
Step 11
Pass the PE hose through the cap and fit it onto the valve cone.



Step 12
Screw the cap with the PE hose (white) onto the valve.



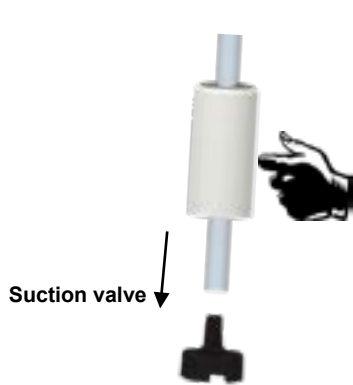
Step 13
Same operation on the dosing pump side.



Step 14
Screw the cap with the PE hose (white) onto the pump.

Arrow indicating the pump output

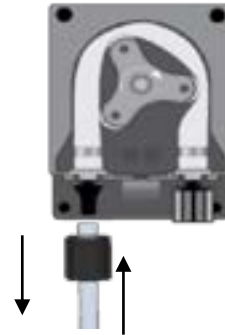
4.3.5 Procedure for mounting the suction kit



Step 15
Unscrew the cap and pass the clear hose.



Step 16
Tighten the nut on the cone.



Step 17
Screw the PVC hose (transparent) on the dosing pump.



Step 18
Tighten the nut on the dosing pump.



Step 19
Install the weighted bottom trap valve and adjust the depth.

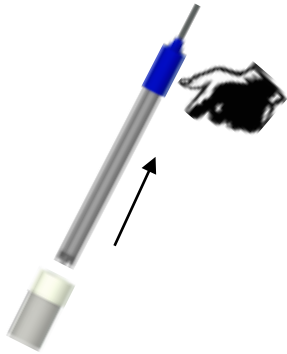


Step 20 (optional)
Place the level probe and its weight and adjust.

4.3.6 Procedure for mounting pH and/or redox probes

WARNING

Probes are sensitive elements. They should be maintained and calibrated regularly using the calibration solutions supplied with the instrument. In the event of a defect, there is a potential risk of excess chemical injection, or sanitary degradation of the water quality.



Step 21

Remove the probe from its protective sleeve and unscrew the "probe holder" nut.



Step 22

Slide the nut onto the probe and the clamp underneath, then place the probe.



Step 23

Screw on the "probe holder" nut by hand. The probe is ready!

WARNING

If the unit is installed in a bypass circuit, ensure that the shut-off valves are properly opened when the unit is in operation.

Probe positioning



For optimum probe reading, position it perpendicular to the tubing.

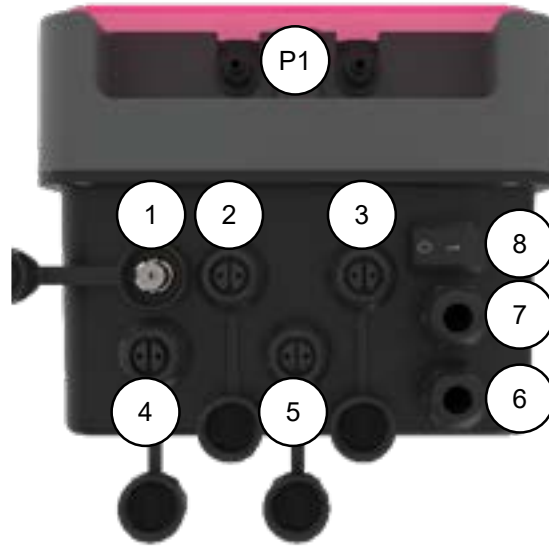


The probe's angle of inclination must never exceed 45° from vertical.

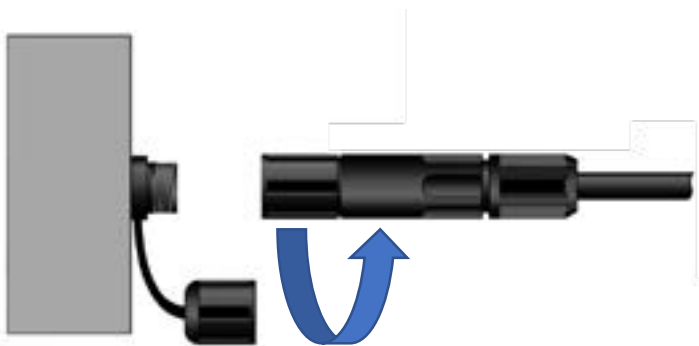
Make sure that the injection pressure is below 1.5 bar



5 Electrical connections



Clamp	Description	Medo Connect pH	Medo Connect ORP
1	Input Probe (BNC)	pH	ORP
2	Input Probe	TEMP (PT100)	TEMP (PT100)
3	Level probe (product tank)	pH Level probe	Chlorine Level probe
4	Flow check (Reed Sensor)	Flow (REED sensor)	Flow (REED sensor)
5	Output Relay	Alarm Relay	Alarm Relay
6	Trigger Input Cord cable without plug	Circulation Pump (220Vac input)	Circulation Pump (220Vac input)
7	Power Supply cord cable with schuko plug	220-240 Vac 50-60 Hz	220-240 Vac 50-60 Hz
8	Power switch	present	present
P1	Peristaltic pump connection	pH (Blue)	Chlorine (Yellow)

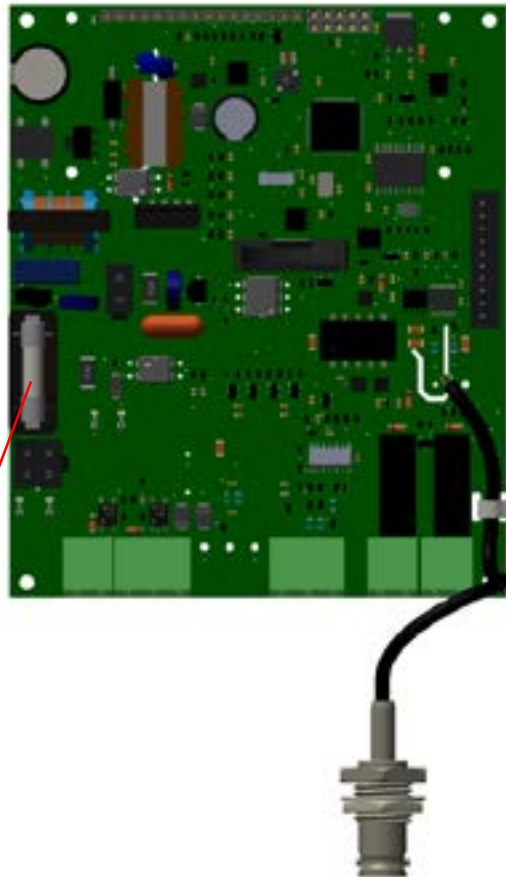


Binder connector input



BNC connector input

6 Changing the internal protection fuses



Fuse 0,5A T
5x20 mm size glass
body



Before opening the enclosure, switch off the mains supply!

BWT Medo Connect

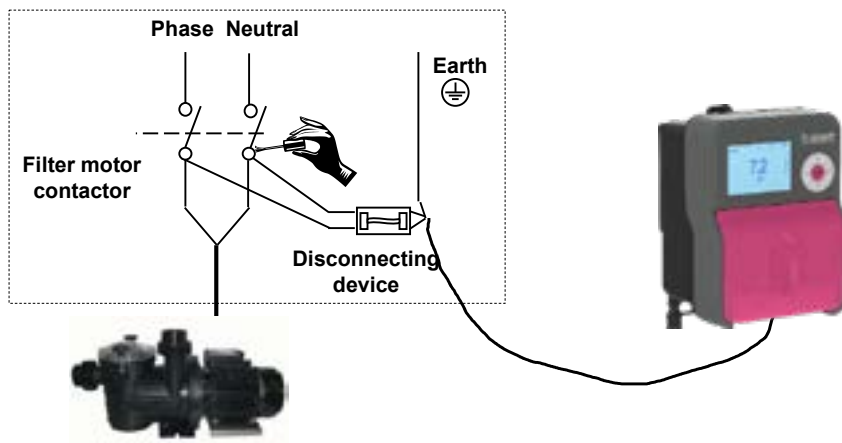
6.1 Commissioning / Electrical connections

6.1.1 General connections

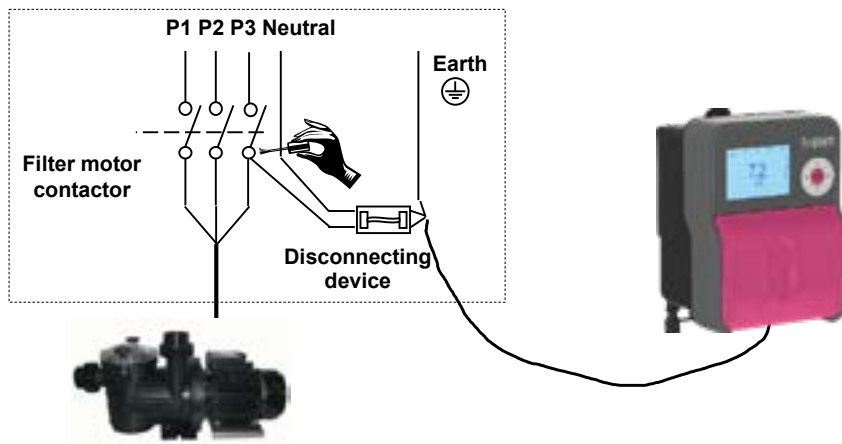
Note: With the exception of the relay output, all input/output connections are safety extra-low voltage (SELV). These voltages are usually supplied by the appliance and do not exceed 15V DC.

CAUTION
Electrical connection of the box **BWT Medo Connect** must be connected to the pool's filtration system.
The CAD input "remote control" can be used to fulfil this condition.
(Potential free input, do not connect 220 V or other power supply to this input)

6.1.1.1 Case of a 230V 50Hz single-phase filter box...



6.1.1.2 Case of a 380V 50Hz three-phase filter box...

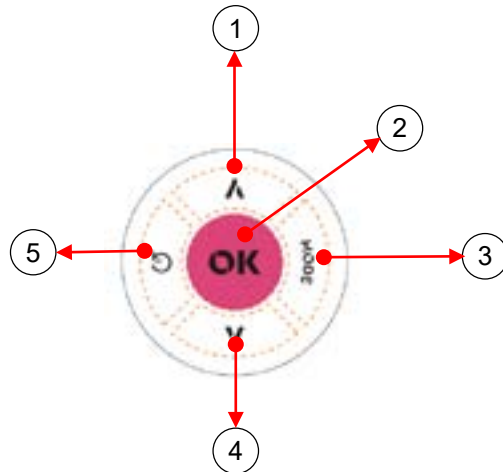


NOTE: In both cases, connect "Neutral and one phase" as well as earth!

7 Setting Program

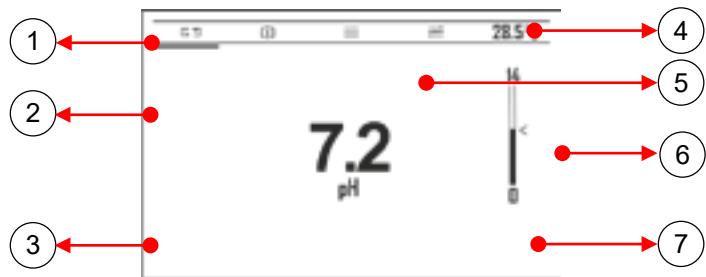
7.1 Keypad

1. Button to increase the value
2. Enter/confirm Button
3. Mode Button
4. Button to decrease the value
5. Esc Button



7.2 Graphic Display

1. Navigation menu, press Mode button to select the items.
2. pH Measure
3. Message display area 1
4. Temperature measure
5. ORP measure
6. Free Chlorine measure
7. Message display area 2



Press **Mode** key button to move icon menu and press enter con confirm

N	Function	Graphic display icon
1	Measure	
2	Calibration menu	
3	Setup menu	
4	Advanced setting menu	

7.3 Info Menu



In **View measure** mode, press the **ESC** key to access the **Info** menu.

Select the item "Download Manual" and press the **Enter** key.

On the screen will be displayed QR-Code with which you can start downloading the user manual in pdf format.

_Info_Menu_____

▶ -: Manual Download

01/01

_Qr-Code_____



7.4 Help Menu

Press **Enter** Keys to open Help menu, with:

1. Priming pumps function:

- Pump, keep press OK button to make a priming pump
- Alarm Relay, keep press UP button to close alarm relay

2. Alarm log, show the alarms log list

3. Boost chlorine dosing (please check advanced

menu 3C8 at page 30), this function is enabled in ORP device only.

4. Reset OFA

_Help_Menu_____

1. Priming
2. Alarm log
3. Boost Cl Dosing
4. Reset OFA

Note: StandBy system

Press **UP** and **Down** buttons (5 seconds) the system sets in StandBy mode; all functions are disabled, and the display shows stand by system message.

7.5 Calibration Menu

The Calibration menu consists of Two (2) items or sub-menus:



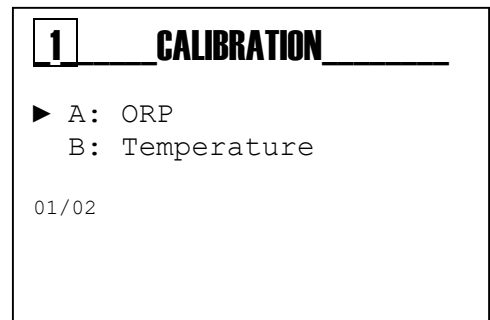
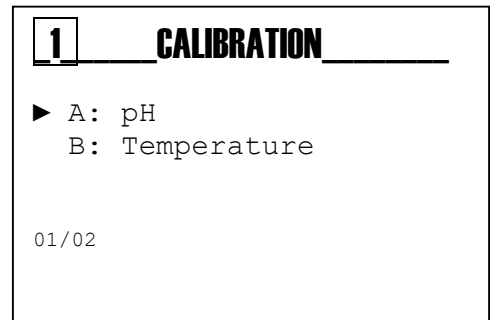
Medo Connect pH

- A: pH probe
- B: Temperature probe



Medo Connect ORP

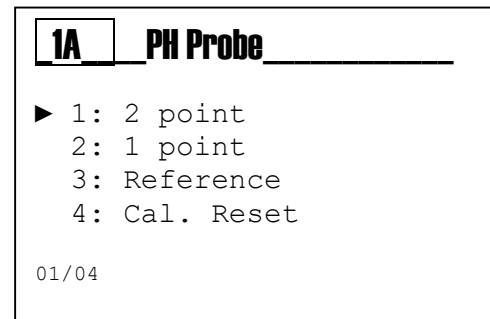
- A: Redox probe
- B: Temperature probe



Menu 1A pH Probe (Menu 1A)

The Calibration menu consists of four (4) items or sub-menus:

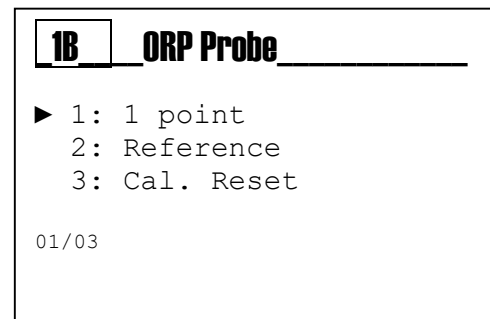
- 1A1: **2 point**: the instrument requires the standard buffer solutions 7 pH, 4 pH or 9.22 pH.
- 1A2: **1 point**: the instrument will suggest the buffer solutions from the default values 7 pH, but the value can be changed.
- 1A3: **Reference**: the instrument accepts the calibration of one point with a manually set value.
- 1A4: **Reset (Calibration)**: the calibrations can be deleted and restored the default values.



Menu 1B ORP Probe (Menu 1B)

The Calibration menu consists of Three (3) items or sub-menus:

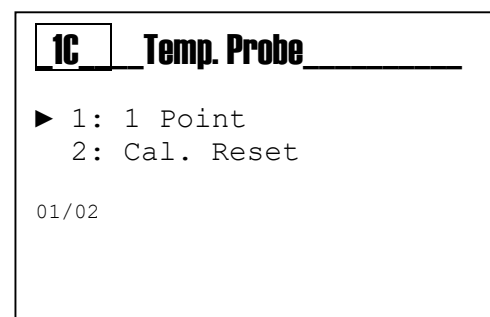
- 1B1: **Automatic**: the instrument requires the standard buffer solutions 465mV.
- 1B2: **Reference**: the instrument accepts the calibration of one point with a manually set value.
- 1B3: **Reset (Calibration)**: the calibrations can be deleted and restored the default values.



Menu 1C Temperature Probe (Menu 1C)

The Calibration menu consists of two (2) items or sub-menus:

- 1C1: **1 Point**: the instrument requires a **single point** calibration by external reference.
- 1C2: **Reset (Calibration)**: the calibrations can be deleted and restored the default values.



BWT Medo Connect

7.6 Setup Menu

Use the **MODE** key to scroll through the icons on the status bar, from left to right, select the **setup** menu and confirm with the **Enter** key.



The **Setup** menu consists of two (2) items or sub-menus:



Note: Check the device model:

- **Medo connect pH**
 - o 2A: pH Pump
 - o 2B: Alarm Relay

- **Medo connect ORP**
 - o 2A: ORP Pump
 - o 2B: Alarm Relay

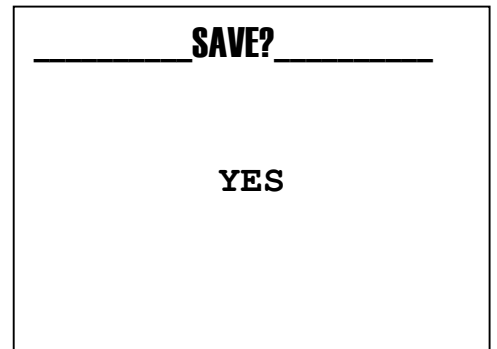
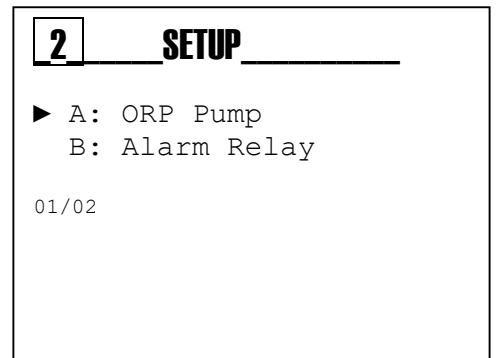
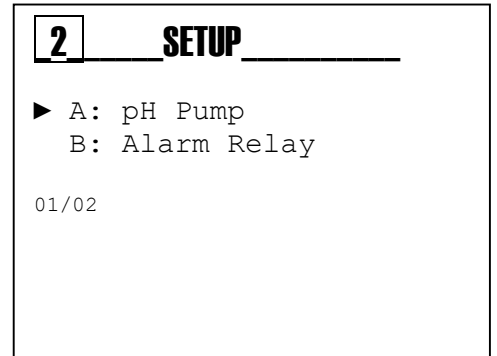


Note:

Below are illustrated the settings required for each sub-menu indicated above.

To exit the menu, press the **Esc** key; the instrument will display the question "save?"; confirm with the **Enter** key.

For not saving, select NO using the (+) or (-) key and confirm with the **Enter** key.



7.7 pH Pump Menu

2A1 **SetPoint:** Chemical value to maintain into the process

2A2 **SetPoint Type:**

PH-: the pump doses acid product to reduce pH value

PH+: the pump doses alkaline product to increase pH value

2A3 **OFA:** Over feed alarm timer, maximum activation time

In advanced menu-> Advanced features

2A4 **Time ON:** Activation time pump range: Off..5" to 3600" (*1)

2A5 **Time OFF:** Wait time pump range: Off..5" to 3600" (*1)

2A6 **min Alarm:** value below which the system goes into alarm

2A7 **Max Alarm:** value above which the system goes into alarm

(*1 Time on and off are present if set Type dosing settings= Timed)

2A pH_Pump	
▶ 1: SetPoint	7.40 pH
2: SP Type	Acid
3: OFA	00'
4: Time On	00'
5: Time Off	00'
6: Alrm Min.	6 pH
7: Alrm Max.	8 pH
01/07	

7.8 ORP Pump Menu

2B1 **SetPoint:** Chemical value to maintain into the process

2B2 **SetPoint Type:**

ORP+: the pump doses chlorine product and increase ORP

ORP-: the pump doses no chlorine product and reduce ORP

2B3 **OFA:** Over feed alarm timer, maximum activation time.

2B4 **Time ON:** Activation time pump range: Off..5" to 3600" (*1)

2B5 **Time OFF:** Wait time pump range: Off..5" to 3600" (*1)

2B6 **min Alarm:** value below which the system goes into alarm

2B7 **Max Alarm:** value above which the system goes into alarm

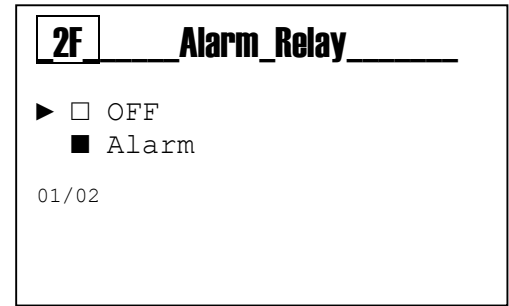
(*1 Time on and off are present if set Type dosing settings= Timed)

2B ORP_Pump	
▶ 1: SetPoint	7.40 pH
2: SP Type	Acid
3: OFA	00'
4: Time On	00'
5: Time Off	00'
6: Alrm Min.	600 mV
7: Alrm Max.	800 mV
01/07	

7.9 Alarm Relay

2F **Alarm Relay**: Set function for:

- OFF
- Alarm (OFA, Over range measure, Flow check, etc...)



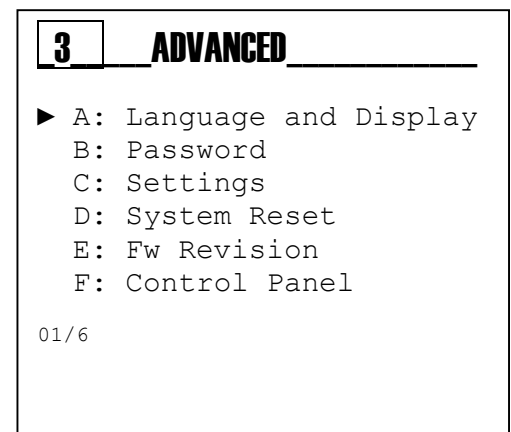
7.10 Advanced Menu

Use the **MODE** key to scroll through the icons on the status bar, from left to right, select the **adv** menu and confirm with the **Enter** key.



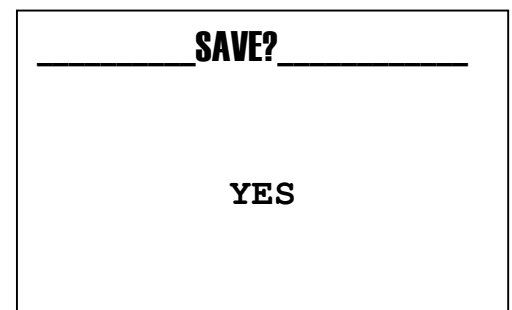
The **Advanced** menu consists of thirteen (6) items or sub-menus, as follows:

- A: Language and Display
- B: Password
- C: Settings
- D: System Reset
- E: FW (Firmware) revision
- F: Control Panel



Below are illustrated the settings required for each sub-menu indicated above.

To exit the menu, press the **Esc** key; the instrument will display the question "save?"; confirm with the **Enter** key.



For not saving, select NO using the (+) or (-) key and confirm with the **Enter** key.

7.10.1 3A Language menu and display

The instrument automatically changes the language of the menu and returns to the previous level, menu 3.

3A LANGUAGE and DISPLAY

- ▶ 1: Language
- ▶ 2: Display

01/02

3A1 LANGUAGE

- ▶ Français (default)
- Anglais
- Allemand
- Néerlandais
- Espagnol
- Portugais
- Italien
- Polonais

01/8

3A2 Display menu:

- Adjust the **contrast** light of display
- **Alarm blink**: Enable or Disable red color
- **Stand by Green**: Enable or Disable green color

3A2 Display

- ▶ Contrast
- Alarms blink
- Stby Green

01/03

7.10.2 3B Password

It is possible to protect the settings by password value, moreover it is possible to enable or disable the Calibration and Setup menu to protect it by password.

3B1 Set Password: set the numeric value

Note: If the password is present will be displayed

Example: "Old Password 1234"



Note: To remove the password set four zeros (0000) and confirm with the **Enter key**.

The following are examples of the sub-menus shown above.



Menu 3B1

Set the value for password, (default value is 0000 and the password is disable).

Scroll through the menu using the **(+)** or **(-)** key, select the next item with **Mode** key.

Menu 3B2

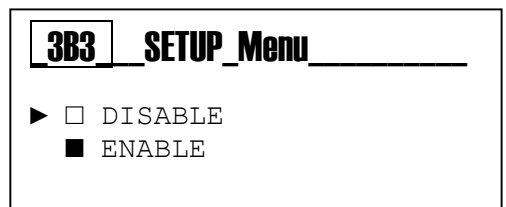
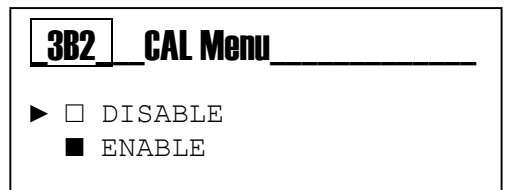
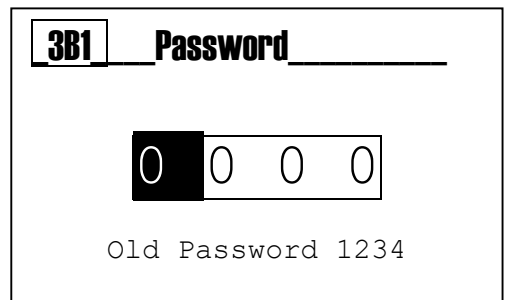
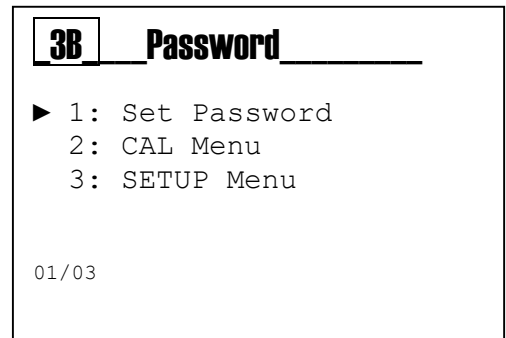
Enable= access password required

Disable= no need access password required

Menu 3B3

Enable= access password required

Disable= no need access password required



7.10.3 3C Settings

3C1 Temperature Measure to set manual value
 Temperature mode: PT100 sensor, or manual value
 Manual value: 25° (default)

3C2 Reed Input: Set logic contact Reed
 N.Open: normally open
 N.Close: normally close

3C3 Pump Mode:
 - Define the Working method for the Peristaltic Pump onboard

3C4 WiFi Info:
 - WiFi Alarm status
 - SSID
 - PSW
 - IP Address

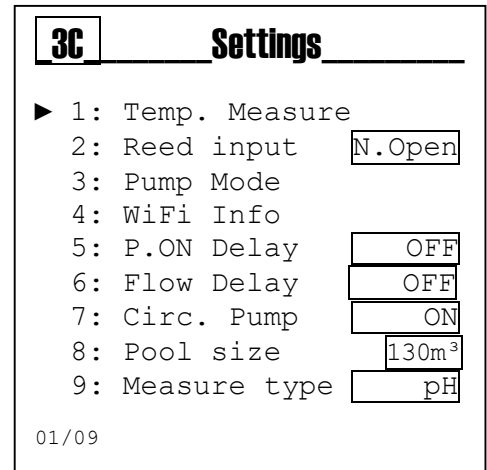
3C5 Power On Delay:
 - Setting time of Power On Delay routine, it is function with countdown timer to disable the measure and dosing regulation when the system switch on, to ensure the right polarization of the probes

3C6 Flow delay:
 - Setting time of Flow Delay routine, it is function with countdown timer to disable the measure and dosing regulation when the flow rate is present again, to ensure the right polarization of the probes

3C7 Circulation Pump:
 - Enable or Disable the trigger input of Circulation pump, to enable or disable the dosing system.

3C8 Pool Size:
 - Setting pool size dosing in cubic meter volume the system assigns the Booster time dosing, as table below:

Pool Size (m ³)	Time dosing (minutes)
130 m ³	25 minutes
120 m ³	20 minutes
100 m ³	15 minutes
80 m ³	10 minutes
40 m ³	7 minutes
20 m ³	3 minutes
Disable	0 minutes



BWT Medo Connect

3C1 Temperature Measure menu

- Selection: Manual or automatic value By PT100 sensor
- Manual value: please set fixed value

3C1 <u>Temp. Measure</u>	
▶ - Selection	<input type="text" value="Manual"/>
- Manual	<input type="text" value="25°C"/>
01/02	

3C2 Reed Input: Set logic contact Reed

N.Open: normally open
N.Close: normally close

3C2 <u>ADVANCED Features</u>	
▶ 1: Temp. Measure	
2: Flow Rate Meas.	
3: Reed input	<input type="text" value="N. Open"/>
4: Pump Mode	
01/04	

3C3 Pump Mode:

Define the Working method for the Peristaltic Pump onboard The system.

The value could be:

- 1) OFF
- 2) Proportional (Prop.)
- 3) On-Off
- 4) Timed

3C3 <u>Pump Mode</u>	
▶ 1: pH	<input type="text" value="On-Off"/>
01/01	

3C3 <u>Pump Mode</u>	
▶ 1: ORP	<input type="text" value="On-Off"/>
01/01	

3C4 WiFi Info:

Menu WiFi info:

- 1) WiFi Alarm status, Errore con connessione remota
- 2) SSID: service set identifier
- 3) PSW: password
- 4) IP Address: number address

3C4 <u>WiFi Info</u>	
▶ 1: WiFi Alarm	<input type="text" value="Off"/>
2: SSID	<input type="text" value="KommSPOTvB73FCA"/>
3: PSW	<input type="text" value="12345678"/>
4: IP	<input type="text" value="192.168.3.1"/>

3C5 Power on Delay:

Set timer (range 0..90 minutes)

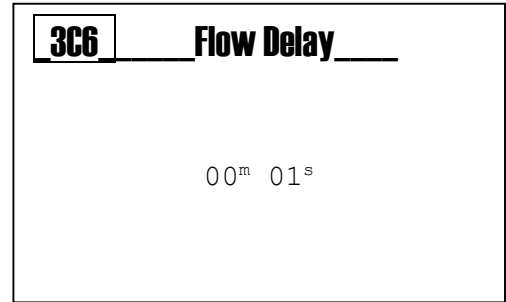
timer= 0 minutes the function is disable

3C5 <u>Power On Delay</u>	
00 ^m 01 ^s	

BWT Medo Connect

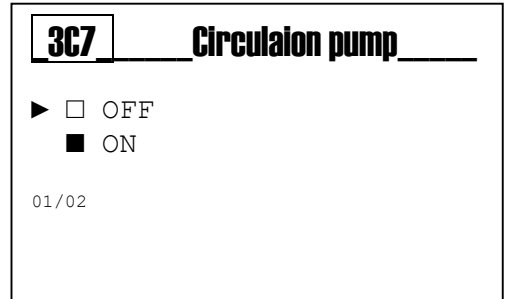
3C6 Flow Delay:

Set timer (range 0..60 minutes)
timer= 0 minutes the function is disable



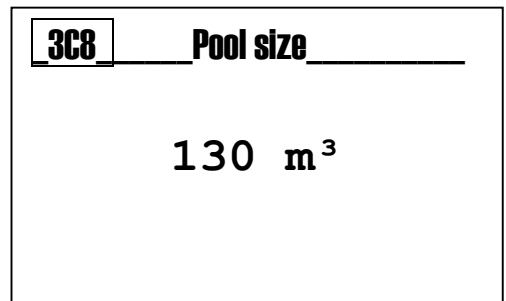
3C7 Circulation pump:

Enable or disable trigger input of circulation pump



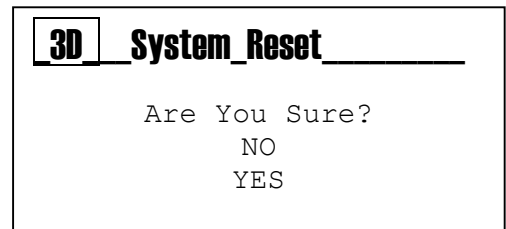
3C8 Pool size:

Setting pool size dosing in cubic meter volume



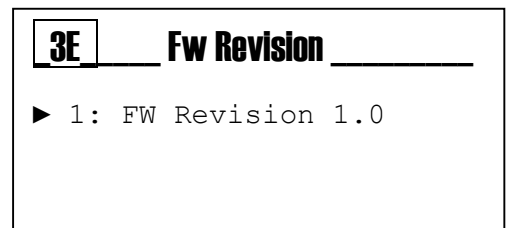
7.10.4 3D System Reset menu

3D1 Reset Unit: Reload default parameters



7.10.5 3E Firmware Revision menu

3E1 Revision: Show the Firmware revision



7.10.6 3F Control Panel menu

3F Control Panel

- ▶ 1: Mesure input
- 2: Digital input
- 3: Compteurs
- 4: Outputs

01/02

3F1 Measure input: Enable/Disable third pump
 - pH / ORP measure

3F1 Measure Input

- ▶ 1: pH probe

58,1 mV

- 2: Temp. PT100

105,5 OHM

01/02

3F1 Measure Input

- ▶ 1: ORP probe

700 mV

- 2: Temp. PT100

105,5 OHM

01/02

3F2 Digital Input: ON/OFF Input flow rate sensor
 - Level 1
 - Reed
 - Circulation pump (Trigger input)

3F2 Digital Input

- ▶ 1: Reed

Close

- 2: Level 1

Open

- 3: Cir. Pump

ON

01/03

3F3 Counters: List of internal counters,
Pumps:

- Activations in number of events
- Life pump in time
- Priming number actions
- Power On Delay activation
- Reed sensor of Probe holder flow check activation

Key Buttons:

- Up key, number of activations
- Down key, number of activations
- Esc key, number of activations
- Enter key, number of activations
- Mode key, number of activations

Alarm:

- Alarm number of activations
- Minimum alarm measure, number of activations
- Maximum alarm measure, number of activations
- OFA (Over feed Alarm), number of activations
- Chemical Level Alarm, number of activations
- Alarm Relay, number of activations

Calibration

- Calibration event routine, number of activations
- Quality of Last calibration value: Offset, Gain

3F3 Counters

- ▶ Pumps
- Key Buttons
- Alarm
- Calibration

01/0x

8 View Level

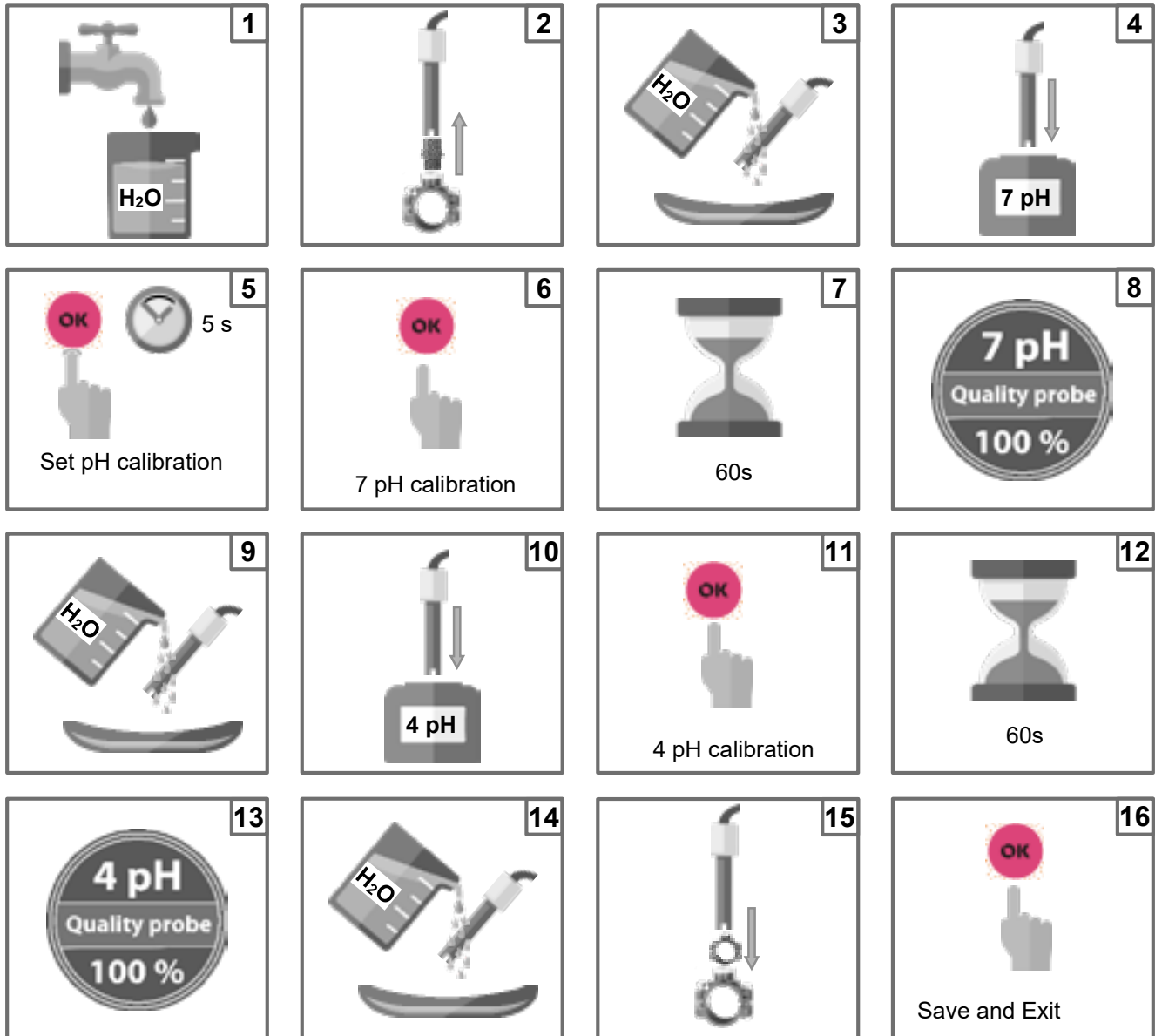
Single parameter pH measure



Single parameter ORP measure



9 pH CALIBRATION



Note: If you have selected "1 point calibration", the calibration will only be performed in 1 point using the 7 pH buffer solution.

The controller gives you a quality probe in percentage value, thanks to this feedback to know the probe is good or not.

Quality percentage value probe: 100%= Perfect, 75%= Good; 50%= Fair, 25%= no good


Reference calibration

CAL Reference
7.2 pH

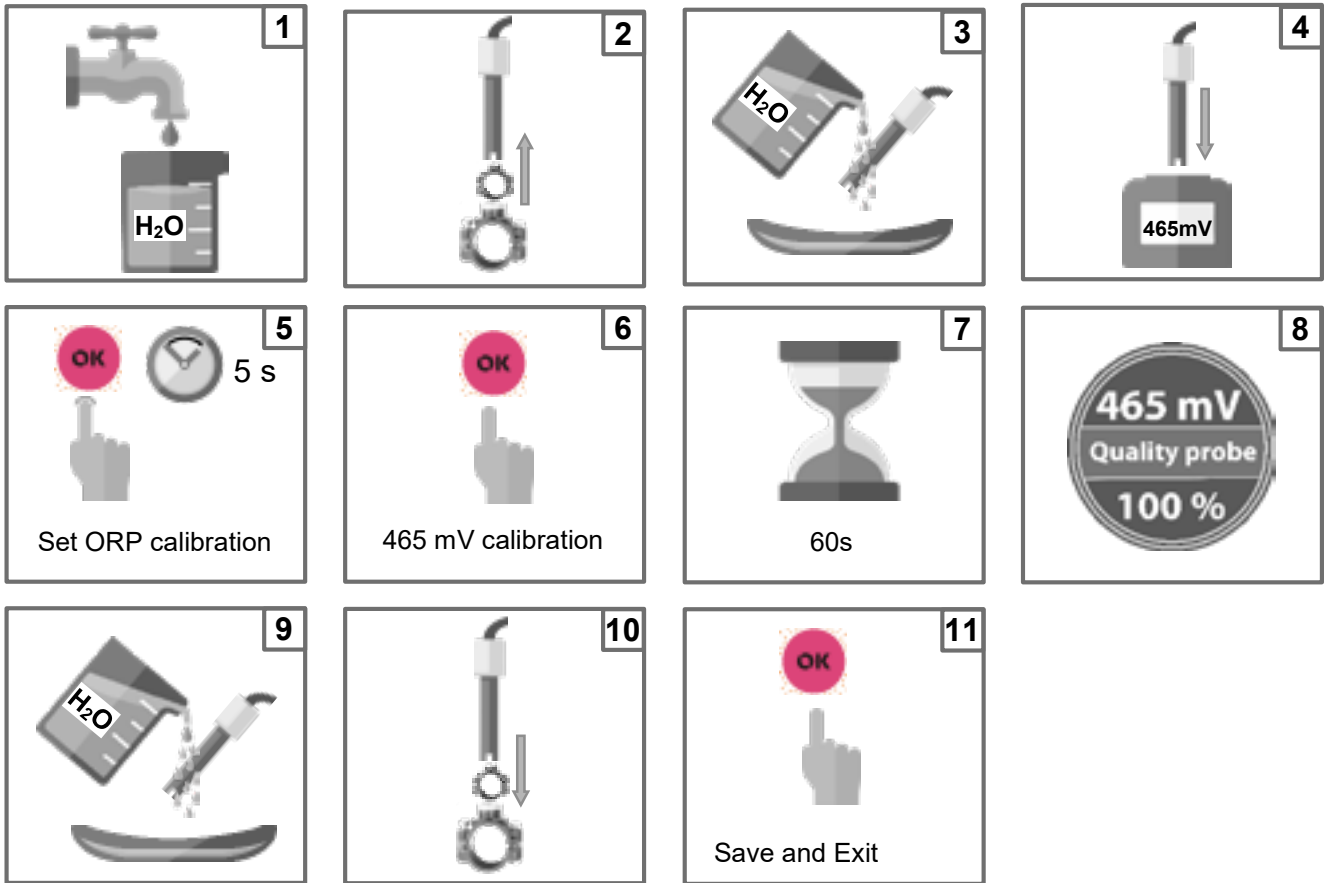
The unit will flash a
pH value

Set the pH value
measured with the instrument
Ex. 7.4 pH

CAL Reference
7.4 pH



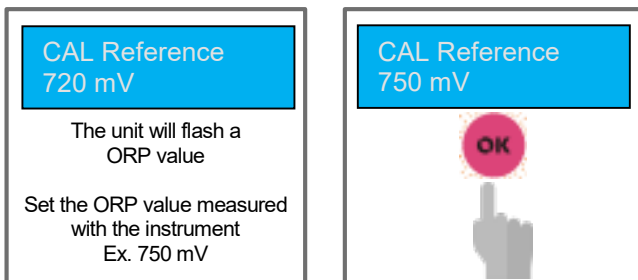
10 ORP Calibration



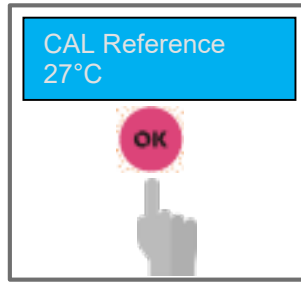
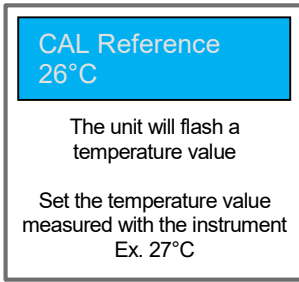
The controller gives you a quality probe in percentage value, thanks to this feedback to know the probe is good or not.

Quality percentage value probe: 100%= Perfect, 75%= Good; 50%= Fair, 25%= no good

Reference calibration



11 Temperature calibration



To calibrate the temperature probe, use a handheld portable controller

12 Proportional dosing pump (TWM: Time with modulation) with OFA

Setting menu of pH dosing pump
 Setpoint, Type dosing and OFA is visible, but the Period dosing and Proportional band is hidden (red colour) of end user.

The dosing period and proportional band are hidden items in the menu to simplify the setting of end user (yellow mark).

2A PH_PUMP	
▶ 1: SetPoint	7.20 pH
2: Type dosing	Acid
3: OFA timer	150'
3: Dosing Period	10' 00"
4: Prop. Band	0.80pH

01/5

The dosing system has a TWM routing to calculate itself Time dosing period between Setpoint and proportional Band. It is divided in four steps:

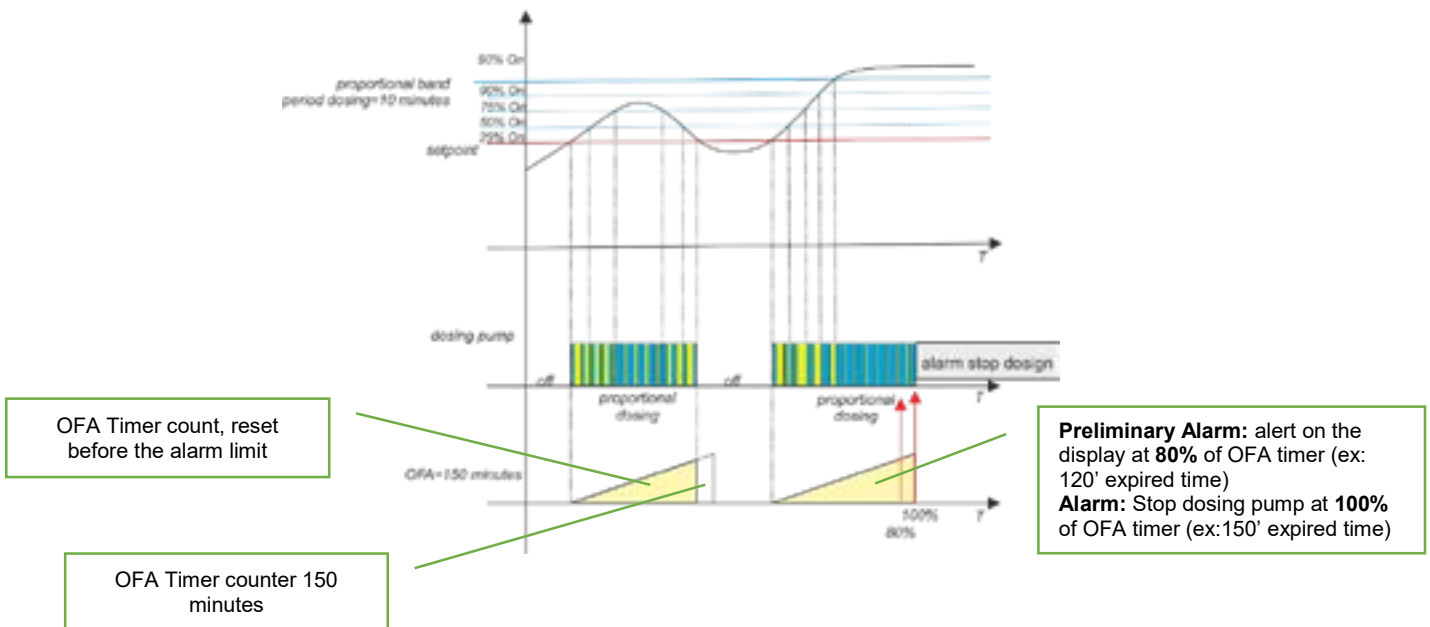
- 25%= 2,5 minutes ON and 7,5 minutes OFF
- 50%= 5 minutes ON and 5 minutes OFF
- 75%= 7,5 minutes ON and 2,5 minutes OFF
- 90%= 9 minutes ON and 1 minutes OFF

The **OFA function** is a timer to start with dosing pump to check the time left, and stop it to reduce a shock dosing in the pool, the function OFA generate two levels of alarm:

- Preliminary Alarm: alert on the display at **80%** of OFA timer (ex: 120' expired time)
- Alarm: Stop dosing pump at **100%** of OFA timer (ex:150' expired time)

If the dosing pump switch off before the OFA timer the device reset all counter.

Below the graphic diagram:



13 Proportional dosing pump (TWM: Time with modulation)

Setting menu of pH dosing pump
 Setpoint, Type dosing and OFA is visible, but the Period dosing and Proportional band is hidden (red colour) of end user.

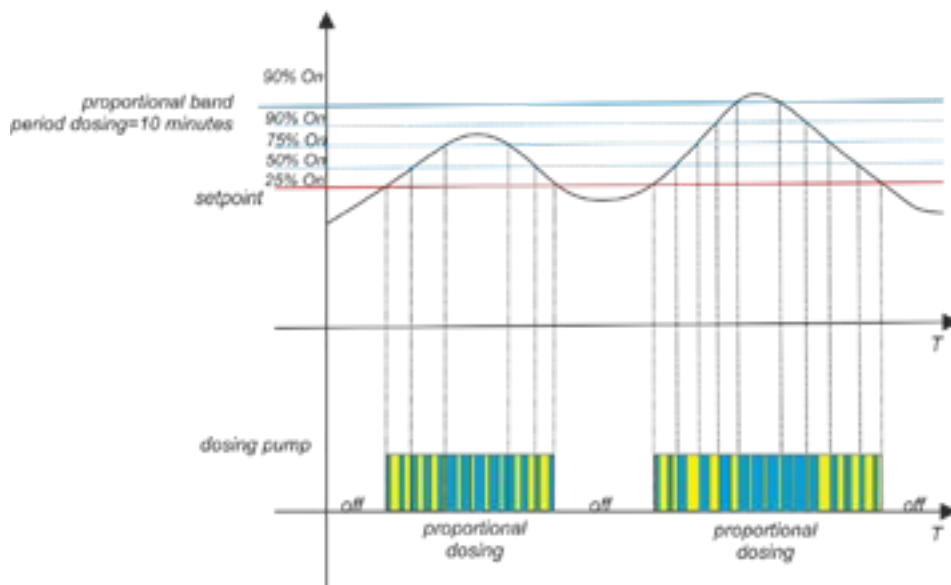
The dosing period and proportional band are hidden items in the menu to simplify the setting of end user (yellow mark).

2A PH_PUMP	
▶ 1: SetPoint	7.20 pH
2: Type dosing	Acid
3: OFA	OFF
3: Dosing period	10' 00"
4: Prop. Band	0.80pH
01/5	

The dosing system has a TWM routing to calculate itself Time period dosing between Setpoint and proportional Band. It is divided in four steps:

- 25%= 2,5 minutes ON and 7,5 minutes OFF
- 50%= 5 minutes ON and 5 minutes OFF
- 75%= 7,5 minutes ON and 2,5 minutes OFF
- 90%= 9 minutes ON and 1 minutes OFF

Below the graphic diagram



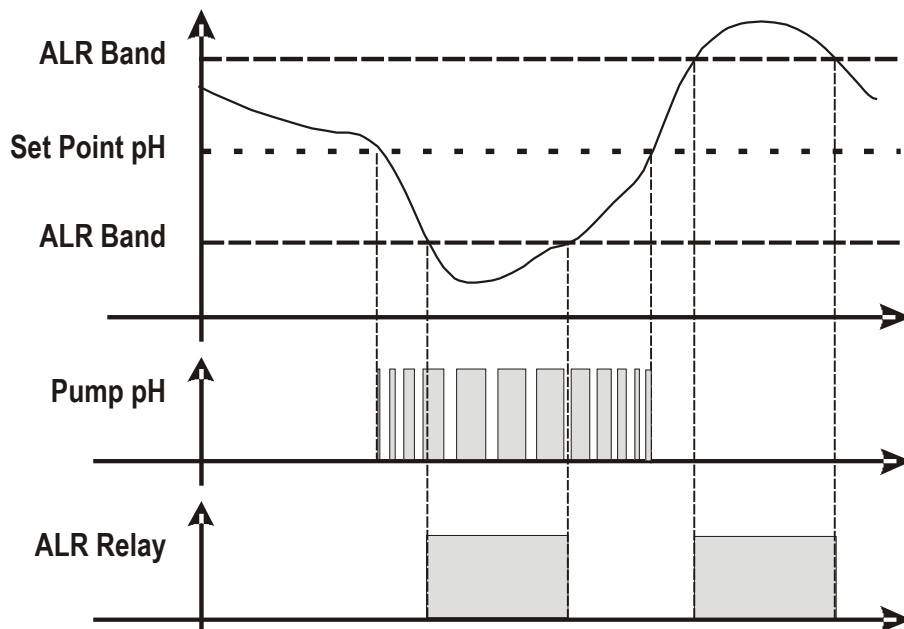
14 Alarm for the pH/Redox Set Point

When the alarm band is set, a work window is created. If the allowed limits are exceeded the alarm relay closes and remains closed until the measurement is reset or **OK** is pressed to deactivate the alarm.

When the OFA time (Over Feed Alarm) is set, the dosing time of Set Point pH/Redox in time is controlled with two alarms:

- First alarm at 80% of the time set is seen on the display, the alarm relay closes.
- Second alarm at 100% of the time set is seen on the display and the alarm relay closes and the pH/Redox pump is blocked.

Press **OK** to eliminate the alarm and initialize the OFA time.



15 Example of direct connection to the device

Connect your device to the WiFi network

example: SSID: **KommSPOT-6C96B4**

Password: **12345678**






Use your browser and write this IP address: **192.168.3.1**

Open the web page and set:

User= **ADMIN**,
Password= **0000**

Show the internal web pages

16 Alarms

Alarm	Display	Actions to do
Level	Level ____ 7.2_pH Level ____ 750_mv	- Push  to open Alarm Relay - Restore Product tank
Out of Range measure	Alr_band	- Replace or check the measure probe - Push  to open Alarm Relay - Restore measure
OFA First Alarm (time >70%)	OFA_Alarm	- Push  to reset
OFA Second Alarm (time 100%)	OFA_Alarm_STOP	- Push  to reset
Flow Rate	Flow	- Restore Flow Rate
Calibration Function	Error ____ 7_pH Error ____ 4_pH Error ____ 465_mV	- Restore Probe or Buffer solution and repeat calibration procedure
System Error	Parameter error	- Press  to restore Default parameter
Alarm measure (*1)	High Measure Low Measure	- Adjust the chemical concentration

Ranges Measure alarms default value it is possible to adjust in the setup menu

n	Item	Limits
1	Temp. Measure min	+10°C
2	Temp. Measure Max	+38°C
3	pH Measure min	6 pH
4	pH Measure Max	8 pH
5	ORP Measure min	+600 mV
6	ORP Measure Max	+800 mV

Follow the proportional band value each measure, the parameters are fixed and hidden in the setup menu:



	pH	ORP
Proportional band	1 pH	250 mV
Period	10'	10'

17 Maintenance

Hose replacement:



Open the pump's lid and release the hose by pulling the left connector upward.



Position the roller as shown in the Figure, turning it in the direction of the circular arrow.



Completely release the left connector, holding it taut towards the outside, and turn the roller in the direction of the circular arrow so that the hose is freed up to the right connector.



Position the roller as shown in the Figure, turning it in the direction of the circular arrow.

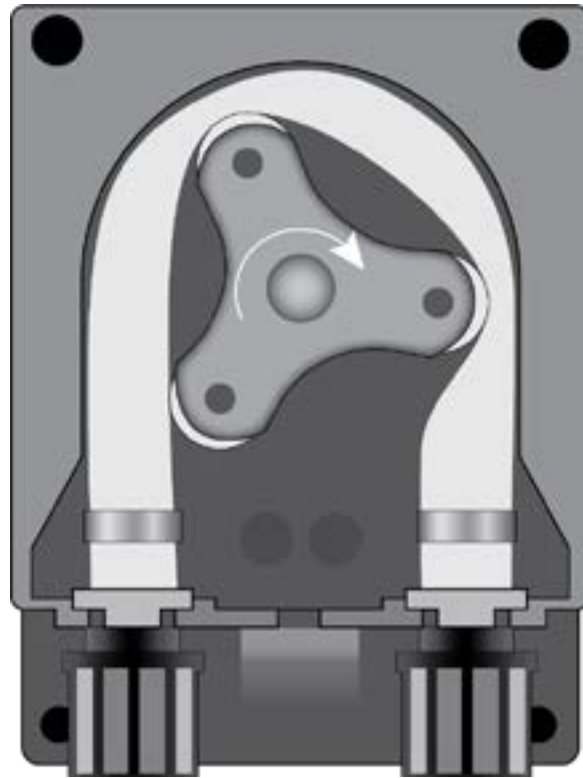


Insert the left connector into the relative housing and pass the hose under the roller's guide. Turn the roller in the direction of the circular arrow, simultaneously accompanying the hose into the pump's head, until the right connector is reached.



Close the pump's lid and press its surface hard so that it is properly locked into place.

18 Storing the pump after use



When the regulation device must be stored, clean water should be pumped through the hose in order to rinse it. Then position the roller as shown in the Figure, turning in the direction indicated by the circular arrow. These two precautions will facilitate the subsequent reactivation of the unit.

19 Default parameters

- Language = **French**
- Set Point value = **7.4 pH; 700 mV;**
- Dosing method = **Acid (pH); Low (Redox)**
- OFA Time = **OFF**
- Calibration = **Full**
- Flow Input= **NC (normally close)**
- Circulation pump= **ON (Enable)**
- Dosing type = **PROP; ON/OFF Alarm Relay**

Init. Default. Menu

Press **Up+Down** keys and switch on device

Set reset routine:

- **Init. Default:** restore default parameters device only
- **Init. WiFi Module:** restore default parameters WiFi module only
- **Init. Calib. HW:** restore raw HW calibration parameters
- **Init. Conf. pH:** set the pH measure
- **Init. Conf. ORP:** set the ORP (Redox) measure

