INSTALLATION, USE AND MAINTENANCE MANUAL

ENGLISH

PURE CHLORE

MUPURECPCA-POOEN - Version 19.08

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1. FOREWORD

READ, UNDERSTAND AND CAREFULLY FOLLOW ALL OF THE INSTRUCTIONS IN THIS MANUAL BEFORE INSTALLING AND USING THIS EQUIPMENT.

In this manual, the pictograms above indicate a WARNING, or a NOTE OF CAUTION, accompanied by instructions to be followed to the letter. Failure to comply with these instructions may result in significant risk of damage to the equipment and/or serious injury to people. THESE INSTRUCTIONS MUST BE FOLLOWED AND COMPLIED WITH.

2. SAFETY INSTRUCTIONS

- The installation, commissioning and maintenance described in this manual must be carried out by authorised, qualified personnel with prior training from POOL TECHNOLOGIE.
- The safety instructions detailed in this manual are not exhaustive. They detail the most common risks encountered when installing and using this equipment. Caution and common sense must accompany all installation and use of this equipment.

ELECTRICAL SHOCK HAZARD

To avoid the risk of injury or accident, install the equipment out of reach of children and anyone not authorised to operate and handle the equipment.

Ensure that the equipment room in which the equipment is installed complies with the standards in force in the country of installation, at the time of commissioning the equipment. If in doubt, contact a qualified electrician. This equipment must also be installed by an authorised, qualified person in accordance with the electrical codes in force in the country of installation at the time of installation. The installation must also comply in all respects with the technical specifications given in this manual and in any document supplied with the appliance.

The equipment's electrical cables must be protected against any accidental damage.
A damaged cable must be replaced immediately, using only a cable identical to the original.
Never cut or extend the electrical cables.

Only authorised, qualified people may work on the equipment in case of failure or to perform maintenance.
Always disconnect the power supply before carrying out any technical work on the equipment.

Do not modify the equipment. Any modification of the equipment can lead to risks to people as well as the environment, and result in the deterioration of the equipment.

CHEMICAL RISKS

The sodium hypochlorite (NaClO) produced by the equipment is a chemical compound that is corrosive to the skin and eyes. The production tank (included with the equipment) confines the solution produced.
The production tank is also fitted with an overflow tray, which limits contact with the product.
All the materials and components in contact with sodium hypochlorite have been designed and adapted for this purpose and must not be modified or replaced.

The installer and the user must be vigilant and wear suitable clothing and protective equipment in accordance with the legislation in force in the country of installation.
It is imperative that work on elements in contact with a corrosive product is carried out by personnel trained in chemical risks and equipped with adequate and appropriate means of protection.

In case of contact with eyes or skin, rinse thoroughly with fresh water at room temperature or with an appropriate rinsing solution and contact emergency services immediately.

RISKS OF EXPLOSION

The equipment naturally generates a small amount of hydrogen gas, which is a by-product of the chlorination reaction. The accumulation of this gas at a concentration greater than 4% is highly explosive.
The device has been designed to evacuate this gas to the exterior of the equipment room, but it is essential to take all necessary precautions to ensure the safety of people and equipment.
Follow the instructions related to this risk and indicated in this manual to the letter.

The equipment room must be provided with a forced ventilation ensuring that air is renewed at a minimum rate of 20 times the volume of the room per hour. Since the atmosphere inside the room and in the vicinity of the hydrogen discharge duct is potentially explosive, these areas must be clearly identified as at risk with appropriate signage. Access to these should be restricted to trained and authorised personnel. It will also be important not to store any hazardous substances that could aggravate the consequences of an explosion near these areas.
The room, the equipment and its installation must comply with all laws and standards relating to explosive atmospheres and the risks of explosion in force in the country of installation.

The public must be kept sufficiently far away from the equipment room.

3. GENERAL DESCRIPTION

PURE CHLORE is a sodium hypochlorite (NaClO) generator.
This equipment is intended for communal pools (according to the legislation in force in the country of installation).

3.1. Technical data sheet

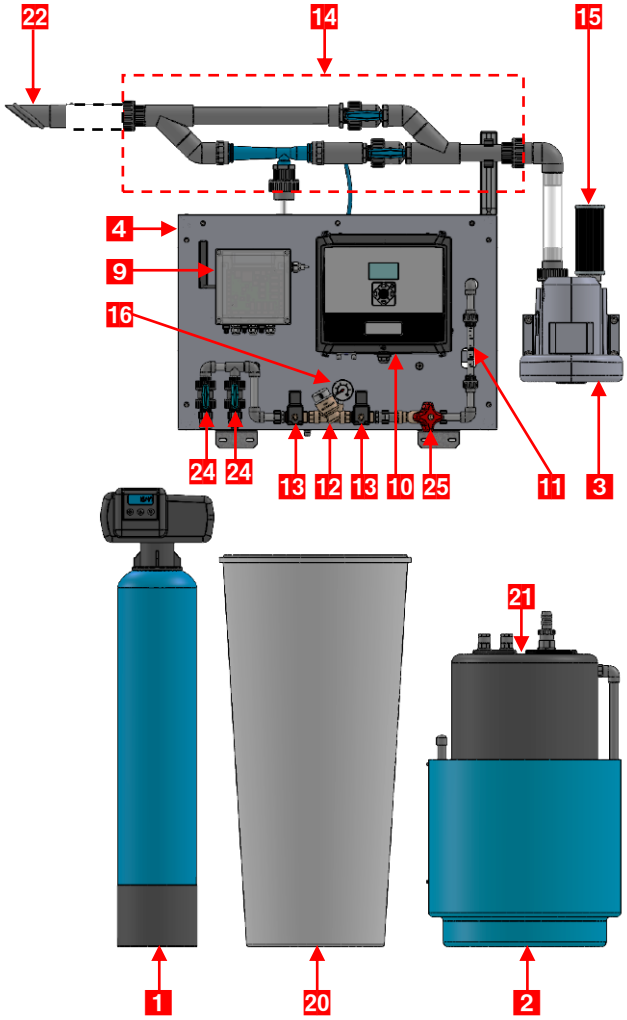
PURE CHLORE model	**PC140**	**PC280**	**PC560**
Production characteristics :			
Maximum production (L/hour)	17.5	35	70
Maximum production (g/hour)	140	280	560
Maximum production (kg/day)	3.4	6.7	13.4
Concentration of active chlorine in the produced solution (g/L)*	8		
68% calcium hypochlorite equivalent (kg/day)	4.9	9.9	19.8
15°chl bleach equivalent (L/day)	70.7	141.5	282.9
48°chl liquid chlorine equivalent (L/day)	22.1	44.2	88.4
Hydrogen generation (L/h)	47.5	95	190
General consumption :			
Water (L/h)	17.5	35	70
Salt (with water softener) (g/h)	450	900	1,800
Consumption for a production of 1 kg of active chlorine :			
Electricity (kW)	2.8		
Certified biocidal salt (kg)	3.1		
Softened water (L)	125		
Conditions of use :			
Ambient temperature (°C)	< 40		
Temperature of incoming water (°C)	< 20		
Hardness of incoming water (with water softener) (French degrees)	< 10		
Operating pressure (bar)	1 to 3		
Properties :			
Dimensions	*See Chapter 3.6*		
Total weight (kg)	93	160	220
Material of the production tank and the holding tank	Polyethylene treated with UV protection		
Volume of the production tank (L)	60	125	250
Volume of the brine tank (L)	100	200	
Resin volume of water softener (L)	10		
Electrical characteristics :			
General power supply	230 V - 50/60 Hz		
Calibration of the internal circuit breaker (A)	6	12	20
Section of the general power supply cable	3G1.5	3G2.5	3G4
Length of the general power supply cable (m)	2.5		
Maximum power (kW)	0.8	1.6	3.2
Nominal current on sector (A)	2.5	5	10
Maximum current on sector (A)	4.2	8.4	16.8
Maximum current on each chlorinator cell (A)	20		
Voltage on each chlorinator cell (V)	< 24		
Equipment / features :			
Number of chlorinator cells	2	4	8
Operating modes	Automatic, Boost (immediate or programmable)		
Alarms	*See Chapter 11.1*		
Communication	SMS alert by GSM		

* *can be measured with a photometer, using a suitable reagent product.*

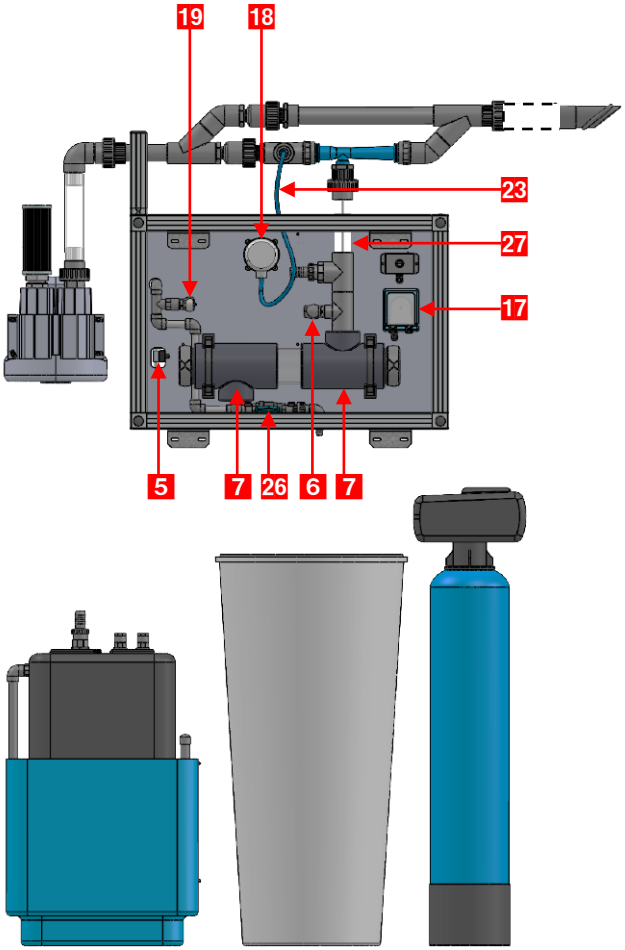
3.2. Overview

PC140

FRONT SIDE



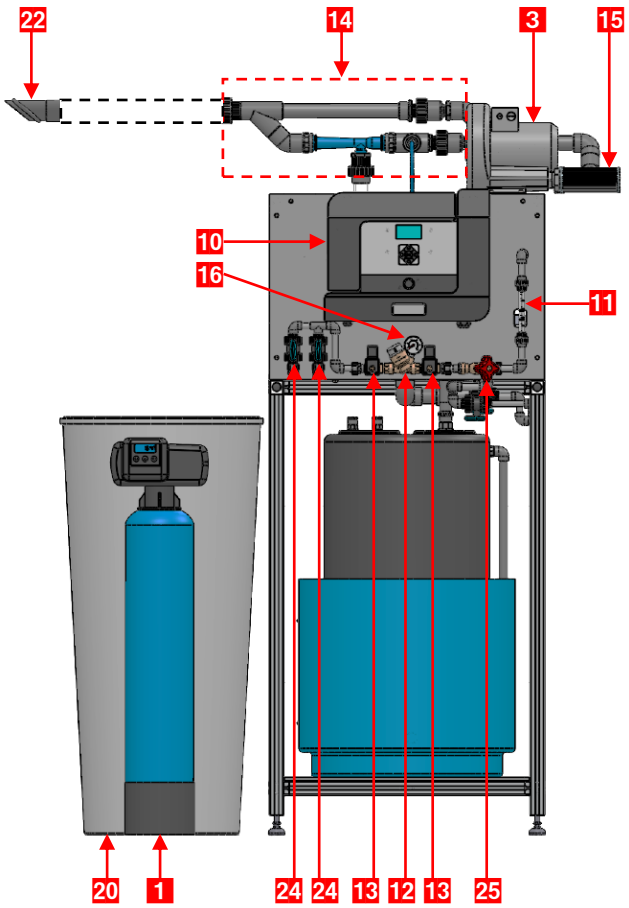
REAR SIDE



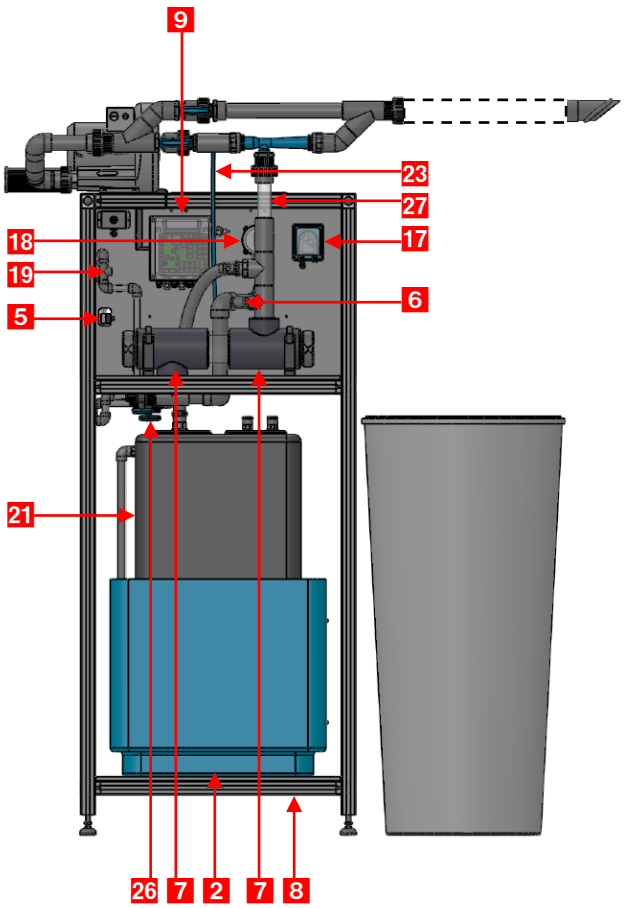
1 : Water softener
2 : Overflow tray
3 : Blower
4 : Frame
5 : Flow sensor
6 : Salt/temperature/low water sensor
7 : Chlorinator cell
9 : PLC box
10 : Electronics unit
11 : Flowmeter
12 : Regulator
13 : Solenoid
14 : Venturi assembly
15 : Air filter
16 : Manometer
17 : Brine pump
18 : Pressure switch
19 : Brine injection connector
20 : Brine tank
21 : Production tank
22 : Pipe outlet with grating
23 : Pressure tubing
24 : Isolation valve
25 : Water flow control valve
26 : Drainage valve
27 : LED

PC280

FRONT SIDE



REAR SIDE



1 : Water softener
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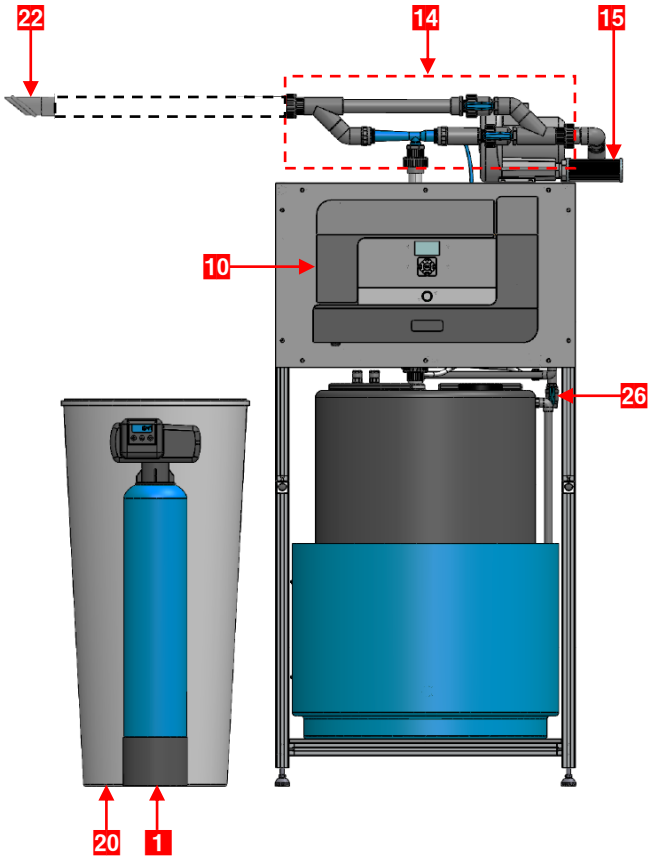
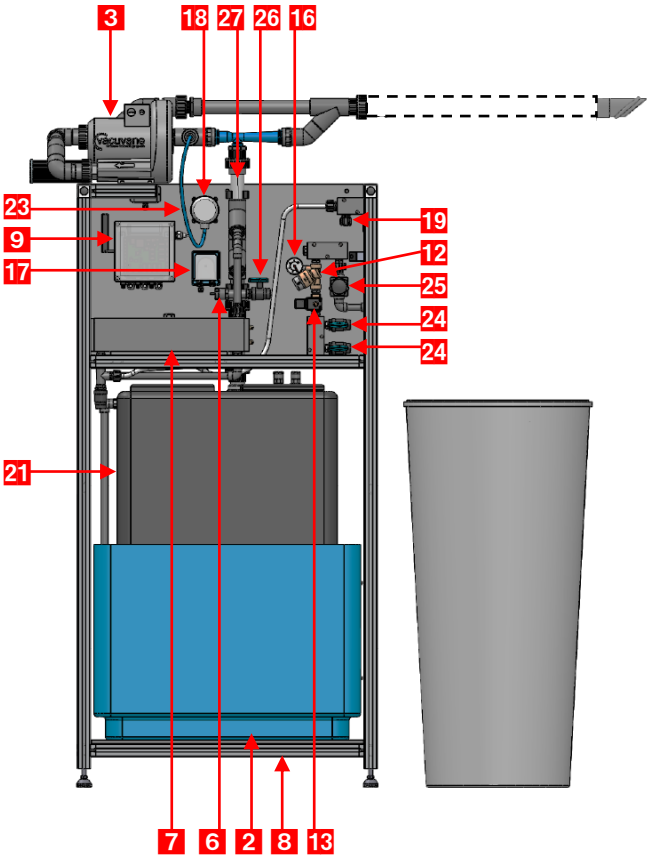
15 : Air filter
16 : Manometer
17 : Brine pump
18 : Pressure switch
19 : Brine injection connector
20 : Brine tank
21 : Production tank
22 : Pipe outlet with grating
23 : Pressure tubing
24 : Isolation valve
25 : Water flow control valve
26 : Drainage valve
27 : LED

PC560

FRONT SIDE



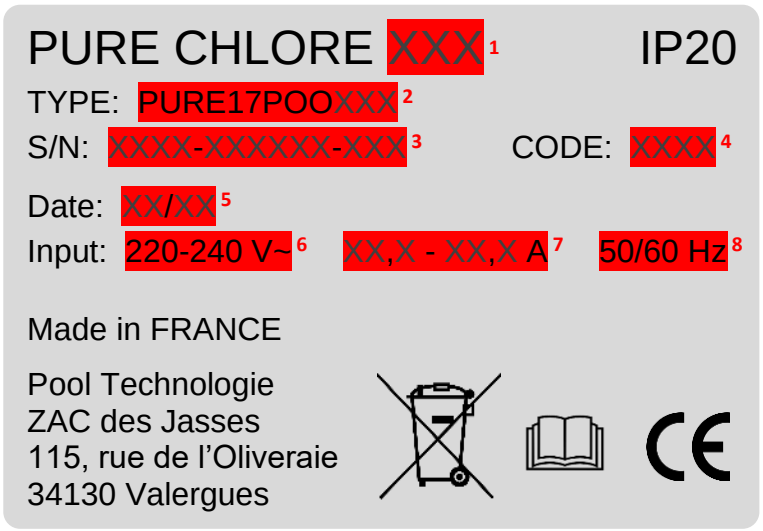
REAR SIDE



1 : Water softener
2 : Overflow tray
3 : Blower
6 : Salt/temperature/low water sensor
7 : Chlorinator cell
8 : Frame
9 : PLC box
10 : Electronics unit
12 : Regulator
13 : Solenoid
14 : Venturi assembly
15 : Air filter
16 : Manometer
17 : Brine pump
18 : Pressure switch
19 : Brine injection connector
20 : Brine tank
21 : Production tank
22 : Pipe outlet with grating
23 : Pressure tubing
24 : Isolation valve
25 : Water flow control valve
26 : Drainage valve
27 : LED

3.3. Electronics unit

3.3.1. Nameplate on the electronics unit



1 : Maximum production (g/hour)

2 : Item code for the unit

3 : Unit serial number

4 : Access code for the website linked to the unit

5 : Week/year of manufacture of the unit

6 : Supply voltage

7 : Nominal current

8 : Supply frequency

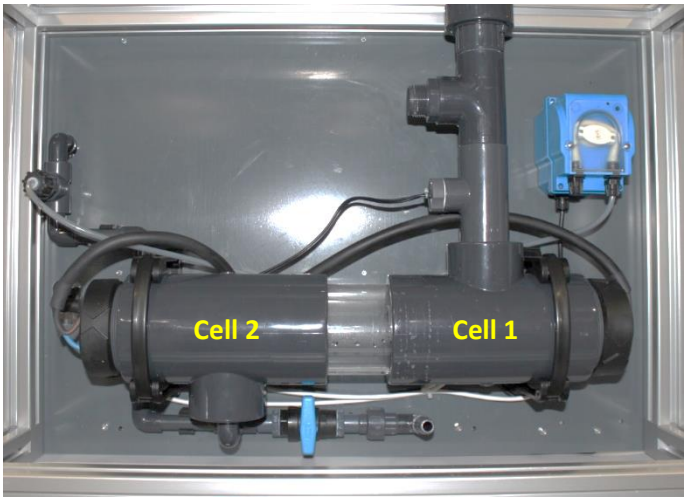
3.3.2. Technical specifications and use conditions

- The device is built to IP20 :
  - The device must be installed in a room sheltered from water spray.
  - The appliance must be installed in an air-conditioned room where the probability of water presence is negligible (spray or falling water due to condensation).
  - Weather conditions : between 5 and 40°C.
  - Relative humidity : between +5 and +85%.
  - Spacing is required for unobstructed ventilation of the device. Do not block the airflow.
- Degree of pollution : 2.
- The device must be installed in accordance with the rules of use and safety in force in the country of installation on the day of installation.
- The manufacturer cannot be held responsible for failures in the event of failure to comply with the instructions given in this manual.
- Failure to comply with these requirements may lead to overheating of the device and a shutdown of production.
- The device is not intended for use by persons (including children) with reduced physical, sensory or mental capacities, or persons without experience or knowledge, unless they are supervised by a person responsible for their safety or have received prior instructions concerning the use of the device. Children should be supervised to ensure that they do not play with the device.

Before accessing the screw terminals, the power supply must be disconnected.

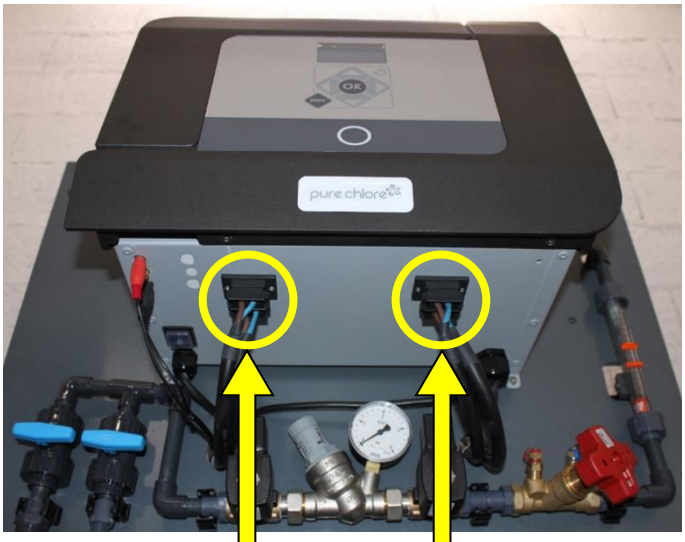
3.4. Identifying chlorinator cells

PC140



Grouped connectors :
the one for **cell 1** is in front,
the one for **cell 2** is in back.

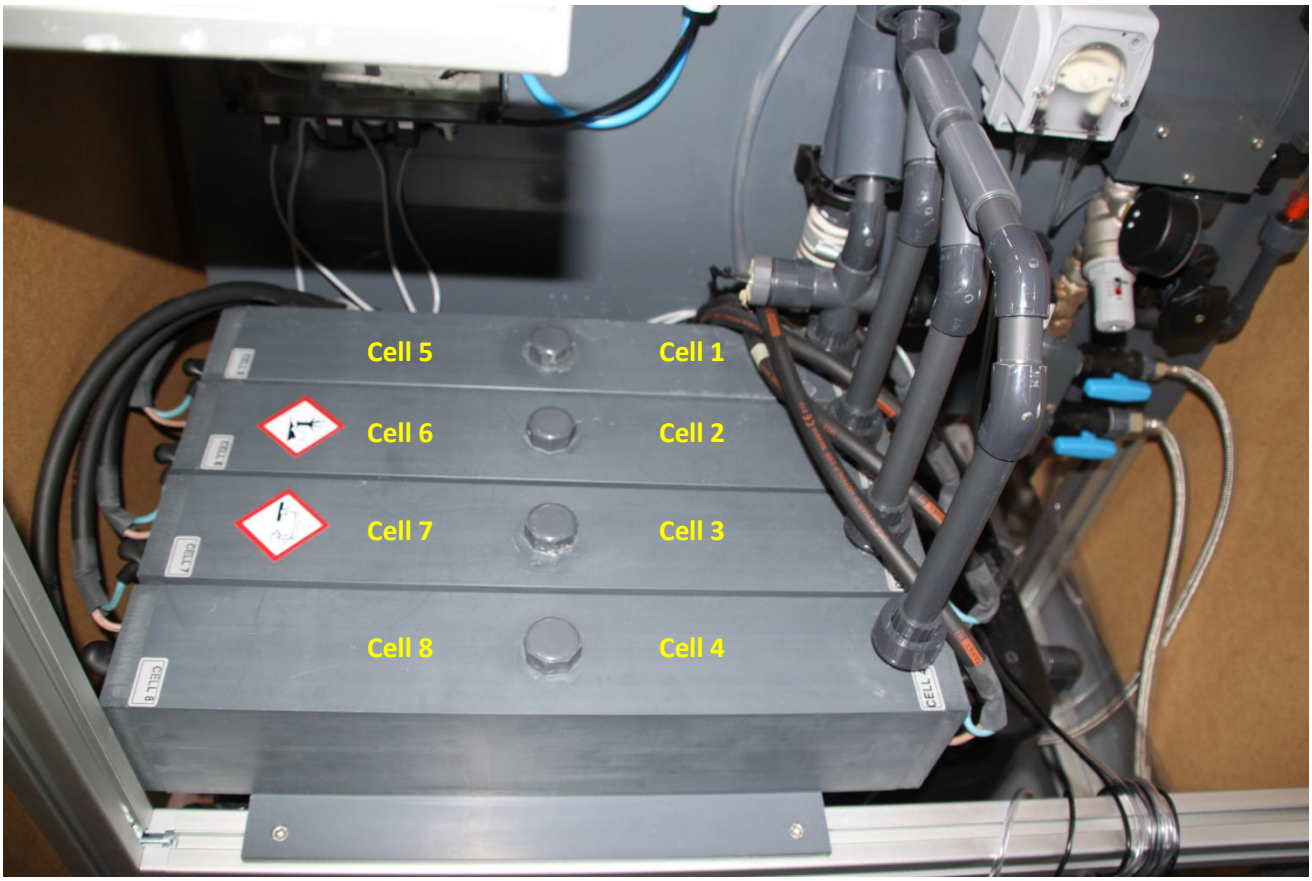
PC280



Grouped connectors :
the one for **cell 1** is in front,
the one for **cell 2** is in back.

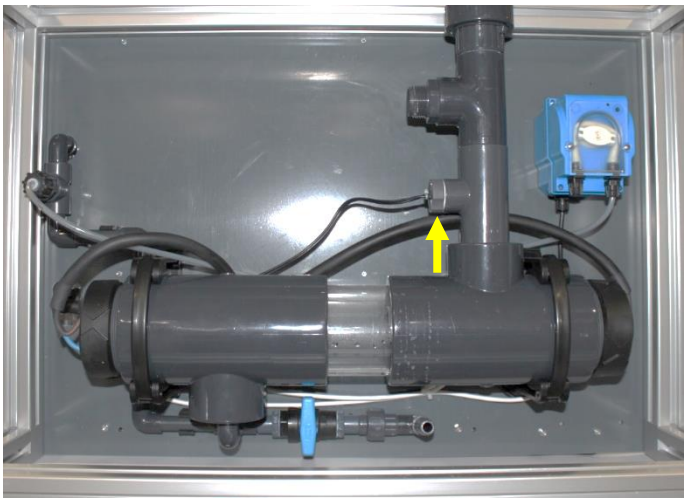
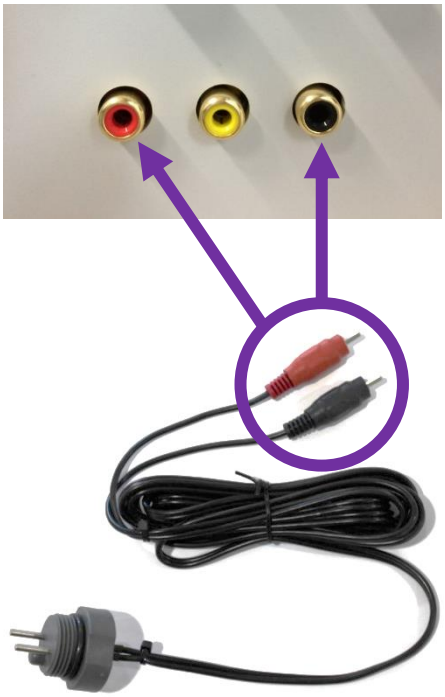
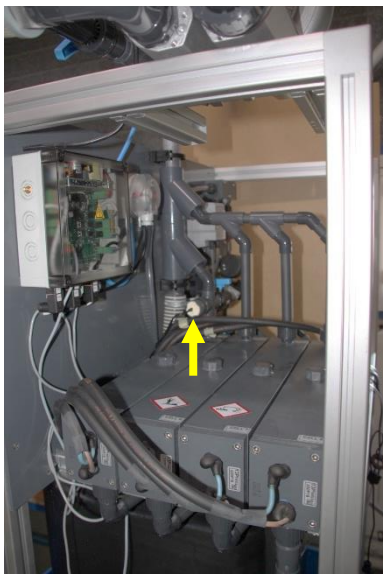
Grouped connectors :
the one for **cell 3** is in front,
the one for **cell 4** is in back.

PC560


Cell 5
Cell 1
Cell 6
Cell 2
Cell 7
Cell 3
Cell 8
Cell 4

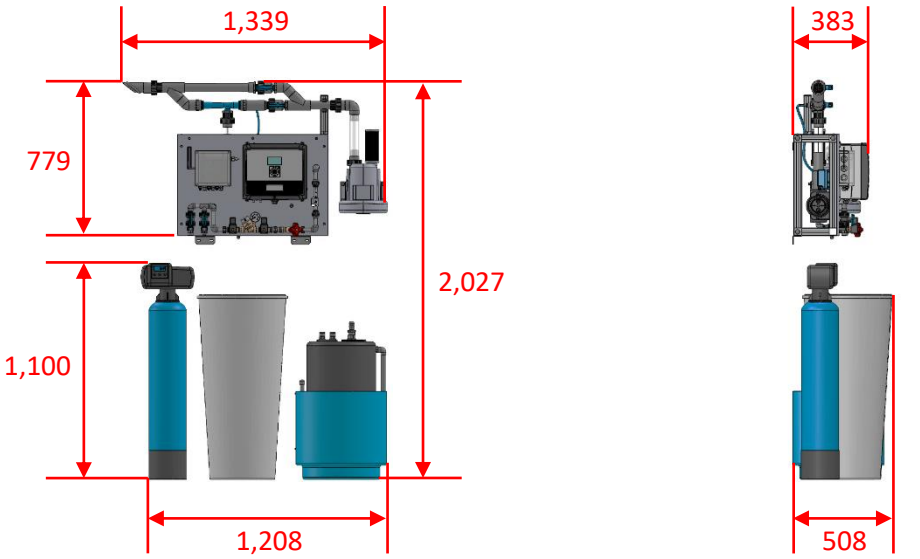
1
2
3
4
cell connectors
5
6
7
8

3.5. Identifying the salt/temperature/low-water sensor

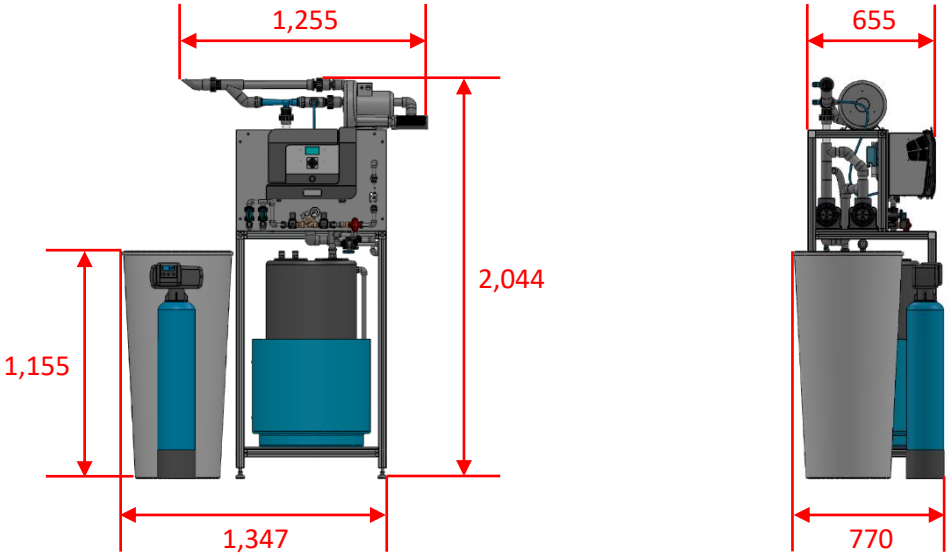
<table>
<tr><th>Model</th><th>Installation</th><th>Connection</th></tr>
<tr><td>PC140</td><td>  </td><td rowspan="3">Connection plugs
on the electronics unit :
  </td></tr>
<tr><td>PC280</td><td> </td></tr>
<tr><td>PC560</td><td>  </td></tr>
</table>

3.6. Dimensions

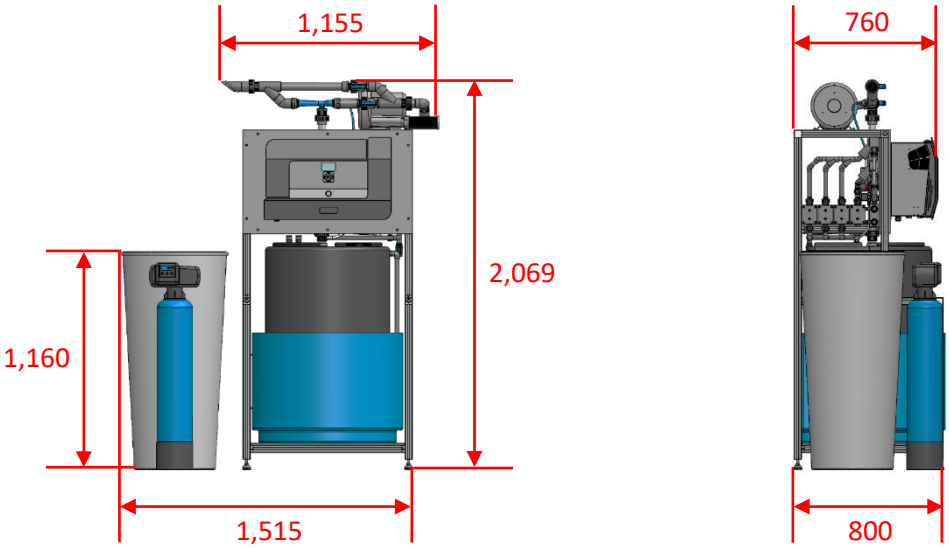
PC140



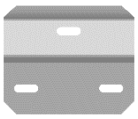
PC280



PC560

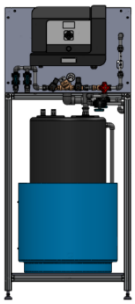


3.7. Packing list

PC140 *(actual product may differ from images)*			
 Frame *(pre-equipped)* **x1**	 Anchor and screw *(frame mount)* **x8**	 Bracket *(frame mount)* **x4**	 HSHC screw and T-nut *(frame mount)* **x4**
 Production tank **x1**	 Brine tank **x1**	 Water softener **x1**	 Signalling kit *(5 elements)* **x1**
 Teflon tape **x1**	 Drainage Kit *(1/2" conduit + 1/2" valve)* **x2**	 Pressure reducer **x1**	 Manometer **x1**
 Filter **x1**	 Filter installation kit *(1 support, 4 screws, 1 key)* **x1**	 Anchor and screw *(fixing the filter* *+ fixing the GSM antenna)* **x4**	 GSM antenna + plate bracket **x1**
 Shielded flexible hose Ø12x17 - 3/8" **x1**	 Shielded flexible hose Ø20x27 - 3/4" **x2**	 Replacement seals *(2 x 3/8 "seals and 4 x 3/4" seals for shielded hoses,* *1 x Ø68x4.5 for cell)* **x1**	

 Production hose Ø25x33 **x1**	 Ø25-40 clamp *(for the production hose)* **x2**	 Fluted fitting *(for the production hose)* **x2**	
 Dowel / screws / washers *(fixing the blower)* **x4**	 Blower + relay-unit *(pre-wired assembly)* **x1**	 Anchor and screw *(fixing the relay-unit)* **x4**	 Air filter *(for the blower)* **x1**
 Hydrogen discharge piping *(kit of 7 elements)* **x1**		 Blower connection hose **x1**	 Clamp Ø32-50 *(for the blower connection hose)* **x2**

PC280 *(non-binding images)*



Frame *(Pre-assembled)*

x1

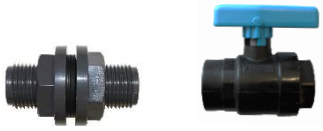
Brine tank

x1

Signalling kit

(5 elements)

x1



Drainage Kit

(1/2" conduit + 1/2" valve)

x2

Water softener

x1

Pressure reducer

x1

Manometer

x1

Teflon tape

x1

Filter

x1

Filter installation kit

(1 support, 4 screws, 1 key)

x1

Anchor and screw

(fixing the filter + fixing the GSM antenna)

x4

GSM antenna + plate bracket

x1

Shielded flexible hose Ø12x17 - 3/8"

x1

Shielded flexible hose Ø20x27 - 3/4"

x2

Replacement seals

(2 x 3/8 "seals and 4 x 3/4" seals for shielded hoses, 1 x Ø68x4.5 for cell)

x1

Air filter

(for the blower)

x1

Blower

x1

Bolt

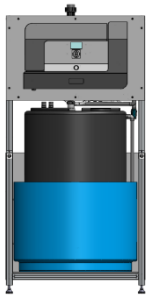
(fixing the blower)

x4

Hydrogen discharge piping *(kit of 4 elements)*

x1

PC560 *(non-binding images)*



Frame *(Pre-assembled)*

x1

Brine tank

x1

Signalling kit

(5 elements)

x1

Drainage Kit

(1/2" conduit + 1/2" valve)

x2

Water softener

x1

Pressure reducer

x1

Manometer

x1

Teflon tape

x1

Filter

x1

Filter installation kit

(1 support, 4 screws, 1 key)

x1

Anchor and screw

(fixing the filter + fixing the GSM antenna)

x4

GSM antenna + plate bracket

x1

Shielded flexible hose Ø12x17 - 3/8"

x1

Shielded flexible hose Ø20x27 - 3/4"

x2

Replacement seals

(2 x 3/8" seals and 4 x 3/4" seals for shielded hoses, 2 x Ø20 seals for union connectors of cell blocks and for salt/temperature/low water sensor, 1 x Ø71x3 seal for cell)

x1

Air filter

(for the blower)

x1

Blower

x1

Bolt

(fixing the blower)

x4

Hydrogen discharge piping *(kit of 4 elements)*

x1

4. INSTALLATION

4.1. Important preliminary precautions

⚠ **<u>Before installing the equipment, the following instructions must be followed :</u>**

- **PURE CHLORE's production must be adapted to the volume of the pool to be treated, the pool's use rates, the possible presence of nearby equipment (overflow, water mirror, slide, etc.), as well as the weather conditions at the place of installation.**

- **Use water from the mains water supply. Do not use water of natural origin (rain, run-off, body of water, drilling), as it may cause premature deterioration of the chlorinator cells.**

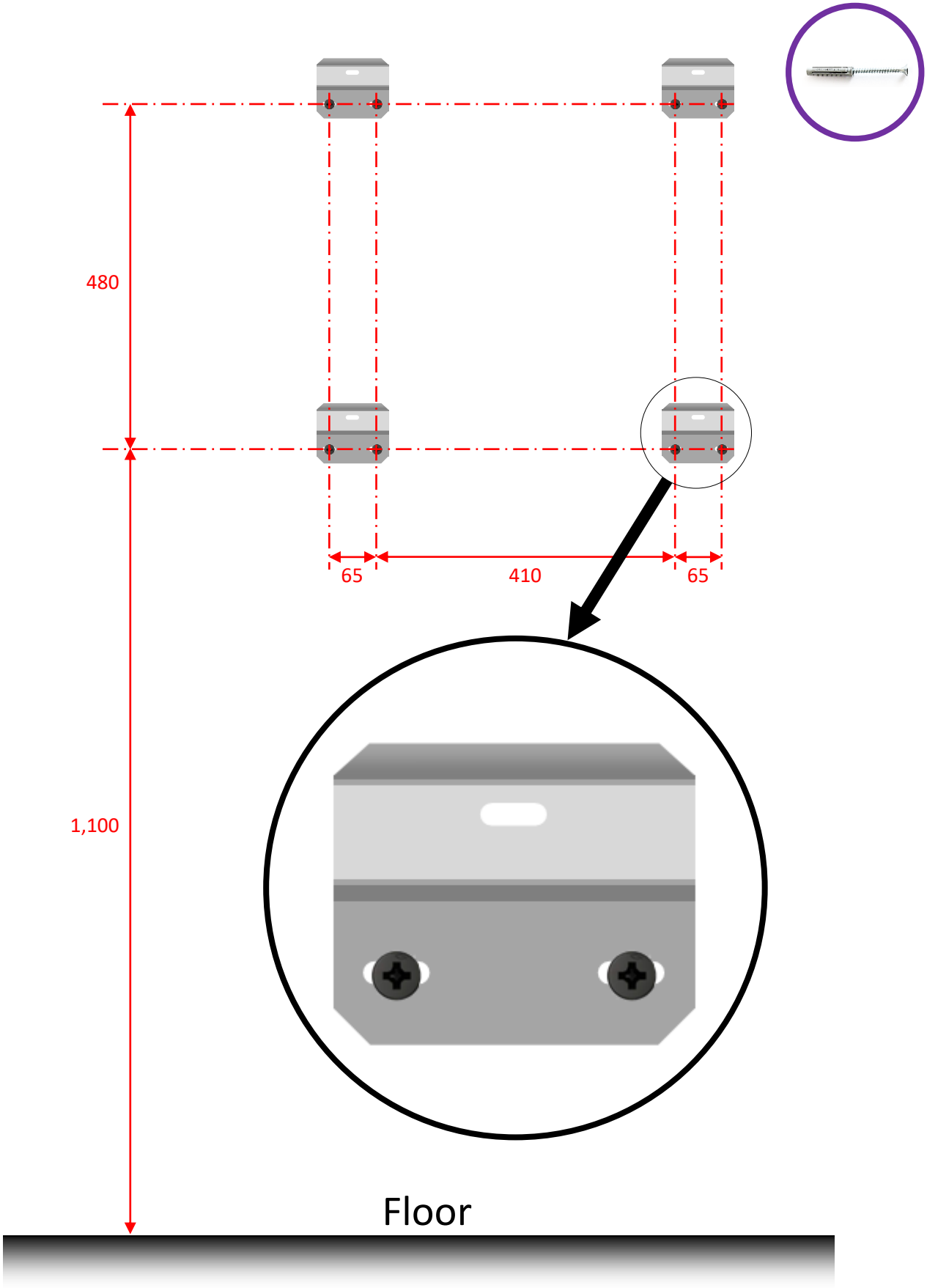
- **The PURE CHLORE must be installed in a closed, dry and sufficiently ventilated room protected from splashing water and UV rays. The temperature inside this room must not exceed 40°C.**
  → If this room is located in a country with a hot and humid climate, it must be air conditioned.
  → If this room is located in a country with a temperate climate, it must be equipped with forced ventilation.

- **Determine a precise location to install the PURE CHLORE, taking into account its size *(see chapter 3.6)* and the hydrogen discharge system to be installed *(see chapter 4.3)*. Also provide extra space around the unit, in order to facilitate access for maintenance.**
  The PURE CHLORE must be installed level, on a floor that does not tilt, and on a stable surface (for models PC280 and PC560, the 4 feet of the frame are adjustable).

- **Parts intended to be connected to the water supply system must bear the water pressure likely to occur in normal use. No part should leak, including the water inlet hose.**

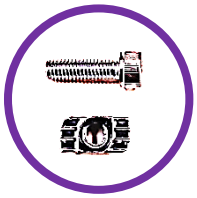
4.2. PC140 mounting

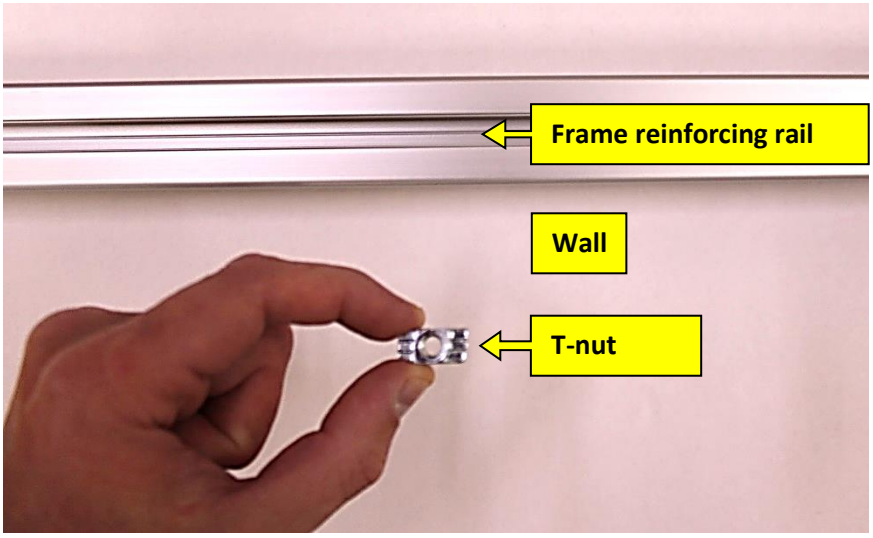
1) Attach the 4 mounting brackets to the wall with the 8 screws and anchors supplied, as in the diagram below.

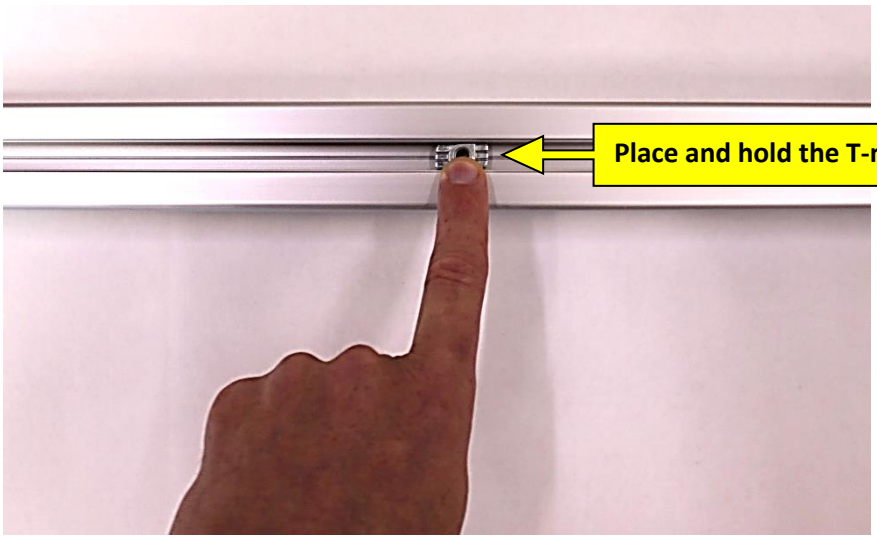


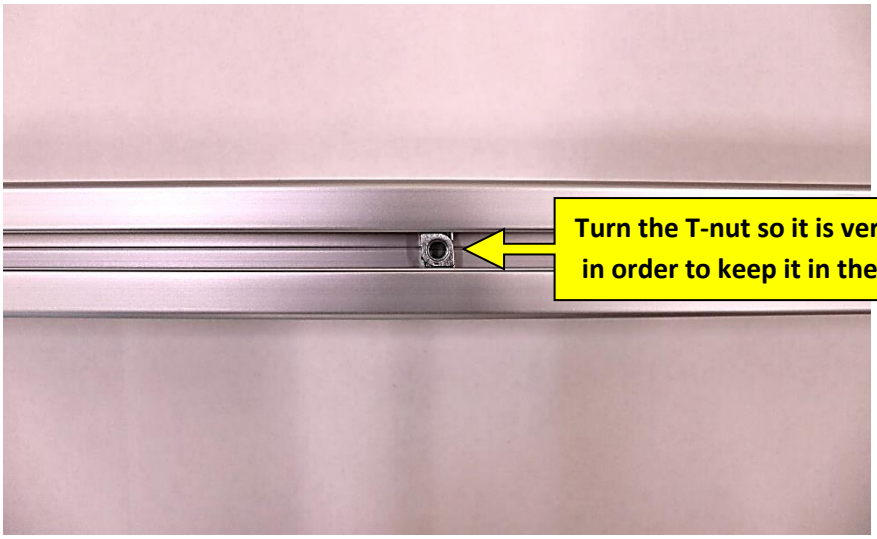
2) Hang the frame on the 4 brackets attached to the wall.

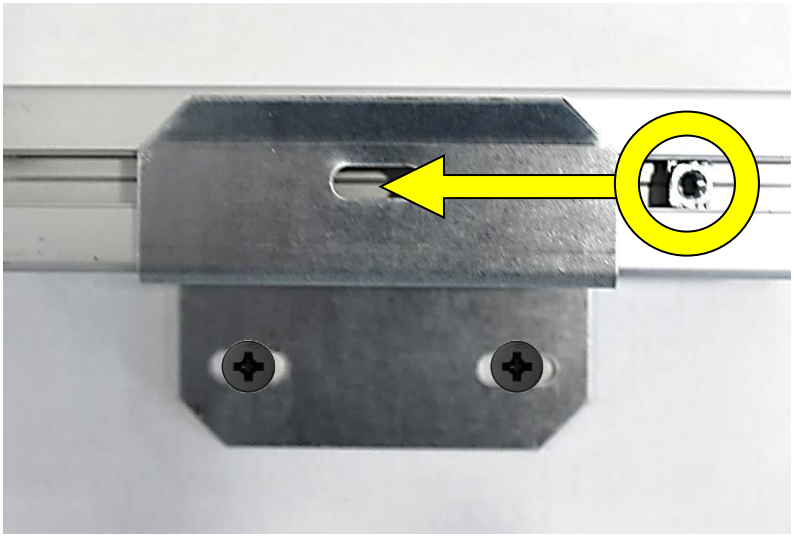
3) Attach the frame to the brackets, with the CHC screws and T-nuts supplied.



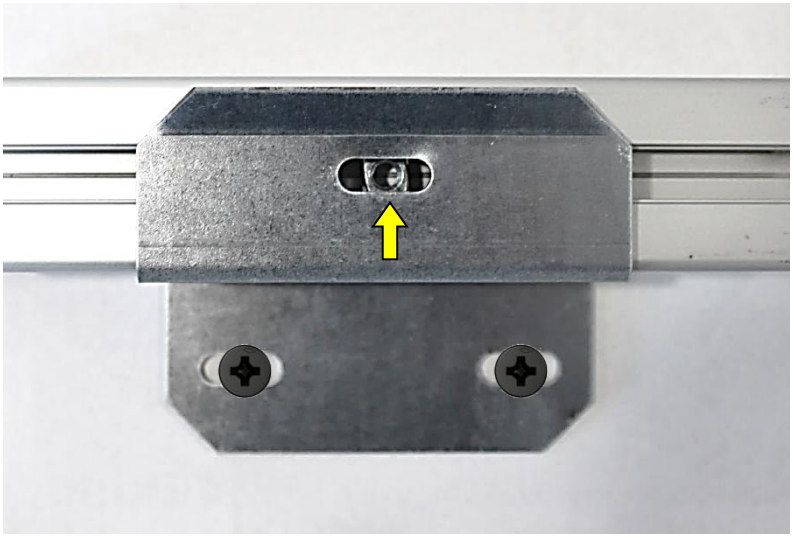


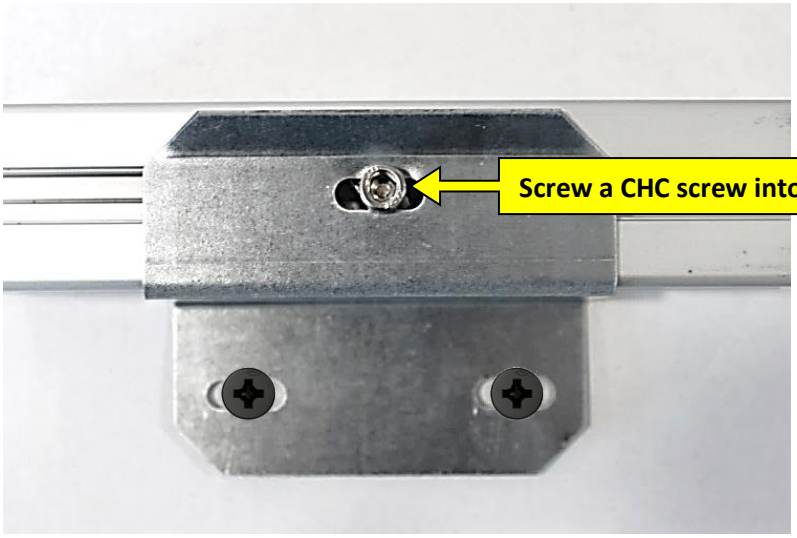






Slide the T-nut behind the bracket, until you can see it in the hole





Screw a CHC screw into the T-nut

→ Use this procedure for the frame's 4 mounting points.

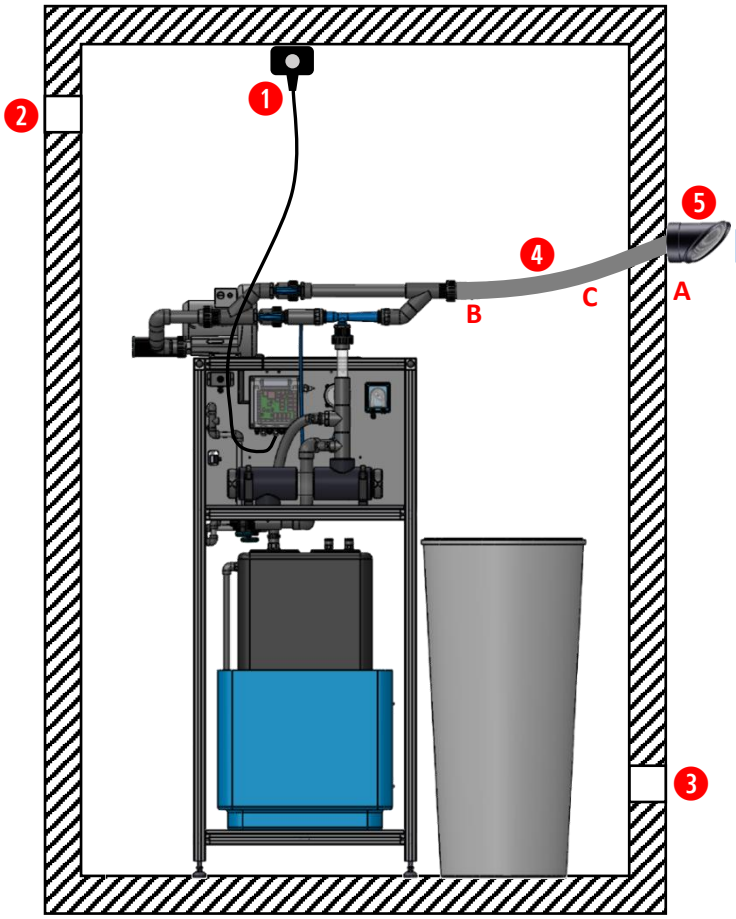
4.3. Hydrogen discharge system

Before installing the hydrogen discharge system, make sure that all piping and connection parts relating to this installation comply with the standards and regulations in force in the country of installation.

- **The chlorination of salt water produces hydrogen gas that must be discharged from the room into the open air. In the absence of adequate and functional exhaust and ventilation, hydrogen may accumulate in the room and/or equipment and result in an explosive atmosphere.**
- **Strictly observe the installation recommendations given in this chapter and in chapter 2, to guarantee the safety of people and the installation.**
- **Respect the norms and regulations in force in the country of installation.**

The diagram below is an illustration with the PC280 model, but the installation principle and the recommendations are exactly the same for the other models.

EQUIPMENT ROOM :



Signalling	Location
	Entrance to the equipment room
	A
	B - C

❶ : **Hydrogen detector** *(supplied and already wired to the equipment)*
→ Fit this detector as high as possible inside the room.

❷ and ❸ : **Ventilation**

In order to guarantee the evacuation of the hydrogen produced by the installation, it is imperative that the installation room is provided with forced ventilation ensuring the renewal of the air at a minimum rate of 20 times the volume of the room per hour.
The ventilation must guarantee the renewal of all the volumes of air in the room. If the room is made up of several zones divided up for example by partitions or beams, it may be necessary to install several ventilation systems.
When the installation takes place in a hot country, it may be necessary to install an air conditioner to ensure an ambient temperature of less than 40°C.

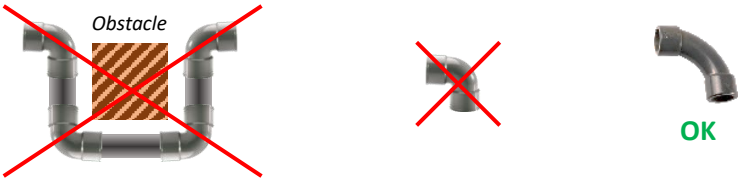
❹ : **Hydrogen discharge pipe**

→ **The hydrogen discharge pipe :**
- **must be made from PVC-U.**
- **must be installed on an incline facing the direction of evacuation.**
- **must be as short as possible in length, and take the most direct route outside (without having to go round any obstacles).**
- **must not exceed a length of 10 m *(contact POOL TECHNOLOGIE if you require advice)*.**

→ **To ensure efficient hydrogen discharge, use a pipe with a minimum diameter of 63 mm.**

→ **The evacuation point must be sufficiently far from any air suction (ventilation, air conditioning, etc.).**

→ **Whenever possible, avoid assembling the evacuation pipe with elbows.**
Do not use elbows at right angles. Use elbows with rounded right angles :

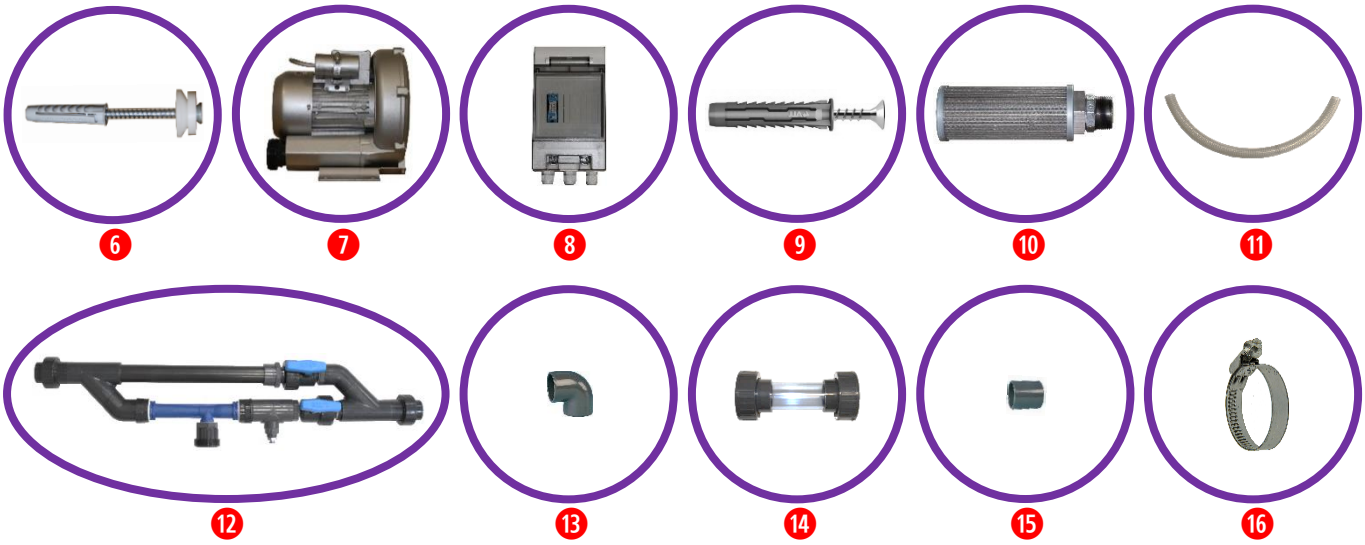


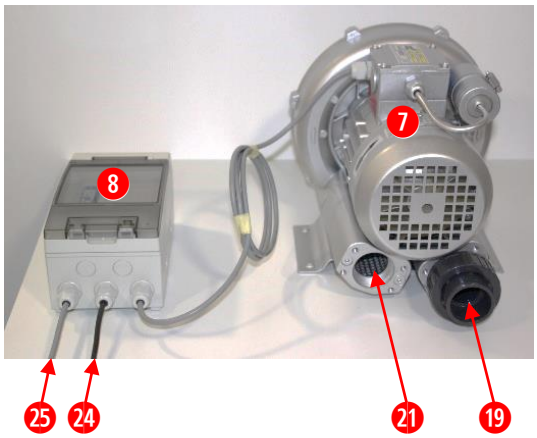
→ **It is up to the installer to identify and clearly display the outside location of the hydrogen discharge pipe and the related risks.**

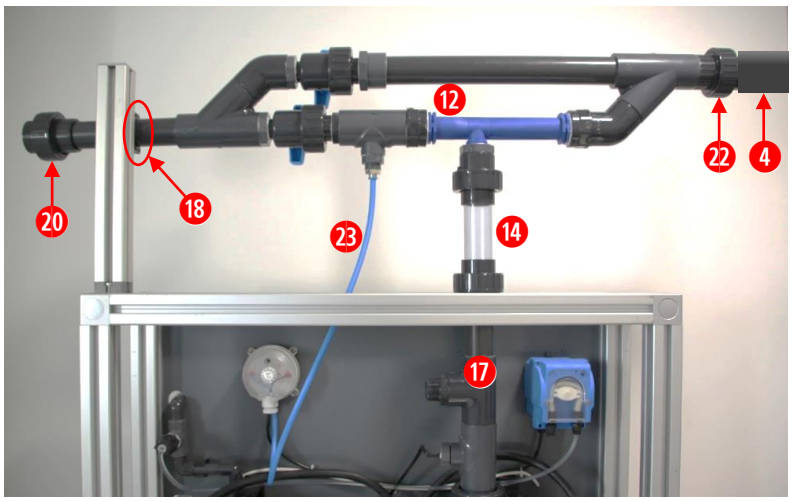
❺ : **Pipe outlet with grating** *(supplied)*
→ Install this way round :

To ensure a perfect seal of the hydrogen discharge system, the elements ❹ and ❺ must be assembled using PVC glue, and the surfaces to be glued must first be cleaned with a suitable solvent.

Installation to be carried out on model **PC140**







1) Connect element 14 to element 12, by checking the presence of the seal initially placed onto element 12.
(→ Element 14 does not have an up / down direction.)

2) Connect assembly 14-12 to element 17, by checking the presence of the seal initially placed on element 17.

3) Clip element 12 to the collar 18.

4) Fix the blower 7 and the relay-unit 8 to the wall to on an independent stable support, within 1 meter of the equipment, using screws and dowels 6 and 9.

5) Carry out the connection between 19 and 20 in accordance with the diagram below :

19 — 15 — 13 — 15 — 16 — 11 — 16 — 15 — 20

If necessary

6) Connect the air filter 10 to 21, using Teflon tape.

7) Stick the hydrogen discharge pipe 4 *(not supplied)* to the union connector 22, checking that the seal is present.

8) Connect the pressure tubing 23 to element 12.

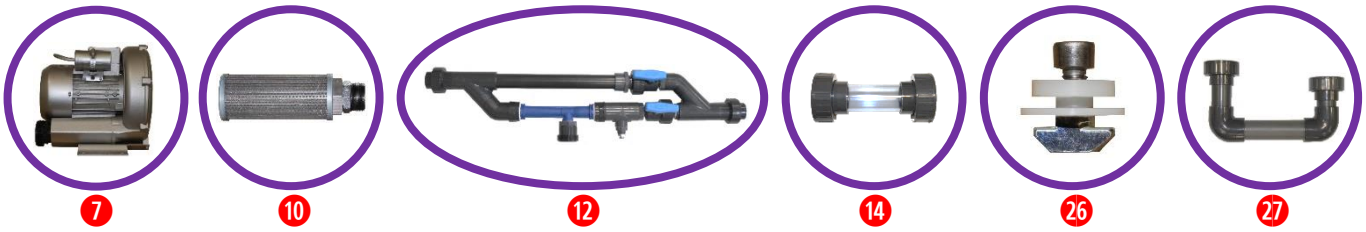
9) Connect cable 24 to the PLC box *(see chapter 11.3)*.

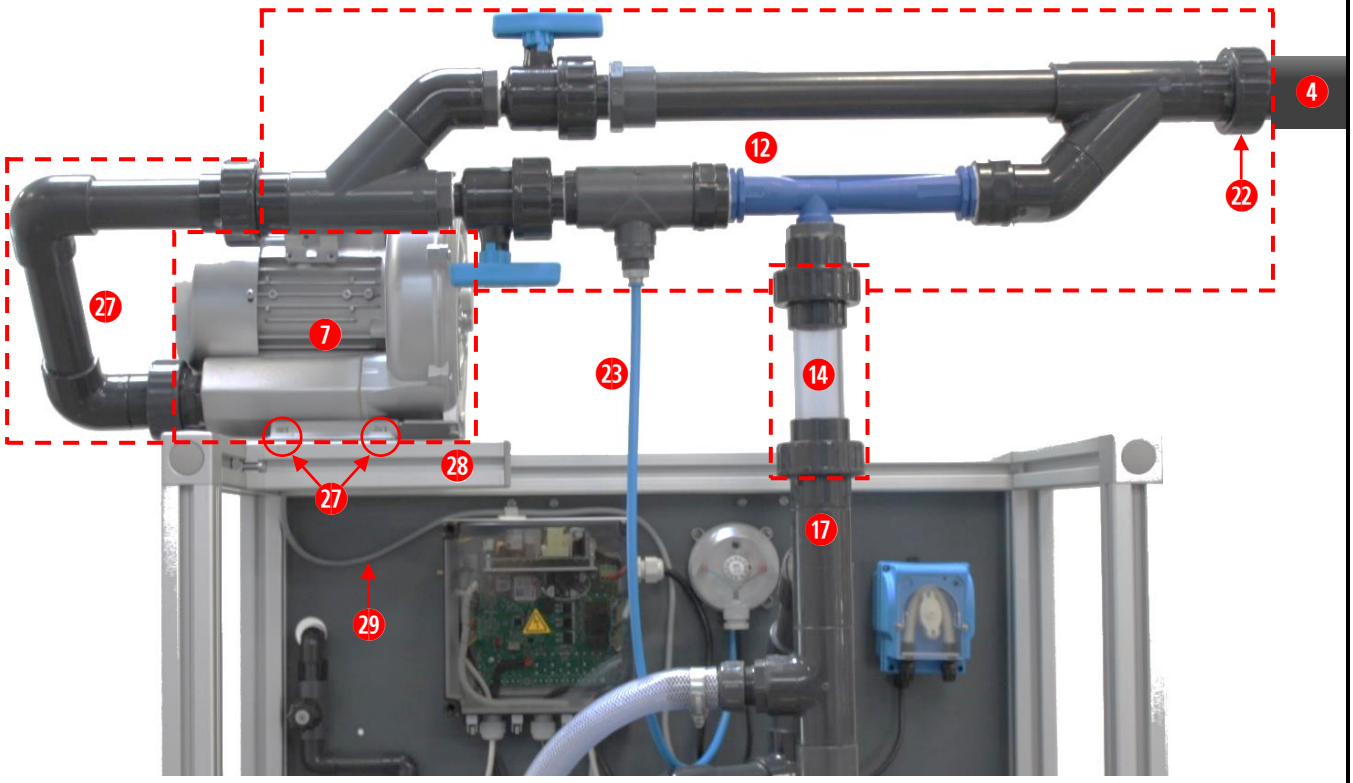
10) Connect cable 25 to a 230 V - 50/60 Hz power supply.

To ensure a perfect seal of the hydrogen discharge system, the elements 19, 15, 13, 11, 20, 22 and 4 must be installed using PVC glue, and the surfaces to be glued must first be cleaned with a suitable solvent.

Steps 9 and 10 must be carried out by a qualified electrician.

Installation to be carried out on models PC280 and PC560





1) Connect element 14 to element 12, by checking the presence of the seal initially placed onto element 12. (→ Element 14 does not have an up / down direction.)

2) Connect assembly 14-12 to element 17, by checking the presence of the seal initially placed on element 17.

3) Place the blower 7 on the frame 28 with the 4 bolts 26, <u>without tightening them.</u>

4) Glue all the parts making up element 27.

5) Connect element 27 to element 12, <u>without putting pressure on the blower 7</u> (move the blower horizontally if necessary).

6) Connect element 27 to the blower 7, by adjusting the position of the blower 7 horizontally.

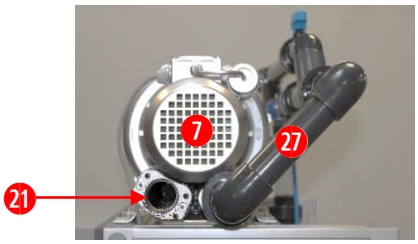
7) Tighten the 4 bolts 26.

8) Connect the air filter 10 to 21, using Teflon tape.

9) Stick the hydrogen discharge pipe 4 *(not supplied)* to the union connector 22, checking that the seal is present.

10) Connect the pressure tubing 23 to element 12.

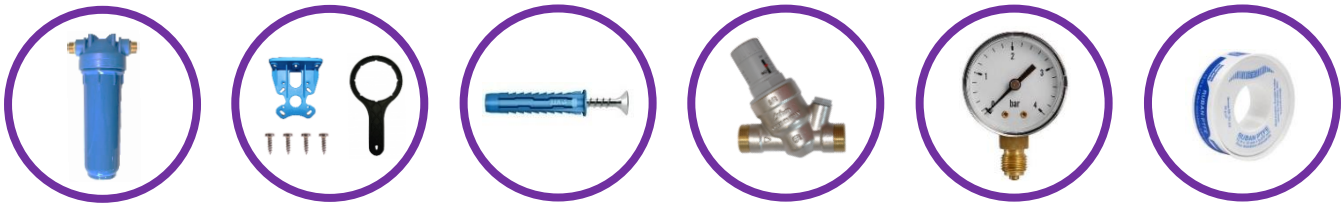
11) Plug in the blower 7 using cable 29 (230 V - 50/60 Hz single phase power supply), referring to the blower manual provided.



To ensure a perfect seal of the hydrogen discharge system, the elements 27, 22 and 4 must be installed using PVC glue, and the surfaces to be glued must first be cleaned with a suitable solvent.

Step 11 must be carried out by a qualified electrician.

4.4. [Filter / pressure reducer / pressure gauge] assembly



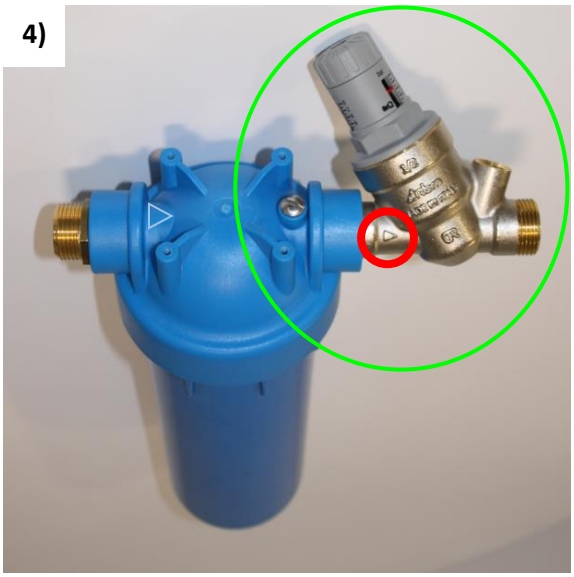
- **Connect all hydraulic elements with sealing tape.**
- **The 2 arrows circled in red *(see steps 2 and 4)* indicate the direction of water flow. Respect the direction of these arrows.**

1)

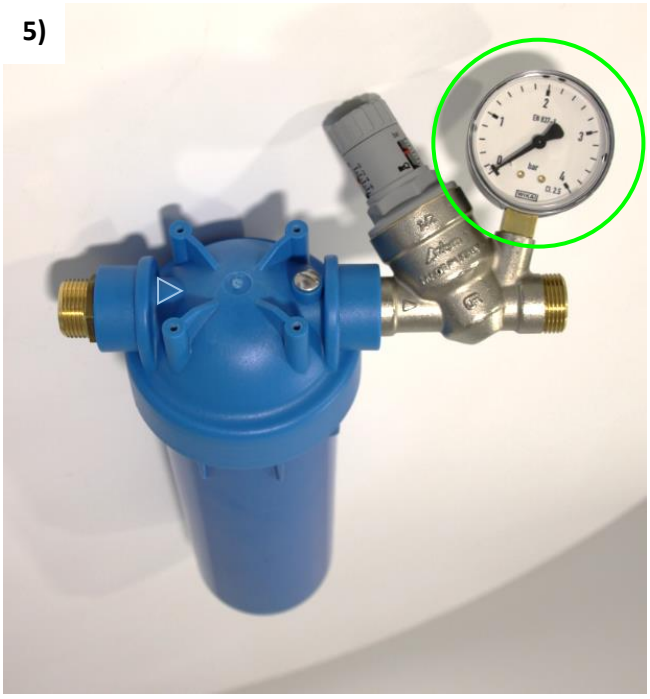
2)

3)

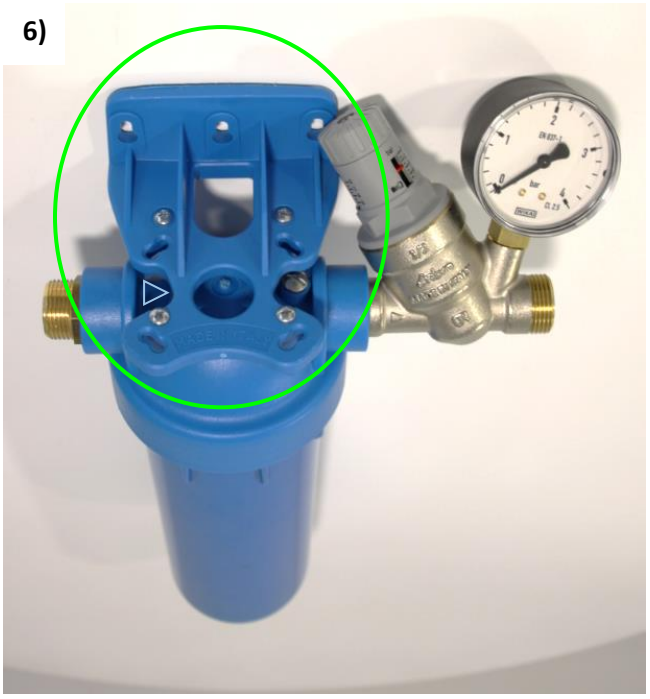
4)



5)



6)

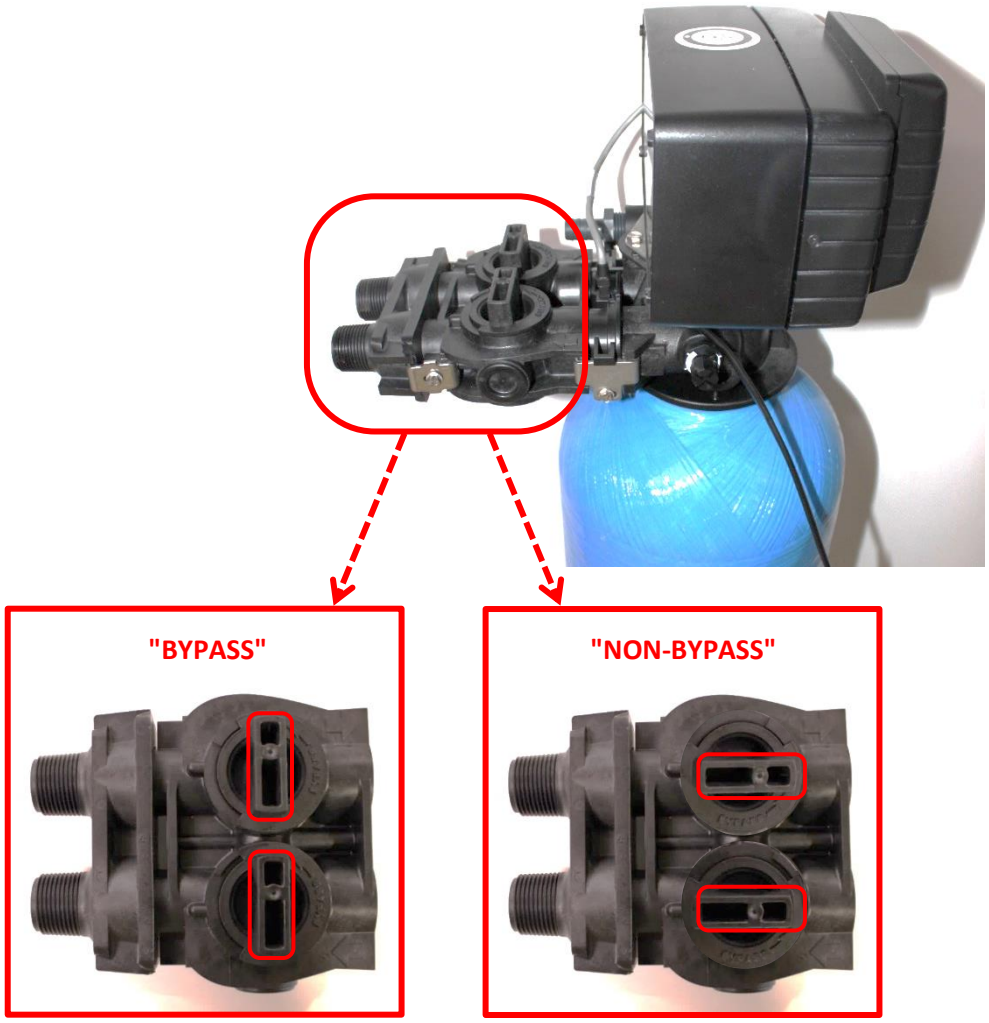


7) **Wall mounting points** *(with screws and dowels)*

4.5. Water softener

1) Set the mixing wheel **E** to minimum.

2) Rinse the interior of the water softener by filling it with mains water, in **"BYPASS"** for 1 minute, then in **"NON-BYPASS"** until the water is clean.



→ *For more information, refer to the water softener manual.*

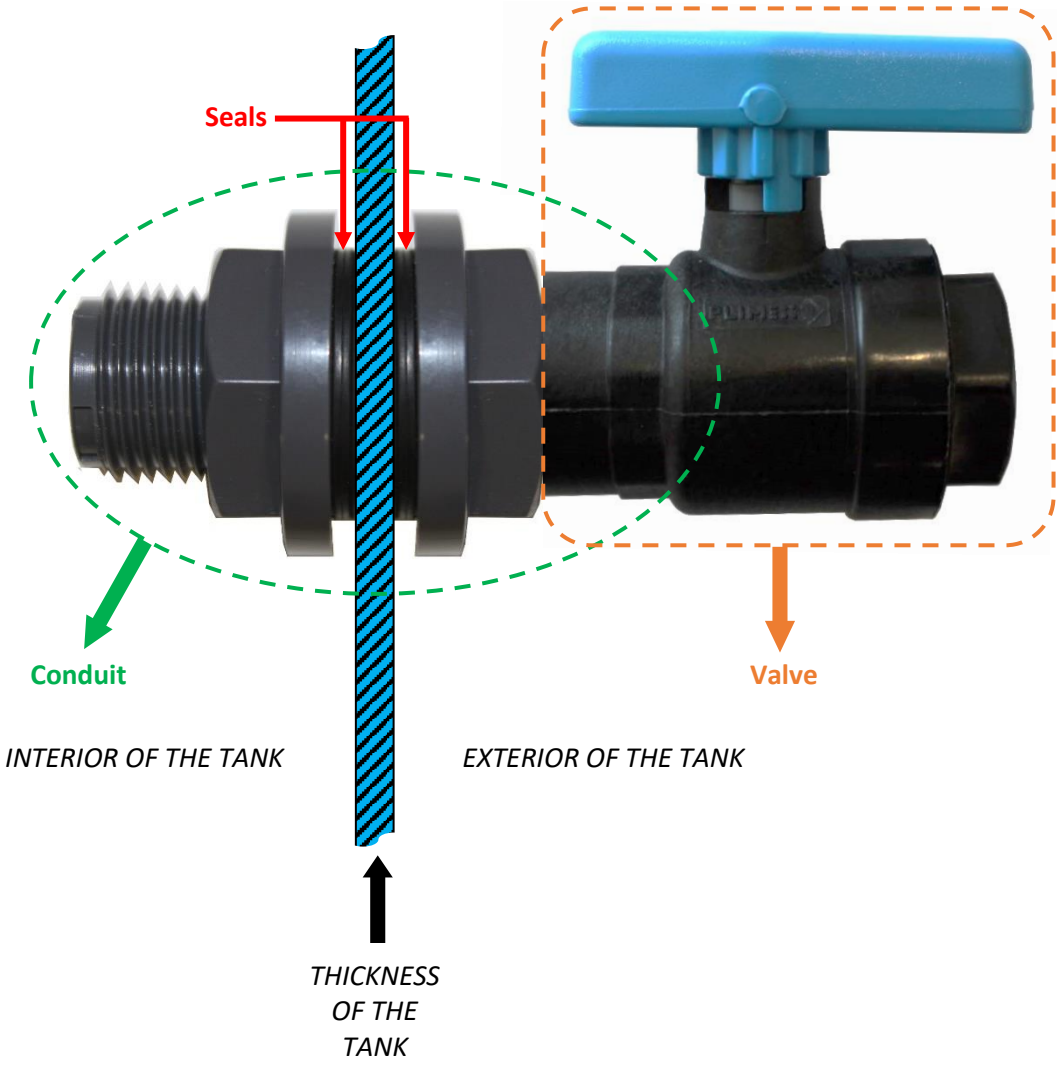
4.6. Drainage kits

→ The drainage kits need to be mounted on the production tank's overflow tray, and on the brine tank.
→ Drainage kits must be positioned at the bottom of these tanks.
→ The diagram below is for illustrative purposes only. This assembly can be modified for convenience (addition of an elbow, change in the direction of the conduit etc.), according to the positioning and size constraints associated with the installation.

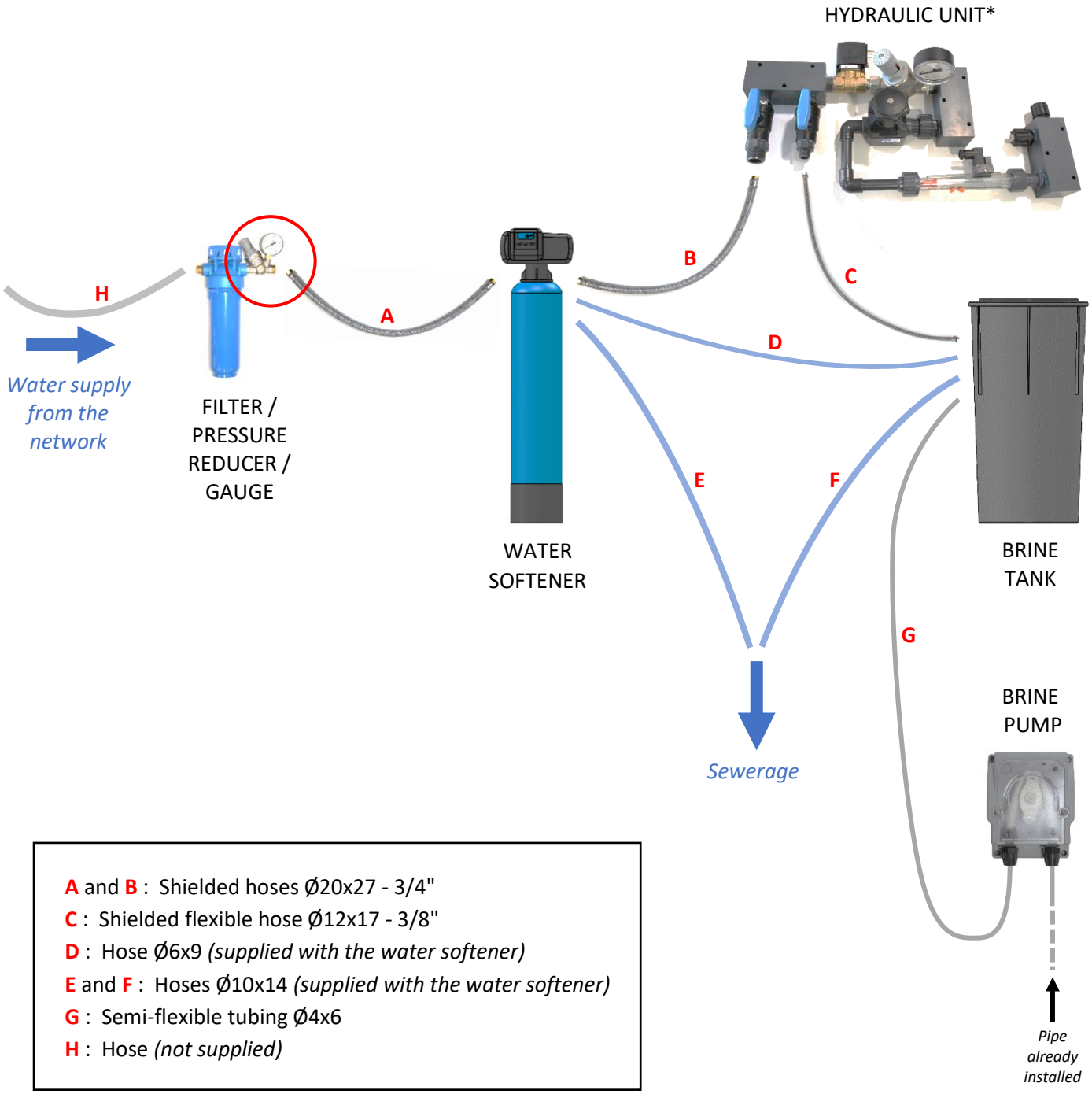
- **Before proceeding, make sure that no trace of sodium hypochlorite remains on the sides or bottom of the tanks, as well as in the pipes and fittings. If this is not the case, rinse the system thoroughly with clean water.**
- **It is imperative that work on elements in contact with a corrosive product is carried out by personnel trained in chemical risks and equipped with adequate and appropriate means of protection.**
- **The overflow tray drainage kit is in direct contact with sodium hypochlorite. Ensure that all components used are suitable for this purpose.**
- **It is the responsibility of the installer to identify and clearly display the chemical risks associated with the drainage kits in order to protect the health of the personnel.**
- **Observe the safety instructions in chapter 2.**

In accordance with the image below :

1) Drill a 21 mm diameter hole in the tank to install the conduit.
2) Fix the conduit to the pierced hole, checking the presence of the 2 seals.
3) Screw the valve onto the conduit, using Teflon tape.

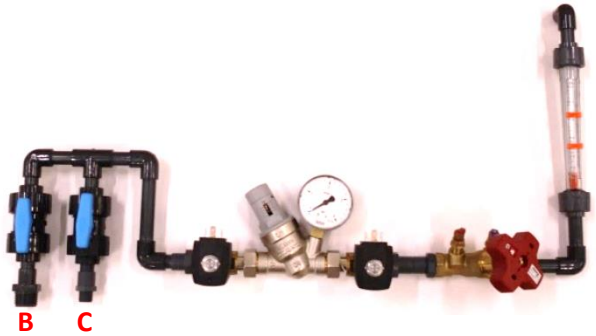


4.7. Water pipes



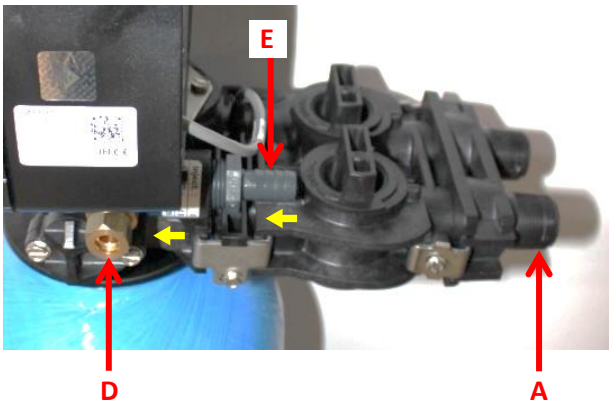
A and **B** : Shielded hoses Ø20x27 - 3/4"
C : Shielded flexible hose Ø12x17 - 3/8"
D : Hose Ø6x9 *(supplied with the water softener)*
E and **F** : Hoses Ø10x14 *(supplied with the water softener)*
G : Semi-flexible tubing Ø4x6
H : Hose *(not supplied)*

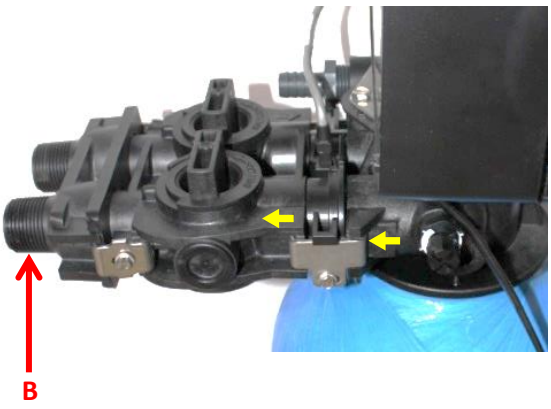
* Image differs according to model :



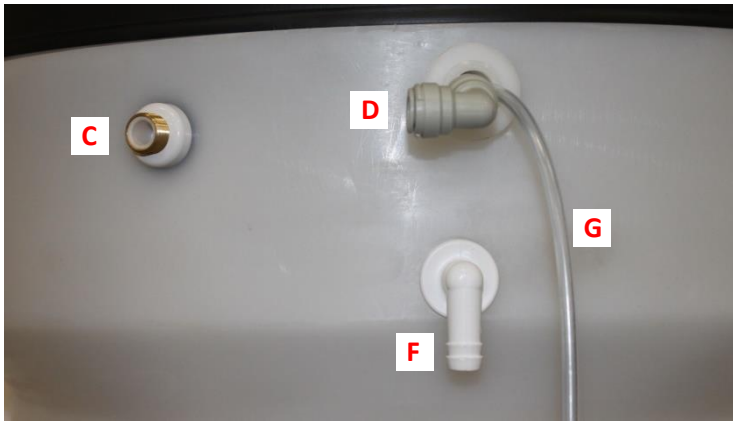
CONNECTIONS TO THE WATER SOFTENER

4 embossed arrows on the water softener *(in yellow below)* indicate an input and output direction.
Respect the direction of these arrows as shown below.





CONNECTIONS TO THE BRINE TANK

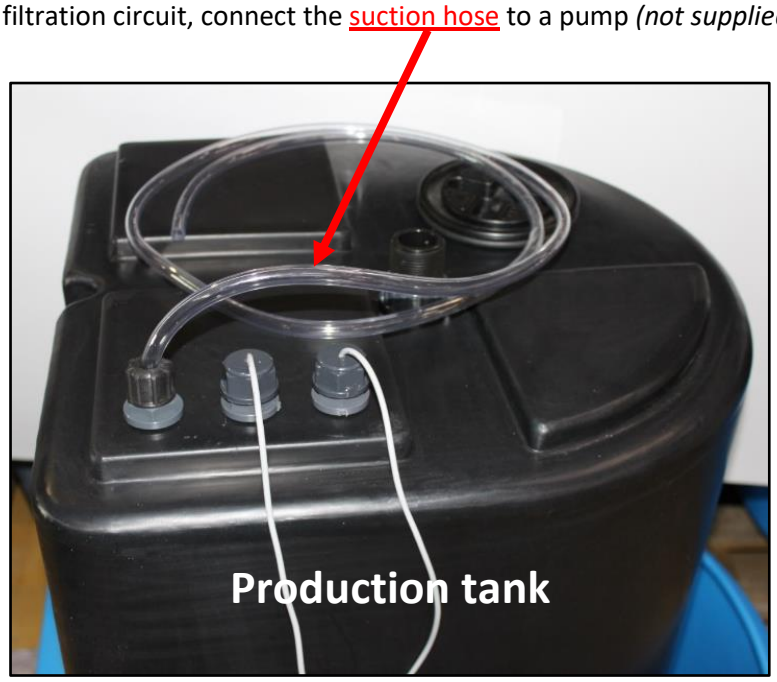


- **Check the presence of the seals on each side of all the shielded hoses.**
- **Ensure all the equipment's sewer systems (water softener, brine tank, drain valves) are sealed, properly connected and evacuated.**
- **If the equipment room does not have a gravity sewerage system (example: semi-underground or underground room), it is imperative to install an evacuation system with a lifting pump.**
  It is imperative that this lifting pump :
  - **has a minimum flow 2 times greater than the maximum water flow of the network.**
  - **is wired to a power supply independent of that of the equipment (in order to maintain the operation of the pump in the event of an interruption or disconnection of the power supply to the equipment).**
- **Make sure that the electrical transformer supplied with the water softener is protected from splashing and any contact with water.**

4.8. NaClO hoses

4.8.1. Suction hose

To inject the NaClO into a filtration circuit, connect the suction hose to a pump *(not supplied)*.



4.8.2. Production hose (connection to be made on the PC140 model only)

- **The production hose is involved in extracting the hydrogen produced by the equipment to the exterior of the room. Strictly observe the following installation instructions.**
- **Observe the safety instructions in chapter 2.**

- **Before proceeding, ensure that no trace of sodium hypochlorite remains in the cells, pipework and fittings. If this is not the case, rinse the system thoroughly with clean water.**
- **It is imperative that work on elements in contact with a corrosive product is carried out by personnel trained in chemical risks and equipped with adequate and appropriate means of protection.**
- **Ensure that the installation is perfectly sealed to avoid any chemical leakage.**

Production hose **A** must connect fitting **B** to production tank **C**, as shown in the diagram on the following page.

1) **Check the presence of the seals inside the 2 fluted connections D and E provided, in order to avoid any leakage of hydrogen and NaClO.**

2) Screw and hand tighten the 2 fluted fittings **D** and **E** onto fitting **B** and onto tank **C**.

3) Cut hose **A** to the appropriate length depending on the installation :

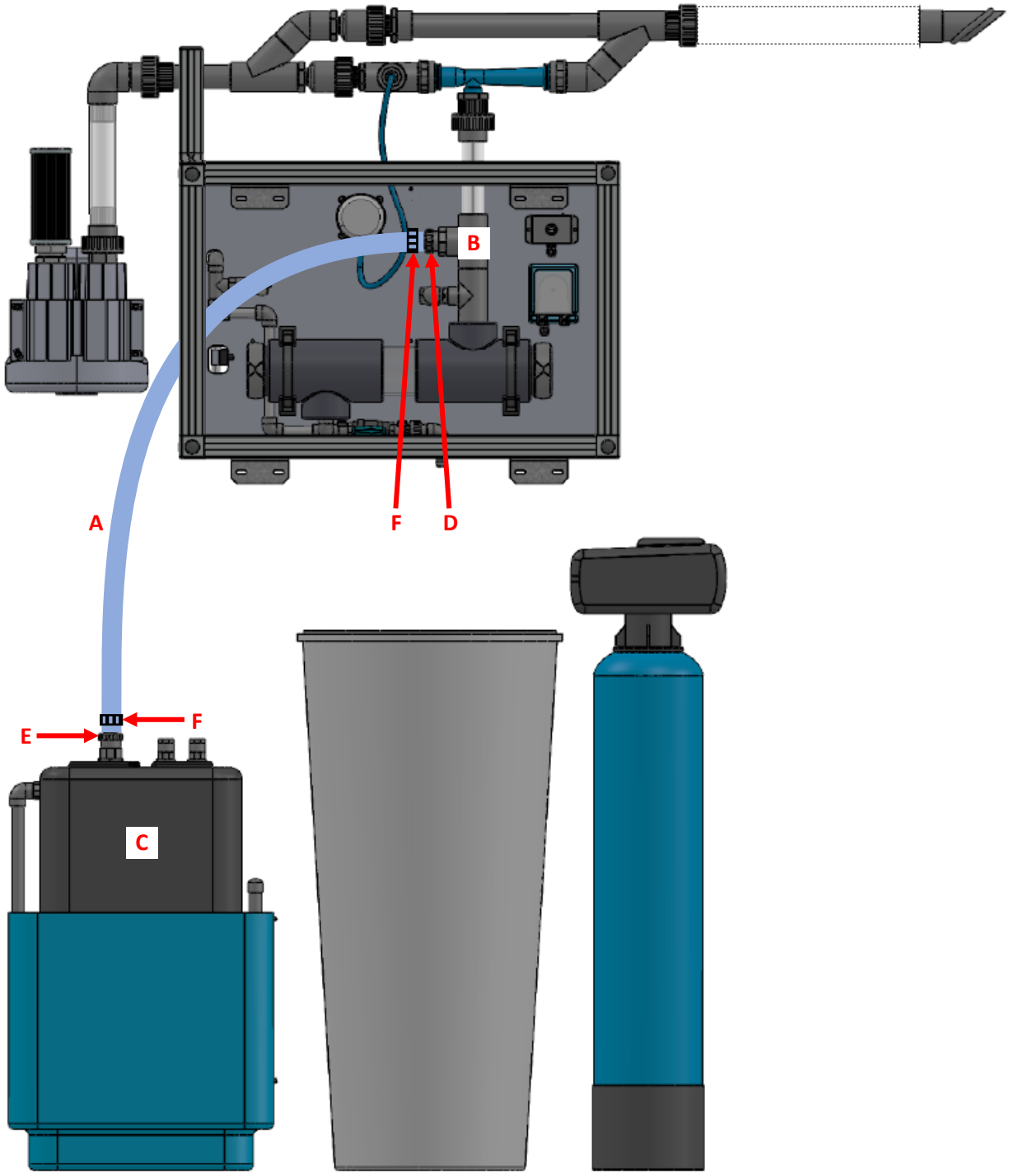
Hose A should be as short as possible in length, and should not be bent or pinched.

4) Fix hose **A** to fluted fitting **E**.

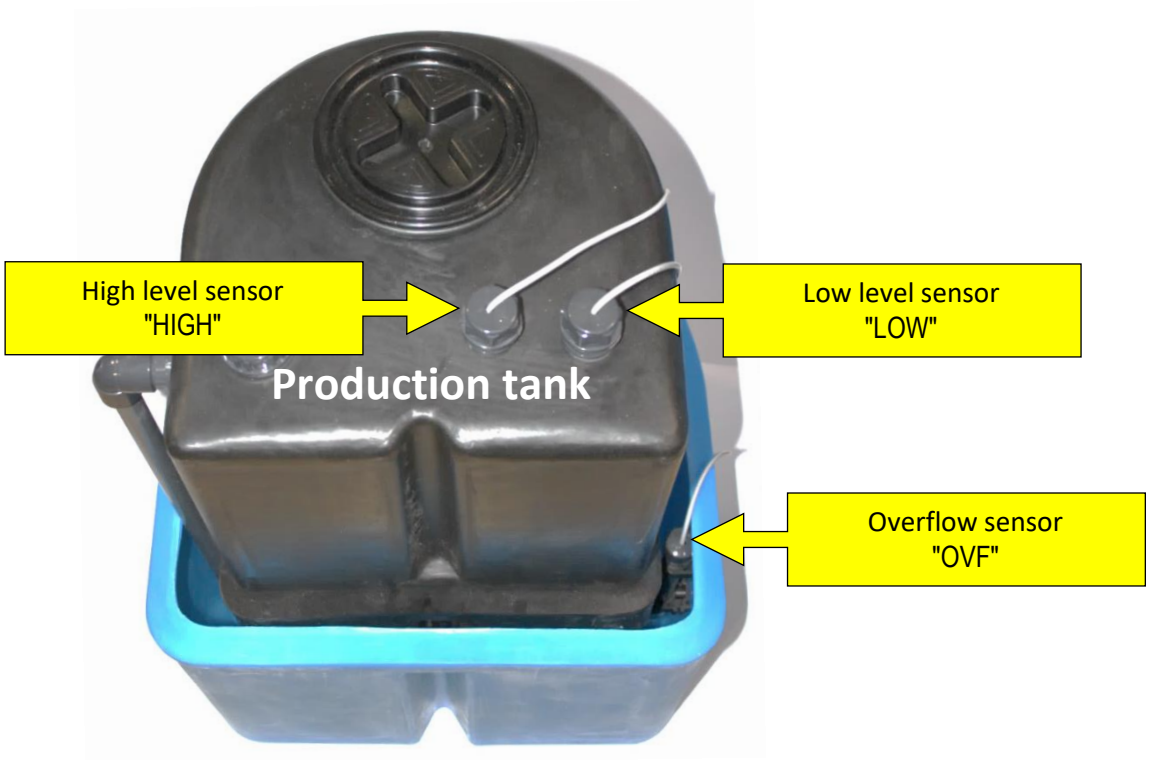
5) Slide the 2 clamps **F** supplied around hose **A**.

6) Fix hose **A** to fluted fitting **D**.

7) Position and tighten the 2 collars **F** on each side of hose **A**.

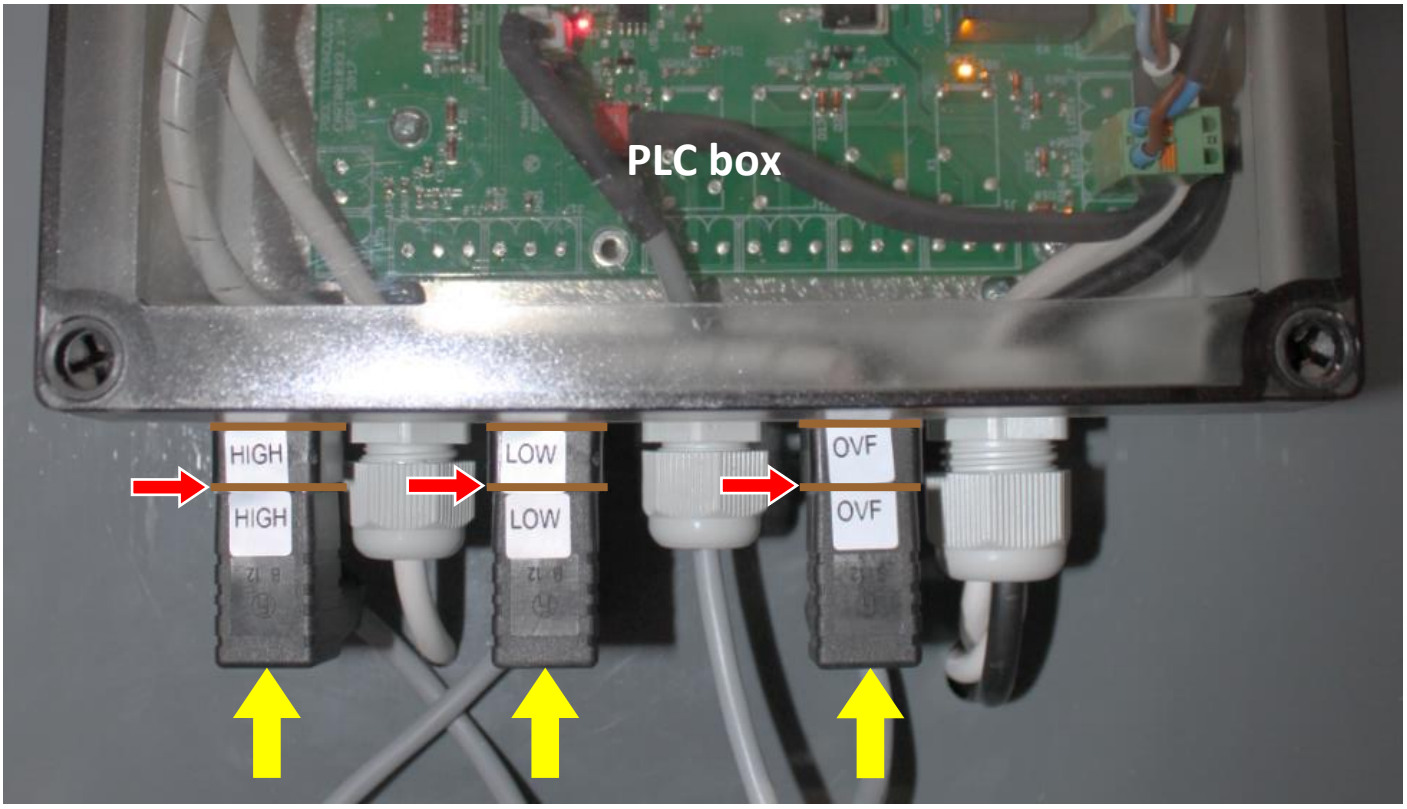


4.9. Production tank sensors (connections to be made on PC140 model only)



Connect the sensors according to the picture below *(sensor connectors are shown by the yellow arrows)*.

- **Do not forget to fit the seals onto the connectors *(see red arrows below)*.**
- **Make sure the connectors' screws are tight.**



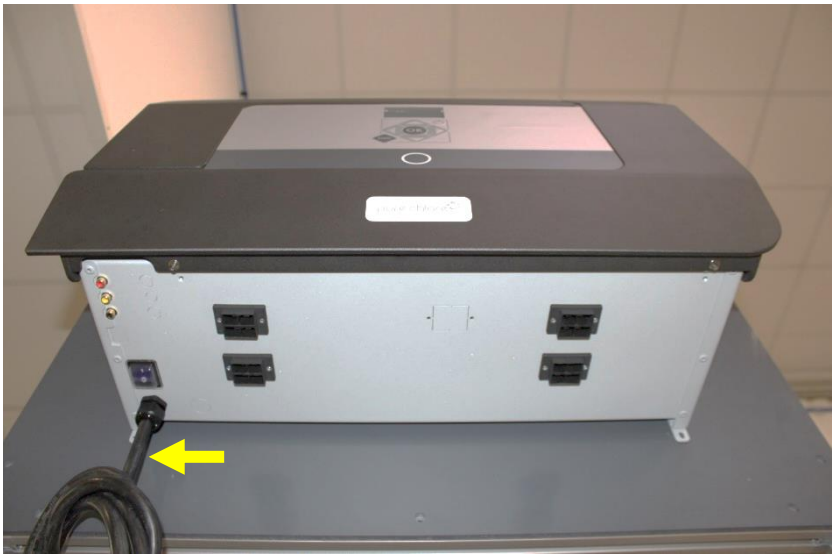
4.10. Power cable

- **The PURE CHLORE power cable *(see photos below)* is connected to the electronics unit.**
- **Before making the connection, make sure that the electrical installation complies with the characteristics mentioned in chapter 3.1, as well as the standards and regulations in force in the country of installation.**
- **The connection must be carried out by a qualified and authorised electrician.**
- **Do not use an extension cord.**
- **Do not plug the device into an electrical socket.**
- **First cut off the power supply at the circuit breaker. Make sure that the power supply is switched off using the appropriate tools.**
- **Connect the power cable of the PURE CHLORE electronics unit to a permanent power supply panel.**

PC140

PC280

PC560

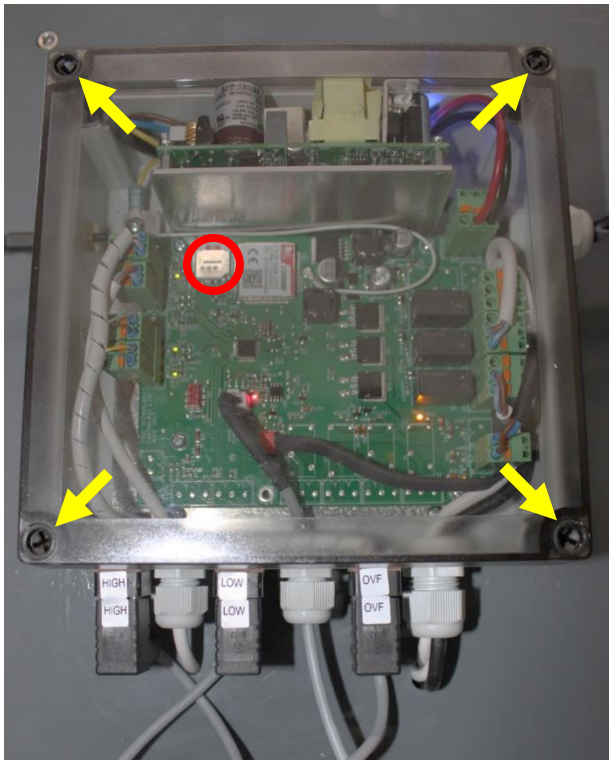


4.11. SIM card (not supplied)

→ *SIM cards in "micro SIM" format are compatible with the equipment.*

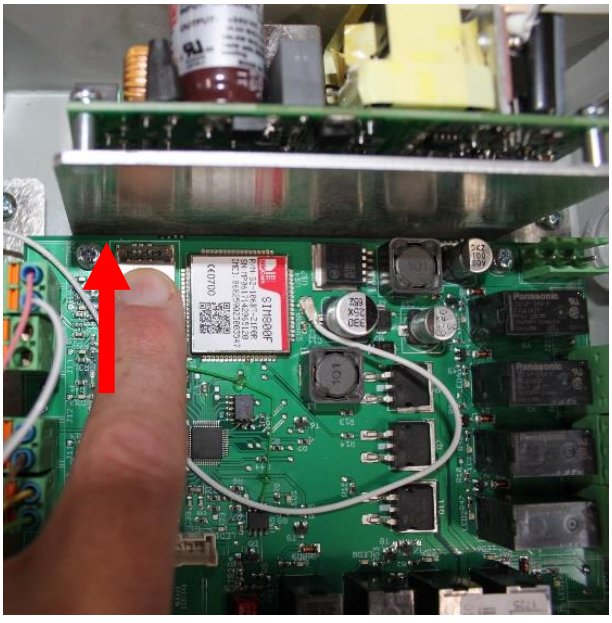
1) Switch off the equipment.

2) Remove the cover of the PLC box by unscrewing the 4 screws below :

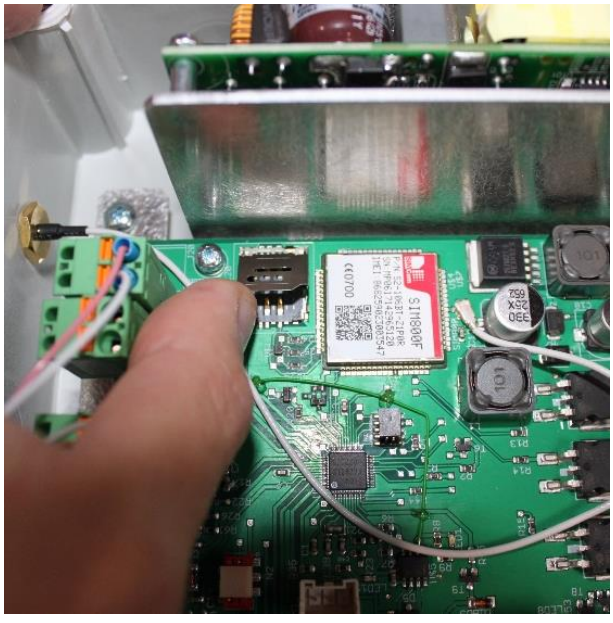


→ The SIM card slot is circled in red on the picture above.

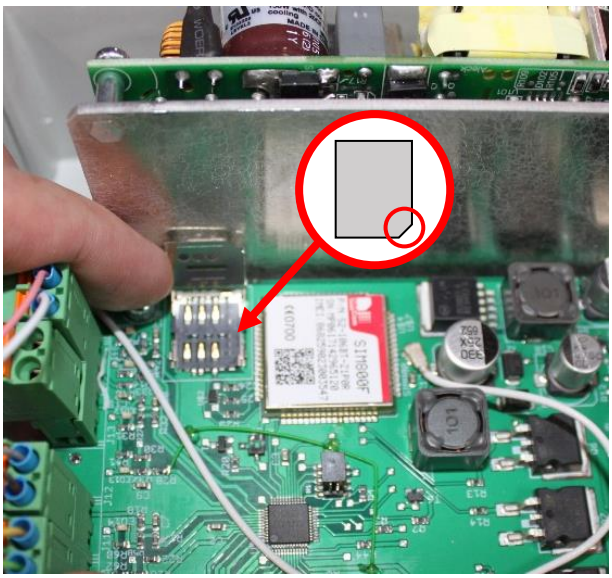
3) Unclip the cover by lifting it :



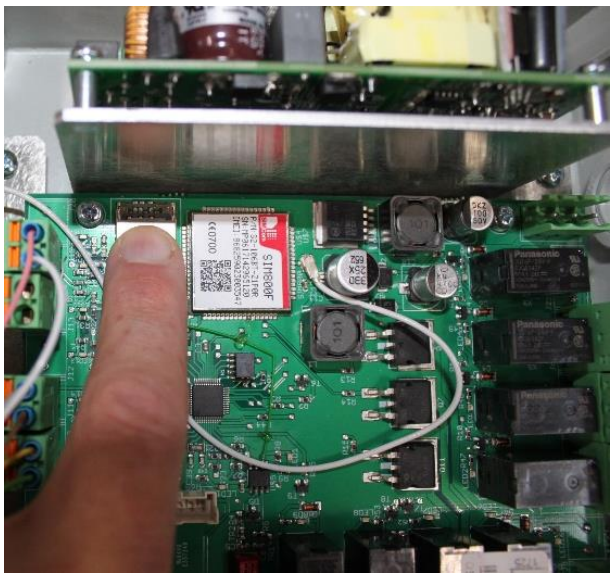
4) Lift the cover :



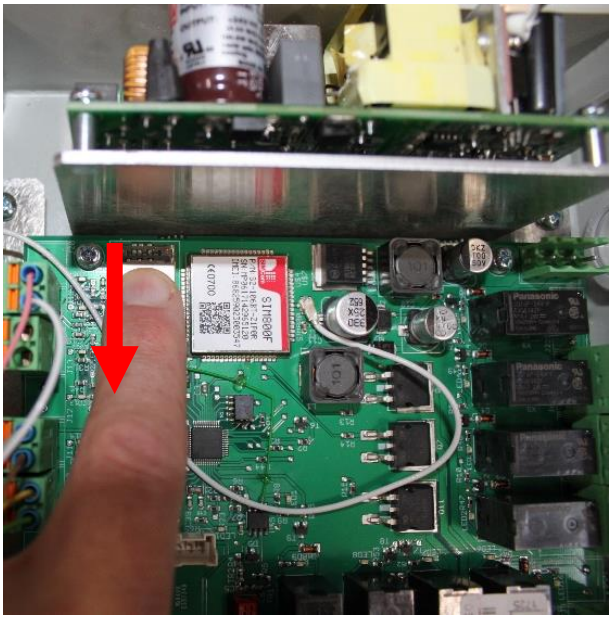
5) Position the SIM card :



6) Close the lid back up :



7) Clip the cover back on by lowering it :



8) Put the cover back on the PLC box.

9) Switch the equipment back on.

10) Carry out all the steps in chapter 8.5.3.

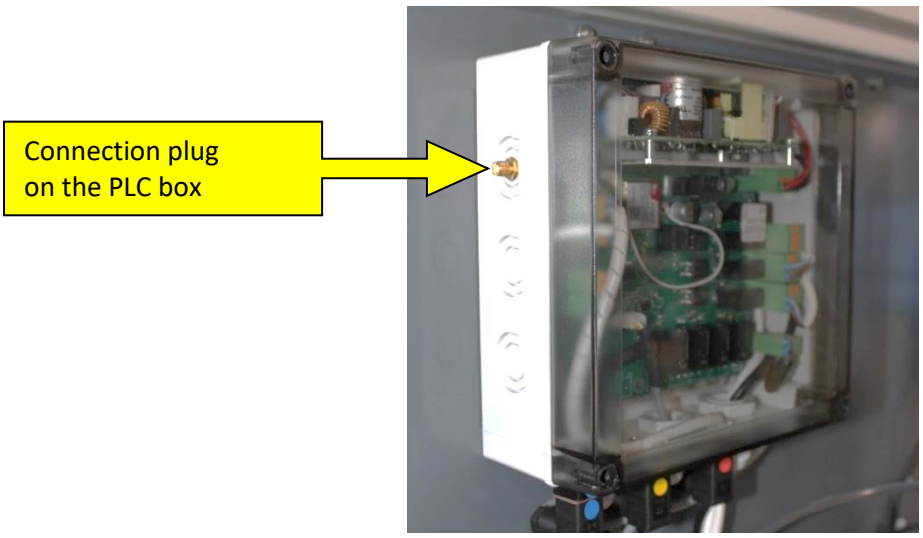
11) As soon as GSM communication has been established, the SMS message**"GSM communication ready"** is sent automatically.

N.B. : after a loss of GSM communication, the SMS message **"GSM network reconnected"** is sent automatically when communication is restored.

4.12. GSM antenna

- **The connection must be carried out by a qualified and authorised electrician.**
- **Do not open the PLC box, as there is a danger of electric shock.**

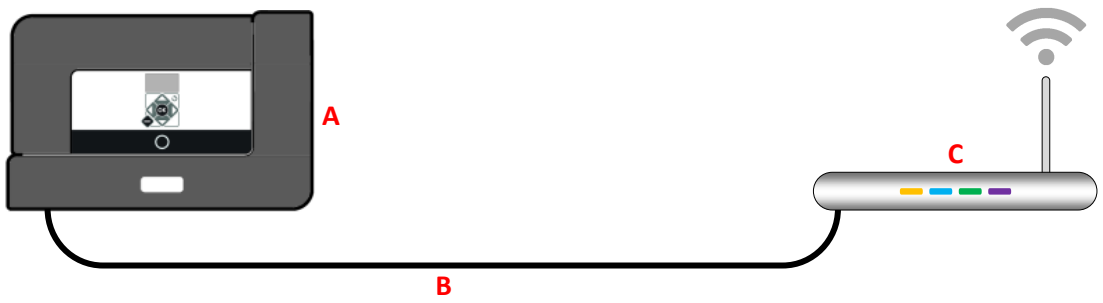
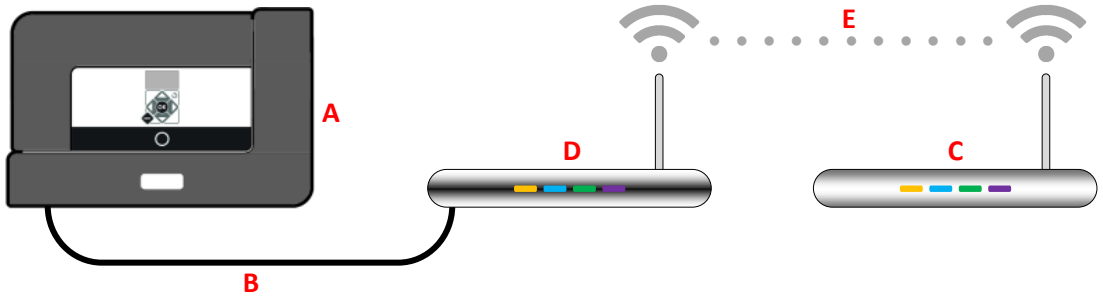
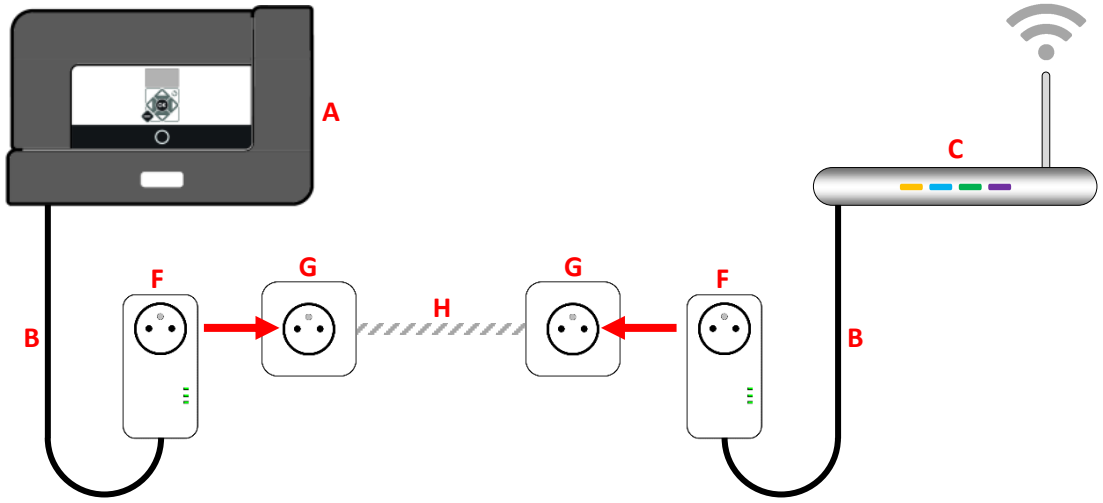
1) Screw the antenna to the PLC box :



2) Fix the antenna to the wall, using the bracket and the 2 dowels/screws provided :

4.13. Connect Pro

1) According to the table below, select one of the 3 communication solutions and carry out the corresponding connections.

Communication solution	Connections
wired	
Wi-Fi	
CPL	

A : Electronics unit
B : Ethernet cable (with RJ45 connector on each side)
C : Router
D : Access point
E : Wi-Fi link
F : CPL socket
G : 220 V socket
H : 220 V connection (cable enclosed)

⚠ **Ethernet cable (B) must be at least category 5, and a maximum length of 100 m.**

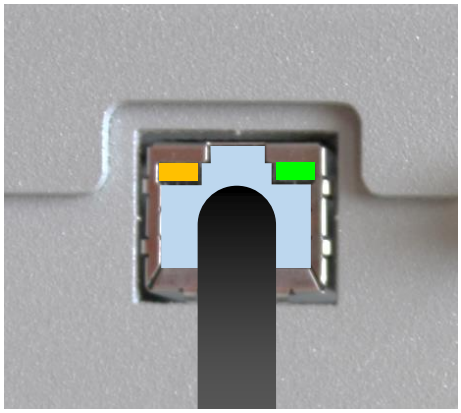
2) <u>Configuration to be carried out by the network administrator, at router and firewall level :</u>

- Use port **TCP 4444** to make the connection between the electronics unit and the router.
- Make sure that port **TCP 4444** is open at the entrance and exit, to ensure communication between the electronics unit and the router.
- Enable the DHCP protocol so that an IP address is assigned to the electronics unit.

→ *If you encounter any problems, contact POOL TECHNOLOGIE.*

3) Switch on the power then turn on the electronics unit *(switch located on the side of the unit)*.

4) At the Ethernet port of the electronics unit *(see photo below)*, check that the green LED is on and that the orange LED is blinking (Internet connection successful). If necessary, check all the connections carried out.



5) Switch the electronics unit off and then back on again.

Do not disconnect any electrical element (sensor, cell, ...) when the equipment is switched on.

USER INSTRUCTIONS
RELATING TO THE INSTALLATION

5. COMMISSIONING

<u>On the eve of the first start-up of the equipment :</u>
(in order to get a brine that is sufficiently saturated the day of start-up)

1) Pour salt into the brine tank :
- High purity salt tablets conforming to the EN 16401 standard, quality A (free from flow agents and anti-caking agents).
- Quantity : 50 kg minimum for model **PC140** (100 L tank),
  100 kg minimum for models **PC280** and **PC560** (200 L tank).

2) Initialise the water softener as described in the instructions provided with it.

3) Adjust the water softener to obtain a degree of hardness less than 10°f at the softener outlet.

4) Open the 2 isolation valves **A** *(see photos on the next page)*.

5) Open the water inlet valve that feeds the equipment.

6) Set the water softener regeneration.
→ *Water softener regeneration should, ideally, be performed <u>before</u> the pool's opening hours.*
Take the time required for regeneration into account in order to be able to comply with this recommendation.
→ *The water softener has been correctly pre-set with the equipment.*

7) Start up the water softener.
→ Make sure that the water softener is not in BYPASS mode *(refer to the instructions for the softener)*.

<u>On the start-up day of the equipment :</u>

8) Turn on the electronics unit (switch).
→ The message **"EMPTY"***(empty production tank)* appears on the screen.
→ Some alarms may be activated. Wait a few moments until they are dismissed.

9) Adjust the pressure reducer positioned before the softener between 1 and 2 bar.

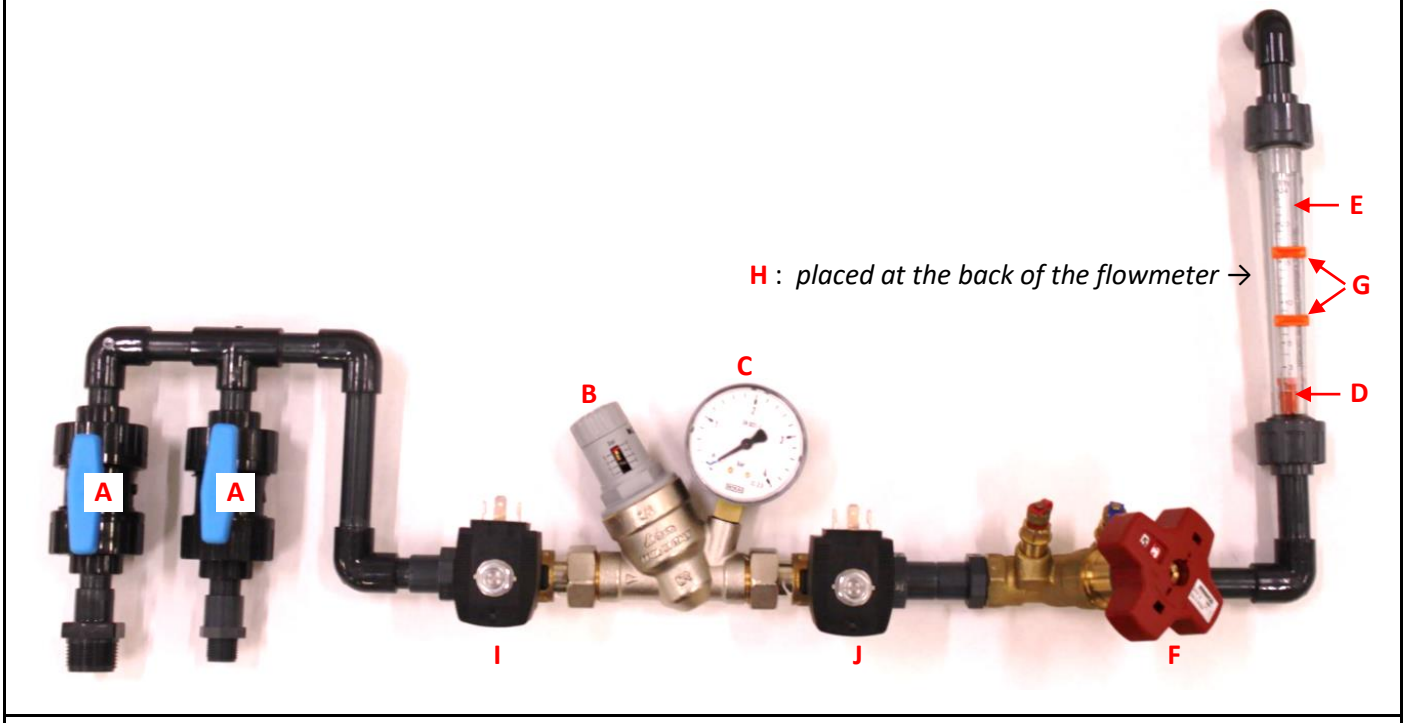
10) Adjust the inlet pressure to 1 bar maximum, by turning knob **B**. The inlet pressure can be viewed via manometer **C**.

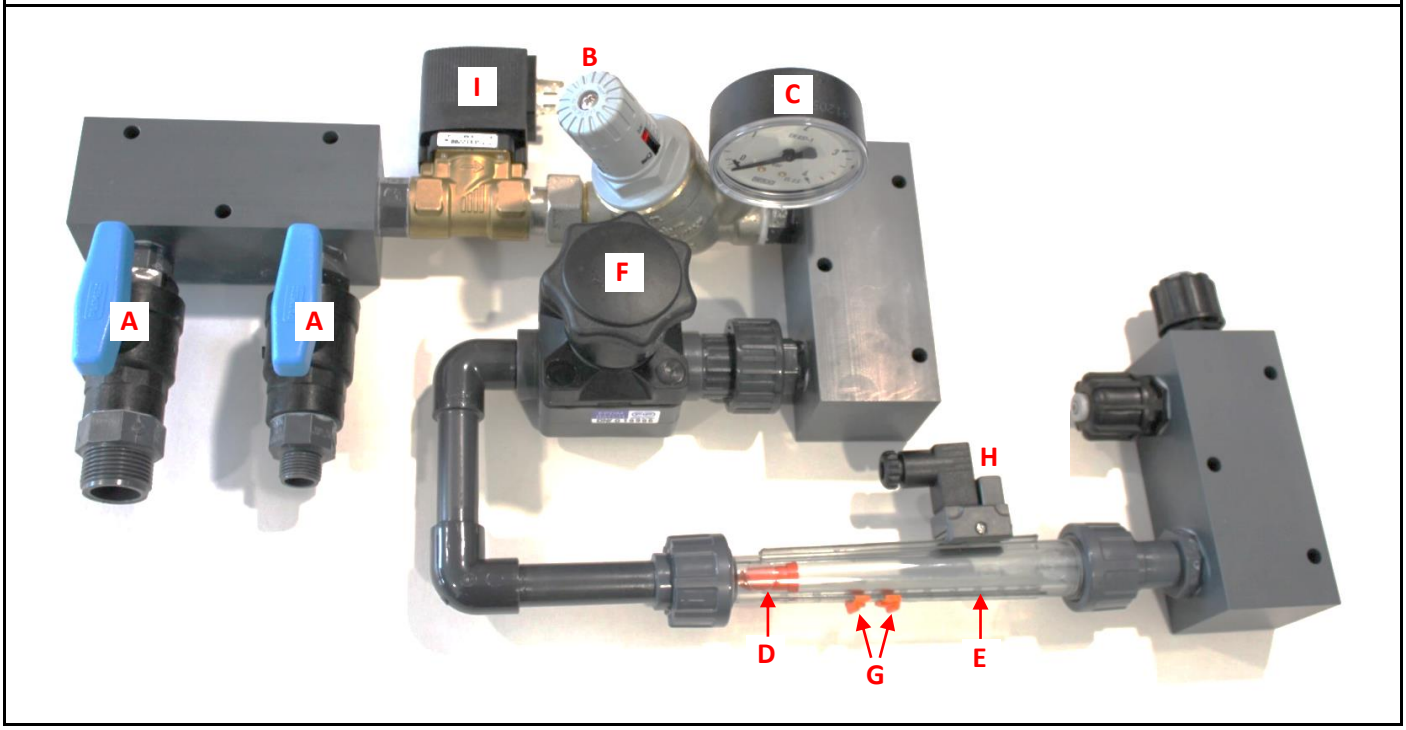
11) <u>Adjust the water flow :</u>
→ The flow of water in the circuit can be measured by checking the position of float **D**, against graduated scale **E**.
→ Set the water flow to its nominal value (see table below), turning valve **F**.
→ The minimum and maximum water flow thresholds, defined in the table below, can be visually identifiable by means of the 2 manually adjustable sliders **G**. The top of float **D** must then stabilize between the 2 sliders **G**.

	WATER FLOW (L/h)		
MODEL	**minimum**	**nominal**	**maximum**
PC140	15	16	17
PC280	30	32	35
PC560	60	63	70

12) As soon as the water flow is between the minimum and maximum thresholds *(detection by flowmeter **H**)*, the brine pump starts.

HYDRAULIC UNIT (visuals according to the model)





13) To check the priming of the brine pump, disconnect the hose at the pump outlet *(see arrow below)* : <u>the pump must pump back the brine.</u>

14) As soon as the chlorinator cells are immersed *(detected by the salt/temperature/low water level sensor)*, production starts.

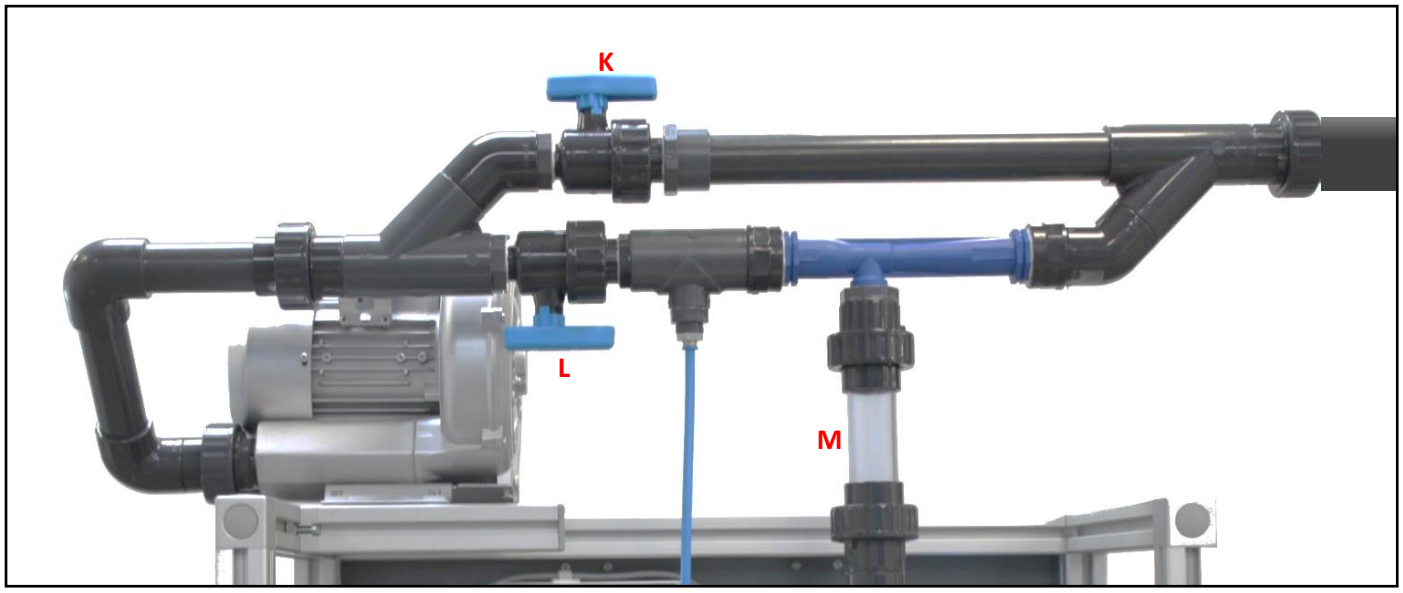
→ *The "**Low Water Level Alarm**" is automatically dismissed as soon as the cells are immersed.*

→ *The **"Low Salt Alarm"** is dismissed as soon as there is enough salt in the cells.*

15) In accordance with the image below :

a) Open the valves **K** and **L** to the maximum.

b) Gradually close valve **L** until the liquid and bubbles in chamber **M** completely disappear.



⚠ **Thereafter, regularly check for the total absence of liquid and bubbles in chamber M adjusting the closing of valve L if necessary.**

6. SALT TOP-UP

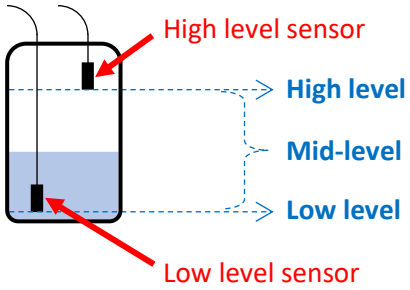
The salt in the brine tank must be topped up as soon as the salt tablets have visibly dissolved in the water.

⚠ → **Before topping up the salt, close the water inlet valve that feeds the equipment.**
If necessary, drain the brine tank to prevent overflow.

→ **The salt top up must not exceed the level of the float valve inside the tank.**

7. PRODUCTION QUANTITY MANAGEMENT

The production quantity is automatically managed based on the level of NaClO in the production tank :

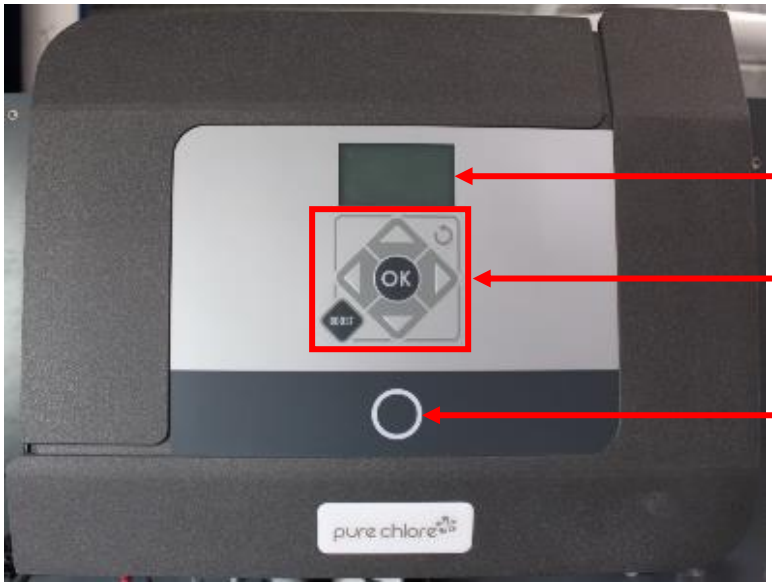


- **When the high level is reached :**
  → Production stops.
  → The message **"FULL"** (tank full) is displayed on the screen *(see chapter 8.3.1)*.

- **Mid-level :**
  → There is an option to manually activate Boost mode *(see chapter 8.1)*.
  → There is an option to program a Boost mode *(see chapter 8.5.1)*.

- **When the low level is reached :**
  → The solenoid valves automatically open.
  → If the water flow is correct, the brine pump starts.
  → If the chlorinator cells are immersed, production starts.
  Production continues until the high level is reached.

8. ELECTRONICS UNIT INTERFACE



Screen

Keypad

LED
(present only on models **PC280** and **PC560**)

8.1. Keypad

KEYS	DESCRIPTION / FUNCTION
	• Menu navigation • Entry of numeric codes • Press simultaneously on ← and → : contrast adjustment
	• Short press: Confirmation • Press and hold: access the menus
	• Short press: cancel/go back • If the equipment is in BOOST mode, a short press stops it.
	Boost mode: immediate production start-up to meet an urgent requirement for NaClO *(provided that the level of NaClO in the production tank is intermediate)*

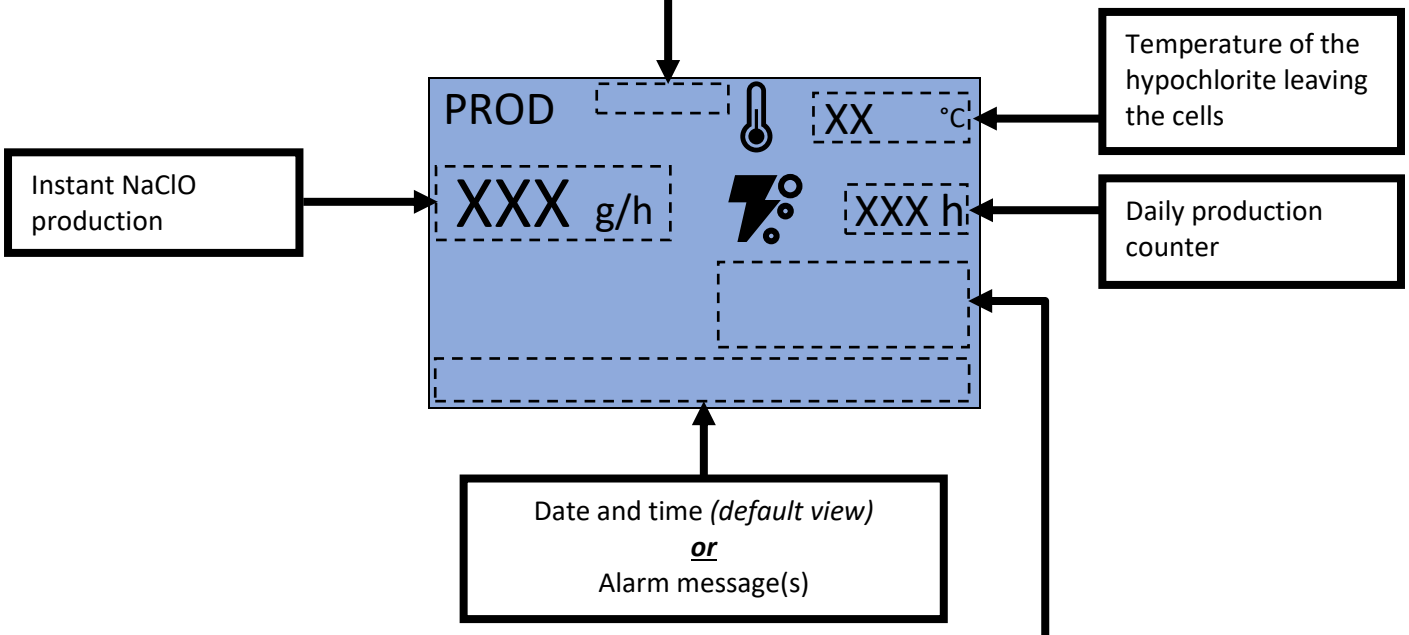
8.2. LED

STATUS OF THE LED	MEANING
Blue light	Production in progress
Red light	An alarm has been triggered
Off	Production stopped

8.3. Screen

8.3.1. Initial display

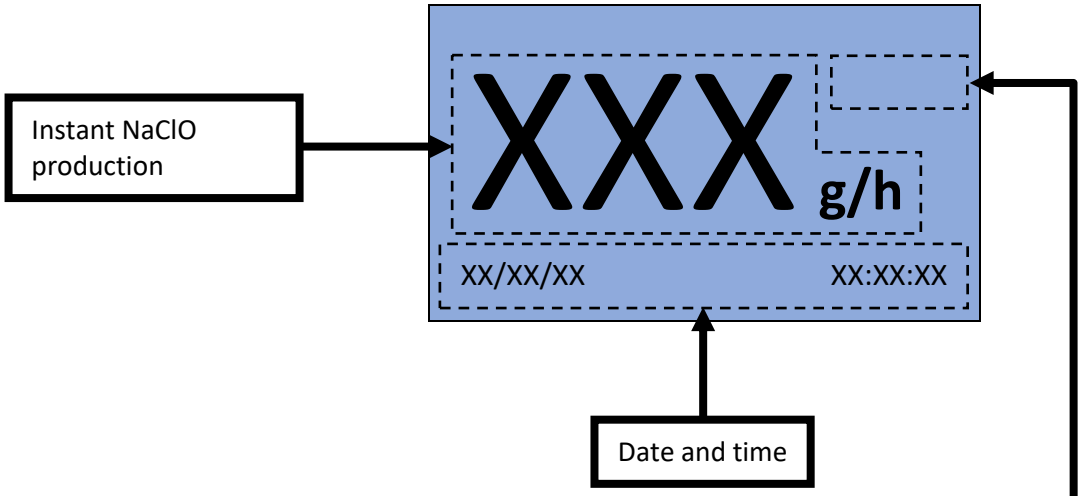
DISPLAY	MEANING
ON	Production in progress
STOP	Production stopped by an alarm
	Production stopped (full or partially full production tank)
BOOST	Production in BOOST mode
OFF	Chlorination stopped (only)



DISPLAY	MEANING
XXhXX	A Boost has been programmed, the activation time is displayed.
FULL	The production tank is full.
EMPTY	The production tank is empty.
→ *If a Boost is programmed while the production tank is full, only the full production tank information is displayed.*	

8.3.2. Standby display

After 30 seconds without any keystrokes, the screen switches to the standby screen :



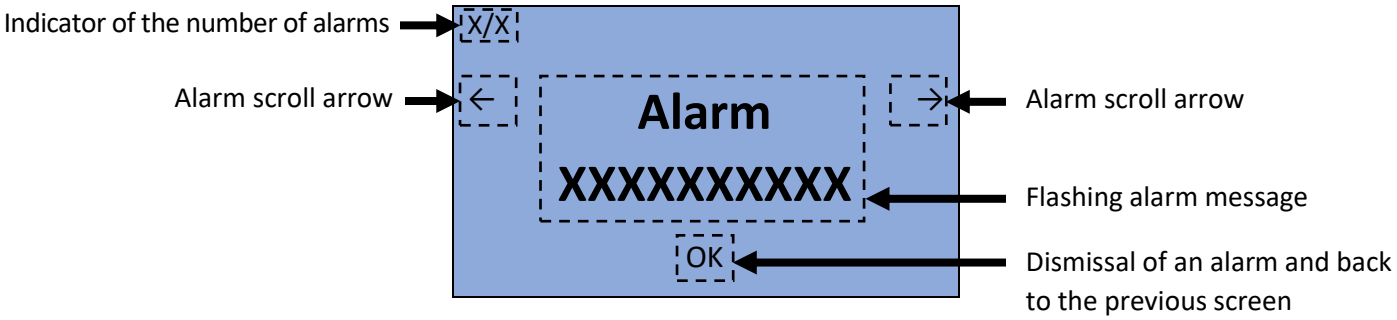
DISPLAY	MEANING
XXhXX	A Boost has been programmed, the activation time is displayed.
FULL	The production tank is full.
EMPTY	The production tank is full.
→ *If a Boost is programmed while the production tank is full, only the full production tank information is displayed.*	

→ To exit the standby screen and return to the initial display, press one of the keys on the keypad.

→ It is possible to lock use of the equipment with a code *(see **"Access code"** in chapter 8.5.2)*.
Once the equipment is locked, the screen switches to standby.

8.3.3. Alarm display

As soon as an alarm is activated, the red LED and the display below appear :



→ All the alarm messages are described in chapter 11.1.

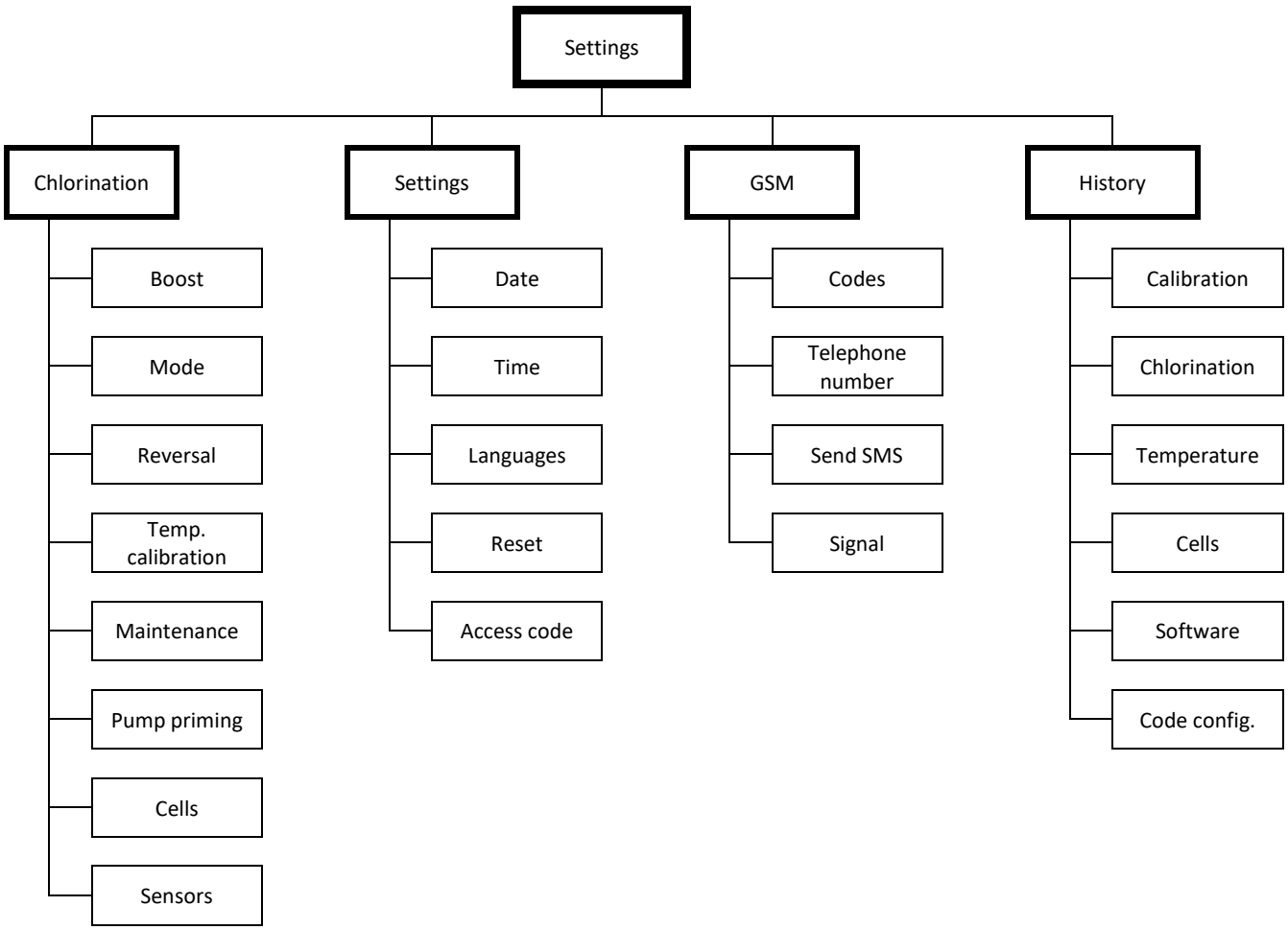
→ All alarms automatically stop chlorination.

→ An alarm on a module/cell only stops the chlorination of this module/cell.

→ All alarms are dismissed once the corresponding fault has been removed, except the**"Hydrogen alarm"** which needs to be dismissed manually.

→ As soon as all the alarms have been dismissed, the message **"Pure Chlore Operational"** is sent automatically by text message.

8.4. Menu tree

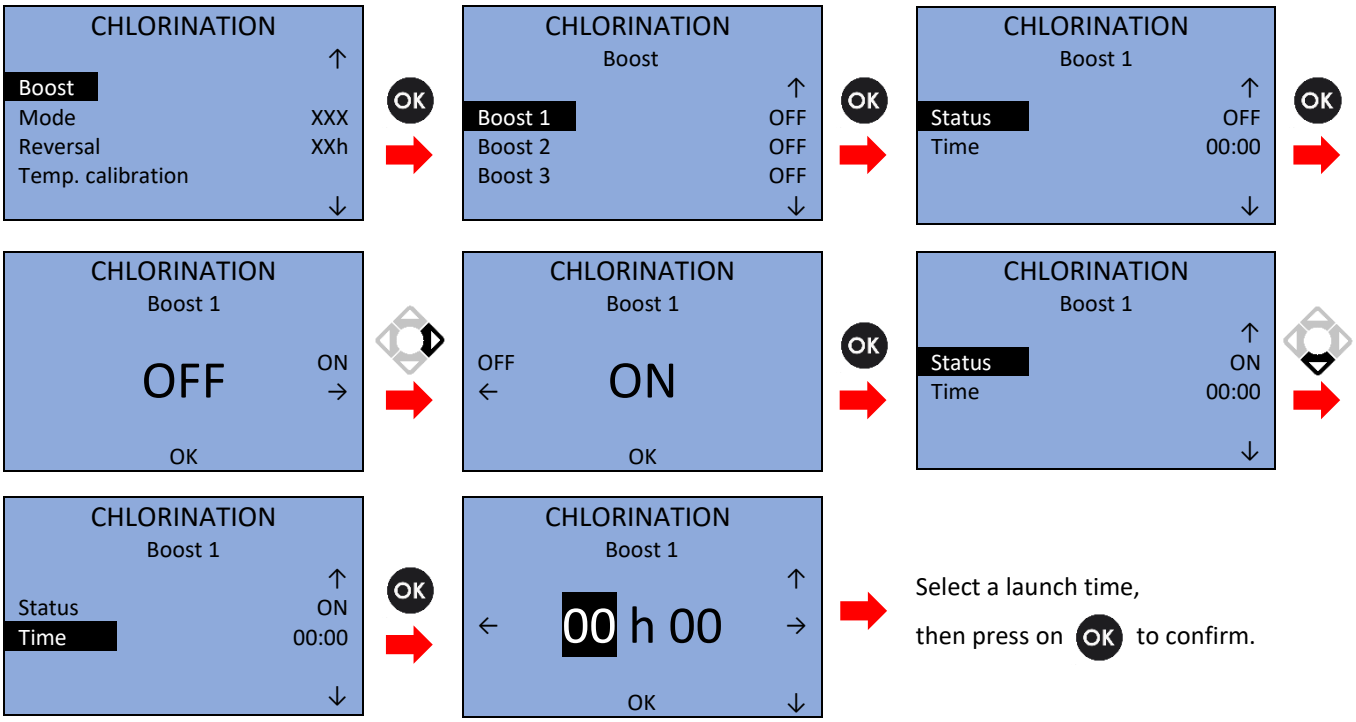


8.5. Description of menus

8.5.1. Chlorination menu

Boost :

Used to schedule production start times (in anticipation of high pool attendance, for example).
Each Boost programmed is carried out until the production tank is filled to its high level.
Settings : - up to 3 daily Boosts.
- launch time for each Boost.
Default value : OFF *(no programmed Boost)*.



Mode :

Used to stop the chlorination (without stopping the filling of the production tank).

Reversal :

Allows you to adjust the polarity inversion time (self-cleaning of the cell, to limit limescale deposits).
Setting : 2 hours to 24 hours, in 2-hour increments.
Default value : 24 hours *(As the water is being softened by the water softener, its hardness is low. As a result, the inversion time is, therefore, deliberately long)*.

⚠ **Too short of a reversal time (high reversal frequency) reduces the life of the cells.**

Temp. calibration. :

Adjusts the value of the temperature shown on the initial display.
Setting : from + or - 10°C compared to the value displayed, in increments of 1°C.

Maintenance :

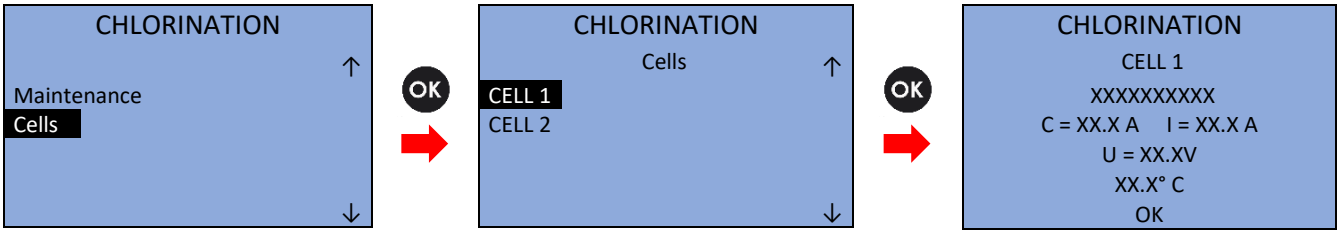
- Allows you to reset the equipment's production meter (reset to 0).
- Used to dismiss the "**Cell maintenance**" message *(call for routine maintenance of the cells, after 1,000 hours of production by the equipment).*
  → Once the routine maintenance of the cells has been performed, the production meter must be reset to 0.

Pump priming :

Used to run the brine pump continuously for 1 minute.

Cells :

Displays the information described below for each cell.



XXXXXXXXXX : coding of the status of the chlorination in real time.

C : maximum and theoretical current.

I : instantaneous and actual current.

U : instantaneous and actual voltage at the terminals of the cell.

XX.X° C : temperature at the power card linked to the cell.

Sensors :

Hydrogen : indicates an identical voltage of the hydrogen content inside the equipment room.

8.5.2. Settings menu

Date :

Allows you to set the date (day/month/year).

Time :

Allows you to set the time.

Languages :

Allows you to change the display language.
Settings : ENGLISH, FRENCH, ESPANOL, PORTUGUES, ITALIANO, DEUTSCH.

Reset :

Allows you to reset all the settings and to return to "factory" settings.

Access code :

Used to set a lock code for the equipment. This function makes it possible to prevent tampering, voluntary or otherwise, by any person who does not know this code. Once the equipment is locked, the screen switches to standby mode after a few seconds without any keystrokes. The lock code is required once the electronics unit is powered back on, as well as to exit the standby screen. To disable the lock code, set the code to 0000.
Setting : 0000 to 9999.
Default value : 0000.

8.5.3. GSM menu

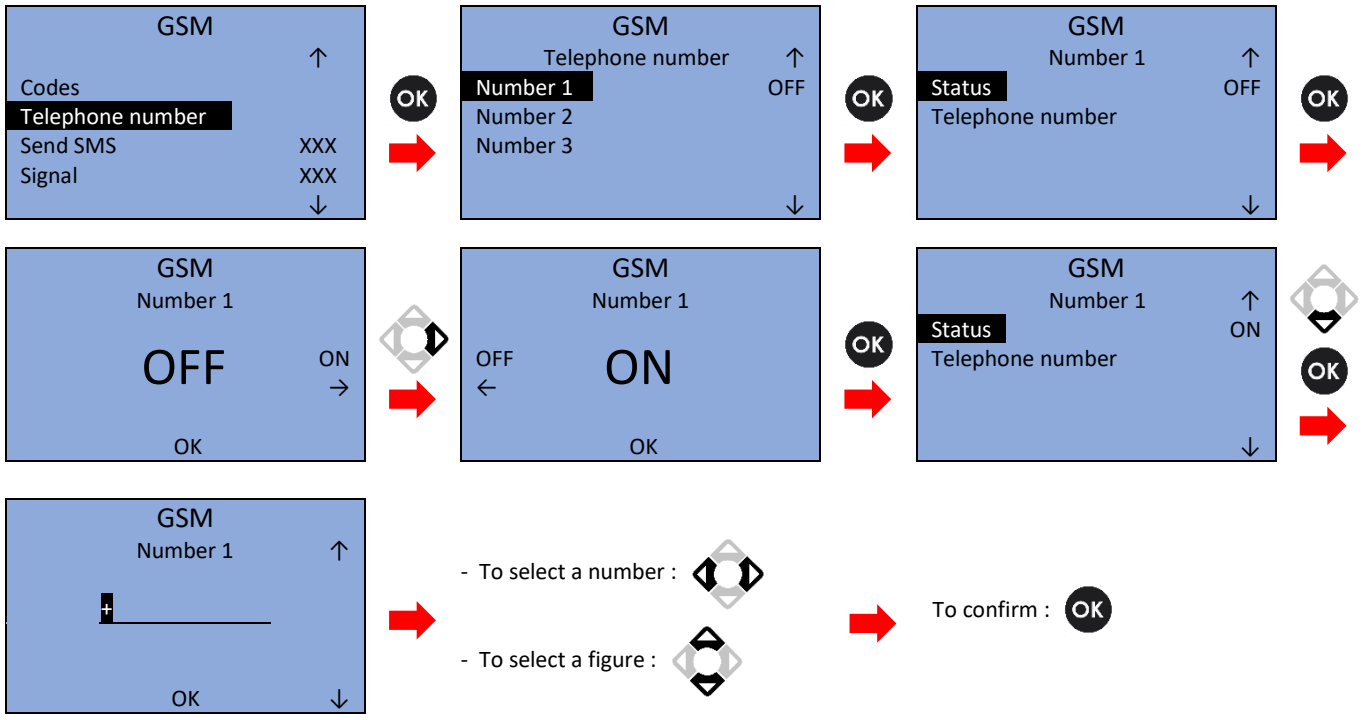
→ This menu requires the prior installation and configuration of a SIM card (not supplied) *(see chapter 4.11).*

Codes :

Used to enter the PIN code and PUK code of the installed SIM card (for sending SMS notifications).

Telephone number :

Allows you to enter a phone number (to receive SMS notifications).



Send SMS :

Allows you to enable or disable the sending of SMS notifications.

Signal :

Indicates network reception quality (from 0 to 4).

8.5.4. History menu

Calibration :

Allows you to view the date of the last temperature calibration.

Chlorination :

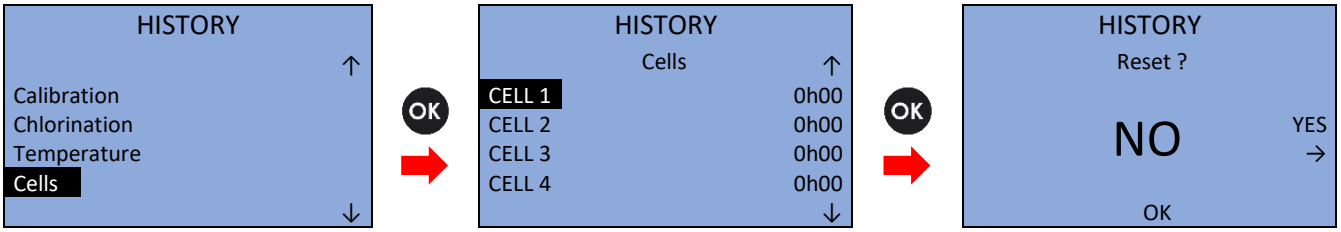
Displays the number of hours and the average production, for several time intervals :
"Total" *(when first commissioning the equipment)*
"D-1" *(the previous day)*
"D-2" *(2 days ago)*
"D-3" *(3 days ago)*
"W-1" *(the previous week)*
"M-1" *(the preceding month)*.

Temperature :

Displays the average temperature of the water in the circuit, for several time intervals :
"D-1" *(the previous day)*
"D-2" *(2 days ago)*
"D-3" *(3 days ago)*
"W-1" *(the previous week)*
"M-1" *(the preceding month)*.

Cells :

Allows you to view the total number of hours of operation of each cell.
→ After replacing a cell, carry out a 'Reset' to set the time counter for this cell to 0.



Software :

Displays the software versions that are installed.

Code config. :

Displays the code defining the configuration of the equipment.

9. SHUTDOWN FOR EXTENDED PERIODS

1) Shut down then turn off the equipment.

2) Drain : - the chlorinator cells
- the brine tank
- the production tank
- the overflow tray.

3) Close all the valves.

4) Take out the filter with ballast from the brine tank and immerse it in a container of mains water.

5) Open the water inlet valve.

6) Turn on the power and switch on the equipment.

7) Turn off the chlorination *(**"Mode"** menu in OFF - see chapter 8.4)*.

8) Open the valve **F** *(see chapter 5)*.

9) After a period of time, the equipment restarts: leave the equipment running for 15 minutes.

10) Start the chlorination *(**"Mode"** menu in ON - see chapter 8.4)*.

11) Shut down then turn off the equipment.

12) Close the water inlet valve.

13) Drain the chlorinator cells.

14) Clean : - the brine tank
- the production tank
- the overflow tray.

15) Close all the valves.

16) Check that the inside of the electronics unit is clean (no dust or insects).

10. MAINTENANCE

⚠

- **The set of operations described in chapter 10 presents some risks. These operations must be carried out by persons with the required training and authorisation.**
- **Comply with all the safety instructions presented in chapter 2.**

10.1. Maintenance every 1000 hours of production (chlorinator cells)

→ After 1000 hours of production, the **"Cell maintenance"** message automatically appears*(see chapter 11.1)*.

The water softener included with the equipment, as well as the cells' self-cleaning function, are intended to prevent the deposit of limescale on the chlorinator cells. However, this periodic maintenance must be carried out in order to preserve the life of the cells.

1) Close the water inlet valve.

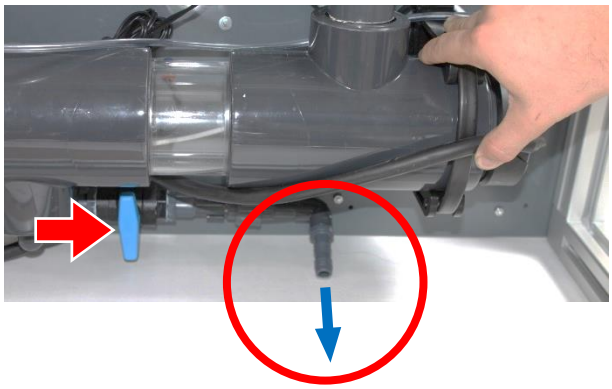
2) Switch off the equipment.

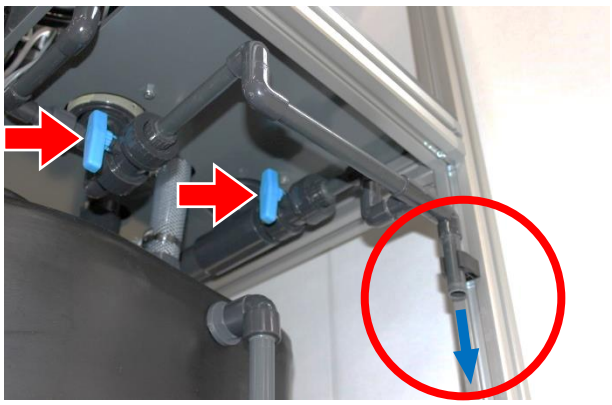
3) Turn off and then disconnect the equipment.

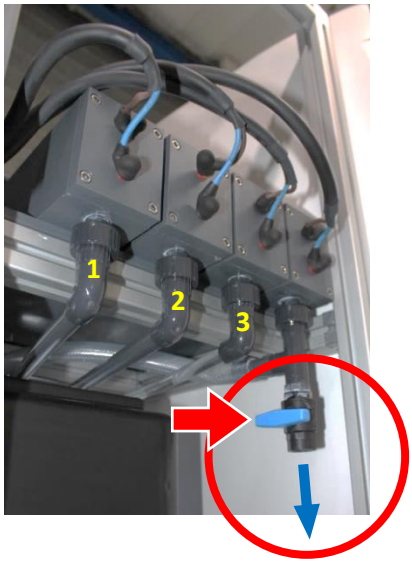
4) Drain the cell line, by opening the drainage valve(s) *(see the red arrows below)*.

⚠ **Pre-connect a hose *(not supplied)* to the end of the drain hose circled below.**

Visuals according to model







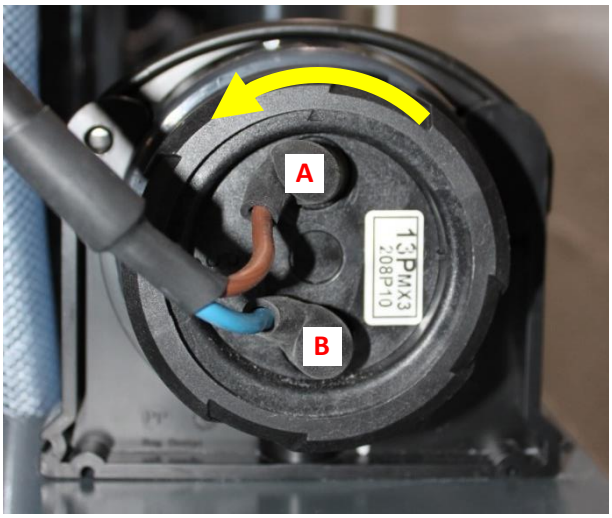
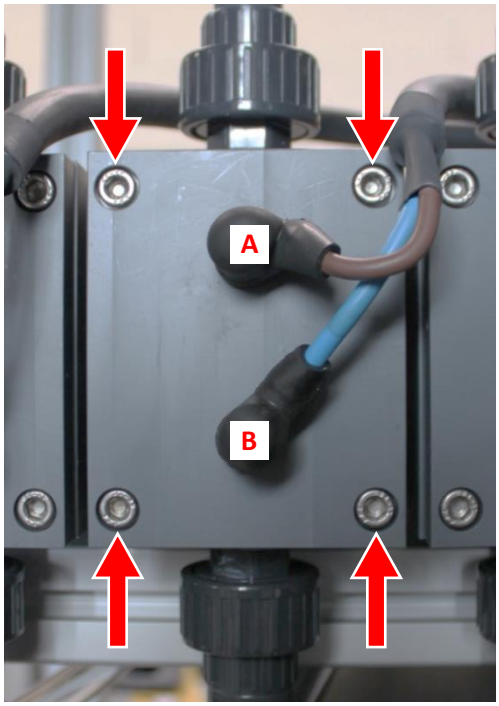
⚠

Additional operations to carry out for this model :

Dismantle, empty and inspect pipes 1-2-3 opposite, by first identifying the connection points and paying attention to the seals.

For each cell :

5) Disconnect the 2 electrical connections **A** and **B** on the cell *(see photos below).*

Visuals according to model	
6) Completely unscrew the PVC nut *(see arrow below)*.  **7)** Extract the electrode : 	**6)** Unscrew and remove the 4 screws from the base *(see arrows below)*.  **7)** Extract the electrode :

8) Check the condition of the electrode, seal, and power cable. Replace any of these elements showing the slightest signs of wear or deterioration.
In the event of damage or overheating of the lugs or dowels, completely replace the power cable and/or the electrode.

If the electrode is scaled :

a) Find the cause of the limescaling and remedy it :
   - Check the salt level in the brine tank.
   - Adjust the power supply reversal time of the cells.
   - Check the hardness of the water leaving the water softener with an adequate hardness test kit *(not supplied)*.

b) Fill a container with an acid solution.
c) Immerse the electrode in this container, keeping the connection plugs out of the liquid.
d) Rinse the electrode in tap water.
e) If the inside wall of the cell's sleeve is scaled, manually remove this scale.

9) Reassemble the cell.

⚠ **On the PC560 model, do not overtighten the 4 screws on the base.**

10) Reset the production counter to 0 in the **"Chlorination/Maintenance"** *see chapter 8.5.1)*.

⚠

- **The service life of the chlorinator cells is very closely related to observance of the instructions contained in this manual.**
- **The replacement of cells at the end of their life with so-called 'compatible' cells may lead to a decrease in production and reduce the life of the equipment. Therefore, it is strongly recommended that you only use so-called original cells.**
- **Any damage due to the use of so-called compatible cells will void the contractual warranty.**

10.2. Weekly maintenance

10.2.1. Water softener

Measure the water hardness at the outlet of the water softener using an appropriate test kit *(not supplied)* : it must be less than 10°f.

10.2.2. Electrodes

- When the equipment is stopped, there should be no whitish deposit on the electrodes.
- Check the condition of the lugs, dowels and power cables.

10.2.3. Brine tank

Check the salt level in the brine tank. Add salt if necessary *(see chapter 6)*.

10.2.4. Hydraulic circuit

- Check for the complete absence of leaks in the entire hydraulic system *(assembly of rigid and semi-rigid piping, cells, valves, solenoid valves, pressure regulator, manometer, flowmeter, salt/temperature/low water sensor, brine pump, etc.)*.
- Replace all worn or damaged seals.

10.2.5. Hydrogen discharge system

- Check the general condition and correct operation of the hydrogen discharge system.
- Check for the complete absence of leaks in the hydrogen discharge system.
- Replace all worn or damaged seals.
- Check the cleanliness of the blower (grating and fan blades), the air filter, chamber **M** *(see chapter 5)* and the pipe outlet with grating.
- Carry out step **13** from chapter 5.

The hydrogen detector (supplied and already wired on the equipment) must remain the only way to detect possible hydrogen leaks. Never use a lighter, match, or other object that can create a flame.

10.2.6. Measurements

Measure the values indicated in the weekly measurement sheet *(see next page)*.

10.2.7. Weekly measurement record and maintenance sheet

→ To be copied and completed by the technician in charge of weekly maintenance *(see following pages)*.

WEEKLY MEASUREMENT SHEET

PURE CHLORE MODEL *(to circle)*	SERIAL NUMBER OF THE ELECTRONICS UNIT
PC140 **PC280** **PC560**	☐☐☐☐ - ☐☐☐☐☐☐ - ☐☐☐

TECHNICIAN NAME						
WEEK						
DATE						
Hydrogen level in the equipment room (Ppm) → *To be measured with a hydrogen sensor (not supplied)*						
Water hardness at the outlet of the water softener (°f) → *To be measured using a test kit (not supplied)*						
Inlet pressure (bar) → *Indicated by the equipment manometer*						
Water flow (L/h) → *Indicated by the flowmeter of the equipment*						
Amount of salt added to the brine tank (Kg) → *To be measured using a weighing machine (not supplied)*						
Temperature of sodium hypochlorite (°C) → *To be measured with a thermometer (not supplied), at the output of the cells/at the input of the production tank*						
Concentration of sodium hypochlorite (%) → *To be measured with a photometer (not supplied), at the output of the cells/at the input of the production tank*						
Salt concentration of sodium hypochlorite (g/L) → *To be measured with a salt tester (not supplied), at the output of the cells/at the input of the production tank*						
Daily production counter (h) → *Indicated on the screen of the electronics unit (initial display)*						
Total production counter (h) → *Indicated on the screen of the electronics unit (menu "**Log/Chlorination/Total**")*						
Identical voltage of the hydrogen content (mV) → *Indicated on the screen of the electronics unit (menu "**Chlorination/Sensors/Hydrogen**")*						

REMARKS AND OBSERVATIONS

WEEKLY MAINTENANCE SHEET

PURE CHLORE MODEL *(to circle)*	SERIAL NUMBER OF THE ELECTRONICS UNIT
PC140 **PC280** **PC560**	☐☐☐☐ - ☐☐☐☐☐☐ - ☐☐☐

TECHNICIAN NAME	WEEK	DATE

INSPECTION POINTS *(→ All these inspection points are described in the PURE CHLORE installation, operation and maintenance guide.)*	OK	NOK	REMARKS AND OBSERVATIONS
Water softener : → Verification of the water hardness			
Electrodes : → Verification of the connections and wiring			
Brine tank : → Verification of the presence of salt			
Hydraulic circuit : → Verification of the absence of any leak(s)			
Hydrogen discharge system : → Verification of the status and operation → Verification of the absence of any leak(s) → Verification of the blower, air filter, chamber and pipe outlet with grating → Adjusting the air flow			

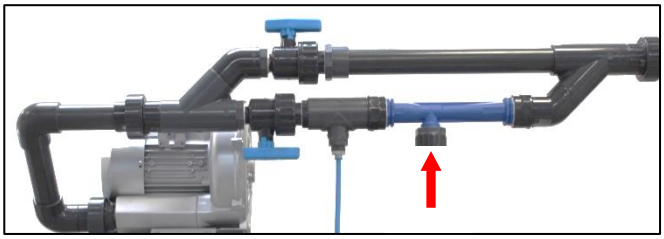
10.3. Monthly maintenance

10.3.1. Processing weekly measurements

1) Analysing the changes to all the values measured and reported on the weekly measurement sheets.
2) Performing the necessary actions resulting from these analyses.

10.3.2. Hydrogen discharge system

Checking that the hydrogen discharge system is clean (no residual deposit), by inspecting the inner wall of the venturi tube *(see arrow below)*.



10.3.3. Filter

Checking the condition of the filter cartridge. Cleaning or replacing the cartridge if necessary.

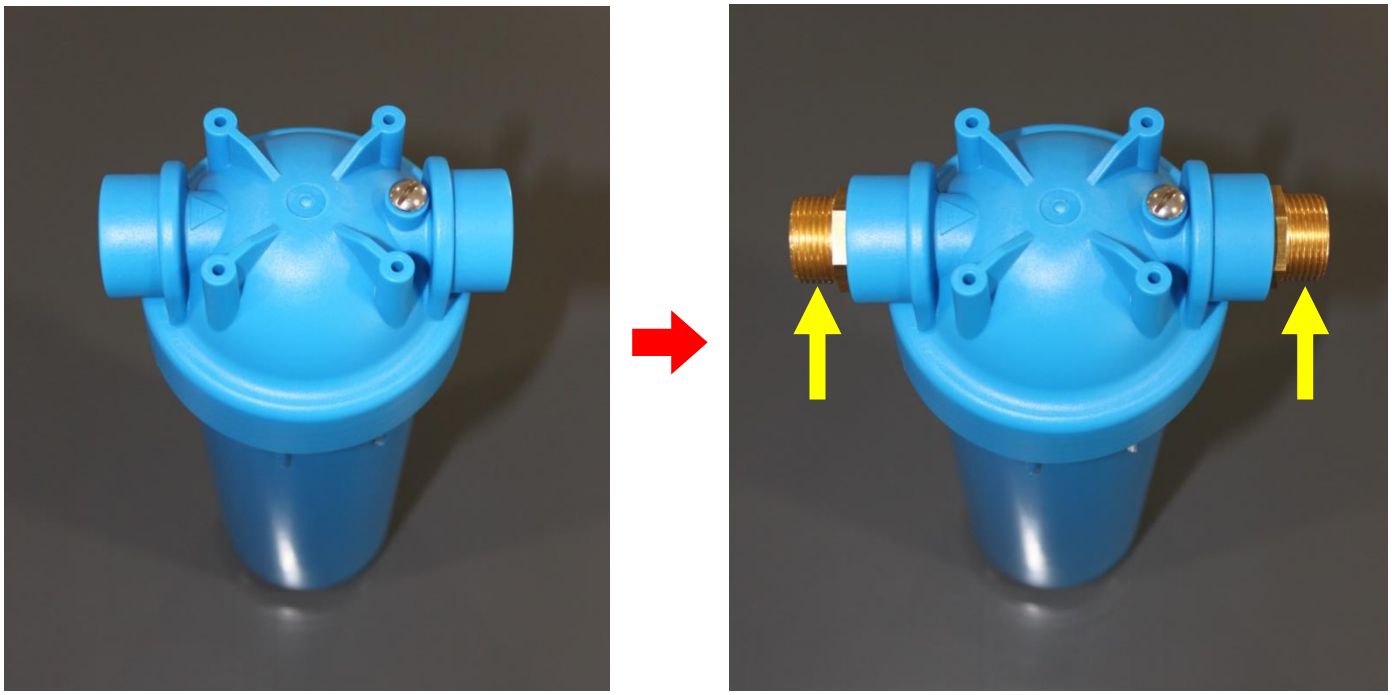
→ ***To replace the filter completely (if necessary), follow these instructions :***

DESCRIPTION OF THE FILTER PARTS

A : Head
B : Chamber
C : Cartridge
D : Wrench *(to tighten/loosen the chamber)*
E : Mounting bracket
F : Screws *(x4)*
G : Centring ring *(initially placed inside the chamber)*

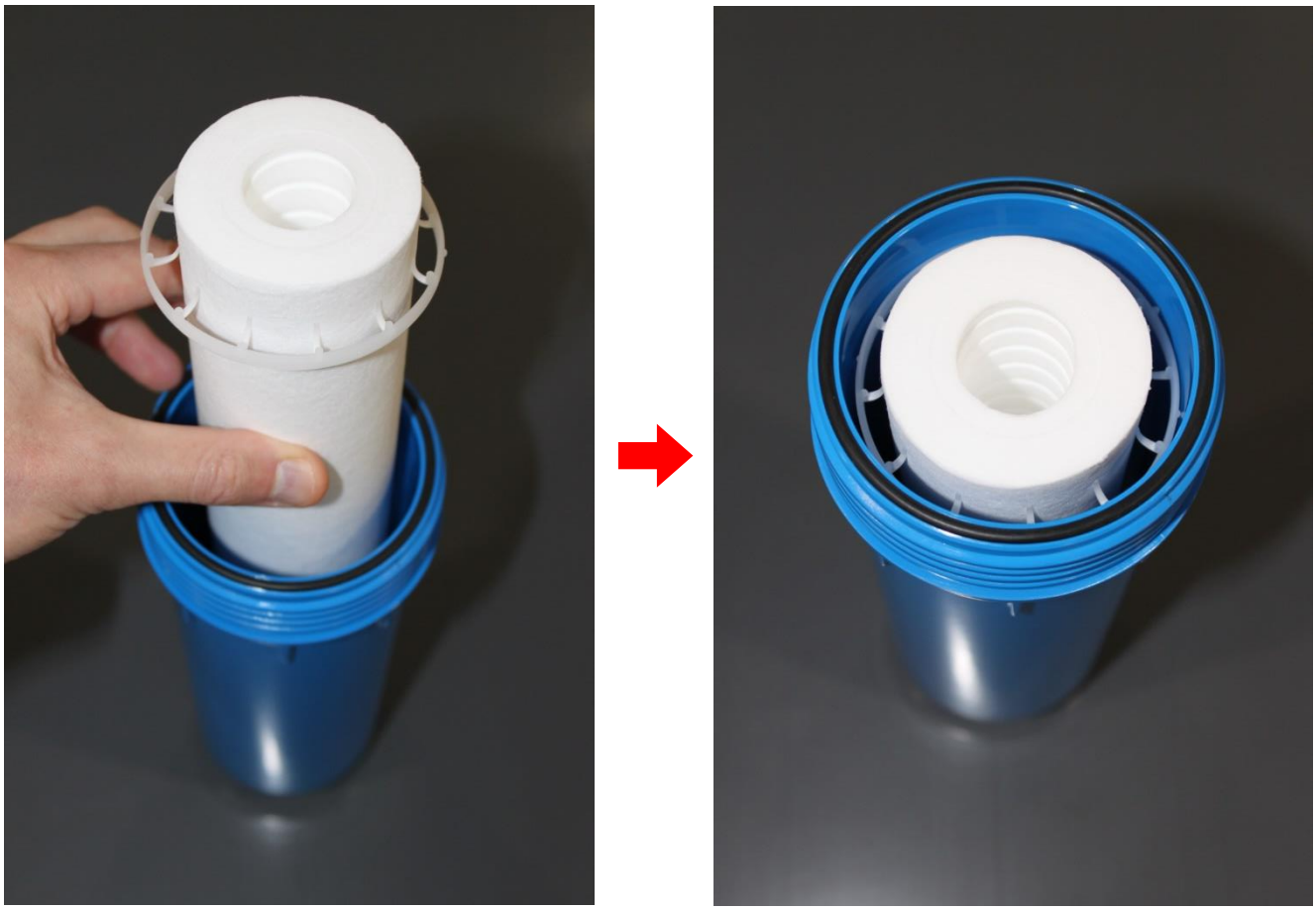
1) Remove the plastic film from the cartridge and slide the centring ring around the cartridge :

2) Screw the 2 connections (initially mounted on the original filter) on each side of the head, <u>using Teflon tape</u> :



3) Unscrew and remove the head of the chamber :

4) Insert the cartridge into the chamber, with the centring ring upwards :



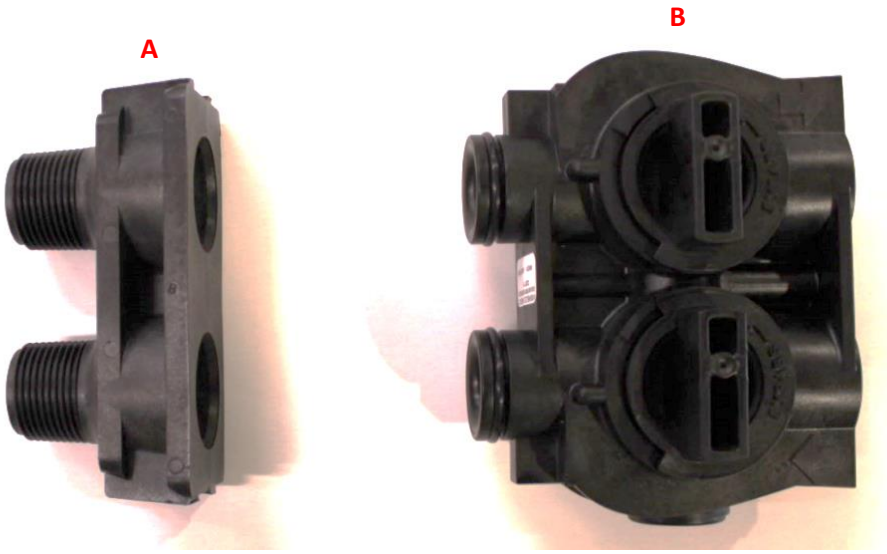
5) Screw the head onto the chamber :

10.3.4. Water softener

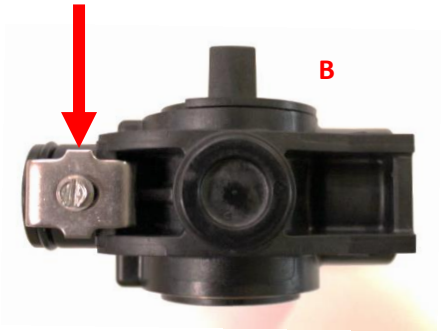
Check the condition and operation of the water softener. Replace all worn or defective parts.

→ ***<u>To replace the water softener completely (if necessary), follow these instructions :</u>***

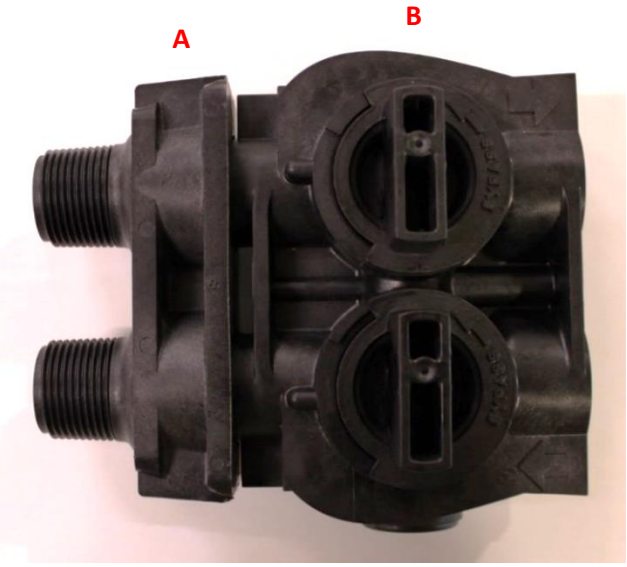
1) Parts **A** and **B** below are supplied with the water softener.



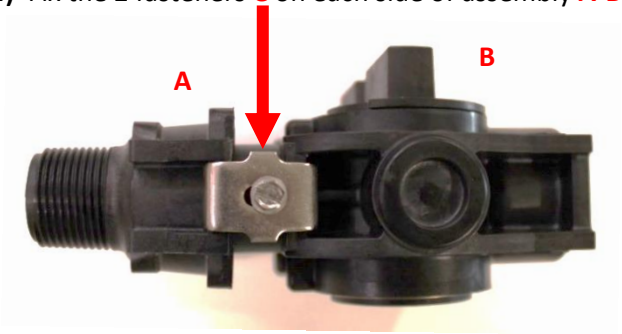
2) On part **B**, remove the 2 fasteners **C** fixed on each side.



3) Assemble the parts **A** and **B** :



4) Fix the 2 fasteners **C** on each side of assembly **A**-**B**.



5) On the water softener, remove the 2 fasteners **D** fixed on each side.

6) Connect assembly **A**-**B** to the water softener :

7) Fix the 2 fasteners **D** on each side of the water softener.

8) Set the mixing wheel **E** to minimum.

→ *For more information, refer to the water softener manual.*

10.3.5. Electronics unit

Check the cleanliness *(no dust or insects inside the unit and on the ventilation grating)* and the absence of oxidation.

10.3.6. Brine tank

Check the float valve located inside the brine tank is operating properly and clean it if necessary.

10.3.7. Monthly maintenance sheet

→ To be copied and completed by the technician in charge of monthly maintenance *(see next page)*.

MONTHLY MAINTENANCE SHEET

PURE CHLORE MODEL *(to circle)*	SERIAL NUMBER OF THE ELECTRONICS UNIT
PC140 **PC280** **PC560**	☐☐☐☐ - ☐☐☐☐☐☐ - ☐☐☐

TECHNICIAN NAME	DATE

INSPECTION POINTS *(→ All these inspection points are described in the PURE CHLORE installation, operation and maintenance guide.)*	OK	NOK	REMARKS AND OBSERVATIONS
Water softener : → Verification of the water hardness → Verification of the status and operation			
Electrodes : → Verification of the connections and wiring			
Brine tank : → Verification of the presence of salt → Verification of the float valve			
Hydraulic circuit : → Verification of the absence of any leak(s)			
Hydrogen discharge system : → Verification of the status and operation → Verification of the absence of any leak(s) → Verification of the blower, air filter, chamber and pipe outlet with grating → Adjusting the air flow → Verification of the interior cleanliness			
Processing weekly measurements : → Analysis → Resulting actions			
Filter : → Verification of the cartridge			
Electronics unit : → Verification of the cleanliness → Verification of the absence of oxidation			

10.4. Annual maintenance

10.4.1. Electronics unit

Check the condition of the components and electrical wiring inside the unit.

10.4.2. Temperature calibration

The temperature calibration allows you to manually correct the temperature value of the NaClO in the hydraulic circuit, measured by the salt/temperature/low water level sensor and displayed on the screen. This operation is intended to protect the chlorinator cells in the event of overheating.

→ The temperature adjustment should be performed an hour after the start-up of the equipment.

1) Take a sample of NaClO inside the production tank, at point **A** below (so directly at the output of the production hose).
→ *To access the inside of the tank, unscrew and remove plug **B** below.*

Make sure that the production tank is not full, so it can be accessed without coming into direct contact with the NaClO.

2) Measure the temperature of the sampled NaClO, using a thermometer.
3) Compare the value obtained with the value displayed on the electronics unit.
4) If necessary, carry out a **"Temp. calibration"***(see chapter 8.5.1)*.
5) Measure the salt concentration in the collected NaClO using a suitable measuring device.

10.4.3. Hydraulic circuit

1) Clean the inside of the flowmeter.

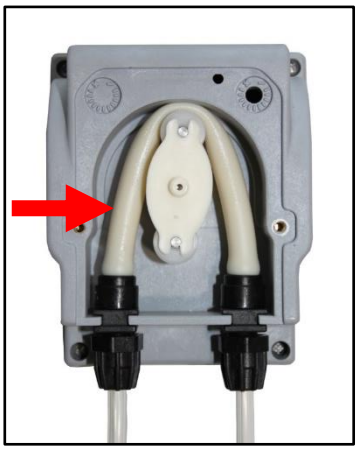
2) Replace the following parts :

NAME		QUANTITY
Production hose assembly	Hose Ø25-33	1
	Fluted fitting Ø25 - 1"	2
	Ø25-40 clamp	2
	1" conduit (mounted on the production tank)	1
O-ring mounted on each chlorinator cell electrode		Depending on model

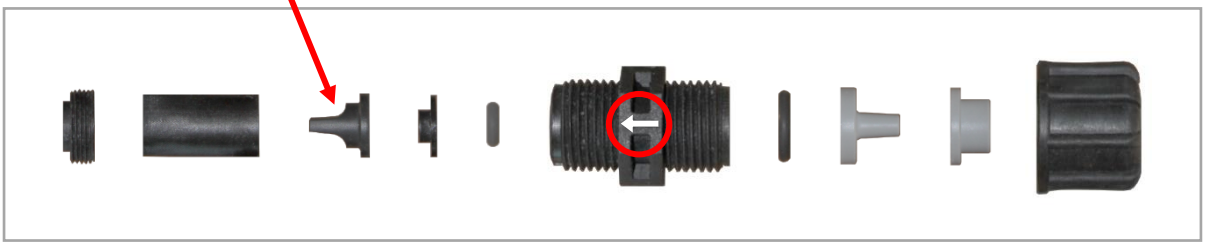
→ *To replace the parts shown in steps **3** and **5** below, obtain a maintenance kit.*

3) Change the hose inside the brine pump *(see arrow opposite)*.

4) Check the condition and internal cleanliness of the 2 semi-rigid hoses connected to the brine pump *(see photo opposite)*. Replace these 2 hoses if necessary.



5) Change the non-return valve of the brine injection connector *(see chapter 3.2)*.



(Exploded diagram of the brine injection connector)

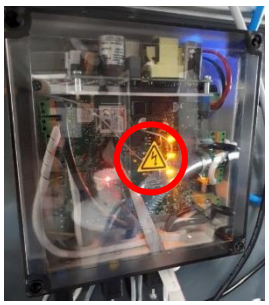
⚠ **Ensure the above parts are assembled the right way round, paying particular attention to the direction of the arrow marked on the connector. Failure to follow these instructions can lead to the brine pump being damaged.**

10.4.4. Hazard warning

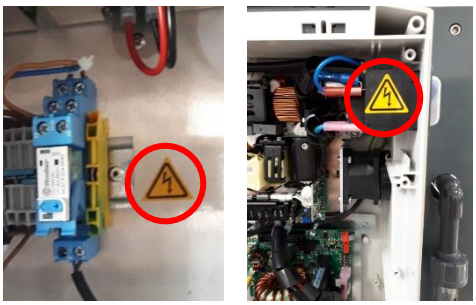
Check that all the signs and stickers on the equipment *(circled below)* and in the equipment room *(see chapter 4.3)* are present, clean and legible.

Production tank

Chlorinator cells



PLC box



Electronics unit

10.4.5. Annual maintenance sheet

→ To be copied and completed by the technician in charge of annual maintenance *(see next page)*.

ANNUAL MAINTENANCE SHEET

PURE CHLORE MODEL *(to circle)*	SERIAL NUMBER OF THE ELECTRONICS UNIT
PC140 **PC280** **PC560**	☐☐☐☐ - ☐☐☐☐☐☐ - ☐☐☐

TECHNICIAN NAME	DATE

INSPECTION POINTS *(→ All these inspection points are described in the PURE CHLORE installation, operation and maintenance guide.)*	OK	NOK	REMARKS AND OBSERVATIONS
Water softener : → Verification of the water hardness → Verification of the status and operation			
Electrodes : → Verification of the connections and wiring			
Brine tank : → Verification of the presence of salt → Verification of the float valve			
Hydraulic circuit : → Verification of the absence of any leak(s)			
Hydrogen discharge system : → Verification of the status and operation → Verification of the absence of any leak(s) → Verification of the blower, air filter, chamber and pipe outlet with grating → Adjusting the air flow → Verification of the interior cleanliness			
Processing weekly measurements : → Analysis → Resulting actions			
Filter : → Verification of the cartridge			
Electronics unit : → Verification of the cleanliness → Verification of the absence of oxidation → Verification of the internal status			
Calibration : → Temperature			
Hazard warning : → Verification of the signs and stickers			

11. FAULTS, DIAGNOSIS AND TROUBLESHOOTING

⚠

- **The set of operations described in chapter 11 presents some risks. These operations must be carried out by persons with the required training and authorisation.**
- **Comply with all the safety instructions presented in chapter 2.**

11.1. Alarm messages

→ ***Also refer to chapter 8.3.3.***

Flashing message displayed at the centre of the screen	Message displayed at the bottom of the screen after pressing OK	Fault detected	Checks and solutions	SMS message sent
Low water alarm	Low water level	Insufficient amount of water in the hydraulic system	• Make sure the salt/temperature/low water level sensor is correctly connected. • Make sure the water inlet valve is open. • Make sure the drainage valves are closed. • Make sure there are no leaks in the hydraulic system. • As a last resort, replace the salt/temperature/low water level sensor.	Pure Chlore : Low water alarm
Low salt alarm	Low salt	Inadequate salt concentration in chlorinator cells	• Make sure the salt/temperature/low water level sensor is correctly connected. • Check the salt level in the brine tank. • Check that the brine pump is correctly injecting brine into the circuit. • As a last resort, replace the salt/temperature/low water level sensor.	Pure Chlore : Low salt alarm
Temperature Alarm	Temp. fault	NaClO temperature above the maximum threshold	• Make sure the salt/temperature/low water level sensor is correctly connected. • Sample the NaClO output of the chlorinator cells, measure its temperature, check the consistency between the value obtained and the value displayed on the electronics unit. If the difference is significant, carry out a temperature calibration. If the adjustment is rejected, replace the salt/ temperature/low water level sensor.	Pure Chlore : High temperature alarm
	Low temp.	NaClO temperature below the minimum threshold		Pure Chlore : Low temperature alarm
Flow alarm	Flow fault	Water flow outside the min and max thresholds	• Make sure the water inlet valve is open. • Check that the solenoid valve is open (passing water). • Make sure the drainage valves are closed. • Make sure there are no leaks in the hydraulic system. • Make sure the flow sensor installed on the flowmeter is correctly plugged in (flowmeter side and PLC card side connections). • Make sure the flow sensor is functioning properly by viewing the status of the corresponding LED on the PLC card. • As a last resort, replace the flow sensor.	Pure Chlore : Flow sensor alarm
SV alarm	SV fault	Anomaly on the solenoid valve	• Check that the solenoid valve is connected to the PLC card. • Check that the solenoid valve is working properly. • As a last resort, replace the solenoid valve.	Pure Chlore : Solenoid valve alarm

Flashing message displayed at the centre of the screen	Message displayed at the bottom of the screen after pressing OK	Fault detected	Checks and solutions	SMS message sent
-	Module: XX	Malfunction on power module XX	→ ***To carry out the following operations, refer to the visuals in chapter 11.2.*** **1)** If the red LED on power board XX flashes : replace this card. If the red LED on the power board XX is off : go to step **2**. **2)** If the green LED on the power board XX is off : a) Switch off the electronics unit for 5 minutes. b) Turn the electronics unit back on. c) If the LED is still off, replace the module XX. If the green LED on the power board XX is on : Check that the alarm has been dismissed. If not, go to step **3**. **3)** Check the condition and connection of the ModBUS cable *(cable that connects the power card XX at the interface of the electronics unit)*. As a last resort, replace this cable. → ***In case of error following the replacement of power card XX or module XX, check the position of the addressing switches on power board XX.***	Pure Chlore : Module alarm
Alarm B4	Cell - B4 XX	Cell XXshort-circuited	→ ***To carry out the following operations, refer to the visuals in chapter 11.2***. **1)** Switch off the electronics unit. **2)** Check for a short circuit in the wiring between the power board XX and the cell XX. **3)** Unplug cell XX. **4)** Turn the electronics unit back on. **5)** If the alarm is dismissed : replace cell XX. If the alarm remains : replace power board XX. **6)** As a last resort, replace module XX. → ***In case of error following the replacement of power card XX or module XX, check the position of the addressing switches on power board XX***.	Pure Chlore : Short-circuit cell alarm
Alarm B5	Cell - B5 XX	Power supply failure at the output of the power supply board for module XX	→ ***To carry out the following operations, refer to the visuals in chapter 11.2***. **1)** If the green LED on the power board XX is on : go to step **2**. If the green LED on the power board XX is off : a) Switch off the electronics unit for 5 minutes. b) Turn the electronics unit back on. c) If the LED is still off, replace the module XX. **2)** Check that power card XX is powered (24 V DC). If this is not the case, proceed to the next steps. **3)** Switch off the electronics unit for 5 minutes. **4)** Turn the electronics unit back on. **5)** Check that the power card XX is powered on. If this is not the case, replace module XX. → ***In case of error following the replacement of power card XX or module XX, check the position of the addressing switches on power board XX***.	Pure Chlore : Module voltage alarm
-	Cell - B6 XX	Abnormal voltage at cell terminals XX	• Make sure cell XX is properly connected (connections on the cell itself, on the corresponding module, and on the electronics unit). • As a last resort, replace cell XX.	-

Flashing message displayed at the centre of the screen	Message displayed at the bottom of the screen after pressing OK	Fault detected	Checks and solutions	SMS message sent
Alarm B8	Cell - B8 XX	Cell XX in open circuit	• Make sure cell XX is properly connected (connections on the cell itself, on the corresponding module, and on the electronics unit). • As a last resort, replace cell XX.	Pure Chlore : Cell voltage alarm
Sensor alarm	Sensor fault	Malfunction on the high level and/or low level sensor	• Make sure both sensors (high level and low level) are properly connected to the PLC card. • Make sure these sensors are functioning properly, by viewing the status of the corresponding LEDs on the PLC card. • Replace the defective level sensor(s).	Pure Chlore : Level sensor alarm
Overflow alarm	Overflow	Overflow of the production tank	• Check for the presence of fluid in the production tank's overflow tray. If there is fluid in it, drain the overflow tray. • If the overflow tray is empty, make sure the overflow sensor is plugged into the PLC card. • Make sure the overflow sensor is functioning properly by viewing the status of the corresponding LED on the PLC card. • As a last resort, replace the overflow sensor.	Pure Chlore : Overflow alarm
Hydrogen alarm	H2 fault	Concentration of hydrogen in the equipment room above the maximum threshold	• Check that the cap of the production tank is properly closed. • Make sure the hydrogen detector is plugged into the PLC card. • Check that all the recommendations indicated in chapter 4.3 are respected. • Check that the ventilation in the equipment room in which the equipment is installed is operating correctly. • As a last resort, replace the hydrogen detector. → ***For safety, the intervention of a technician is highly recommended when this alarm persists.***	Pure Chlore : Hydrogen alarm
Alarm H2 sensor	H2 sensor	Anomaly on the hydrogen detector	• Make sure the hydrogen detector is plugged into the PLC card. • Check that the identical voltage indicated on the **"Chlorination/Sensors/Hydrogen"** menu is not zero. • As a last resort, replace the hydrogen detector.	Pure Chlore : H2 sensor alarm
H2 Ventil. alarm	H2 vent. fault	Anomaly on the hydrogen discharge motor	• Check that the hydrogen discharge motor is working properly. • Check that valve **K** *(see chapter 5)* is open.	Pure Chlore : H2 ventilation alarm
Comm. Alarm	Comm. fault	Loss of modBUS communication at the PLC card	• Make sure the red LED corresponding to the ModBUS cable on the PLC card is flashing. • Make sure the ModBUS cable is plugged in, on the electronics unit side and the PLC side. • As a last resort, replace the ModBUS cable.	Pure Chlore : Communication error
-	Not connected	GSM not connected	• Check that the SIM card is installed correctly. • Check that the communication antenna is installed and correctly connected.	-
-	Incorrect PIN	Incorrect PIN code	Enter a correct PIN code.	-
-	PUK incorrect	Incorrect PUK code	Enter a correct PUK code.	-
-	PUK required	3 successive incorrect PIN codes	Enter a correct PUK code.	-
-	Cell maintenance	Call for periodic maintenance of cells *(after 1000 hours of production of the equipment)* : Carry out all the steps in chapter 10.1.		Pure Chlore : Cell maintenance

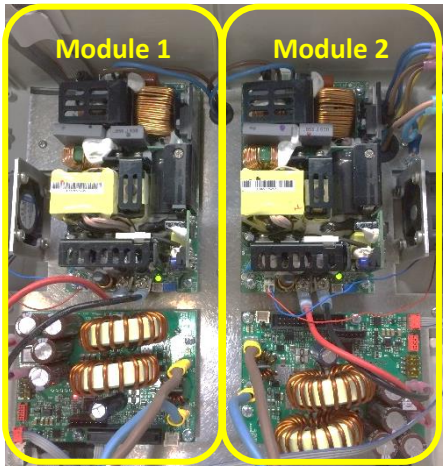
11.2. Power modules

11.2.1. Description

A power module refers to the assembly [power supply card + power board] fuelling a chlorinator cell. The power modules are installed inside the electronics unit.

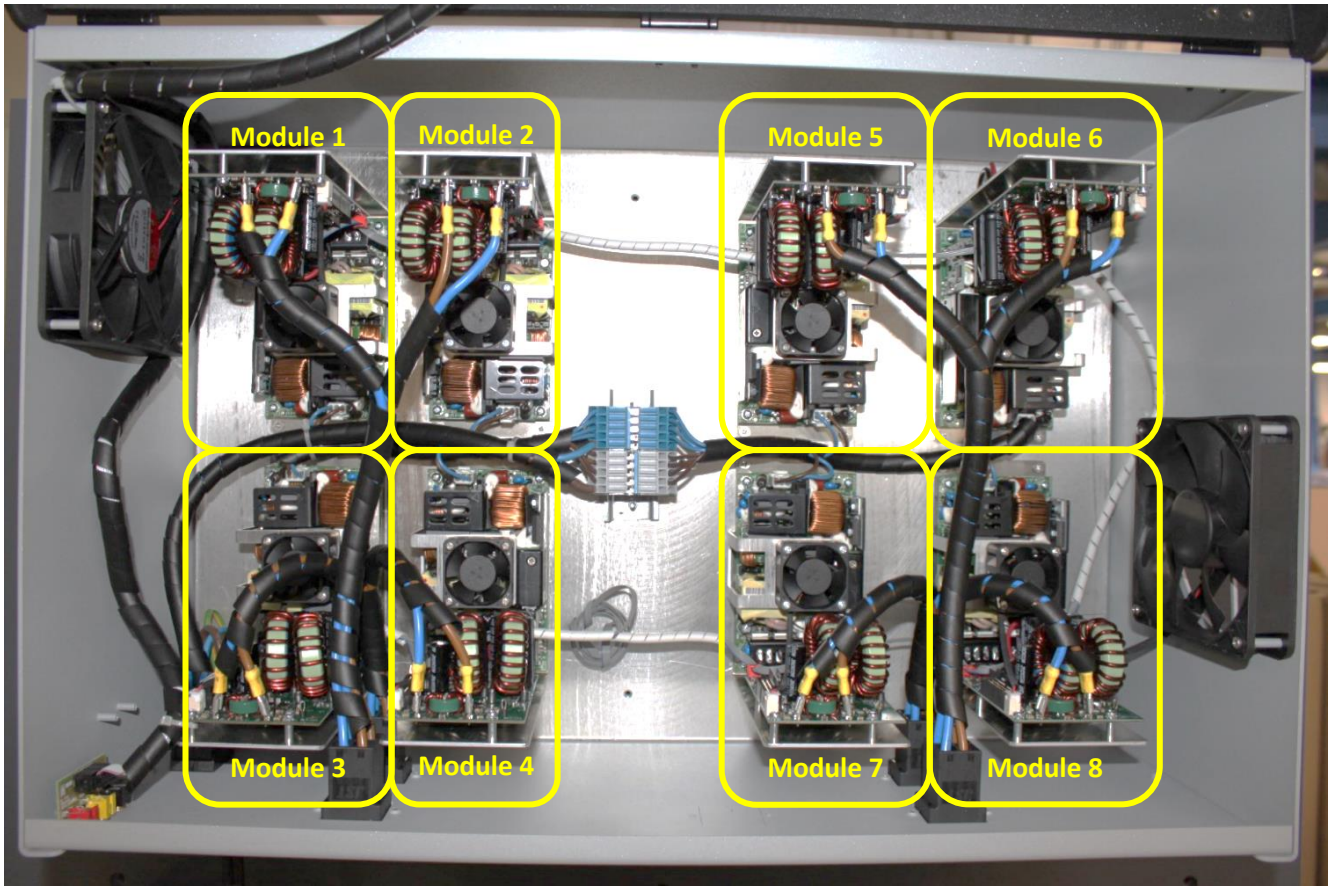
11.2.2. Identification

PC140



PC280

PC560

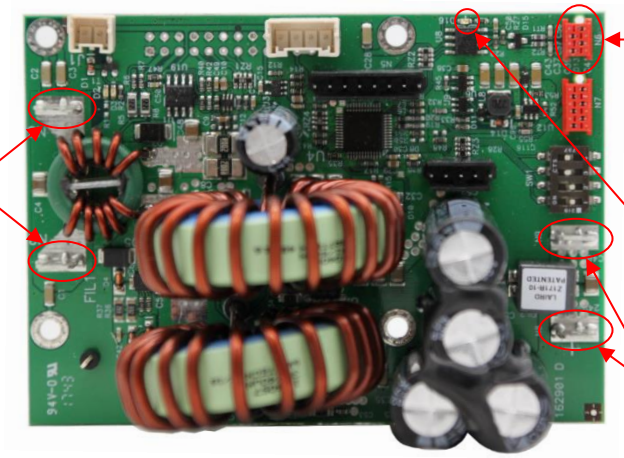


Power card :

Green LED
(lit if the power card is powered on)

Connection terminals
(24 V DC departure to the power card)

Power card :



Connection plugs
(power supply to the cell)

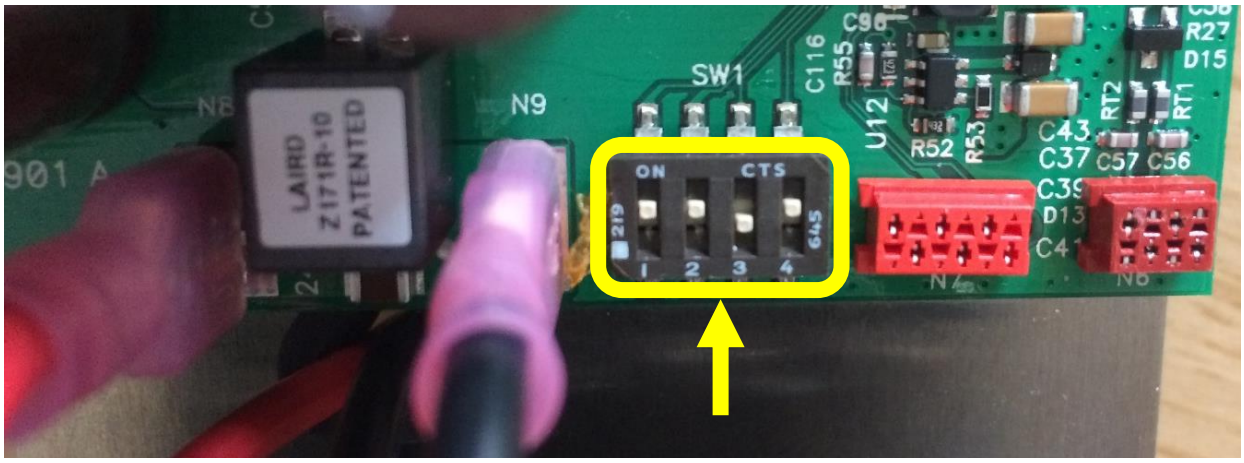
Connector
(departure to the interface of the electronics unit, via the ModBUS cable)

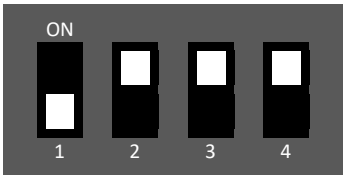
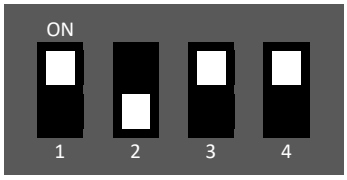
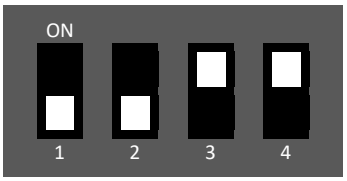
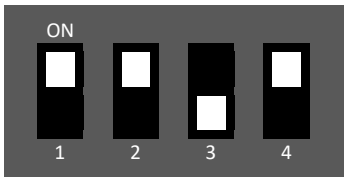
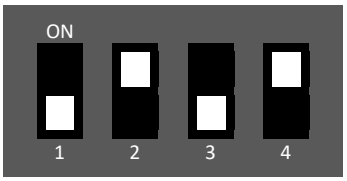
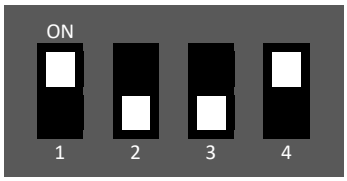
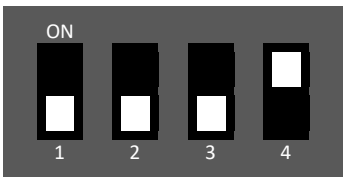
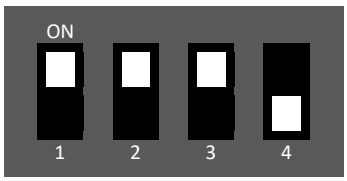
Red LED
(flashing during communication between the power board and the electronics unit interface)

Connection plugs
(24 V DC power supply of the power card)

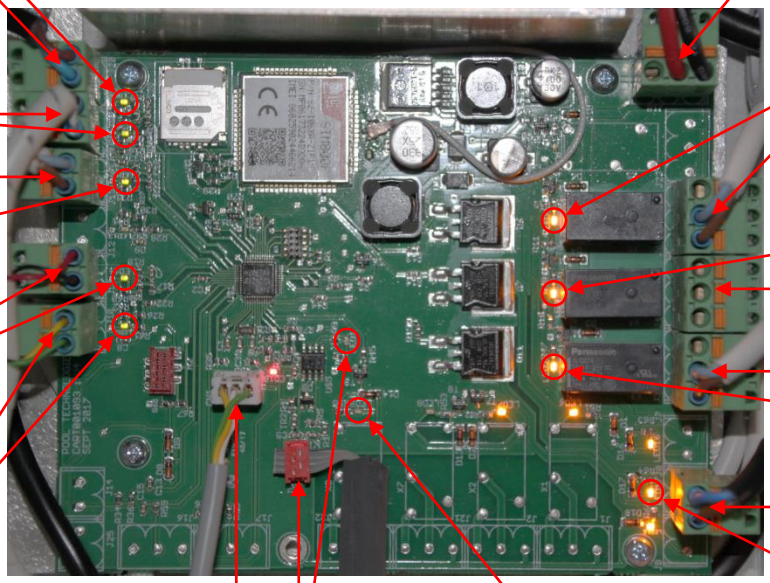
11.2.3. Replacement

After installing a new power module, configuration by positioning switches on the power board is required *(see the arrow below)*. This configuration makes it possible to address the new power module on the internal communications network.



CONFIGURATION OF THE SWITCHES	
Module 1 : 	**Module 2 :** 
Module 3 : 	**Module 4 :** 
Module 5 : 	**Module 6 :** 
Module 7 : 	**Module 8 :** 

11.3. PLC card



Pressure switch
Linked green LED :
lit if correct hydrogen discharge pressure.

Overflow sensor
Linked green LED :
lit if no overflow.

Flow sensor H
(See photos in chapter 5)
Linked green LED :
lit if correct flow.

Low level sensor
Linked green LED :
lit if NaClO below the bottom level.

High level sensor
Linked green LED :
lit if NaClO below the top level.

24V power supply

Relay-unit (**PC140**)
(see cable 24 in chapter 4.3)
Linked orange LED :
lit if blower powered on.

Solenoid valve I
(See photos in chapter 5)
Linked orange LED :
lit if solenoid valve opened.

Solenoid valve J
(See photos in chapter 5)
Linked orange LED :
lit if solenoid valve opened.

Brine pump
Linked orange LED :
lit if pump is running.

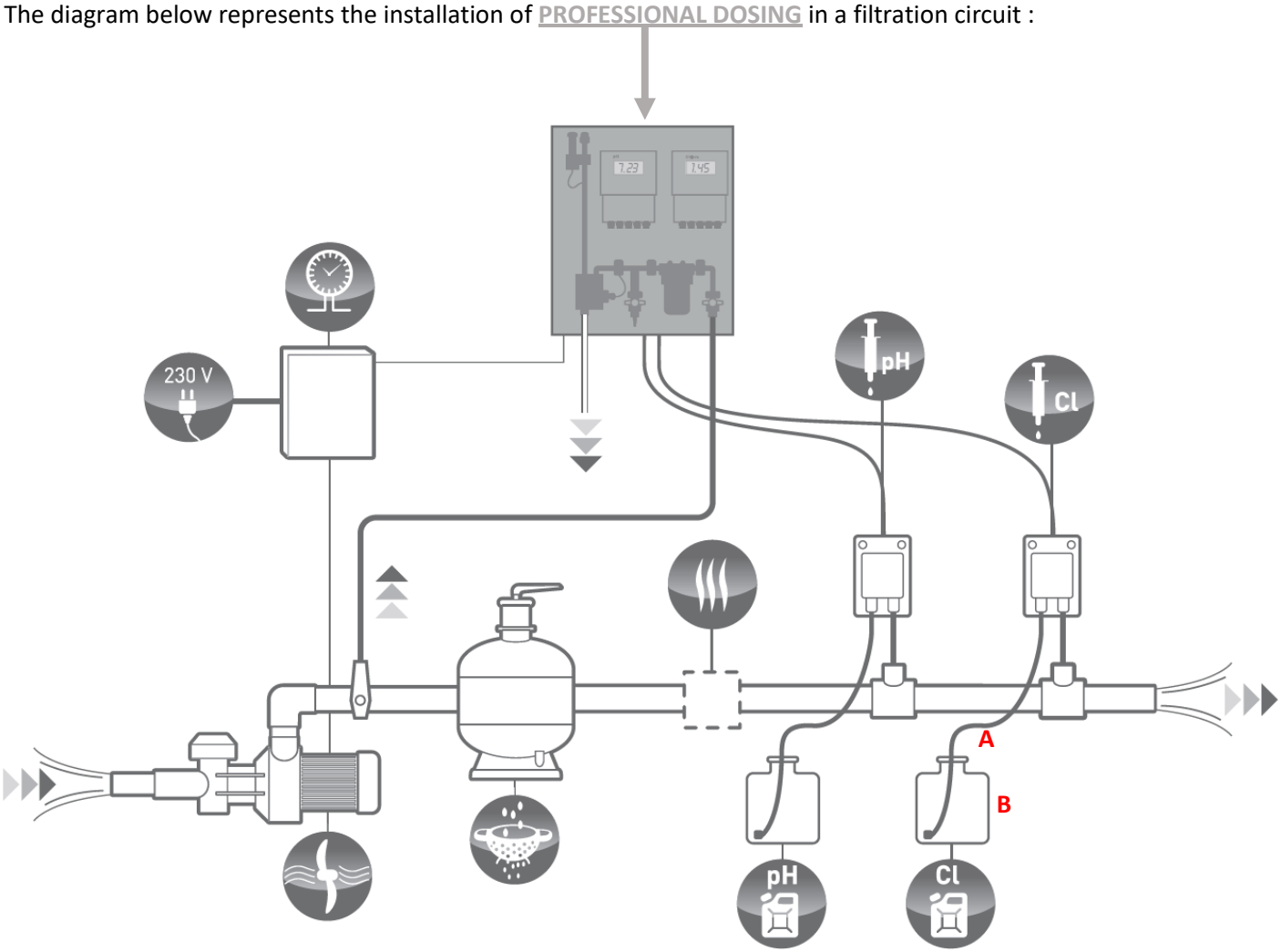
Hydrogen detector

ModBUS connection
Linked red LED :
flashing if ModBUS communication is established *(between the electronics unit and the PLC box)*.

Fault summary
Linked orange LED :
lit if fault(s) detected.

12. PROFESSIONAL DOSING PRESENTATION (OPTIONAL EXTRA)

PROFESSIONAL DOSING is the ideal equipment that works in perfect harmony with PURE CHLORE.
It controls the chlorine and regulates the pH in a filtration circuit.
The diagram below represents the installation of PROFESSIONAL DOSING in a filtration circuit :



A : Suction hose *(see chapter 4.8.1)*

B : PURE CHLORE production tank

13. GUARANTEE

Before contacting your dealer, please have the following to hand :
- your purchase invoice.
- the serial no. of the electronics unit.
- the installation date of the equipment.
- the parameters of your pool (salinity, pH, chlorine levels, water temperature, stabilizer level, pool volume, daily filtration time, etc.)

Every effort and all our technical experience has gone into designing this equipment. It has been subjected to quality controls. If, despite all the attention and expertise involved in its manufacture, you need to make use of our guarantee, it only applies to free replacement of the equipment's defective (excluding shipping costs in both directions).

Guarantee period (proven by date of invoice)

Electronics unit : 1 year.
Chlorinator cells : 1 year.
Other equipment parts : 1 year.
The periods indicated above correspond to standard guarantees. However, these can vary depending on the country of installation and the distribution network.

Scope of the guarantee

The guarantee covers all parts, with the exception of wearing parts that must be replaced regularly.
The equipment is guaranteed against all manufacturing defects within the strict limitations of normal use.

After-Sales Services

All repairs will be performed in the workshop.
Shipping costs in both directions are at the user's own expense.
Any downtime and loss of use of a device in the event of repairs shall not give rise to any claim for compensation.
In all cases, the equipment is always sent at the user's own risk. Before taking delivery, the user must ensure that it is in perfect condition and, if necessary, write down any reservations on the shipping note of the carrier. Confirm with the carrier within 72 hours by recorded letter with acknowledgement of receipt.
Replacement under guarantee shall in no case extend the original guarantee period.

Guarantee application limit

In order to improve the quality of their products, the manufacturer reserves the right to modify the characteristics of the products at any time without notice.
This documentation is provided for information purposes only and is not contractually binding with respect to third parties.
The manufacturer's guarantee, which covers manufacturing defects, should not be confused with the operations described in this documentation.
Installation, maintenance and, more generally, any servicing of the manufacturer's products should only be performed by professionals. This work must also be carried out in accordance with the current standards in the country of installation at the time of installation. The use of any parts other than original parts voids the guarantee ipso facto for the entire equipment.
The following are excluded from the guarantee :
- Equipment and labour provided by third parties in installing the device.
- Damage caused by installation not in compliance with the instructions.
- Problems caused by modifications, accidents, misuse, negligence of professionals or end users, unauthorised repairs, fire, floods, lightning, freezing, armed conflict or any other force-majeure events.

Any equipment damaged due to non-compliance with the instructions regarding safety, installation, use and maintenance contained in this documentation will not be covered by the guarantee.
Every year, we make improvements to our products and software. These new versions are compatible with previous models. The new versions of hardware and software cannot be added to earlier models under the guarantee.

Implementation of the guarantee

For more information regarding this guarantee, contact your dealer or our After-Sales Service. All requests must be accompanied by a copy of the purchase invoice.

Legislation and disputes

This guarantee is subject to French law and all European directives or international treaties in force at the time of the claim, applicable in France.
In case of disputes concerning its interpretation or execution, the High Court of Montpellier (France) shall have exclusive jurisdiction.

MUPURECPCA POOEN

Manufactured by :

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