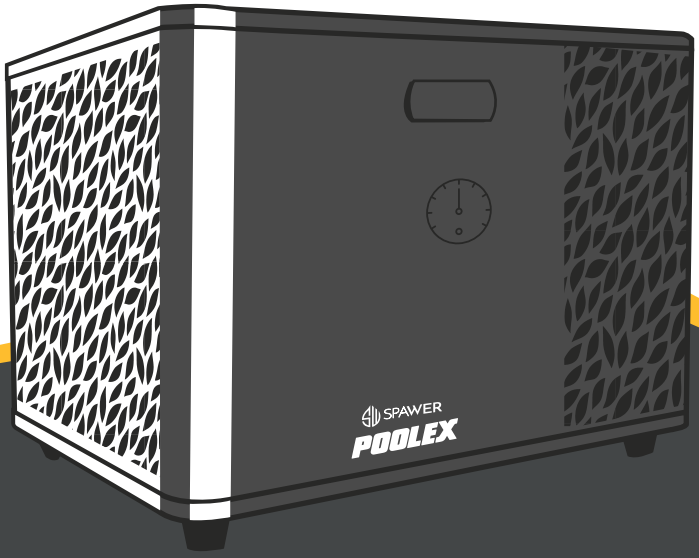
POOLEX

SPAWER

ICESPA 7

POMPE À CHALEUR POUR SPA



FULL INVERTER EVI -25°C

- Manuel d'installation et d'utilisation
- Installation and user manual
- Manual de usuario y instalación
- Manuale d'installazione e d'uso
- Installations und Gebrauchsanleitung
- Installatieen en gebruikershandleiding

poolex.fr

Cher client,

Nous vous remercions pour votre achat et pour la confiance que vous accordez à nos produits.

Nos produits sont le résultat d'années de recherche dans le domaine de la conception et de la production de pompe à chaleur pour piscine et spa. Notre ambition, vous fournir un produit de qualité aux performances hors normes.

Nous avons réalisé ce manuel avec le plus grand soin afin que vous puissiez tirer le meilleur de votre pompe à chaleur Poolex.

Dear customer,

Thank you for your purchase and your trust in our products.

Our products are the result of years of research in the design and manufacture of heat pumps for pools. Our goal is to deliver high-quality products with exceptional performance.

We took great care to put together this manual so you can get the most out of your Poolex heat pump.

Estimado(a) cliente,

Agradecemos que haya comprado este producto y que haya confiado en nuestra empresa.

Nuestros productos son el fruto de años de investigación en el sector del diseño y de la producción de bombas de calor para las piscinas. Nuestro objetivo es ofrecerle un producto de calidad con un rendimiento excepcional.

Hemos redactado este manual de tal forma que podrá aprovechar al máximo su Poolex bomba de calor.

Gentile cliente,

La ringraziamo per il Suo acquisto e per la sua fiducia nei nostri prodotti.

Essi sono il risultato di anni di ricerche nella progettazione e produzione di pompe di calore per piscine. Il nostro scopo è di fornir. Le un prodotto di qualità con prestazioni fuori dal comune.

Abbiamo preparato questo manuale con la massima cura affinché Lei possa sfruttare al meglio la Sua pompa di calore Poolex.

Sehr geehrter Kunde,

Vielen Dank für Ihren Kauf und das damit verbundene Vertrauen in unsere Produkte.

Unsere Produkte sind das Ergebnis einer jahrelangen Forschungsarbeit auf dem Gebiet der Konstruktion und Fertigung von Schwimmbecken-Wärmepumpen. Wir haben den Anspruch, Ihnen ein qualitativ hochwertiges Produkt mit hervorragenden Leistungseigenschaften zu liefern.

Die vorliegende Anleitung wurde mit größter Sorgfalt erstellt und soll Ihnen dabei helfen, die Vorzüge Ihrer Poolex-Wärmepumpe bestmöglich zu nutzen.

Geachte klant,

Bedankt voor uw aankoop en uw vertrouwen in onze producten.

Ons doel is om u een uitzonderlijk goed prester- end kwaliteitsproduct te leveren. Het is onze ambitie om u een kwaliteitsvol product met uitstekende prestaties te leveren.

We hebben deze handleiding met de grootste zorg samengesteld, zodat u het maximale uit uw Poolex-warmtepomp kunt halen.

WARNING

This heat pump contains R32 flammable refrigerant.

Prior approval must be obtained before any procedure is performed on the refrigerant circuit.

To ensure user safety, the following precautions must be followed before any procedure is performed on the refrigerant circuit.

1. Work procedure

All work must be carried out in accordance with strict guidelines in order to minimise the risk of gas or flammable vapour escaping during the execution of the work.

2. General workplace conditions

All persons present in the work area must be informed as to the nature of the work being carried out. Avoid performing work in confined spaces. The area surrounding the work space must be cordoned off and particular attention must be paid to nearby sources of heat or flames.

3. Monitoring the presence of refrigerant

The area must be monitored for the presence of refrigerant, using an appropriate detector, before and after any work takes place in order to ensure that no potentially flammable gas has escaped. Ensure the equipment used for detecting leaks is suitable for flammable refrigerants, i.e., does not generate sparks, the device is properly sealed or equipped with internal safety measures.

4. Fire extinguishers

If hot work is being performed on the refrigeration system, or any related system, appropriate fire extinguishing equipment must be available. Install a dry powder or CO2 fire extinguisher near the work area.

5. No sources of heat, open flames or sparks

The presence of heat sources, open flames or sparks in close proximity to one or more parts/pipework containing or having contained flammable refrigerant is strictly prohibited. All sources of sparks, including smoking, must be located sufficiently far away from the site of installation, repairs, removal and disposal, during which flammable refrigerant could escape into the surrounding environment. Before beginning work, the environment surrounding the equipment must be verified to ensure there is no source of ignition. "No smoking" signs must be displayed.

6. Ventilated area

Ensure that the workplace is open to the air, or properly ventilated, before performing any work on the system or carrying out hot work. Sufficient ventilation must be maintained throughout the period of work.

7. Inspection of refrigeration equipment

When electrical components are replaced, they must be suitable for their intended use and meet the relevant specifications. Replacements must be genuine or OEM parts. If in doubt, contact the manufacturer's customer support team.

Inspections must be performed on installations using flammable refrigerants:

– Refrigerant charge must be appropriate for the size of the space in which the refrigeration system is installed..

– The ventilation system and air vents must function correctly and must not be obstructed.

– If an indirect refrigeration system is being used, the secondary circuit must also be inspected.

– Equipment markings must be clearly visible and legible. Illegible signs and markings must be corrected.

– Refrigerant pipework and components must be installed in locations with no risk of exposure to substances capable of corroding components containing refrigerant fluid.

8. Inspection of electrical appliances

Repairs and maintenance performed on electrical appliances must include preliminary safety tests and inspection of components. In the event a fault is detected which is capable of compromising safety, electrical power must be disconnected from the circuit until the problem is resolved.

Preliminary safety tests must include the following:

• Ensuring the condensers are fully discharged: this must performed in a safe manner to avoid the risk of ignition;

• Ensuring that no wires or electrical components are exposed at the time of charging, recovery, or purging the system of refrigerant gas.

• Ground continuity test.

ACKNOWLEDGEMENTS

Dear customer,

Thank you for your purchase and your trust in our products.

Our products are the result of years of research in the design and manufacture of heat pumps for pools. Our goal is to deliver high-quality products with exceptional performance.

We took great care to put together this manual so you can get the most out of your Poolex heat pump.

PLEASE READ CAREFULLY

These installation instructions form an integral part of the product.
They must be provided to the installer and kept in a safe place by the user.
If you lose this manual, please visit our website:

www.poolex.fr

The indications and warnings contained in this manual should be carefully read and understood as they provide important information regarding the safe handling and operation of the heat pump. Keep this manual handy for future reference.

Installation must be performed by a qualified professional in accordance with regulations in force and the manufacturer's instructions. Errors made during installation can cause physical injuries to people and animals, as well as mechanical damage for which the manufacturer shall not be held liable.

After unpacking the heat pump, please check the contents for any signs of damage.

Before plugging in the heat pump, ensure that the instructions provided in this manual are compatible with the actual installation conditions and do no exceed the maximum authorised limits for the product in question.

In the event of a defect and/or malfunction of the heat pump, electrical power must be shut off and no attempts to repair the fault should be made.
Repairs must be carried out by an authorised technician using original spare parts. Non-compliance with the aforementioned clauses can negatively impact the safe operation of the heat pump.

In order to guarantee the efficiency and ensure the proper functioning of the heat pump, it must be regularly maintained in accordance with the instructions provided.

In the event the heat pump is sold or transferred to a third party, please ensure that all technical documentation is given to the new owner alongside the equipment.

This heat pump has been designed to only heat the water of a spa. Any other use is considered inappropriate, incorrect and potentially dangerous.

All contractual and extra-contractual liability on the part of the manufacturer / distributor shall be considered null and void in the event of damage caused by errors in installation or operation, or due to non-compliance with the instructions provided in this manual, or the standards in force for the installation of equipment discussed in this document.

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EN

CONTENTS

1. GENERAL INFORMATION

1.1 General terms and conditions of delivery

All products and packaging, even those delivered carriage paid, travel at the risk of the recipient.

Persons responsible for accepting delivery of the device must perform a visual inspection to make a note of any damage that may have occurred during transportation (refrigeration circuit, casing, electric box, frame). Any damage occurring during transportation must be noted by the recipient on the delivery receipt of the carrier, and confirmed by registered post sent to the carrier within 48 hours.

The device must be stored and transported upright at all times, on a pallet, and in its original packaging. If the device has been transported in a horizontal position, please wait at least 24 hours prior to connecting it.

1.2 Safety instructions

WARNING: Please read carefully all safety instructions before using the device. As the instructions noted in this document are essential to your safety, please respect them carefully.

Installation and maintenance

Only a qualified person may undertake installation, start-up, servicing and repairs, in compliance with current standards.

Before operating or undertaking any work on the devoce (installation, start-up, use, servicing), the person responsible must be aware of all the instructions in the heat pump's installation manual as well as the technical specifications.

Under no circumstances install the equipment close to a source of heat, combustible materials or a building's air intake.

If installation is not in a location with restricted access, a heat pump protective grille must be fitted.

To avoid severe burns, do not walk on pipework during installation, repairs or maintenance.

To avoid severe burns, prior to any work on the refrigerant system, turn off the heat pump and wait several minutes before placing temperature and pressure sensors.

Check the refrigerant level when servicing the heat pump.

Check that the high and low pressure switches are correctly connected to the refrigerant system and that they turn off the electrical circuit if tripped during the equipment's annual leakage inspection.

Check that there is no trace of corrosion or oil stains around the refrigerant components.

When in use

Do not touch the vent during operation due to the risk of serious injury.

Do not leave the heat pump within reach of children due to the risk of injury caused by the heat exchanger fins.

Never start the equipment if there is no water in the spa or if the circulating pump is stopped.

Check the water flow rate every month and clean the filter if necessary.

When cleaning

1. Switch off the power supply to the device.
2. Close the water inlet and outlet valves.
3. Do not place anything in the openings of the water or air inlets/outlets.
4. Do not spray the appliance with excessive amounts of water.

During repairs

Carry out work on the refrigerant system in accordance with current safety regulations.

Brazing should be performed by a qualified welder.

When replacing a defective refrigerant component, use only parts certified by our technical department.

When replacing pipework, only copper pipes conforming to Standard NF EN12735-1 may be used for repairs.

1.3 Water treatment

Poolex heat pumps for spas can be used with all types of water treatment systems.

Nevertheless, it is essential that the treatment system (chlorine, pH, bromine and/or salt chlorinator metering pumps) is installed after the heat pump in the hydraulic circuit.

To avoid any deterioration to the heat pump, the water's pH must be maintained between 6.8 and 7.8.

2. DESCRIPTION

2.1 Operating limits

For the heat pump to operate normally, the ambient air temperature must be between -25°C and 43°C. However, we recommend winterising your spa if the water temperature falls below 10°C.

Your hot tub must be correctly insulated to enable the heat pump to function in an optimal way.

- ✓ The tub must be insulated.
- ✓ The piping must be insulated.
- ✓ The hot tub must be equipped with an insulating cover.

Thanks to the Full Inverter system, the SPA heat pump automatically adapts its power according to its settings and the external environment. So, when the water temperature rises (this phase can last up to a week after installation), the SPA heat pump will use all the power available; and once the target temperature has been reached, the SPA heat pump will reduce its energy consumption.

2.2 Package contents

At reception, please check that your package contains the following:

- ✓ ICE SPA heat pump
- ✓ a winter cover
- ✓ 2 male 1" threaded connections
- ✓ Remote, waterproof control box (optional): controller, box and cable
- ✓ 2 control relays
- ✓ hydraulic hose
- ✓ hydraulic elbow

2.3 General characteristics

A Poolex heat pump has the following features:

- High performance with up to 80% energy savings compared to a conventional heating system.
- Clean, efficient and environmentally friendly R32 refrigerant.
- Reliable high output leading brand compressor.
- Wide hydrophilic aluminum evaporator for use at low temperatures.
- User-friendly intuitive control panel.
- Heavy duty shell, anti-UV treated and easy to maintain.
- CE certification.

2.4 Technical characteristics

		ICE SPA 70
Air [1] 26°C Water [2] 26°C	Heating power (kW)	3.3~7
	Consumption (kW)	0.28~1.4
	COP (Coeff. of performance)	**11.9~5**
Air [1] 15°C Water [2] 26°C	Heating power (kW)	2.3~5.4
	Consumption (kW)	0.35~1.1
	COP (Coeff. of performance)	**6.6~4.9**
Air [1] 15°C Water [2] 38°C	Heating power (kW)	2.8~4.7
	Consumption (kW)	0.67~1.3
	COP (Coeff. of performance)	**4.2~3.7**
Air [1] 26°C Water [2] 38°C	Heating power (kW)	2.8~6
	Consumption (kW)	0.29~1.3
	COP (Coeff. of performance)	**9.6~4.5**
Air [1] -10°C Water [2] 38°C	Heating power (kW)	2.2~3.3
	Consumption (kW)	1.2~1.5
	COP (Coeff. of performance)	**1.8~2.1**
Air [1] 35°C Water [2] 27°C	Cooling capacity (kW)	3.2~3.7
	Consumption (kW)	0.87~1.2
	EER	**3**
Power supply		Single phase 220-240V ~ 50Hz
Maximum power (kW)		1.7
Maximum current (A)		9
Heating temperature range		-25°C ~ 43°C
Cooling temperature range		5 °C ~ 43 °C
Automatic temperature range		-25°C ~ 43°C
Unit dimensions L x W x H (mm)		705 x 490 x 505
Unit weight (kg)		43
Sound pressure level at 1m (dBA)		< 48
Sound pressure level at 4m (dBA)		< 36
Sound pressure level at 10m (dBA) [3]		< 28
Hydraulic connections (mm)		1" female
Heat exchanger		Titanium heating coil
Water flow rate (m^3/h)		3.0
Compressor brand		GMCC
Compressor type		Rotary
Refrigerant		R32
Refrigerant volume (g)		650
Minimum pressure (MPa)		0.1
Maximum pressure (MPa)		4.3
Protection rating		IPX4
Load loss (kPa)		3.3
Control panel		Digital display
Operating modes		Heating/Cooling/Auto

The technical specifications of our heat pumps are provided for information purposes only. We reserve the right to make changes without prior notice.

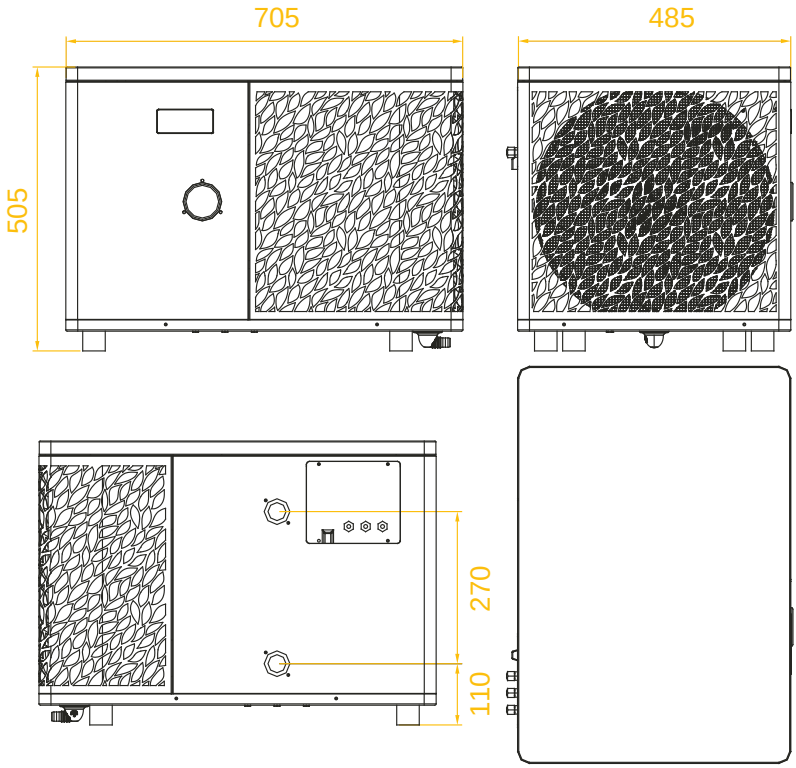
[1] Ambient air temperature

[2] Initial water temperature

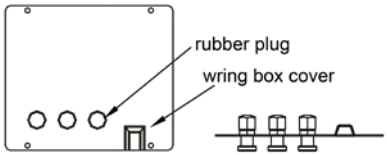
[3] Noise level at a distance of 10 m in accordance with international standards EN ISO 3741 and EN ISO 354

2.5 Product dimensions

Dimensions in mm

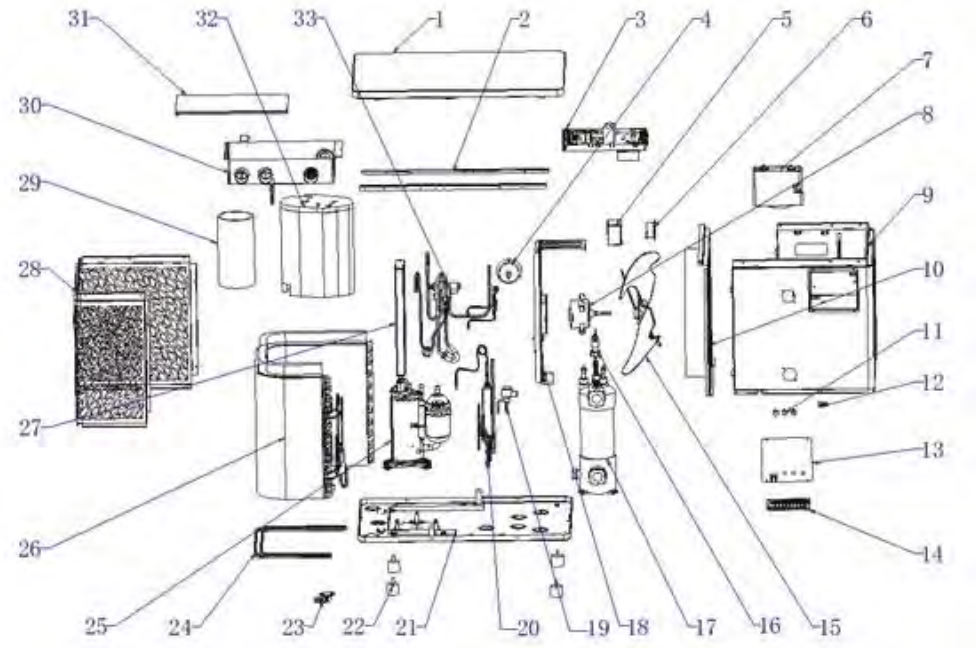


Note: When the electric heating, water pump, and wire control are not fully connected, please use 'rubber plug' to avoid damage due to moisture.



2. DESCRIPTION

2.6 Exploded view



1. Top cover
2. Side panel mounting strips
3. Electrical components
4. Pressure gauge
5. Inducer seal box
6. Inductor
7. Display box assembly
8. Fan motor
9. Front panel assembly
10. Central bulkhead assembly
11. Cable gland
12. Crimping tool
13. Terminal block cover
14. Terminal block
15. Fan
16. Water flow switch
17. Titanium heat exchanger
18. Motor support component
19. Electronic expansion valve
20. Flash evaporator
21. Chassis components
22. Anti-vibration feet
23. Drain elbow
24. Chassis heating belt
25. Compressor
26. Evaporator components
27. Electrical box support
28. Rear side panel components
29. Sound insulation lining 1
30. Control box
31. Control box cover
32. Sound insulation lining 2
33. 4-way valve

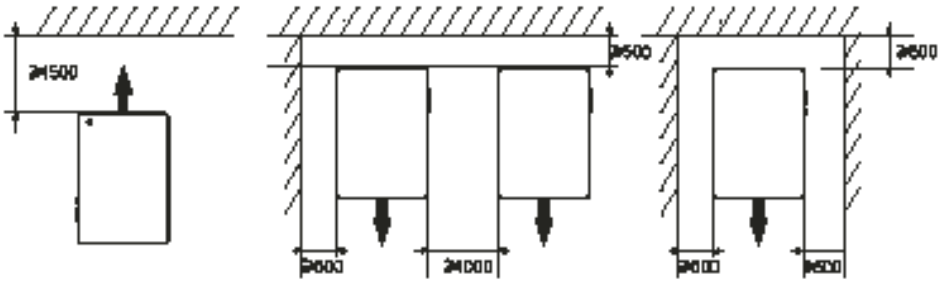
3. INSTALLATION

To install the heat pump the hydraulic circuit and the power need to be connected.

3.1 Location

Standard NF C 15-100 recommends installing the heat pump at least 2.5 meters from the spa. However, thanks to the differential circuit breaker, you can also choose to install it closer: Leave at least 1.50 m in front of the heat pump and 50 cm of empty space to the sides and rear of the heat pump.

Dimensions in mm



Do not place anything within 1.5m of the front of the heat pump.

Do not place any obstacles on top or in front of the device!

Do not use the heat pump as a step to access the spa.

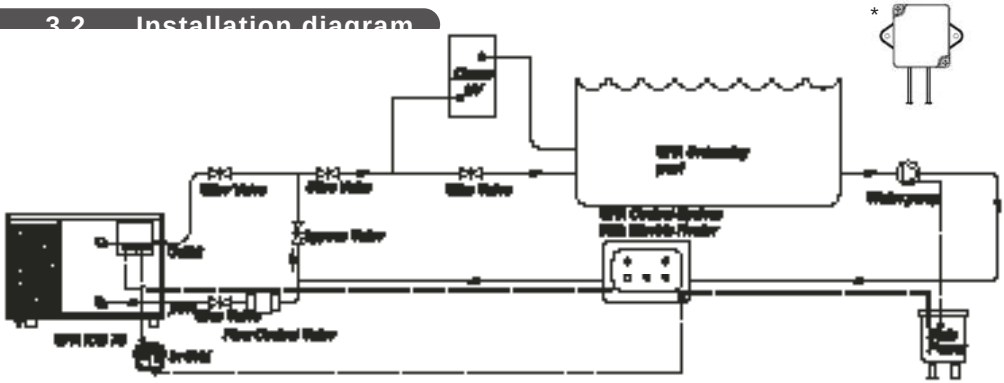
Do not step on the heat pump.

Please respect the following rules when choosing the heat pump's installation location

1. The location must be easily accessible for optimal operation and maintenance.
2. The device must be installed on the ground, ideally on a level concrete slab. Ensure that the ground is sufficiently stable and it can support the weight of the device.
3. Check that there is enough air flow, that the air exhaust is not directed towards the windows of neighbouring buildings, and that exhaust air cannot return to the intake. In addition, ensure that there is enough space around the device to perform servicing and maintenance.
4. The device must not be installed in locations susceptible of being exposed to oil, flammable gas, corrosive agents, sulphur compounds, or near high frequency devices.
5. Do not install the device near to roads or footpaths to avoid mud splattering.
6. To avoid disturbing neighbours, make sure to install the device facing away from areas sensitive to noise.
7. Keep out of the reach of children insofar as possible.

3. INSTALLATION

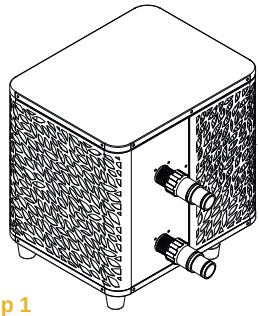
3.2 Installation diagram



The filter located upstream of the heat pump must be regularly cleared so that the water in the system is clean, thus avoiding the operational problems associated with dirt or clogging in the filter.

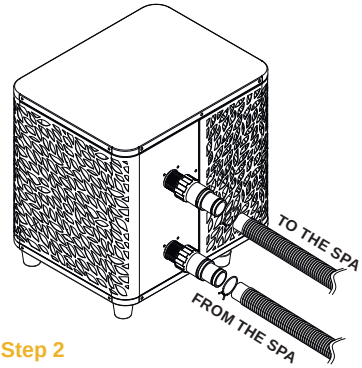
* If the relay is installed outdoor, please install it with the wire outlet side facing down.

3.3 Hydraulic connection



Step 1

Screw the connectors for heat pump



Step 2

Connect the water inlet and outlet

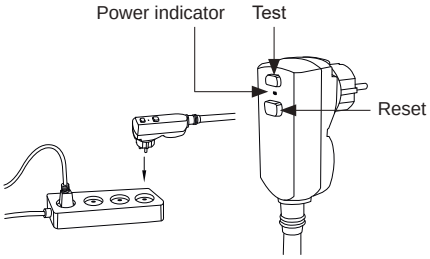
3.4 Electrical connection

Pump's power plug integrates a 10mA differential circuit breaker.

Regularly test the correct operation. In the event of successive triggering or doubts contact the after-sales service.

Before plugging in your heat pump, please ensure the electrical socket is well protected, properly grounded and protected from rain as well as water projections.

Press the RESET button to start the heat pump. The power indicator lights up in red: the heat pump is on.



3.5 Operation

Use conditions

For the heat pump to operate normally, the ambient air temperature must be between -25°C and 43°C.

Advance notice

Prior to starting the heat pump, please:

- ✓ Check that the equipment is secure and stable.
- ✓ Check that the gauge indicates a pressure greater than 80 psi.
- ✓ Check that the electrical wiring is properly connected to the terminals.
- ✓ Check the earthing connections.
- ✓ Check that the hydraulic connections are tight and that there is no leakage of water.
- ✓ Check that the water is circulating correctly in the heat pump and that the flow rate is adequate
- ✓ Remove any object that is not required around the equipment and all tools.

Operation

1. Connect the power supply to the device.
2. Start the filtration pump.
3. Activate the device's electrical supply protection (differential switch situated on the power cable).
4. Start the heat pump.
5. Select the desired temperature using one of the modes appearing on the control panel.
6. The heat pump's compressor will start shortly after.

And you just need to wait for the target temperature to be reached.

WARNING: Under normal conditions, a suitable heat pump can heat up the tub water by 1°C to 2°C per hour. It is therefore normal that you do not feel any difference in temperature at the outlet level when the heat pump is on.

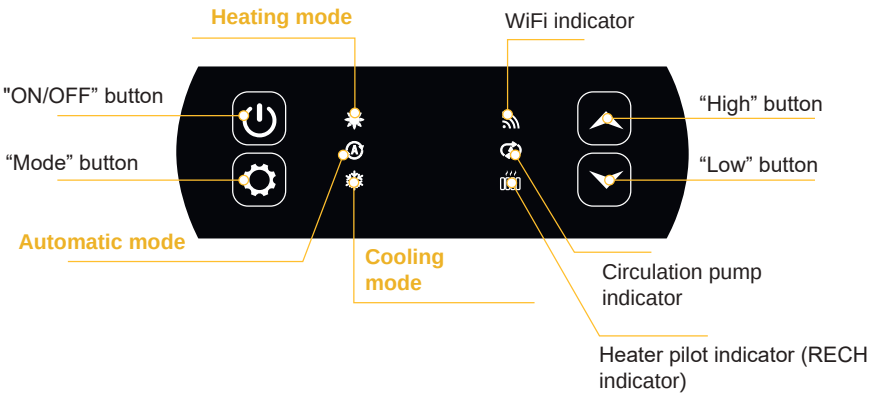
A heated tub must be covered and insulated to avoir any heat loss.

Good to know: restart after power failure

After a power failure or a usual interruption, turn the power back on, the system is on sleep mode. Restart the differential plus and switch on the heat pump.

4. USE
OF CONTROL PANEL

4.1 Control panel



4.2 Heating / Cooling / Automatic mode

Before use, ensure that the filtration pump is working and that water is circulating through the heat pump.

Prior to setting your required temperature, you must first select an operating mode for your remote.

Heating mode

Select the heating mode if you want to heat up the tub water with the heat pump.

Cooling mode

Select the cooling mode if you want to heat up the tub water with the heat pump.

Automatic mode

Select the automatic mode if you want to let the heat pump switch to the correct mode in a smart way according to the target temperature.

4. USE
OF CONTROL PANEL

4.3 Functions overview

The indicators to the right of the control panel indicate the heat pump's other functions.

WiFi indicator

Indicates your Wifi connection status.
Flashes during pairing (see paragraph "4.7 Wifi connection", page 62). It remains on when a connection is active. The first time it is switched on, the Wifi LED flashes rapidly.

Circulation pump indicator

Lights up when the circulation pump is active:

1. Disable mode: off,
2. Automatic mode: always bright when closed, off when disconnected.
3. Manual mode : flashes when closed, off when disconnected.

Heater pilot indicator

The RECH light is on when the heater is active:

1. Disable mode: off,
2. Automatic mode: always bright when closed, off when disconnected.
3. Manual mode : flashes when closed, off when disconnected.

4.4 Heat pump operating mode selector

By default, the heat pump is in heating mode.

To change the mode of use, when the heat pump is ON:

- Press the button , the heat pump will then switch to cooling.
- Press the button again , the heat pump will then switch to automatic.
- Press the button again , the heat pump will then switch heating.

The different modes thus form a cycle:

Good to know:

The heat pump can take several minutes to change operating mode in order to preserve the refrigerant fluid.

The maximum set temperature is 40°C.

4.5 Set temperature adjustment

Use the arrows and to change the set temperature. The heating setting range is 15-40°C (default 38°C). The refrigeration setting range is 4-35°C (default 32°C). The automatic setting range is 4-40°C (default 35°C).

4. USE OF CONTROL PANEL

4.6 Locking and unlocking

In the main interface, if no key is pressed for 30s, the control panel is locked automatically. When the screen is locked, it displays "LOC".

Press the ▲ and ▼ simultaneously for 3 seconds to lock and unlock the control panel. When the device unlocks, it emits a long beep.

4.7 Wifi connection

When the heat pump is switched off, press for 5 seconds. ▲ and ⏻ to start WiFi pairing. The WiFi logo will flash.

See section "7. Use via the mobile application", page 28 for more details on the wifi pairing procedure.

4.8 Viewing status values

Press ▲ and ☼ for 3 seconds to check the status of your heat pump.

The parameter code appears and the value is displayed after 3 seconds.

Use the arrows ▲ and ▼ to navigate between the different parameters.

Press ⏻ to return to the main interface.

Code	Designation
01	External ambient temperature (°C)
02	Coil temperature (°C)
03	Compressor discharge temperature (°C)
04	Compressor return air temperature (°C)
05	Inlet water temperature (°C)
06	Outlet water temperature (°C)
07	(reserved)
A1	Compressor operating frequency
A2	Fan speed
A3	Electronic expansion valve opening
A4	(reserved)
A5	(reserved)
E1	Historical fault 1 (earlier fault)
E2	Historical fault 2
E3	Historical fault 3
E4	Historical fault 4
E5	Historical fault 5 (recent fault)

4.9 Setting

When the heat pump is off, press for 3 seconds. and to access the settings interface.
The parameter code appears and the value is displayed after 3 seconds.
Use the arrows and to navigate between the different parameters.

To change a parameter:

1. Display the parameter to be changed, then press .
   The parameter value starts flashing.
2. Use the arrows and to change its value.
3. Press to confirm the input value.

Press to return to the main interface.

List of user parameters

Code	Designation	Range of values	Default value
C 1	Power-down memory mode	1:On ; 0:Off	1 / on
C3	Refrigeration inlet and outlet water temperature compensation settings	-4°C~0°C	0°C
C4	Heater relay function selection	0: Disabled 1: Automatic 2: Manual	0: Disabled
C5	Ambient temperature judgment value for starting heater	-25°C~20°C	5°C
C6	Water temperature difference judgment value for restarting heater	1°C~5°C	5°C
C7	Water temperature difference judgment value for restarting heater in manual mode	1°C~5°C	2°C
C8	Circulation pump relay function selection	0: Disabled 1: Automatic 2: Manual	0: Disabled
C9	Water temperature interval for temperature checks	30~90min	60min
C 10	Water temperature difference for restart in heating mode	0°C~10°C	2°C
C 11	Water temperature difference when stopped in heating mode	0°C~10°C	2°C
C 12	Water temperature difference for restart in cooling mode	0°C~10°C	2°C
C 13	Water temperature difference when stopped in cooling mode	0°C~10°C	2°C
C 14	Dry contact function selection	0: Disabled 1: DOMOSWITCH mode	1 / on

4.10 Forced defrost

The heat pump must be set to 40°C for this procedure to work.

Set the heat pump to **40°C in heating mode**, then use the arrows  and  to force defrosting:
 , 6 strides alternating the two arrows, starting with the top one.

Note: If the heat pump is in cooling mode and the temperature is set to 20°C, this procedure initiates refrigerant recovery.

4.11 Error display

When a system error occurs, the display panel shows the error code.

When several errors occur, each error code is displayed for 8 seconds, cyclically, and the error code does not flash.

Refer to the table in section "7.3 Breakdown and faults", page 84 for more details on errors.

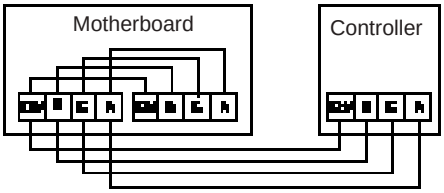
5. USE OF WIRE CONTROLLER

5.1 Installation

The remote control panel or wire controller is an option that allows you to control your heat pump from a remote location.

To optimise the readability of the screen and its durability, place it away from direct sunlight, rain and splashing water (IPX5 protection rating).

Follow the diagram opposite to connect the remote control panel.



5.2 Start

Initial interface

When the wire controller is switched on, all the patterns are displayed on the LCD screen. After 5 seconds, the buzzer sounds to enter the normal interface.

Start-up interface

The start-up interface displays the default inlet water temperature (the set temperature flashes for 5 seconds when the temperature is set), the current mode, the start-up icon and the actual functions (programmed start, defrost, antifreeze status, fan status, compressor status, child lock status).

Example of display:

1. *The current inlet water temperature is 30°C.*
2. *Start, heating mode and child lock*
3. *Fan motor and compressor are running*
4. *Enter defrost state*

Shutdown interface

The shutdown interface displays the inlet water temperature, the current mode and the current functions (programmed shutdown, child lock).

Example of display:

1. *The current inlet water temperature is 30°C.*
2. *Stop and heat mode*

5. USE
OF WIRE CONTROLLER

5.3 Control panel

Before use, ensure that the filtration pump is working and that water is circulating through the heat pump.

	Fonction
	ON/OFF button
	Mode selection button
	Clock button
	UP button
	DOWN button
	Parameter

	Fonction
	Heating mode
	Automatic mode
	Cooling mode
	Defrost
	Frost protection
	Circulation pump
	Lock icon
	Time programming
	Silent mode
	Smart mode
	Boost mode
	Compressor ON
	Fan ON

5.4 Unlocking

If the unit goes 30 seconds without any input operation, the controller screen enters a sleep state. However, the screen must be locked manually (child lock).

Press and for 5 seconds to lock or unlock the screen.

When the screen is locked, the icon lights up, and if a button is pressed, the device emits a "beep" and the icon flashes.

5. USE
OF WIRE CONTROLLER

5.5 Sound and light settings

Audible warning

Each time it is pressed, the buzzer emits a short beep. The user can deactivate the buzzer by setting parameter P1 to 0. See "5.10 User parameters", page 25.

Backlighting

Set parameter P2 on the remote control panel to 1 to activate the backlight or to 0 to deactivate the backlight. See "5.11 User settings", page 70.

By default, the backlight is at its brightest when the controller is in use.

After 15 seconds without pressing, the controller switches to half-wake mode and the backlight dims.

After 15s without pressing half-wake, the controller switches to standby mode. By default, the lighting is at its minimum (15%). Parameter P3 can be used to switch off the screen in standby mode (setting 2) or to keep the lighting at its maximum (setting 0).

Parameter P4 is used to modify the intensity of the maximum backlighting.

5.6 Setting the temperature

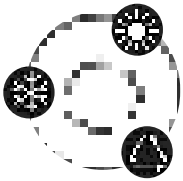
In the main interface, unlock the screen and then :

Press ^ or v to adjust the value. The "set" icon lights up.

5.7 Choice of operating mode

In the main interface, unlock the screen and then :

Press ⟳ to switch from one mode to the other.



5.8 Error display

When an error occurs, the temperature display area will show the error code. When there is more than one error, they are displayed one after the other.

Example of display:

1. Heating is in progress, but error C5 occurs.

Refer to the table in section "8.3 Faults and malfunctions", page 36 for more details on faults.

5. USE OF WIRE CONTROLLER

5.9 Time programming

Timer ON interface

Programmed start displays the time and icon, as well as the set temperature that will be executed after start-up. The other displays are consistent with the shutdown interface.

Example of display:

1. Heating will start in 5 hours.
2. Set the target temperature to 30°C.

Timer OFF interface

The programmed stop displays the time and the icon, and the other displays conform to the start-up interface.

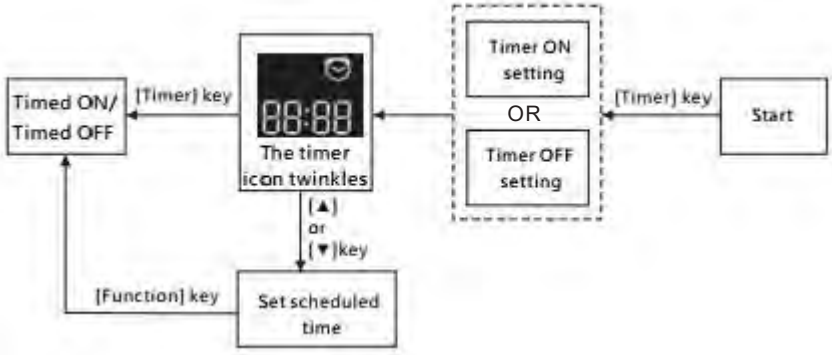
Example of display:

1. The heating is on and the current inlet water temperature is 30°C.
2. Stop in 8 hours.
3. The fan motor and compressor are running.

Procedure

Users can briefly press the ⏲ to set the timer.

The adjustment steps are shown in the figure below:



Cancel the timer by pressing the key ⏻.

5.10 Status values

Press and for 5 seconds to view the status values.

In this interface, the time zone displays the code of the parameter to be interrogated and the temperature zone displays the value of the parameter.

Press or to move up or down the page.

Press to return to the main interface.

Unit status control panel

N°	Description
01	External ambient temperature (°C)
02	Coil temperature (°C)
03	Compressor discharge temperature (°C)
04	Compressor return air temperature (°C)
05	Inlet water temperature (°C)
06	Outlet water temperature (°C)
07	(reserved)
A1	Compressor operating frequency
A2	Fan speed
A3	Electronic expansion valve opening
A4	(reserved)
A5	(reserved)
E1	Historical fault 1 (earlier fault)
E2	Historical fault 2
E3	Historical fault 3
E4	Historical fault 4
E5	Historical fault 5 (recent fault)

5. USE OF WIRE CONTROLLER

5.11 User settings

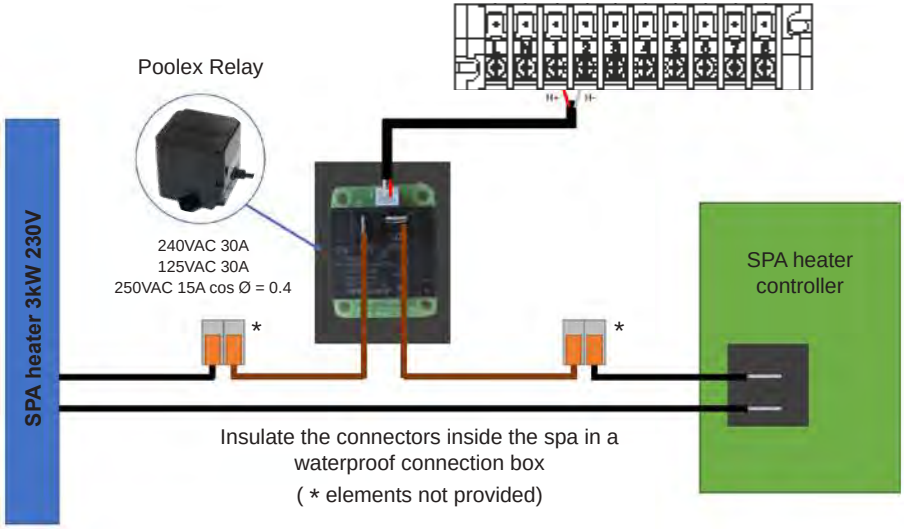
1. From the main interface, press and for 5 seconds to access the user parameters consultation interface.
   In this interface, the time zone displays the code of the parameter to be interrogated and the temperature zone displays the value of the parameter.
   Press or to view each parameter.
2. In the user parameters consultation interface, select a parameter and press to access the **interface for setting** this user parameter.
   The parameter value (time zone) starts flashing.
3. Press or to change the value of the current user parameter, then press to confirm the change to the parameter value and return to the parameter consultation status.

List of user settings

N°	Description	Range of values	D. value
C 1	Power-down memory mode	1:On ; 0:Off	1 / on
C3	Refrigeration inlet and outlet water temperature compensation settings	-4°C~0°C	0°C
C4	Heater relay function selection	0 : Off 1: Automatic 2 : Manual	0
C5	Ambient temperature judgment value for starting heater	-25°C~20°C	5°C
C6	Water temperature difference judgment value for restarting heater	1°C~5°C	5°C
C7	Water temperature difference judgment value for restarting heater in manual mode	1°C~5°C	2°C
C8	Circulation pump relay function selection	0 : Off 1: Automatic 2 : Manual	0
C9	Water temperature interval for temperature checks	30~90min	60min
C 10	Water temperature difference for restart in heating mode	0°C~10°C	2°C
C 11	Water temperature difference when stopped in heating mode	0°C~10°C	2°C
C 12	Water temperature difference for restart in cooling mode	0°C~10°C	2°C
C 13	Water temperature difference when stopped in cooling mode	0°C~10°C	2°C
C 14	Dry contact function selection	0 : Off 1: In.grid mode	1 / on
P 1	Audible warning	Off / On	on
P2	Backlighting of the wired controller	Off / On	on
P3	Setting the backlight mode	0: maximum brightness 1 : max / 50% / 15% 2 : max / 50% / off	1
P4	Maximum brightness setting	30%~100%	100%
P5	Setting the wired controller address	01/02	02

6. USE
OF OPTIONAL CONTROL RELAYS

6.1 Using the SPA heater control relay



The SPA heater driver system consists of a power relay (230V50Hz / 30A) which plugs into the heater phase wire (between the SPA heater controller output and the heater itself).

This relay is controlled by the heat pump control box either automatically or manually (boost).

As such, for the system to work properly, **it is imperative to set the desired temperature of the SPA water to the maximum on the SPA control screen and to programme the filtration time.** In this way, the actual temperature setting will now be done on the heat pump or via the smartphone application.

- In automatic spa heater mode: When weather conditions become difficult for the heat pump (C5 setting: outside temperature below a specified temperature, adjustable from -25 to 20°C) and the desired bathing temperature is higher than the measured water temperature (C6 setting, adjustable from 1 to 5°C), the heater control relay is triggered. Thus the heating uses the electric heater of the SPA in addition to the heat pump in order to reach the desired temperature.

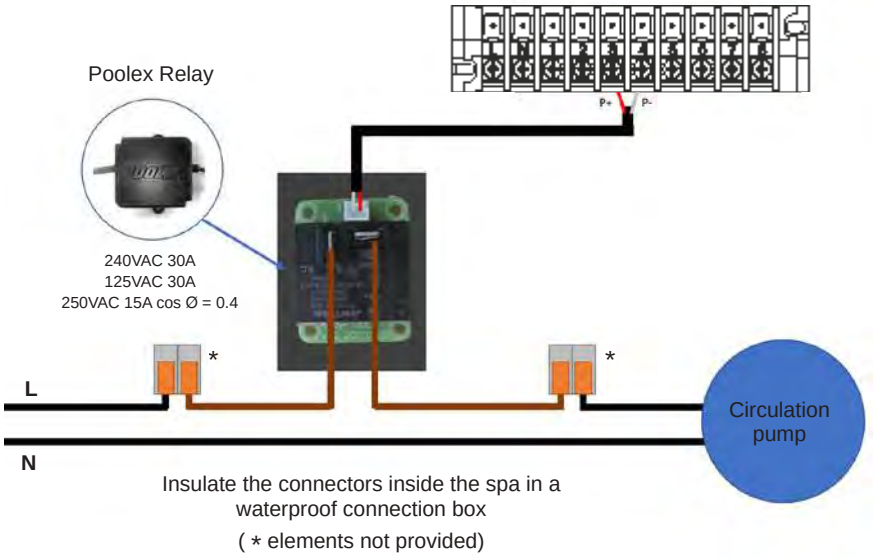
- In manual spa heater mode: Regardless of the weather conditions, as soon as the deviation between setpoint and measured temperature exceeds the set deviation (C7 setting, adjustable from 1 to 5°C), the relay is triggered. Thus the heating uses the electric heater of the SPA in addition to the heat pump in order to reach the desired temperature.

To use this relay:

Setting the **C4** setting = 1 to activate control in automatic mode or C4 = 2 to activate control in manual mode (see "4.9 Setting", page 63 or "User parameters", page 25).

6. USE
OF OPTIONAL CONTROL RELAYS

6.2 Using the circulation pump control relay (optional)



This relay is controlled by the heat pump control box either automatically or manually.

As such, for the system to function correctly, **it is imperative to have a circulation pump which flow ranges of 3 m³/h**.

In automatic mode: The relay activates itself every 60 minutes (timing adjustable between 30 and 90 minutes, C9 setting) to control the circulation pump whilst temperature is being verified. If needed, the controller starts the heat pump to reach the target temperature while the pump relay remains active up until the target temperature is reached, then will start its verification cycle every 60 minutes (timing adjustable between 30 and 90 minutes, C9 setting).

In manual mode: The pump relay will always be active and the pump will function 24/7.

To use this relay:

Setting the **C8** setting = 1 to start the control (see "4.9 Setting", page 63 or "User parameters", page 25).

Adjusting verification time intervals, C9 setting, if necessary (adjustable from 30 to 90 minutes).

7. USE
VIA MOBILE APPLICATION

7.1 Downloading & installing the application «Smart Life»

About the Smart Life app:

You'll need to create a «Smart Life» account to control your heat pump remotely.

The «Smart Life» app lets you control your home appliances from anywhere. You can add and control multiple devices at once.

- You can share your devices with other Smart Life accounts that you have set up.
- Receive real-time operational alerts.
- Create scenarios with several devices, depending on the app's weather data (geolocation required).

For more information, refer to the "Help" section of the "Smart Life" app.

The "Smart Life" app and services are provided by Hangzhou Tuya Technology. The company Poolstar, owner and distributor of the Poolex brand, cannot be held responsible for the operation of the "Smart Life" application.
The company Poolstar has no access to your "Smart Life" account.

We're presenting the "Smart Life" application because it's the one we use for our tests, but you can also choose an equivalent application, such as "Tuya Smart".

iOS:

Scan or search for «Smart Life» in the App Store to download the app:

Smart Life

Download from App Store

Check the compatibility of your phone and the version of your OS before installing the application.

Android:

Scan or search for «Smart Life» in the play to download the app:

Smart Life

Download from Google Play

Check the compatibility of your phone and the version of your OS before installing the application.

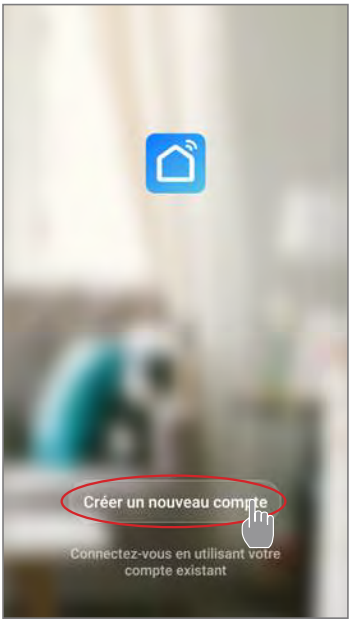
7. USE
VIA MOBILE APPLICATION

7.2 Setting up the application

WARNING : Before you begin, make sure you have downloaded the «Smart Life» app, connected to your local WiFi network, and that your heat pump is electrically powered and running.

You'll need to create a «Smart Life» account to control your heat pump remotely. If you already have a Smart Life account, please log in and go directly to step 3.

Step 1: Click on **«Create new account»** and choose to register by «**Email**» or «**Phone**,» where a verification code will be sent to you.
Enter your email address or phone number and click **«Send verification code»**.

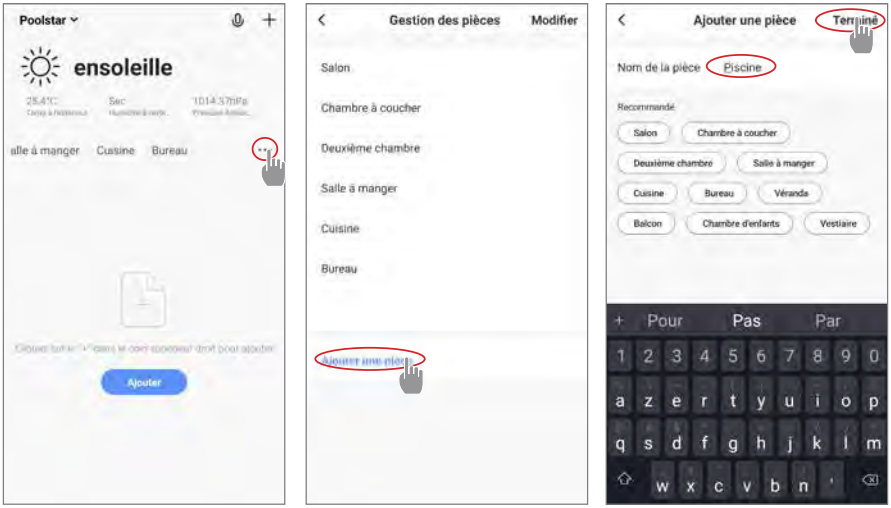


Step 2: Enter the verification code received by email or phone to validate your account.

Congratulations, you now belong to the "Smart Life" community.

7. USE
VIA MOBILE APPLICATION

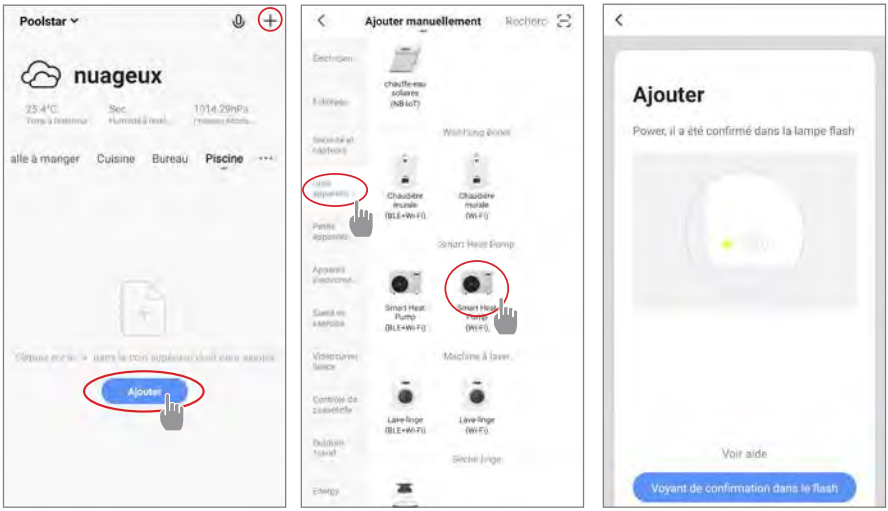
Step 3 (recommended): Add an object by clicking "..." and then "Add Object". Enter a name («Pool» for example), then click "Done".



Step 4: Now add a device to your "Pool".

Click "Add" or "+" and then "Large appliances..." followed by "Water heater".

At this point, leave your smartphone on the "Add" screen and go to the pairing step for your control box.



7.3 Pairing the heat pump

Step 1: Now start the pairing.
Choose your home WiFi network, enter the WiFi password and press “Confirm”.

WARNING : The «Smart Life» application only supports 2.4Ghz WiFi networks.

If your WiFi network uses the 5GHz frequency, go to the interface of your home WiFi network to create a second 2.4GHz WiFi network (available for most Internet boxes, routers and WiFi access points).

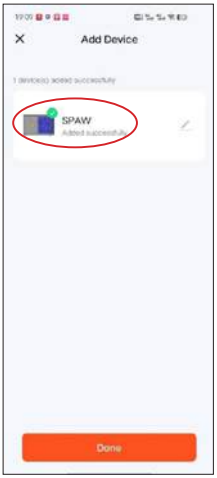
Step 2: Activate the pairing mode on your heat pump.

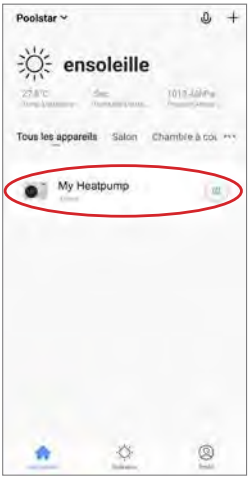
When the heat pump is switched off, press and for 5 seconds to start WiFi pairing. The WiFi logo will flash.

If there is a pairing problem, or if the heat pump is out of range of your wifi, you will need to use a wifi amplifier or relay (not supplied).

The pairing is successful, you can rename your Poolex heat pump then press “Done”.

Congratulations, your heat pump can now be controlled from your smartphone.





7. USE
VIA MOBILE APPLICATION

7.4 Controlling

1. User interface

1. Current spa temperature
2. Temperature set point
3. Current operating mode
4. Switch the heat pump on/off
5. Change the temperature
6. Change operating mode
7. Set the operating range

To adjust the temperature, you can drag the semi-circular scale bar or click on "+/-".

When forced defrost 5 is required, activate this button and if the conditions are met, the defrost icon 3 icon is displayed. When defrosting is complete, the forced defrost button switches off automatically; if the conditions are not met, the 3 is not valid. If it is not displayed, the forced defrost button will go off after 12 minutes.

2. Heat pump operating mode selector

EN

7. USE
VIA MOBILE APPLICATION

3. About the settings

Activating the manual mode (or automatic) for the SPA heater

Activating the manual mode (or automatic) for the optional pump

Mode memory during stop

Timer

Parameter settings

Viewing status values

Resetting parameters

4. Setting up the heat pump operating range

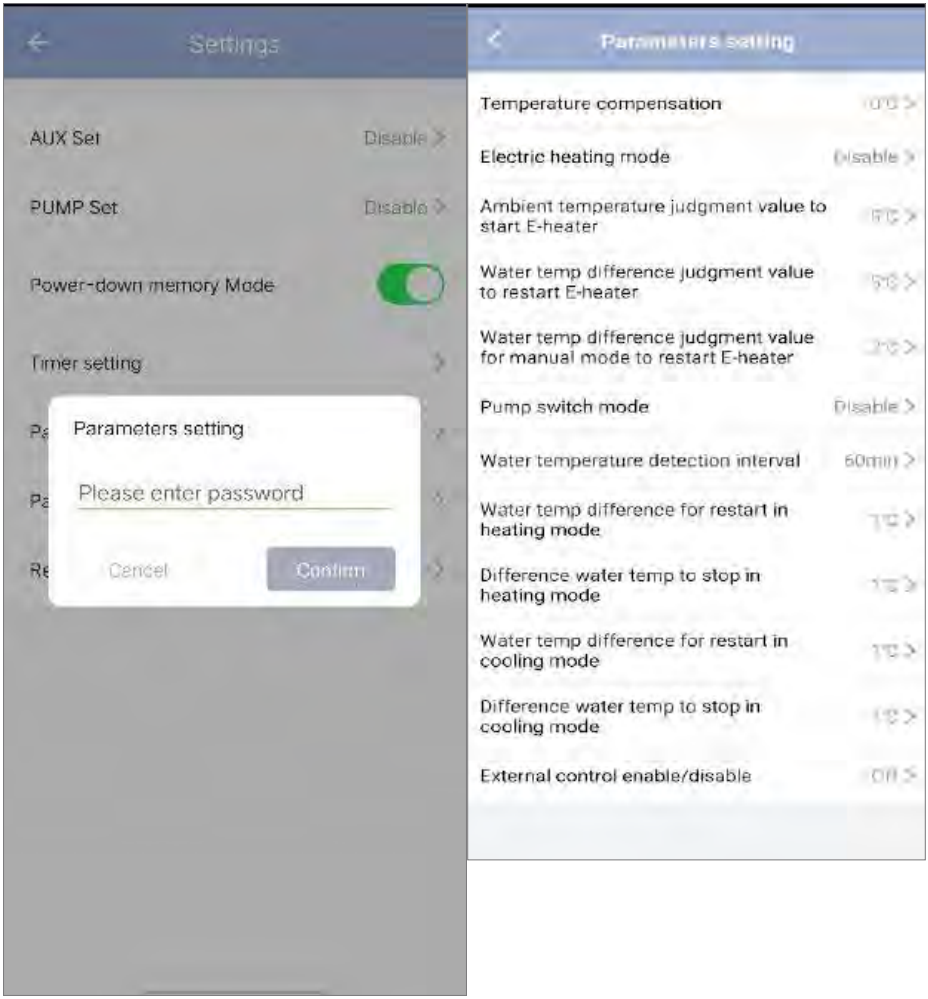
The timer allows you to define several time slots, select the repetition time, switch on and off and the corresponding mode, set the temperature, as well as the operating mode of the electric heater relay and the circulation pump.

Create a time schedule: choose the time, the day(s) of the week concerned, the action (switch on or off) and its details, then save.

5. Setting parameters

To change the settings, you will be asked for a code: please contact our team to request permission to change the settings and to obtain the code.

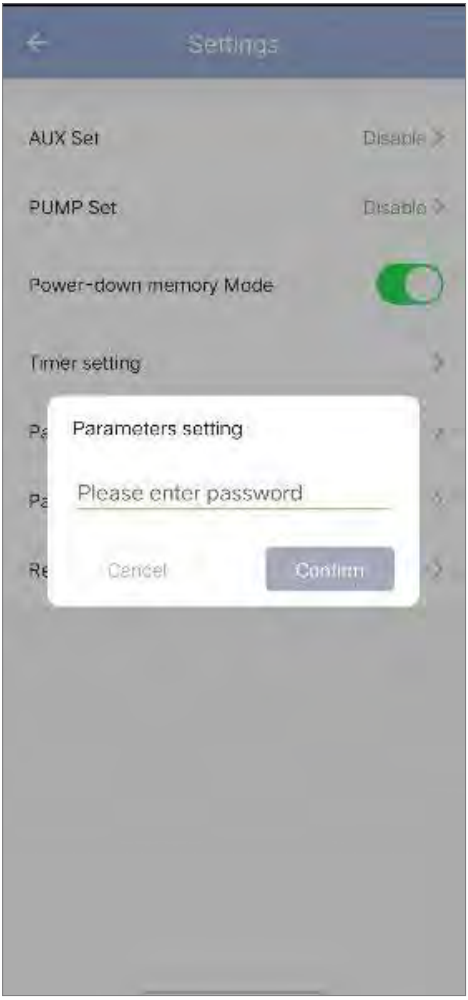
Make sure you enter consistent values in the system.



6. Reset settings

To reset settings, you will be asked for a code: 7416.

After entering the password to reset the parameters, all the parameter setting options are returned to their default values.



7. *Viewing status values*

The application lets you view status values in list form. You will find:

- Ambient temperature
- Condenser temperature
- Compressor outlet temperature
- Compressor suction temperature
- Inlet temperature
- Outlet temperature
- Compressor operating frequency
- Internal fan speed
- Degree of opening of expansion valve
- Opening degree of auxiliary expansion valve
- Jet enthalpy solenoid valve switch
- Error history (oldest to most recent)

8. Upgrade operation

To update your device, follow these steps:

1. Click the edit icon in the upper right corner of the home page
2. Click ‘Device Update’
3. Press ‘Update’
4. Press ‘Start update’

8. MAINTENANCE AND REPAIRS

8.1 Maintenance, servicing and winterizing

WARNING: Before undertaking maintenance work on the unit, ensure that you have disconnected the electrical power supply.

Cleaning

The heat pump housing must be cleaned with a damp cloth. Using detergents or other household cleaning products may degrade the surface of the housing and affect its integrity.

The evaporator at the rear of the heat pump must be carefully cleaned with a vacuum cleaner and soft brush attachment.

Annual maintenance

The following operations must be undertaken by a qualified person at least once a year.

Carry out safety checks.

Check the integrity of the electrical wiring.

Check the earthing connections.

Wintering

Your heat pump is designed to operate in all weather. However, if you winterize your SPA, it is not recommended to leave the heat pump outside for long periods of time (eg over winter). After draining down the SPA for the winter, uninstall the heat pump and store it in a dry place.

8.2 Checking refrigerant pressure

The gauge is for monitoring the pressure of the refrigerant contained in the heat pump.

The values it indicates can vary considerably, depending on the climate, temperature and atmospheric pressure.

When the heat pump is in operation:

The gauge's needle indicates the refrigerant pressure.

Mean operating range between 250 and 400 PSI (or about 1.7 to 2.7 MPa), depending on the ambient temperature and atmospheric pressure.

When the heat pump is shut down:

The needle indicates the same value as the ambient temperature (within a few degrees) and the corresponding atmospheric pressure (between 150 and 350 PSI maximum, or about 1 to 2.4 MPa).

If left unused for a long period of time:

Check the pressure gauge before starting up the heat pump. It must indicate at least 80 PSI (or about 0.6 MPa).

If the pressure goes down too much, the heat pump will display an error message and automatically go into 'safe' mode.

This means that there has been a leakage of refrigerant and that you must call a qualified technician to replace it.

8. MAINTENANCE AND REPAIRS

Under normal conditions, a suitable heat pump can heat up the tub water by 1°C to 2°C per hour. It is therefore normal that you do not feel any difference in temperature at the outlet level when the heat pump is on.

A heated tub must be covered and insulated to avoir any heat loss.

8.3 Breakdown and faults

In the event of a problem, the heat pump's screen displays an error code instead of temperature indications. Please consult the table below to find the possible causes of a fault and the actions to be taken.

Code	Malfunction or protection	Troubleshooting
d1	Insufficient water flow fault	1. Check that the water flow switch is not loosely mounted and wiring is not loose 2. Check that all stop valves in the water circuit are fully open. 3. Check if the water circuit filter needs to be cleaned. 4. Check the system water resistance to make sure it is not too high for the pump. 5. Check whether the water level in the titanium tube heat exchanger meets the requirements.
d2	Intlet water temperature sensor failure	1. Check the resistance of the sensor. 2. The sensor connector is loosen. Reconnect it. 3. The sensor connector is wet or there is water in. Remove the water,make the connector dry. Add waterproof adhesive. 4. The sensor failure, change a new sensor.
d4	Outlet water temperature sensor failure	
d5	The water temperature difference between inlet and outlet is abnormal	1.Check that all stop valves in the water circuit are fully open. 2. Check if the water circuit filter needs to be cleaned. 3. Check the system water resistance to make sure it is not too high for the pump. 4. Check whether the water level in the titanium tube heat exchanger meets the requirements.
d6	Water temperature protection	1.Check whether water flow rate is enough 2.Check whether the inlet water temperature sensor and outlet water temperature sensor are installed in correct positions
d7	Anti-freeze in winter	1.The unit is in anti-freeze condition. 2.Auto-recoverable
C5	Communication failure	1. Check the wire controller connection cable 2. Replace the wire controller
E3	Outdoor coil temperature sensor failure T3	1. Check the resistance of the sensor. 2. The sensor connector is loosen. Reconnect it. 3. The sensor connector is wet or there is water in. Remove the water,make the connector dry. Add waterproof adhesive. 4. The sensor failure, change a new sensor.
E7	Outdoor temperature sensor failure	
E8	Discharge temperature sensor failure	
EC	Communication failure between drive board and main PCB	1. Check whether the power supply of the machine is correct
EE	Outdoor EEPROM failure	1. Initialize all parameters. 2. main control board is broken, change a new PCB.

8. MAINTENANCE AND REPAIRS

Code	Malfunction or protection	Troubleshooting
EF	Outdoor DC fan failure	1. Strong wind or typhoon below toward to the fan, to make thefan running in the opposite direction. Change the unit direction or make shelter to avoid typhoon below to the fan. 2. Check whether the PWM fan wiring is normal 3. Fan motor is broken, change a new fan motor.
EH	Suction temperature sensor failure	1. Check the resistance of the sensor. 2. The sensor connector is loosen. Reconnect it. 3. The sensor connector is wet or there is water in. Remove the water,make the connector dry. Add water-proof adhesive. 4. The sensor failure, change a new sensor.
P1	Protection against AC undervoltage and overvoltage	1. Check input power supply-wiring. 2. Check input voltage. 3. Check and replace main control board.
P2	Protection against overcurrent	
P4	Discharge temperature too high protection	1. Check the resistance of the sensor. 2. The sensor connector is loosen. Reconnect it. 3. The sensor connector is wet or there is water in. remove the water, make the connector dry. Add water-proof adhesive. 4. The sensor failure, change a new sensor. 5. Check for lack of refrigerant.
P6	Outdoor coil temperature is too high in cooling mode	Check whether the fin heat exchanger of the unit dissi-pates heat well during cooling, and whether the conden-ser is dirty or blocked.
P7	Heating protection against overheating	Whether the water flow is sufficient during heating,, resulting in insufficient water flow.
U0	Inverter Compressor Operation Total Fault	1. Check input power supply,wiring. 2. Check input voltage. 3. Check and replace. 4. Check whether the working load of the unit is out of range. 5. Check whether there are foreign bodies in the inlet and outlet of the unit. 6. Check whether the system is blocked
U1	IPM overcurrent	
U2	Compressor drive failure	
U3	Compressor overcurrent	
U4	Input voltage out of phase	
U5	IPM current sampling failure	
U6	Radiator overheat shutdown	
U7	Pre-charge failure	
U8	DC bus overvoltage	
U9	DC bus undervoltage	
UA	Undervoltage of AC input	
UH	Overcurrent of AC input	
UC	Input voltage sampling fault	
UL	DSP and PFC communication fault	

Code	Malfunction or protection	Troubleshooting
JE	Temperature sensor failure	1. Check input power supply,wiring. 2. Check input voltage. 3. Check and replace. 4. Check whether the working load of the unit is out of range. 5. Check whether there are foreign bodies in the inlet and outlet of the unit. 6. Check whether the system is blocked
JF	DSP and communication board communication fault	
JJ	Abnormal communication with main PCB	
JP	IPM module overheating shutdown	
JU	Compressor model failure	
Jr	PFC hardware overcurrent	
JY	Driver EE failure	

Other problem

✓ The spa filtration pump is running continuously.

» Check the filtration time setting on the spa control box and adjust if necessary.

Tip: Minimum filtration time for an indoor spa is 5 hours, for an outdoor spa 8 hours.

» However, if you wish to reduce this circulation time, adjust the temperature on the spa control box to the same set temperature as on the heat pump.

9. WARRANTY

General terms and conditions of warranty

Poolstar guarantees the original owner against material defects and manufacturing defects of Poolex heat pump for a period of **two (2) years**.

The compressor is guaranteed for a period of **seven (7) years**. The titanium coil is guaranteed against corrosion for a period of **fifteen (15) years**.

The warranty enters into force on the first billing date.

This warranty does not apply to the following situations:

- Malfunction or damage resulting from installation, use or repair that does not comply with the safety instructions.
- Malfunction or damage deriving from an unsuitable chemical environment of the spa.
- Malfunction or damage resulting from conditions unsuitable for the intended use of the device.
- Damage resulting from negligence, accident, or force majeure.
- Malfunction or damage deriving from the use of unauthorized accessories.

Repairs undertaken during the warranty period must be approved before being carried out by a qualified technician. This warranty is void in the event of repairs to the device made by individuals which have not been authorised by Poolstar.

The parts under warranty shall be replaced or repaired at the discretion of Poolstar. Faulty parts must be returned to us during the warranty period in order to be covered. The warranty does not cover unauthorized labor or replacement costs. Delivery costs for returning the faulty part are not covered by the warranty.

Dear customer,

A question? A problem? Or simply register your warranty, find us on our website:

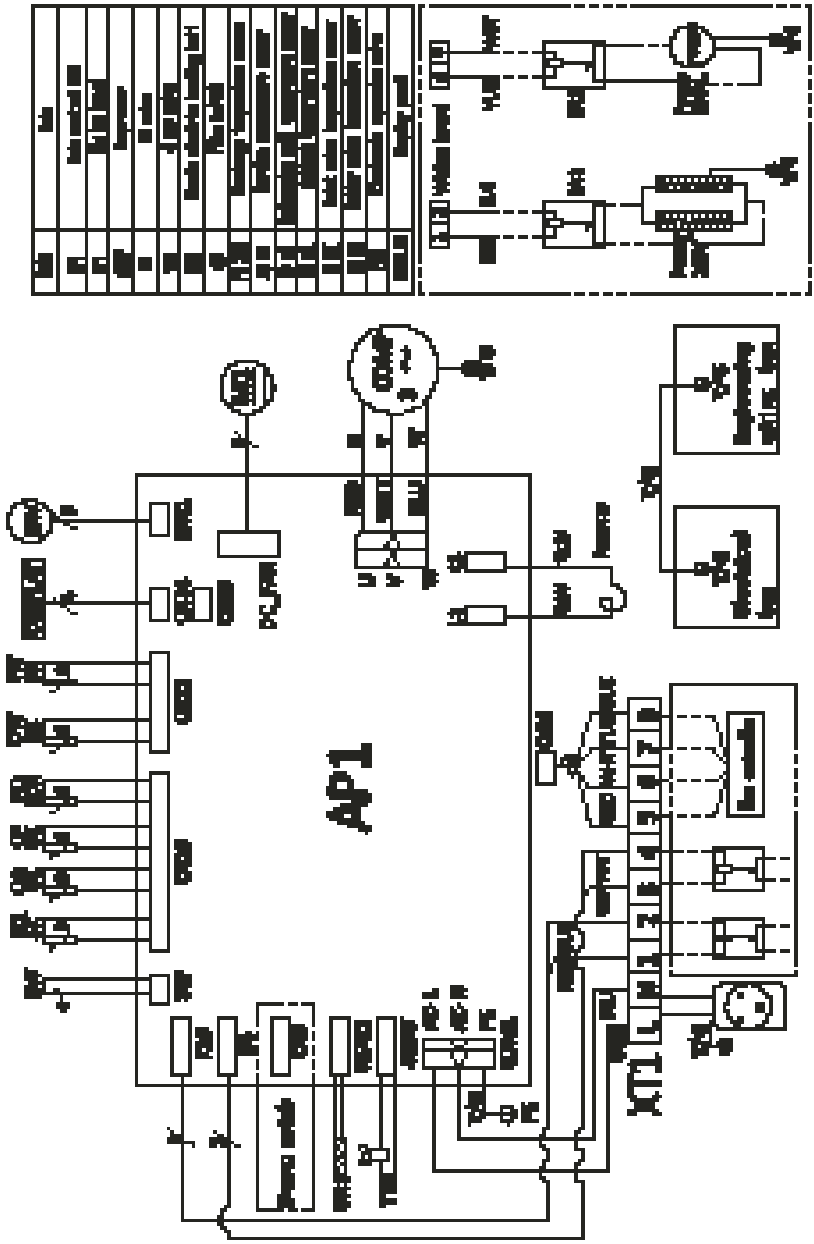
https://assistance.poolstar.fr/

Thank you for you trust and support. Happy bathing!

Your personal information is processed in accordance with the French Data Protection Act of 06 January 1978 and will not be shared with 3rd parties.

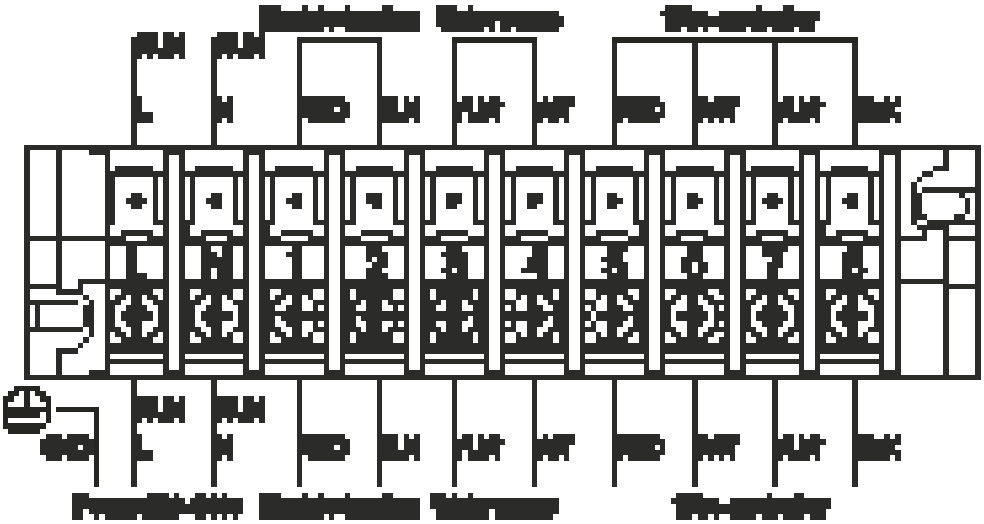
A. Annexe / Apéndice / Appendice / Appendix / Anhang / Bijlage

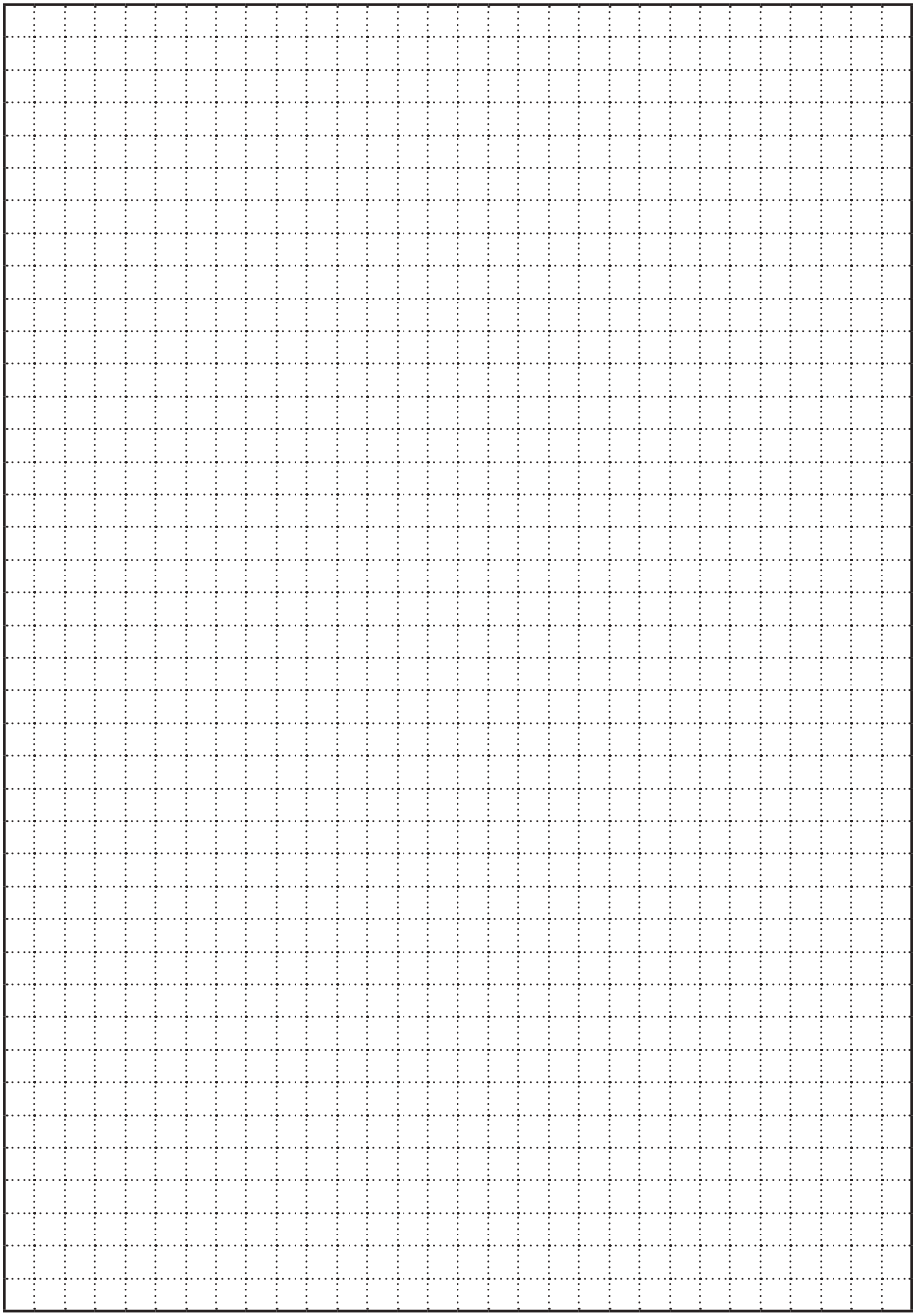
A.1. Schéma électrique / Diagrama de cableado / Schema electtrico / Wiring diagram / Stromlaufplan / Elektrisch schema

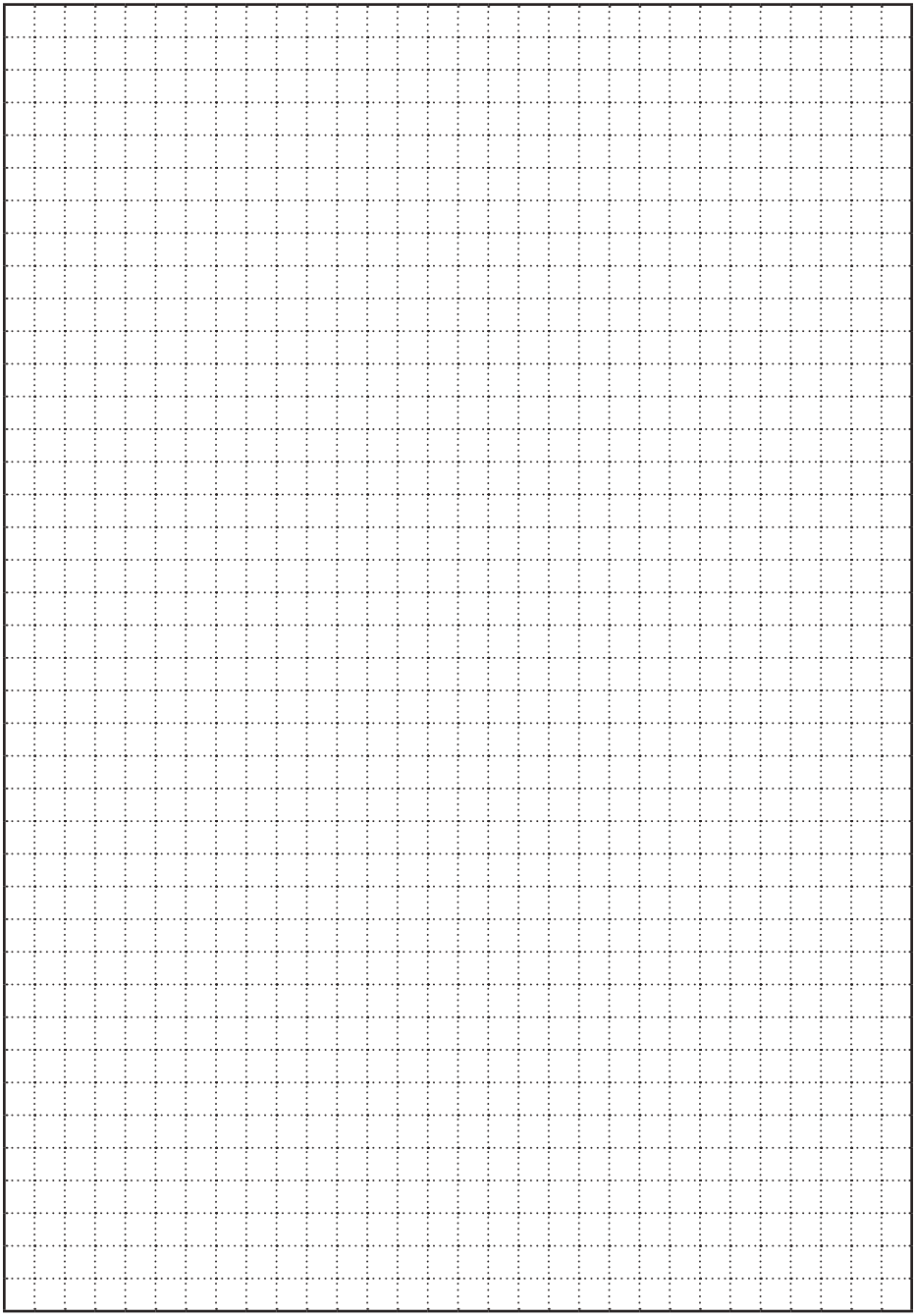


A. Annexe / Apéndice / Appendice / Appendix / Anhang / Bijlage

A.2. Branchement des relais / Conexión de relés / Connessione a relè / Relay connection / Anschließen der Relais / Relaisaansluiting







POOLEX

SPAWER

ICESPA 7

POMPE À CHALEUR POUR SPA

ASSISTANCE TECHNIQUE
TECHNICAL ASSISTANCE
ASISTENCIA TÉCNICA
ASSISTENZA TECNICA
TECHNISCHER KUNDENDIENST
TECHNISCHE BIJSTAND

07-2024

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