Poolstar
Source d'innovation

POOLEX
SPA LINE
POMPE À CHALEUR POUR SPA

FULL INVERTER

EVI TECHNOLOGY

- 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

www.poolstar.fr

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 swimming pool. 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.

CONTENTS

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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 pool 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 swimming pools 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.

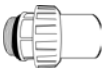
Your hot tub must be correctly insulated to enable the SPA-LINE heat pump to function in an optimal way.

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

2.2 Package contents

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

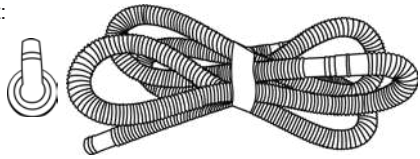
- ✓ A Poolex heat pump
- ✓ 2x 1"1/2 (inch) to D48.3 mm hydraulic connections



- ✓ 3.5M power cord with EU plug
- ✓ Extra 3M signal wire for display
- ✓ 1x spa heater control relay
- ✓ 4x anti-vibration pads (without mounting on the heat pump)
- ✓ Drainage kit
- ✓ This installation and operation manual

Relay:

Drainage kit:



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. DESCRIPTION

2.4 Technical characteristics

		SPA-LINE
Air [1] 26°C Water [2] 26°C	Heating power (kW)	2.70~7.12
	Consumption (kW)	0.19~1.15
	COP (Coeff. of performance)	**14.21~6.19**
Air [1] 15°C Water [2] 26°C	Heating power (kW)	2.00~5.33
	Consumption (kW)	0.27~1.13
	COP (Coeff. of performance)	**7.41~4.72**
Air [1] 15°C Water [2] 38°C	Heating power (kW)	1.85~5.67
	Consumption (kW)	0.31~1.64
	COP (Coeff. of performance)	**5.97~3.46**
Air [1] 26°C Water [2] 38°C	Heating power (kW)	2.40~6.99
	Consumption (kW)	0.33~1.50
	COP (Coeff. of performance)	**7.27~4.66**
Air [1] -10°C Water [2] 38°C	Heating power (kW)	1.26~3.02
	Consumption (kW)	0.39~1.45
	COP (Coeff. of performance)	**3.23~2.08**
Air [1] 35°C Water [2] 27°C	Cooling capacity (kW)	1.47~2.11
	Consumption (kW)	0.31~0.70
	EER	**4.74~3.01**
Power supply		Single phase 220-240V ~ 50Hz
Maximum power (kW)		2,2
Maximum current (A)		7,7
Heating temperature range		15°C ~ 40°C
Cooling temperature range		7 °C ~ 35 °C
Operating ambient temperature range		-25°C ~ 43°C
Unit dimensions L x W x H (mm)		626 x 464 x 476
Unit weight (kg)		37
Sound pressure level at 1m (dBA)		< 51
Sound pressure level at 4m (dBA)		< 36
Sound pressure level at 10m (dBA) [3]		< 32
Hydraulic connections (mm)		φ48.3
Heat exchanger		Titanium heating coil
Min. water flow rate (m^3/h)		3,0
Compressor brand		GMCC
Compressor type		Rotary
Refrigerant		R32
Refrigerant volume (g)		480
Minimum pressure (MPa)		0,12
Maximum pressure (MPa)		4,4
Protection rating		IPX4
Load loss (mCE)		1,2
Control panel		LCD 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

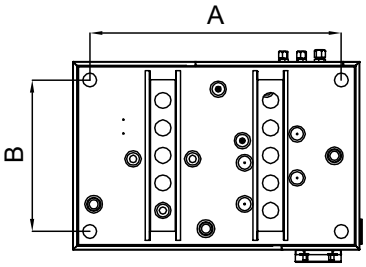
[2] Initial water temperature

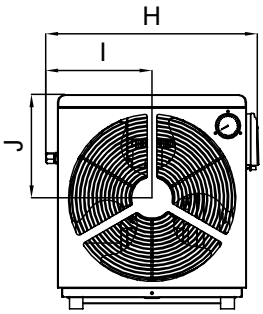
[3] Noise level at a distance of 10 m in accordance with international standards EN ISO 3741 and EN ISO 354

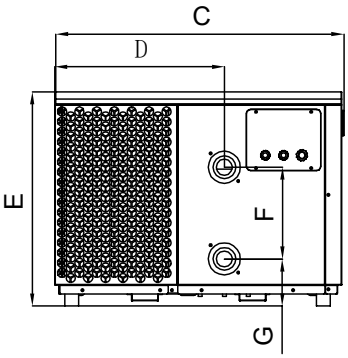
2. DESCRIPTION

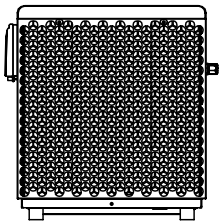
2.5 Product dimensions

Dimensions in mm

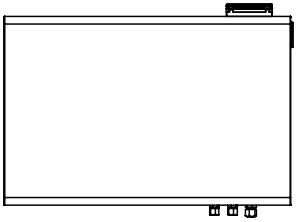


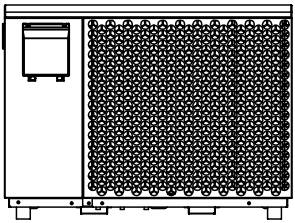






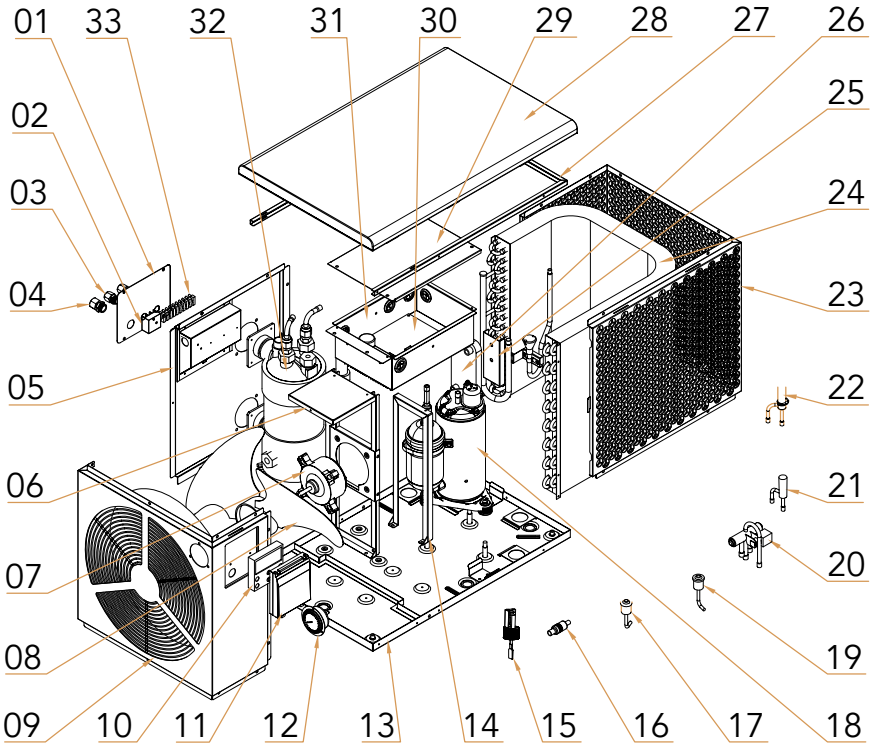
SPA-LINE	
A	549
B	330
C	626
D	370
E	476
F	200
G	103
H	464
I	232
J	256





2. DESCRIPTION

2.6 Exploded view



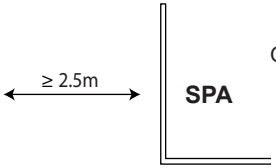
1. Junction Box Cover
2. 3-position Terminal Board
3. PG9 Connector
4. PG13.5 Connector
5. Side Plate
6. Motor Support
7. DC Fan Motor
8. Fan Blade
9. Front Plate
10. Wired Controller
11. Wired Controller Box
12. Pressure Gauge
13. Chassis
14. Electrical Box Support
15. Water Flow Switch
16. Filter
17. High Pressure Switch
18. Compressor
19. Low Pressure Switch
20. 4-way Valve
21. Main EEV
22. Enthalpy Increasing EEV
23. Back Plate
24. Fin Heat Exchanger
25. Fixed Bracket for Plate Heat Exchanger
26. Plate Heat Exchanger
27. Top Frame Structure
28. Top Cover
29. Electrical Box Cover
30. Main Board
31. Electrical Box
32. Titanium Heat Exchanger
33. 10-positionTerminal Board

3. INSTALLATION

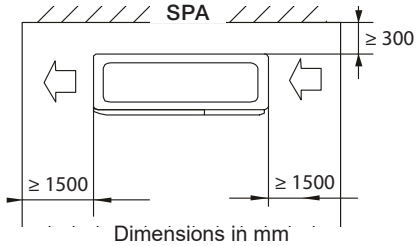
To install the heat pump the hydraulic circuit and the power need to be connected.

3.1 Location

Standard NF C 15-100 recommends installing the heat pump at least 2.5 meters from the pool. 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 30 cm of empty space to the sides and rear of the heat pump.



OR



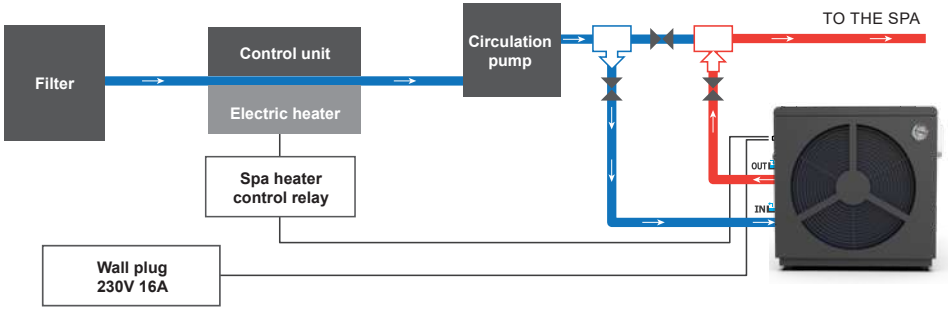
Do not place anything within 1.5m of the front of the heat pump.
Do not place any obstacles on top or in front of the device!
Do not use the heat pump as a step to access the spa.
Do not step on the heat pump.

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.

3.3 Hydraulic connection

Step 1

Screw the connectors for heat pump

Step 2

Connect the water inlet and outlet

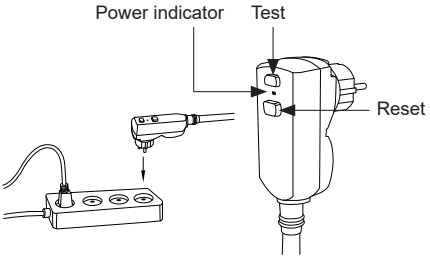
3.4 Electrical connection

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 SPA-LINE heat pump. The power indicator lights up in red: the heat pump is on.



EN

3. INSTALLATION

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.

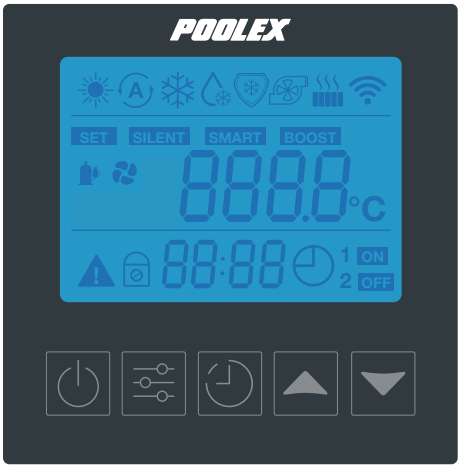
A heated tub must be covered and insulated to avoir any heat loss.

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



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

	Function
	ON/OFF button
	Mode selection button
	Clock button
	UP button
	DOWN button
	Compressor ON
	Fan ON
SET	Parameter

	Function
	Heating mode
	Automatic mode
	Cooling mode
	Defrosting
	Frost protection
	Circulation pump
	Electric Heater
	Wi-Fi
	Errors
	Lock icon
	Time programming
SILENT	Silent mode
SMART	Smart mode
BOOST	Boost mode

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4.2 Unlocking

If the unit goes 60 seconds without any input operation, the controller screen enters a sleep state, the screen locks automatically and the icon lights up.

In the sleep state, click any button to turn the screen on.

Press the button for 3 seconds. The device emits a "beep" and the icon goes out.

4. USE
OF CONTROL PANEL

4.3 Choice of operating mode

Heating mode

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

Cooling mode

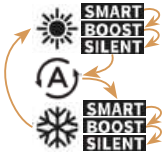
Select heating mode if you want to cool the tub water with the heat pump.

Automatic mode

Select automatic mode if you want the heat pump to switch modes intelligently around the set temperature.

By default, the heat pump is in heating mode. The symbol for the active mode appears at the top of the screen.

To change the operating mode, when the heat pump is on, press the button , the heat pump will then switch to the next mode according to the cycle shown opposite.



Good to know:

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

4.4 Temperature setting

From the main interface, press or . The set temperature appears.

Press or to adjust the value. The icon SET lights up.

When you have set the temperature, press to exit the setting.

The setting range for heating is 15-40°C.

The refrigeration setting range is 7-35°C.

The automatic setting range is 7-40°C.

4.5 Manual defrosting

When the device is on, press for 3s under heating mode to enter forced defrosting.

4.6 Heater and circulation pump

Switch the circulation pump relay to manual mode :

Key + key : long press to start or stop the circulation pump

Switch the heater relay to manual mode:

Key + key : long press to start or stop the heater

4. USE
OF CONTROL PANEL

4.7 Clock setting

1. On the main interface, press the button for 5 seconds to access the clock setting interface. The hours and minutes flash simultaneously.
2. Press the key. The hour flashes. The minutes stop flashing.
3. Press or to set the clock hours.
4. Press the key. The minutes flash. The hours stop flashing.
5. Press or to set the minutes.
6. Press or to confirm the clock setting and return to the main interface.

4.8 Timing on/off setting

1. On the main interface, press the button to access the timing group setting interface. Time programming allows you to schedule two timing groups.
   When you enter the timer setting interface, timing group 1 flashes.
2. Press the button to access the setting of the hourly part of the start time for timing group 1. The hourly part of the start time flashes.
3. Press or to set the start time for timing group 1.
4. Press the key. The start minutes flash.
5. Press or to set the minutes for timing group 1.
6. Press the key to move on to setting the stop time for timing group 1. The setting method is the same as for the start time.
7. When the timing stop time is set, press the key to confirm the setting of the timing stop time for the current group.
8. Press or to enter the timing group 2 setting. The setting method is the same as for timing group 1.

If a timing group is valid, its number is displayed on the main interface.

Within a timing group, if the start time and stop time are identical, the group is invalid.

On the timing interface, if no key is pressed for 30 seconds, the current time setting is automatically validated and the screen returns to the main interface.

From the timing interface, press to confirm the current time setting and return to the main interface.

Timing group 1 → 1 ON ← Starting time
Timing group 2 → 2 OFF ← Shutdown time

4.9 Status query

Press the key ▲ for 3s to view the status values.

Press the keys ▲ and ▼ to move up and down the page.

List of the unit's temperature status

No.	Description	Comment
T1	Exhauset temperature	
T2	Suction temperature	
T3	Water inlet temperature	
T4	Water outlet temperature	
T5	Heating coil temperature	
T6	Ambient temperature	
T7	IPM temperature	
T8	Cooling coil temperature	
Ft	Target frequency	
Fr	Actual frequency	
1F	Main EEV opening	
2F	Auxiliary EEV opening	
od	Operation mode	1 : cooling ; 4 : heating
Pr	Fan speed	
dF	Defrosting state	
OIL	Oil recovery state	
r2	Chassis electric heater state	
STF	Four-way valve switch	
Pu	Water pump state	
dcU	DC bus voltage	
dcC	Compressor current (A)	
AcU	Input voltage	
AcC	Input current	
HE1	Failure code history	
HE2	Failure code history	
HE3	Failure code history	
HE4	Failure code history	
Pr	Protocol version	Current version: 10
Sr	Software version	Current version: 10

4.10 User parameter

1. From the main interface, press the key for 3 seconds to access the user parameters consultation interface.
   Press or to view each parameter.
2. From the user parameters consultation interface, select a parameter and press to access the adjustment interface for that user parameter. SET flashes.
3. Press or to change the value of the current user parameter, then press to confirm the change and return to the parameter view.

Note: SET does not flash in query mode; SET flashes in set mode.

If no key is pressed for 30 seconds while viewing or setting user parameters, the modified parameter value is automatically saved and the screen returns to the main interface.

List of user settings

No.	Description	Adjustment range	Default V.
L0	Setting value of heating	15°C~40°C	38°C
L1	Temperature difference to start heating	1°C~5°C	3°C
L2	Temperature difference to stop heating	0°C~5°C	1°C
L3	Setting value of cooling	7°C~35°C	26°C
L4	Temperature difference to start cooling	1°C~5°C	2°C
L5	Temperature difference to stop cooling	0°C~5°C	1°C
L6	Setting value of auto mode	7°C~40°C	38°C
L7	Temperature difference to start for AUTO mode	1°C~5°C	2°C
L8	Circulation pump relay activation	0 (deactivated) /1 (activated)	0
L9	Water pump startup interval when the machine standby	30-90 min	60 min
L10	E-heater relay activation	0 (deactivated) /1 (activated)	1
L11	Ambient temperature to start the e-heater	0°C~25°C	5°C
L12	Temperature difference to start the e-heater automatically	1°C~5°C	5°C
L13	Temperature difference to start the e-heater manually	1°C~5°C	2°C

4.11 Factory settings

Contact your after-sales service: changing the factory settings without authorisation from the after-sales service will invalidate the warranty.

WARNING : This operation is used to assist servicing and future repairs. The default settings should only be modified by an experienced professional person.
Unauthorized modification of factory settings may invalidate the warranty.

Factory parameter view and setting

To view the advanced settings, press and hold down the keys for 3 seconds, then enter your password to continue:

- Press , or to change the value of the corresponding password: or to change the value of each digit; to move from one unit to another.
- To access the advanced settings, enter the password 1688 and then press to confirm the password.
- When the appliance is off, **if you have been authorised to change a parameter:**
  - Press and for 3 seconds,
  - Enter the password provided by the After-Sales Service, then press to confirm.
  - Change only the parameter indicated by the after-sales service, then press to confirm.
- Press or to navigate to the advanced settings.
- Select a parameter and press to modify it. The icon SET starts flashing. Press or to change the value of the parameter, then press to confirm and return to viewing the parameter.
- If no key is pressed for 30 seconds, the modified parameter value is automatically saved and the screen returns to the main interface. To return to the main interface manually, press the button .

Reset the system

When the device is off, press , and for 3 seconds to restore factory setting.

Operation of the distribution network / wifi

Default distribution network: press and for 3 seconds to enter the default distribution network. The icon will start flashing.

Compatible distribution network: press and hold for 3 seconds to enter the compatible distribution network. The icon will start flashing slowly.

Pairing allows you to control your heat pump from a remote control application. This procedure is described in more detail in part 6.

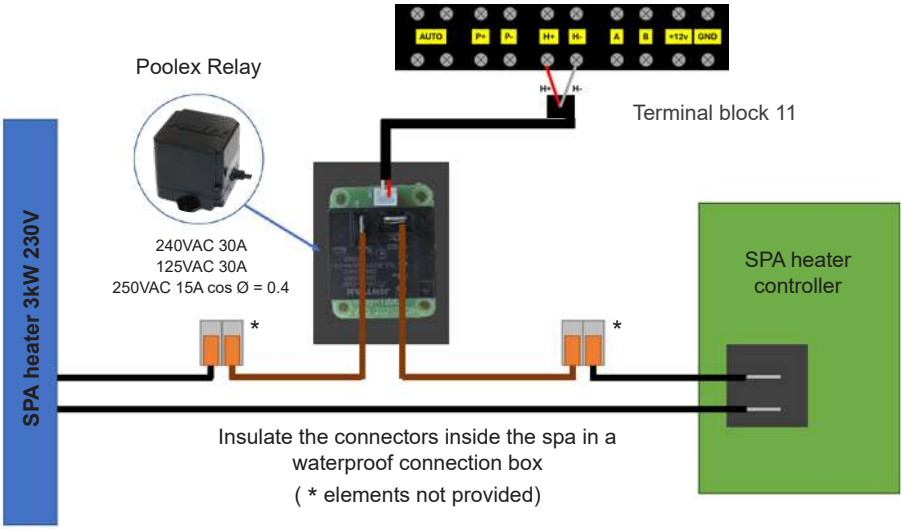
4. USE
OF CONTROL PANEL

Factory settings list

No.	Description	Adjustment range	Default V.
H0	Cumulative heating run time set value	1~120 min	45min
H1	Maximum setting value of defrosting time	1~25 min	8min
H2	Temperature to exit defrosting	1°C~25°C	8°C
H3	Temperature for entering defrosting 1	-20°C~20°C	-5°C
H4	Temperature for entering defrosting 2	-20°C~20°C	-5°C
H5	Temperature for entering defrosting 3	-20°C~20°C	-8°C
H6	Temperature for entering defrosting 4	-20°C~20°C	-10°C
H7	Temperature difference to enter defrosting 1	-20°C~20°C	-10°C
H8	Temperature difference to enter defrosting 2	-20°C~20°C	-10°C
H9	Temperature difference to enter defrosting 3	-20°C~20°C	-9°C
H10	Temperature difference to enter defrosting 4	-20°C~20°C	-9°C
H11	Temperature difference to enter defrosting 5	-20°C~20°C	-9°C
P0	The maximum compressor frequency when heating	30~100 Hz	80 Hz
P1	The minimum compressor frequency when heating	30~60 Hz	30 Hz
P2	The maximum compressor frequency when cooling	30~100 Hz	50 Hz
P3	The minimum compressor frequency when cooling	30~60 Hz	30 Hz
P4	The maximum opening of main EEV	40~480 P	480 P
P5	The minimum opening of main EEV	40~480 P	44 P
P6	The maximum opening of auxiliary EEV	40~480 P	480 P
P7	The minimum opening of auxiliary EEV	40~480 P	80 P
P8	Temperature for opening enthalpy-increasing solenoid valve	-25°C~25°C	12°C
P9	Frequency for opening enthalpy-increasing solenoid valve	30~100 Hz	50 Hz
P12	Heating target superheat (ambient T° > 5°C)	-5°C~5°C	2°C
P13	Exhaust temp. value for high-frequency adjustment	40°C~100°C	100°C
P14	Target high-frequency superheat for EVI system	-5°C~5°C	5°C
P15	Target low-frequency superheat for EVI system	-5°C~5°C	2°C
P16	EVI system superheat regulation cycle	30s~200s	60s
P17	Compressor running time required to open solenoid valve	5~30 min	5 min
P21	Upper ceiling of enthalpy electron expansion valve	70°C~90°C	85°C
P22	Lower exhaust of enthalpy electron expansion valve	40°C~70°C	70°C
P23	Mode selection	0: heating only, 1: cooling only, 2: heating/cooling, 3: tripple supply	3
P24	Maximum set temperature when heating	30°C~40°C	40°C
P25	Minimum set temperature when heating	5°C~30°C	15°C
P26	Maximum set temperature when cooling	15°C~35°C	35°C
P27	Minimum set temperature when cooling	5°C~30°C	7°C
C0	Test mode	ON:Active; OF:OFF	OF
C1	Manual frequency of compressor in test mode	10~120 Hz	80 Hz
C2	Manual opening of EEV in test mode	60~480 P	250 P
C3	Manual opening of auxiliary EEV in test mode	0~480 P	0 P
C4	Fan speed in test mode(*10 is the real fan speed)	30~200 rpm	90 rpm

5. USE
OF OPTIONAL CONTROL RELAYS

5.1 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 (L11 setting: outside temperature below a specified temperature, adjustable from 0 to 25°C) and the desired bathing temperature is higher than the measured water temperature (L12 setting, adjustable from 1 to 10°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.

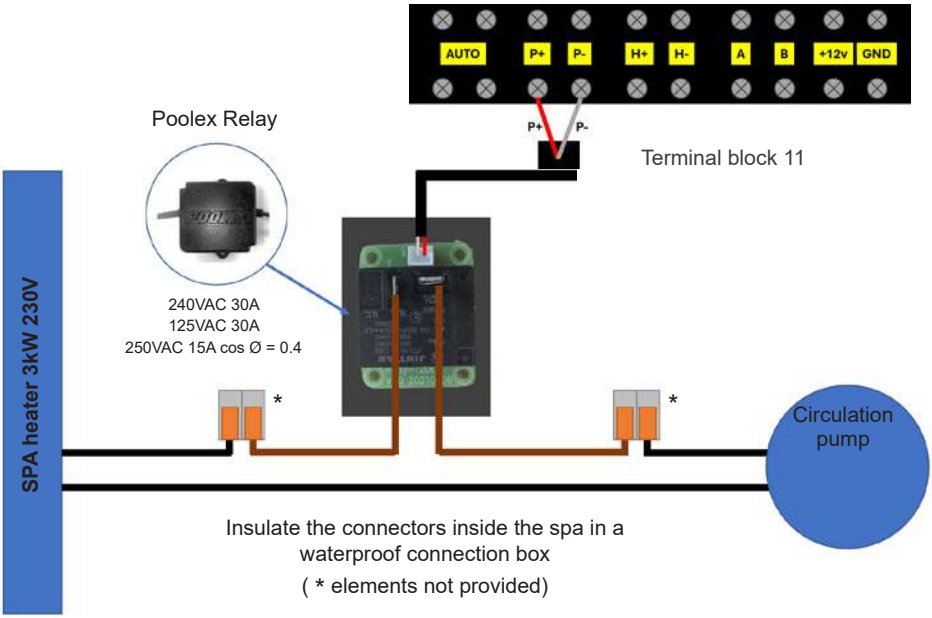
- In manual spa heater mode: Regardless of the weather conditions, as soon as the deviation between setpoint and measured temperature exceeds the set deviation (L13 setting, adjustable from 1 to 10°C), the relay is triggered. Thus the heating uses the electric heater of the SPA in addition to the heat pump in order to reach the desired temperature.

To use this relay:

Setting the **L10** setting = 1 to start the control (see "Modify user settings", page 20).

5. USE
OF OPTIONAL CONTROL RELAYS

5.2 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 minimum flow ranges from 1.2 m³/h to 3 m³/h** (to be determined according to the pump selected).

In automatic mode: The relay activates itself every 60 minutes (timing adjustable between 30 and 90 minutes, L9 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, L9 setting).

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

To use this relay:

Setting the **L8** setting = 1 to start the control (see "Modify user settings", page 20).

Adjusting verification time intervals, L9 setting, if necessary (adjustable from 30 to 90 minutes).

6. USE
VIA MOBILE APPLICATION

6.1 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.

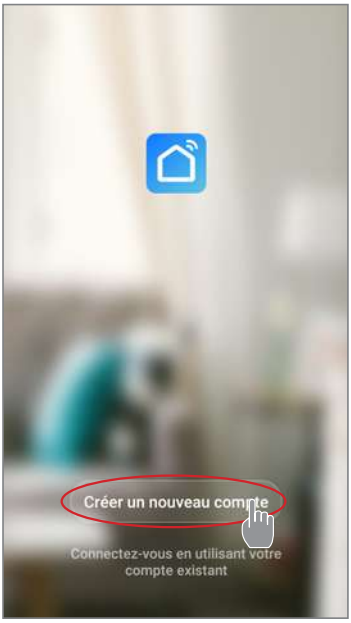
6. USE
VIA MOBILE APPLICATION

6.2 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»**.

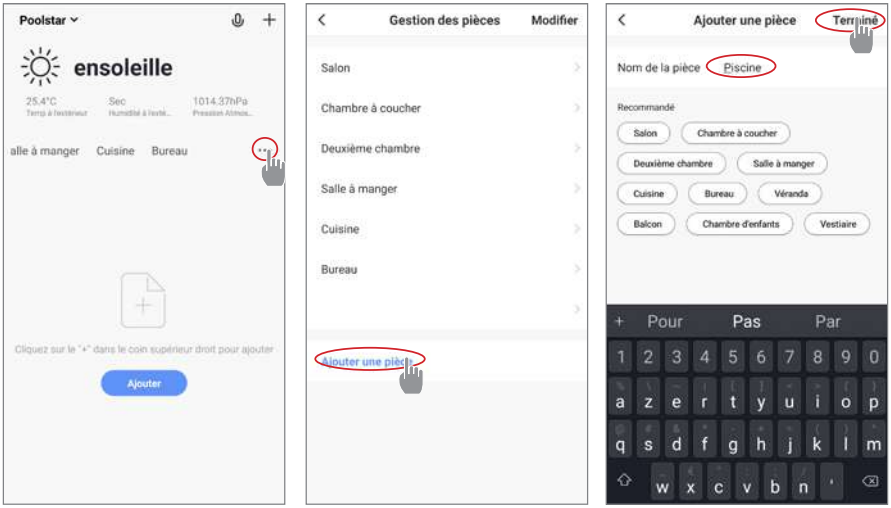


Step 2: Enter the verification code received by email or phone to validate your account.

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

6. USE
VIA MOBILE APPLICATION

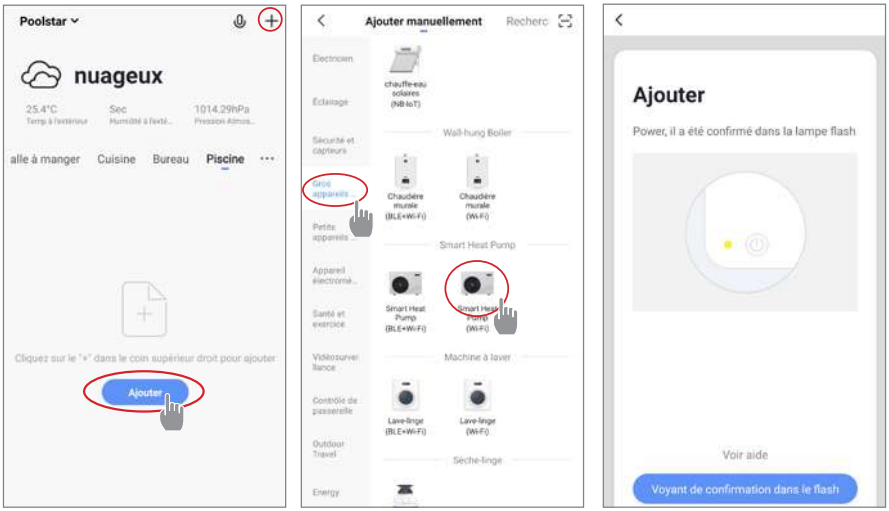
Step 3 (recommended): Add an object by clicking "..." and then "Add Object". Enter a name («Pool» for example), then click "Done".



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.



6.3 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.

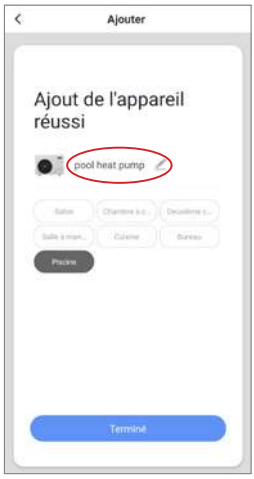
If your WiFi network uses the 5GHz frequency, go to the interface of your home WiFi network to create a second 2.4GHz WiFi network (available for most Internet boxes, routers and WiFi access points).

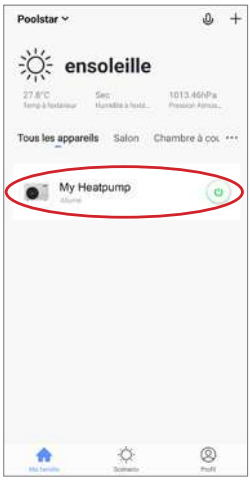
Step 2: Activate the pairing mode on your heat pump.
To do this, see "Activate wifi", page 20.

⚠ **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.





6. USE
VIA MOBILE APPLICATION

6.4 Controlling

1. User interface

1. Current pool 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

2. Heat pump operating mode selector

You can choose among Auto, Heating or Cooling modes.

Available modes

Heating
Cooling
Automatic
BoostHeating
SilentHeating
BoostCooling
SilentCooling

6. USE
VIA MOBILE APPLICATION

3. About the settings

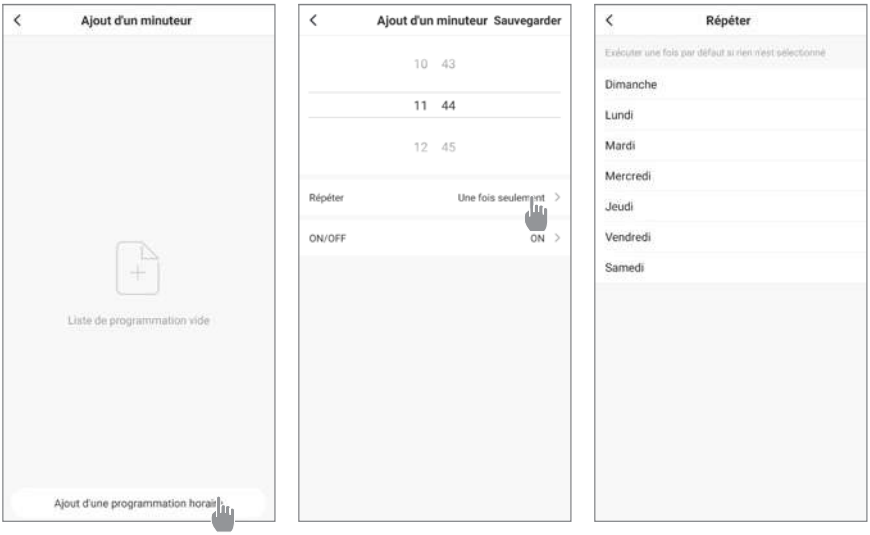
Activating the manual mode (or automatic) for the SPA heater

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

Timer

4. Setting up the heat pump operating range

Step 1: Create a time schedule, choose the time, the day(s) of the week concerned, and the action (switch on or switch off), then save.



Step 2: To delete a time slot, press and hold the time slot.

7. MAINTENANCE AND REPAIRS

7.1 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.

7.2 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.

7. 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.

7.3 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	Anomaly detected	Resolution
E01	Exhaust temperature failure	Check the temperature sensor
E05	Coil temperature failure	Check the temperature sensor
E09	Suction temperature failure	Check the temperature sensor
E18	Water outlet temperature failure	Check the temperature sensor
E19	Water inlet temperature failure	Check the temperature sensor
E21	Controller communication failure	1. Check the wire connection 2. Replace the controller 3. Replace main PCB
E22	Ambient temperature failure	Check the temperature sensor
E25	Water flow protection	Check the water flow
E27	Communication failed between PCB and compressor driver	1. Check the wire connection 2. Replace outdoor PCB 3. Replace the compressor driver
E28	EEPROM communication failure	1. Check the wire connection 2. Replace EEPROM 3. Replace the controller
P02	High pressure protection	1. Check the fan motor 2. Check the water flow 3. Check if the EEV is open
P06	Low pressure protection	
P11	High exhaust temperature protection	1. Check the temperature sensor 2. Check if the fan motor is working correctly when cooling 3. Check the throttling
P15	The temperature difference between water and outlet water is too large	1. Check the temperature sensor 2. Check if the fan motor is working correctly when cooling
P16	Overcooling protection when cooling	
P25	Low ambient temperature protection	1. Check if any resist around the heat pump 2. Check the water flow when cooling

Code	Anomaly detected	Resolution
P26	High / low outlet water temperature protection	1. Check the water flow 2. Check the outlet temperature sensor
P27	High coil temperature protection when cooling	1. Check the fan motor 2. Check for barriers around the evaporator
r01	Compressor over current	1. Check the input voltage 2. Check the water flow 3. Check the throttling 4. Check the heat exchange around the heat pump
r02	Compressor startup failure	Check input voltage
r03	DC fan motor A failure	1. Check the wire connection of fan motor 2. Check if any block of fan motor
r04	DC fan motor B failure	1. Check the wire connection of fan motor 2. Check if any block of fan motor
r05	IPM overheat protection	1. Check the fan motor 2. Replace IPM board/compressor driver
r06	AC input overcurrent protection	Check input power supply
r08	PCB communication failure	1. Check the wire connection 2. Replace PCB 3. Replace compressor driver
r10	DC bus overvoltage	Check input power supply
r11	DC bus undervoltage	Check input power supply
r12	AC input overvoltage failure	Check input power supply
r13	AC input undervoltage failure	Check input power supply
r16	EEPROM failure	1. Replace main PCB 2. Update the software
r23	Compressor phase loss protection	1. Check the input power supply 2. Check the wire connection
r25	Current sampling signal overcurrent protection	1. Check input power supply 2. Check if any resist around the heat pump 3. Check the water flow

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.

7. MAINTENANCE AND REPAIRS

Fault	Analysis	Resolution
High pressure protection	1.Loose wiring or poor connection of high pressure switch 2.There is something wrong with high pressure switch 3.Main board is broken 4. Poor condensing 4.1 Water temperature is too high (over range operation). 4.2 Low water flow 4.2.1 The valve in water system is not open. 4.2.2 Waterway blockage, may appear in the heat exchanger or valve part. 4.2.3 Improper water pump selection 4.2.4 The water pump is broken . 5. Refrigerant system blockage, may appear in the throttle part. 6. Refrigerant system is mixed with air, maybe the vacuum is not enough.	1. Reconnect the wire. 2. Replace the high pressure switch. 3. Replace the main board. 4.1 Operate within the allowable range. 4.2.1 Open the valve. 4.2.2 Clean the blocked part or replace it . 4.2.3 Change the pump according to the water flow and water head. 4.2.4 Replace the water pump. 5. Clean or replace the clogged part. 6. Vacuumize and refill the refrigerant.
Low pressure protection	1. The connection between low pressure switch and main board is poor. 2.There is something wrong with low pressure switch 3. Main board is broken. 4. Poor evaporation effect 4.1 Improper installation position. 4.2 Dust, foreign body blockage on the fin heat exchanger, etc. 4.3 Low ambient temperature. 4.4 Fan failure causes abnormal air inlet 5.Refrigerant road blockage, may appear in the throttle part 6.Leakage happen,and refrigerant is not enough .	1. Reconnect the low pressure switch cable 2. Replace the low pressure switch. 3. Replace the main board. 4.1 Readjust the position, the distance of the heat pump from the wall should not be too close. 4.2 Clean up the dust and dirty matter on the fin heat exchanger. 4.3 Operate within the allowable ambient temp. range. 4.4 Replace the fan 5. Replace the blocked part. 6. Repair the leakage, and refill the refrigerant according to the namePanel.
Water flow protection	1. The connection between water flow switch and main board is poor. 2. The water flow switch is installed wrong. 3. Water flow switch failure. 4. Main board failure. 5. Low water flow 5.1 The water system is blocked. 5.2 Water pump is not suitable 5.3 Water pipe is small 5.4 The water flow switch is stuck and cannot be reset. 6. No water flow 6.1 The valve is not open. 6.2 The water pump is not working. 6.3 Water pump failure.	1. Reconnect the water flow switch cable 2. Install the water flow switch in the correct way. 3. Need to replace the water flow switch 4. Need to replace the motherboard 5.1 Clean or replace the blocked part. 5.2 Change the pump according to the water flow and water head. 5.3 Need to change the water pipe. 5.4 Reset the water flow switch manually. 6.1 Open the valve. 6.2 Turn on the pump. 6.3 Need to replace the water pump.

7. MAINTENANCE AND REPAIRS

Fault	Analysis	Resolution
High exhaust temperature protection	1.Temp.sensor fault. 2.Water flow switch fault 3.Leakage happen,and refrigerant is not enough . 4.Low water flow 4.1 The water system is blocked. 4.2 Water pump is not suitable 4.3 Water pipe is small 4.4 The water flow switch is stuck and cannot be reset. 5. No water flow 5.1 The valve is not open. 5.2 The water pump is not working. 5.3 Water pump is broken .	1.Need to replace the temp.sensor. 2.Need to replace the water flow switch. 3.Repair the leakage,and refill the refrigerant according to the nameplate. 4.1Clean or replace the blocked part. 4.2 Change the pump according to the water flow and water head. 4.3 Need to change the water pipe. 4.4 Reset the water flow switch manually. 5.1 Open the valve. 5.2 Turn on the pump. 5.3 Need to replace the water pump.
Over-current protection	1.Poor condensing 1.1 Water temp. is too high (over range operation). 1.2 Low water flow 1.2.1 The valve in water system is not open. 1.2.2 Waterway blockage, may appear in the heat exchanger or valve part. 1.2.3 Improper water pump selection 1.2.4 The water pump is broken . 2.Refrigerant system is mixed with air, maybe the vacuum is not enough. 3.The valve is blocked. 4.The valve opening steps not enough. 5.Excessive refrigerant. 6.The fan is blocked.	1.1 Operate within the allowable range. 1.2.1 Open the valve. 1.2.2 Clean the blocked part or replace it . 1.2.3 Change the pump according to the water flow and water head. 1.2.4 Replace the water pump. 2. Vacuumize and refill the refrigerant according to the nameplate. 3. Clean or replace the valve. 4. Turn the valve up appropriately. 5. Bleed out the refrigerant and refill the refrigerant according to the nameplate. 6. Clean out the blockage from the fan or replace the fan.
Sensor fault	1. The connection between the temp. sensor and the main board is poor. 2. Temp. sensor fault. 3.The sensor resistance on the main board fault.	1.Reconnect the temp.sensor cable. 2.Replace the temp.sensor. 3.Replace the main board.
Communication fault	1.The connection between wire controller and main board is poor. 2.Wire controller fault. 3. Main board fault. 4. Communication wire and strong electricity wire put together, resulting in power interference communication	1. Reconnect the wire controller cable. 2. Replace the wire controller. 3. Replace the main board. 4. Communication wire is placed separately from the strong electricity wire.

7. MAINTENANCE AND REPAIRS

Fault	Analysis	Resolution
Anti-freeze protection	1. Low ambient temp. running. 2. Low water temp.	1. When the ambient temp. is ≥ 2°C, exit the anti-freeze state. 2.When the inlet water temp. > 15°C, exit the anti-freeze state.
High temp.difference between inlet and outlet water protection	1.Inlet and outlet water temp. sensor fault. 2. Low water flow 2.1 The valve in water system is not open. 2.2 Waterway blockage, may appear in the heat exchanger or valve part. 2.3 Improper water pump selection 2.4 The water pump is broken . 2.5 Pipe size is too small. 3. Heat exchanger is fouling.	1. Need to replace the temp. sensor. 2.1Clean or replace the blocked part. 2.2 Change the pump according to the water flow and water head. 2.3 Need to change the water pipe. 2.4 Reset the water flow switch manually. 2.5 Choose the suitable pipe size. 3.Clean the dirt of the heat exchanger surface.

8. WARRANTY

8.1 General terms and conditions of warranty

Poolstar guarantees the original owner against material defects and manufacturing defects of Poolex heat pump SPA-LINE 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 swimming pool.
- 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:

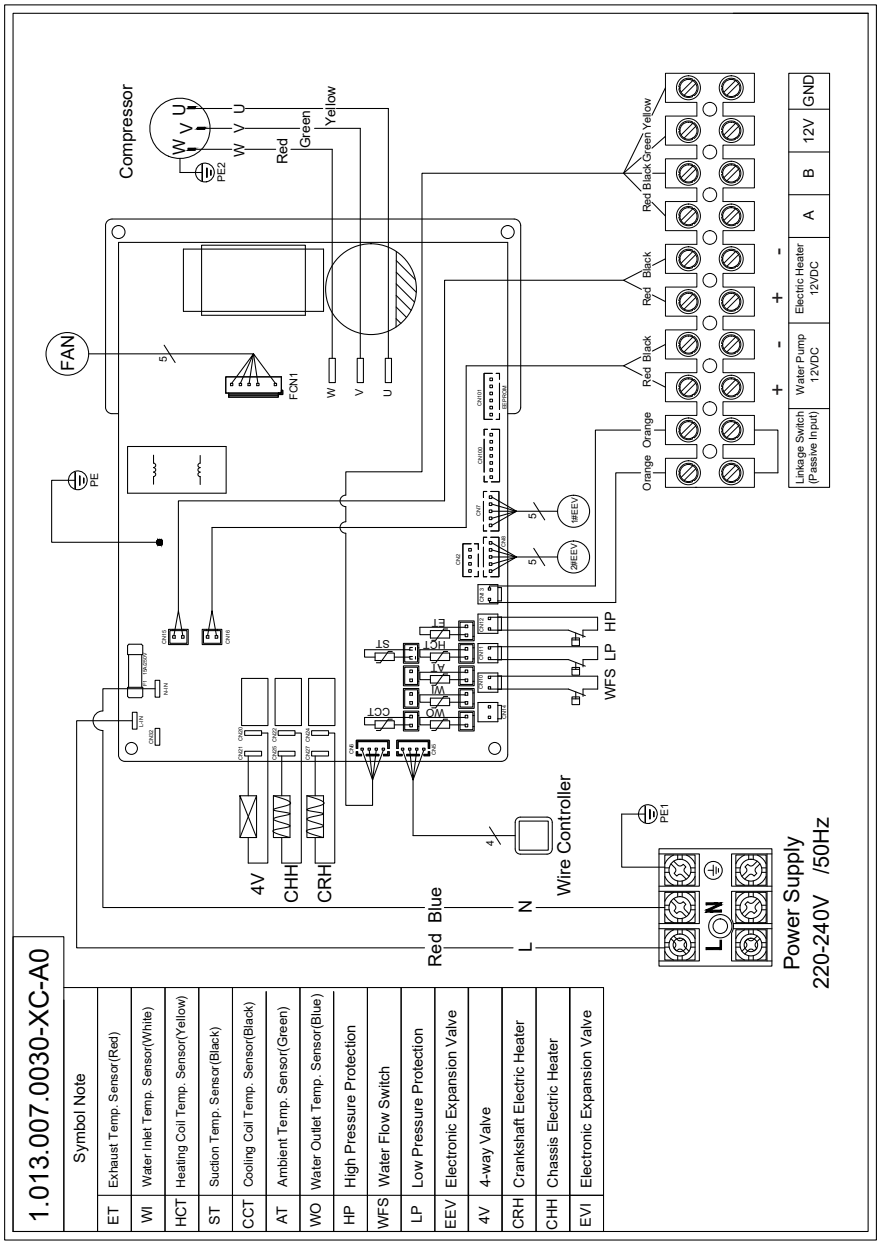
https://assistance.poolstar.fr/

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.

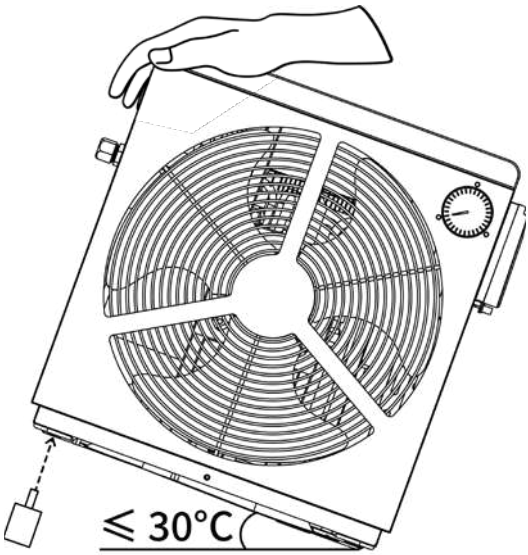
A. Annexe / Apéndice / Appendice / Appendix / Anhang / Bijlage

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



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

A.2. Schéma d'installation des pieds en caoutchouc / Installation of rubber feet diagram / Diagrama de instalación de los pies de goma / Schema di montaggio dei piedini in gomma / Schema für die Montage der Gummifüße / Installatie van rubberen voetjes



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