

**POOLEX**

ARTICLINE **FI**



**INSTALLATION AND OPERATION MANUAL**  
for your heat pump

# 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 be 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](http://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 not 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.

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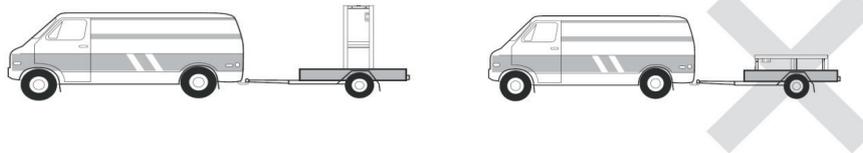
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# 1. General

## 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 device (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.

# 1. General

## ***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 flow rate of the water every month and clean the filter if necessary.

## ***When cleaning***

Switch off the power supply to the device.

Close the water inlet and outlet valves.

Do not place anything in the openings of the water or air inlets/outlets.

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.

When pressure-testing to detect leaks:

Never use oxygen or dry air as there is a risk of fire or explosion.

Use dehydrated nitrogen or a mixture of nitrogen and refrigerant.

The low and high side test pressure must not exceed 42 bar.

## **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 6.9 and 8.0.**

# 2. Description

## 2.1 Package contents

- ✓ Poolex Articlina Fi heat pump
- ✓ 2 hydraulic inlet/outlet connectors 1"1/2 threaded and union D50
- ✓ Extension cable (10m) for remote control panel
- ✓ This installation and operation manual
- ✓ Condensate discharge pipe
- ✓ Winter cover
- ✓ 4 anti-vibration pads (fastenings not supplied)

## 2.2 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 remote control.
- ◆ Designed to be silent.
- ◆ LEDs for quick status indication
- ◆ Dual antifreeze system to avoid frost damage:
  - Revolutionary exchanger with patented antifreeze system,
  - A smart monitoring system to preserve the pipework and liner without emptying the pool in winter.
- ◆ CE certification and complies with the RoHS European directive.

## 2. Description

### 2.3 Technical characteristics

Testing conditions		Poolux Articlina Fi	
		155	
Air <sup>(1)</sup> 26°C Water <sup>(2)</sup> 26°C	Heating capacity (kW)	20.01~3.95	
	Consumption (kW)	3.38~0.286	
	<b>COP (Coeff. of performance)</b>	<b>13.81~5.92</b>	
Air <sup>(1)</sup> 15°C Water <sup>(2)</sup> 26°C	Heating capacity (kW)	15.53~2.95	
	Consumption (kW)	3.12~0.439	
	<b>COP (Coeff. of performance)</b>	<b>6.72~4.97</b>	
Air <sup>(1)</sup> -25°C Water <sup>(2)</sup> 26°C	Heating capacity (kW)	6.95~2.35	
	Consumption (kW)	3.05~0.505	
	<b>COP (Coeff. of performance)</b>	<b>4.65~2.28</b>	
Air <sup>(1)</sup> 35°C Water <sup>(2)</sup> 27°C	Cooling capacity (kW)	10.01~3.39	
	Consumption (kW)	2.95~0.646	
	<b>EER (Coeff. of performance)</b>	<b>5.25~3.39</b>	
Max. power (kW)		3.5	
Max. current (A)		15.53	
Power supply		220-240V 50/60 Hz	
Protection		IPX4	
Heating temperature range		15°C~40°C	
Cooling temperature range		8°C~28°C	
Operation temperature range		-25°C~43°C	
Unit dimensions L x W x H (mm)		1116 x 434 x 710	
Unit weight (kg)		77	
Sound pressure level à 1m (dBA) <sup>(3)</sup>		39~50	
Sound pressure level à 10m (dBA) <sup>(3)</sup>		19~30	
Hydraulic connections (mm)		PVC 50 mm	
Heat exchanger		PVC tank and titanium heating coil	
Max water flow rate (m <sup>3</sup> /h)		6.4	
Compressor make		GMCC	
Compressor type		Twin Rotary	
Refrigerant		R32	
Refrigerant volume		1350 g	
Load loss (mCE)		1.1	
Max. pool volume (m <sup>3</sup> ) <sup>(4)</sup>		80	
Remote control		Wired digital display control	
Mode		Eco Booster & Eco Silence (Inverter) / 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.

<sup>1</sup> Ambient air temperature

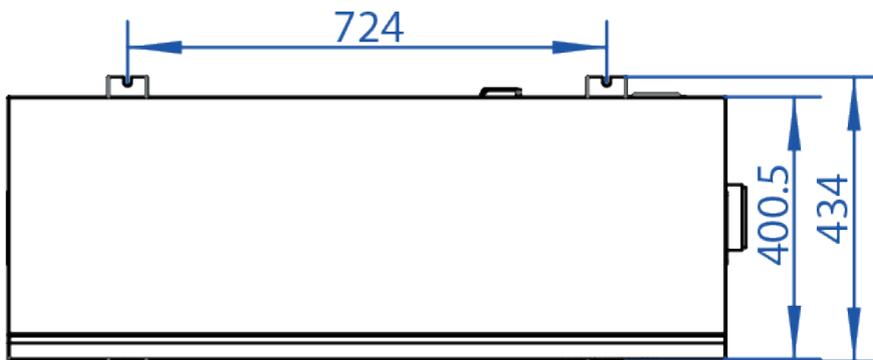
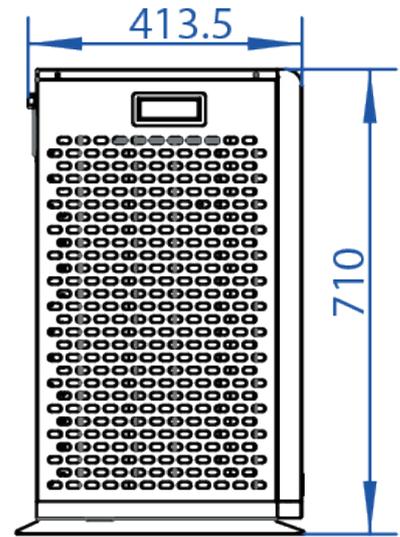
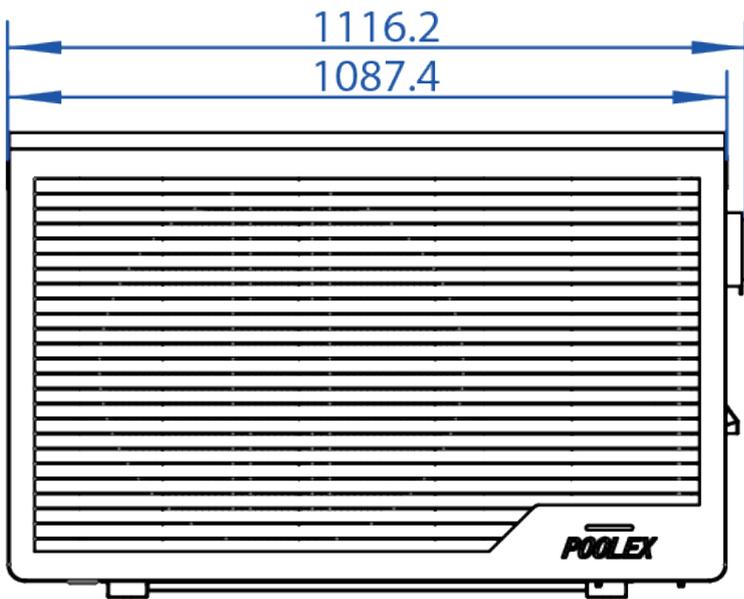
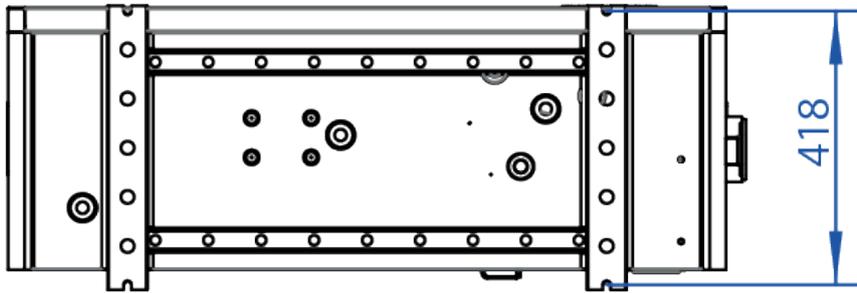
<sup>2</sup> Initial water temperature

<sup>3</sup> Noise level at 1 m and 10 m in accordance with international standards EN ISO 3741 and EN ISO 354 and according to the selected operating mode

<sup>4</sup> Calculated for an in-ground private swimming pool covered with a bubble cover in Metropolitan France

# 2. Description

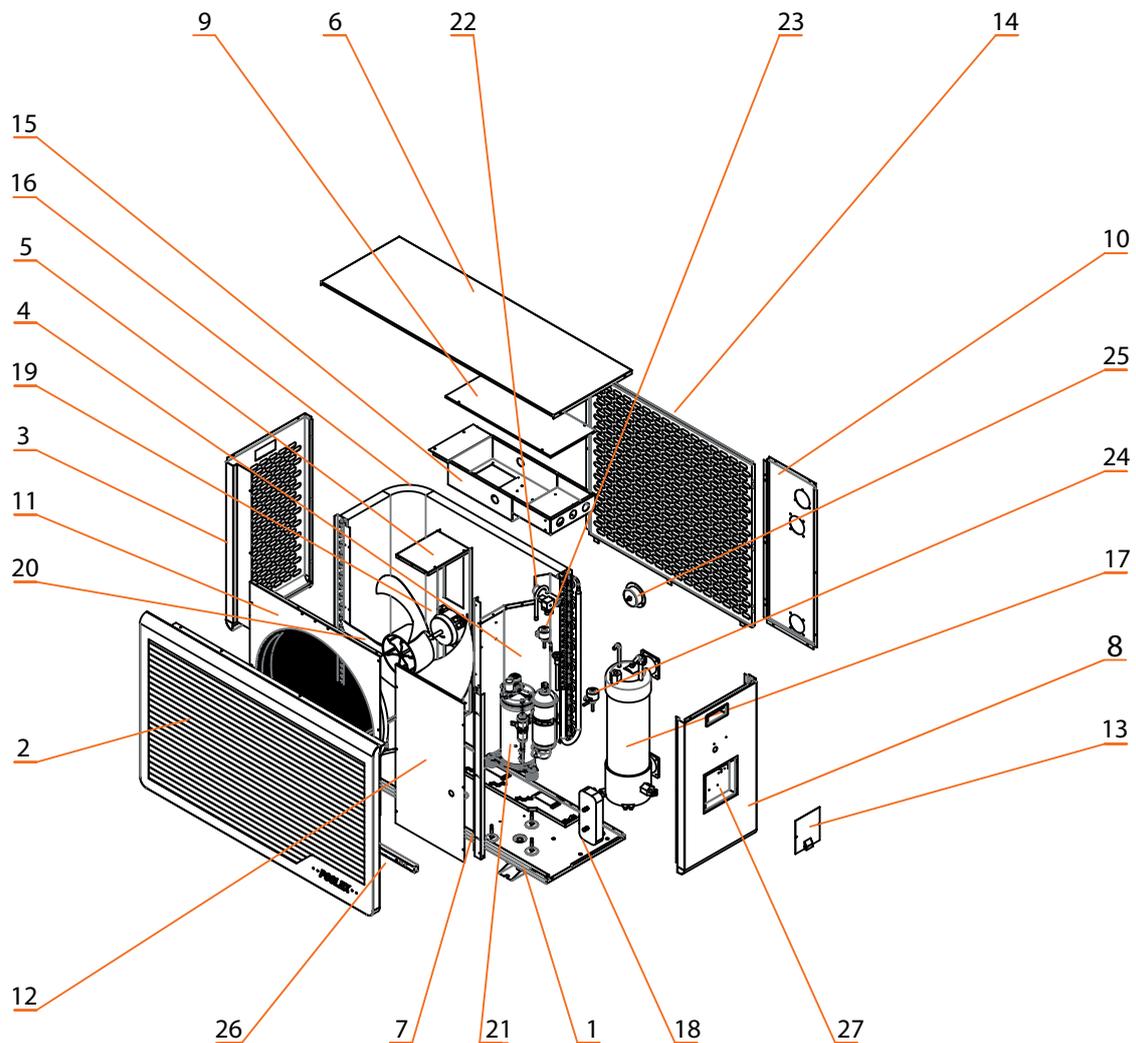
## 2.4 Product dimensions



Dimensions in mm

# 2. Description

## 2.5 Exploded view



- |                          |                             |
|--------------------------|-----------------------------|
| 1. Base                  | 15. Electrical elements     |
| 2. Front panel 1         | 16. Evaporator              |
| 3. Left panel            | 17. Titanium heat exchanger |
| 4. Separation panel      | 18. EVI                     |
| 5. Fan motor mount       | 19. Fan motor               |
| 6. Cover                 | 20. Ventilator blades       |
| 7. Right side panel      | 21. Compressor              |
| 8. Right panel           | 22. 4-way valves            |
| 9. Electrical box cover  | 23. EEV 1                   |
| 10. Rear panel           | 24. EEV 2                   |
| 11. Front panel 2        | 25. Pressure gauge          |
| 12. Maintenance panel    | 26. LED                     |
| 13. Connection box cover | 27. Connection box          |
| 14. Rear grid            |                             |

# 3. Installation



**WARNING: Installation must be performed by a qualified professional.**

This section is provided for information purposes only and must be checked and adapted if necessary according to the actual installation conditions.

## 3.1 Prerequisite

### Equipment necessary for the installation of your heat pump:

- ✓ Power supply cable suitable for the unit's power requirements.
- ✓ A *By-Pass* kit and an assembly of PVC tubing suitable for your installation.
- ✓ Stripper, PVC adhesive and sandpaper.
- ✓ 4 wall plugs and 4 expansion screws suitable to attach the unit to your support.

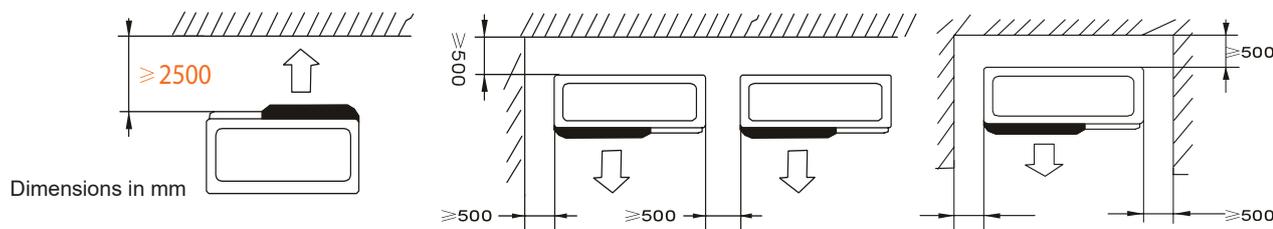
We recommend that you connect the unit to your installation by means of flexible PVC pipes in order to reduce the transmission of vibrations.

Suitable fastening studs may be used to raise the unit.

## 3.2 Location

### 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. A water drainage device must be provided close to the unit in order to protect the area where it is installed.
4. If necessary, the unit may be raised by using suitable mounting pads designed to support its weight.
5. 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.
6. 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.
7. Do not install the device near to roads or footpaths to avoid mud splattering.
8. To avoid disturbing neighbours, make sure to install the device facing away from areas sensitive to noise.
9. Keep out of the reach of children insofar as possible.

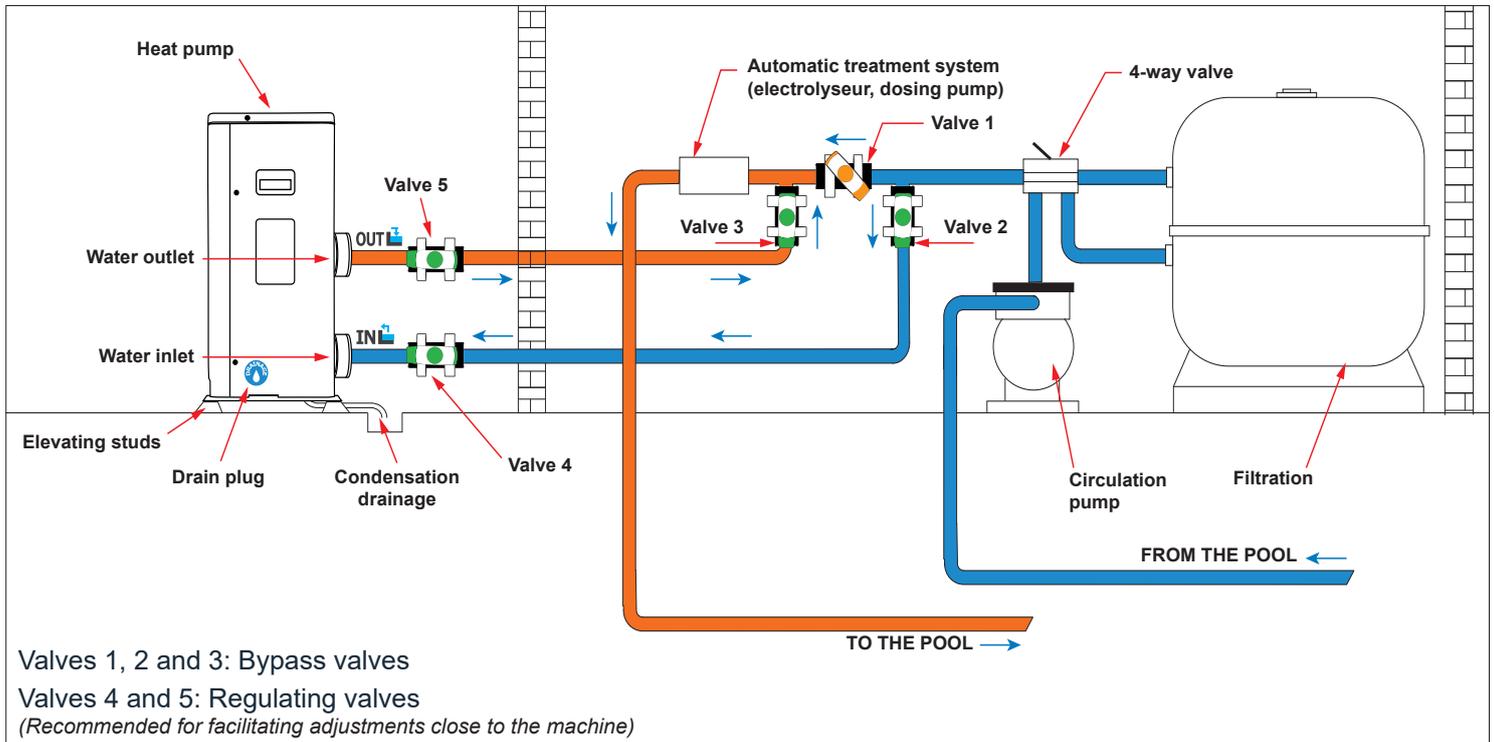


Do not place anything within 2.5m of the front of the heat pump.  
Leave a free space of 50 cm all around the heat pump.

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

# 3. Installation

## 3.3 Installation diagram



Caption



Half-open valve



Open valve

## 3.4 Connecting the condensation draining kit

While operating, the heat pump is subject to a condensation phenomenon. This will result in a more or less large run-off of water, depending on the degree of humidity. To channel this flow, we recommend that you install the condensation drainage kit.

*How do you install the condensation drainage kit?*

Install the heat pump, raising it at least 10 cm with solid water-resistant pads, then connect the drainage pipe to the opening located under the pump.

## 3.5 Installing the equipment on silencing supports

In order to minimise the noise pollution associated with heat pump vibrations, it can be positioned on vibration absorbing pads.

To do this, you simply have to position a pad between each of the unit's feet and its support, and then fix the heat pump to the support with suitable screws.

# 3. Installation



**WARNING: Installation must be performed by a qualified professional.**

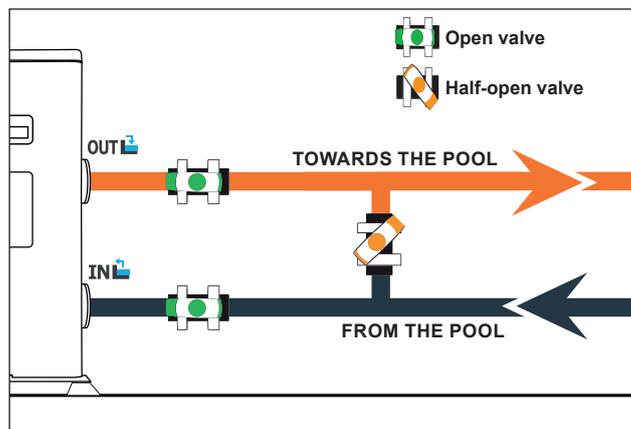
This section is provided for information purposes only and must be checked and adapted if necessary according to the actual installation conditions.

## 3.6 Hydraulic connections

### By-Pass assembly

The heat pump must be connected to the pool by means of a By-Pass assembly.

A By-Pass is an assembly consisting of 3 valves that regulate the flow circulating in the heat pump. During maintenance operations, the By-Pass permits the heat pump to be isolated from the system without interrupting your installation.



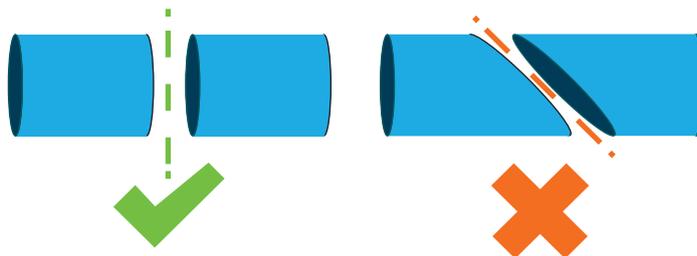
### Hydraulic connection with the By-Pass kit



**WARNING: Do not run any water through the hydraulic circuit for at least 2 hours following assembly.**

Step 1: Take the necessary measurements to cut your pipes.

Step 2: Make a straight perpendicular cut through the PVC pipes with a saw.



Step 3: Assemble your hydraulic circuit without connecting it in order to check that it perfectly fits your installation, then dismantle the pipes to be connected.

Step 4: Chamfer the ends of the cut pipes with sandpaper.

Step 5: Apply stripper to the ends of the pipes to be connected.

Step 6: Apply glue in the same place.

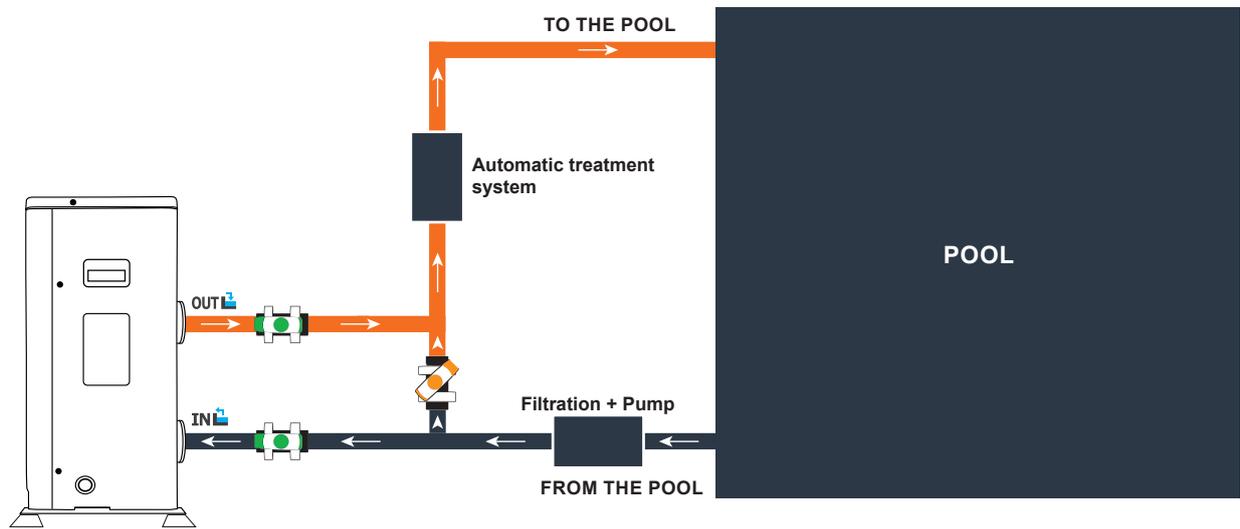
Step 7: Assemble the pipes.

Step 8: Clean off any glue remaining on the PVC.

Step 9: Leave to dry for at least 2 hours before putting the hydraulic circuit into water.

# 3. Installation

## By-Pass assembly for one heat pump



*Caption*

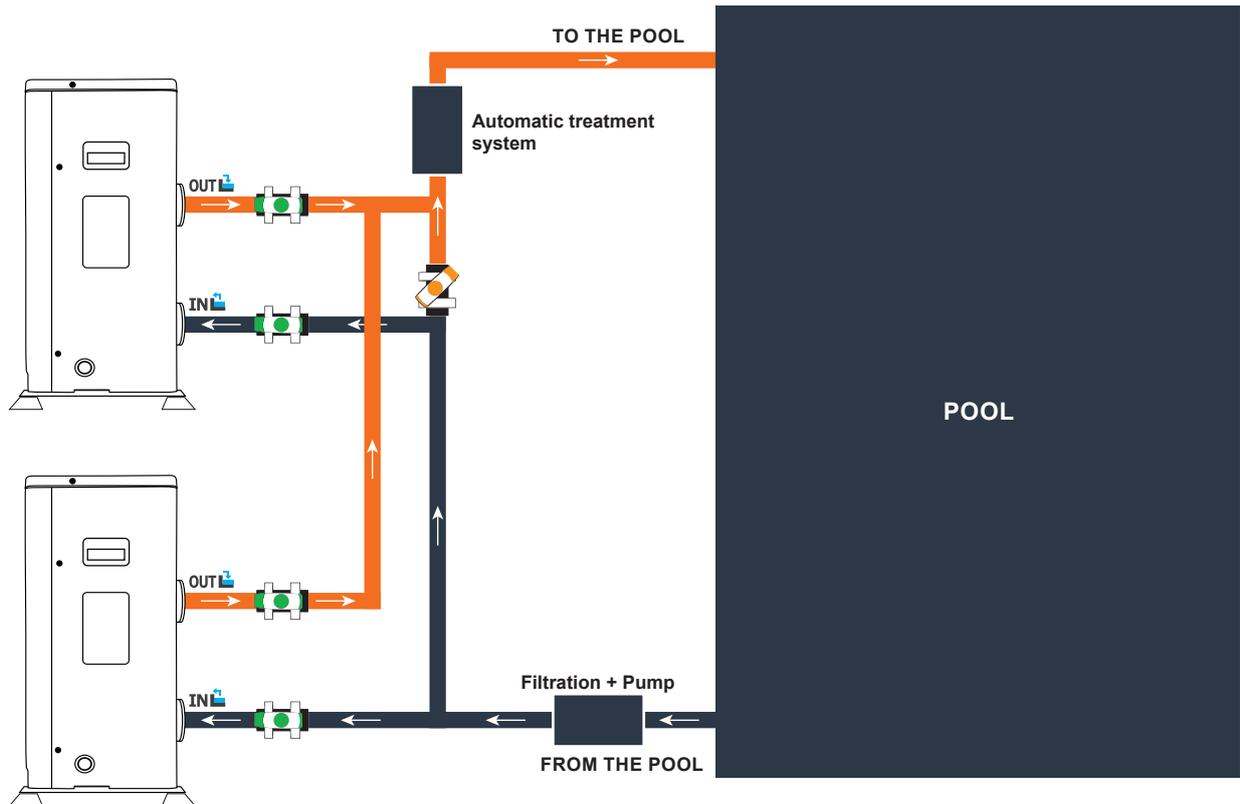


Half-open valve



Open valve

## By-Pass assembly for several heat pumps



*Caption*



Half-open valve



Open valve

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. Installation



**WARNING: Installation must be performed by a qualified professional.**

This section is provided for information purposes only and must be checked and adapted if necessary according to the actual installation conditions.

## 3.7 Electrical installation

To function safely and maintain the integrity of your electrical system, the unit must be connected to a general electricity supply in accordance with the following regulations:

- Upstream, the general electricity supply must be protected by a 30 mA differential switch.
- The heat pump must be connected to a suitable D-curve circuit breaker (see table below) in accordance with current standards and regulations in the country where the system is installed.
- The electricity supply cable must be adapted to match the unit's rated power and the length of wiring required by the installation (see table below). The cable must be suitable for outdoor use.
- For a three-phase system, it is essential to connect the phases in the correct sequence. If the phases are inverted, the heat pump's compressor will not work.
- In places open to the public, it is mandatory to install an emergency stop button close to the heat pump.

Models	Power supply	Maximum current	Cable diameter	Thermal-magnetic (D curve) protection
Articline Fi	Single phase 230V/~50Hz	15.5 A	RO2V 3x4 mm <sup>2</sup>	20 A

<sup>1</sup> Cable cross-section suitable for max. length 10 metres. For longer than 10 metres, consult an electrician.

# 3. Installation

## 3.8 Electrical connections



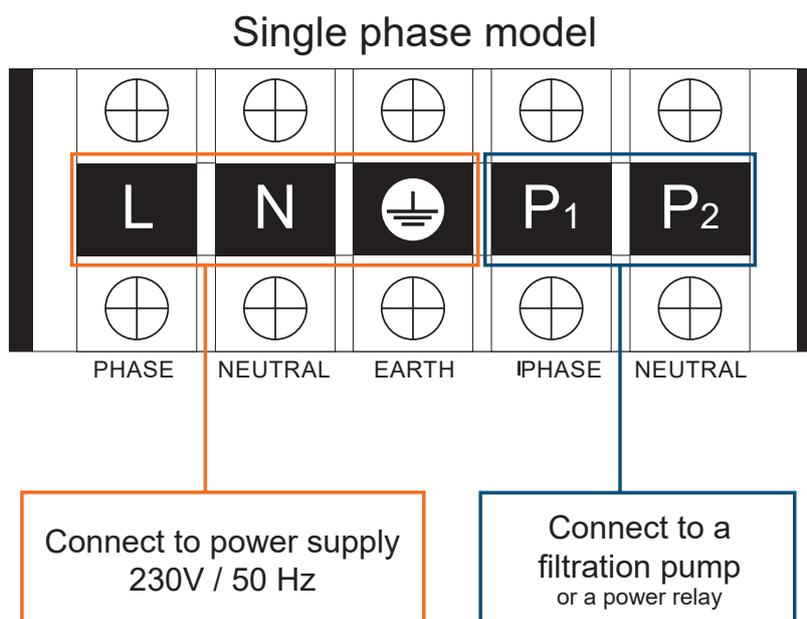
**WARNING:** The heat pump's power supply **MUST** be disconnected before any operation.

Please comply with the following instructions to electrically connect the heat pump.

**Step 1:** Dismount the electrical side panel with a screwdriver to access the electrical terminal block.

**Step 2:** Insert the cable into the heat pump unit by passing it through the opening provided for that purpose.

**Step 3:** Connect the power supply cable to the terminal block in accordance with the diagram below



**Step 4:** Carefully close the heat pump panel.

### Servo-control of circulating pump

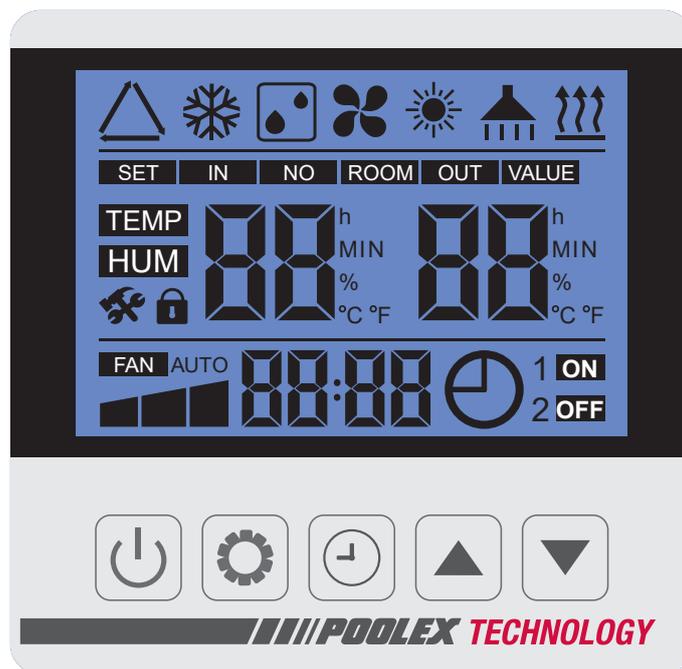
Depending on the type of installation, you can also connect a circulating pump to terminals P1 and P2 so that this operates in tandem with the heat pump.



**WARNING:** Servo-control of a pump whose power exceeds 5A (1000W) requires the use of a power relay.

# 4. Use

## 4.1 Wired remote control



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

Before setting your set temperature, familiarise yourself with the different symbols represented by the remote control:

	Eco cooling mode		Compressor
	Eco heating mode		Ventilator
	Auto mode		Inlet water temperature
	Boost heating mode		Settings menu
	Boost cooling mode		Temperature unit
	Eco Silent heating mode		Clock / Timer
	Eco Silent cooling mode		Clock setting
	Defrost		Locking the pad
	Connected heater		On/Off Timer setting
			Temperature setting
			Set temperature and water inlet (displayed right)

# 4. Use

## 4.2 Operating modes

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

The Articline proposes **7 operating modes** combining:

- Heating mode or cooling mode,
- Eco or Boost or Silent modes.
- Automatic mode can only be used in Eco mode.

### Heating mode:



Choose this operating mode so that the heat pump heats up your pool.

### Cooling mode:



Choose this operating mode so that the heat pump cools down your pool in Inverter mode.

### Automatic mode:



Choose this mode so that the heat pump smartly chooses the operating mode according to the requirements to reach set temperature.

### Eco mode: $+nE$

Choose this mode so that the heat pump operates in smart mode.

### Silent mode: $+L \square$

Choose this mode so that the heat pump operates in silent mode.

### Boost Mode: $+H |$

Choose this mode so that the heat pump operates in full power mode.

## 4.3 LED smart technology

The ambient LEDs integrated into the front of your heat pump provide you with instant information on the operating status of your heat pump.

**Blue:** Your pool is being heated.

**Green:** Your heat pump has reached its target temperature.

**Red:** Action required.

If necessary, this function can be deactivated. See §4.11, page 25.

Set L6 to 0 to disable LEDs.

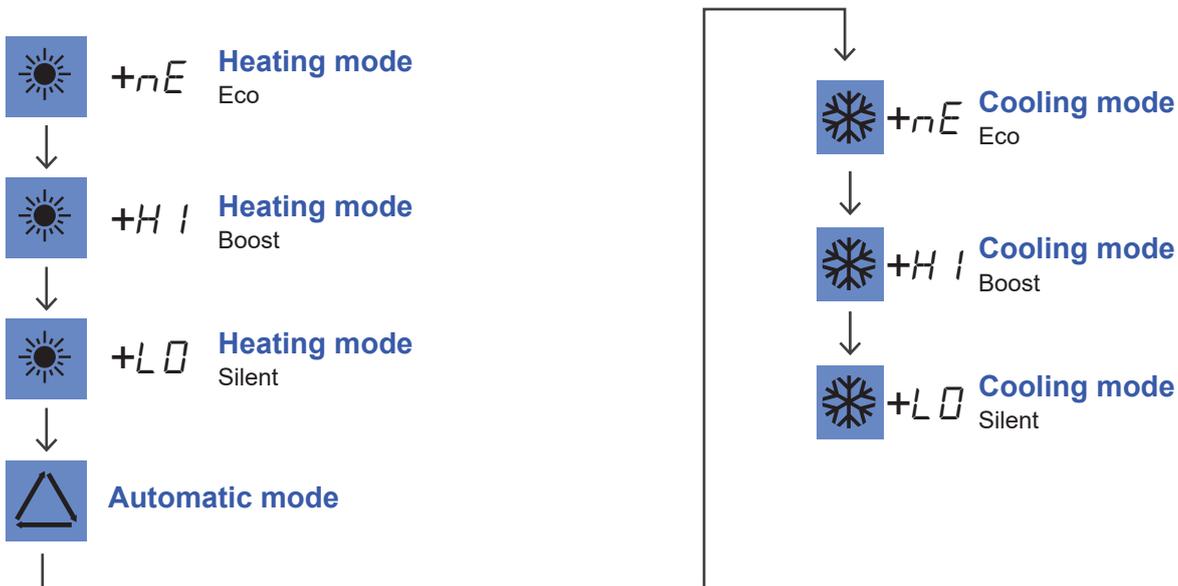
# 4. Use

## 4.4 Selecting the operating mode



**WARNING:** Before starting, ensure that the filtration pump is operating correctly.

Press on  to switch operating mode. The different modes are displayed in the following order:



### Good to know



**WARNING:** When the cooling mode switches to heating mode or vice-versa, the heat pump will restart after 10 minutes.

When the incoming water temperature is less than or equal to the required temperature (setpoint temperature - 1°C), the heat pump will switch to heating mode. The heater will stop when the temperature of the incoming water is greater than or equal to the required temperature (setpoint temperature + 1°C).

## 4.5 Temperature set point setting

Once the control panel is unlocked, press on  and  to increase or decrease the set temperature.

Press on  to save the value.

On the display, the following **SET** appears. Water inlet temperature will appear after 3 seconds.

# 4. Use

## 4.6 Clock setting

**Step 1:** Press for 5 seconds on  to reach clock settings interface. Hours and minutes are flashing.

**Step 2:** Press on , hours are flashing. Press on  to  set the hour.

**Step 3:** Press on  again, minutes are flashing. Press on  to  set the minutes.

**Step 4:** Press on  again to save and return to the main screen.

*If you do not save the settings, they will automatically be saved after 30 seconds of inaction.*

*The main screen then appears again.*

Step 1



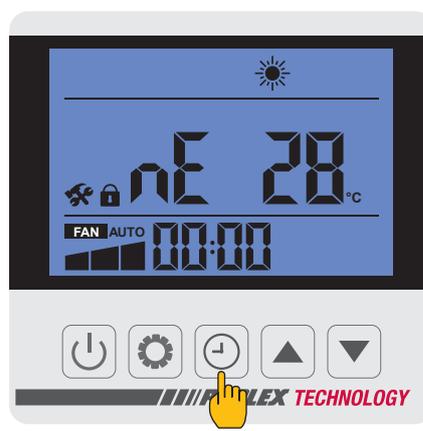
Step 2



Step 3



Step 4



# 4. Use

## 4.7 On / Off synchronization adjustment

This function is used to program the start and stop time of your heat pump. You can program up to 2 different starts and stops. The setting is done as follows:

**Step 1:** Press on  to enter the settings.

**Step 2:** The first group is flashing, press on , then on  and  to change the first group start hour.

**Step 3:** Press on , then on  and  to change the first group start minutes.

**Step 4:** Press again on , then on  and  to change the first group stop hour.

**Step 5:** Press on , then on  and  to change the first group stop minutes.

**Step 6:** Press again on  to save the first group settings.

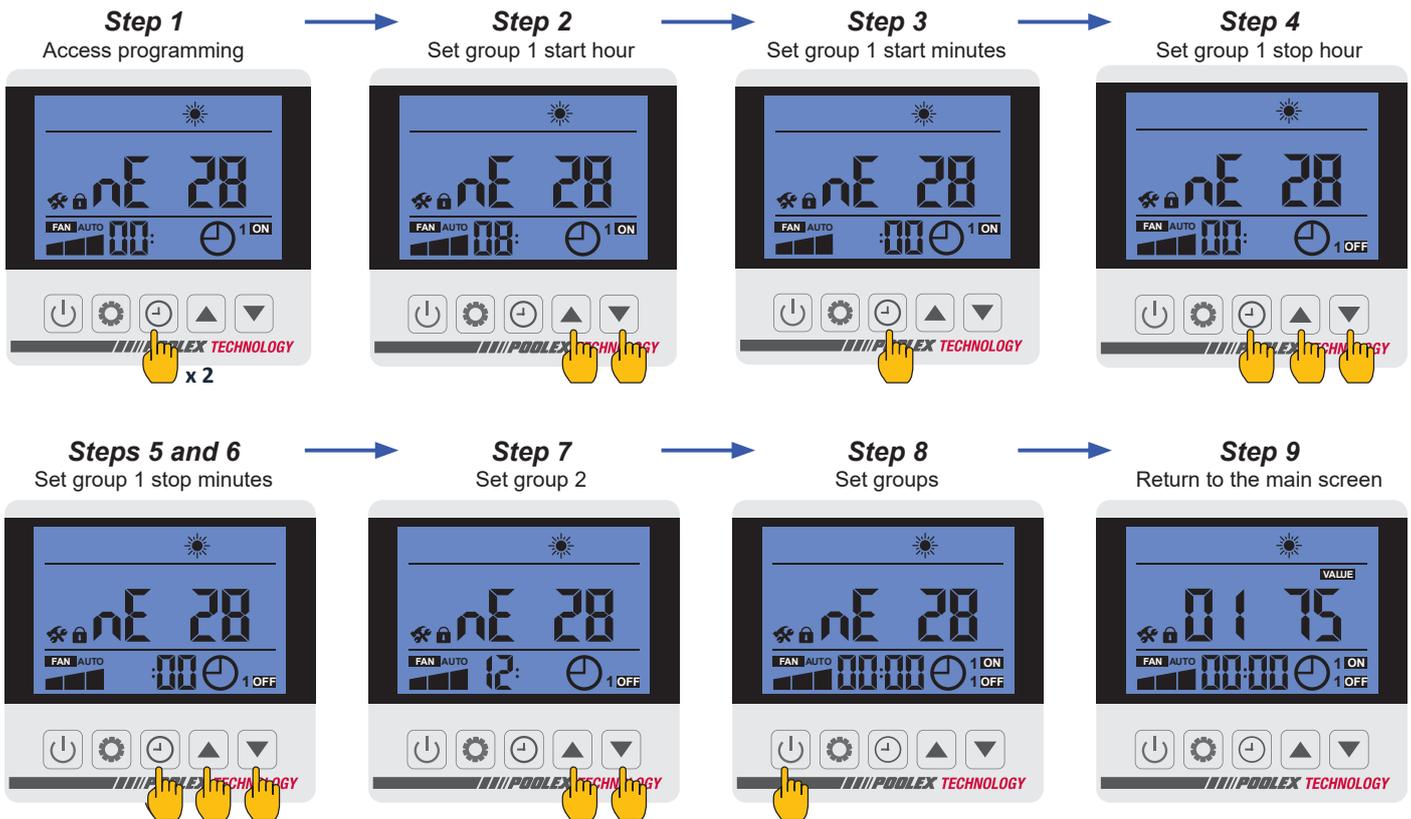
**Step 7:** Then press on  or  to reach group 2.

*The steps to set up group 2 are identical to those for group 1.*

**Step 8:** Press on  to save the groups settings and return to the main screen.

*If you do not save the settings, they will automatically be saved after 30 seconds of inaction.*

*The main screen then appears again.*



# 4. Use

## 4.8 Locking / unlocking

Without any action on your part for 60s, the control box automatically locks up.

The  icon appears.

To unlock the screen:

1. Press any button. The screen lights up.
2. Press on  for 5s. The screen unlocks and the  icon disappears.

## 4.9 WiFi connection

To activate the WiFi connection on your heat pump, press on  and  for 3 seconds.

**SET** flashes quickly.

The equipment will appear in the chosen application. Recommended application: Smart Life.

# 4. Use

## 4.10 Status values control

The system's settings can be checked and adjusted via the remote control by following these steps. To access the verification settings, press on  for 3s, then scroll down the settings using the  and  buttons.

Code	Description	Note
T1	Discharge temperature	Gas at compressor level
T2	Suction temperature	Gas at compressor level
T3	Water inlet temperature	At heat exchanger level
T4	Water outlet temperature	At heat exchanger level
T5	Temperature outside the coil	In the evaporator
T6	Ambient temperature	
T7	IPM temperature	Inverter module capacity
T8	Reserved	
T9	Reserved	
T10	Reserved	
T11	Reserved	
Ft	Target frequency (Hz)	Expected compressor speed
Fr	Actual frequency (Hz)	Compressor speed
1F	Main EEV opening	Electronic regulator
2F	Auxiliary EEV opening	Electronic regulator
od	Operating mode	1 : Cooling 4 : Heating
Pr	Ventilator speed	AC : 1:High; 2:Average; 3:Low DC : Actual speed (displayed value*10)
dF	On/of defrost	ON : activated ; OF : deactivated
OIL	On/off oil return status	ON : activated ; OF : deactivated
r1	Reserved	
r2	On/off heater	ON : activated ; OF : deactivated
r3	Reserved	
STF	4-way valves on/off values	ON : activated ; OF : deactivated
HF	Reserved	
PF	Reserved	
PTF	Reserved	
Pu	On/off pump (P1/P2)	ON : activated ; OF : deactivated
AH	On/off AC ventilator high speed	ON : activated ; OF : deactivated
Ad	On/off AC ventilator average speed	ON : activated ; OF : deactivated
AL	On/off AC ventilator low speed	ON : activated ; OF : deactivated
dcU	DC (V) tension bus	
dcC	Compressor current intensity DC (A)	
AcU	Entry current tension (A)	
AcC	Entry current intensity (A)	
HE1	Error code history	Cf. §7.2 (pp.31-32)
HE2	Error code history	Cf. §7.2 (pp.31-32)
HE3	Error code history	Cf. §7.2 (pp.31-32)
HE4	Error code history	Cf. §7.2 (pp.31-32)
Pr	Protocol version	
Sr	Software version	

# 4. Use

## 4.11 User settings

**Step 1:** Press on  for 3s to access the heat pump's general settings.

**Step 2:** Scroll down the main setting codes using the  and  buttons.

**Step 3:** Without any action on your part for 30s, the settings are automatically saved.

### Main settings table

Code	Description	Variation	Default values
L0	Circulation pump actions	0 : The circulation pump continues to function when temperature is reached. 1 : The circulation pump continues to function for 60 minutes after the compressor has stopped. It restarts every 5 minutes every time L1 timing has passed.	1
L1	Circulation pump start time	Setting L1 from 3 to 180 minutes	30
L2	Programming	0 : no programming in progress 1 : programming in progress	1
L3	Automatic restart	0 : no / 1 : yes	1
L4	Backlighting	0 : no backlighting 1 : backlighting always on 2 : backlighting on during use. Backlighting switches off after 30s with no action.	2
L5	Authorized operating modes	0 : Heating 1 : Cooling 2 : Hot/ cold 3 : All	3
L6	Using the status display LEDs	0 : LED deactivated 1 : LED activated	1

**The equipment must be switch off in order to reset the system settings.**

1. Check that the equipment is off. If it is on, switch it off.
2. Press on  and  and  for 5 seconds. User and technical settings are reinitialised: they are back to default values.
3. Press on  and  and  for 3 seconds. EP rom settings are reinitialised.

# 4. Use

## 4.12 Technical settings



**WARNING:** This operation is used to assist servicing and future repairs.

**The default settings should only be modified by an experienced professional person.**

*Any change brought to reserved settings automatically cancels the warranty.*

**Step 1:** Press on  and  for 3s to access the heat pumps technical settings.

**Step 2:** Enter the password 1688. Use the arrows to select the right number and the  button to move onto the next unit. Press on  to save the password.

**Step 3:** Use the  and  buttons to scroll down the settings then  and then to save and change the value.  
*Without any action on your part for 30s, the settings are automatically saved.*

### Technical settings table

Code	Description	Variation	Default values
H0	Accumulated heating time	30~120min	45 min
H1	Defrosting delay	1~25min	12 min
H2	Defrosting temperature	1°C~25°C	12°C
H3	Defrosting start temperature	-20°C~20°C	-1°C
F0	Temperature difference (between set temperature and water measured temperature) to start heating	0°C~2°C	1°C
F1	Temperature difference (between set temperature and water measured temperature) to stop heating	1°C~2°C	1°C
F2	EEV readjustment delay	10~60s	30s
F3	Temperature difference (between set temperature and water measured temperature) to start cooling	0°C~2°C	1°C
F4	Temperature difference (between set temperature and water measured temperature) to stop cooling	1°C~2°C	1°C
P0	Compensation temperature	-9°C~9°C	0°C
P1	Reserved		
P2	Reserved		
P3	Minimum operating ambient temperature	-30°C~15°C	-25°C
P4	Minimum difference in ambient temperature	2°C~18°C	2°C
P5	Reserved		
P6	Heater	ON/OFF	OFF
P7	Heater start temperature	2°C~15°C	5°C
P8	Water inlet/outlet temperature differences protection	2°C~60°C	10°C
P9	Heater base plate start temperature	-9°C~10°C	0°C
P10	Reserved		
P11	Reserved		
P12	Reserved		

# 4. Use

Code	Description	Variation	Default values
P13	Reserved		
P14	Reserved		
P15	Reserved		
P16	Reserved		
P17	EEV maximum opening	50~480	480P
P18	EEV minimum opening	50~300	80P
P19	Reserved		
P20	Forced refrigerant fluid recuperation	OF / ON	OF
P21	Reserved		
P22	Maximum temperature setting in heating mode	35°C~60°C	40°C
P23	Minimum temperature setting in heating mode	15°C~25°C	15°C
P24	Maximum temperature setting in cooling mode	25°C~35°C	28°C
P25	Minimum temperature setting in cooling mode	2°C~10°C	8°C
C0	Test mode	OF / ON	OF
C1	Compressor manual frequency in test mode	10~120 Hz	50 Hz
C2	EEV opening in test mode	60~480	350P
C3	Ventilator motor speed in test mode	1~150	82

**The equipment must be switch off in order to reset the system settings.**

1. Check that the equipment is off. If it is on, switch it off.
2. Press on  and  and  for 5 seconds. User and technical settings are reinitialised: they are back to default values.
3. Press on  and  and  for 3 seconds. EP rom settings are reinitialised.

# 5. Operation

## 5.1 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. Activate the unit's power supply protection (differential switch and circuit-breaker).
2. Activate the circulating pump if it is not servo-controlled.
3. Check the By-Pass opening and the control valves.
4. Activate the heat pump by pressing once on .
5. Adjust the remote control clock.
6. Select the desired temperature using one of the modes appearing on the remote control.
7. 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 day. 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 pool must be covered and insulated to avoid any heat loss.

## 5.2 Servo-control of circulating pump

If you have connected a circulating pump to terminals P1 and P2, it is automatically electrically powered when the heat pump operates.

# 5. Operation

## 5.3 Using the pressure gauge

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.**



## 5.4 Antifreeze protection

**WARNING: For the antifreeze system to work, the heat pump must be powered and the circulating pump activated. If the circulating pump is servo-controlled by the heat pump, it will be automatically activated.**



When the heat pump is on standby, the system monitors the ambient temperature and the water temperature in order to activate the antifreeze programme if required.

The antifreeze programme is automatically activated when the ambient temperature or the temperature of the water is less than 2°C and when the heat pump has been shut down for more than 120 minutes.

When the antifreeze programme is running, the heat pump activates its compressor and the circulating pump so as to reheat the water until the water temperature exceeds 2°C.

The heat pump automatically leaves the antifreeze mode when the ambient temperature is greater than or equal to 2°C or when the heat pump is activated by the user.

# 6. Maintenance and servicing

## 6.1 Maintenance and servicing



**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 or with the heat pump special cleaner CleanPAC.

### Annual maintenance

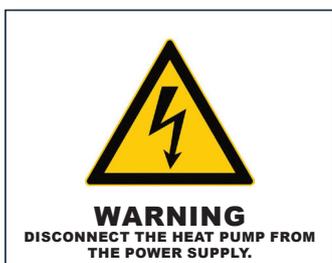
The following operations must be undertaken by a qualified person at least once a year.

- ✓ Carry out safety checks.
- ✓ Check the integrity of the electrical wiring.
- ✓ Check the earthing connections.
- ✓ Check the gauge's state and whether there is refrigerant fluid.

## 6.2 Wintering

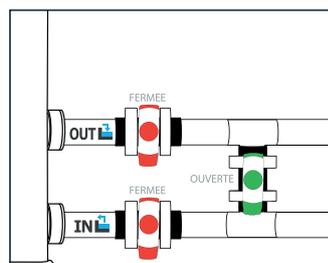
In the winter months when the ambient temperature is lower than 3°C, a shut-down heat pump must be winterised to avoid any frost damage.

### Wintering in 4 steps



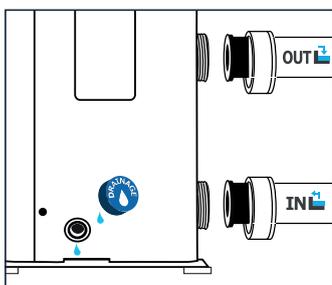
#### Step 1

Switch off the power to the heat pump.



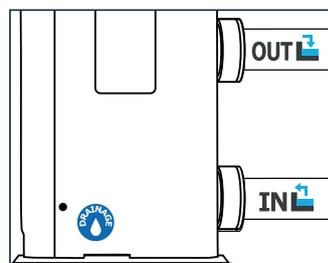
#### Step 2

Open the By-Pass valve. Close the inlet and outlet valves.



#### Step 3

Unscrew the drain plug and water pipes in order to drain any water from the heat pump.



#### Step 4

Screw the drain plugs back into the device and conduits, or plug them using a rag into to prevent foreign objects from entering the device through the pipework. Finally, protect the pump with its winter storage cover.



**If a circulating pump is servo-controlled by the heat pump, also drain it.**

# 7. Repairs



**WARNING:** Under normal conditions, a suitable heat pump can heat up the tub water by 1°C to 2°C per day. 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 pool must be covered and insulated to avoid any heat loss.

## 7.1 Breakdown and faults

In the event of a fault, the heat pump's screen displays an error code instead of temperature indications. When several faults appear at the same time, each corresponding error code displays for 5s and then the temperature appears.

Please consult the table to find the possible causes of a fault and the actions to be taken.

## 7.2 List of faults

Code	Faults	Consequences	Possible causes	Actions
<i>Er 03</i>	Water flow protection	The heat pump is not running any more.	<ol style="list-style-type: none"> <li>1. Water flow switch failure.</li> <li>2. Insufficient water flow.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace the water flow switch.</li> <li>2. Check that the water pump and water pipe are working properly.</li> </ol>
<i>Er 04</i>	Antifreeze protection in sleep mode	The heat pump is not operating anymore.		
<i>Er 05</i>	High pressure gauge protection	The heat pump does not stop running The heat pump continues to run when 1st and 2nd errors appear. It stops at the 3rd display.	<ol style="list-style-type: none"> <li>1. Cooling system is blocked.</li> <li>2. Abnormal or damaged ventilator motor speed.</li> <li>3. Gas leakage.</li> <li>4. High pressure gauge fault.</li> </ol>	<p>1st and 2nd display: The fault will be cleared after 3 minutes. Switch the heat pump on again.</p> <p>3rd display: Do not reinitialize without cutting power supply.</p> <p>Check the cooling system, the ventilator and then the refrigerant system.</p>
<i>Er 0b</i>	Low pressure gauge protection	The heat pump does not stop running The heat pump continues to run when 1st and 2nd errors appear. It stops at the 3rd display.	<ol style="list-style-type: none"> <li>1. Cooling system is blocked.</li> <li>2. Abnormal or damaged ventilator motor speed.</li> <li>3. Gas leakage.</li> <li>4. Low pressure gauge fault.</li> </ol>	<p>1st and 2nd display: The fault will be cleared after 3 minutes. Switch the heat pump on again.</p> <p>3rd display: Do not reinitialize without cutting power supply.</p> <p>Check the cooling system, the ventilator and then the refrigerant system.</p>
<i>Er 09</i>	Fault in controller communication	The heat pump does not start.	<ol style="list-style-type: none"> <li>1. Damaged signal wire or defective union.</li> <li>2. Controller failure.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check and replace the signal wire.</li> <li>2. Replace the regulator or restart the heat pump.</li> </ol>
<i>Er 10</i>	Fault in communication	The heat pump is not running any more.		
<i>Er 11</i>	Protection when temperature difference between water inlet and outlet is too great	The heat pump is not running any more.		<p>1st and 2nd display: The fault will be cleared after 3 minutes. Switch the heat pump on again.</p> <p>3rd display: Do not reinitialize without cutting power supply.</p>
<i>Er 12</i>	Protection against a too high discharge temperature	The heat pump is not running any more.	<ol style="list-style-type: none"> <li>1. Insufficient refrigerant.</li> <li>2. Insufficient water flow.</li> <li>3. Cooling system is blocked.</li> <li>4. Fault in the discharge temperature sensor.</li> </ol>	<ol style="list-style-type: none"> <li>1. Find the leakage point and fix it.</li> <li>2. Check the piping and the circulation pump.</li> <li>3. Check if the cooling system is not blocked.</li> <li>4. Replace the sensor.</li> </ol>

# 7. Repairs

Code	Faults	Consequences	Possible causes	Actions
<i>Er 13</i>	Protection against ambient temperature	The heat pump is not running any more	1. Beyond the working temperature range 2. Temperature sensor failure or too close to the evaporator	1. Stop the equipment 2. Replace the sensor/move to the right place
<i>Er 14</i>	Protection against a too low cooling temperature	The heat pump stops running, the water pump continues to function		The temperature has risen to the normal value, the fault has disappeared, restart the heat pump.
<i>Er 15</i>	Water intake temperature sensor failure	The heat pump is not running any more	Temperature sensor malfunction	Replace the sensor
<i>Er 16</i>	Coil temperature sensor failure	The heat pump is not running any more	Temperature sensor failure	Replace the sensor
<i>Er 18</i>	Discharge temperature sensor fault	After breaking down 3 times, the heat pump stops working.	Temperature sensor malfunction	Replace the sensor
<i>Er 21</i>	Ambient temperature sensor fault	The heat pump is not running any more	Temperature sensor malfunction	Replace the sensor
<i>Er 27</i>	Water outlet temperature sensor fault	The heat pump is not running any more	Temperature sensor malfunction	Replace the sensor
<i>Er 29</i>	Suction temperature sensor fault	The heat pump is running	Temperature sensor malfunction	Replace the sensor
<i>Er 32</i>	Protection against a too high water outlet temperature	The heat pump is not running any more		
<i>Er 33</i>	Protection against a too high outside cooling coil temperature	The heat pump stops running, the water pump continues to function		
<i>Er 34</i>	Ventilator motor malfunction	The heat pump is not running any more	1. Ventilator motor failure 2. Printed circuit board failure 3. Ventilator blade failure	Check the ventilator motor, the printed circuit board and the ventilator blades. If needed, replace the faulty parts.
<i>Er 35</i>	Protection against a too high compressor current	The heat pump is not running any more		Automatic deletion according to the protection logic
<i>Er 42</i>	Internal coil temperature sensor fault	The heat pump is not running any more		
<i>Er 99</i>	EP rom failure	The heat pump does not start	1. Printed circuit board failure 2. EP rom software failure	1. Replace the printed circuit board. 2. EP software update.

# 8. Warranty

## 8.1 General warranty conditions

Poolstar guarantees the original owner against material defects and manufacturing defects of the Poolex Articlina Fi heat pump for a period of three (3) years.

The compressor is guaranteed for a period of seven (7) years.

The titanium tube heat exchanger is guaranteed for a period of fifteen (15) years against chemical corrosion, except in the case of damage due to freezing.

The other components of the condenser are under warranty for a period of three (3) 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,

**Please take a few minutes to complete a warranty form  
that you can find on our website:**

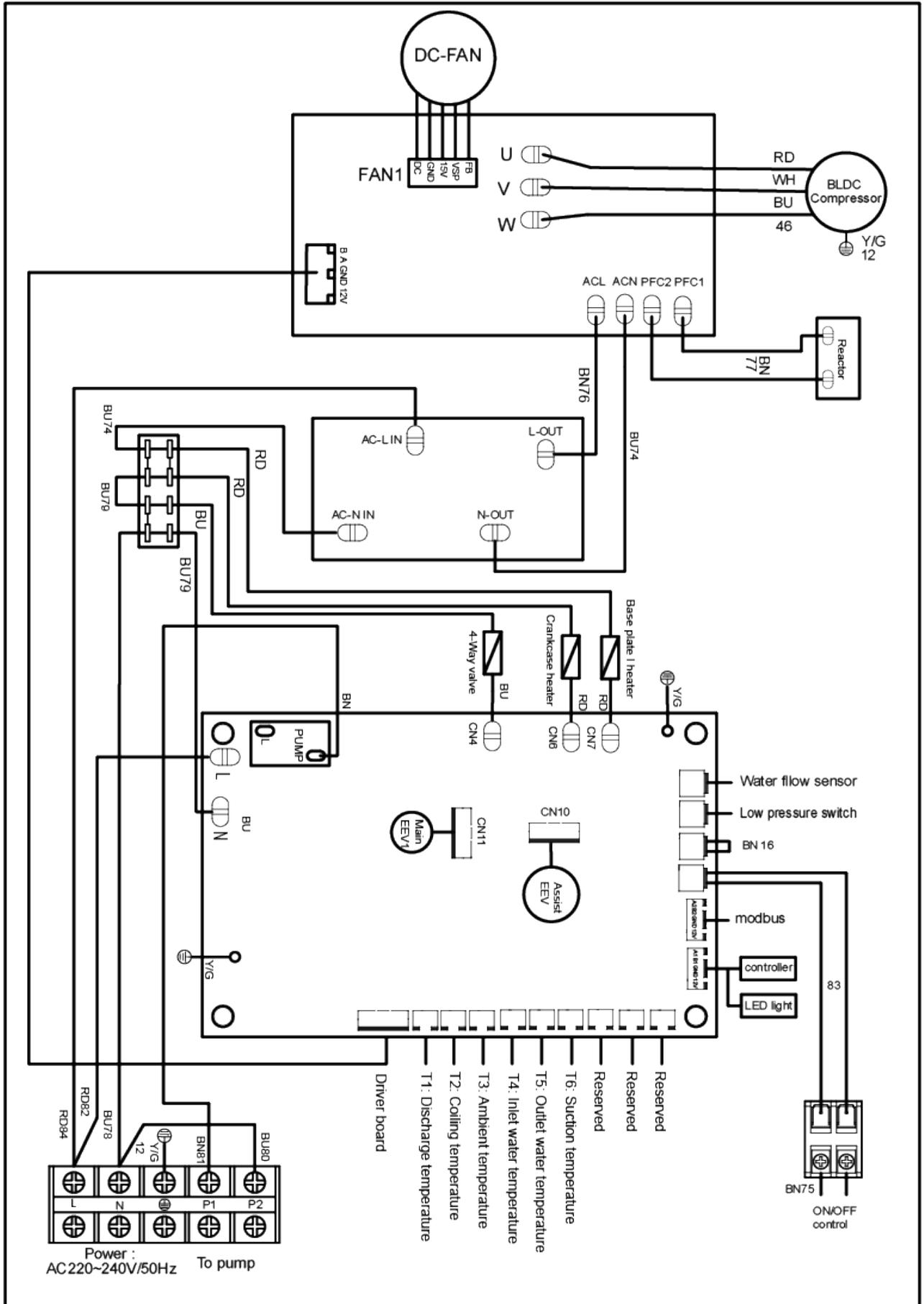
**<http://assistance.poolstar.fr/>**

Thank you for your 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.

# 9. Appendices

## 9.1 Wiring diagram





# **POOLEX**

 RoHS CE

TECHNICAL ASSISTANCE

[www.poolex.fr](http://www.poolex.fr)



06-2023