EN

POLYTROPIC

Swimming pool heat pump

Instructions handbook

RAK INVERTER 35 ET RAK INVERTER 45

Summary

Warning

You must read this handbook before using the appliance.

Handbook symbols

Product security

The text in a box refers to a product safety instruction.

User safety

 This symbol associated with any text in a white area characterizes a critical instruction for user safety.

Authorized persons

The installation, maintenance and repair of the heat pump involves technical skills that can only be exercised by an officially authorized professional.
That is to say by a competent person in the field of pool heating heat pump installations empowered by Polytropic.

Installation, utilization, maintenance

 This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they are supervised and received adequate instructions concerning use of the appliance by a person responsible for their safety.

Children should be supervised to ensure that they do not play with the appliance.

Product delivery and general conditions of use

Appliance and spare parts travel by recipient's own risks, whatever the delivery method used. If the recipient sees any damage due to transport, he must record it on the delivery note and confirm it by registered mail detailing the damage to the carrier, within the following 48 hours.

The heat pump referred to in this handbook is designed and built solely for private swimming pool use. Polytropic dissociates its responsibility if used in any other application.

This handbook is considered as a part of the pool heat pump. It must be read and adhered to before the installation and use of the appliance.

All security instructions highlighted in this manual must be strictly respected.

Before any connection is made, it is necessary to be sure that the pool heat pump is correctly sized and suitable for the pool installation.

Before any electrical connection is made, it is necessary to be sure that the power supply cable conforms to the manufacturers stated requirements.

Before proceeding with any maintenance, service or reparation work, the product must be isolated from the main electric supply terminal. Only qualified personnel should carry out these tasks.

Polytropic is released from any responsibility concerning damage caused by non-compliance to the provided instructions, errors of handing, installation or usage.

You shouldn't install the heat pump in corrosive background, close to the sea, exposed to salt fog, near a chlorine storage room or other corrosive chemicals.

This handbook can be modified without notice.

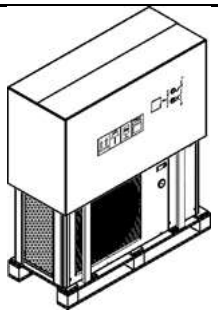
Storage, shipping and packing

⚠ Appliance must be packed and stored vertically, as specified on the packing.

A horizontal storage, even if temporary, will damage the appliance.

All damage due to incorrect packing or storage,will not be taken under warranty.

Polytropic rencourages its customers to keep the heat pump packaging (paperboard pack + polystyrene + pallet) for the duration of the warranty period in case of a need to return the appliance to the factory.



Correct packing and storage position.

Standards

CE standard conformity

Polytropic pool heat pumps meet the following standards:

- Electromagnetic compatibility: 2004/108/EC
- Safety requirements for low voltage equipment: 2006/95/EC
- Pressure Equipment: 97/23/CE
- Noise production: 200/14/CE
- Harmonized standards: NF EN 60335.1,2.40
- Electrical connections
- French standard installation reference: NF C 15 100.

Safety

Although this product contains all safety requirements, it may still present dangers such as:

Electrically controlled parts

Parts moving with automatic start-up (fan)

Cutting edges (evaporator)

⚠ In order to avoid accidents, prevent close access the appliance by children and pets. Never cover the appliance whilst in operation and never put your fingers, or other objects inside.

Never turn on the appliance with any of its panels removed.

Pressure controller

Polytropic heat pumps are provided with HP pressure controller set at 38 Bar.

Utilization limits

To ensure the heat pump has been correctly sized, Polytropic must has been previously contacted with a selection file (available on demand) in order to validate such selection.

“RAK” range heat pump models are designed to operate from -15°C to +35°C (32°F to 95°F) air temperature using a pool cover.

If the machine is used to work with an ambient temperature below 0°, particularly for high water temperatures, it is advised to add an electrical heater (ask your seller).

Regarding product selection that has not been validated by Polytropic and working outside the above ranges, Polytropic dissociates its responsibility regarding any lack of performance.

Before installing the heat pump, you will have checked that the impedance of your swimming pool electricity power supply shall not be more than 0.042 Ω.

Ask your electricity provider if necessary.

If the electricity provider can not adjust it, it could translate into a tension reduction on the power supply for few seconds when the heat pump starts up.

 Maximum water pressure : 2 bars (29 PSI).

Description

Content of the delivery

- POLYTROPIC RAK heat pump
- Hydraulic fittings kit :
  - RAK 35IVT et RAK 45IVT : 2 unions to glue Ø63
- This instruction manual technical data sheet
- 1 Wintering cover

Technical data sheet

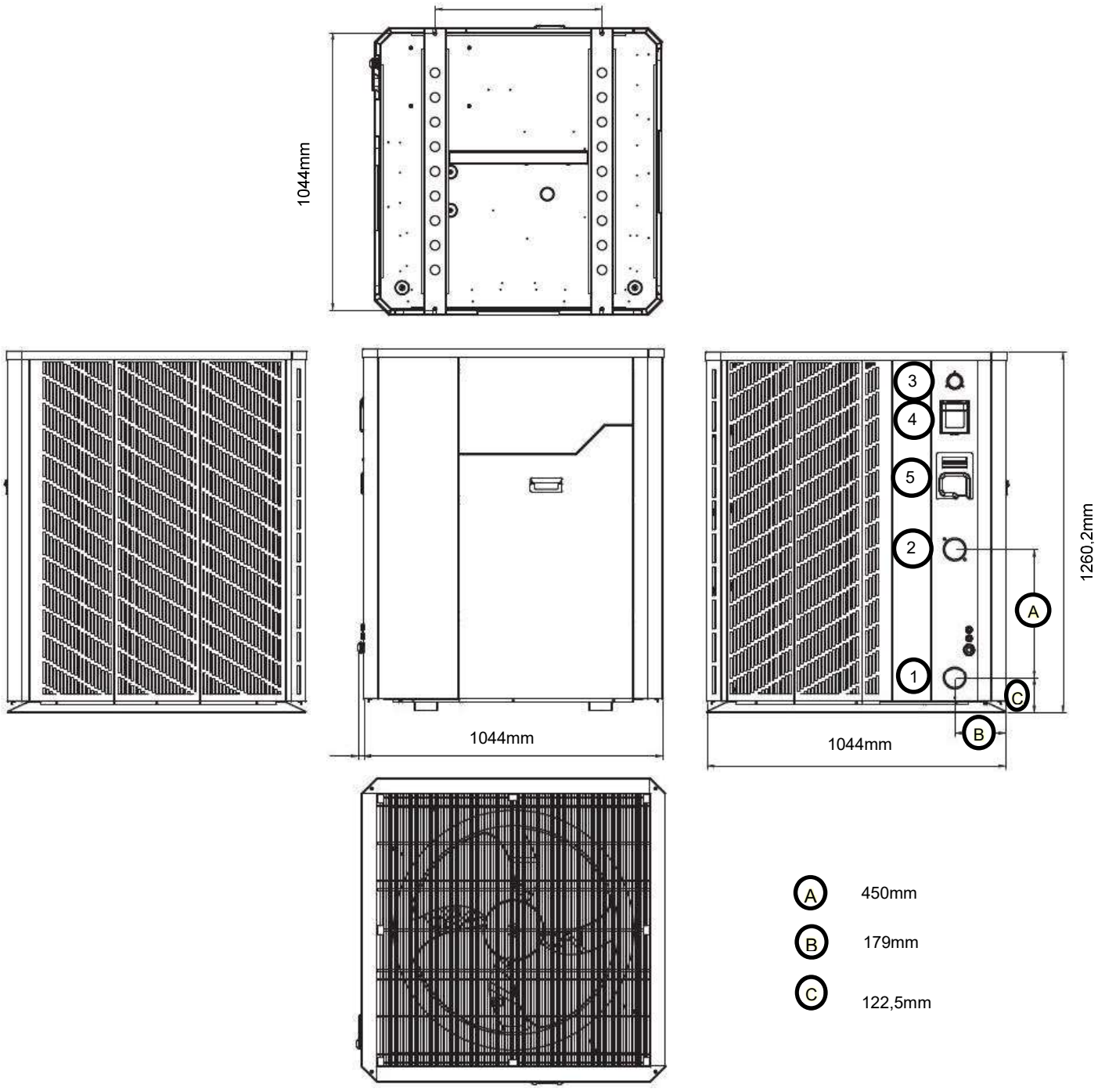
Modèle POLYTROPIC		RAK IVT 35	RAK IVT 45
Performances			
Puissance restituée Mode Boost	Air 26°c	41,50 KW	56,80 KW
COP Mode Boost	Eau 26°c	6,1	5,6
Puissance restituée Mode Smart	80% Hr	24,10 ~ 41,50KW	24,35 ~ 56,80 kW
COP Mode Smart		6,1 ~ 10,2	5,6 ~ 10,2
Puissance restituée Mode Boost	Air 15°c	**35,59 kW**	**43,65 kW**
COP Mode Boost	Eau 26°c	**4,6**	**4,4**
Puissance restituée Mode Smart	70% Hr	**18,02 ~ 35,59 kW**	**18,15 ~ 43,65 kW**
COP Mode Smart		**4,6 ~ 7,2**	**4,4 ~ 7,1**
Puissance restituée Mode Boost	Air 7°c	26,95 KW	35,73 KW
COP Mode Boost	Eau 26°c	4,3	3,9
Puissance restituée Mode Smart		14,4 ~ 26,95 KW	14,79 ~ 35,73 KW
COP Mode Smart		4,3 ~ 6,0	3,9 ~ 6,0
Niveau Sonore à pleine puissance @10m		**39db**	**44db**
Plage de fonctionnement		**-15°c -> 43°c**	

**In accordance with FPP recommendations (FPP : French Pool Federation)*

Modèle POLYTROPIC	RAK IVT 35	RAK IVT 45

Composants		
Compresseur	2D FULL DC Inverter	
Détendeur	Electronique	
Echangeur	Titane spiralé	
Carrosserie	Métal	
Réfrigérant	R32 / 3,5Kg	
Installation		
Intensité Nominale (Max)		
Raccordement Hydraulique	63mm	
Alimentation	400V / 3 ~ + N / 50Hz	
Puissance absorbé Max	8885 W	12095W
Débit d'eau Minimum	12 m3/h	15 m3/h
Débit d'eau conseillé	15 m3/h	20 m3/h
Niveau Sonore à pleine puissance @10m	**39db**	**44db**
Poids net (gross)	**207 Kg (227Kg)**	

Dimensional Drawing



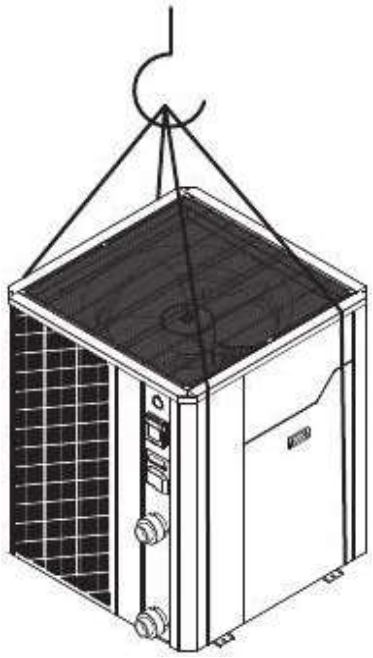
A	450mm
B	179mm
C	122,5mm

1. Entrée d'eau depuis le filtre
2. Sortie d'eau vers la piscine
3. Manomètres Frigorifiques
4. Régulateur
5. Entrée câbles Alim Et Com

Installation

Installation conditions

Handling, lifting draw



For any handling / lifting of the device :

- This operation must be carried out by authorized professionals
- Use hoisting rings on the device
- Use straps (avoid chains to avoid damaging the panels)
- Position the wedges and straps according to the drawing

Installation location

The pool heat pump must be installed outdoors with a distance greater than 2 m from the Pool according to laws in force (NF C 15 100).

Install the pool heat pump on a flat, horizontal, and stable surface. (Concrete base would be ideal).

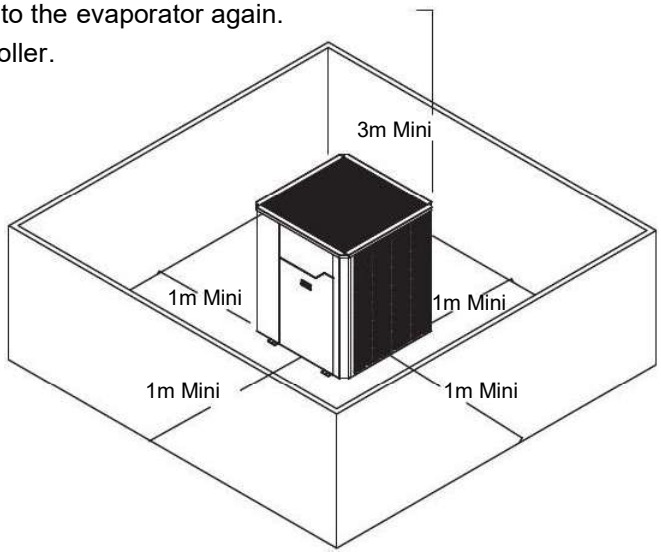
Maintain at least 1 m (40 ") of space on the rear (evaporator air inlet) and 3m (120 ") on the outlet side of the fan on a completely free space.

Make sure that the discharged air will not be sucked back into the evaporator again.

Provide enough space to allow access to temperature controller.

Check that the air rejected by the machine is not re-sucked by the fan.

Reserve enough space to access for maintenance



To improve your installation

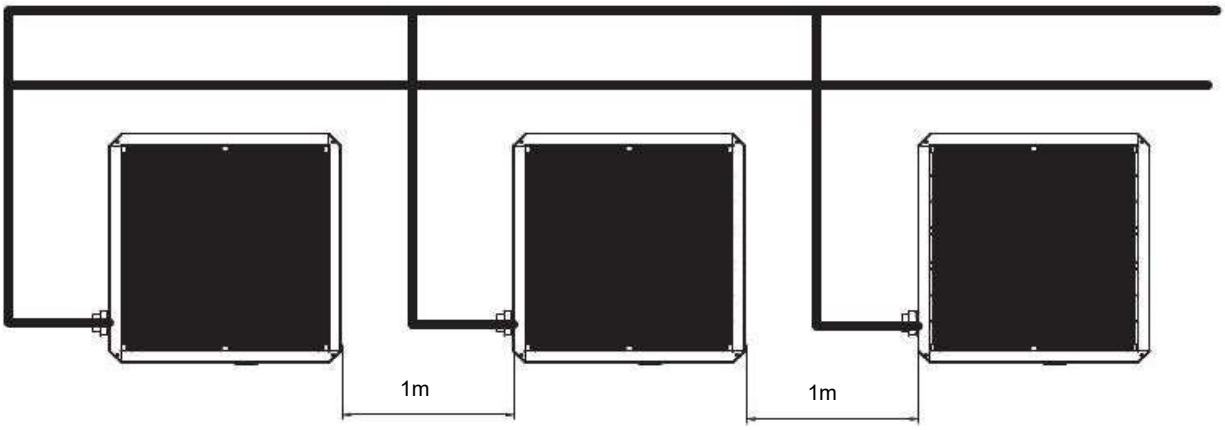
Avoid directing the flow of ventilated air towards a noise sensitive area (room window for example), or a space where people normally gather (the discharged air will be cold)

Avoid positioning the pool heat pump on a surface that can transmit vibrations.

Try to avoid placing the appliance under a tree or exposed to water or mud, which would be likely to complicate performance and maintenance.

For best performance the water pipes from the heat pump to the pool should be insulated, especially if the heat pump is far away from the swimming pool.

Installation for several machines :

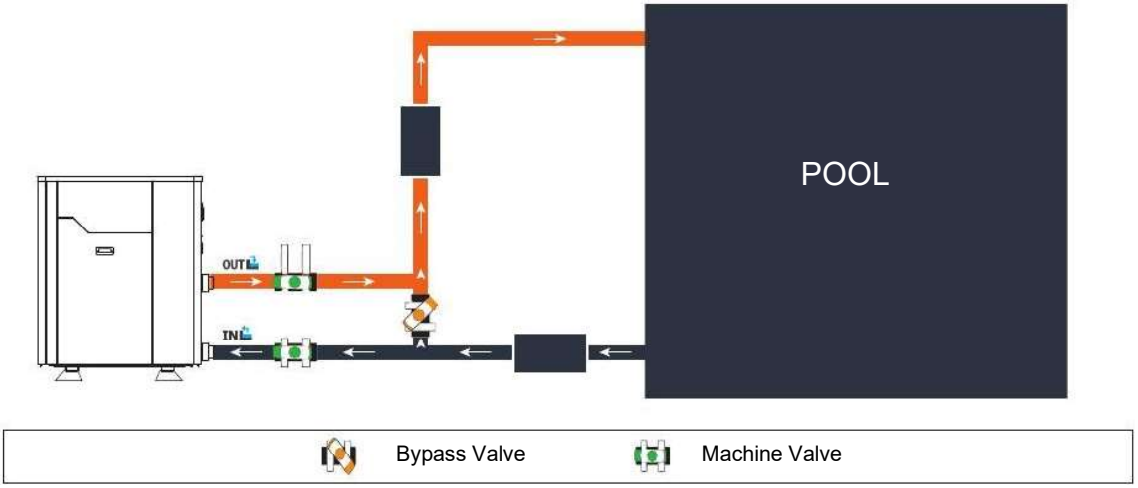


Hydraulic connections

The heat pump should be connected to a filtration circuit trough a by-pass who consists of 3 valves.

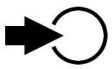
It is imperative that the by-pass is placed after the pump and the filter.

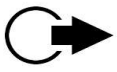
These valves allow to regulate the water flow which passes through the heat pump and to isolate the heat pump completely for any maintenance work, without cutting the filtration flow.



If your installation is equipped with water treatment devices (chlorine, brome feeder, salt water chlorine generator, others) the by-pass must be installed before the water treatment devices, with a non-return check valve between the by-pass and water treatment devices.

Water inlet and outlet are designed to be connected to rigid pressure PVC tube (for swimming pool) Ø50 mm, directly glued to the half union connectors provided.

Inlet water tube must be connected to connection labeled: 

Outlet water tube must be connected to connection labeled: 

Water tubes must be fixed on the floor or the walls, so the heat pump will not support the weight of the water inside the plumbing.

For the correct operation of the device: The piping, pump and water flow must be carefully selected. If the appliance is not located next to the equipment room or the pump, check the pressure drops of the hydraulic circuit.

Electrical connections

Electric supply voltage and current values must correspond to the ones indicated on the heat pump.

Connection cables must to be sized according to the appliance power and installation requirements.

Power supply must be equipped with grounding, 30 mA differential protection. And “D” curcve circuit breaker

GUIDE SELECTION CIRCUIT BREAKER AND CABLE FOR RAK IVT

Table for information only, made at CosΦ0,8, copper cable,

Model	Power supply	Head of line protection	Maximum cable length* with diameter:				
			2,5 mm²	4 mm²	6 mm²	10 mm²	16 mm²
RAK 35 IVT	5G 400 V	C 32 A	-	94 ml	140 ml	230 ml	355 ml
RAK 45 IVT	5G 400 V	C 32 A	-	80 ml	120 ml	200 ml	315 ml

Power supply connector:

See Electrical diagram in appendix

L 1 : Phase 1
L 2 : Phase 2
L 3 : Phase 3
N : Neutre
Terre

P1 : Filtration pump relay neutral (option
P2 : Filtration pump relay line (option)
FSW : ON / OFF contact (NC Contact)
FSW : ON / OFF contact (NC Contact)
A : Communication Modbus RS485
B : Communication Modbus RS485

Use the cable glands and grommets provided inside the heat pump to route cables.

Since this machine is installed outdoors, connections must be made with a polychloroprene cable or with standard cables routed in protective conduit.

The electrical cables must be buried in pliable electrical conduit (red) at a depth of 50 cm (85 cm under a roadway or path). When an underground cable conduit crosses another cable or other utility (water, gas…), they must be separated by a distance of at least 20 cm (8”).

Heat pump power supply must be protected by a system in conformity with local laws.

Heating priority

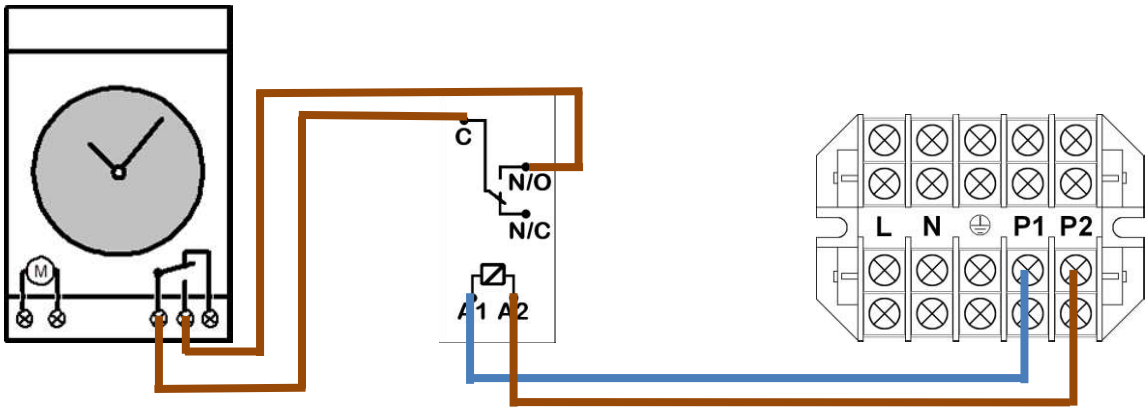
It is possible to connect the water filtration pump to the heat pump, in order to start the filtration pump if the water is not at desired temperature.

To connect the heating priority you need a normally open relay (contactor) with 230V AC coil.

Wiring connections:

- Connect the relay coil (A1 and A2) with the terminals P1 and P2 of the heat pump
- Connect the relay in and out of the normally open contact in parallel with the relay of the filtration pump timer

Wiring diagram:

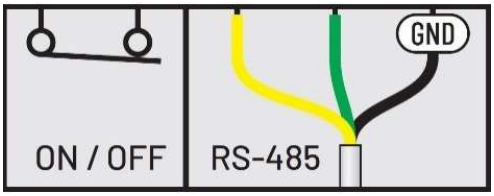


Filtration pump timer | Relay (dry contact) | Connection board heat pump

Parameter to confirm heating priority:
Check if the setting of heating priority (setting #16) is set to 2 (default setting).
If not, please contact our hotline.

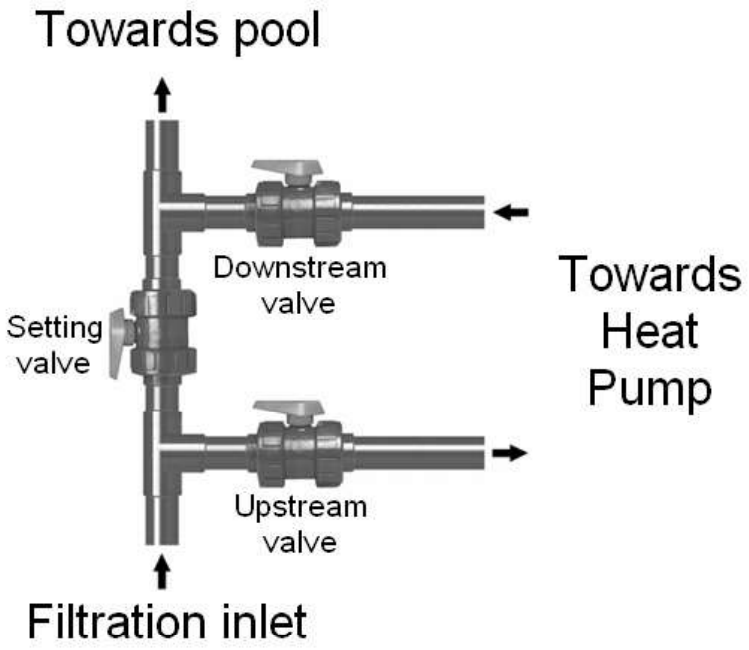
Automation

You have a very low voltage terminal block to which you can connect your home automation. This is an ON / OFF dry contact. Remove the existing bridge. When your home automation opens this contact, the machine stops and displays the message: No flow.



Utilization

Water connection



By-pass diagram

After having connected the heat pump to the pool water circuit system trough a suitable by-pass and having made the electrical connections by a qualified engineer, please verify the following points:

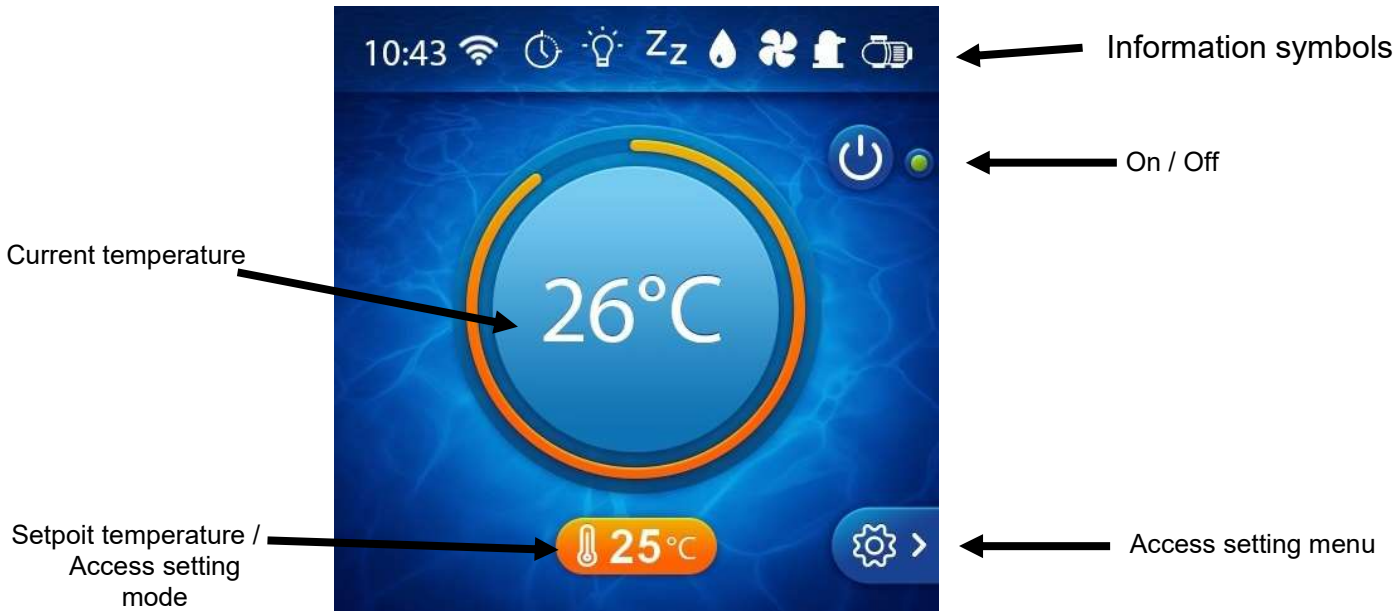
- Appliance is in a horizontal position and on a solid ground.
- Water circuit is primed (full of water): no air inside the tubes or the heat pump tank.
- Water circuit is well connected (no leaks and no chance of injury due to badly fitted hydraulic couplings).
- Electrical circuit is well connected (all cables tightened correctly at terminals and intermediate circuit breaker), insulated and earthed correctly.
- The installation requirements described previously are strictly adhered to.
- Ambient temperature is between :
  - -15°C and + 35°C
- Water temperature is between 15 and 30°C (50°F and 86°F).

You can then start up your machine. Follow the instructions below in the given order each time you start up the pool heat pump, especially at the beginning of the swim season:

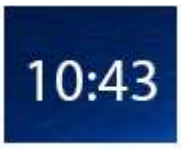
- Open the three by-pass valves and then half close the settings valve
- Start the pool pump
- Turn on the pool heat pump with the on/off switch (turn it to « I »).
- Check the machine to make sure that it starts only together with the filtration pump: If the filtration pump is not working, the “flow” LED will stop lighting.
- The pool heat pump will work after a delay of few minutes.
- Set regulation (Chapter «Regulation»).
- Set heating (Chapter «Heating»).
- After a few minutes (time for circuit to heat itself) you can regulate water flow as explained hereafter (Chapter “Water flow regulation”)

After these operations, you must put your pool cover on the swimming pool and let the heat pump work for few days in order for the water temperature to increase to the desired temperature.

Regulation (digital controller)



List of information symbols (activated when highlighted):



: hour


: Wifi


: Timer


: Operating mode

: Machine in Stand By


: Water flow


: Fan


: Compressor


: Filtration pump

The different operating modes:

 : Eco-Silence mode, the most economical and silent

 : Smart mode, the most intelligent, it adapts to your needs and the environment

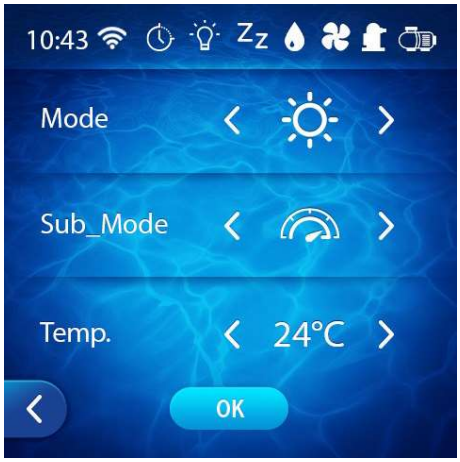
 : Boost mode, all the maximum power of the machine

Main Sceen

On the main screen, it is possible to quickly change the setpoint by turning around the central circle:

Settings Menu

-  User settings



Main Modes :

-  Heating
-  Cooling
-  Auto (heating and cooling)

Secondary modes:

-  Boost (speed change with priority to power)

Choose this mode for heating the pool at the beginning of the season.

-  Smart (full speed control)

Choose this mode for maintain the temperature during season

-  Eco-silent (speed change with priority to noise level)

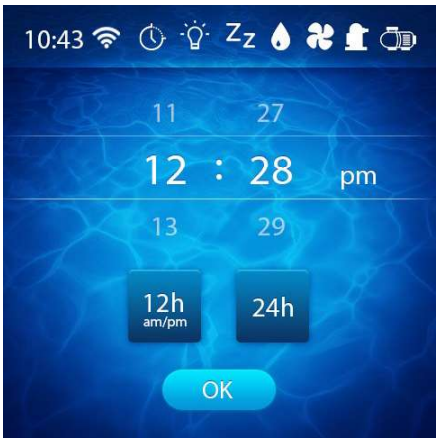
Choose this mode if noise is a problem

Temp. :

Adjusts the set water temperature

-  Setting Time and Timers

 - Set time



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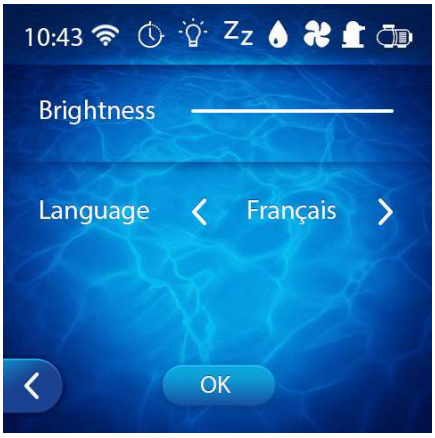
 - Adjustment of operating timer slots (if option enabled)

This setting is disabled by default because it is unnecessary when used with a clock on the filtration pump.

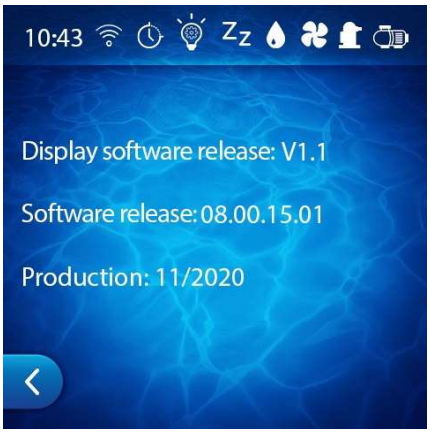
-  Screen setting

  Luminosity and error messages language.

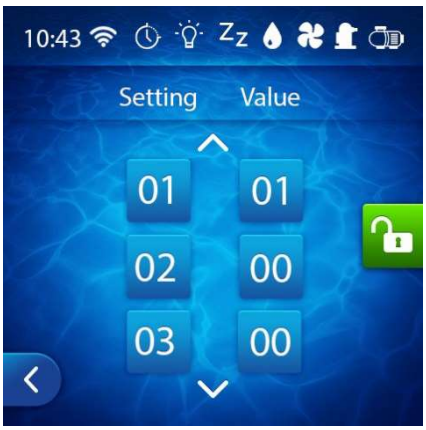


-  Informations

 - Informations screen



 - Internal heat pump settings



-  Heat pump information

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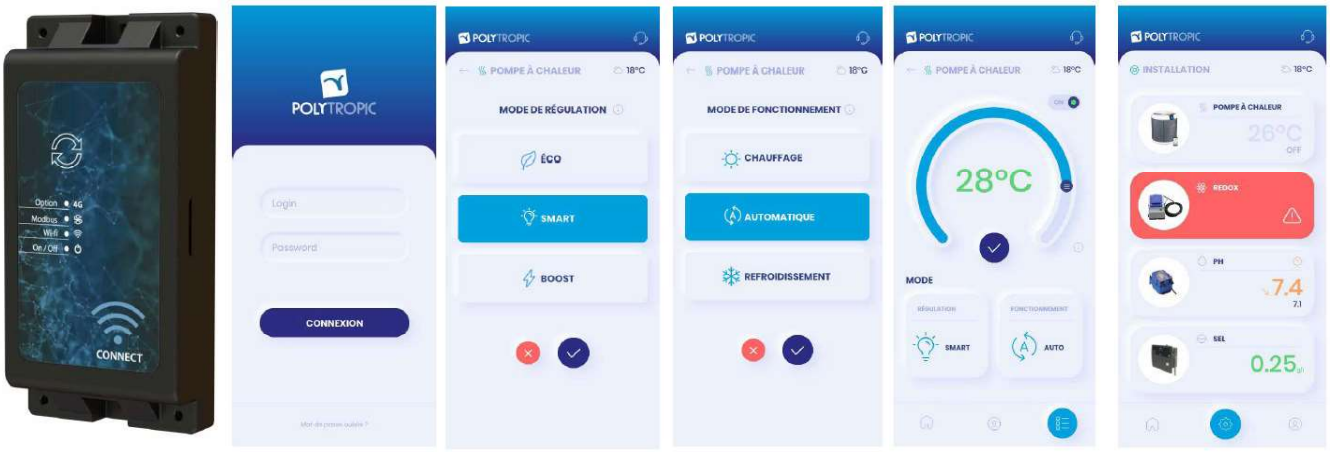
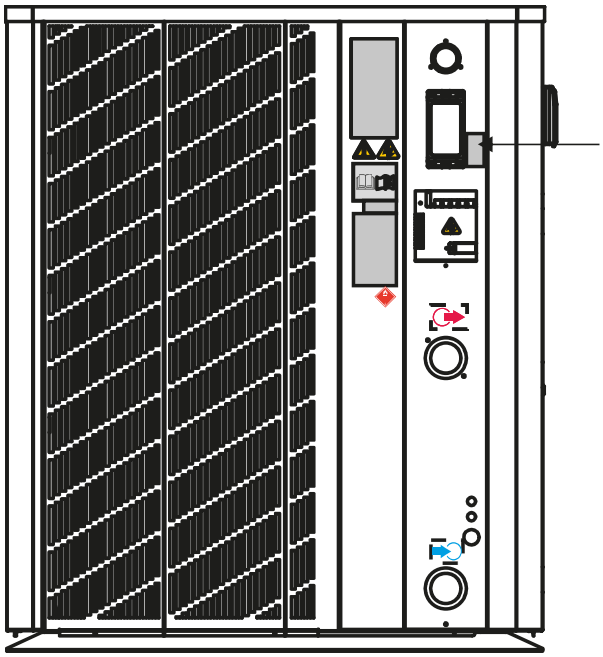
Mobile application: Polyconnect

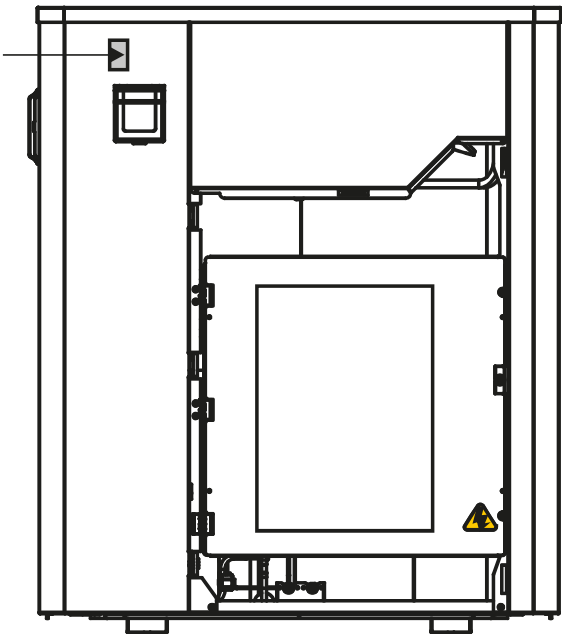
This model is equipped with Polyconnect module allowing the user to control remotely the heat pump and its accessories with **Polyconnect application.**
Polyconnect will also allow you to communicate easily with after-sales technicians to solve remotely and quickly some of the machine 1st level dysfunctions.



Download the Application

On apple or android store download the app, thanks to the Qr code located behind the electrical supply access. hatch or below the nameplate of the machine.





Controller state table

<table>
<tr><th>Screen</th><th>Explanation</th><th>Check</th><th>Solution (if no reset)</th></tr>
<tr><td>ZZZ</td><td>Stand-by</td><td>-</td><td>-</td></tr>
<tr><td>FLO
S02</td><td>No water flow or the flow switch doesn’t detect the water flow</td><td>- Check if filtration pump is working.
- Check by-pass setting.
- Check water flow switch setting.</td><td rowspan="10">Contact
Your
seller</td></tr>
<tr><td>P27</td><td>Phase error
(400V machine)</td><td>Invert 2 phases from the power supply.</td></tr>
<tr><td>EE6</td><td>Comp. Out temp. Too high</td><td>- Check if filtration pump is working.
- Check by-pass setting.</td></tr>
<tr><td>EE7</td><td>Memory problem</td><td>Change PCB</td></tr>
<tr><td>E02
E10</td><td>Communication error.</td><td>Check electrical connection between controller and electronic card inside the machine.</td></tr>
<tr><td>PP1</td><td>Probe error (Water in)</td><td rowspan="4">Check probe connection.</td></tr>
<tr><td>PP3
(PP10)</td><td>Probe error (evap.)</td></tr>
<tr><td>PP4
(PP11)</td><td>Probe error (comp. in)</td></tr>
<tr><td>F01</td><td>Probe error (ambiance)</td></tr>
<tr><td>P17</td><td>Too much difference between water in and water out.</td><td>Check by-pass setting.</td></tr>
<tr><td>P14
P15</td><td>Defrost protection.</td><td>Ambient temperature was lower than the minimum working range temperature.</td><td rowspan="3">- Turn the machine OFF few minutes.
- Turn the machine ON.
(Contact your seller)</td></tr>
<tr><td>HP / HP2
PP9 / PP12</td><td>High pressure protection</td><td>- Check by-pass setting.
- Check water flow switch setting.</td></tr>
<tr><td>LP / LP2
PP9 / PP10</td><td>Low pressure protection</td><td>- Check if there is gas inside the machine (manometer between 0,5 and 1 when machine is stopped).
- Ambient temperature was lower than the minimum working range temperature.</td></tr>
</table>

Water flow setting

To optimize the performance of the heating process, it is advisable to regulate the water flow through the pool heat pump.

The adjustment must be carried out according to the indication given by the pressure gauge. The setting is modified by opening or closing the setting valve of the by-pass.

To increase the pressure on the manometer (pressure gauge), the water flow passing through the heat pump must decrease:

Open the setting valve.

To decrease the pressure on the manometer (pressure gauge), the water flow passing through the heat pump must increase:

Close the setting valve.

For a normal working performance, inlet and outlet valves must be completely open.

Normal pressure

Pressure inside the refrigerant circuit of the heat pump and the water flow influence each other.

To work correctly, a water flow of 5 to 7 m³/h (100 l/min) should be maintained for maximum heat transfer.

If the value indicated on the pressure gauge is in the green area between 1,5 and 3, the water flow is CORRECT.

Set the water flow to 1,5 when water is cold (at the start of the season) and between 2 and 3 when water is about 28 to 30°C.

Warning: The Heat pump needs to operate for few minutes before the internal pressure stabilizes

Abnormal pressure

If the pressure is too high or too low, it indicates that the water flow circulating inside the heat pump is not correct.

You need to adjust the water flow by opening or closing the by-pass valve. Open little by little it if the pressure is too low and close it little by little if the pressure is too high until it remains stable in the green area.

Pressure gauge must be between value 1 and 1,3 when the machine is stopped. If the value is 0, don't start the machine (contact your seller).

Frequency of settings

The optimum water flow through the pool heat pump depends mainly on the water temperature and to a lesser extent on the ambient air temperature.

Ideally the settings should be done:

- When the pool heat pump is turned on and water is cold.
- When the pool temperature is increasing.
- When the desired water temperature is reached.

Thereafter the flow does not need to be regulated any further. Simply check the pressure once in a while to ensure that the pool heat pump is working normally and that the water flow hasn't changed.

Winter setting

When you are winterizing your pool system, you must:

- Turn the pool heat pump off
- Close downstream and upstream valves of the by-pass system.
- Drain the exchanger to prevent any risk of freezing.
- Open completely the downstream and upstream valves to empty the heat exchanger tank before closing them.
- Cover the heat pump with a water-proof cover.

A special cover designed for each heat pump model can be provided as an option.

Water quality

The water quality must be within the following limits

Chlorine concentration less than 2.5 ppm

pH level from 6.9 to 8

In case of strong shock treatment, isolate the appliance using the downstream and upstream valves of the by-pass system. Once the treatment has finished, set the by-pass valves to their initial position prior to the treatment.

VERY IMPORTANT: the warranty will be invalidated if chemical concentration levels are not maintained within the limits mentioned.

Never make the injection of chemicals (chlorine, acid, etc.) directly in the filtration pump strainer.

It could be a highly corrosive product that would irreversibly destroy your appliance.

Heating

Temperature rise phase

As soon as you wish to re-start your swimming pool at the beginning of the season:

- Isolate your heat pump from the filtration circuit:
- Close downstream and upstream by-pass valves.
- Open setting valve.
- Then proceed with all the usual initial operations (water filling, back-wash of the filter...,
- Turn the filtration pump on.
- Turn pool heat pump on, set temperature, set water flow, open the by pass valves.
- Cover the pool with solar cover or other.
- Leave the pool system and pool heat pump working permanently until the pool has reached the required temperature (it will take approximately 36 hours to 1 week).

Don't forget to set the water flow and required temperatures.

The time for the pool temperature to increase depends on the exposure of swimming pool to wind, sun and the pool environment as well as the heat pump size.

Maintaining the temperature

Once the set temperature is reached, you may reduce the filtration period according to the temperature requirements (8 to 10 hours a day minimum during the summer). The heat pump will re-start automatically when necessary.

The minimum working time depends of the season; contact your distributor for more information.

If the temperature decreases and the machine work every time the filtration pump is on: increase the filtration time.

A thermal pool cover is very important in order to avoid unnecessary heat loss.

IMPORTANT: An uncovered pool will lose 4 times more heat than a covered pool.

The heat pump working is calculated for a covered swimming pool.

Maintenance (by a qualified technician)

Before any maintenance operation, the heat pump must be completely stopped for few minutes before connecting pressure controllers. This is because high pressure and temperature inside the heat pump could be harmful.

Please check the following on a monthly basis:

- Check and clean the evaporator (with a soft brush or water jet).

Do not use high pressure cleaner.

- Check all electrical and ground connections.
- Check that all electrical connections and terminals are securely connected.
- Check gas pressure (when heat pump is stopped, manometer must indicate a pressure higher than 0.5)

Please check the following points yearly:

- Check settings.
- Check securities.
- Check all electrical connections and ground.
- Check condenser cleanliness.

- Use soft soap and water to clean the heat pump casing.

Do not use solvents.

After Sales Technical Service

In case of technical problems regarding any of the Polytropic heat pumps, the following measures should be taken:

Provide to the technical service the following essential information:

Serial number of the machine

Manometer value when machine is stopped

Manometer value when machine is working

The position of ON/OFF button and if it is lit or not

The value and pictograms displayed on digital controller.

The value of programmed settings

If fan is working or not

Position of the by-pass valves

Contact your dealer and pass on this information together with the dimensions of the swimming pool, your personal details (address, telephone number) and the description of the failure.

If this procedure is respected, the Polytropic technician will be able to make as accurate diagnostic of the failure.

The recommended solution made by Polytropic will be implemented briefly after that.

IMPORTANT: If this measure is not followed, warranty will be cancelled.

Hotline France :	+33 (0) 4 78 56 93 96
Hotline España:	+34 (0) 4 87 64 60 01
Hotline U.K.:	+34 (0) 4 78 56 93 96
Hotline Deutschland :	+34 (0) 4 87 64 60 02

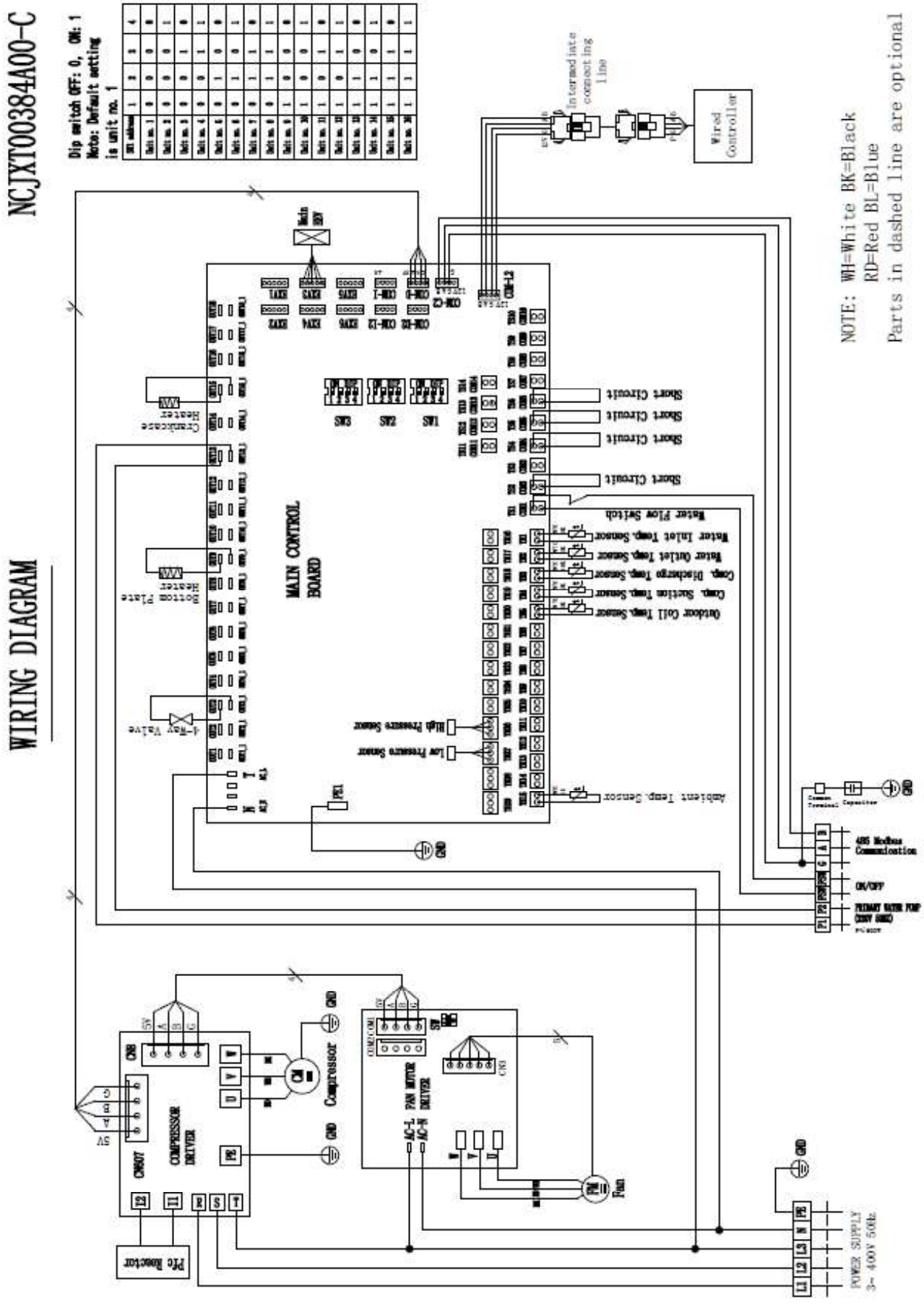
Contains fluorinated greenhouse gases covered by the Kyoto protocol in a hermetically sealed circuit:

- R410a: 50% R32 - CH_2F_2 / 50% R125 - F_3CHF_2
- R32: 100% CH2F2

At the end of product lifetime, it must imperatively be entrusted to a qualified professional (refrigeration technician) in order to dismantle it in accordance with the laws in force (recovery of cooling gas, of metallic materials which can be recycled...).

Annex

Wiring diagram RAK 35IVT et RAK 45IVT



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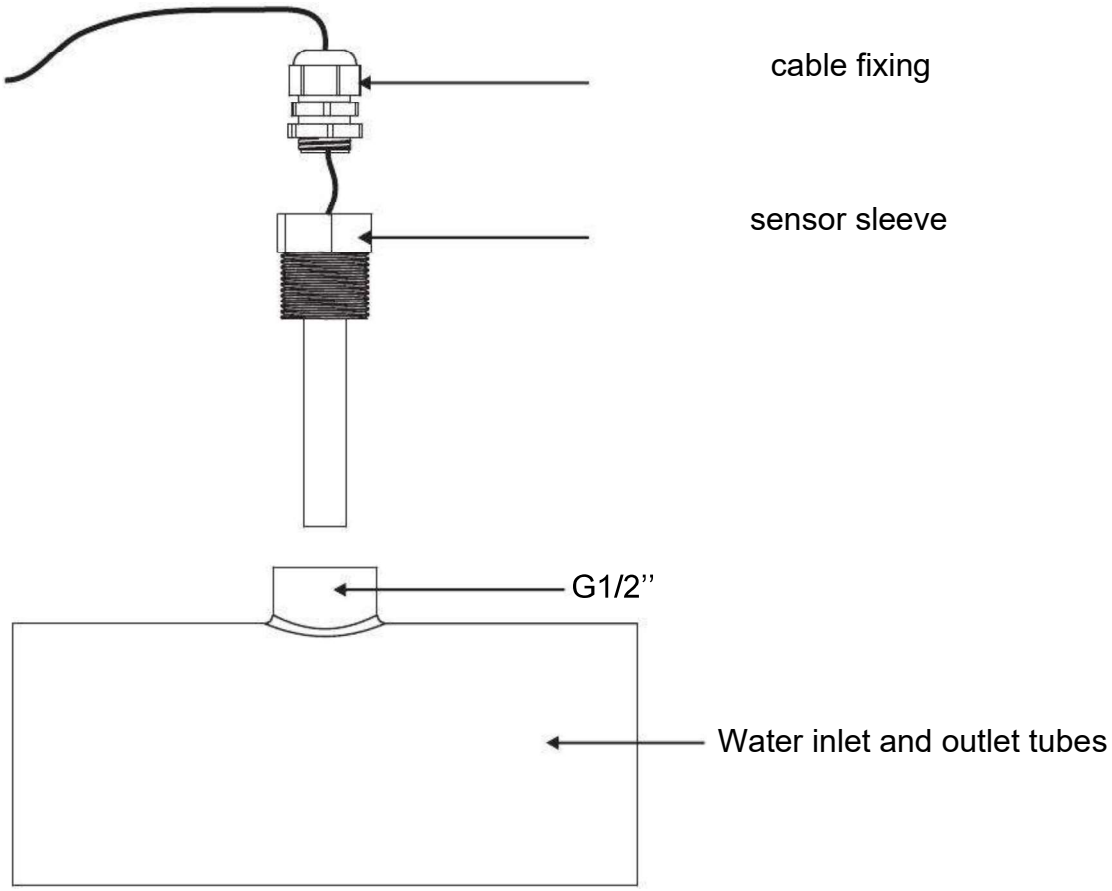
POLYTROPIC

Multi-RAK controller

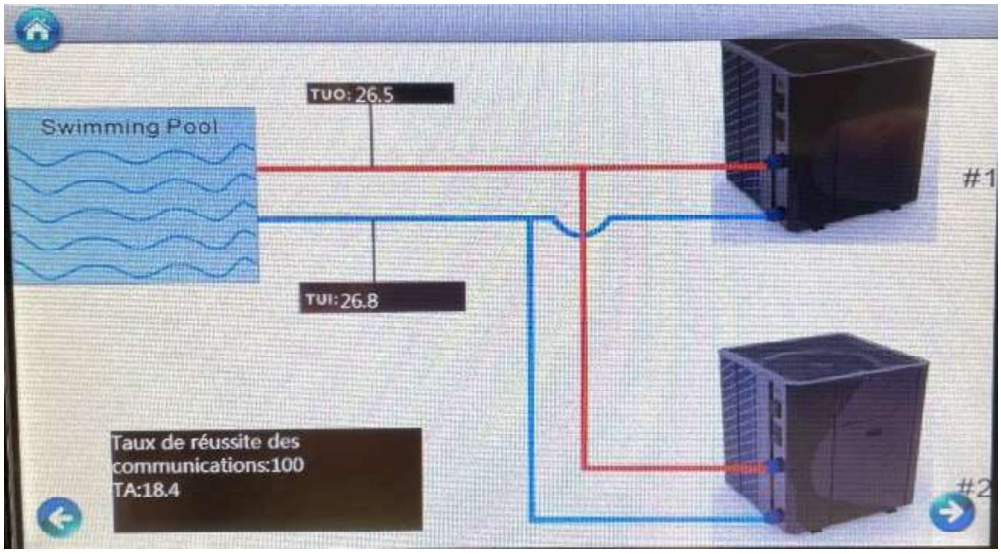
Instructions Handbook

Multi-RAK controller

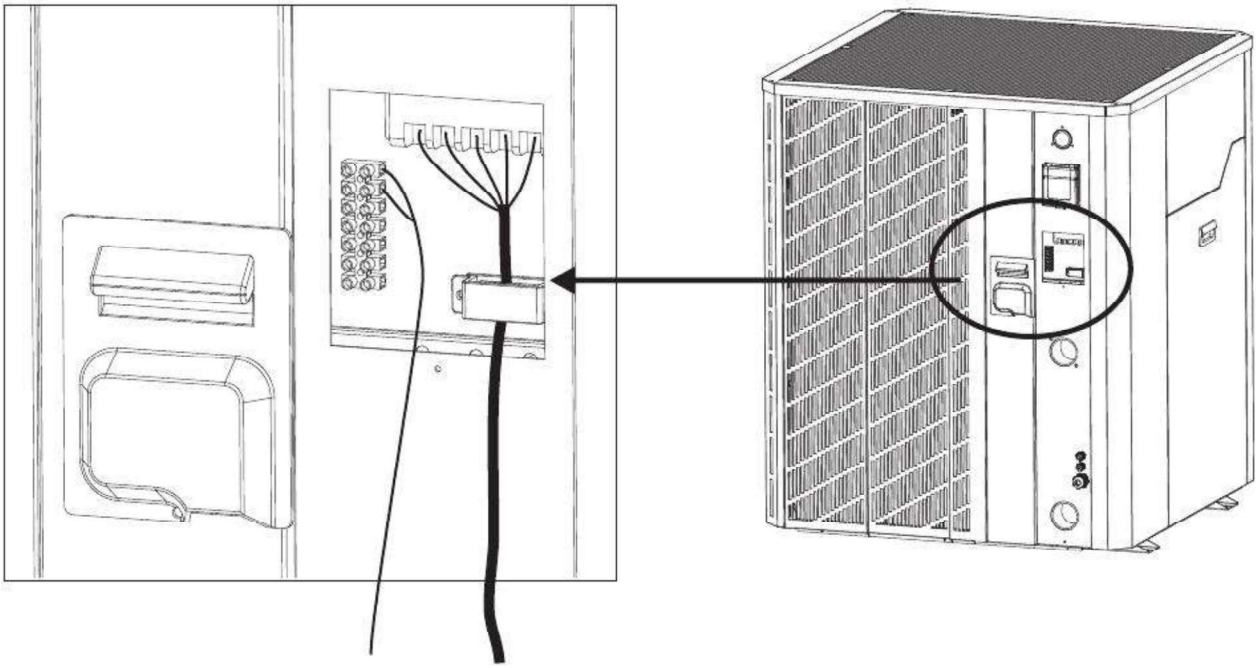
Installing the Accessory Kit Temperature probes:



1 Connect the sensor sleeve and the water inlet and outlet tube
2 Pass the probe through the cable attachment and place it in the sleeve
3. Connect the cable structure and sleeve

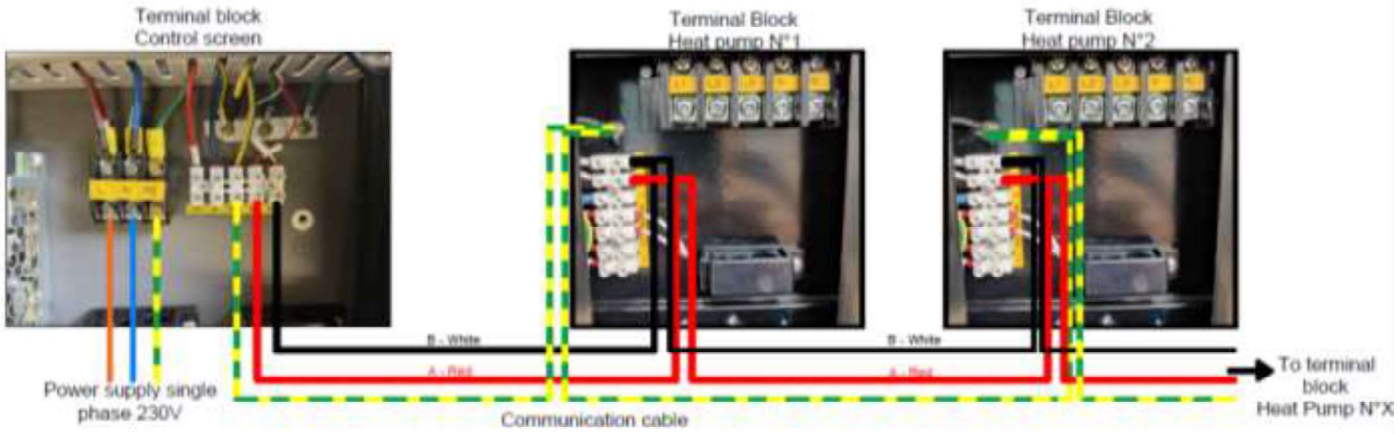


1. Connection of the communication cable from the control screen:



communications cable Power cable

These operations are done off.
Caution: the communication cable must be connected in series on the PACs from n°1 to n°X. Star or parallel connection will not work. A control screen can display up to 16 heat pumps.

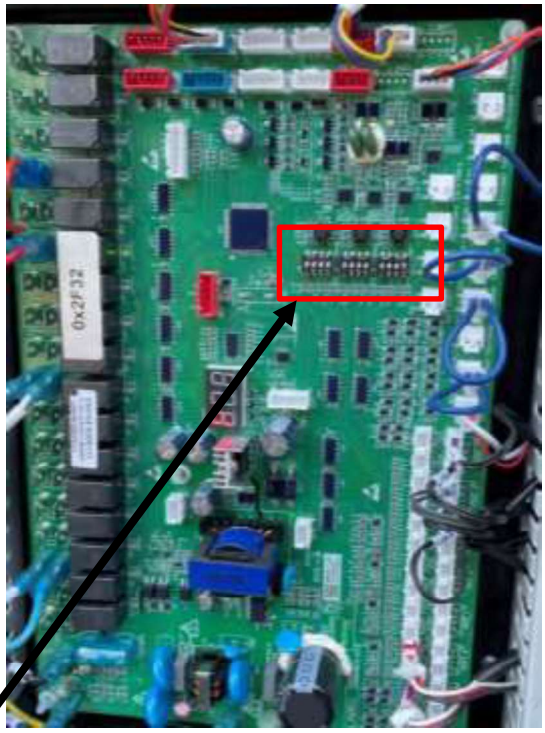


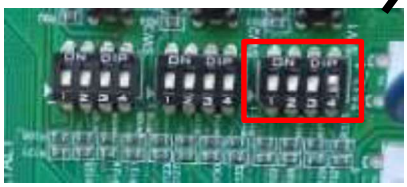
2. ***Addressing the heat pumps on the regulation board:***

These operations are done off.
This step is necessary to allow the control screen to view and number the heat pumps.

Dip switch OFF: 0, ON: 1
Note: Default setting
is unit no. 1

SW1 address	1	2	3	4
Unit no. 1	0	0	0	0
Unit no. 2	0	0	0	1
Unit no. 3	0	0	1	0
Unit no. 4	0	0	1	1
Unit no. 5	0	1	0	0
Unit no. 6	0	1	0	1
Unit no. 7	0	1	1	0
Unit no. 8	0	1	1	1
Unit no. 9	1	0	0	0
Unit no. 10	1	0	0	1
Unit no. 11	1	0	1	0
Unit no. 12	1	0	1	1
Unit no. 13	1	1	0	0
Unit no. 14	1	1	0	1
Unit no. 15	1	1	1	0
Unit no. 16	1	1	1	1

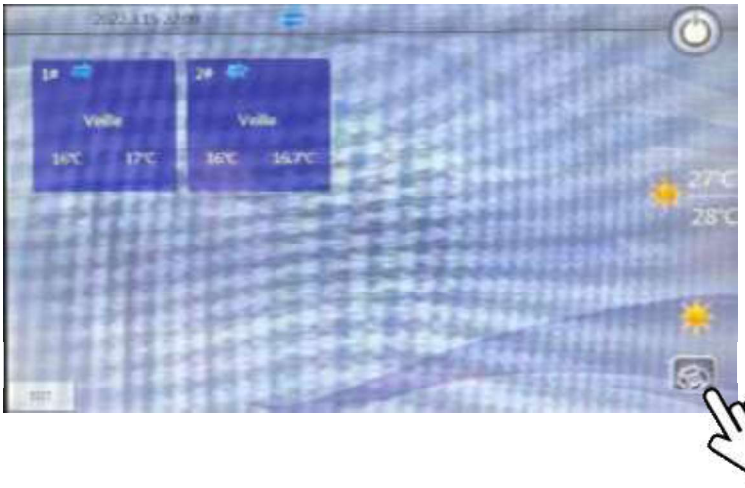




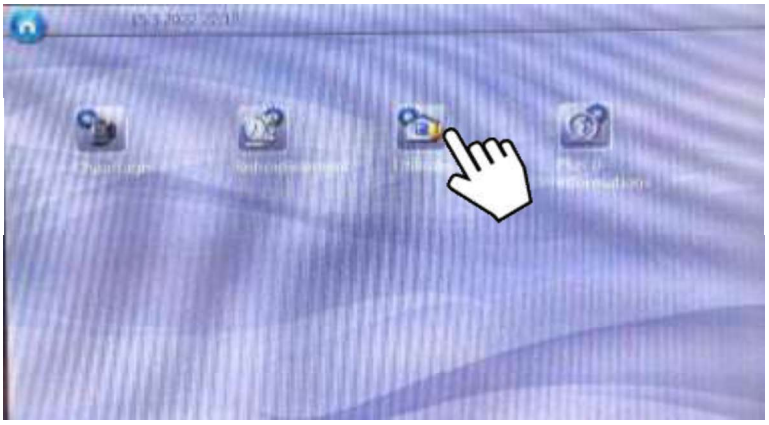
Switch for heat pump adressing

3. ***Setting the number of heat pumps:***

Check that the heat pumps and the control screen are powered on.
Once the addressing of the heat pumps has been completed, the number of heat pumps that are connected must be indicated on the control screen.
For it,



Press « settings »



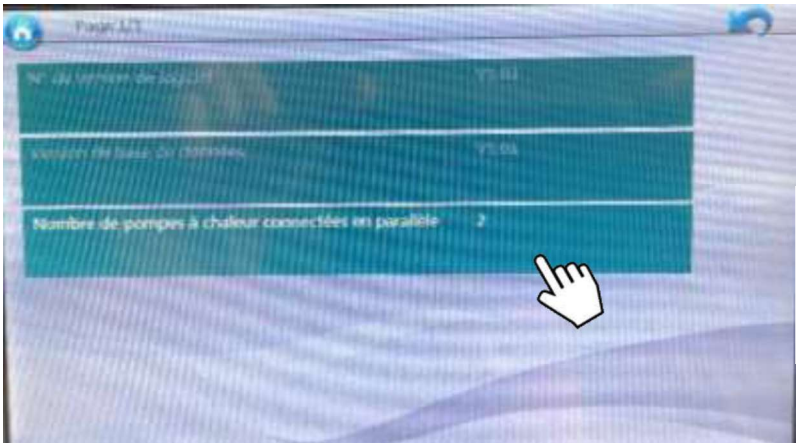
Press « User »

Press « Fitter »

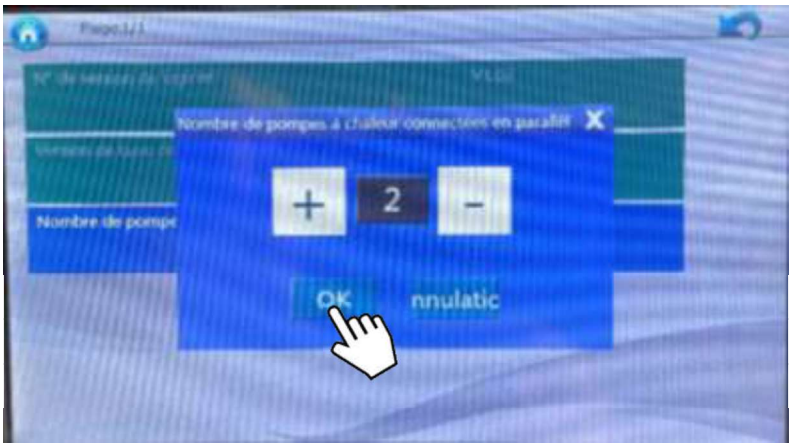
Enter the following access code: 87654321 and click on “OK” to validate.

Then exit to the home screen. Pressing "X" and "Home"

Press « More informations »



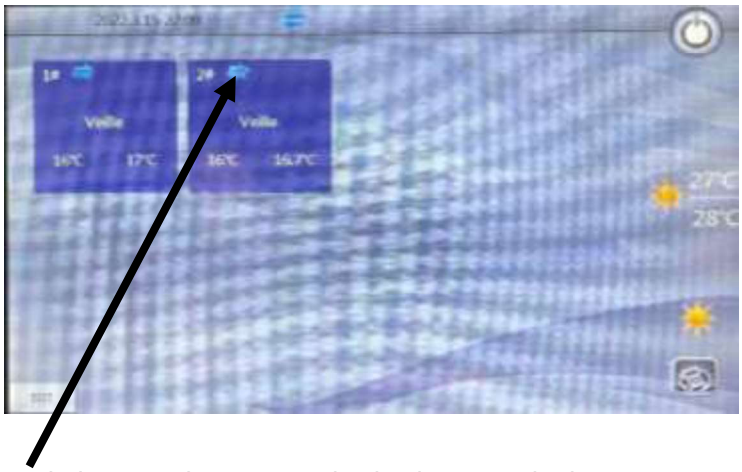
Press on “number of heat pumps”



Press "+" or "-" to change the number of heat pumps

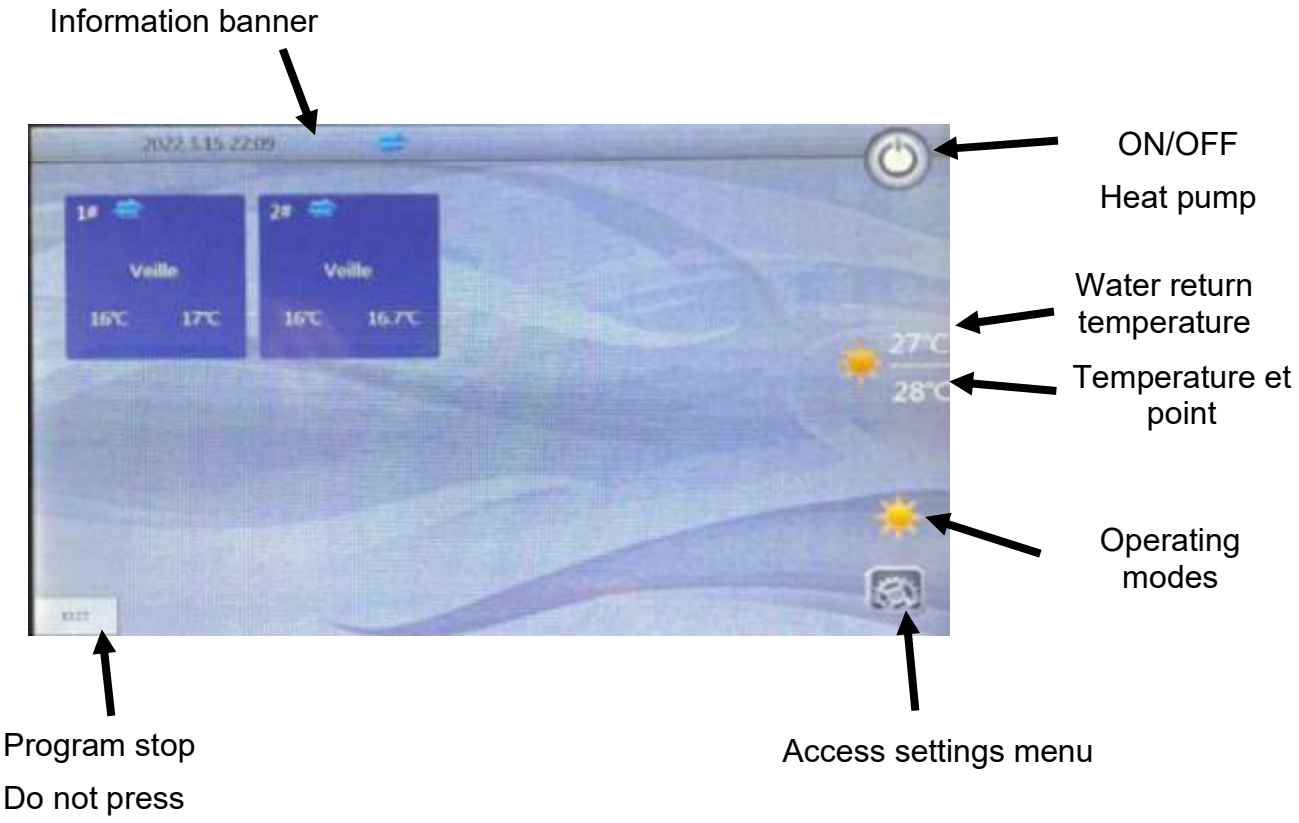
Then press "OK" to validate

Once all these steps have been completed, return to the home screen where after a few seconds you will be able to view the heat pumps with their number. (#1, #2, #X)



This symbol means that communication between the heat pumps and the control screen is established.

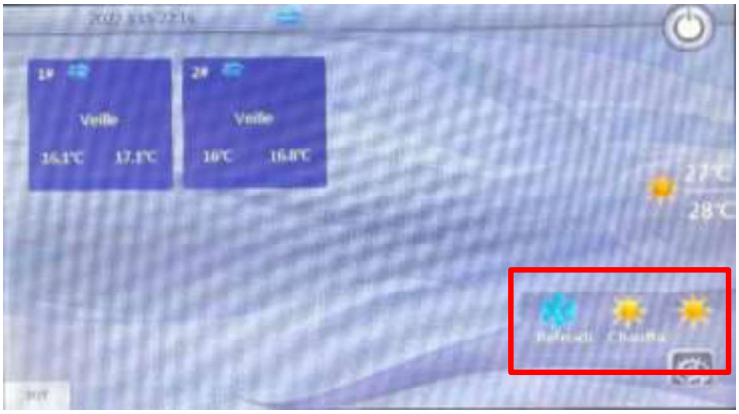
Home screen:



The different operating modes:

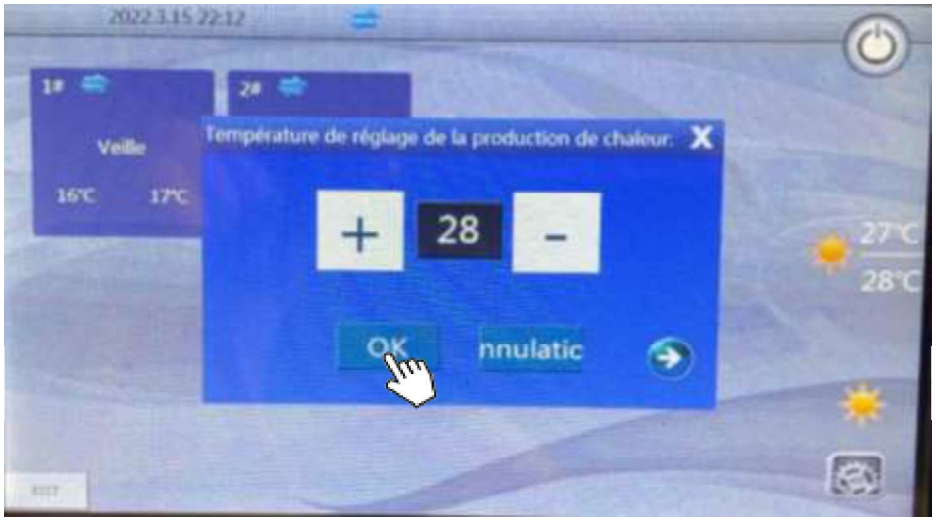
Cooling mode

Heat mode



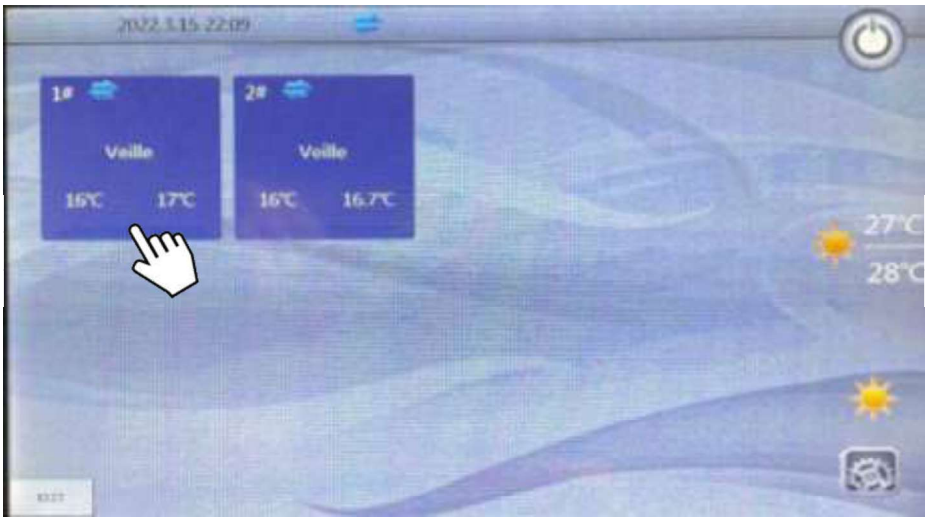
Setting the set temperature:

Press the set temperature to modify it



Press "+" or "-" to change the set temperature

Then press "OK" to validate

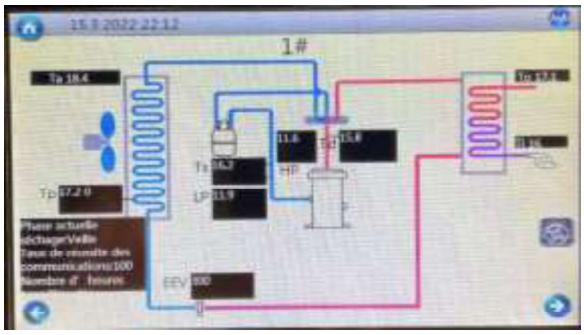


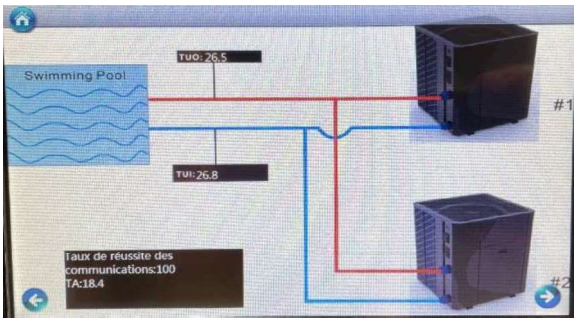
The blue square below represents a heat pump with the following data:

Heat pump operating status
Left temperature: Water inlet temperature in real time
Right temperature: Water outlet temperature in real time

By clicking on the icon above, we arrive on the information page of the selected heat pump.

Heat pump information page:





 : Click here to view information from other heat pump

 : Press here to view unit alarm information

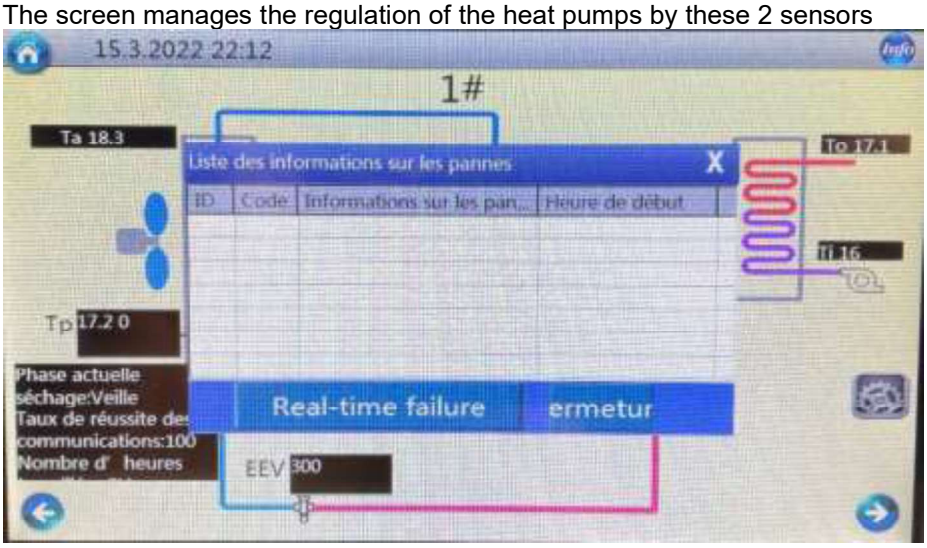
 : Means the heat pump number

 : In all screen interfaces, this button allows you to return to the home page

 : In all screen interfaces, this button allows you to return to the previous page

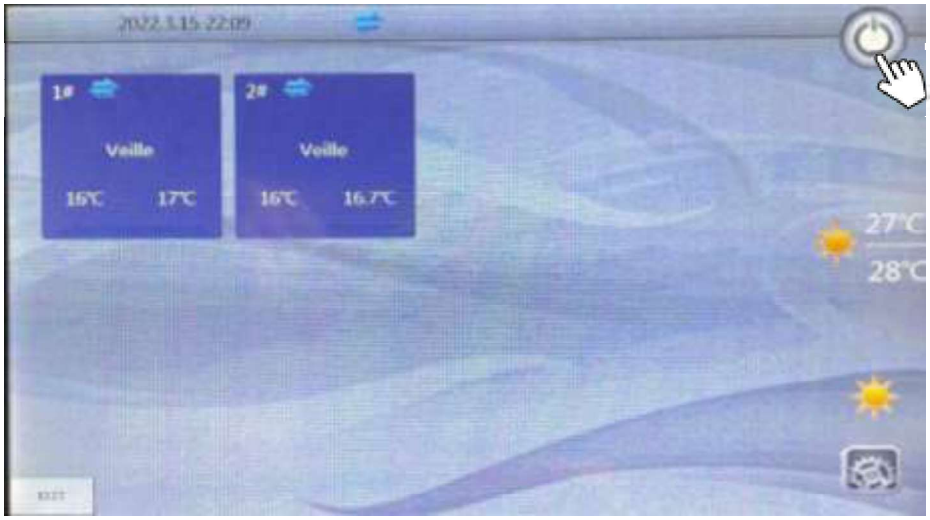
Ta: Outside temperature in °C
Td: Discharge temperature in °C
HP: High pressure value in bar
TS: Suction temperature in °C
LP: Low pressure value in bar
TP: Evaporation temperature in °C
EEV: Valve opening

Tui: Water inlet temperature in °C
Tuo: Water outlet temperature in °C
The screen manages the regulation of the heat pumps by these 2 sensors



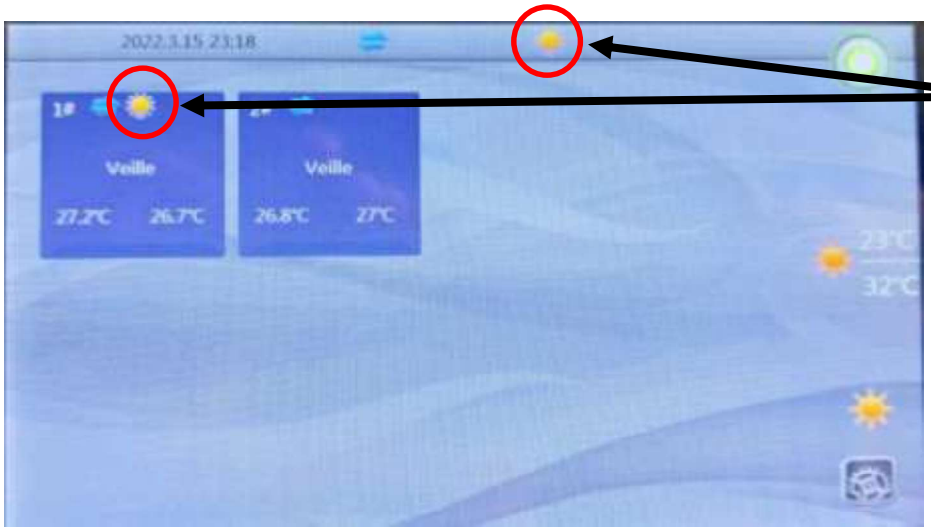
Alarm history

Starting up heat pumps :

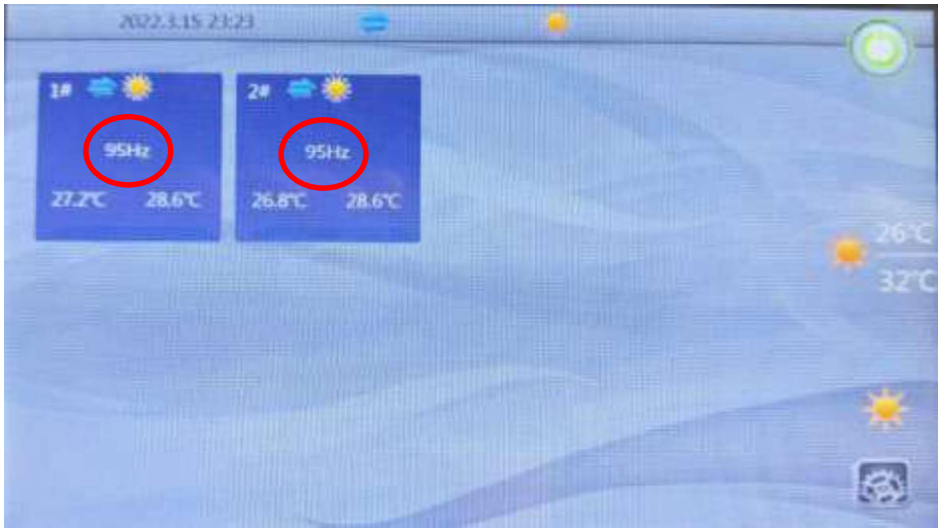


Press « On/Off »

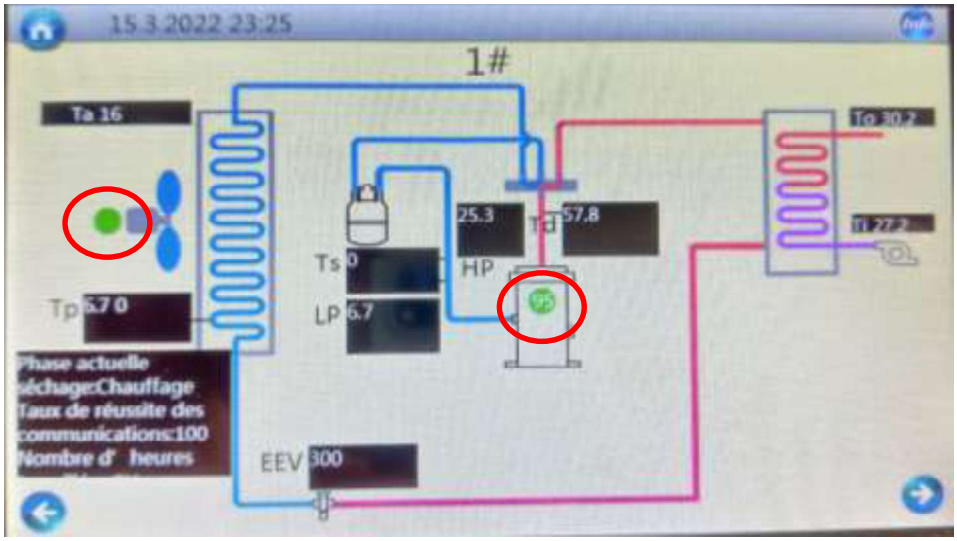
The button turns green



Run order symbol



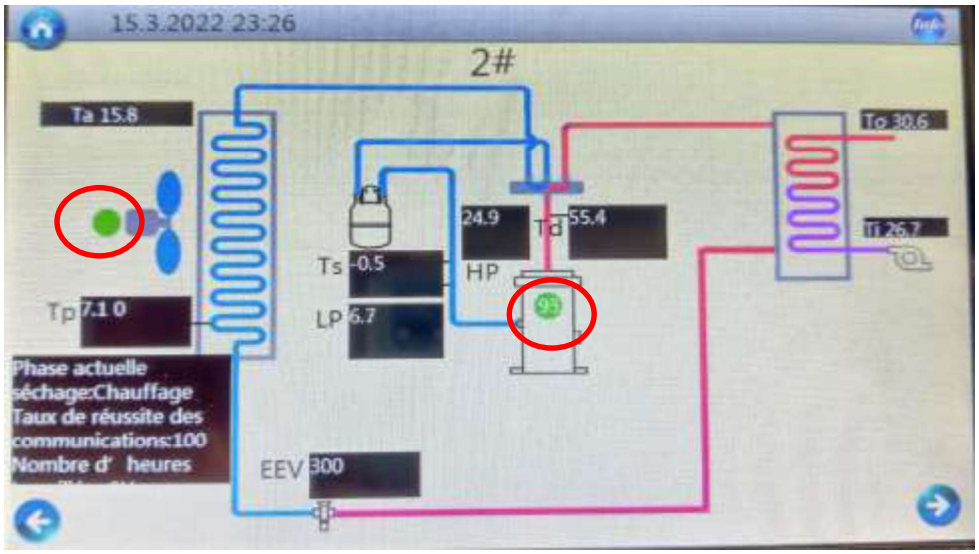
The compressor frequencies are displayed, the heat pumps are in operation



Visual Heat pump 1

Compressor frequency + green light = On

Fan green light=On



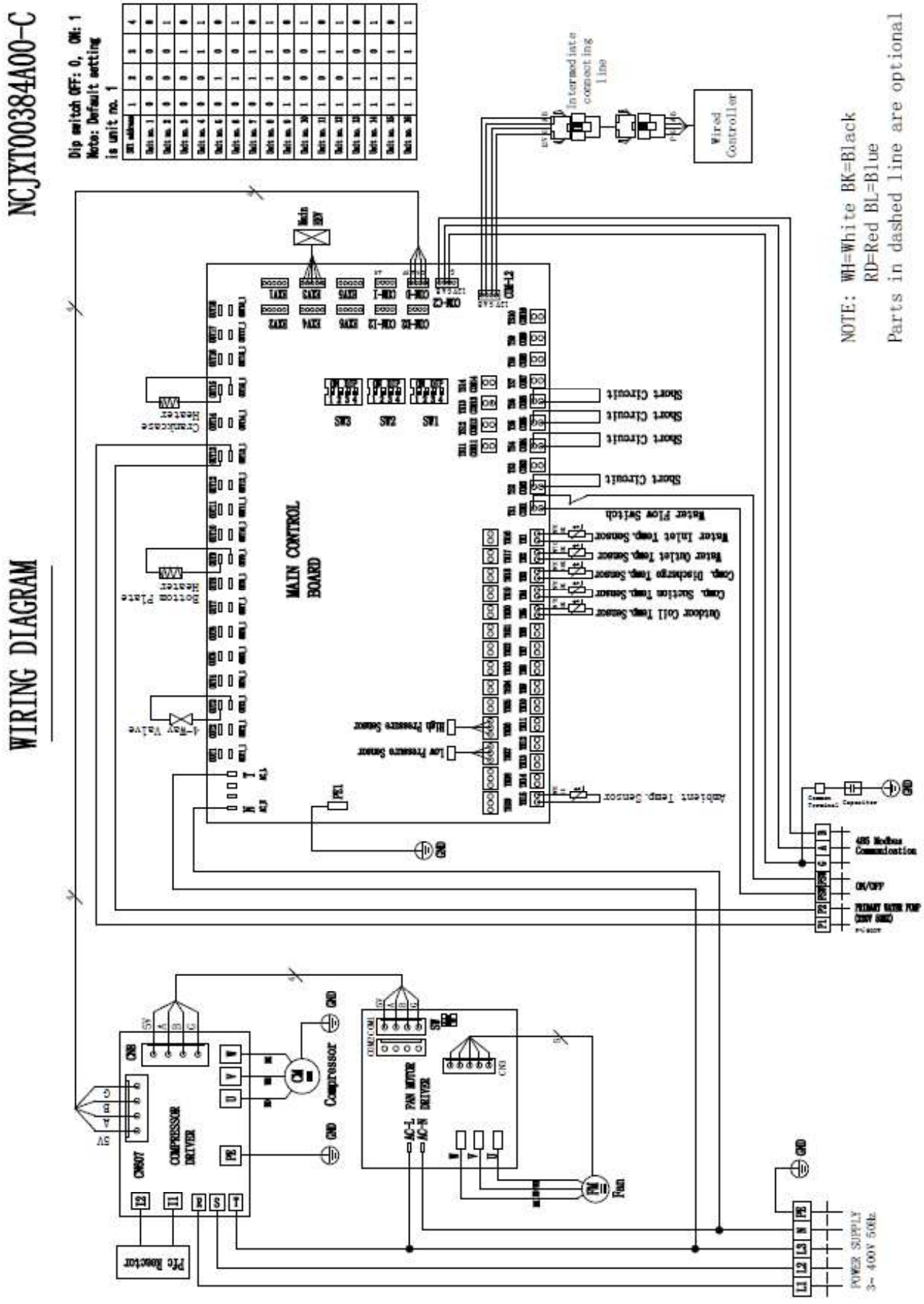
Visual Heat pump 2

Compressor frequency + green light = On

Fan green light=On

Annex

Wiring diagram RAK 35IVT et RAK 45IVT



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