EN

TECHNICAL MANUAL

AQUAPURA MONOBLOC PRO

120i | 160i

Revision: 4
Version: 0
Date: 31/07/2025

Diretives
2006/95/CE

Esteemed Client,

We would like to thank you for your choice when you acquired an equipment for sanitary water heating.
AQUAPURA MONOBLOC PRO aero-thermal system will surely meet all your expectations and provide many years of comfort with maximum power saving.
Our organization dedicates much time, energy and economic resources in order to develop innovations that will promote power saving in our products.
Your choice has demonstrated your good sense and concern with power consumption, a matter that affects the environment.
We have taken on a permanent commitment to conceive innovative and efficient products so that this rational use of energy can actively contribute to the preservation of the environment and natural resources of the planet.
Keep this manual whose objective is to inform, alert and advise about the use and maintenance of this equipment.
This instruction manual is also available on the website:" https://www.energie.pt/en/products/aquapura-monobloc"
Our services are always at your disposal. Feel free to call upon us!

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1 INTRO

1.1 Symbols

	Every process that the supplier believes to be conducive to harmful danger and/or material damage will be signalled with a danger sign. To better characterize the danger, the symbol will be followed by one of these words: • **DANGER**: when there is the possibility of harm to the operator and/or people in the vicinity of the equipment • **WARNING**: when there is the possibility of material damage to the equipment and/or attached materials.
	All the information that the supplier believes to be an asset for better performance and preservation of the equipment, will be signalled together with the information sign.

1.2 Safety Indications

WARNING / DANGER

- The electrical installation of the equipment must comply with the national regulations for electrical installations in effect.
- The equipment can only work if the water heater is filled with water and properly purged;
- The electrical supply is 220 – 240 V/50 Hz or 60Hz* (equipment version only designed on specific request);
- The equipment must be connected to an electrical outlet with earth contact;
- If the power supply cable is damaged, it must be replaced by the manufacturer, by its customer service, or by staff with similar training in order to avoid any danger.
- Children must not play with the device.
- Cleaning and maintenance must not be carried out by children without supervision.
- According to standard EN60335-2-40: This device can be utilized by children of 8 years old or more and by people with limited physical, sensorial or mental capabilities or with lack of experience and knowledge if they are being watched or have receive instructions regarding the use of this device in a safe manner and if they understood the risks involved.
- According to standard EN60335-2-21: This device can be utilized by children of 3 years old or more and by people with limited physical, sensorial or mental capabilities or with lack of experience and knowledge if they are being watched or have receive instructions regarding the use of this device in a safe manner and if they understood the risks involved. The children of ages between 3 and 8 can only operate the tap connected to the device
- According to standard EN6335-2-40 + IEC60335-2-21: This device can be utilized by children and people with limited physical, sensorial or mental capabilities or with lack of experience and knowledge if they are being watched or have receive instructions regarding the use of this device in a safe manner and if they understood the risks involved.
- The operating principle of this equipment is directly linked to high temperatures and pressures, so all processes that involve contact with the equipment must be prepared with care to avoid risks of burns and material projection.
- The heating of other fluids than drinking water is not allowed.

1.3 Information

INFORMATION

Installation

- The installation of the equipment must be carried out by staff with suitable training and qualified for this purpose.
- The device **must not be** installed:
  - outdoors;
  - in places with corrosive environment;
  - in places with a risk of temperatures below 5ºC;
  - in places that present a risk of impact, shock or explosion.
- The equipment must be installed in a dry place, protected from the weather;
- Keeping the equipment packed until the place and time of installation.
- Ensure that all hydraulic connections are properly watertight before powering the equipment electrically.
- The discharge pipe connected to the pressure limiting device must be installed in a non-freezing environment and continuously directed downwards.
- The discharge tube of the pressure limiting device must be kept open to the atmosphere.

Maintenance

- The user is responsible for the safety and environmental compatibility of the installation and/or maintenance.
- Maintenance/repair should only be carried out by a brand assistance service, with the exception of general and continuous cleaning operations, which can/must be carried out by the user himself. Repairs carried out incorrectly can create risks for the user and cause the product to malfunction.
- The supplier recommends that at least an annual inspection of the equipment be carried out by a qualified technician.
- Always switch off the electrical supply to the device before carrying out any maintenance work.
- Cleaning and maintenance must not be done by children without supervision.
- Only use original replacement parts.
- The safety valve must be operated regularly to remove impurities and check that it is not blocked.
- To drain the water from the water heater, close the supply valve and open the drain valve.
- Fuses:
  - Compressor 10A;
  - General 10A.

*** Pressure Reducing Valves**

- Pressures admitted upstream of the pressure reducing valve:
  - Maximum pressure allowed 1.2 Mpa;
  - Minimum pressure allowed 0.1 MPa;
- Pressure downstream of the pressure reducing valve:
  - Factory set to 0.3 MPa;

*** Safety Group**

The safety group allows the system to be protected in the event of anomalies in the supply of cold water, hot water return, emptying of the water heater and high pressures. The valve is calibrated to operate at 0.7 MPa.

Safety thermostat

The safety thermostat is disarmed when the temperature of the water of the tank rises above normal working temperatures and can be rearmed after the cause of the disarm is uncovered.

Refrigerant

- Handle and recycle refrigerant gas, if necessary, in compliance with environmental laws. It cannot be released into the environment!
- The refrigerant gas is R290, free of CFCs, flammable and without harmful effects on the ozone layer.
- Before carrying out any intervention on the components of the refrigerant circuit, evacuate/recover the refrigerant gas in order to carry out the operations safely.
- In maintenance, it It should be taken into account that R290 gas, which is highly flammable (A3) and has a GWP of 3.
- All gas handling must be carried out by a qualified technician.

In operation

- Water pressure:
  - Minimum 0,1 MPa;
  - Maximum 0,7 MPa;
- Water temperature:
  - Minimum 5 °C;
  - Maximum 65 °C;

Information to give to the customer

- The installer must inform the customer about the operation of the appliance, instruct him on its handling, and the customer's rights and duties.
- Communicate to the customer the fact that the alteration or maintenance of the device must only be carried out by specialized and accredited personnel.

(*)
Components not supplied with the equipment.
We strongly recommend its installation.

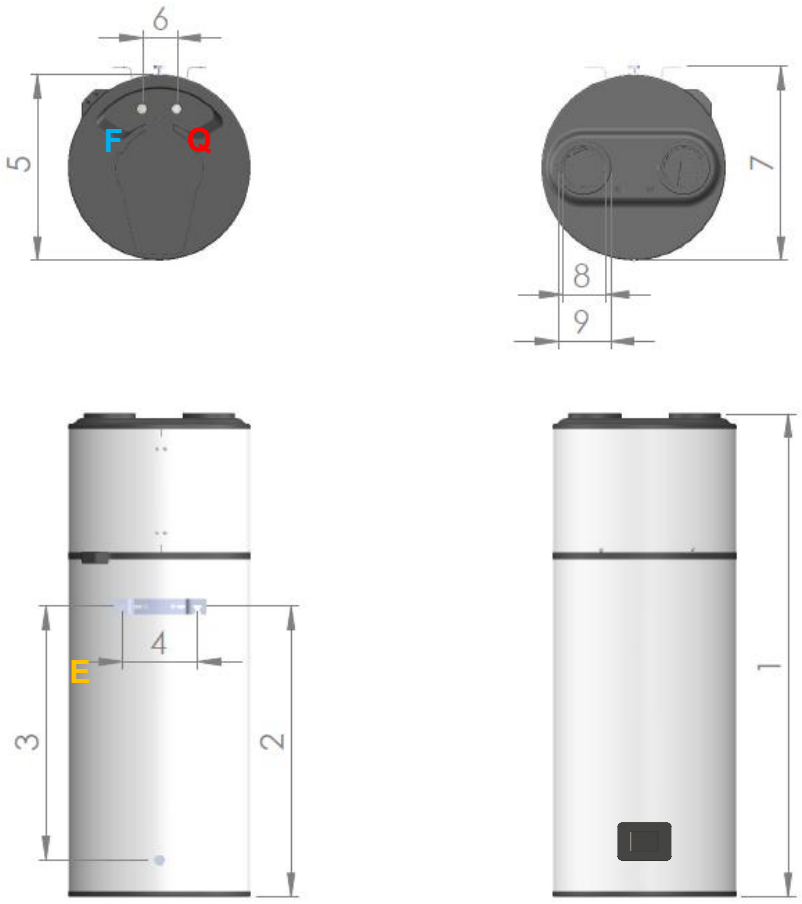
To request additional information, contact us via the email address energie@energie.pt or via our website www.energie.pt.

2 SPECIFICATIONS

2.1 Components

The Aquapura Monobloc package contains:
Hot water storage tank with electric heater, in stainless steel, with or without an inner coil to be used with a thermal solar boosting system, boiler, etc…

120

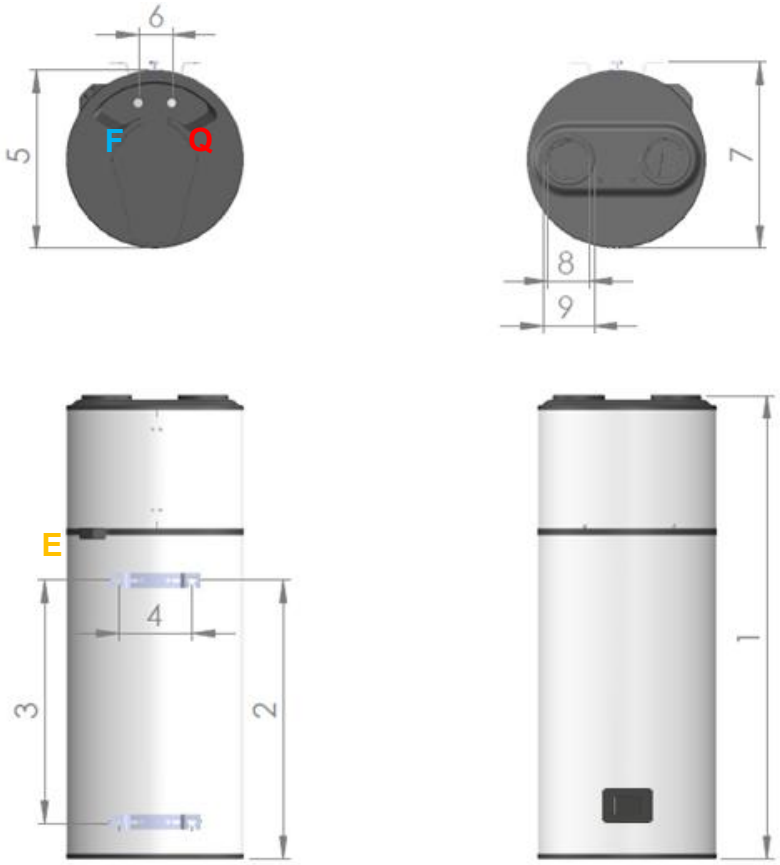


B

Q – Hot Water
F – Cold water
E – Condensate Drain
B – Lower Stop

	120
1	1366 mm
2	826 mm
3	720 mm
4	220 mm
5	Ø530 mm
6	100 mm
7	550 mm
8	Ø125 mm
9	Ø150 mm
Q	3/4” M
F	3/4” M

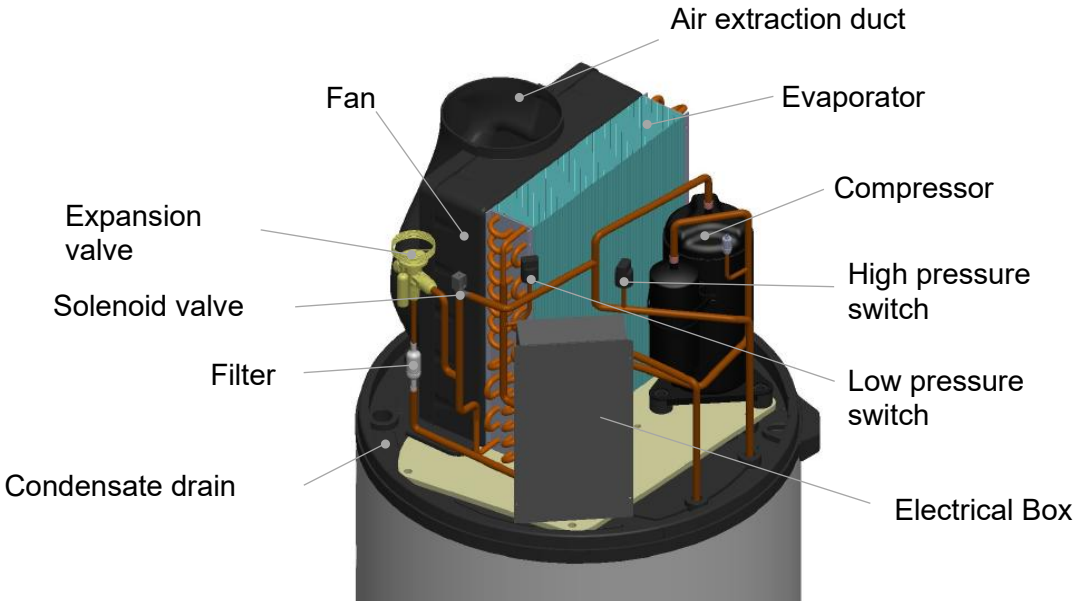
160



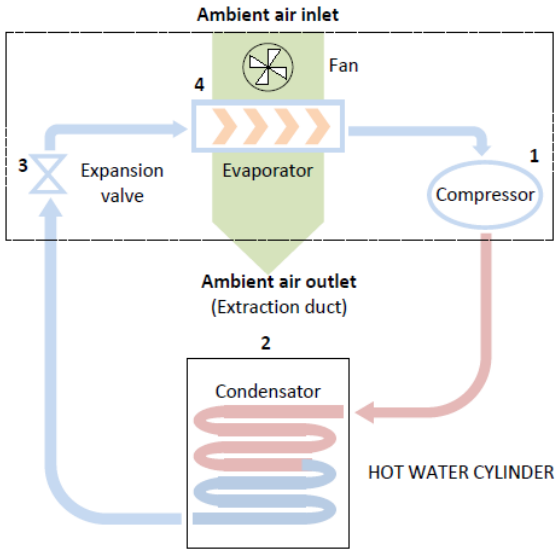
Q – Hot Water
F – Cold Water
E – Condensate Drain

	160
1	1531 mm
2	905 mm
3	750 mm
4	220 mm
5	Ø530 mm
6	100 mm
7	550 mm
8	Ø125 mm
9	Ø150 mm
Q	3/4” M
F	3/4” M

- A refrigeration circuit, placed at the top, responsible for transferring heat from the ambient air to the water;



2.2 Running Principle



1. The cooling fluid (R290) is compressed in the high efficient compressor, raising its pressure and temperature;
2. In the condenser (not in direct contact with the water), the heat energy in the cooling fluid is transmitted to the water in the water storage heater;
3. The condensate fluid (high pressure) runs from the expansion valve which is responsible for easing the its pressure;
4. The fluid absorbs heat energy from the environment by flowing through the evaporator with the help of a fan;

2.3 Technical Data

	The R290 is a HC fluid, thus not harmful to the ozone layer. It has great chemical and thermal stability, low toxicity, inflammable, and is compatible with most materials.

	Unid.	120	160
Type of Equipment	-	Heat Pump air/water to DHW	
DHW Capacity	L	114	150
Empty Weight	Kg	43	53
Dimensions (ø/height)	-	530/1366	530/1531
Storage Water Heater Material	-	Stainless steel	
Insulation (50mm)	-	High-density polyurethane	
Max Running Temperature	ºC	80	
Max Working Pressure	bar	7	
Test Pressure	bar	10	
Heat Loss	kWh/24h	0,95	
Coil Heat Exchanger (ø / length)	m	NA	
Coil Power[1]	kW	NA	
Protection Index	-	IPX1	
Power Supply	-	220-240 Vac / monophasic / 50 Hz	
Absorbed Power (med / max)	W	254/450	
Absorbed Power Electrical Support	W	1500	
Thermal Power Supplied BC (med / max)	W	835 / 1320	
Fan Power	W	30	
Max Running Current	A	2,3+6,8	
Max DHW Temperature (BC)	ºC	60	
Max DHW Temperature (Backup)	ºC	65	
Refrigerant	-/kg	R290 / 0,15	
Load Profile	-	M	L
COP[2)]	-	3,74	3,91
Heating time[2)]	(hh:mm)	05:08	06:16
Energy Efficiency Class[2]	-	A++	A++
Energy Efficiency[2)]	%	156	162
Annual Electricity Consumption[2)]	kWh/year	329	633
COP[3)]	-	3,45	3,63
Heating time[3)]	(hh:mm)	06:06	07:15
Energy Efficiency Class[3)]	-	A++	A++
Energy Efficiency[3)]	%	143	150
Annual Electricity Consumption[3)]	kWh/year	360	679
COP[4)]	-	3,26	3,2
Energy Efficiency Class[4)]	-	A++	A+
Energy Efficiency [4)]	%	135	132
Annual Electricity Consumption [4)]	kWh/year	380	774
COP[5)]	-	2,8	2,93
Energy Efficiency Class [5)]	-	A+	A+
Energy Efficiency [5)]	%	116	121
Annual Electricity Consump[5)]	kWh/year	443	845
Ambient Temperature Limits	ºC	-0,125	
Sound Power Level Indoor[6)]	dB(A)	49	
Sound Pressure at 2m	dB(A)	34	
Air Flow	m3/h	195	
Static Pressure Fan	Pa	60	
Max Ducts Length	m	20	

1a) Primary circuit (Tin =90 °C; Tout =80 °C); Production DHW (Tin=10 ºC; Tout=60 ºC)

1b) Primary circuit (Tin =70 °C; Tout =60 °C); Production DHW (Tin=10 ºC; Tout=60 ºC)

2) A20/W10-54, according EN16147 and Delegated Regulation Nº 812/2013

3) A14/W10-54, according EN16147 and Delegated Regulation Nº 812/2013

4) A7/W10-54, according EN16147 and Delegated Regulation No. 812/2013

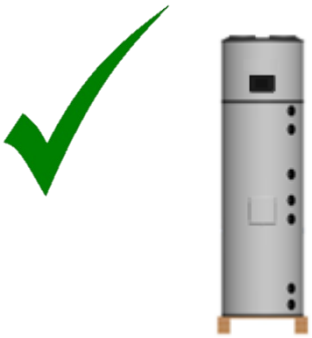
5) A2/W10-54, according EN16147 and Delegated Regulation No. 812/2013

6) According with EN12102

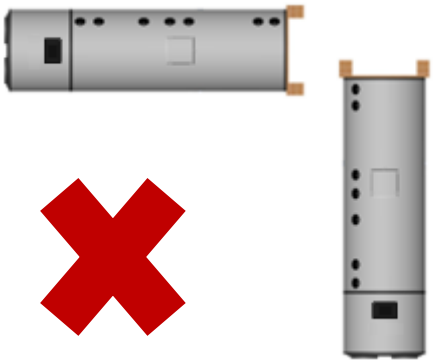
3 TRANSPORT

WARNING	The equipment must be carried in an upright position. The equipment must be raised and lowered with extreme care, to avoid impact that could damage the material. Make sure the belts and/or transportation straps do not damage the material. Always use suitable means to transport the material (pallet lift, forklift, etc.)

Correct transport position:



Incorrect transport position:



WARNING	During the transport and installation phase, do not take the equipment by the upper part.

The transport and handling of the equipment at the installation local must be carried out by two people using the strap provided, which must be placed under the equipment.

The equipment must be transported in its original package to the place of installation.

The packages contain the following information symbols:

	Fragile, handle with extreme caution		Keep the package dry
	Make sure the arrows are always up		Do not stack packages

4 INSTALLATION

4.1 Safety and Control Devices

4.1.1 High/Low Pressure Switch

In case of running outside the range of pressures recommended and defined by the supplier, the equipment will switch off and indicate error in the electronic panel.

4.1.2 Safety Thermostat

The safety thermostat is set by the supplier to ensure that the water temperature in the storage water tank with electric heater does not exceed the maximum value. If the temperature exceeds this value, the thermostat switches off the backup electrical heater. The rearm can be done manually by the client or a qualified technician, after uncovering the reasons for the disarm.

4.1.3 Temperature Probe

The purpose of the temperature probe is to measure the temperature values of water in the storage water with electric heater in order to control the system.

4.1.4 Protection Against Corrosion (If Applicable)

Besides being resistant to corrosion (stainless steel), the storage water heater has in addition a magnesium anode that should be checked periodically according to information by the installer.

4.1.5 Expansion Vessel*

The expansion vessel is a device whose purpose is to compensate for the increase in water volume due to temperature rise.

4.1.6 Safety Group*

The safety device allows the system to be protected against anomaly situations: cold water supply, hot water flowing back, emptying of the storage water heater and high pressure. The valve is calibrated to activate at 0.7 MPa).
To drain the water in the storage water tank, you should close the supply valve and open the discharge valve.
The safety valve discharge pipe must be open into the atmosphere, because the valve may drip water or even discharge water.
The safety valve must be opened regularly to remove impurities and check that it is not blocked. The discharge pipe must be installed in a vertical position. The discharge pipe must be installed upright away from a cold environment.

	Installing this device is recommended for the proper installation of the equipment. Installing this device is the responsibility of the installer. As a general rule it is installed in the cold water pipe.

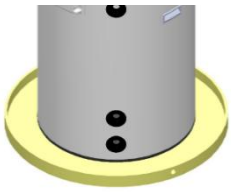
4.1.7 Pressure Reducing Valve*

The pressure reducing valve must always be installed upstream from the safety device, and ready to activate in situations when the pressure in the circuit exceeds 3 bar (0.3MPa). This valve comes with a pressure gauge.

*** Parts not supplied by the manufacturer. They must be installed by the installer.**

4.2 Drain pan

The equipment should not be installed over an area where drains from the tank or its connections could cause damage in the adjacent area or on the lower floors of the structure. For the aforementioned reasons, it is recommended to place a drain pan under the equipment.

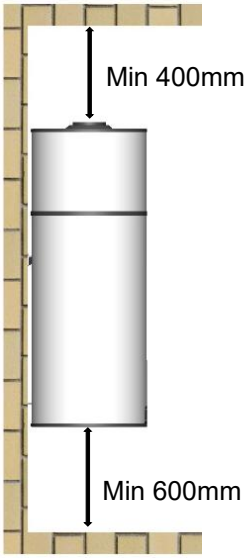


It is important that the pan has a flow channel with a minimum diameter of 3/4''.

4.3 Positioning – 120 | 160 Model

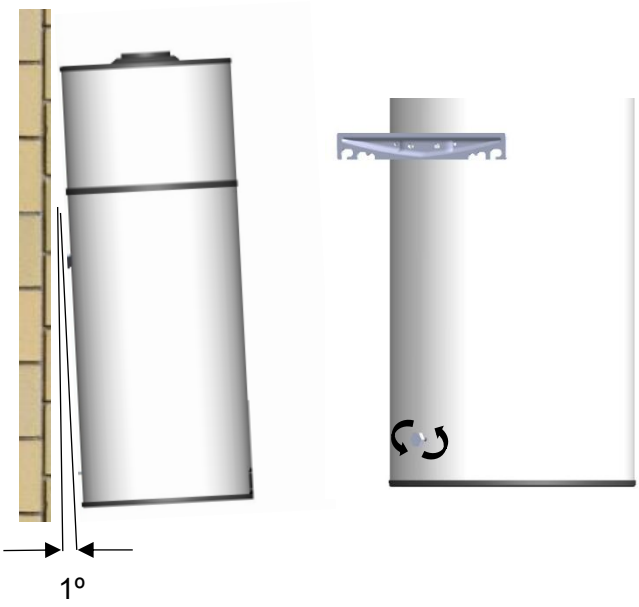
WARNING	Before starting the assembly of the equipment check the load capacity of the wall and which material is it composed of, considering the equipment with the weight of the water.

When placing the equipment in its position, bear in mind possible future interventions.
Make sure that there is at least the following free space around the equipment:



Adjust the levelling feet of the equipment. An inclination angle of up to 1º tilting backwards is acceptable.

WARNING	If equipment tilts other than back- wards, this will cause condensates to deposit in the tank.


1º

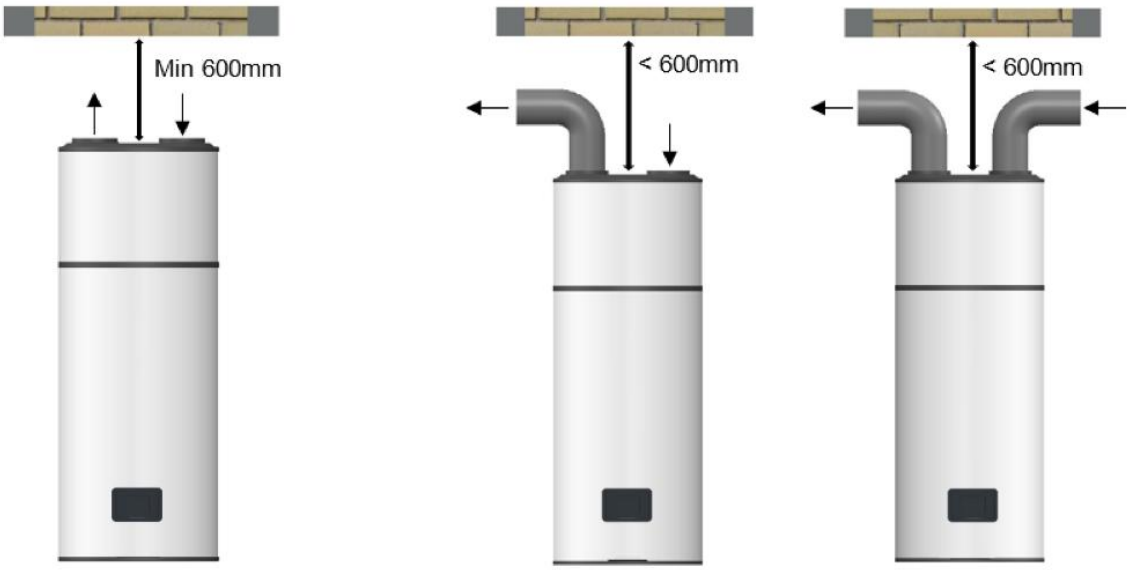
4.4 Air Inlet/Outlet Installation – 120 | 160 Model

	As the Aquapura Monobloc PRO absorbs heat during its operation, the air flow (inlet/out- let) is cooled down and must be directed to unheated areas or to the outside. The equipment will cool the room where it is placed and so if it is installed in heated rooms, the air flow must be directed to other rooms and/or the outside.

4.4.1 Installation without Ducts

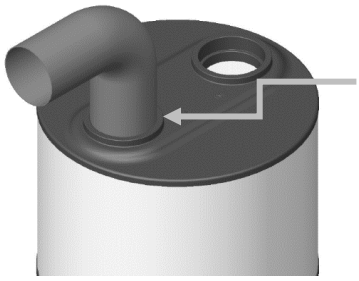
The **Aquapura Monobloc** PRO equipment must be in- stalled in a place that is not too heated, and may be used for dehumidifying and cooling these rooms (e.g., laundries, cellars, etc). Distance between the top of the unit and the ceiling must be no less than 600mm.

If the distance between the unit and the ceiling is less than 600mm, two elbow-type joints must be installed as shown in the following picture.



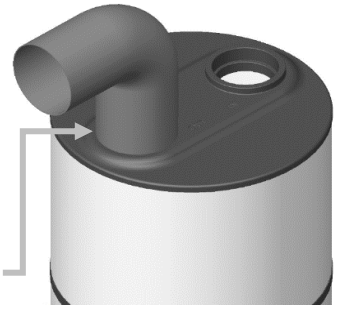
4.4.2 Installation with Ducts

The Aquapura Monobloc PRO is prepared to install ducts with diameter of 125 mm and 150 mm, in its air intake and extraction zones:



Ø125 ducts fits inside

Ø150 ducts fits outside



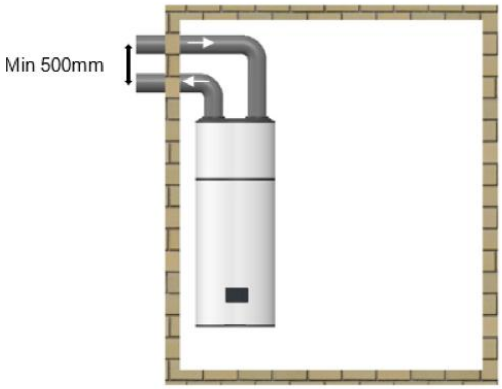
		Max Length Ducts	
		Ø125	Ø150
Rigid duct[1)]	m	10	20
Flexible duct[1)]	m	6	12

1) Considering 90º curves and louvers at the air inlet and outlet of the equipment.

If ducts are used, directing the air flow to areas that do not require heating, there are some options:

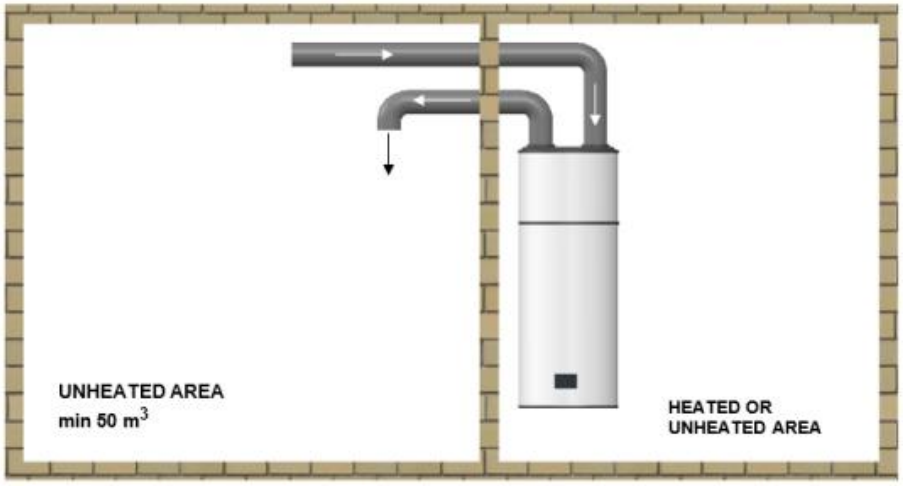
Using Outside Air

If outside air is used, the unit may be placed either in a heated room or in an unheated room.



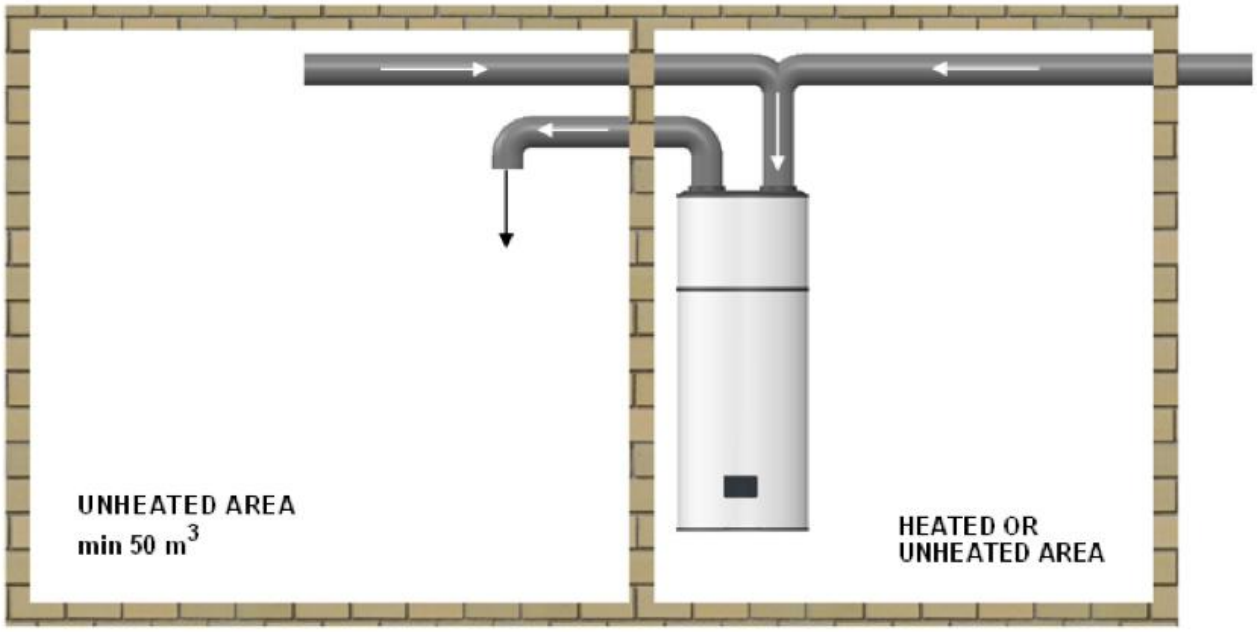
Using Ambient Air

The monobloc unit may also be placed in a heated room, but the air flow must be directed to an unheated room. Bear in mind that because of air flow, cooling the unheated room can affect the adjacent heated rooms.

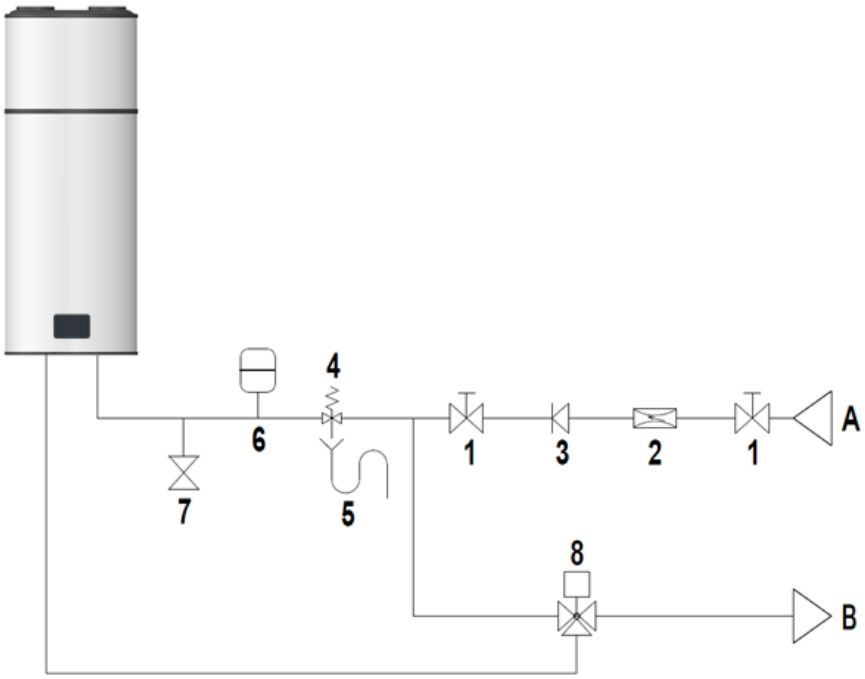


Using Ambient and Outside Air

A branched duct can be used to inflate air into the equipment. So you can get hot air in the summer, from the outside, and hot air in the winter from an unheated room.



4.5 Hydraulic Installation – 120 | 160 Model



Caption

1 Shut Off Valve
2 Pressure Reducing Valve (3 bar / 0,3 MPa)
3 Non-return Valve
4 Safety group (7 bar / 0,7 MPa)
5 Drainage Siphon
6 Expansion Vessel
7 Drain Valve
8 Electrostatic mixing valve
A Cold Water Inlet
B Hot Water Outlet

WARNING	It is necessary to install a safety device at the cold water inlet of the appliance. The safety device must be in compliance with the standard EN 1487:2002, maximum pressure 7 bar (0.7 MPa) Water must not be stopped from flowing from the safety device to the deposit by any sort of accessory. The safety device must be connected with piping whose diameter is not less than the cold water inlet coupling. The discharge must be connected to a sewage siphon or, if this is not possible, elevated to a distance of at least 20 mm from the pavement to allow visual inspection; To prevent high pressure from main water supply, install a pressure reduction valve set to 3 bar (0.3 MPa).

	The Manufacture is not responsible for damage related to not following these recommendations/ warnings.

WARNING/DANGER

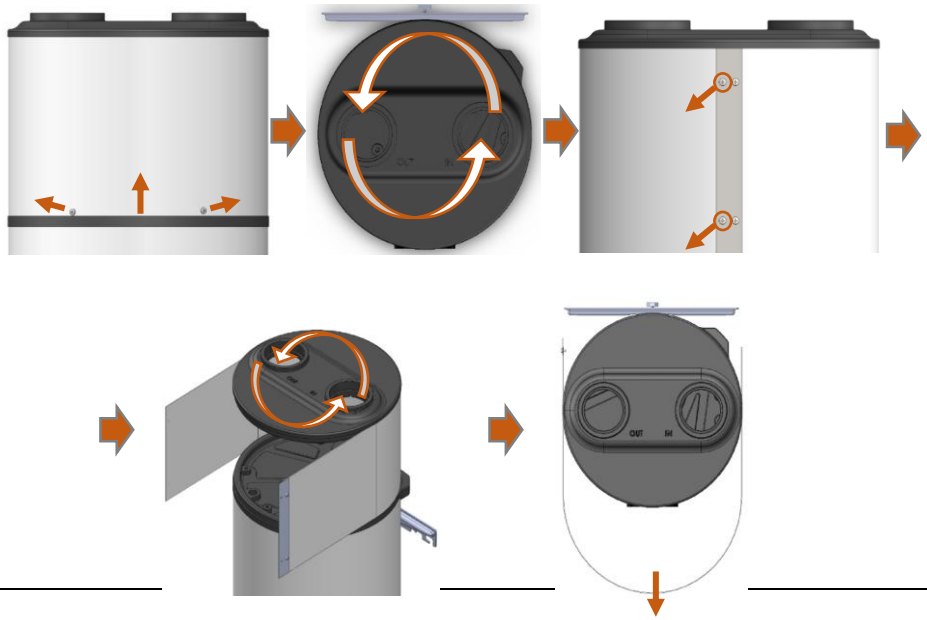
The water you use may contain impurities and/or substances damaging to the system and even harmful to your health. Make sure you use water with quality fitting for home consumption. The following table indicates some parameters that, when exceeded, must be chemically treated.

Hardness (ºdH)	pH	Treatment
3,0 to 20,0	6,5 to 8,5	No
3,0 to 20,0	<6,5 to >8,5	Yes
<3,0 or >20,0	-	Yes

4.6 Access to the Thermodynamic Group – 120 | 160 Model

To access the equipment machine it is necessary to remove the helmet (covering the upper part). If the installation local has space restrictions that do not allow the helmet to be removed from above and whose possible access to the machine is only frontal, the following disassembly and assembly procedure must be followed:

1. Disengage the air insufflation and extraction ducts from the top of the equipment;
2. Unscrew the two fastenings on the front of the equipment, lift the helmet slightly and turn the helmet 180º;
3. Unscrew 2 of the fasteners (on the same side) from the helmet union;
4. With the helmet open, rotate again 180º to remove the helmet from the front.
5. To assemble the helmet, exactly the same steps mentioned must be carried out in reverse.



The Manufacture is not responsible for damage related to not following these recommendations/ warnings.

4.7 Condensates

During operation, condensation may occur. These condensates are collected in the drip tray and drained through a hole at the back of the tray. The installer must connect the condensate hose supplied by the manufacturer and direct the condensates to the drainage system or drainage siphon.

WARNING	The condensate hose must not be bent/pressed and must be placed where it best suits the proper flow of condensates.

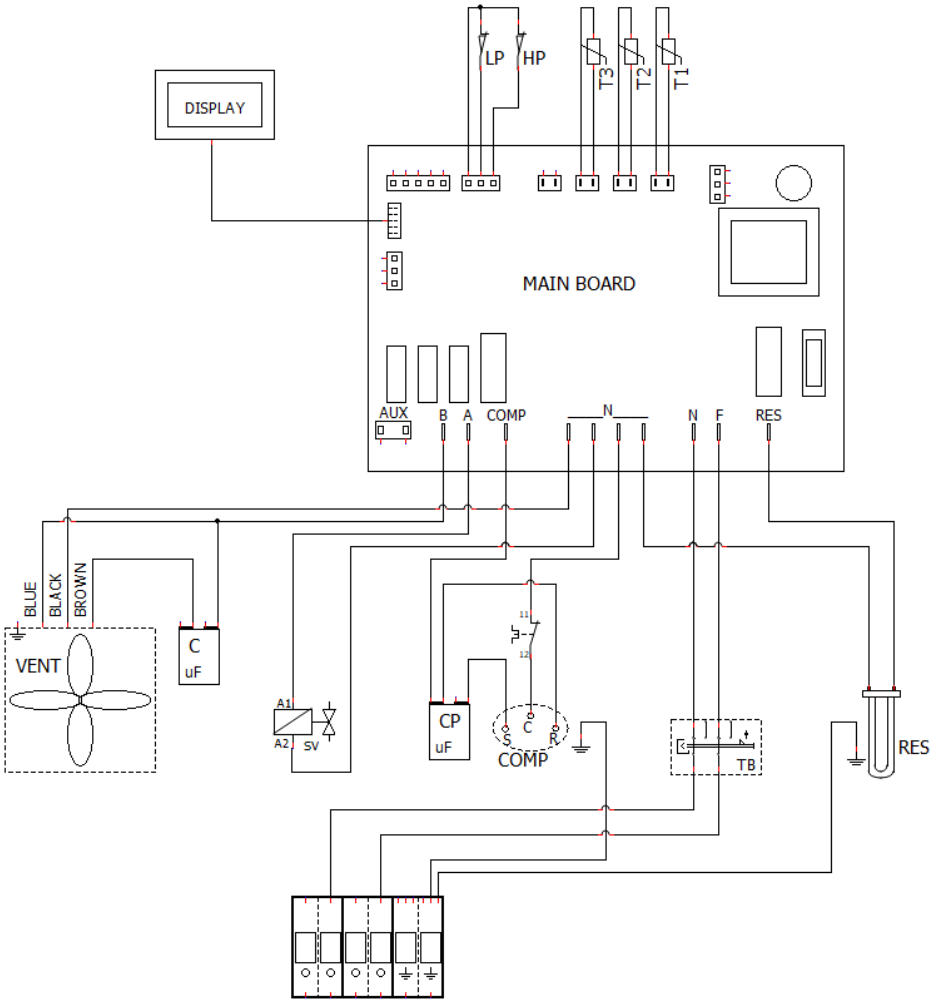
4.8 Electrical Connections

The heat pump must be plugged to the power supply only after filling the storage water tank. It comes with a mains cable, to be connected to an earthed monophase voltage (230VAC/50HZ). The connections must comply with the standards of installation in effect in the territory or country where the monobloc heat pump has been installed.
The installation includes:

- Bipolar circuit-breaker with connection cable with section equal to or exceeding 2.5 mm
- Protection differential circuit breaker of 30 mA

If the power supply cable is damaged, it must be replaced by the manufacturer, by its customer service, or by staff with similar training.

5 ELECTRICAL SCHEME



CAPTION

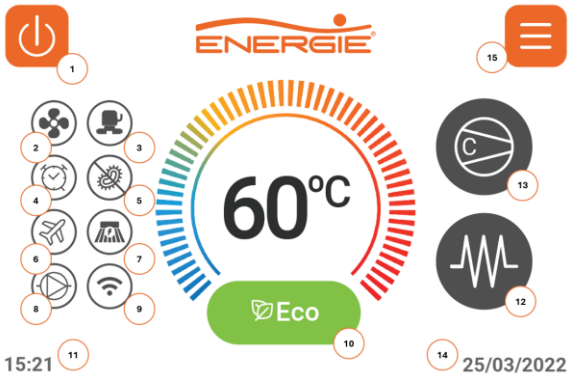
RES	Electrical backup heater	**Fuse**	Fuse 10A type F(fast cut-off)
S1	Water temperature probe	⏚	Ground
S2	Ambient temperature probe	**HP**	High pressure switch
S3	Evaporator temperature probe	**LP**	Low pressure switch
VENT	Fan	**COMP**	Compressor
SV	Solenoid valve	**TB**	Safety thermostat
N	Neutral	**TERM**	Compressor thermal
F	Phase		

Note: The thermal solar panel probe (T4) is usually sent only with equipment that includes a solar coil and is not represented in this diagram.

6 CONTROL AND PROGRAMMING

6.1 Symbology

Main Screen



Symbol	Description
1	On/Off button
2	Gray symbol – Ventilator is Off
	Intermittent Orange symbol – Ventilator has begun the countdown to turn ON
	Green symbol – Ventilator is ON
3	Gray symbol – Solenoid valve is Off
	Intermittent Orange symbol – Solenoid valve has begun the countdown to turn ON
	Green symbol – Solenoid valve is ON
4	Gray symbol – Chrono function valve is disabled
	Orange symbol – Chrono function is enabled and waiting for the date and time that it should active.
	Green symbol “WE” – Chrono function is enabled and active during the week.
	Green symbol “WND” – Chrono function is enabled and active during the weekend.
	Green symbol “DI” – Chrono function is enabled and active during the week and weekends.
5	Gray symbol – Disinfection function is disabled.
	Orange symbol - Disinfection function is enabled and waiting for the date and time that it should active.
	Green symbol – Disinfection function is enabled and active
6	Grey symbol – Vacation function is disabled
	Green symbol – Vacation function is enabled and active.
7	Grey symbol – Solar function disabled.
	Red symbol – Solar function is enabled but inactive due to error.
	Intermittent Orange symbol – Solar function is enabled but inactive waiting for the flow switch signal to activate.
	Green symbol – Solar function is enabled and active
8	Grey symbol – Recirculation pump is enabled and active
	Orange symbol – Recirculation pump is enabled and waiting for the date and time that it should active.
	Green symbol – Recirculation pump is enabled and active
9	Grey symbol – Wi-Fi connection disabled
	Green symbol – Wi-Fi connection enabled and active
10	Mode Selected
11	Time

12	Grey symbol – Electric heater disabled
	Orange symbol – Electric heater is enabled but inactive waiting for the conditions to turn ON to be met.
	Intermittent Orange symbol – Electric heater is enabled and has begun the countdown to turn ON
	Green symbol – Electric heater is ON
13	Grey symbol – Compressor disabled
	Orange symbol – Compressor is enabled but inactive waiting for the conditions to turn ON to be met.
	Intermittent Orange symbol – Compressor is enabled and has begun the countdown to turn ON
	Green symbol – Compressor is ON
14	Blue symbol - Compressor is active and performing a defrost function.
15	Menu access button

Main Screen - Other Symbols

Symbol	Description
	Green symbol – Disinfection function is enabled and active
	Photovoltaic function active
	Eco mode active
	Auto mode active
	Booster mode active
	Equipment error
	Blue symbol - Compressor is active and performing a defrost function.
	Light blue symbol – Compressor inactive due to LAT function
	Red symbol – Compressor disabled by abnormal temperature probe reading
	Red symbol “HP” – Compressor disabled due to high pressor error (HP)
	Red symbol “LP” – Compressor disabled due to low pressure error (LP)

Menu Symbology

Symbol	Description
	Language
	Date / Time
	Chrono
	Vacation Mode
	Disinfection Mode
	Mode access button
	Parameters
	Info
	Efficiency
	Access
	Human Machine Interface (HMI)
	Wifi
	Date
	Heat Pump
	Circulation Pump
	Output Testing (Level 1 – Menu)
	Errors (Level 1 – Menu)

	Reboot (Level 1 – Menu)
	Modbus (Level 2 – Menu)
	System (Level 2 – Menu)

Efficiency Menu Symbology

Symbol	Description
	Instant Consumption
	Daily Consumption
	Monthly Consumption
	Annual Consumption
	Energy Economy
	Delete Consumption

Output Testing Menu Symbology

Symbol	Description
	Compressor
	Electrical Resistance
	Ventilator
	Solenoid Valve
	Auxiliary Contact
	ModBus Connection

Output Testing Menu Symbology

Symbol	Description
	Reset Error
	Error List

System Menu Symbology

Symbol	Description
	Number of Work Hours
	Electrical Resistance Configuration
	Tank Volume

6.2 Functioning modes

There are 3 functioning modes – ECO, AUTO e BOOST to configure according with the user needs.

Eco	Uses the thermodynamic system not allowing the electric heater activation (except by order of other functions). During this mode, if the electric heater is manually activated automatically the selected mode is switched to BOOST.
Auto	Optimized management of the thermodynamic system and the electric heater allowing the activation of both systems. The electric heater is only activated due to the following reasons: • The use manually activates the electric heater, and it remains active until it reaches the setpoint once. • The working time of the compressor exceeds the parameter T05. • If the parameter P08 is active and the temperature of the water in the tank is too low • If both parameters P08 and P07 are active and the temperature of the water in the tank is too low
Boost	Uses the electric heater along with the thermodynamic system to accelerate the hot water production.

There are two ways to set the functioning mode: on the main screen and on the menu (check 3.4.4)

6.2.1 Main screen

- At the main screen, select the button below the temperature value that can show any of the three values activated.

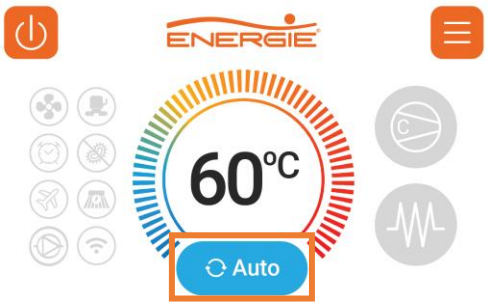


Figure 1 – Functioning mode button selector

- Select the desired mode

Figure 2 – Choose one of the three modes where the currently active mode is AUTO

6.3 On/Off button

The On/Off button shuts down the equipment with ease where when this button is pressed the machines shuts down and the screen turns gray. When you restart the equipment using the same button **you must** enable the compressor and electric heater to allow the activation of these two components.

6.4 Compressor and electric heater buttons

Regardless of the current state of these two components it is possible to enable or disable them.
To enable the compressor or electric heater:

- Press the correspondent symbol of the compressor or electric heater.
- Press the yes button to enable or disable the selected component.

6.5 Menu

Figure 3 - Menu page 1

Figure 4 - Menu page 2

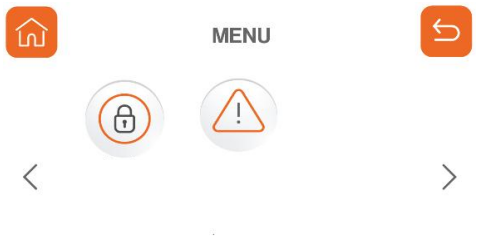


Figure 5 - Menu page 3

The menu of this controller has 14 options:

Language	Select the language of the controller
Date/time	Set the time and date of the controller
Chrono	Define activation periods of the heat pump and circulation pump
Modes	Check and set the functioning mode of the unit
Vacation	Set a vacation period where your equipment will be disabled
Disinfection	Set a manual or automatic disinfection cycle
Parameters	Check and define the parameters of the unit
Info	Check the value of various probes and some parameters
Efficiency	Check the electrical consumption of the equipment
Accesses	Access the installer and manufacturer menu
HMI	Access the settings of the display of the unit
WIFI	Configuration of the connection between the heat pump and the App smart life
Events	Check errors and other information regarding the unit
Block screen	Block the screen at the user's request

6.5.1 Language setting

This display allows the setting of 9 different languages. To modify the current language of the unit:

- Access the menu through the menu button.
- Select the button "language".
- Select the "Home" button to go back to the main screen without further modifications.

Figure 6 – Available languages of the controller (page 1)

6.5.2 Setting date and time

To set the date of the controller follow the next steps:

- Access the menu through the menu button.
- Select the Date/time button.
- Select the Date button.
- Use the arrows to set the day, month and year.
- Select the Home button to go back to the main screen without further modifications.

Figure 7 – Select the date button

Figure 8 – Set the controller date

To set the time of the controller follow the next steps:

- Access the menu through the home button
- Select the Date/time button
- Select the Time button
- Use the arrows to set the desired hours, minutes and seconds.
- Select the apply button
- Select the home button to go back to the main screen without further modifications

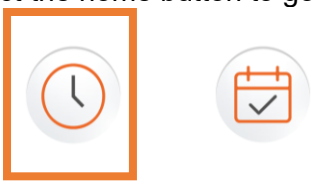


Figure 9 – Selection of the date/time button

Figure 10 – Setting the time on the controller

6.5.3 Chrono function

This function can be controlled by the APP or the display where only one of the control methods may be active at a time. If you wish to control using the display, select the “HMI” option on the display, otherwise select the “APP”.
This function allows the setting of two working periods for the week and weekend for the heat pump and the circulation pump. To set one or more working periods of the heat pump, follow the next steps:

- Access the menu through the menu button.
- Select the chrono button.
- Select the button with the period you wish to set which can be during the week or during the weekend.
- Slide the finger on the values of the time for the beginning and end of the function.
- Slide the finger on the On/Off button to enable or disable the desired period.
- Select the save button to save the modified values on the controller.
- Select the home button to go back to the main screen without further changes.

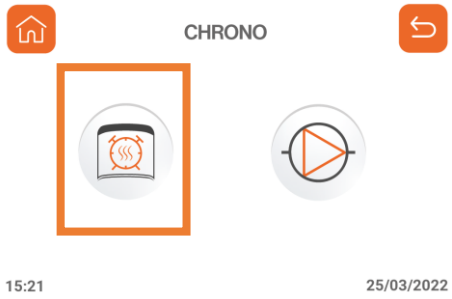


Figure 11 – Selection of the heat pump symbol

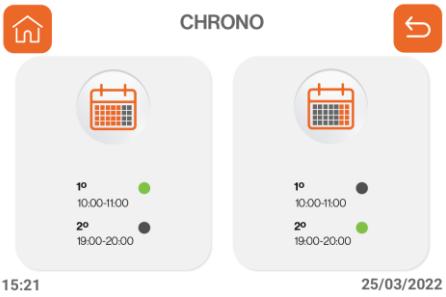


Figure 12 – Selection of the week (left) or weekend (right)

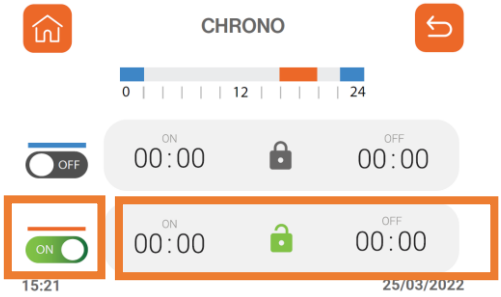


Figure 13 – Setting the activation and deactivation time

To set one or more working periods of the recirculation pump, follow the next steps:

- Access the menu through the menu button
- Select the chrono button
- Select the circulation pump button
- Select the button with the period you wish to set which can be during the week or during the weekend.
- Slide the finger on the values of the time for the beginning and end of the function.
- Slide the finger on the On/Off button to enable or disable the desired period.
- Select the save button to save the modified values on the controller.
- Select the home button to go back to the main screen without further changes.
-

Note: To activate the recirculation on the equipment it is necessary to set one of the solar functions that allows the recirculation (check chapter 4).
Warning: The unit allows the setting of working periods on the display as well as on the APP, however, only one may be active at a time.

6.5.4 Modes

This function allows the setting of the functioning mode of the unit by following the next steps:

- Access the menu through the menu button
- Select the Mode button
- Select the desired mode.
- Select the Yes option to confirm the selection
- Select the home button to return to the main screen without further modifications.

Figure 14 – Functioning modes of the controller

6.5.5 Vacation

This function allows the unit to shut down for some time when the user does not have the need for hot water allowing the equipment to save energy.
To set a vacation period on the unit, follow the next steps:

- Access the menu through the menu button.
- Select the vacation button.
- Set the number of days that you will be absent and do not need hot water as well the time of your arrival using the arrows of each of the timers.
- Slide the On/Off button to activate the set vacation period
- Select the home button to go back to the main screen without further modifications.

Along with this function, at the last day before the end of the function, a disinfection function is also performed automatically to guarantee that the water is not contaminated with legionella bacteria.

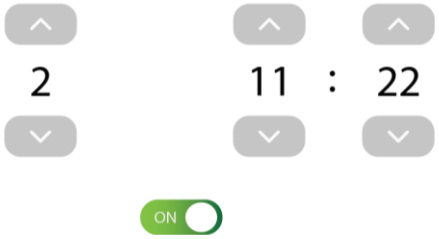


Figure 15 – Setting vacation period

6.5.6 Disinfection function

This function allows the activation of disinfection cycle where the equipment increases the temperature of the water tank until a predefined value to eliminate the legionella bacteria. This function can be activated manually or automatically defining a set date and time. This function activates the electric heater if it is not already active and maintains this state until it reaches the disinfection setpoint P06 or the disinfection is disabled manually.
To activate this function manually:

- Access the menu using the menu button.
- Select the disinfection button.
- Select the disinfection button on the left.
- Select the home button to go back to the main screen without further modifications.

To set the automatic disinfection function there are three different ways: Weekly, monthly and by number of days.

6.5.7 Disinfection by number of days

On this configuration, the disinfection occurs on an interval set by the user:

- Access the menu through the menu button.
- Select the disinfection button.
- Select the configure button.
- Select the gear wheel under Nº days.
- Use the arrows to define the interval in days that the disinfection should occur.
- Select the button “apply” to save the set disinfection function.
- Select the bar below the Nº days until it turns green thus activating the disinfection function by number of days.
- Use the home button to go back to the main screen without further modifications.

6.5.8 Weekly disinfection

On this configuration the disinfection occurs once per week every week:

- Access the menu through the menu button.
- Select the disinfection button.
- Select the configure button.
- Select the gear wheel below the weekly.
- Use the arrows to define the day of the week and the time to perform the disinfection function.
- Select the apply button to save the set disinfection function.
- Select the bar below the weekly until it turns green thus activating the disinfection function by number of days.
- Use the home button to go back to the main screen without further modifications.

Figure 16 - Page of disinfection weekly

6.5.9 Monthly disinfection

On this configuration the disinfection occurs once per month every month

- Access the menu through the menu button.
- Select the disinfection button.
- Select the configure button.
- Select the gear wheel below the monthly.
- Use the arrows to define the day of the month and the time to perform the disinfection function.
- Select the apply button to save the set disinfection function.
- Select the bar below the monthly until it turns green thus activating the disinfection function by number of days.
- Use the home button to go back to the main screen without further modifications.

6.5.10 Parameters

On this function the unit parameters accessible to the user are presented. To check the complete parameter list, check the chapter 6.6.

To modify one of the parameters, follow the next steps:

- Access the menu using the menu button.
- Use the arrows to navigate to the second page of the menu.
- Select the parameter button.
- Using the arrows, select the parameter you want to modify.
- Select the apply button to save the new value or cancel to keep the previous value.
- Select the home button to go back to the main screen without further modifications

6.5.11 Info

On this function the probe values some of the parameters are presented to the user for visualization. It is not possible to change any value on this function.

6.5.12 Efficiency

On this function, the electrical consumption of the compressor and electric heater are presented.

Actual consumption	Information regarding the power, current, and tension measured instantly
Daily consumption	Information regarding daily power consumption
Monthly consumption	Information regarding monthly power consumption
Annual consumption	Information regarding annually power consumption

Energy economy	Amount of energy saved using the compressor instead of the electric heater to heat water
Delete consumption	Eliminate the consumption data

To check the consumption, follow the next steps:

- Access the menu through the menu button
- Use the arrows to navigate to the next page
- Select the efficiency button
- Select on the buttons of consumption, economy or delete consumptions.
- If you wish to delete the consumption data, select yes, otherwise select no or the home button to go back to the main screen without further modifications.

6.5.13 Accesses

This function is used by the installers and manufacturer only so there is no need to be used by the user. In case you are installer, the information regarding the installer menu is described on the chapter 6.6.

6.5.14 HMI

This function allows the modification of screen settings as well as activate or deactivate the sound of the display. To access this function, follow the next steps:

- Access the menu through the menu button
- Use the arrows to navigate to the second page of the menu
- Select the HMI button
- Move the parameter bar you wish to modify
- Use the Home button to go back to the main screen without further modifications

6.5.15 WIFI

This function allows the user to connect the unit to the APP smart life on the user's mobile phone controlling the unit at a distance. To connect the unit to your phone, follow the next steps:

- Access the menu through the menu button.
- Use the arrows to navigate to the second page of the menu.
- Select the WIFI button.
- Select the button configure device.
- Follow the steps on your phone to connect the device.
- When the device is connected, the icon at the left of the display will turn green referring that the device is connected.
- Use the Home button to go back to the main screen without further changes.

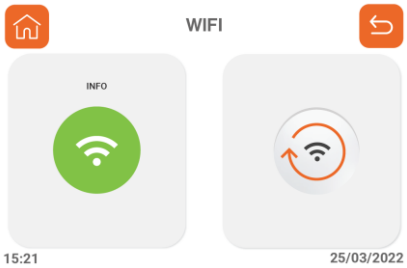


Figure 17 – Wi-Fi configuration page

6.5.16 Events

On this function, it is possible to check the errors or other warnings that were active on your device to check if your unit is working as it should. The error list is available for consult on chapter 15.

6.5.17 Block screen

This function allows the user to block the screen to prevent the pressing of an unwanted button or action. If no action is performed on the display for a while, the display will automatically block the screen.

6.6 Installer menu

To allow the installer to check the installation of the unit, this menu has the access to output tests, error list, the possibility to reset the device to factory settings and a parameter list with more option to configure the equipment to the needs of the user.
To access this menu, follow the next steps:

- Access the menu through the menu button.
- Use the arrows to navigate to the second page of the menu.
- Select the function Accesses.
- Insert the code 0022 and the apply button.

6.6.1 Installer parameters

- Access the installer menu – check 6.6.
- Select the parameters button.
- Use the arrows to find the desired parameter.
- Select the desired parameter.
- Use the arrows or the On/Off button to apply the desired value for the parameter
- Use the apply button to save your changes.
- Use the home button to go back to the main screen without further changes.
-

6.6.2 Test outputs

This button allows the testing of many outputs of the unit to check if the unit is working properly during installation. After accessing this functionality, every other function on the unit will be halted.

- Access the installer menu – check 6.6.
- Select the teste outputs button.
- Select the button of the unit component you wish to activate, and it will turn green when activated.
- Select the same button to deactivate the component.
- Use the Home button to go back to the main screen without further changes.

Figure 18 – Test outputs menu

6.6.3 Errors

On this function it is possible to check the errors that occurred on the unit as well as its respective error code that can be checked on the error list in chapter 15.

- Access the installer menu – check 6.6.
- Select the errors button.
- Use the arrows to check the errors that occurred on the unit.
- Use the home button to go back to the main screen without further changes.

Figure 19 – Unit error list

6.6.4 Modbus

On this function, it is possible to define the connection parameters of the modbus function. It is possible to check the state of the unit as well as some of its parameters through this connection.

- Access the installer menu – check chapter 6.6.
- Select the modbus button.
- Check or change the modbus connection settings.
- Use the Home button to go back to the main screen without further modifications.

6.6.5 Restore

On this button it is possible to reset all the changes on the equipment to the factory values:

- Access the installer menu – check chapter 6.6
- Use the restore button.
- Use the yes button to restore.
- Use the home button to go back to the main screen without further modifications.

7 Extra functions

7.1 Defrost

The defrost function purpose is to remove the ice that accumulates in the evaporator allowing the improvement of heat transfer with the exterior air. This function is automatically activated when the compressor is active, with the temperature of the evaporator below the parameter P03 and the air temperature below the parameter P09 value. The electric heater is turned on to keep the water temperature of the tank and it stays in this state until the temperature of the evaporator is above P04 or the maximum time of defrost T03 times out. The system goes back to its previous mode.

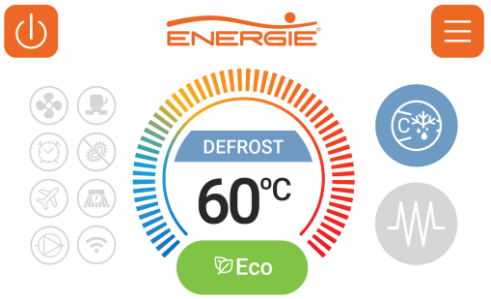


Figure 20 – Active defrost function

7.2 LAT

The LAT function (Low Ambient Temperature) has the purpose of protecting the compressor from very low exterior temperatures where this requires the compressor to perform outside of its normal envelop. This function is activated automatically when the compressor is activated, and the exterior temperature is below P10 and timing out the T09 timer. The compressor is then deactivated and the heater activated to keep the temperature of the tank and it remains in this state until the exterior air

temperature reaches the temperature above P10+H10. The system goes back to its previous working mode after this function.

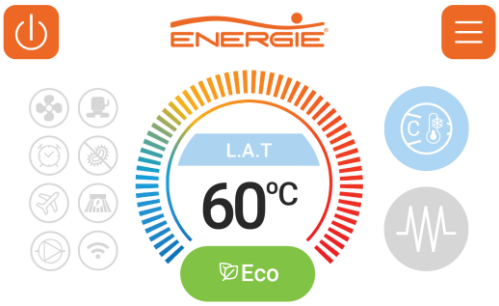


Figure 21 – Activate LAT function

7.3 PV

The PV(photovoltaic) function allows the user to use a secondary energy source such as photovoltaic panels to power up the heat pump system storing that energy in the tank water in form of the heat energy. This function is activated and deactivated by a dry contact that should be connected to the inverter of the electric board. The compressor and electric heater, in case they are enabled they are both activated until they reach their respective setpoints for the PV function which instead of P01 and P02 it changes to P01 PV and P02 PV.

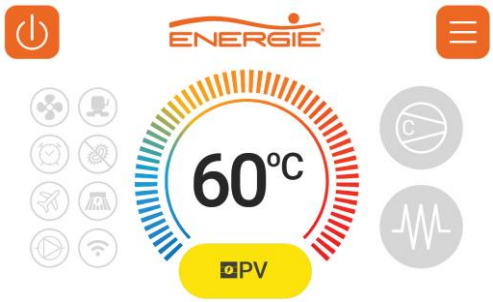
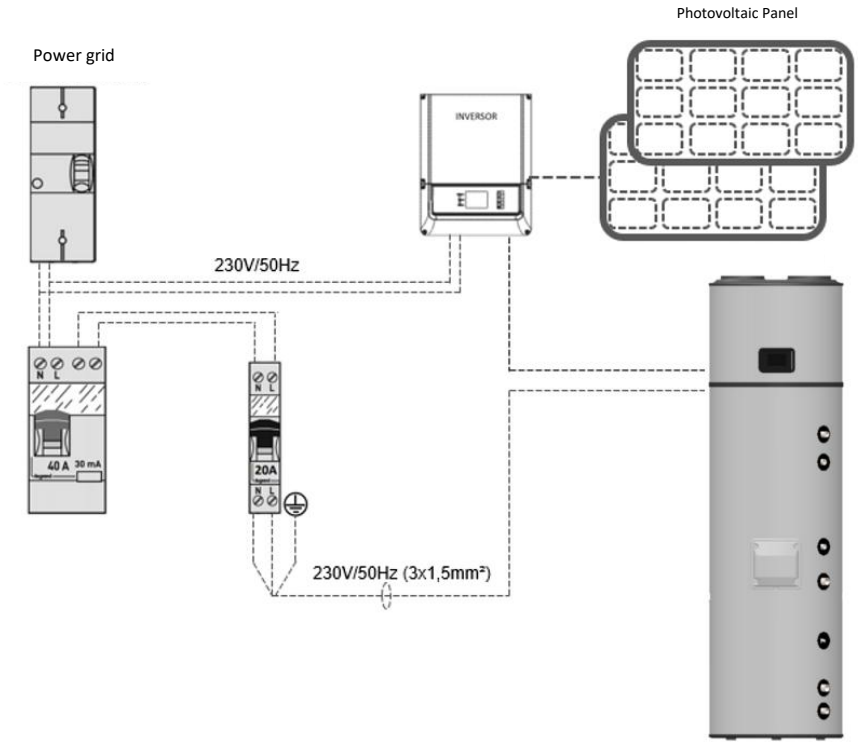


Figure 22 – Activated PV function



WARNING	The cable to connect to the electric board to activate the PV function must be a dry contact (no voltage). Applying tension on this contact on the electric board may cause irreversible damage to the controller

This PV function allows the integration of the heat pump in a smart network. When the PV contact is closed(activated) it will remain active for at least 10 minutes even when the contact is opened during this time.

7.4 Additional control functions

The controller of this unit has yet 4 additional functions that allows the management and control of a solar panel installation and a recirculation pump.
To configure these functions it is necessary to access the installer menu and the parameters function (check 6.6.1). The parameter that defines the active function is the P12 that can have the following values:

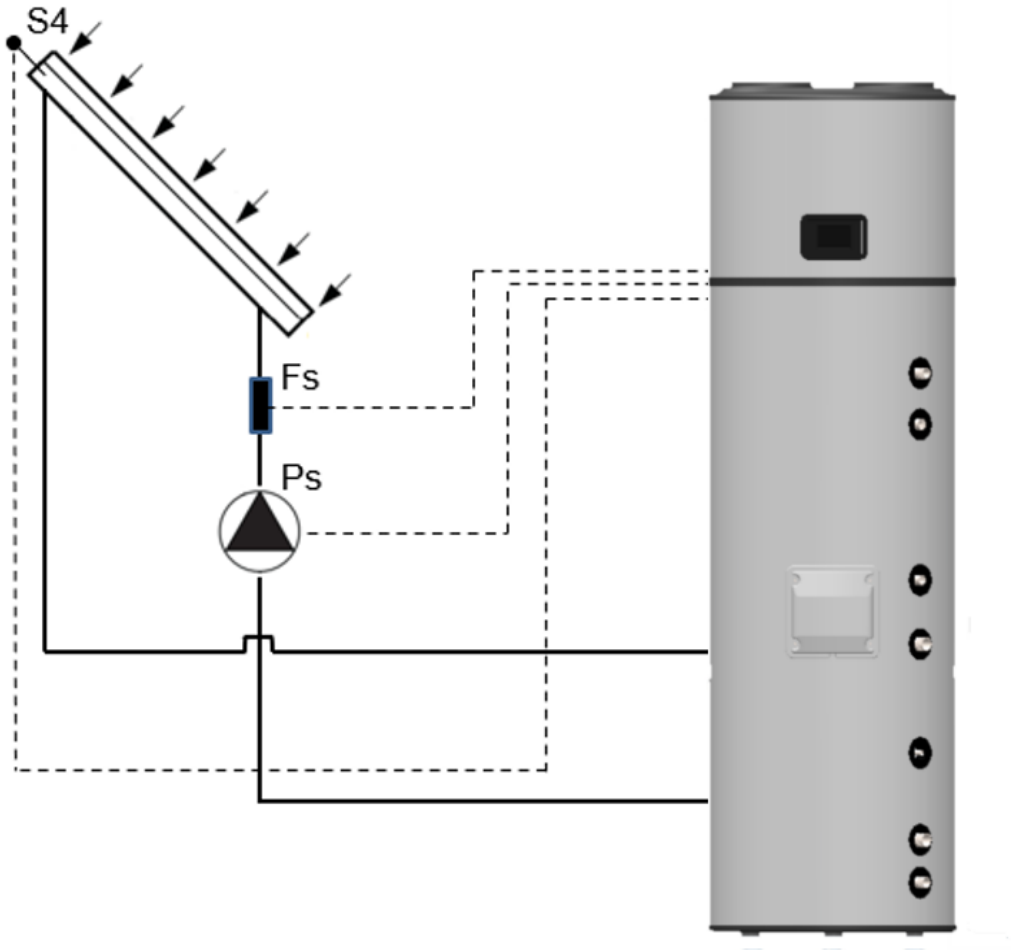
7.4.1 P12=0

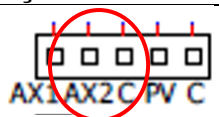
No additional function is active

7.4.2 P12=1

The controller of this unit controls the solar panel installation. According to the value measured in the probe S4, if it is above the temperature of the tank(S1) the solar pump tries to start pumping. If the flow switch closes after the pump, this function is then activated until the temperature of the probe S4 is inferior to the tank temperature plus the differential (P14) or the water temperature of the tank reaches the maximum allowed value (P05). While the flow switch is trying to close, the solar function symbol takes the orange colour and remains intermittent. When this function is active the compressor and the electric heater are deactivated remaining in standby mode until this function is terminated.

Figure 23 – Solar function P12=1 activated

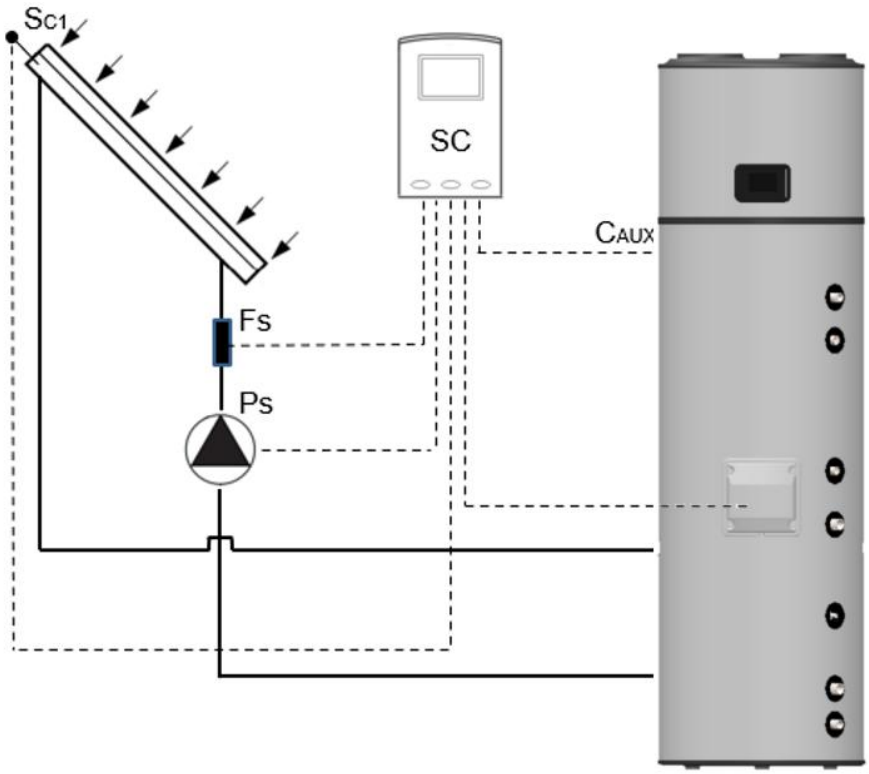


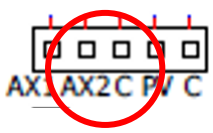
Code	Description	Electrical terminals
S4	Temperature Probe from Solar Colector (NTC10KΩ@25ºC)	**Erro! Não é possível criar objetos a partir de códigos de campo de edição.**Terminal T4
Fs	Flow switch	 Terminal CAUX
Ps	Solar circulation pump	Terminal AUX/N

7.4.3 P12=2

Figure 24 – Solar function P12=2 activated

It is possible to integrate a control unit of the solar installation on the equipment where the heat pump is placed on standby in case there is solar energy production. To activate this function, it is necessary to activate the auxiliary contact of the control unit (Caux) placing the heat pump in standby.
As soon as the contact of this function is deactivated the heat pump restarts its normal behaviour.

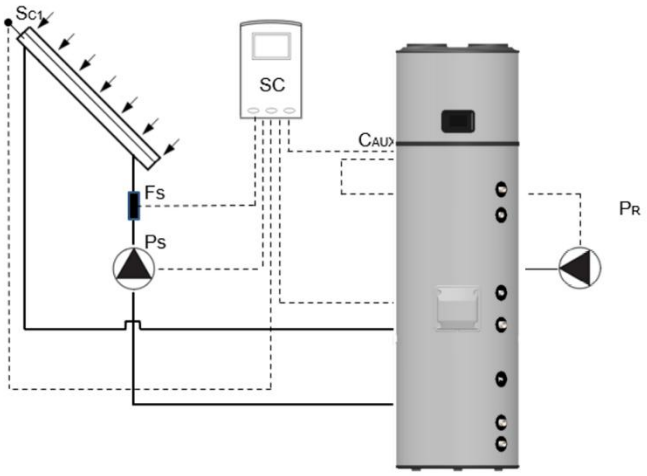


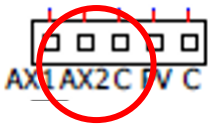
Code	Description	Electrical terminals
SC	Control unit	Connections of the control unit
Sc1	Temperature probe of the solar collector	
Sc2	Temperature probe of the water tank	
Fs	Flow switch	
Ps	Solar recirculation pump	
CAUX	Auxiliar contact of the control of the heat pump (dry contact). Caux contact closed – Heat pump in standby Caux contact open – Heat pump normal behaviour	 Terminal CAUX

7.4.4 P12=3

This function has the same functionalities has the function P12=2, however, it also allows the control of a recirculation pump regardless of the state of the heat pump.
The recirculation pump is only activated is a working period is set beforehand (check 6.5.7) and if the temperature of the water is superior to the parameter P11(Minimum temperature of recirculation).

Figure 25 – Solar function P12=3 activated



Code	Description	Electrical terminals
SC	Control unit	Connections of the control unit
Sc1	Temperature probe of the solar collector	
Sc2	Temperature probe of the water tank	
Fs	Flow switch	
Ps	Solar recirculation pump	
CAUX	Auxiliar contact of the control of the heat pump (dry contact). Caux contact closed – Heat pump in standby Caux contact open – Heat pump normal behaviour	 Terminal CAUX
PR	Recirculation pump	**Erro! Não é possível criar objetos a partir de códigos de campo de edição.** Terminal AUX/N

7.4.5 P12=4

This function allows the control of the recirculation pump regardless of the state of the heat pump. The recirculation pump can be activated by defining a working period (check 6.5.7) and the temperature of the water in the tank must be above the parameter P11(Minimum temperature of recirculation).

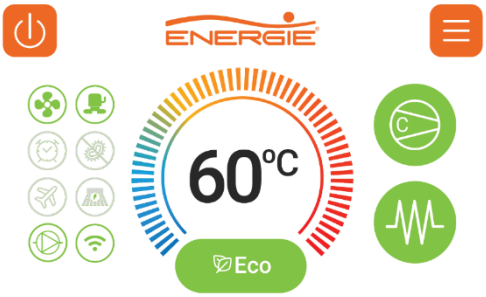
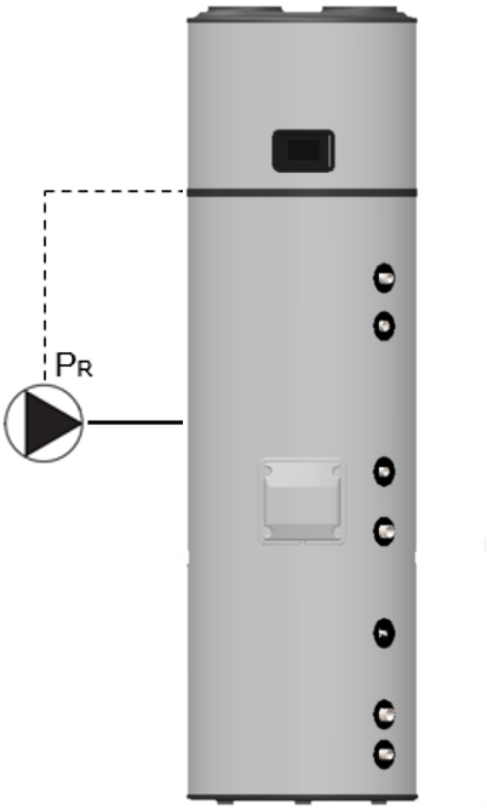


Figure 26 – Solar function P12=4 activated



PR – Recirculation pump

8 Modbus connection

This device allows the communication by modbus connection to change some of the parameters of heat pump. To read the defined values on the controller you must use the function Read Holding Register (03) while to change the values you must use the function Write single register (06).

The heat pump allows the visualization or modification of the following parameters.

MODBUS REGISTERS					
PARAMETER NAME	**PARAMETER TYPE**	**ACCESS**	**PDU ADDRESS**	**REGISTER NUMBER**	**INFO**
MACHINE STATUS	UINT16	Read/Write	0	1	0: OFF 1: ON
MODE	UINT16	Read/Write	1	2	0: ECO 1: AUTO 2: BOOST
COMPRESSOR STATUS	UINT16	Read	2	3	0: DISABLED 1: ENABLED 2: LOADING 3: ACTIVE
COMPRESSOR STATUS	UINT16	Write	2	3	0: OFF 1: ON
RESISTOR STATUS	UINT16	Read	3	4	0: DISABLED 1: ENABLED 2: LOADING 3: ACTIVE
RESISTOR STATUS	UINT16	Write	3	4	0: OFF 1: ON
TEMP1	UINT16	Read	4	5	TEMP. IN ºC
TEMP2	UINT16	Read	5	6	TEMP. IN ºC
TEMP3	UINT16	Read	6	7	TEMP. IN ºC
TEMP4	UINT16	Read	7	8	TEMP. IN ºC
P01	UINT16	Read/Write	8	9	RANGE: 10 - 60
H01	UINT16	Read/Write	9	10	RANGE: 2 - 20
P02	UINT16	Read/Write	10	11	RANGE: 10 - 65
H02	UINT16	Read/Write	11	12	RANGE: 2 - 20
DISINFECT	UINT16	Read/Write	12	13	0: OFF 1: ON
VACANCES	UINT16	Read/Write	13	14	0: OFF 1: ON (NB. DAYS: 2) 2: ON (NB. DAYS: 2) 3: ON (NB. DAYS: 3) 99: ON (NB. DAYS: 99)
COMPRESSOR POWER	UINT16	Read	14	15	POWER IN WATTS
RESISTOR POWER	UINT16	Read	15	16	POWER IN WATTS

9 Smart life APP

On the smart life app, you will have the possibility to manage remotely your unit of domestic hot water with functionalities such as configure working mode, water temperature setpoint, vacation mode, verification of electric consumption, and many others.
This APP allows the connection more than one unit of domestic hot water of the ENERGIE brand, you can just add it to the APP.

10 Pre requirements

Before starting the installation/configuration of the APP, check if these requirements are met:

- Smartphone or tablet Android or IOS;
- Equipment of the series Ecotop or Aquapura Monobloc (PRO);
- Wi-Fi signal with good quality on the installation location of the unit*;

* If the Wi-Fi signal on the installation location of the unit is intermittent or has bad quality, we recommend the installation of a Wi-Fi signal repeater.

11 How to install

The installation process of the APP is easy and quick.

11.1 Download the APP

- Access the Play Store (Android) or the App Store (IOS)
- Search "Smart Life – Smart Living";
- Install (no further cost).

Note: The installation and use of the app in mobile networks may imply data consumption.

12 Configuration

12.1 Create account

After the installation of the app, execute it and start the configuration of your account (in case you have not registered yet).

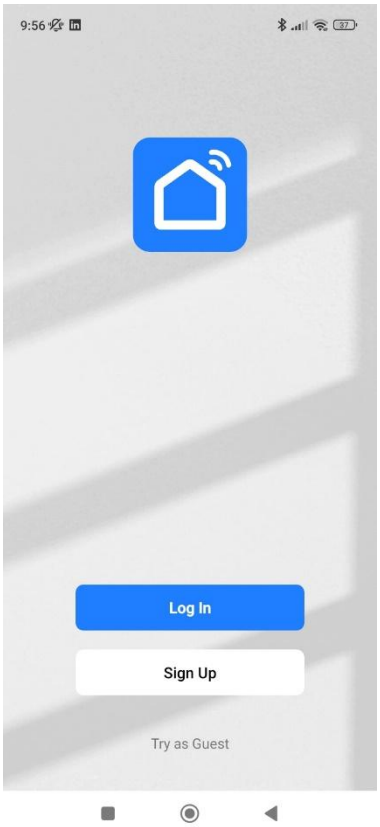


Figure 27:Execute the App

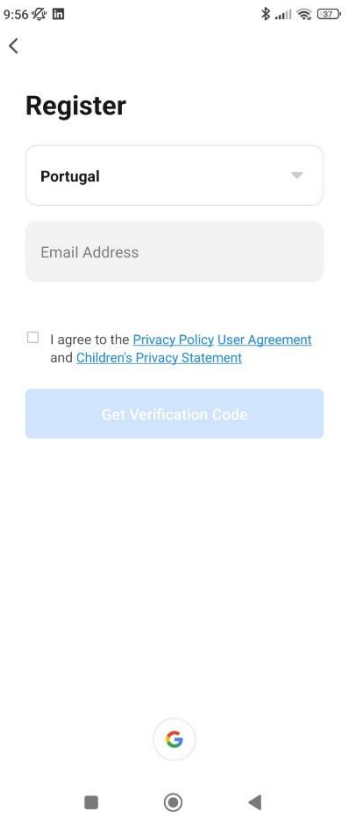


Figure 28: Add email

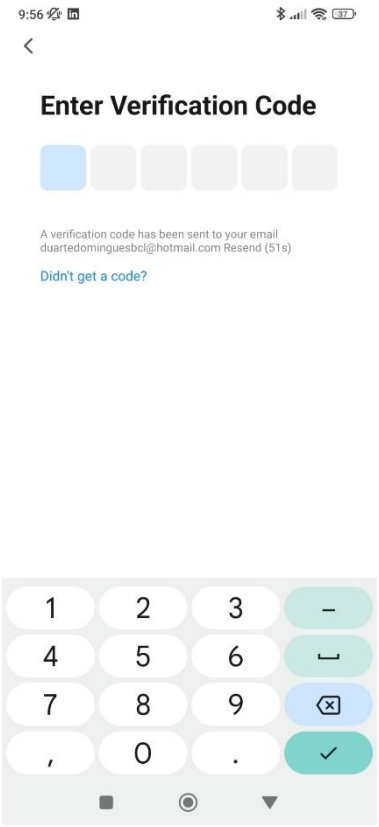


Figure 29: Authentication code

The authentication code will be sent to registered email. In case you have not received it, please request another authentication code.

After the configuration of the authentication code, configure your access password and confirm the registration.

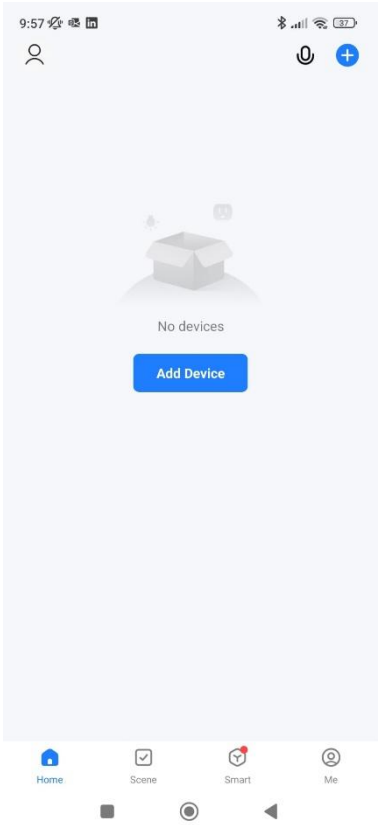


Figure 30: Configuration finished

12.2 Add unit

To add a unit to your app you must follow the instructions below on the display of the unit.

- Access the display of your machine.
- Access the second page of the menu to find the WIFI function.
- Select the option to configure.
- Check that the process was initiated:

After the last step on the display, you must now continue the process of adding the unit on the smart life application

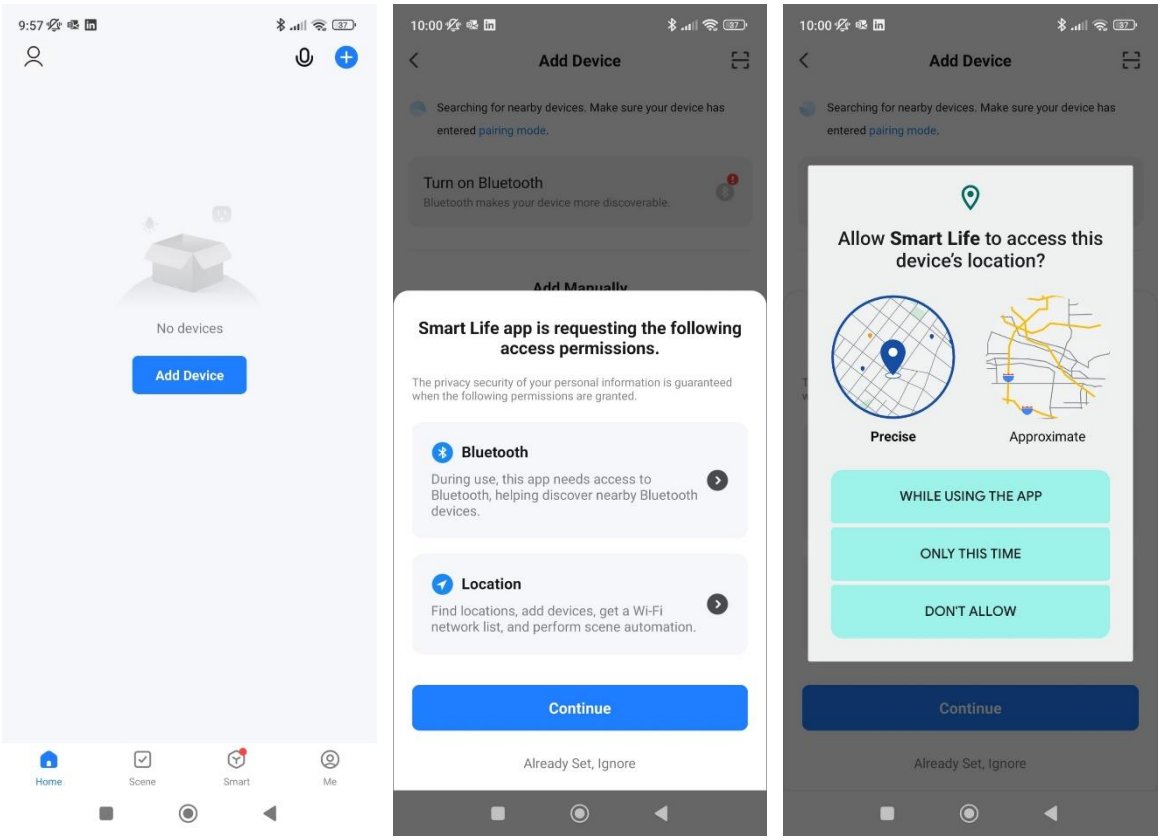
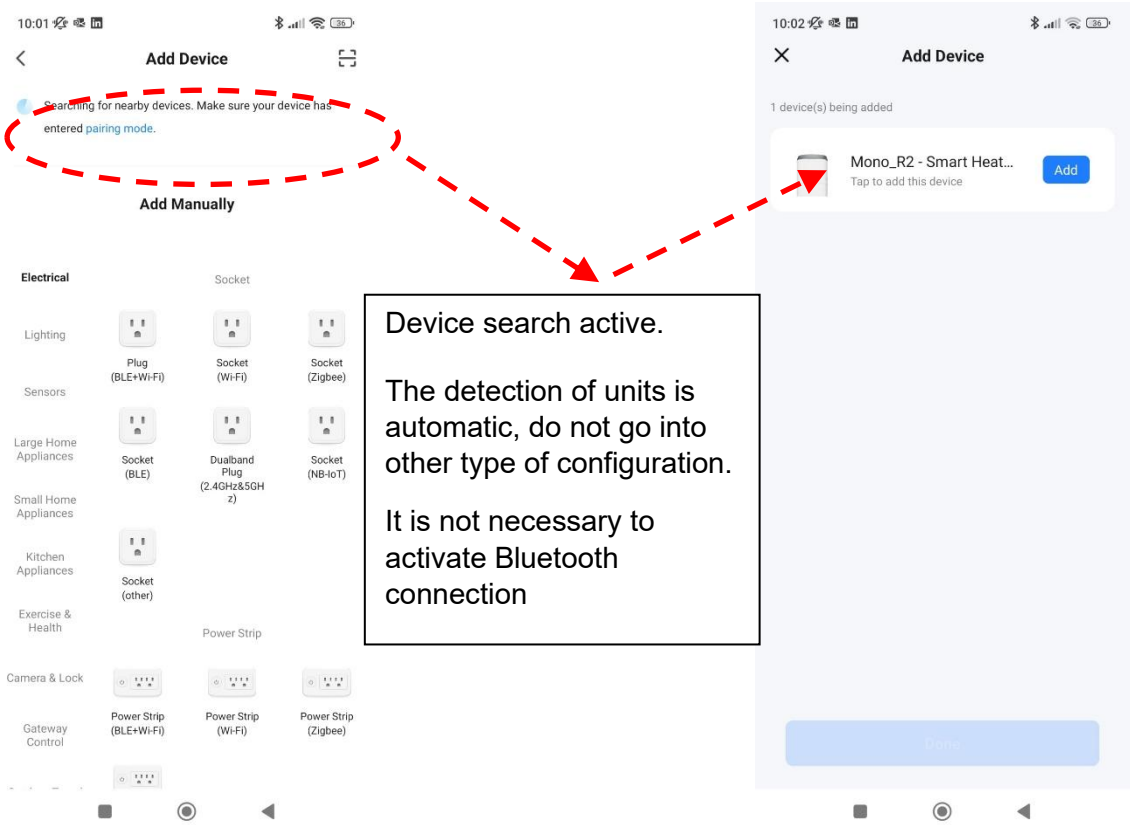


Figure 31: Add device/Allow location access

Note: Before advancing the configuration of your device, allow the app to access your location. In case you don't provide access to the app, it may not work properly.

After allowing location access to the app, you must continue with the following instructions:

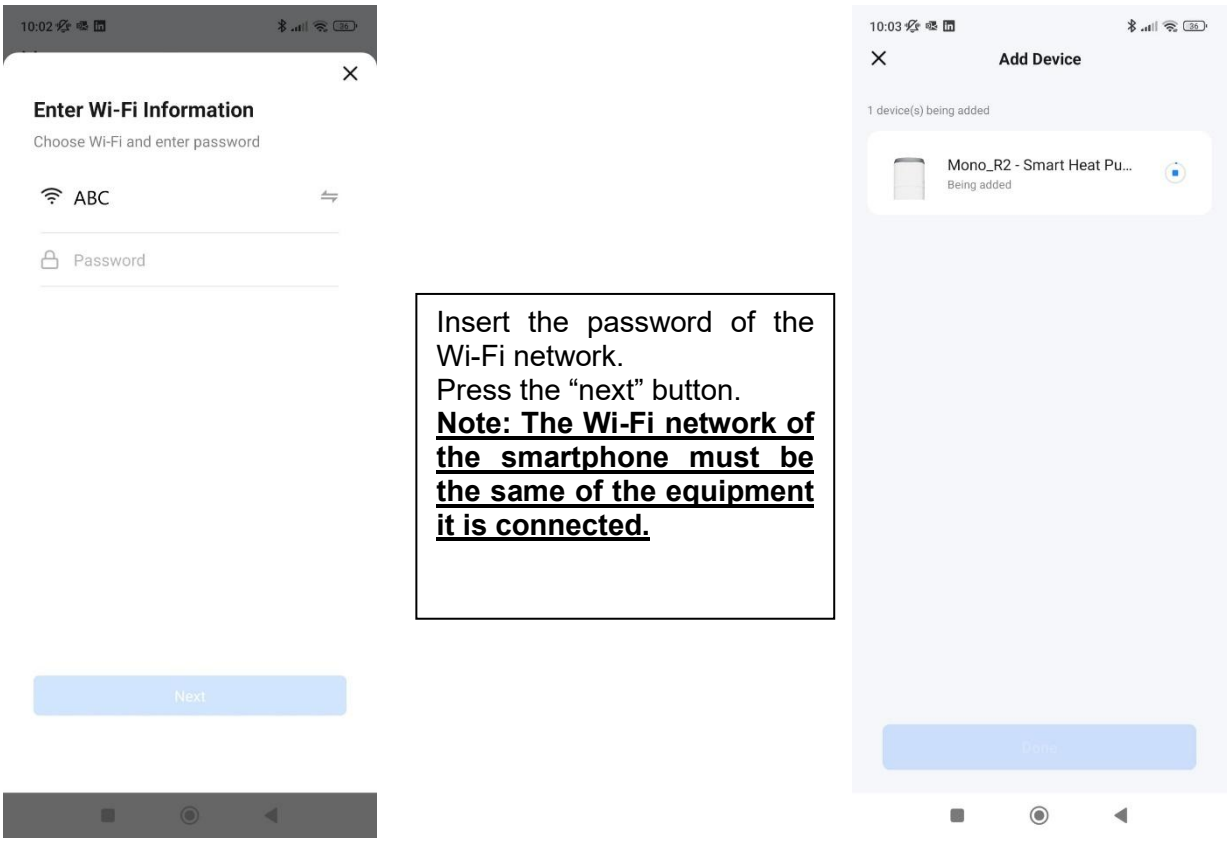


Device search active.

The detection of units is automatic, do not go into other type of configuration.

It is not necessary to activate Bluetooth connection

Figure 32: Connecting the device



Insert the password of the Wi-Fi network.
Press the “next” button.
Note: The Wi-Fi network of the smartphone must be the same of the equipment it is connected.

Figure 33: Device configuration on the network

Notes:

If you insert the Wi-Fi password incorrectly you should restart the Wi-Fi module before trying again.

If you are unable to connect the device to the APP by connection error, try to restart the electric board of the equipment. If the error remains, please contact the technical support.

- Wait a few seconds before the device is configurated on the network

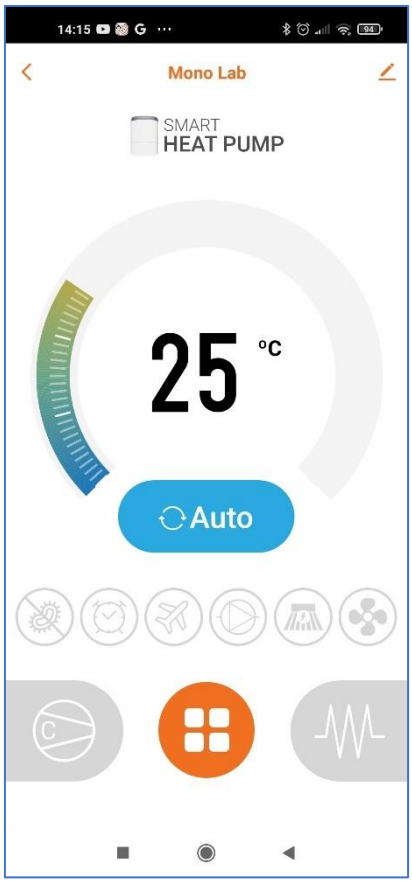
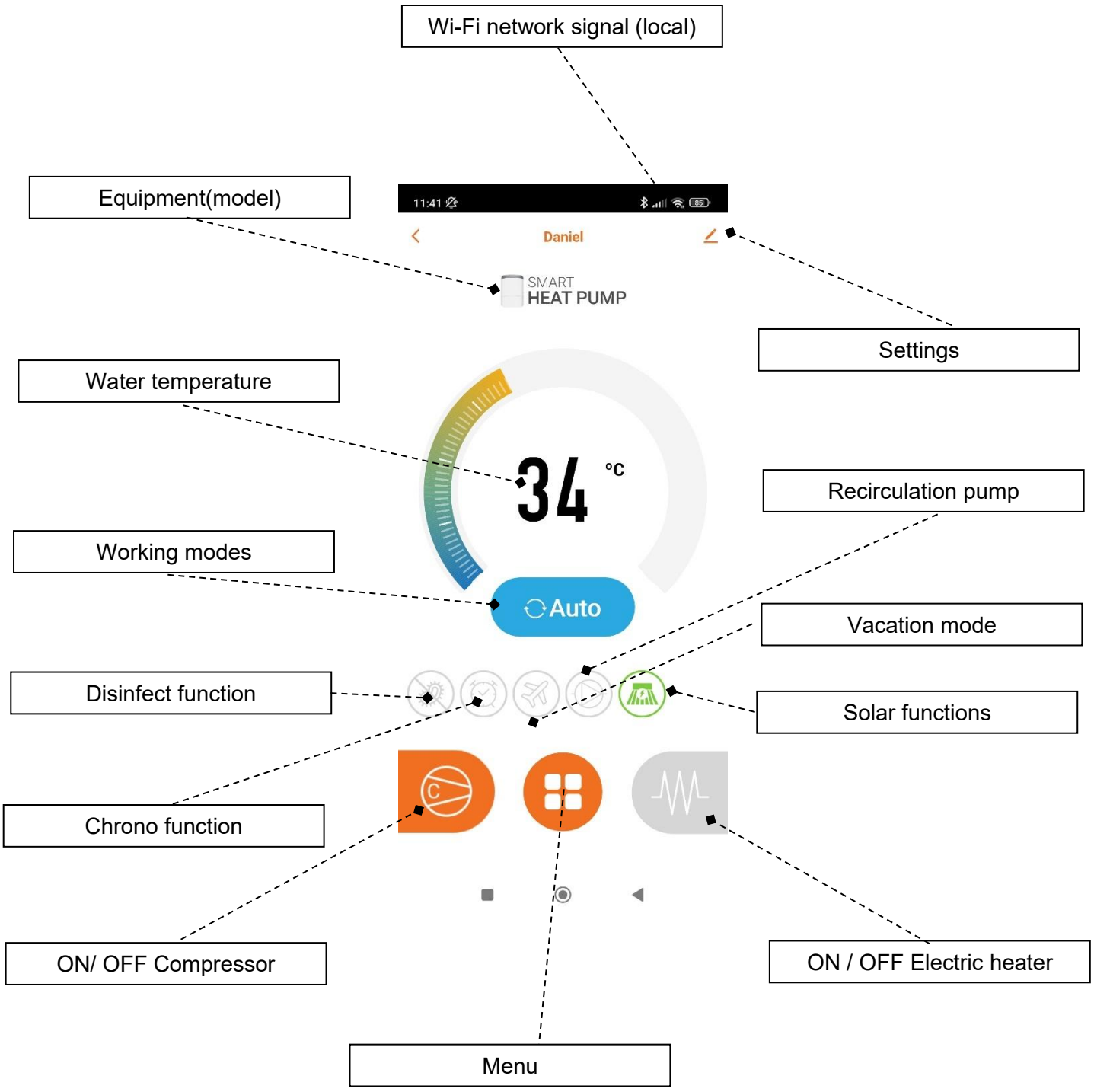


Figure 34: Device connected

13 Smart life APP – Functionalities

13.1 Main interface



13.2 Menu

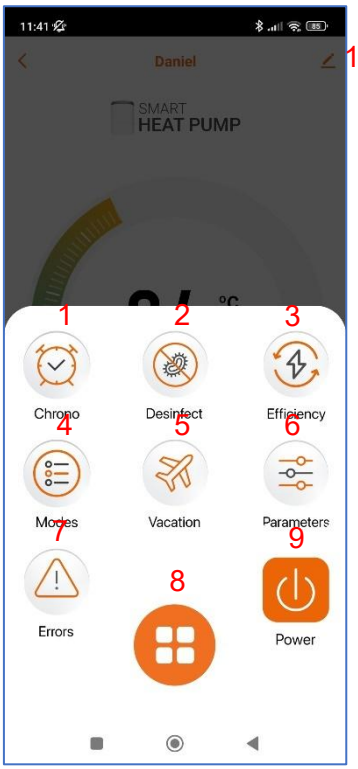


Figure 35:User interface

The APP menu provides the following options:

Num.	Function	Description
1	Chrono	Working period setting of the heat pump and the recirculation pump.
2	Disinfection function	Disinfection function setup
3	Efficiency	Check the efficiency of the heat pump
4	Modes	Check and modify the working mode of the heat pump
5	Vacation	Vacation period setting
6	Parameters	Check and modify the parameter values
7	Errors	Show the error list of the machine
8	Menu	Menu button
9	Shut down/Turn on	Shut down/Turn on the device
10	Settings	Settings of the unit

13.3 Functionalities

13.3.1 Recirculation pump chrono

This function allows the user to set up working periods of the recirculation pumps. This function can **ONLY** be activated when one of the solar functions P21=1, P12=3 or P12=4 is active.
To access this function, you must:

- Access the menu
- Select the chrono button
- Select the recirculation pump button
- Add a timer of the start time of the recirculation pump.

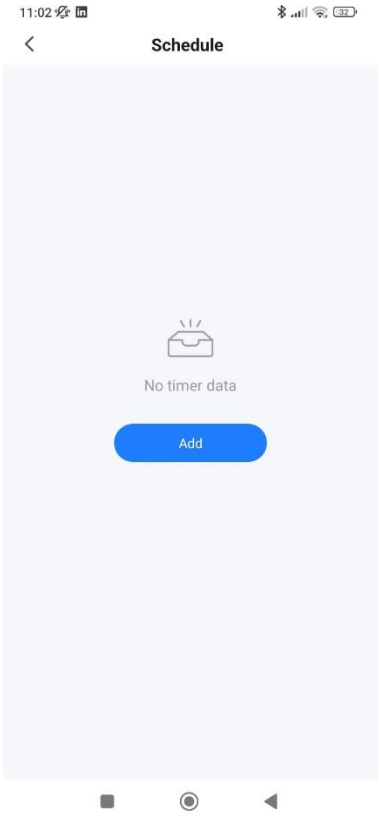


Figure 36- Add timer

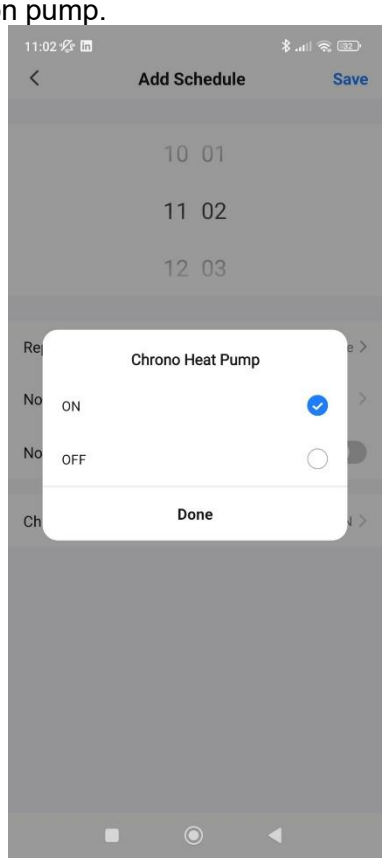


Figure 37- Set the timer to turn on or off the recirculation pump.

- Define the days of the week that you want to active the circulation pump.
- Save your modification.
- Add the second timer to define the time for the recirculation pump to switch off.

Note: When two timers are set, for example, to activate at 22:00 and deactivate at 23:00 of the same day, if the pump is already active (for example at 12:00 hours) when these timers are configured, the pump will not stop due to timer. If you want the pump to stop and wait for the timer (22:00), you must create a third timer to shut down the circulation pump at the current time and it will then wait for the timer to start again that you configured before.

Note: For the timer to active at the desired time the compressor must be enabled, otherwise, the machine will ignore the timers set.

13.3.2 Ventilator chrono

This timer allows the user to set a timer to activate the unit's ventilator. To set this timer you must follow the same instructions of setting the timers for the recirculation pump (check 14.4.1).

13.3.3 Heat pump chrono

This timer allows the user to set a timer to activate the unit's ventilator heat pump. To set this timer you must follow the same instructions of setting the timers for the recirculation pump (check 14.4.1).

Note: When two timers are set, for example, to activate at 22:00 and deactivate at 23:00 of the same day, if the pump is already active (for example at 12:00 hours) when these timers are configured, the pump will not stop due to timer. If you want the pump to stop and wait for the timer (22:00), you must create a third timer to shut down the circulation pump at the current time and it will then wait for the timer to start again that you configured before.
Note: For the timer to active at the desired time the compressor must be enabled, otherwise, the machine will ignore the timers set.

13.3.4 Working modes

This function allows the user to check and modify the working mode of the unit between tree different options: Auto, Eco Boost.

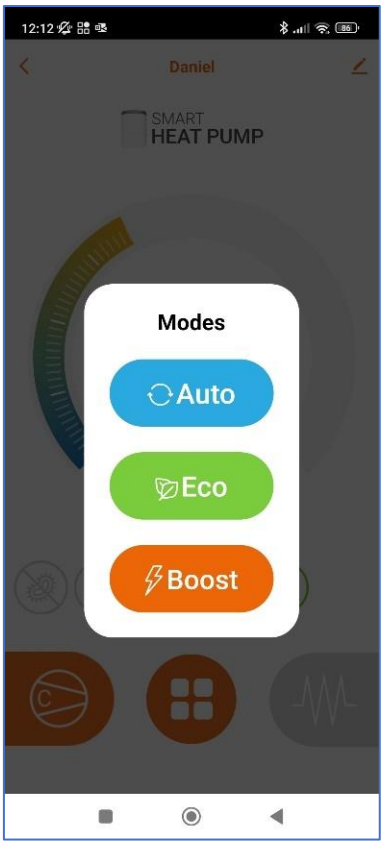


Figure 38: Working modes

To modify the current working mode of the unit, follow the next steps:

- Select the working modes button from the main screen.
- Select the desired mode.

13.3.5 Disinfection

This function allows the user to activate and deactivate manually the disinfection function to guarantee high temperatures on the tank and eliminate the bacteria that cause the legionella disease.

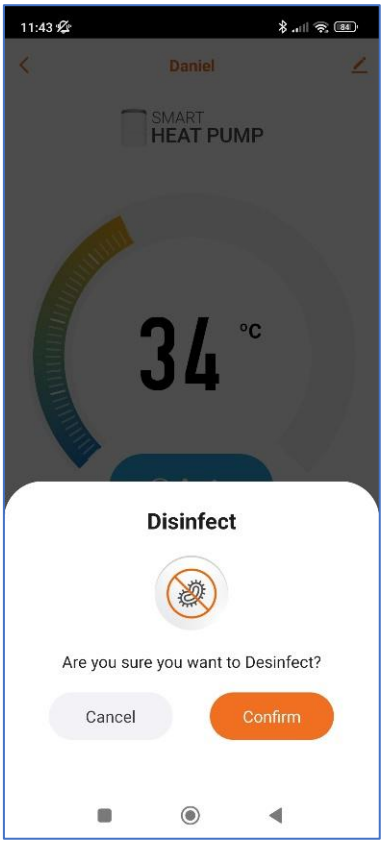


Figure 39: Disinfect function

To activate this function, follow the next instructions:

- Select the disinfection button from the menu
- Select the confirm button to start the disinfection function.

13.3.6 Parameters

This function allows the user to check and modify the value of some parameters of the heat pump through the APP.

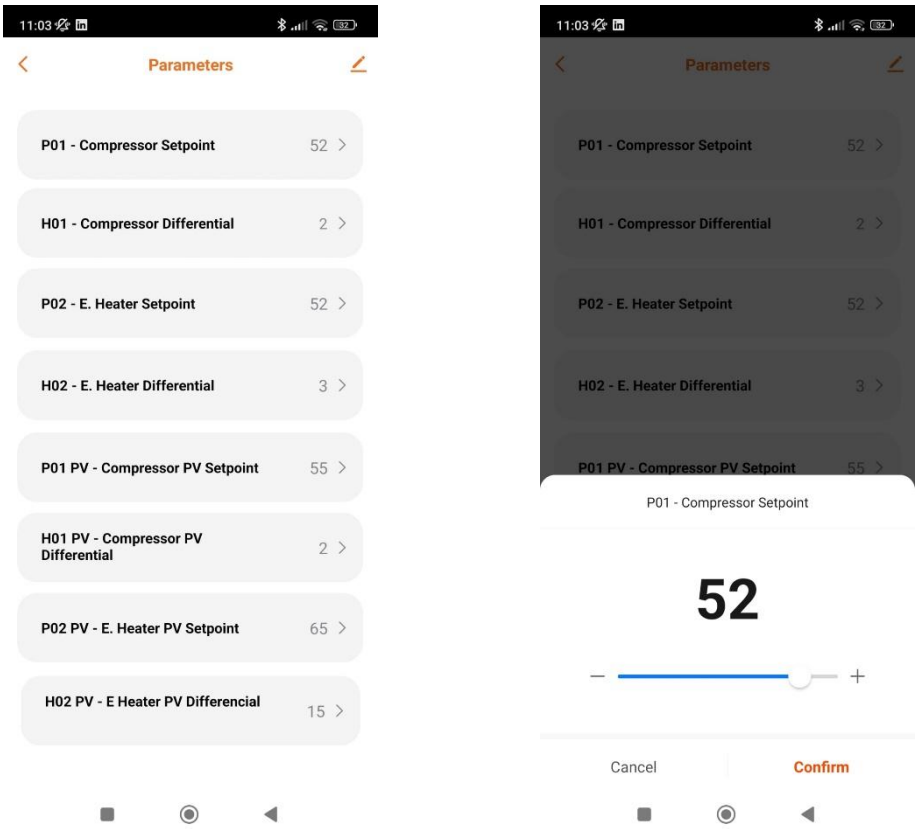


Figure 40: Parameters

To modify a value of the parameters, follow the next instructions:

- Select the parameter you wish to modify.
- Slide with your finger to modify the value of the parameter.
- Select the confirm button to save the modifications performed.

13.3.7 Vacation

This function allows the user to set a time period of vacation keeping the equipment in standby mode.

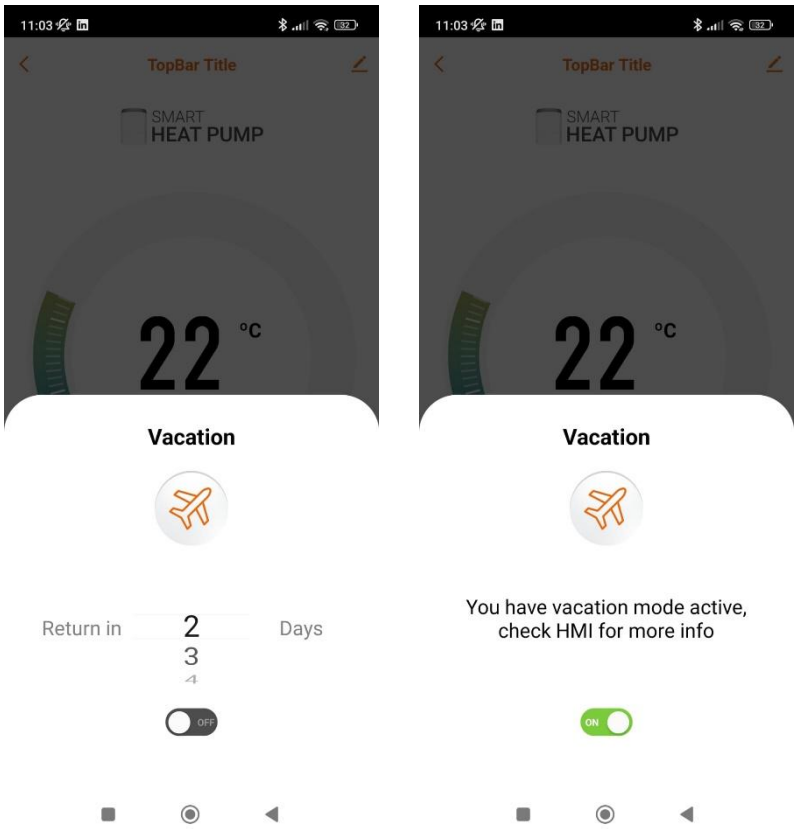


Figure 41: Vacation function

To set the vacation period follow the next instructions:

- Access the vacation function from the menu.
- Set the number of days you wish to go on vacation.
- Select the On/Off button to confirm your modifications.

13.3.8 Efficiency

This function allows the use to check the electric consumption of the compressor and electric heater when the heat pump is ON. It is possible to check this information by day, month or year.

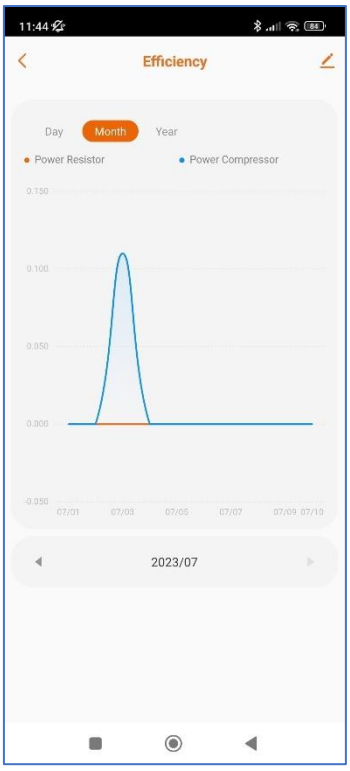


Figure 42: Consumption analysis

13.3.9 Errors

This function allows the use to check the errors that occurred on the unit and verify if the unit is working properly and intervein in time if necessary.

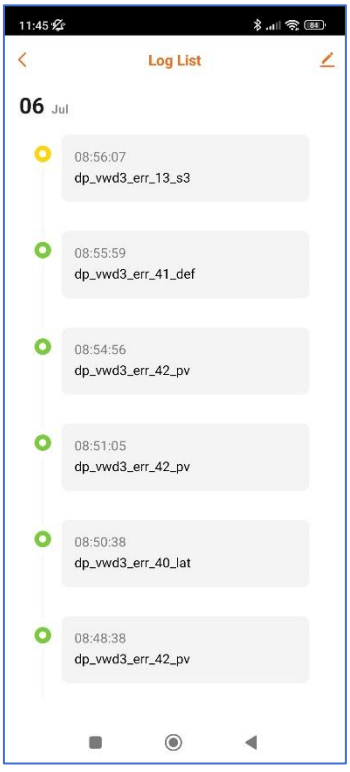


Figure 43: Alarm list

13.3.10 Device settings

On this menu it is possible to customize all the aspects of the control and display of the equipment on the app, for example, to change to name of the unit, share the unit with another person or check which network is the unit connected to at this point.

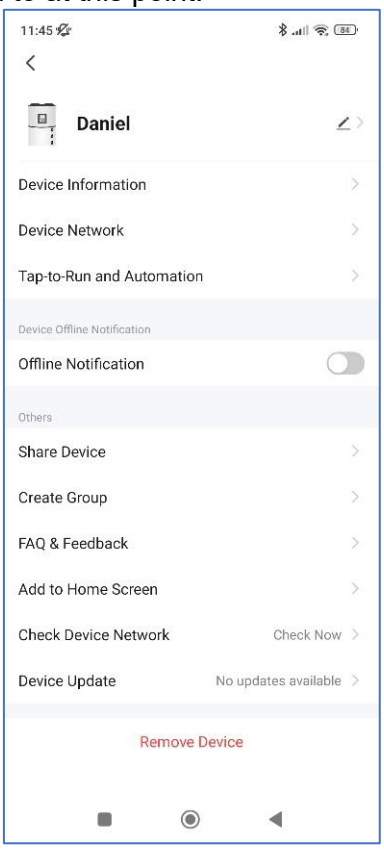


Figure 44: Unit settings

14 Parameter description

Parameter	Min	Max	Default	Units
P01 – Compressor setpoint	10	60	52	°C
H01 – P01 Differential	2	20	2	°C
P02 – E-Heater Setpoint	10	65	52	°C
H02 – P02 Differential	2	20	3	°C
P01 PV - Compressor setpoint	10	60	55	°C
H01 PV - P01 PV Differential	2	20	2	°C
P02 PV- E-Heater Setpoint	10	65	65	°C
H02 PV - P02 PV Differential	2	20	15	°C
P03 - Defrost Start Setpoint	-15	10	-8	°C
P04 - Defrost End Setpoint	-10	20	10	°C
P05- Alarm Setpoint	70	80	75	°C
P06 - Setpoint anti-legionella	60	70	65	°C
P07 – Minimum evaporator temperature to activate the E-heater in AUTO mode	-20	20	-5 State = OFF	°C
P08 - Minimum water temperature to activate the E-heater in AUTO mode	10	40	30 State = OFF	°C
P09 – Exterior air temperature to activate defrost	-5	15	5	°C
P10 – Exterior air temperature to activate LAT function	-10	10	-2	°C
H10 – P10 Differential	2	20	7	°C
P11 – Minimum temperature to activate recirculation pump	20	50	40	°C
P12 – Additional functions	0	4	0 – Inactive	***
P13 – Solar thermal pump ON differential	2	10	5	°C
P14 – Solar thermal pump OFF differential	2	10	5	°C
P15 – PV power	0	3200	0	W
T01 (timer) – Compressor start-up delay	1	20	2	min
T02 – Non applicable	-	-	-	-
T03 (timer) – Maximum time of defrost cycle	1	10	5	min
T04 – Non applicable	-	-	-	-
T05 (timer) – Maximum time of compressor ON in Auto mode	6	15	12 State = OFF	hours
T06 (timer) – Defrost cycle startup delay	30	360	60	sec
T07 (timer) – Compressor ON delay after LP error	1	20	10	Min
T08 (timer) – Delay between defrost cycles	10	120	30	min
T09 (timer) – Delay LAT function startup	2	20	5	min
T10 (timer) – Minimum time of defrost cycle	1	10	2	min
T11 (timer) – LP error delay	1	10	1	min
T12 (timer) – Flow switch error delay	5	120	15	seg
T13 (timer) – Delay to restart the solar pump	1	10	5	min

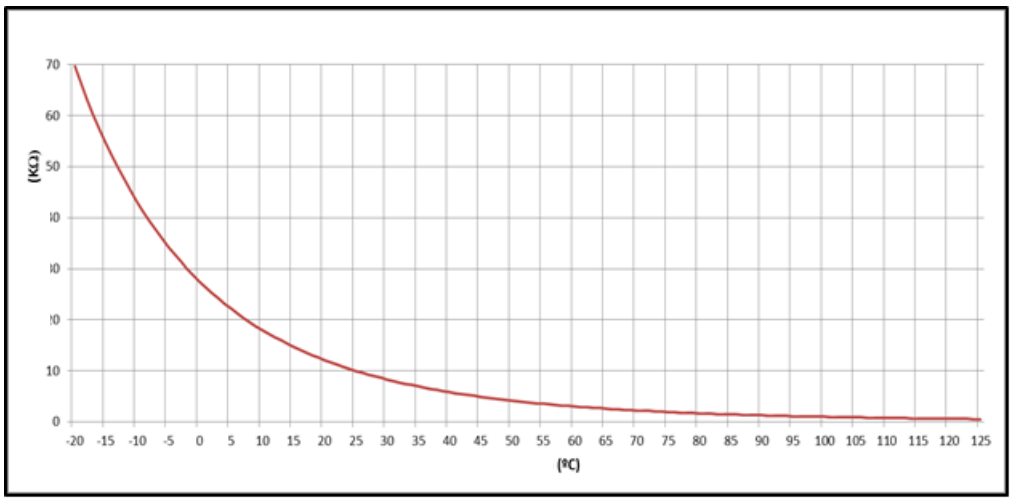
15 ERRORS

The installation, assembly and repair of the unit may only be performed by people with training.

Code	Description	Problem/check - resolution
Er01 – S1	Probe 1 OFF	• Temperature probe fault. Check for the probe. • Probe disconnected from electric board – Check if the connector is well attached to the electric board or if the terminals are well connected and in good condition.
Er02 – S2	Probe 2 OFF	
Er03 – S3	Probe 3 OFF	
Er04 – S4	Probe 4 OFF	
Er11 – S1	Probe 1 in short-circuit	• Damaged probe – Check the internal resistance of the probe where at the temperature of 25°C it is approximately 10 kΩ
Er12 – S2	Probe 2 in short-circuit	
Er13 – S3	Probe 3 in short-circuit	
Er14 – S4	Probe 4 in short-circuit	
Er20 – TA	Anomaly detected in the water temperature	• Water temperature on the tank is too high – Check if there is no damage to the electric board, as for example a damaged relay. • Temperature probe in short circuit – Measure the internal resistance of the probe where at the temperature of 25°C it is approximately 10 kΩ, check if the connector is well attached to the electric board or if the terminals are in good conditions.
Er21 – DF	Anomaly detected in the defrost cycle (frequent cycles in short amount of time)	• Damaged probe – Measure the internal resistance of the probe which at the temperature of 25°C it is approximately 10 kΩ • External temperatures are very low • Gas quantity in the circuit is too low • Leak of gas in the circuit
Er22 – LT	Low temperature alert	• Temperature in the water tank is below 0 °C.
Er23 – LP	Protection system is active (low pressure)	• Low pressure switch – Check if the connector is well attached to the electric board. • Exterior temperatures are very low • Lack of refrigeration gas in the circuit – Incorrect gas amount or leak
Er24 – HP	Protection system is active (High pressure)	• High pressure switch – Check if the connector is well attached to the electric board. • Obstruction in the gas circuit (expansion valve or filter).
Er25 – FS	Active Protection System (flow switch)	• Lack of water / obstruction on the water circuit in the solar installation
LINK ERROR	Communication error	• Flat cable between the display and the electric board – check if the cable is in good conditions or if the plugs are well connected (display and electric board)
Pcp	Anomaly detected on the compressor	• The compressor is activated but it is not working – Check the fuse of the compressor to see if it is burned or if the connection terminals of the compressor are well connected.
Phe	Anomaly detected on the electric heater	• The electric heater is active, but it is not working – Check the state of the electric heater or if the connections terminals are well connected

16 PROBE GRAPH

The probes installed on the unit, S1, S2, S3 and S4 are all type NTC 10kΩ@25ºC.



17 PROBLEM RESOLUTION

Problem	Possible causes	How to act
Electric board does not power on	Faulty power supply	Check the supply for current. Check the correspondent electrical switch
	Cable damaged or not connected	Check the integrity of the electrical circuit of the electronic panel
Water temperature is low or insufficient	Low temperature defined on the setpoint	Adjust the temperature setpoint. From manufacturer the setpoint is 53°C
	An active error	Check if there are any errors on the display and check the correspondent error on the error table (chapter 15)
	Damaged cable or not connected	Check the connected of the unit to the outlet. Check if the correspondent switch is ON. Check the state of the cable. Check if the electric cable is disconnected from the electric board. Check the electrical fuse.
	Vacation mode ON	Turn OFF the vacation mode
	Equipment or compressor OFF	Check “5.4 Start up of the system”
	Use of large amount of hot water	Change the equipment to “BOOST” mode for a fast water heating
	Return of hot water into the cold water circuit (safety device incorrectly installed or damaged)	Shut off the cold water supply valve to switch off the safety device. Open a hot water tap. Wait 10 minutes and if you get hot water, replace the faulty plumbing and/or proceed with the correct positioning of the safety device Clean the filter of the safety device
	ECO Mode selected and low external temperature	Change the equipment to “AUTO” mode to initiate automatic management of system Change the equipment to “BOOST” mode for a fast water heating
	Electric heater OFF	Make sure the backup electric heater has power supply
Water is too hot and/ or there is steam	Problem with the probe	Check error display on electronic board
	Problem with the safety thermostat	Check correct running of safety thermostat
To much usage of the electric heater as a backup (auto mode)	Low external temperature	The running of the equipment depends on weather conditions
	Low water temperature	The running of the equipment depends on the inlet water temperature
	Low voltage installation	Make sure the installation is supplied with the indicated value for voltage
	Heat pump Error	Check the error display in the electronic board
	Evaporator blocked	Clean the evaporator
	Fan blocked	Check the status of the fan (dust, wire…)

Problem	Possible causes	How to act
Low hot water flow rate	Hydraulic circuit blocked	Check the condition of the hydraulic circuit
Water discharge on the safety group	Absence or incorrect sizing of expansion vessel (if leak is not continuous)	Installation and/or correct dimensioning of expansion vessel
	High mains pressure (if leak is continuous)	Check the reducing pressure valve (if installed) Install a reducing pressure valve (if not installed)
Power consumption is abnormally high and constant	Leak or obstruction in refrigerant circuit	Check that the piping is not damaged Use equipment suitable for checking leaks in the circuit
	Dire environmental conditions	
Electrical heater not working	Safety thermostat ON	Check the condition of the thermostat
	Defective electric heater	Check the electric heater
Bad odour	Absence of siphon or siphon without water	Install and make sure the siphon has water
Undraining condensation	Drainage circuit blocked	Clean the condensation circuit
	Drain pipe blocked	Check the drain pipe

18 SYSTEM MAINTENANCE

 WARNING	Before undertaking any maintenance operation on the equipment, make sure it is not plugged to the power supply! Wait until the fan comes to a complete stop.

	Although the fluid in the cooling circuit is environmentally friendly, it must not be released into the atmosphere. Forms of recovery must be arranged.

18.1 General Inspection

During the equipment's useful life, the owner should carry out a general inspection of the equipment, according to the place where the equipment is set up:

- External cleaning of equipment and surrounding areas with a wet cloth;
- Visual inspection of the whole equipment, with the purpose of detecting possible leaks and damaged devices.

18.2 Empty the Water Storage

 WARNING	Remember that the water in the storage water tank is at a high temperature, so there is an associated risk of burns. Before emptying the storage water tank, allow the water temperature to drop to a level that avoids burns.

After ensuring the water temperature is at a safe level that will avoid burns, follow this procedure:

- Unplug the system from the power supply
- Shut off the water supply valve and open a hot water tap
- Open the system discharge valve

18.3 Filter of Reduction Valve

To periodically clean the filter of the reduction valve, you should:

- Shut off the water supply.
- Turn anti-clockwise until you remove tension from the spring
- Remove the handle
- Remove filter and clean

18.4 Condensate circuit

Make sure you check the condensate draining system and the drip tray in the maintenance and cleaning service routines of your system. Clean the drip tray used as it may contain accumulated dust from the outside, which may obstruct the condensates drainage holes. Make sure the holes and the condensate outlet pipe are not obstructed.

18.5 Cleaning Air Circuit

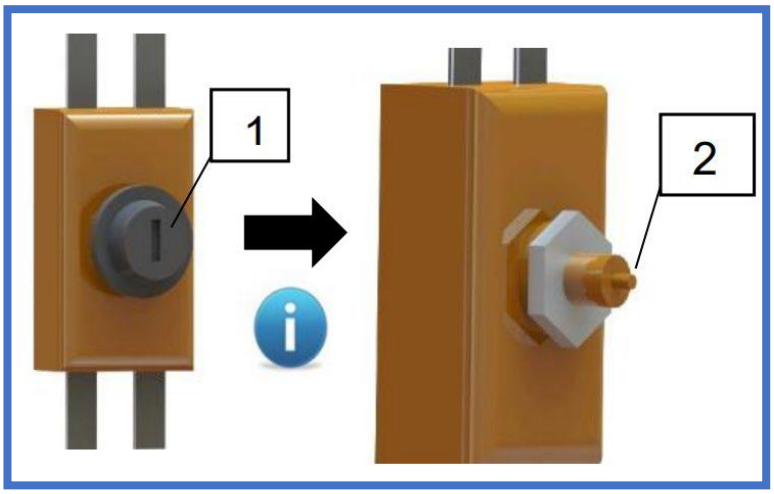
Make sure the air inlet filters are not obstructed, if applicable. Inspect at least once a year. The evaporator may have deposited dust. Clean it also but be careful with its fins.

WARNING	The evaporator's fins are quite thin, so there is additional risk of injuries. Take care not to damage them.

18.6 Safety Model 120 | 160 Model

The safety thermostat is disarmed every time that an anomaly occurs in the system so if you wish to rearm it you must find out the cause of this disarm. If you cannot figure out the cause of the disarm you must contact our after-sale assistance to solve your case. If everything is as it should be and you wish to rearm the thermostat you should proceed in the following manner:

- Remove the lid below the equipment;
- Unscrew the lid of the thermostat (1);
- Press the button (2) to rearm the thermostat;
- Screw the thermostat lid back again (1) and place the lid again.



FIM

Warranty

This warranty covers all defects to the confirmed materials, excluding the payment of any type of personal damage indemnity caused directly or indirectly by the materials.
The periods indicated below start from the purchase date of the apparatus, 6 months at the latest from the leaving date from our storage warehouses.

Water Cylinder (Domestic and Industrial)	**Thermodynamic Solar Panel**	**Electrical components and moving parts:**
5 Years: Stainless Steel (2+3 Years)* 5 Years Enamelled (2+3 Years)* Manufacturer Warranty	10 years against corrosion	• Thermodynamic Block • Solar Block • Solarbox • Split • Monobloc (except cylinder) • Thermobox • Inverter 2 Years

*The warranty extension of 3 years, against corrosion of the internal tank (Enamelled / Stainless Steel), is conditioned to the submission of:

- Warranty and Check Sheet at maximum 15 days after the installation.
- Documental evidence of the magnesium anode annual replacement (if applicable).
- Pictures of the installation where it's shown safety group, expansion vessel, hydraulic and electrical connections.

In case of warranty, the parts replaced are property of the manufacturer. A repair under the warranty is not reason for an extension of its term.

Warranty Exclusions

The warranty ceases to be effective when the apparatus is no longer connected, used or assembled in accordance with manufacturer instructions, or if there has been any form of intervention by unauthorized technicians, has the appearance of modifications and/or if the series number appears to have been removed or erased. The equipment should be installed by qualified technicians according to the rules in effects and/or the rules of the trade, or the instructions of our technical services. Further exclusions from warranty:

- Hot water tanks have been operating in water with the following indexes:
  - Active chlorine > 0.2 ppm
  - Chlorides > 50 mg/l (Inox)
  - Hardness > 200 mg/l
  - Conductibility > 600µS/cm (20ºC)
  - PH < 5,5 or PH > 9 (Sorensen at 20ºC)
  - Magnesium > 10 mg/l
  - Calcium > 20 mg/l
  - Sodium > 150 mg/l
  - Iron > 1 mg/l
  - If one of the water parameters has a higher value than stipulated by directive 236/98 (Portugal) or equivalent standard in the costumer's country
- Parts are subject to natural wear and tear – levers, switches, resistances, programmers, thermostats, etc.
- Breakdown due to incorrect handling, electrical discharges, flooding, humidity or by improper use of the apparatus.
- The warranty lapses if it is transferred to another owner, even if within the guarantee period.
- The warranty lapses if this certificate is incorrectly filled in, if it is violated or if it is returned after more than 15 days have passed since the installation or purchase date of the apparatus.
- If the unit is removed from its original installation site or location and subsequently reinstalled in any location.

NOTE: This sheet must be properly filled, signed and stamped by the installer / reseller and returned to ENERGIE EST, Lda., otherwise the warranty will not be validated.
Send this installation sheet to **warranty@energie.pt**, writing the serial number of the equipment as subject.

NOTAS:

ENERGIE®

ErP READY

Informação mais detalhada em
energie.pt

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