05 / 2020

# ecoGEO

# ecoGEO HP

# ecoAIR

ES **MANUAL USUARIO**

EN **USER MANUAL**

DE **BENUTZERHANDBUCH**

FR **MANUEL D'UTILISATEUR**

NL **GEBRUIKERSHANDLEIDING**

MODEL:

SERVICE CONTACT:

# Contents

# 1. General information

- For best performance of the equipment, read this manual carefully before using the Ecoforest heat pump.
- Keep this manual for future reference.

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Thank you for purchasing an ECOFOREST heat pump.

This manual contains information on the overall operation of the heat pump and on how to use the controller functions. The user can also find information on how to deal with anomalous heat pump performance and some of the most common comfort malfunctions that can be solved without external assistance.

This manual contains two different kinds of warnings that should be heeded, as shown below.

**NOTE**

- Indicates a situation that may cause material damage or malfunctioning of the equipment. May also be used to indicate practices which are recommended or not recommended for the equipment.

**DANGER!**

- Warning of imminent or potential danger which, if not avoided, may result in injury or even death. May also be used to warn of unsafe practices.

Ecoforest heat pumps are designed to function within heating systems, cooling systems, for the production of domestic hot water, pool heating or other similar uses. The manufacturer is not responsible for any material damage and/or personal injury resulting from improper use or incorrect installation of the equipment.

The heat pump must be installed by a licensed installer in accordance with applicable local regulations and in accordance with the instructions described in the installation manual.

## 1.1. Safety considerations

The detailed instructions in this section cover important aspects for your safety; as such they must be strictly complied with.

**DANGER!**

- All the installation and maintenance work must be performed by an authorized technician following local regulations and according to the instructions described in the heat pump installation manual.
- Children shall not play with the heat pump.
- Improper installation or use of the equipment could cause electrocution, short circuits, leakage of working fluids, fire or other personal injury and/or material damage.
- Keep the plastic bags included in the packaging out of the reach of children, as they could result in injury through asphyxia.
- This equipment should not be handled by people with physical, sensory or psychological disabilities, children and people with no suitable experience or knowledge, unless it is under the supervision or direction of a person responsible for their safety.
- If equipment malfunction is detected, contact your technical service to solve any problems that may have appeared.
- Do not touch any of the internal components during or immediately after heat pump operation; this can result in burns caused by cold or heat.

- The ecoGEO HP heat pumps range must be installed in a place where they are not accessible to the general public.

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The heat pump contains refrigerant. The refrigerants used by Ecoforest are not harmful to the environment as it does not contain chlorine, and therefore does not contribute to the destruction of the ozone layer. In the following table you can consult the flammability and the toxicity characteristics of them:

| Refrigerant | GWP | Flammability, see the nameplate label | |
|---|---|---|---|
| R410A | 2088 | A1 | No |
| R452B | 676 | A2L |  |
| R290 | 3 | A3 |  |

**Table 1.1.** Flammability and toxicity properties of refrigerants used by Ecoforest heat pumps.

Under normal operation of the heat pump the toxicity of the refrigerant is nil and there is no risk of explosion. However, the following precautions should be taken in the event of refrigerant leakage.

**DANGER!**

- The refrigerant contained in the heat pump should not be released in the atmosphere, since it contributes to global warming of the planet (GWP).
- The refrigerant should be recovered for recycling or elimination according to current legislation.
- Do not directly touch the area where the leak has occurred, as this could result in severe frostbite injuries.
- Ventilate the area immediately.
- Anyone who has come into contact with refrigerant vapor must evacuate the area immediately and breathe fresh air.
- Direct exposure of the refrigerant to a flame produces toxic gas. However, this gas can be detected by its odor when at concentrations well below the permitted limits.
- A1 refrigerants: Direct exposure of the refrigerant to a flame produces a toxic gas. However, said gas is detectable by its smell in concentrations well below the allowed limit.
- A2L and A3 refrigerants: The refrigerant cannot be reached by any source of ignition. The detection of refrigerant leaks must be carried out with means that do not contain a live flame.

## 1.2. Maintenance

Ecoforest heat pumps do not require specific maintenance after they are started up. The controller monitors a large number of parameters and will produce a warning if any problem arises. It is simply necessary to ensure that the installation is checked regularly by an authorized installer to make sure that the heat pump is running properly.

**DANGER!**

- If liquids or fluids are detected in the technical room, contact the technical service to check your installation.
- If there is a leak in the brine circuit, the circuit should only be filled with the appropriate antifreeze mixture; otherwise the heat pump may malfunction or even break down.
- All maintenance work must be performed by an authorized technician. Improper handling of the equipment as a whole can result in personal injury and/or damage to materials.
- Do not spill water or other liquids directly on the heat pump to clean it, as this could cause an electric shock or fire.
- Cleaning and user maintenance shall not be made by children without supervision.
- The filling and refilling water must comply with local regulations and the indications shown in the heat pump installation manual.

The pressure of the brine and production circuits should be checked regularly. The proper circuit pressure values can be found in the information menu. Circuit pressures should be between 0.7 and 2 bar. If the pressure drops below the minimum setting established by your technical service, the heat pump will shut down automatically, the corresponding alarm will go off and equipment status will switch to EMERGENCY.

Use a moist cloth to clean the outside of the heat pump. Do not use abrasive cleaning products that may damage the paint.

## 1.3. Recycling

- The heat pump cannot be disposed of with household waste.
- When its useful life ends, carry out the elimination of the appliance in accordance with the local regulations in force, in a correct and respectful way with the environment.

The heat pump contains refrigerant inside. The refrigerants used by Ecoforest are not harmful to the environment, but once its useful life cycle has finished, the refrigerant must be recovered to be recycled or disposed of according to current regulations.

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## 2. General description

Ecoforest heat pumps are comprised by three main circuits: source circuit, cooling circuit and output circuit. These circuits transport the thermal energy between the source and the various points of consumption (DHW, heating, etc.). The transfer of energy from one circuit to another takes place through heat exchangers, where the higher temperature fluid transfers heat to the fluid at a lower temperature without mixing. The temperature of the source circuit is lower than required for production. Therefore, to transfer the energy between both circuits, the refrigerant undergoes a thermodynamic cycle during which it evaporates at low pressure and temperature and condenses at high pressure and temperature, repeatedly. To carry out this process, the compressor consumes a small amount of electric energy compared to the thermal energy that it supplies. In geothermal heat pumps the source is obtained from the ground, while in aerothermal sources it is obtained from outside air.

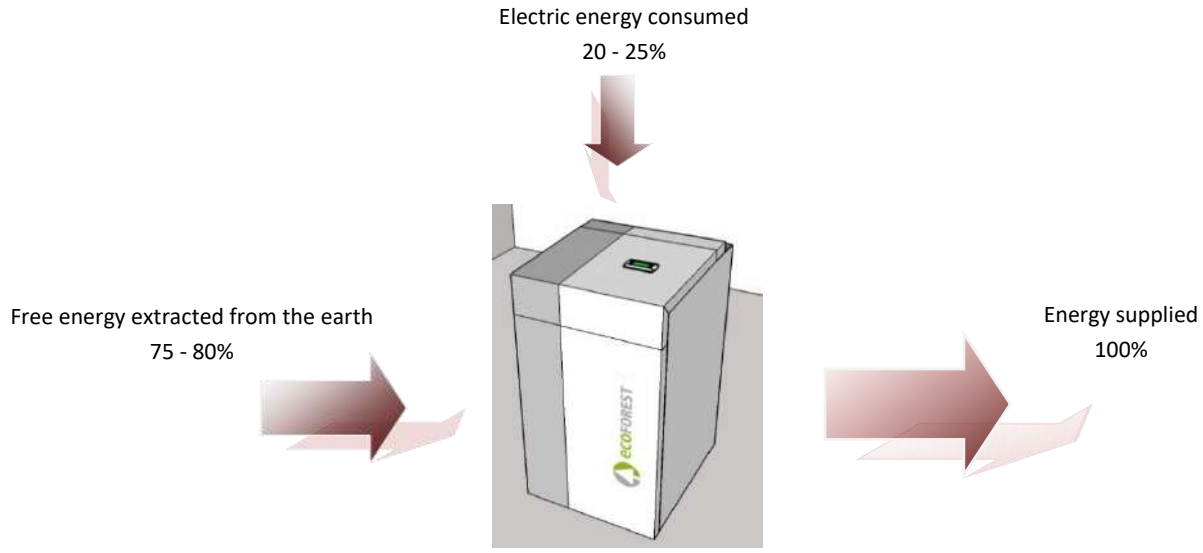


**Figure 2.1.** Operation of a geothermal heat pump in normal conditions.

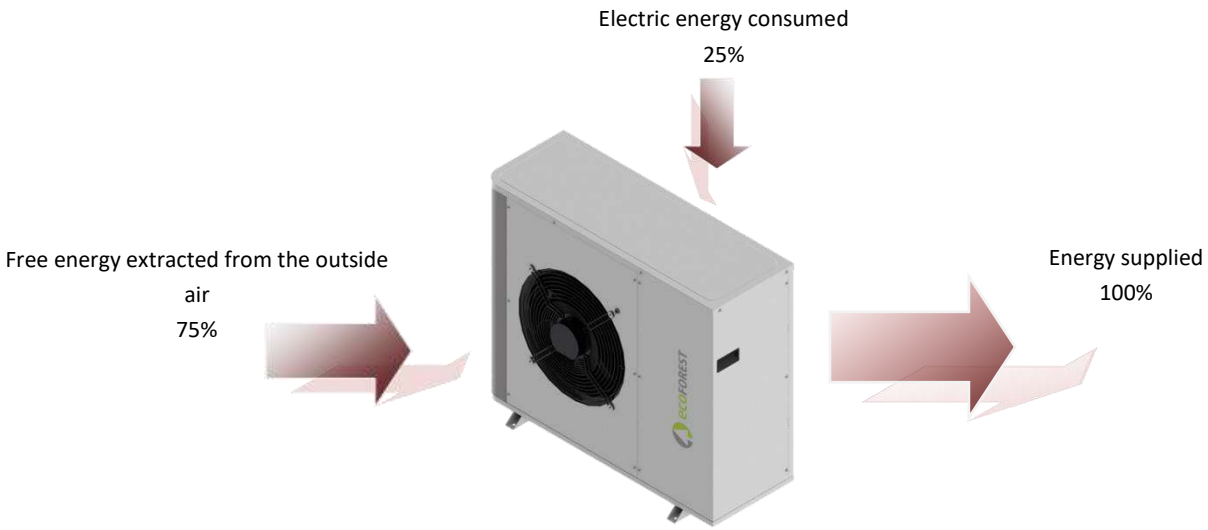


**Figure 2.2.** Operation of an aerothermal heat pump in normal conditions.

The Ecoforest heat pumps include the most advanced technologies to produce heat, cool air and DHW for your home economically and respecting the environment.

**Inverter technology**

The compressor and circulation pumps with modulating inverter technology can adapt the thermal power, flow and outlet temperature to any given needs. On the other hand, the starting cycles are considerably reduced, prolonging equipment service life. All this allows users to reduce installation electrical consumption and obtain optimum energy efficiency throughout the year.

**HTR technology**

High temperature recovery (HTR) system. This heat exchanger is used to raise the DHW storage tank temperature to 70ºC when the heat pump is producing heat or cool air for the home. This technology increases the performance of the heat pump and its energy efficiency, since it reduces the time dedicated to the production of DHW.

**Auxiliary integrated hot water equipment**

Electrical resistor in the production circuit. This resistor can be used at specific times to cover consumption peaks, achieve high DHW temperatures or act as an emergency unit if the compressor cannot be started up.

**Passive cooling technology**

The installation can also include an additional exchanger for passive cooling. This exchanger transfers heat directly from the production circuit to the brine circuit without having to use the compressor. The only electrical consumption is by the circulation pumps, thereby obtaining high energy efficiency. This technology allows economic home cooling with moderate outdoor temperatures.

**Active cooling technology by cycle inversion**

Reversible heat pumps can reverse the operation cycle in the summer to produce active cooling. Thus, the heat pump transports energy from the home to the terrain by using the compressor. This technology can be used to cool the home even in the presence of high outdoor temperatures.

**Simultaneous production**

The heat pump can produce heat and cold simultaneously, it controls the emission temperature for both services by managing the heat pump and modulating derivation valves.

**Comprehensive design**

Ecoforest heat pumps include most of the components needed for the installation or heating / cooling and DHW. This simplifies external installation, reducing costs and space.

| Options | ecoAIR | ecoGEO | ecoGEO Reversible | ecoGEO HP | ecoGEO HP Reversible |
|---|---|---|---|---|---|
| **Active cooling technology by cycle inversion** | ✓ | | ✓ | | ✓ |
| **Simultaneous production** | | ✓ | | ✓ | |
| **Passive cooling technology (internal heating exchanger)** | | ✓ | ✓ | | |
| **Passive cooling technology (external heating exchanger)** | | ✓ | ✓ | ✓ | ✓ |
| **Auxiliary integrated hot water equipment** | ✓ | ✓ | ✓ | | |
| **HTR technology** | | ✓ | ✓ | | |

**Table 2.1.** Available options in Ecoforest product range.

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**Intelligent, versatile and user-friendly management**

- Direct connection to heating / cooling systems via underfloor heating, heaters or radiators.
- Control of several different outlet temperatures.
- Direct pool heat control.
- Aerothermal brine system control with modulating fan.
- Control of hybrid aerothermal - geothermal brine systems.
- Control of all / nothing or modulating external support units.
- Joint management of several parallel heat pumps.
- Simultaneous production of heat and cold with non-reversible heat pumps.
- Combined production of heat and cold by sections with reversible heat pumps.
- Includes independent time schedule functions for each service (heating, cooling, DHW, pool).
- Includes independent time schedule functions for peak or valley tariff periods, both in winter and summer.
- Includes energy meters that show instant and seasonal energy efficiency of the installation.
- Includes heating system and DHW storage tank antifreeze protection.
- Continuous monitoring of installation operation and alerts if problems arise.
- Easy pump function viewing and control via the application interface.
- Allow the integration with ecoSMART e-manager / e-system.
- Allows the configuration of four "SMART GRID" operating modes. This function can only be used in mains networks that support the "SG Ready"-standard.

# 3. Controller guide

**NOTE**

- The information included below corresponds to application versions launched after January 2020. Other versions, both earlier and later, may differ slightly from the contents found in this section.
- Screens or screen contents that are not shown, depending on the heat pump model and the settings configured by the technical service.
- If the following screen appears when accessing menu, this means that the service requested has not been enabled by the technical service.

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## 3.1. Control panel

The heat pump control panel has a screen with 6 buttons, like the one shown in the illustration below. The buttons are used to move through the various user menus and to adjust the parameters.


**Figure 3.1.** Control panel.

The general functions of each of the buttons and operation is indicated below.

The ALARMS menu can be accessed directly from anywhere in the application.


The list of user menus can be accessed from anywhere in the application.


The user can return to the previous menu from anywhere in the application.

This allows the user to move through the menu lists.
This allows the user to move from one screen to another inside a menu.
This is used to adjust the settings of the parameters contained in a screen.
This is used from the main menu to access the adjustment of the outlet temperatures for heating and cooling .

This allows the user to access the selected menu.
This is used to move from one adjustable parameter to another in the same screen.
This is used to access the INFORMATION menu directly from the main screen.

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## 3.2. Main screen

The main screen of the application contains a series of fields with information about heat pump operation.

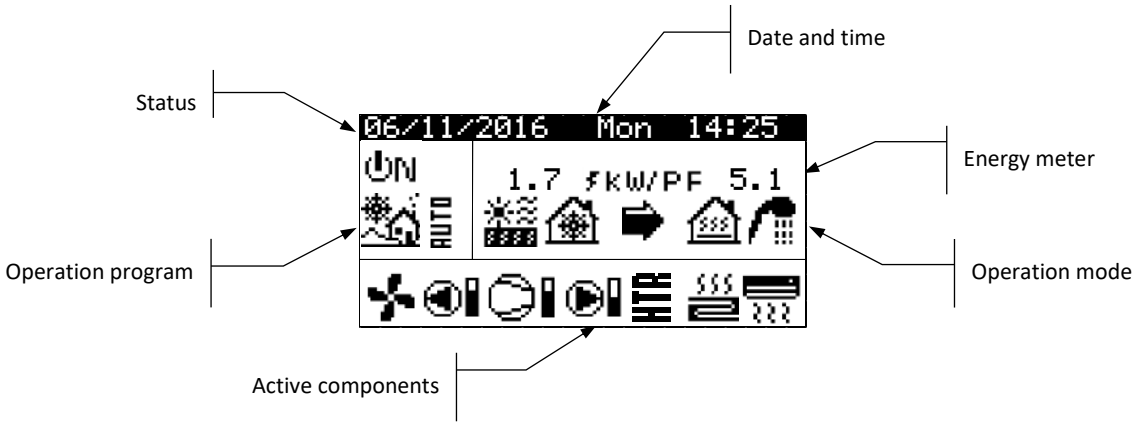


**Figure 3.2.** Description of the main screen.

## 3.3. Active components

This field shows the main components of the heat pump that are activated. A consumption bar is also shown for the compressor and modulating circulator pumps.

 Fan activated

 Brine pump activated

 Compressor in start-up phase

 Compressor activated

 Compressor in shut-down phase

 Production pump activated

 Heating units activated

 Cooling units activated

 Auxiliary heating unit activated

 HTR system activated

 DHW recirculation pump activated

## 3.4. Mode

This field shows the icons that indicate the operating modes that are active. Several operating modes can be viewed simultaneously, depending on the heat pump model and the configuration set up by the technical service.

**DIRECT HEATING Mode / DIRECT COOLING Mode**

The heat pump sends hot / cold water directly to the heating / cooling system and adjusts the power supply to the consumption of the home. The outlet temperature and flow are constantly controlled to optimize installation performance.

These modes are activated when the heat pump receives a heating / cooling demand from the interior terminals installed in the home (thermostats, th-Tune terminals, thT terminals or TH sensors).

**BUFFER HEATING Mode / BUFFER COOLING Mode**

The heat pump sends hot / cold water to the buffer storage tank of the heating / cooling system. The power supply, flow and outlet temperature are constantly controlled to maintain storage tank temperature and optimize installation performance.

These modes are activated when the buffer storage tank temperature is lower / higher than the differential of start-up temperatures.

**DHW mode**

The heat pump sends hot water to increase the temperature of the storage tank so it reaches the DHW setpoint temperature as soon as possible.

This mode is activated when the DHW storage tank temperature is lower than the differential of start-up temperatures.

**POOL mode**

The heat pump sends hot water to the pool production exchanger and adjusts the power supply. The outlet temperature and flow are constantly controlled to optimize installation performance.

This mode is activated when the heat pump receives a demand for pool production.

**LEGIONELLA PROTECTION Mode**

The heat pump raises the temperature of the storage tank to the final temperature set by the technical service for the legionella protection program. Heating is produced initially by the compressor, followed by activation of the auxiliary DHW system, if there is one, until the final temperature is reached.

This mode is activated in compliance with the provisions in the weekly legionella protection program.

**DEFROST Mode**

The heat pump interrupts its normal function, to eliminate the existing frost in the battery. Once the defrost ends, the heat pump will continue with the normal operation.

This mode is activated according the parameters configured in the installer menu.

**NOTE**

- Activation of the various OPERATING MODES may be affected by the time schedule functions or heat pump service priorities (DHW, HEATING, COOLING, POOL).
- The activation of the HEATING and COOLING operating modes may be affected by service shut down temperatures.

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Apart from the icons that define the operating modes, the following icons can also be found in this field.

**Operation**
This indicates thermal energy transfer between circuits.
If the icon is shown continuously, this indicates normal heat pump operation.
If the icon flashes, there is a heat pump protection activated.

**Energy source**
Power removal or injection at the energy source.

**Cycle inversion**
The HEAT/COLD production cycle is being inverted. Only for reversible heat pumps.

**Wait**
Compressor start-up is deactivated due to standby between start-ups. The minutes remaining for the compressor to start up are shown next to the icon.


No demand. The heat pump remains in standby because there is no demand.

## 3.5. Operation program

The heat pump operation program determines which operation modes can be activated.

**WINTER program**
The heat pump does not allow activation of the PASSIVE COLD and ACTIVE COLD operating modes.

**SUMMER program**
The heat pump does not allow activation of the HEATING operating mode.

**COMBINED program**
The heat pump allows activation of any operating mode.

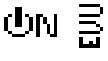

**AUTO program**
The heat pump automatically switches between the WINTER/SUMMER operating programs, depending on the outside temperature. The temperatures and time required for the switch must be adjusted by the user.

**REMOTE Control**
WINTER / SUMMER program selection is triggered by an external signal.

## 3.6. Heat pump status

This indicates heat pump availability to service the various heat pump functions.


**ON status**
The heat pump is on and available to activate all its functions.




**ON + EVU status**
The heat pump is on but the compressor is deactivated by the EVU signal. Secondary functions such as outlet unit start-up, DHW recirculation, etc. can be activated.

**ON + SURPLUS CONTROL status**
The heat pump is on and the comfort conditions are fulfilled to take advantage of the electric surplus. Only available with scoSMART e-manager / e-system.

**ON + CONSUMPTION CONTROL status**
The heat pump is on and adjust the total consumption of the installation to the maximum limit set by the installer. Only available with scoSMART e-manager / e-system.

**ON + TARIFF CONTROL status**
The heat pump is on due to a tariff control schedule or calendar, therefore, the setpoint may vary depending on what is set in the calendars.

**ON + SMART GRID status**
The heat pump is on and fulfilling any SG state.

**ON +*SG1* (Normal status):** The heat pump operates normally according to their configuration.

**ON +*SG2 (Reduced tariff):*** We are in a reduced tariff period, so we will take advantage of the lower price of electricity to change heat pump setpoints and produce more heat and cold.

**ON +*SG3 (Locked status):*** The heat pump is on, but limits the high consumptions, therefore, it sends a compressor and heater lock signal.

**ON +*SG4 (Forced status):*** The heat pump will force the maximum possible consumption in the installation to help balance the grid.

**ON + NIGHT SCHEDULE status**
The heat pump is on and available to activate all its functions, but performance is limited by night-time schedule programming.

**OFF status from control panel**
The heat pump is switched off from the front panel of the controller and is therefore not available to activate any of its functions.

**OFF status due to time schedule or calendar**
The heat pump is off due to an active time schedule or calendar and is therefore not available to activate any of its functions.

**OFF status due to data bus signal**
The heat pump is off due to an external signal through the data bus and is therefore not available to activate any of its functions.

**OFF status due to supervisor**
In facilities with several units operating in parallel, the heat pump is switched off by the supervisor and is therefore not available to activate any of its functions.

**EMERGENCY status from control panel**
The heat pump is in emergency status, activated manually from the front panel of the controller. The compressor cannot be started up, but the services can be attended to if there is an auxiliary unit enabled for emergency situations.

**EMERGENCY status due to active alarm**

The heat pump is in emergency status due to an active alarm. The compressor cannot be started up, but the services can be attended to if there is an auxiliary unit enabled for emergency situations.

**EMERGENCY status due to repeated alarms**

The heat pump is in emergency status due to an alarm that goes off repeatedly. The compressor cannot be started up, but the services can be attended to if there is an auxiliary unit enabled for emergency situations.

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**NOTE**

- The EVU signal is used in some countries by the electricity company to control electrical consumption. The EVU signal prevents energy production by the compressor and the auxiliary equipment. Circulator pumps, valves and other components can be activated to consume energy from the storage systems.

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## 3.7. List of user menus

Follow the instructions below to browse through the various user menus. Each menu has a series of screens that are used to change heat pump STATUS and OPERATION MODE, adjust comfort parameters and view desired information.

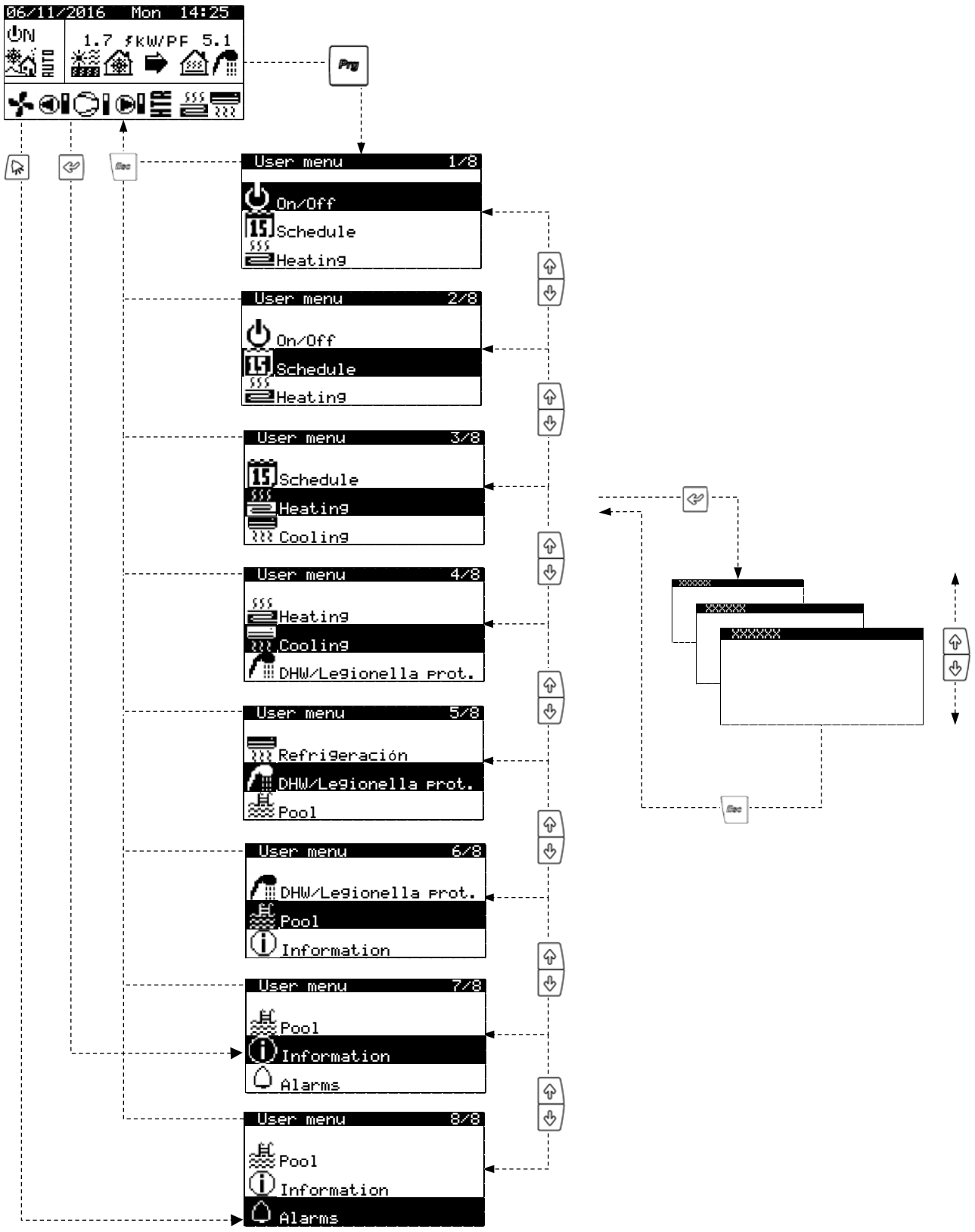


**Figure 3.3.** Browsing through the list of user menus.

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## 3.8. Parameter adjustment

Take the following steps to change a parameter:

1. Search for the screen containing the parameter that needs adjusting (see Section 3.7).
2. With the cursor in position 1 press on to enter the screen and move the cursor to the parameter in position 2.
3. Adjust the parameter in position 2 using buttons .
4. Press to accept and move the cursor to position 3.
5. Adjust the parameter in position 3 with buttons .
6. Press to accept and return to position 1.
7. With the cursor in position 1 again, press buttons to go to the previous or next screen, or to return to the list of user menus.

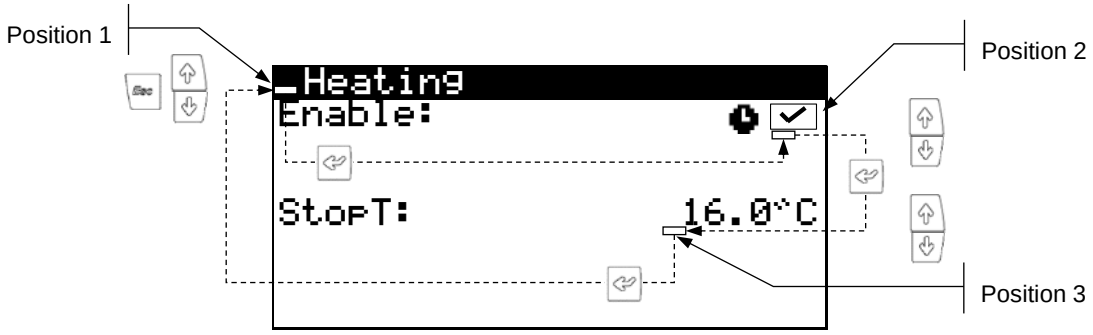
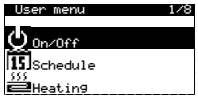
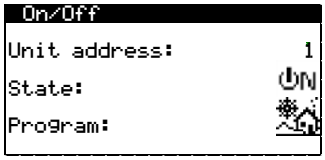



**Figure 3.4.** Adjusting comfort parameters.

## 3.9. ON/OFF Menu



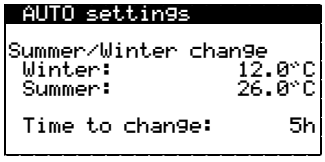




**On/Off**

Shows the direction of the unit.

Used to switch the heat pump on / off or to activate the EMERGENCY status.

Also used to choose the operation program.




**Setting up the AUTO program**

The AUTO program can be used to adjust the outdoor temperatures and the time needed to switch between the WINTER and SUMMER programs.

**NOTE**

- The selected status of the heat pump can be changed automatically using the time schedule functions, calendar or using active alarms.

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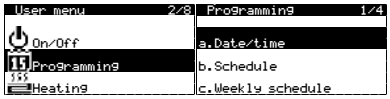
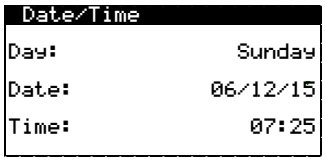
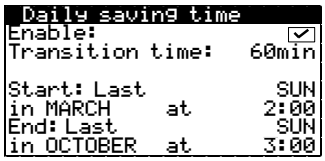
## 3.10. PROGRAMMING Menu



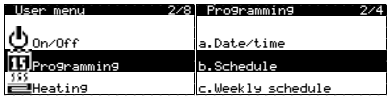

**Date/Time**

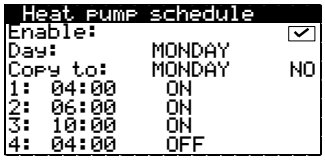
This is used to adjust the day of the week, date (DD/MM/YY) and time (HH:MM 24-hour format) of the controller.




**Daily saving time**

The settings of automatic time change between seasons (autumn-winter / spring-summer) can be adjusted.



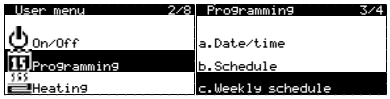



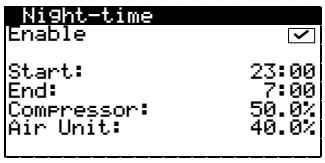

**Heat pump schedule**

This allows programming up to 4 time periods for each day of the week to switch the heat pump on / off.


**Holiday calendar**

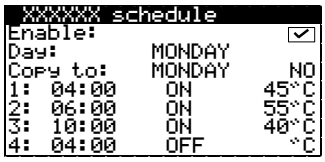
This can be used to program up to 3 periods a year when the heat pump stays on or off.




**Night-time**

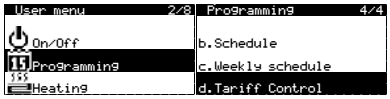
This is used to set up a daily time period when the maximum speed of the compressor and, where appropriate, the fan is limited. This function is especially useful to reduce noise emissions at night.

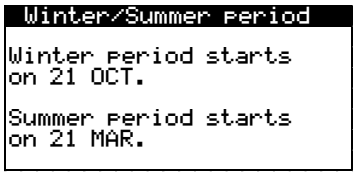



**DHW Schedule / Heating Schedule / Cooling Schedule / Pool Schedule**

This allows programming up to 4 time periods for each day of the week.

Independent time schedules can be set up for DHW, HEATING, COOLING AND POOL services.




**Winter / Summer period**

This allows adjust the parameters that define the change between Winter tariff and summer tariff.

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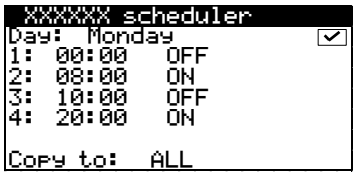
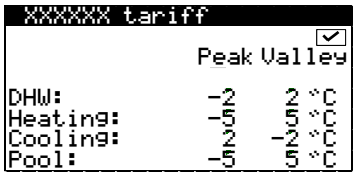



**Peak / valley tariff for Winter / summer**

This allows programming up to 4 time periods for each day of the week.

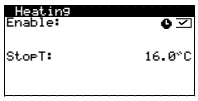
Independent time schedules can be set up for winter peak, winter valley, summer peak and summer valley tariffs.

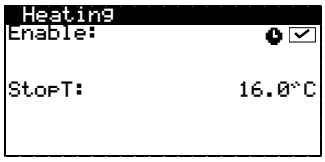



**Temperature differential for winter / summer tariff**

This allows configure the temperature differentials on the heat pump setpoint in the peak and valley periods for each service in winter / summer period.

## 3.11. HEATING Menu

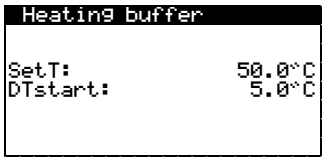



**Heating**

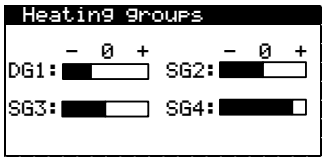
This enables the HEATING mode and adjusts the heating cut-off temperature. The HEATING mode is never activated for temperatures over the cut-off setpoint.

The icon indicates that there is a time schedule activated in the HEATING mode.



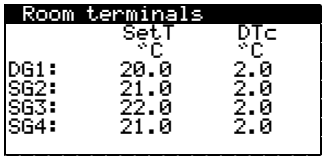

**Heating buffer**

This shows the setpoint temperature of the buffer storage tank and allows adjustments to be made to the start-up temperature differential.



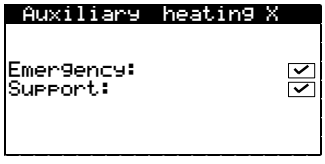

**Heating groups**

This can be used to adjust the heating target outlet temperatures programmed by the technical service. Each ramp increases or decreased the outlet temperature by 2ºC.




**Room terminals**

Used to show and adjust the inside environment temperature setpoint (SetT) and the comfort temperature differential (DTc) of the terminals of each outlet unit.



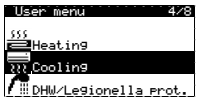

**Auxiliary heating X**

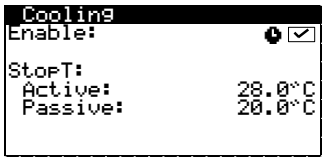
This is used to enable the auxiliary heating system in both EMERGENCY and SUPPORT mode.

In EMERGENCY mode, the auxiliary system is activated automatically when any of the alarms are active.

In SUPPORT mode, the auxiliary system is activated automatically for normal HEAT production, as programmed by the technical service.

## 3.12. COOLING Menu

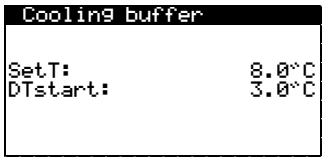





**Cooling**

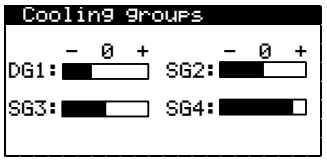
This is used to enable the COOLING mode and adjust the active and passive cooling cut-off temperatures. The COOLING mode cannot be activated for outside temperatures under the cooling cut-off temperature. Only PASSIVE COOLING can be activated for outside temperatures between passive and active cut-off temperatures. ACTIVE COOLING activation is only allowed for outside temperatures over the active cooling cut-off temperature.

The icon indicates that there is a time schedule activated in the COOLING mode.



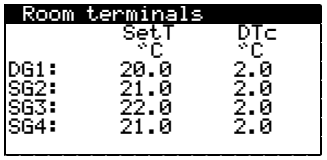

**Cooling buffer**

This shows the setpoint temperature of the cooling buffer storage tank and allows adjustments to be made to the start-up temperature differential.




**Cooling groups**

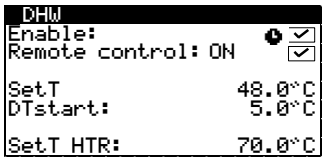
This can be used to adjust the cooling target outlet temperatures programmed by the technical service. Each ramp increases or decreased the outlet temperature by 2ºC.




**Room terminals**

Used to show and adjust the inside environment temperature setpoint (SetT) and the comfort temperature differential (DTc) of the terminals of each outlet unit.

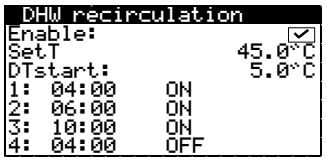
## 3.13. DHW/LEGIONELLA PROT. Menu


**DHW**

This is used to enable the DHW mode and adjust the setpoint temperature and start-up temperature differential for the DHW storage tank. In ecoGEO range It is also used to adjust the setpoint temperature for DHW heating with the HTR system.

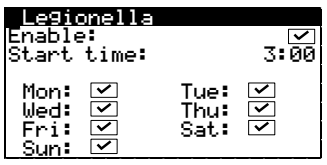
The icon indicates that there is a time schedule activated in the DHW mode.




**DHW Recirculation**

This is used to set up as many as 4 time periods per day for DHW recirculation.

In ecoAIR and ecoGEO HP range, it can also be used to adjust the start-up setpoint temperature and the start-up temperature differential for DHW recirculation.

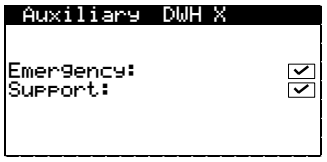



**Legionella protection program**

This is used to set up a weekly program for protection against legionella.

The legionella protection program is deactivated automatically if 5 hours have elapsed without reaching the final temperature set up by the technical service.

Legionella protection programs should be carried out at night, or when there is no DHW consumption.




**Auxiliary DHW X**

This is used to enable the auxiliary DHW system in both EMERGENCY and SUPPORT mode.
In EMERGENCY mode, the auxiliary system is activated automatically if there are any active alarms that prevent compressor start-up.
In SUPPORT mode, the auxiliary system is activated after the compressor when the latter cannot reach the target DHW storage tank temperature.

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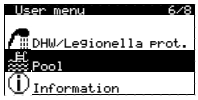
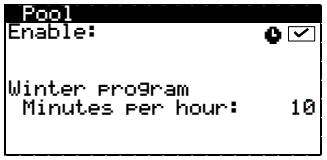
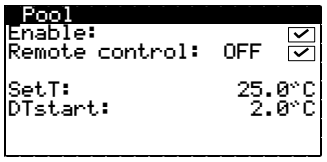
## 3.14. POOL Menu




**Pool**

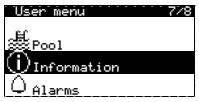
Used to enable the POOL mode.
In ecoGEO range, it can be used to adjust the percentage of minutes/hours that the heat pump is dedicated to the POOL mode when there are simultaneous demands for heating and pool during the WINTER program.
In ecoAIR and ecoGEO HP range, it can be used to adjust the setpoint temperature and the start-up temperature differential of the pool.
The icon indicates that there is a time schedule activated in the POOL mode.

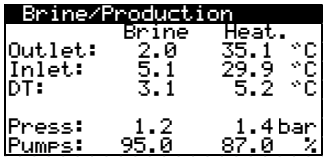

**Auxiliary pool X**

This is used to enable the auxiliary POOL system in both EMERGENCY and SUPPORT mode.
In EMERGENCY mode, the auxiliary system is activated automatically if there are any active alarms that prevent compressor start-up.
In SUPPORT mode, the auxiliary system is activated automatically for normal POOL production, as programmed by the technical service.

## 3.15. INFORMATION Menu

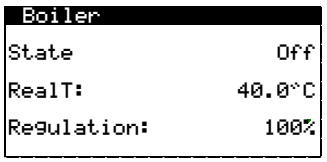
Press for quick access to the information menu from the main screen.



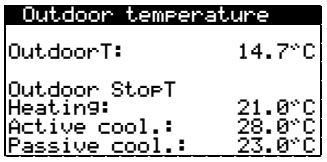

**Brine/Production**

This shows the inlet and return temperatures, temperature difference, current pressure and the percentage of circulator pump regulation in the brine and production circuits or shows the simultaneous production valves regulation value.



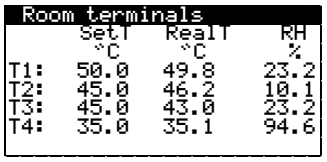

**Boiler**

Shows whether the boiler is On or Off, the current temperature in the support with boiler sensor and the regulation percentage of the boiler or the mixing valve.




**Outdoor temperature**

Shows the current outdoor temperature and the outside temperatures for heating and cooling cut-off.



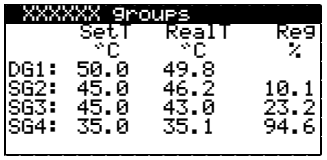

**Room terminals**

In installations with interior terminals equipped with bus communication (Th-T or TH sensors), it displays the interior setpoint temperature (Tcons), the current temperature (Treal) and the current relative humidity (HR) of the terminals assigned to each outlet unit.


**Heating buffer / Cooling buffer**

This shows the setpoint temperature, the start-up temperature differential and the current temperature of the buffer storage tank.

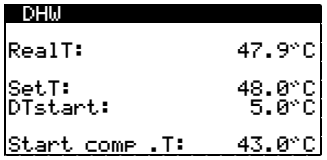
There are separate screens for the heating and cooling buffer storage tanks.




**Heating groups / Cooling groups**

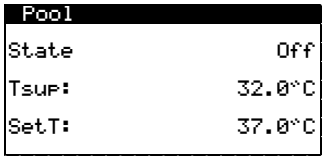
This shows the target outlet temperature (SetT), the current outlet temperature (RealT) and the regulation percentage (Reg) of each outlet unit.

There are separate screens for the heating and cooling outlet units.



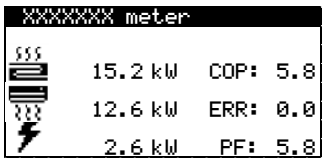

**DHW**

This shows the setpoint temperature, the start-up temperature differential and the current temperature of the DHW storage tank.




**Pool**

Shows whether the pool is On or Off Shows the outlet temperature to the pool and the setpoint temperature.




**Instant meter / Monthly energy meter / Year energy meter**

These screens show information regarding heat pump consumption, power, energy supplied and energy performance.

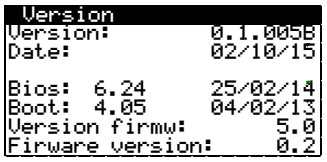
It has screens with information about the current moment, each month and by year.


**Active demands**

The upper part shows current demands for compressor start-up.

The bottom part shows the demands received by the heat pump to start the various outlet units.

Active demands for the compressor or the outlet units do not imply that they will switch on. There may be other reasons that prevent them from starting up.




**Version**

This shows information about the application installed in the controller.

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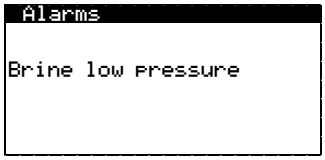
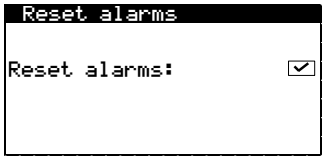
## 3.16. ALARMS Menu

Press ⎕ for quick access to the information menu from the main screen.


**Alarms**

These screens display the alarms that are active and do not allow compressor start-up. The ⎕ button stays on.




**Reset alarms**

The heat pump is blocked and switches to EMERGENCY mode when a critical alarm goes off more than 5 times a day. In these cases, the heat pump can be unblocked from this screen once the problem has been solved.

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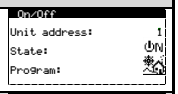
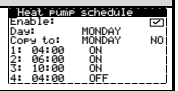
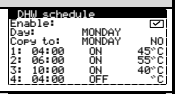
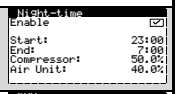
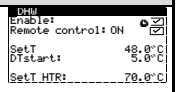
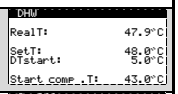
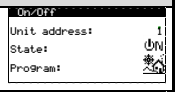
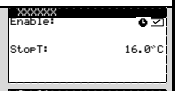
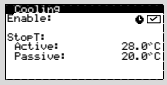
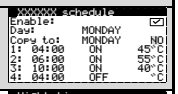
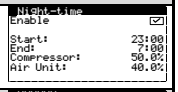
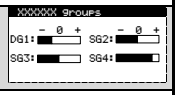
# 4. Troubleshooting

## 4.1. Comfort deficiencies

In the event of lack of comfort in any of the services, use the following table to identify the most common problems that users can solve on their own.

| Symptom | Possible cause | Remedy | Where |
|---|---|---|---|
| **The compressor does not start up** | No power supply. | Check the circuit breaker. | External cabinet |
| | The heat pump is switched off. The main screen shows OFF. | Switch the heat pump on. |  |
| | Block due to repeated alarms. red light stays on. The main screen shows . | Deactivate the alarm block. |  |
| | Heat pump time schedule activated. The main screen shows . | Adjust or deactivate the time schedule of the heat pump. |  |
| | The main screen shows **STAND-BY.** | No service demands. Check whether there are any active demands. |  |
| | Active wait for compressor start-up. The main screen shows xx. | Wait until the time by xx passes. | |
| | Active EVU signal. The main screen shows EVU. | Wait until the EVU signal is deactivated. | |
| **Low DHW temperature** | Active DHW time schedule. | Adjust or deactivate the DHW time schedule. |  |
| | Night-time programming activated. The main screen shows . | Adjust or deactivate the night-time program. |  |
| | DHW mode deactivated. | Activate the DHW mode. |  |
| | DHW mode deactivated by remote control. | Deactivate DHW remote control. | |
| | DHW temperature is between the setpoint and the differential. | Increase the setpoint temperature and/or reduce the start-up differential temperature | |
| | High momentary demand. | Wait 15 - 30 minutes and check DHW temperature again. |  |
| **Indoor room temperature: low in HEATING mode high in COOLING mode** | Incorrect operation program. | Select the appropriate program. |  |
| | HEATING / COOLING mode deactivated. | Activate the HEATING / COOLING mode. |  |
| | Outdoor temperature high / lower than the heating / active cooling / passive cooling cut-off temperature. | Adjust the heating / active cooling / passive cooling cut-off temperature. |  |
| | HEATING / COOLING time schedule activated. | Adjust or deactivate the HEATING / COOLING time schedule. |  |
| | Night-time programming activated. The main screen shows . | Adjust or deactivate the night-time program. |  |
| | The compressor is running and reaches the target outlet temperature. | Adjust the heating / cooling curve and report the event to the technical service. |  |
| | The heat pump does not receive demands from the interior terminals. | Adjust the setpoint temperature of the interior terminals. |  |
| | High demand for instant heating. | Wait a few hours and then check the indoor temperature. | |

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If the problem cannot be solved using these instructions or abnormal heat pump operation is detected, please contact the technical service and request that the installation be checked.

### 4.2. Alarm messages

The heat pump performs constant monitoring of multiple operation parameters. If any of these parameters is not within the normal range of values, the controller will activate an alarm and display a message showing the error, which will be recorded in the ALARMS menu.

The heat pump will not allow compressor start-up if there is an alarm activated. The button will light up in red and remain on to indicate the error and the EMERGENCY status will be activated automatically.

Different situations can occur, depending on the problem.

**Active alarms**

The active alarms show errors that are occurring at that precise moment. The home page of the ALARMS menu shows consecutive screens with text describing the cause of the alarm. The button lights up in red and remains on and the main screen shows .

If the problem is solved, these alarms disappear and the heat pump starts to operate automatically.

**Block due to repeated alarms**

Certain alarms are critical for heat pump operation. If they are repeated several times on the same day, they block the heat pump permanently. The button lights up in red and remains on and the main screen shows .

Even after the problem is solved, the heat pump has to be unblocked manually from the ALARMS menu to start it up again.

**DANGER!**

- Repeated alarms indicate that there is a malfunction in the installation. Contact the technical service as soon as possible to check the installation.

### 4.3. Manual activation of the EMERGENCY status

If the heat pump does not start up and there are no active alarms, the EMERGENCY status can be activated manually from the On/Off menu (Refer to Section 3.9). This will enable the heat pump to use the auxiliary units to provide the emergency services while a solution to the problem is found.

## 5. Technical specifications

You can download the updated technical data of the Ecoforest heat pump on the web: www.ecoforest.es

# 6. Warranty and technical service

## 6.1. Manufacturer's warranty

ECOFOREST is liable for lack of conformity of the product or its spare parts, in compliance with the current regulations of the country where the product is purchased. The warranty is only valid in the country where the product is purchased.

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**Conditions and validity of the warranty**

In order for this warranty to be considered valid the following conditions must be verified.

- ECOFOREST must allow the product under warranty to be sold in the country where it is going to be installed.
- The product under warranty must be used exclusively for the purpose that it was designed for.
- All installation, start-up and repair work carried out on the equipment must be performed by a technical service authorized by ECOFOREST.
- All replacement of parts must be carried out by a technical service authorized by ECOFOREST and always with original ECOFOREST spare parts.
- The purchaser must inform in writing the establishment that sold the product of the lack of conformity, as well as the serial number of the product and the date of purchase, within 30 (thirty) days since you became aware of said nonconformity.
- For the warranty to be effective, the purchaser must present a legal document that supports the date of purchase duly stamped and signed from the establishment that made the sale.

**Disclaimer of warranty**

The warranty does not include product non-conformities derived from:

- Weather conditions, chemical agents, improper use and other causes that do not depend directly on the product.
- Installation and/or handling of the equipment by unauthorized personnel.
- Installation, maintenance and repair not adjusted to the procedures described in the documentation for this purpose by ECOFOREST.
- Improper transportation of the product.
- Part wear due to normal equipment operation, unless due to a manufacturing defect.
- Filling or refilling with water that that does not apply the requirements described in the installer manual.
- Use the DHW tank inside Ecoforest models to heat non-potable water or whose treatment equipment does not work properly or heat other means.
- Damage resulting from excessive pressure or temperature is not the responsibility of Ecoforest.
- Exceed the amounts of chloride and sulfate acceptable for the tank. In areas where there are high concentrations of chloride and sulfate in drinking water, consult your dealer for instructions.

**Request for service under warranty**

A request for service during the warranty period must be presented at the establishment where the product was purchased, indicating in writing the reason for the non-compliance, serial number and date of purchase of the product.

Product returns will only be accepted if previously accepted in writing by ECOFOREST.

The product must be returned in its original packaging and with a legal document that supports the date of purchase from the establishment that made the sale.

## 6.2. Authorized distributors and technical service

ECOFOREST has an extensive network of authorized companies that distribute and perform the technical service on its products. This network will provide our customers with all the information and technical support they need, anywhere and under any circumstance.

ECOFOREST GEOTERMIA, S.L.

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