Heat pump water heater

using exterior or non-heated ambient air

Installation manual

HEAT PUMP WATER HEATER 200 AIR D/2
Ref. 935111

HEAT PUMP WATER HEATER 270 AIR D/2
Ref. 935112

Made in FRANCE

CE

Manual ref. : 1898150
Edition n° 22.17

Necessary technical data
-in appendix-

The information contained in this document is non-contractual. Auer reserves the right to modify the technical specifications or characteristics of any of their appliances without prior notice.

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Preserving these documents

• This manual and all other relevant documents should be given to the system user.

The system user should keep these manuals for future reference.

1 - SAFETY

• Any intervention on the thermodynamic water heater should only be performed by qualified personnel.
• Follow the safety instructions!
• Any intervention on the refrigeration circuit must be made by a qualified person who holds a Category 1 certificate of fitness.
Refrigerant R290, contained in the heat pump circuit, does not pose an environmental hazard but is flammable.
Refrigerant R290 is odorless.
do not damage the refrigeration circuit tubes, do not handle flame or other flammable sources inside the device,
in the event of a leakage of the refrigerant, unplug the plug, ventilate the room and contact the customer service,
Do not pierce or burn the appliance: the recovery of the fluid is mandatory in case of intervention on the refrigeration circuit.

Danger of death by electrocution

Touching live electrical wires can cause severe injury.

- Before undertaking any work on the appliance, ensure to switch off the power supply to the appliance.
- Ensure that there is no possibility of the power supply becoming active again.

Danger of injury or death due to the absence of, or defective, safety devices.

Absence of safety devices can be dangerous and may result in burns or other injuries. Injuries could be caused by pipes bursting for example.

The information provided in this document does not represent all of the diagrams required for a professional installation of the safety devices.

- Install all required safety devices in the circuit.
- Inform the user of where the safety devices are placed, and how they work.
- Follow all relevant national and international health and safety rules and regulations.

Danger resulting from improper use

Any work carried out by an unqualified person can result in damage to the installation or in physical injury.

- Do not perform any maintenance work on this appliance unless you are a qualified professional.

Intended use and applicable areas of use

This appliance is intended for use as an appliance for domestic hot water production.

The intended use of the appliance includes the following points:

- following the instructions for operating, installing, and maintaining this appliance and all other parts and components of the system.
- ensuring the compliance with all conditions of inspection and maintenance which are listed in this manual.

Humidity and water splashes

The appliance should be installed in an area where it is not exposed to humidity and without risk of being splashed by water.

Rules and regulations (directives, laws, and standards)

Once the appliance is installed and switched on, all decrees, directives, technical rules, safety measures and standards, must be respected in their current version in effect.

- This appliance should not be used by: children under 8 years old; anyone with reduced physical, sensory or mental capabilities; or by anyone who has insufficient experience or knowledge of the appliance; unless they are being supervised by someone who is responsible for their safety and in possession of the operating instructions of the appliance.
- Children should be supervised to ensure that they do not play with the appliance.
- Cleaning and maintenance of the appliance should not be undertaken by children without proper supervision.

A method of disconnection ensuring a complete cut-off according to Category III conditions must be installed in the fixed piping to conform to installation regulations.

Protect the appliance with:

- an 8 A all-pole circuit breaker with a contact opening of at least 3mm.
- a protective 8 A circuit breaker with a 30mA differential.

If the electrical supply cable is damaged, it must be replaced by the manufacturer, their customer service technicians, or by a qualified professional to prevent any risk of injury or danger.

If the electrical supply cable is damaged, it must be replaced by a cable or by a specific kit available from the manufacturer or their customer service department.

WARNING

Do not use any methods to accelerate the defrosting or cleaning process other than those recommended by the manufacturer.

The appliance must be stored in a room which does not contain a perpetual flame or other source of ignition (for example: open flame, gas powered appliances or electric radiators in use).

Do not pierce or burn.

Warning: refrigerant fluids may be odourless.

Water may drain from the discharge pipe of the pressure limiting device. This pipe should be kept open to open air.

- Verify that the ventilation openings are not obstructed.
- A **new** pressure-relief valve (not included) **must** be installed and set to 6 bars on the domestic cold water supply of the appliance. The use of a membrane valve is recommended.
- This valve must conform to all national standards in effect.
- The pressure-relief drainage outlet should be installed in a frost-free place and in a downward sloping position.

- Maintenance - Troubleshooting -

- Drainage : Turn off the power supply and the cold water, open the hot water valves and then set the safety group to the drainage position.
- The pressure-relief valve should be activated regularly so as to eliminate limescale and check for blockages.
- .If the electrical supply cable is damaged, it must be replaced by the manufacturer, their customer service technicians, or by a qualified professional to avoid risk of injury.
- See the § «Dimensions» and the § «Installation» of this manual to find the necessary dimensions for proper installation of this appliance.
- See the § «Hydraulic connections» of this manual to find the minimum and maximum water pressures and temperatures.

2- RECOMMENDATIONS

The appliance can only function when filled with water. Never turn on the appliance if the tank has not been properly filled with water and completely purged of air.

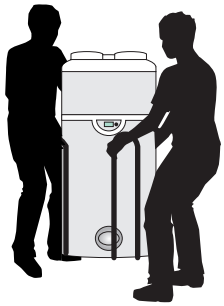
2.1 - Storage

STORAGE PRECAUTIONS:
• Admissible storage and transport temperatures of the heat pump water heater are from -5°C to +35°C.

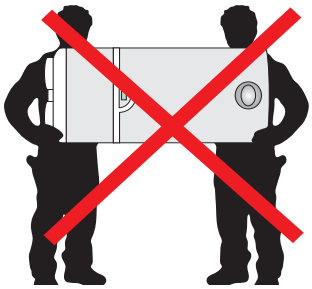
2.2 - Transport

It is preferable to transport the heat pump water heater in its original packaging to protect the appliance.

Authorised transport positions :
All other transport positions are prohibited.



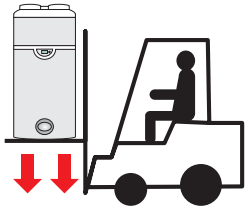
Non-authorised transport positions :



All other transport positions are PROHIBITED.

Transporting the appliance in a horizontal position may lead to irreparable damage to the components of the Heat Pump.

If tipped, the centre of gravity will shift towards the top: handle with care.



Do not drop or lower suddenly

Risk of tipping

Once the heat pump water heater is installed in its definitive position, it is imperative to wait 15 minutes before it is turned on.

2.3- Contents of packaging

- 1 heat pump water heater
- 1 doumentation packet containing 1 installation and user manual, and 1 warranty form, 3 adjustable feet.

2.4 - Unpacking

- Remove plastic cover and cardboard packaging.
- Remove corner protection pieces, ensuring that all nails and staples are taken out and disposed of.
- Remove protective film from all parts of the appliance and from the bag of accessories which you will find in the transport bag.
- Without tilting the appliance, use the appropriate tool to remove the screw from underneath the wooden pallet.

Keep the transport bag out of the reach of children (risk of suffocation).

2.5- Symbols used

Caution *: contains a flammable refrigerant fluid.*

Please make sure to respect the installation and handling precautions.

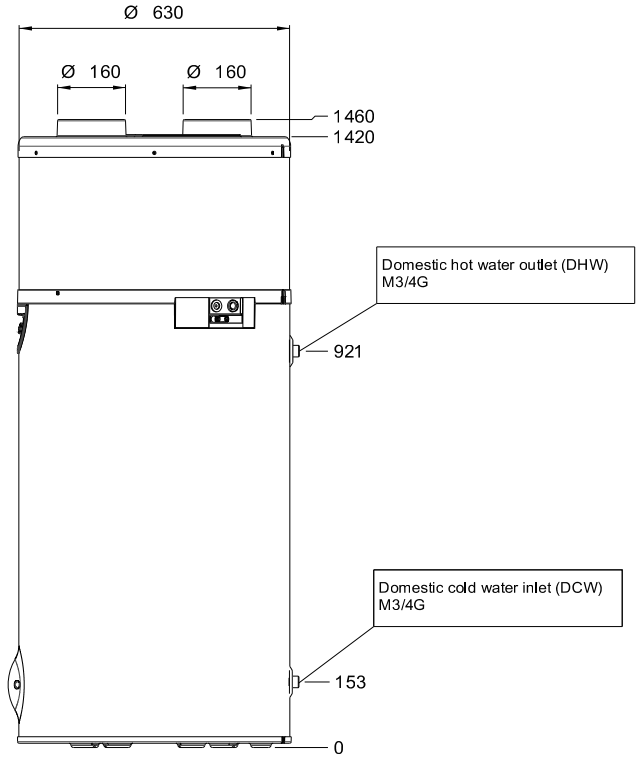
Consult the installation manual before all work on the product: handling, installation, use and maintenance.

Contains controlled substances, do not dispose of in the garbage. In case of disposal, please respect the regulations for the recovery of electrical and electronic equipment.

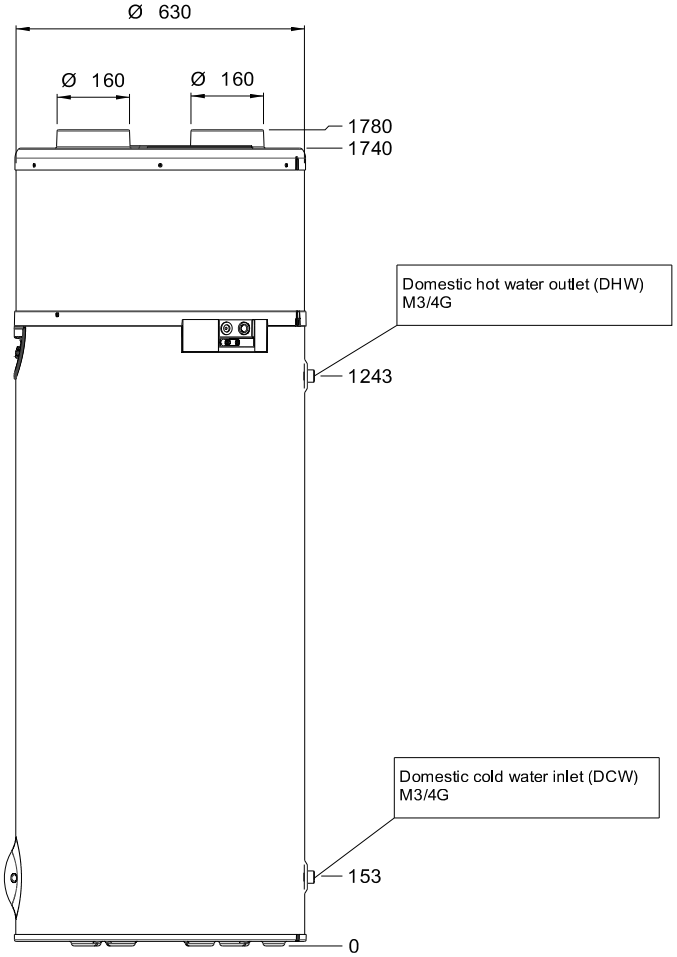
3 - PRESENTATION

3.1 - Dimensions

3.1.1 - 200 L Heat pump water heater



3.1.2 - 270 L Heat pump water heater



3.2 - Technical specifications and performances

		CET* 200 AIR	CET* 270 AIR
Heat pump performance			
Nominal volume	L	200	270
Max.input power	W	1900	1900
Air temperature range	°C	-7 to +35	-7 to +35
DHW* temperature with heat pump	°C	30 to 60	30 to 60
Max.heat pump power consuption	W	700	700
Air flow rate	m^3/h	320 to 400	320 to 400
Indoor sound power level**	dB(A)	49,8	49,8
Outdoor sound power level**	dB(A)	37,9	37,9
Refrigerant	-/kg	R290/0,15	R290/0,15
Global warming potential	kg	0,45kg CO_2 equivalent	0,45kg CO_2 equivalent
Type of air connection	-	Exterior or ambient air	Exterior or ambient air
Normative Data (EN 16147)			
Draw cycle	-	L	L
COP* (outdoor air +7°C)	-	3,19	3,14
Reserve capacity	W	23	25
Hot water reference temperature	°C	54,20	53,8
Heating time	-	7h04	10h15
Energy class	-	A+	A+
Seasonal energy efficiency	%	132	130
Vmax	L	247,4	349,3
V40 td	L	614	650,4
COP* (ambient air +15°C)	-	3,37	3,47
Dimensions and connections			
Dimensions	mm	Ø630xH1460	Ø630xH1780
Weight when empty	kg	56,5	63
Air connection diameter (intake / exhaust)	mm	160	160
Max.length for air ducts	m	**flexible tube : 6m rigid pipe : 12m** (intake + exhaust)	**flexible tube : 6m rigid pipe : 12m** (intake + exhaust)
Connection diameter for DCW* and DHW*	inches	M3/4"	M3/4"
Electrical power supply	V-Hz-A	230V-50Hz-8A	230V-50Hz-8A
Protection rating	-	IPX4	IPX4
D-curve circuit breaker	A	8	8
Tank			
Materials / protection	-	Stainless steel	Stainless steel
Maximum service pressure	MPa	0,6 (6 bar)	0,6 (6 bar)
Max. condensates flow rate	L/h	0,3	0,3
Built-in electrical back-up power (85°C safety setting)	W	1200	1200
Max.temp with electrical back-up	°C	65	65

** DHW = Domestic Hot Water*
DCW = Domestic Cold Water
COP = Performance efficiency

CET = Heat pump water heater

***Sound power level tested according to EN ISO 9614-1 and pr EN 12102-2*

3.3 - EU declaration

This device complies with international electrical safety standards IEC 60335-1, IEC 60335-2-21, IEC 60335-2-40. The CE marking present on the device attests to its conformity with the following Community Directives, of which it meets the essential requirements:

- Low Voltage Directive (LV): 2014/35/EU.
- Electromagnetic Compatibility Directive: (EMC): 2014/30/EU.
- Ecoconception Directive for Energy-related products: 2009/125/EC.
- Limiting Hazardous Substances (ROHS): 2011/65/EU.

4 - INSTALLATION

4.1- Placement and positioning

4.1.1- Placement choice

INSTALLATION PRECAUTIONS :

• The appliance must not be installed near a perpetual flame or other source of ignition.

• The appliance must be installed in such a way so as to avoid mechanical damage to the appliance.

• It is PROHIBITED to install the appliance:

- Outside.
- In rooms exposed to frost, where the temperature is less than 7°C, including when the appliance is operating.
- In humid rooms which have significant steam or vapour emissions (for example, a bathroom).
- In rooms where there is any risk of explosion due to gas, pollution or dust.

• Avoid placing the appliance close to bedrooms to minimise noise pollution.

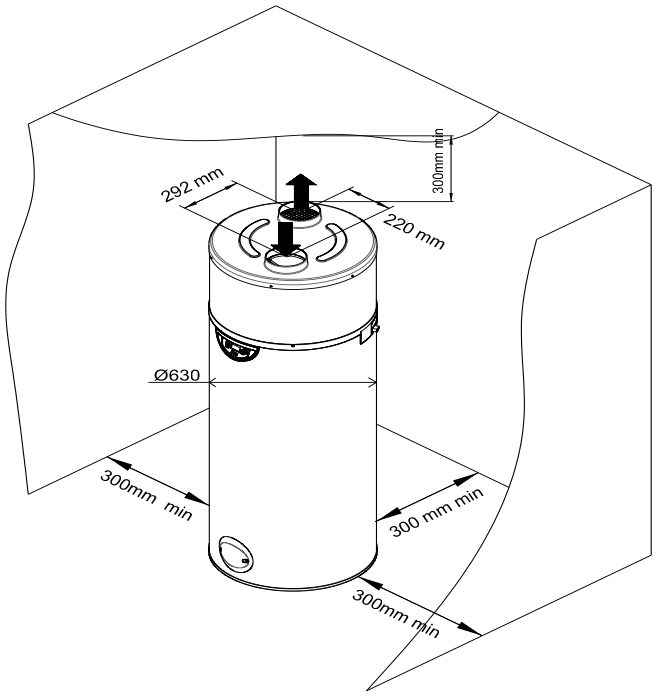
• Do not install the air intake nozzle near a vapour exhaust (minimum distance of 0,6m).

• It is PROHIBITED :

- To let the appliance operate using air intake which contains solvents or explosive materials.
- To use air intake which contains grease, dust or aerosol particles.
- To connect vented exhaust hoods to the ventilation system.
- To use air intake containing combustion materials from a boiler.

4.1.2- Positioning and anchoring

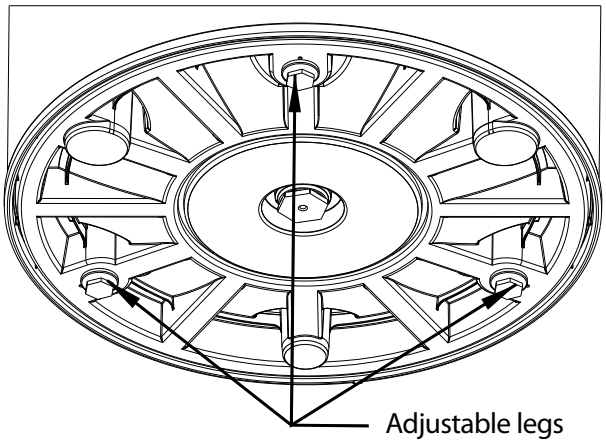
• To ensure the proper functioning of the heat pump water heater and to facilitate maintenance work, a space must be left free around the appliance, as well as a minimum ceiling height so that the hood can be removed.



• The floor must be able to support the weight of the heat pump water heater (weight of the heat pump water heater filled with water 200 L/ 270 L= 260 kg / 335 kg).

The vertical position of the heat pump water heater must be strictly respected. If not, there is a risk of condensates leaking and resulting in a water leak at the base of the appliance.

For this purpose, use the three adjustable legs provided in the pocket of the manual (see below).



4.2- Air connection

4.2.1 - Without piping

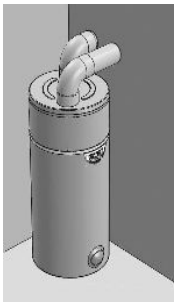
If installed without piping, the appliance must be installed in non-heated premises (of at least 20m^2 and away from neighboring heated rooms.

- If the space available under the ceiling is less than 60cm in height above the water heater, it is recommended to install an elbow at the air outlet and direct it towards the back or the sides.
- The heat pump water heater enables heat to be recovered from the floor of non-heated, partially underground premises such as a workshop or garage.
- The heat pump water heater allows the dehumidifying and cooling of rooms such as utility rooms or cellars.

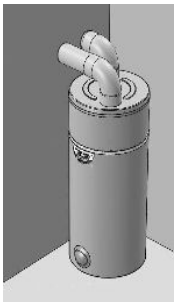
4.2.2 - With piping

The heat pump can operate over a large air temperature range (from -7°C to +35°C). The appliance extracts calories from exterior air. Partial piping (using only 1 pipe) onto exterior air should be avoided as in the winter it can cause the room to become significantly colder.

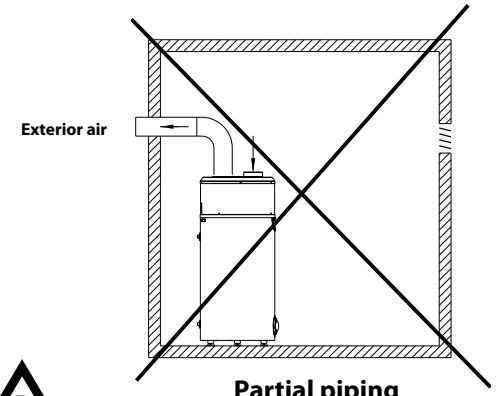
piping at the back



piping on the right



piping on the left



Partial piping

Total maximum length Ø160 :
• 6 m of flexible hose
• 12 m of semi rigid piping
1 elbow= 1m

The **heat pump water heater** must be connected using **insulated** air ducts with an interior diameter of 160mm.
90° Ø160 mm PVC elbows allow you to rotate the position of the pipes connected to the appliance through 360°.

4.2.3- Piping accessories

Piping accessories are available to order and are designed for a simple and efficient heat pump water heater connection.

The pipes ❶(Ref. 730011) and the foam elbows ❷ (Ref. 730012), are semi-rigid, light and thermally insulated.

They are assembled using an assembly connector. ❹(Ref. 730014).

If over 1m long, the pipes must be anchored to the wall using a collar. ❸(Ref. 730013).

The stainless steel horizontal terminal ❺(Ref. 730015), is equipped with a protective grill and requires 190mm drilling.

Rep.	Description
❶	Semi-rigid pipe Ø160mm - lg 2m
❷	Insulated 90° elbow Ø160mm
❸	Collars for attaching to wall (set of 2)
❹	Connectors for insulated pipes (set of 2)
❺	Horizontal terminal for insulated pipe Ø160/190 Outdoor

4.3 - Hydraulic connections

- A new pressure-relief valve (not included) must be installed and set to 6 bars on the domestic cold water supply of the appliance. We would recommend a membrane valve.

  The membrane valve system must conform to national and domestic standards and regulations in effect.
- The pressure-relief valve should be installed as close as possible to the appliance's cold water inlet and the water flow should **never be hampered by any accessory** (valve, pressure-reducer, etc...)
- The pressure-relief valve drainage outlet must be installed in a frost-free place, in a downward-sloping position.
- The pressure-relief valve drainage outlet should be sized according to building regulations and must never be obstructed. It should be connected to a vertical draining pipe, using a funnel which allows an open space of at least 20mm and which is at least equal in diameter to the appliance's piping connection.
- If the pressure of the domestic cold water supply is higher than 5 bars, a pressure-reducer should be installed above the pressure-relief valve near the starting point of the installation (a pressure of 4-5 bars is recommended).
- It is advised to fit a shut-off valve above the pressure-relief valve.
- For installations equipped with:
  - piping of a small diameter
  - ceramic plate valves

  A domestic water expansion vessel, or anti-hammer valves which are adapted to the installation should be installed as close as possible to the shut-off valve.

• The following materials should be used for the domestic hot water circuit:

- **copper**
- **stainless steel**
- **brass**
- **plastic**

If the materials used in the domestic hot water circuit are incompatible, corrosion damage may occur.
Consequently, the appliance should always be connected to copper domestic hot water pipes **with a cast-iron or steel link, or with dielectric connections** (not supplied) to avoid an iron/copper galvanic bridge.

• Thoroughly flush the supply line piping before connecting the appliance to the domestic installation so as not to introduce any particles, metallic or other, into the appliance.

• Respect the standards in effect in the country of use, notably hydraulic regulations and pressure safety regulations.

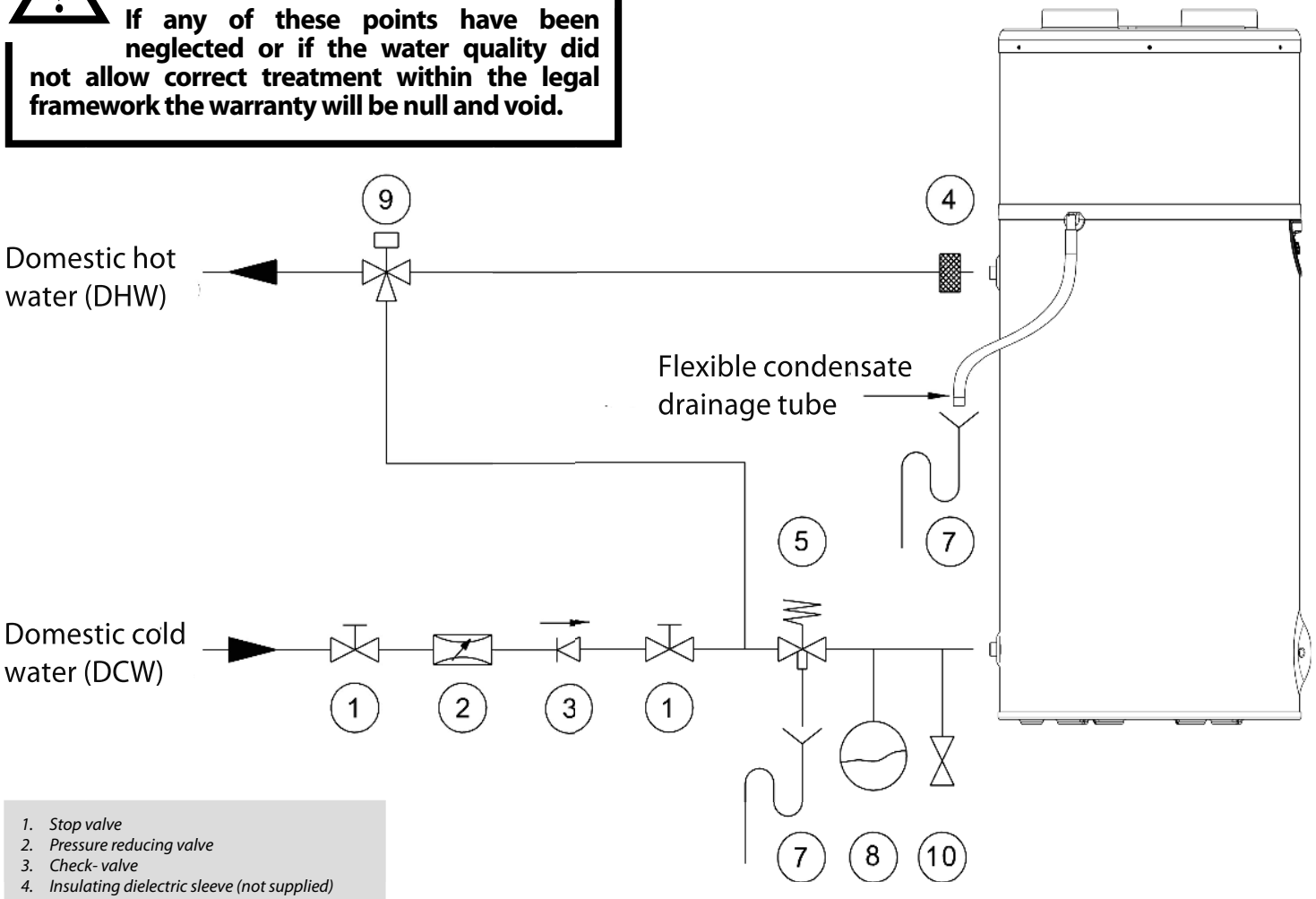
• The appliance must operate with water between 12°F and 30°F. With particularly hard water (TH>25°F) it is advised to use a water softener.

• If any of these points have been neglected the warranty will be null and void (values given are for water at a temperature of 20°C). (See DTU-60-1 for more information).

Resistivity	<2200 Ωcm or <4500Ωcm	
Complete alkalimetric title	<1.6 meq/l	<8°F
CO_2	<15 mg/l	-
Calcium (Ca^{++})	<1.6 meq/l	<8°F
Sulfates (SO_4^{--})	>2 meq/l	<10°F
Chlorides (Cl^-)	>2 meq/l	<10°F
Sulfates and Chlorides(SO_4^{--}+Cl^-)	>3 meq/l	<15°F

Use of a recirculation pump should be avoided. Recirculating can cause a lack of hot water and overconsumption of energy. If using a recirculation pump, the piping should be insulated and the pump should be controlled by a timer or another system which will prevent domestic hot water from circulating continuously.

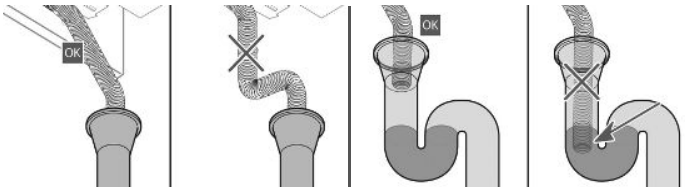
If any of these points have been neglected or if the water quality did not allow correct treatment within the legal framework the warranty will be null and void.



1. *Stop valve*
2. *Pressure reducing valve*
3. *Check- valve*
4. *Insulating dielectric sleeve (not supplied)*
5. *Pressure relief membrane valve (not supplied)*
7. *Run-off siphon*
8. *Domestic water expansion vessel*
9. *Thermostatic mixing valve*
10. *Drainage valve*

4.4 - Condensates drainage

- The condensates tube should not be directly connected to a drain. It must lead off into open air in a siphon which has been added and contains water.
- Do not use a lip seal.
- Do not use an elbow on the flexible hose.



4.5 - Electrical connections

Do not connect the heat pump water heater to wiring from an older water heater using the peak/off-peak hours contact. The heat pump water heater must always be connected to a power supply.
Peak/off-peak control can be managed through programming or though an independent cable.
Grounding is obligatory.

Power supply is managed through a 230V single-phase and grounding cable.

The power supply should comply with all regulations in effect in the country of installation, as well as the NFC 15-100 standard.

A method of disconnection which ensures total power-cut in Category III conditions should be installed in fixed piping in compliance with the installation rules.

- an 8A all-pole circuit breaker with a minimum 3mm contact opening.
- a protective 8A circuit breaker with a 30mA differential.

If the power supply cable is damaged it must be replaced by the manufacturer, their customer service technicians, or by a qualified technician to avoid any risk of injury or danger.

4.5.1 - External control

Only a dry contact, voltage-free, external connection may be used. Otherwise you risk damage to the electronics board.

It is not advised to operate the heat pump water heater during off-peak hours so as to optimise its functionality.

To program the operation of the heat pump water heater during peak/off-peak hours, it is not necessary to connect the dry contact to the electricity counter.
It is possible to program scheduled operating times for the heat pump water heater or of the electrical back-up from the control panel (see § «Programming»).

4.5.1.1 - Peak/off-peak hours contact

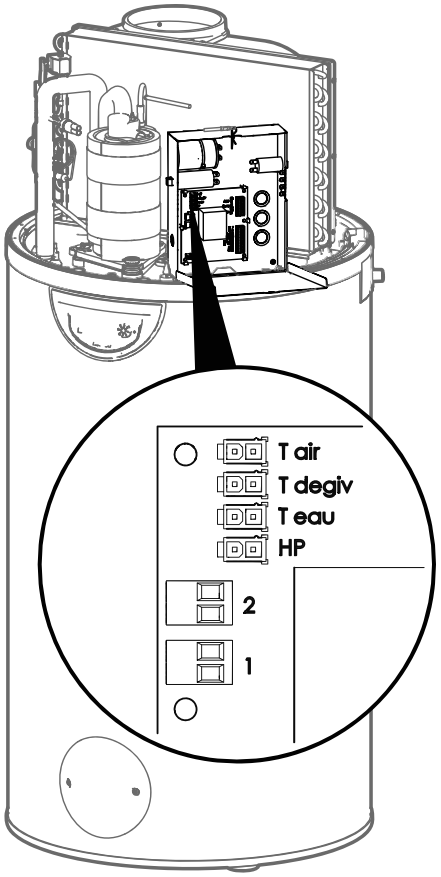
It is possible to connect the dry contact from the electricity counter to the heat pump water heater without programming from the control panel.

- Switch open = Load shedding
- Switch closed = Normal functioning

The level of load shedding can be chosen from the control panel of the appliance (see § 5.9.2.4 Load shedding).
By default the electrical resistance does not operate during peak hours.

To access the electrical connections hub:

- Remove the cover and the shell.
- Remove the cover of the appliance by removing the screws which fix the shell onto the lower part of the appliance.
- Remove the black protective cover from the electronics board.



4.5.1.2 - Controlled ventilation

The heat pump water heater can be used to continuously ventilate a room even if the heating cycle is complete.
To stop the fan from operating, connect a timer on a moisture sensor. Use the same procedure as for the timer switch, but connect the 2-wire cable to «Input 2» on the electronics board.

- Switch open = the fan will not operate
- Switch closed = the fan will operate

- Set the regulator to «External control ventilation mode» : FAN MODE 3.

4.5.1.3 - Electricity provider contact

To prevent the electrical back-up from running during peak hours, connect the dry contact originating from the electricity counter, to terminal 1.

- Switch open = Back-up not allowed to run
- Switch closed = Back-up allowed to run

By choosing load shedding level 0 or 1 (see § «Load shedding»), you stop the electrical back-up alone from running (load shedding =1) or the heat pump and the electrical back-up from running (load shedding = 0).

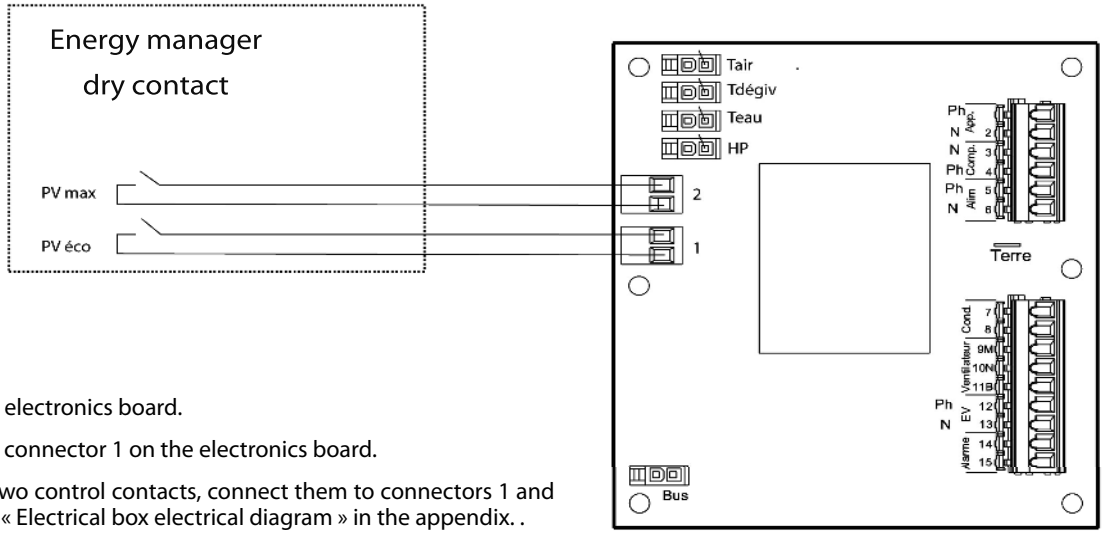
• Pass a 0,75mm² 2-wire cable with metal tips through a cable gland at the back of the appliance and bring the end of the cable around to the electronics board. The other end of the cable should be connected to the timer switch.

• Insert the 2-wire cable through a grommet from the electronics box.

• Connect the 2-wire cable to «Input 1» indicated on the electonics board, having already removed the existing red bridge.

4.5.1.4 - Connection to the photovoltaic function (PV)

This function enables the appliance to operate in auto-production mode, which means that it will use the energy produced by the PV function to supply the heat pump as well as the electrical back-up, and to heat the water in the tank. The connection is made between the energy manager electrical box (not supplied) and connectors 1 and 2 on the electronics board.



• Remove the protective casing.

• Remove the black cover from the electronics board.

• Connect the PV function cable to connector 1 on the electronics board.

• If the PV function regulator has two control contacts, connect them to connectors 1 and 2 on the electronics board. See § « Electrical box electrical diagram » in the appendix. .

• Terminal 1: a low level of electrical energy is produced by the PV function.

• Terminal 2: a high level of electrical energy is produced by the PV function.

CAUTION: Connectors 1 and 2 are for DRY CONTACTS ONLY. They must NEVER be connected to 230V.

5 - SET-UP AND USE

Deterioration risk: the water tank must be filled before the appliance is switched on or connected to a power supply.

- Leave the appliance unplugged.
- Open the hot water outlet which is located the highest on the appliance.
- Open the cold water inlet on the pressure-relief valve.
- Fill the tank until water is coming out of the highest outlet.
- Close the hot water outlet.

Before turning the appliance on, ensure that the entire circuit is watertight.

The heat pump water heater operates **primarily** with **the heat pump** as long as the air intake temperature remains in the authorised range from -7°C à +35°C. Outside of this range, the electrical back-up ensures the heating of domestic hot water.

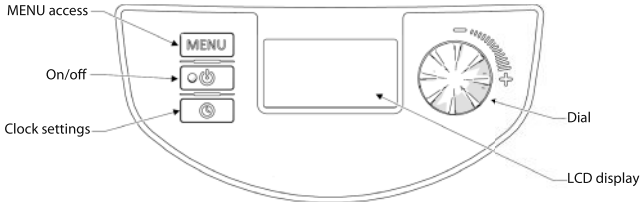
The temperature of the domestic hot water provided by the heat pump is adjustable up to 60°C.

In the case of high domestic hot water consumption, the heat pump water heater has a comfort function, *T°C MINI* which increases the heating capacity when there is less than 1/3 of the tank's volume left at over 38°C (see § «*T°C MINI* -minimum temperature-»). There is also a setting to activate the electrical back-up if the heating time is too long (see § « *MAX TIME*»).

If more domestic hot water is required from time to time, the heat pump water heater has a « *BOOST*» function (activated by the user) which ensures that the water heats to the desired temperature (*for example: 50°C*) quickly with the help of the heat pump and electrical back-up. This function is deactivated as soon as the required temperature is reached.

From time to time, check that there are no alerts (in case of an alert, please refer to § «Error messages»).

5.1 - Control panel



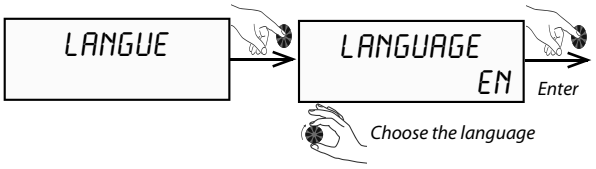
Pictograms:

- ..... Compressor activated
- ..... Fan activated
- ..... Defrosting in progress
- ..... Electrical back-up activated
- .... Domestic hot water requested
- .... Comfort mode in progress
- ..... Eco mode in progress
- ..... Freeze protection mode in progress
- ..... Holiday mode in progress
- ..... Keyboard locked
- ..... Settings/parameters being displayed
- .... PV mode activated
- **123**...**7**. Date

5.2 - Setting the language

The language must be selected when the appliance is turned on for the first time. Turn the dial to the left and select «English». Confirm by pressing on the dial. Access to the «*LANGUAGE*» menu is always possible.

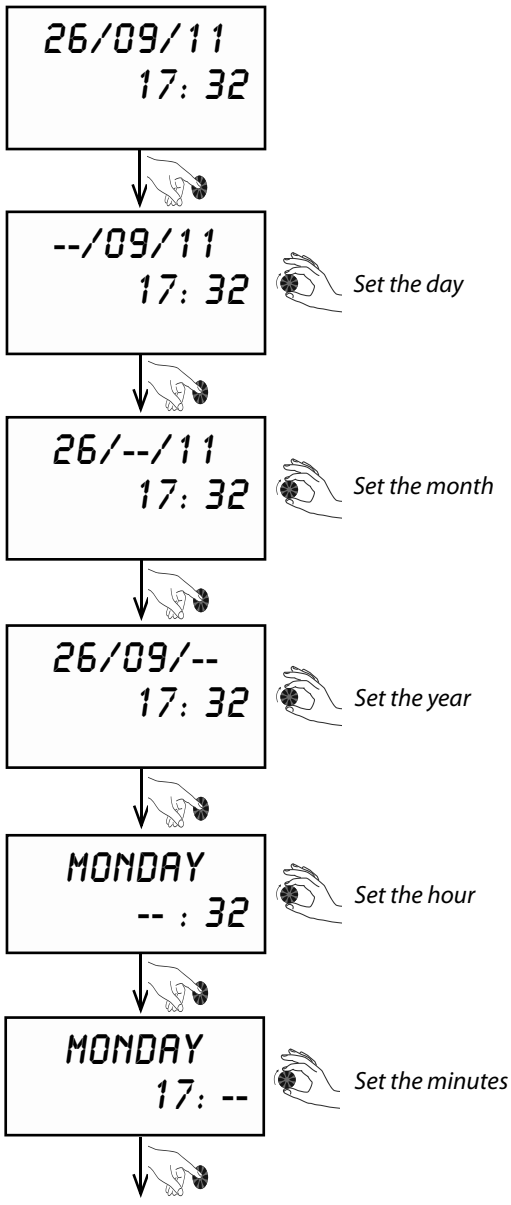
- Press MENU.
- Turn the dial to scroll through the menu options:



- Press MENU to return to main menu.

5.3 - Setting the time and date

- Press «**Clock settings**»

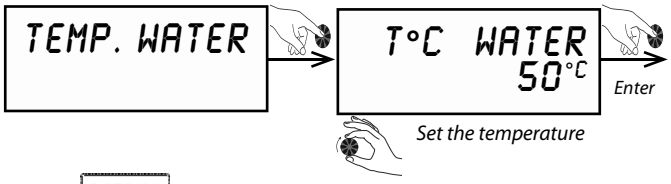


5.4 - Setting the desired water temperature

5.4.1 - PV mode inactive

The water temperature is adjustable from 30°C to 65°C. Up to 60°C, the water is heated using only the heat pump. From 60°C to 65°C, the electrical back-up takes over.

• Press MENU
• Turn the dial to scroll through the menu options:

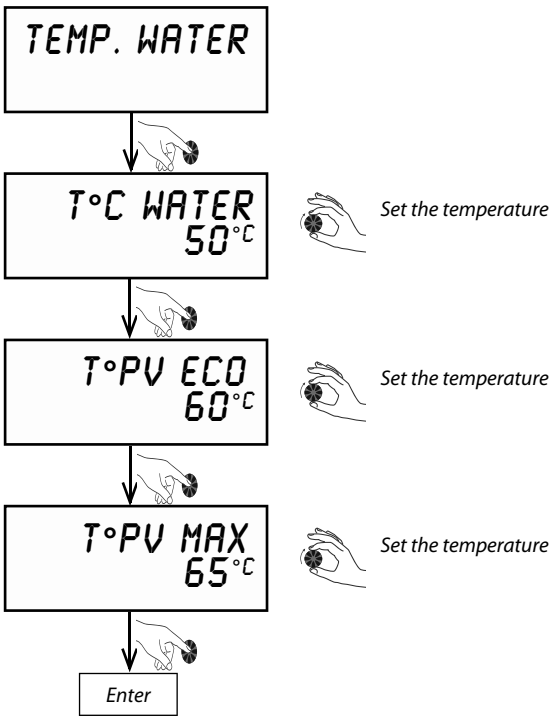


• Press MENU to return to the main menu.
• In order to get the best results from your heat pump, it is recommended that you do not set the water temperature too high unless necessary. The default temperature is set at 55°C.
• In order to recover the performance test conditions the ECS probe must be raised by 10/27 cm for 200/270L tanks, the water temperature set at 53°C and the manufacturer parameter P154 must be set for 200L to 6.

5.4.2 - PV mode active

When PV mode is activated, the water temperature can be set to a higher level to favour operation during periods of photovoltaic production.

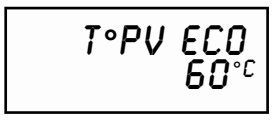
• Press MENU
• Turn the dial to scroll through menu options:



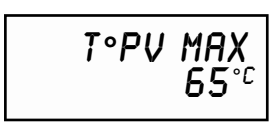
• Press MENU to return to the main menu.

The settings are available according to the following reasoning:

TEMP ≤ T° PV ECO ≤ T° PV MAX ≤ 65°C



The heat pump heats the water in the domestic hot water tank to a higher temperature than the usual hot water temperature (mode «*PV ECO*»)

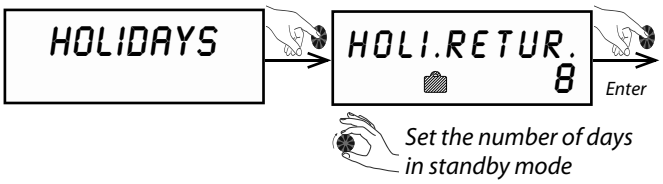


The heat pump and the electrical back-up heat the water in the domestic hot water tank to a higher temperature than the *PV ECO* mode (mode «*PV MAX*»)

5.5 - Holiday/temporary standby mode

«*HOLIDAY*» mode puts the appliance on standby while the frost protection mode remains active. This function can be programmed to run between 1 and 99 days, and is in effect as soon as the number of days is confirmed.

• Press MENU
• Turn the dial to scroll through menu options:



• Press MENU to return to the main menu.

«*HOLIDAY*» mode switches off automatically when the number of days set has ended. While in «*HOLIDAY*» mode **the heat pump water heater** displays «*HOLI. RETURN.*» on the screen, as well as a countdown of the days remaining in standby mode.

5.6 - BOOST function

(for occasional use and guaranteed comfort)

The «*BOOST*» function temporarily forces the electrical back-up and the heat pump to operate at the same time to speed up heating time during a heating cycle. The electrical back-up symbol ⚡ flashes while it activated.

• Press MENU
• Turn the dial to scroll through the menu options:

• Press MENU to return to the main menu.

The screen will blink for a few minutes and any actions on the keys will make it blink again

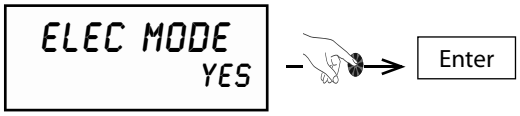
The «*BOOST*» function is automatically deactivated as soon as the set temperature is reached (end of heating cycle).

5.7 - Electric mode

(for operation using the electrical back-up)

Electric mode «*ELEC MODE*» uses only the electrical back-up to heat the water in the heat pump water heater. It provides a back-up option if for any reason the heat pump is not running (piping not connected, dusty renovation work being carried out near the appliance...)

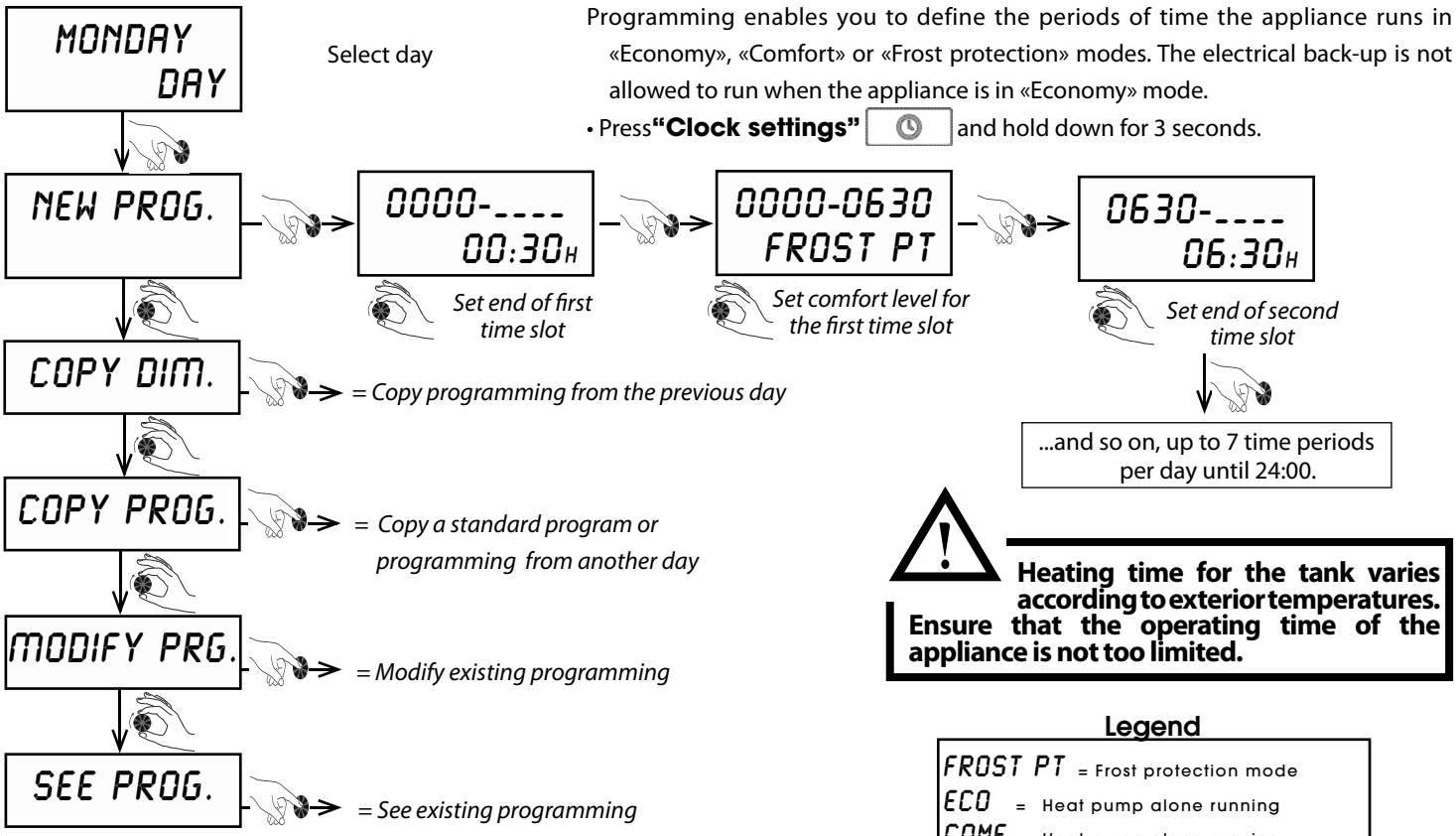
• Press MENU
• Turn the dial to scroll through menu options:



• Press MENU to return to the main menu.

The screen will blink for a few minutes and any actions on the keys will make it blink again

5.8 - Programming



Programming enables you to define the periods of time the appliance runs in «Economy», «Comfort» or «Frost protection» modes. The electrical back-up is not allowed to run when the appliance is in «Economy» mode.

• Press **"Clock settings"** and hold down for 3 seconds.

Heating time for the tank varies according to exterior temperatures. Ensure that the operating time of the appliance is not too limited.

Legend

FROST PT	= Frost protection mode
ECO	= Heat pump alone running
COMF	= Heat pump alone running + electrical back-up when needed

• Press MENU to return to the main menu.

5.9 - Installer menu

It may be necessary to adjust certain temperature settings to optimise the performance of the **heat pump water heater,** depending on how the appliance is installed.

Accessing the installer menu:

- Press MENU
- Turn the dial until the screen displays «INSTALLER MENU.»
- Press the «**Clock settings**» and «**Menu**» buttons **simultaneously**
- **Keep both buttons pressed down** for 3 sec. until the screen displays «PV MODE»

MODE PV

To activate photovoltaic operation

SETTINGS

To adjust the installation settings

RESET PAR.

To go back to default settings

DISPLAY

To display temperatures of sensors and inlets

COUNTERS

To set the meters running, count start-ups, etc.

5.9.1 - PV mode

Parameter	Description	Unit	Time range	Factory setting
MODE PV	**Activation of photovoltaic mode**	-	**yes no**	**no**
PRIORITY	**Interval of anti-legionellosis cycles**	-	**yes no**	**yes**

1. If the **PV mode** regulator is connected to connectors 1 and 2 on the electronics board, **PV mode** must be activated.

- The electrical energy which is produced is stored in the form of hot water. The PV function can be set to two different levels of production.
- **PV ECO** = the lower level of the photovoltaic energy production. The heat pump generates a higher water temperature. The hot water temperature must be somewhere between the regular hot water temperature and 60°C (factory setting = 60°C).
- **PV MAX** = the higher level of photovoltaic electricity production. The heat pump and electrical back-up generate a higher water temperature. The hot water temperature must be somewhere between the **eco mode** hot water temperature and 65°C (factory setting = 65°C).

2. Turn the dial to set the mode:
- **Menu → INST. MENU → PV mode.**

3. Select « **Yes** »

4. Press the dial to confirm.

5. Press **Menu**.

6. Set the domestic hot water temperature.

7. Turn the dial to select the primary function:
- **Menu → INST. MENU → MODE PV → PRIORITY**
  - **Yes**: the signals from connectors 1 and 2 take precedence over **eco** and **frost protection** modes.
  - **No**: The **eco** and **frost protection** modes take precedence over the signals from connectors 1 and 2.

N.B.: If **PV mode** is chosen as the primary function, the domestic hot water will also be heated during non-selected time periods, e.g. in **holiday mode** and outside of the programmed time slots.
If you only wish the domestic hot water to be heated during authorised time slots, adjust the settings to **No**.

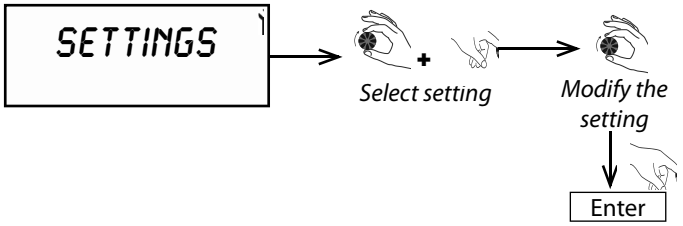
8. Press the dial to confirm your choice.

• For products which are equipped with an extra thermal heat exchanger, no boiler request is sent when the heat pump is switched on. Only the electrical back-up is on, to use the energy produced by the PV function.

•When **fan mode** is activated, option 3 may no longer be chosen.

•The **load shedding** function is not available.

5.9.2 - Adjusting the operating settings

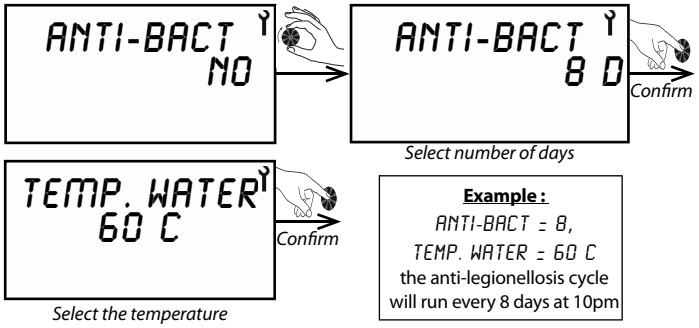


Parameter	Description	Unit	Time range	Factory setting
ANTI-BACT	Time interval for anti-legionellosis cycle	days	0-99	0
FAN MODE	Ventilation mode	-	1,2,3	1
T°C MINI	Min. temp for electrical back-up	-	0 or 1	0
SHEDDING	Load shedding level	-	0,1,2	1
MAX. TIME	Max. heating time	hours	No, auto, 1 to 24	No

• Press MENU to return to the main menu.

5.9.2.1 - ANTI-BACT -anti-legionellosis cycle

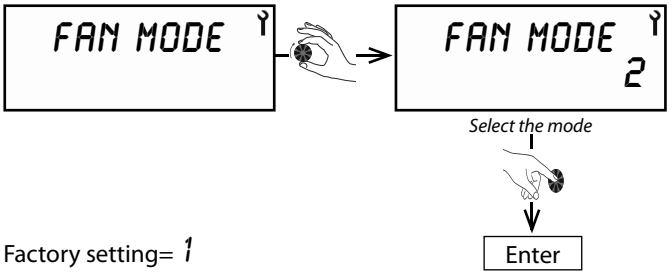
Factory setting ANTI BACT = NO
Factory setting TEMP. WATER = 60 C



• Press MENU to return to the main menu.

• If the set temperature for domestic hot water is already 60°C (see § «Setting the desired water temperature»), there will be no anti-legionellosis cycle as it is already running continuously.
• If a cycle is interrupted by a period where the back-up is not allowed to run (electricity provider signal or programmed time slots) it will relaunch during the next authorised period.
•No anti-legionellosis cycle except when returning from holidays and after a frost protection period of more than 3 days.
•During the anti-legionellosis cycle the temperature is raised between 55°C and 70°C.

5.9.2.2 - FAN MODE



Factory setting= 1

MODE 1 = Standard mode, automatic ventilation
MODE 2 = Forced ventilation, max speed and for performance testing
MODE 3* = Ventilation activated during water heating periods and ventilation regulated by an external control (such as a moisture sensor)

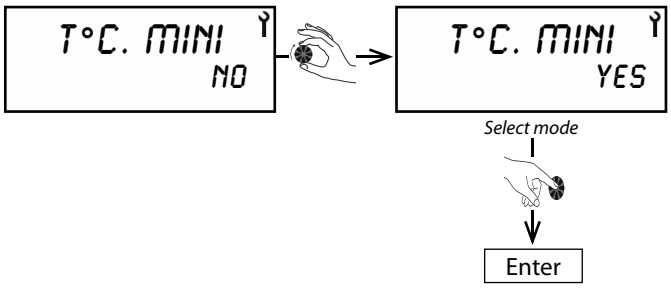
The external control should be connected to connector 2 on the electronics board in the heat pump water heater. (See appendix for electrical diagram)

**If PV mode is activated, controlled ventilation (FAN MODE 3) is not available.*

• Press MENU to return to the main menu.

5.9.2.3 - T°C. MINI Minimum temperature

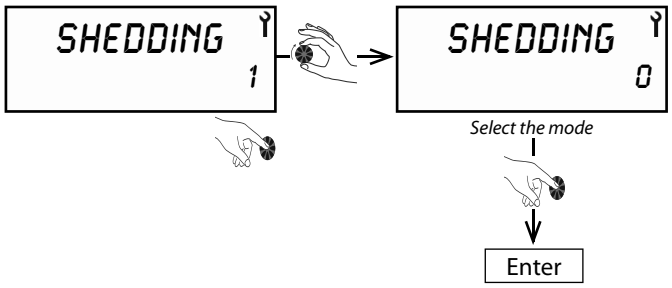
The electrical back-up can be activated at the same time as the heat pump to prevent the water temperature from going below a minimum comfort level of 38°C. The electrical back-up will start up and raise the water temperature to 43°C, and then it will switch off and the heat pump will complete the heating cycle.



• This function is deactivated by default.
• In case of load shedding the «T°C mini» function is not activated.
• Press MENU to return to the main menu.

5.9.2.4 - LOAD SHEDDING -Level authorised during peak hours

When load shedding is activated you can choose to prevent certain elements from running (Electrical resistance and compressor).



If load shedding is switched on:

MODE 0 = No element is allowed to operate

MODE 1 = Only the heat pump is allowed to operate

MODE 2 = The heat pump and back-up are allowed to operate (neutralising the «peak hours» function)

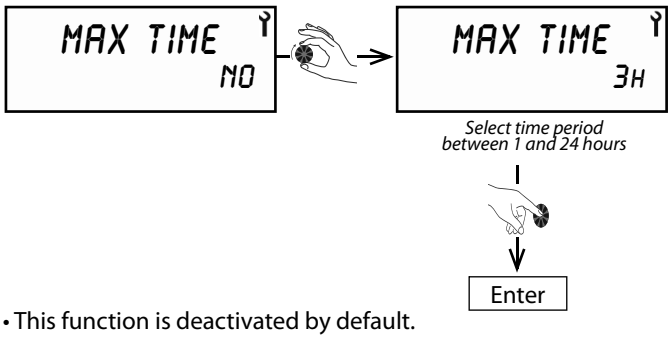
If the PV function is activated, load shedding cannot be done through the peak/off-peak hours dry contact. In this case the timer must be programmed (see § «Programming»).

• Press MENU to return to the main menu.

5.9.2.5 - MAX TIME Max heating time

It is possible to select the length of the desired heating time. The heat pump water heater can automatically use the electrical back-up at the same time as the heat pump to speed up the heating time of the tank.

If you choose MAX TIME = AUTO, the heating time is limited to a maximum of 5h during off-peak hours.



• This function is deactivated by default.

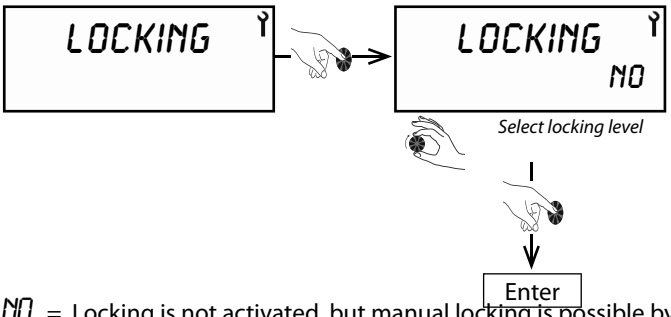
• Press MENU to return to the main menu.

5.9.3 -Locking the keyboard

Permanent and automatic locking

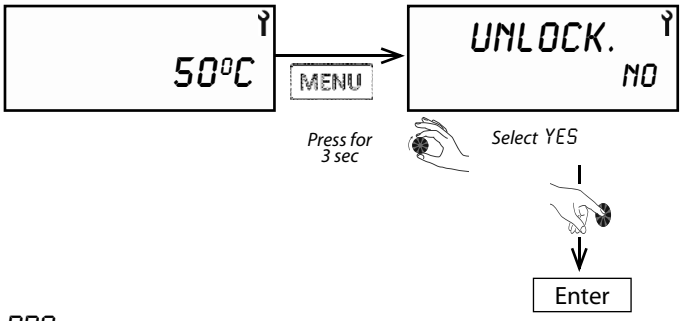
The «LOCKING» menu enables you to create three possible levels of locking for accessing the menus.

In the «Installer» menu turn the dial to «LOCKING».

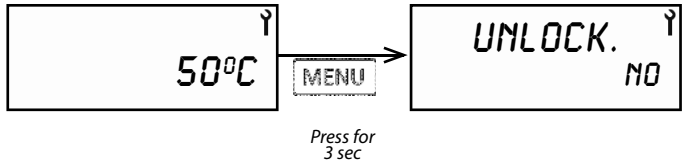


NO = Locking is not activated, but manual locking is possible by pressing MENU for 3 seconds.

AUTO = To lock menu access with temporary unlocking (60 seconds) press MENU for 3 seconds.



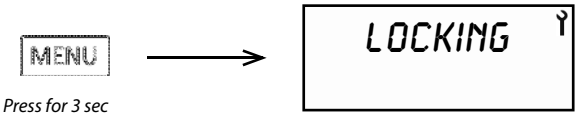
PRO = To lock access to menus with temporary unlocking (300 seconds) is possible by pressing MENU for 3 seconds, and then and buttons for 3 seconds.



•When locking is activated, it is only possible to access unlocking and to reset the alarm.

Manual locking from the main screen

Manual locking is possible from the main screen without gaining access through the «Installer» menu provided that locking settings are not already in place.

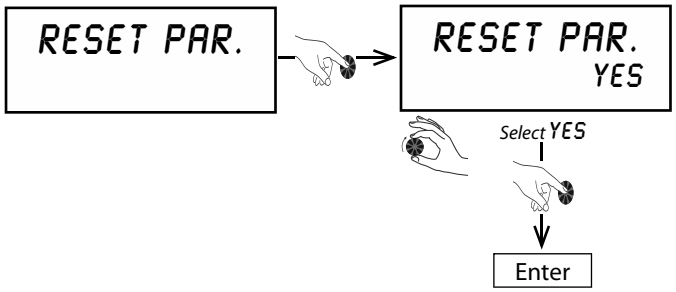


To lock manually, press MENU for 3 seconds.

5.9.4 - Resetting parameters

Resetting the parameters allows you to go back to the default settings.

Go to the «Installer», menu and turn the dial to «*RESET PAR.*».



5.9.5 - Read data

The «READ DATA» menu shows you, in real time, the information given by the sensors.
In the «Installer» menu, turn the dial to «*DISPLAY*».

Display	Description	Reference on electronics board
WATER	Domestic hot water temperature in lower part of tank	Teau
AIR	Temperature of heat pump air intake	Tair
EVAP	Temperature of heat pump evaporator (expansion valve outlet)	Tdegiv
MODE PV (deactivated) factory settings		
SHEDDING	Off-peak hours switch (0-on; 1- off)	heures creuses
FAN CONTR.	Fan control switch (0-on; 1- off)	hygrostat
MODE PV (activated)		
PV ECO	Contact input 1 (0-open; 1- closed)	1
PV MAX	Contact input 2 (0-open; 1- closed)	2

The temperature which is permanently displayed on the screen is the set temperature and does not necessarily indicate the temperature of the water immediately available in the tank.

5.9.6 - Counters (meters)

The «Counters» menu shows the number of start-ups from the heat pump and the electrical back-up.

In the «Installer», menu turn the dial to «*COUNTERS*».

- *COUNTER N°1* : Number of start-ups from the heat pump
- *COUNTER N°2* : Number of start ups from the electrical back-up
- *COUNTER N°4* : Accumulated heat pump running time.

6 - MAINTENANCE AND TROUBLESHOOTING

In order to maintain efficiency and improve durability it is advised that an annual maintenance check be carried out by a qualified professional.

• Any work on the heat pump must be carried out by a qualified professional.

• Observe all health and safety rules !

- **Any work on the refrigerant circuit must be carried out by a qualified professional with a Category 1 certificate of aptitude.**
- **It is strictly prohibited to release refrigerant gas into the atmosphere. The refrigerant must be collected before any work is carried out on the circuit.**
- **Switch off the heat pump water heater before opening it.**
- **Wait for the fan to come to a complete stop before starting work on the appliance.**
- **Do not get water on any of the electrical parts.**
- **The pressure limiting device must be operated regularly to eliminate limescale and to check for blockages.**
- **Check the condition of the corrosion-proof anode at minimum once per year.**

When draining the tank, ensure that there is a large enough air inlet at the top to avoid any depression in the tank. The following materials and products should be avoided:

- Brushes with steel bristles or pads
- Scouring powder
- Any bleach-based product or chlorinated derivative

In case of maintenance or if taking the **heat pump water heater** out of service, please respect the environmental protection regulations regarding recovery, recycling and disposal of consumables and components.

The R290 refrigerant in the heat pump circuit poses no risk to the environment, but it is flammable.

→ The R290 refrigerant is odourless.

→ Do not damage the pipes in the refrigerant circuit.

→ Do not handle a flame or any other flammable source on the inside of the appliance.

→ If the refrigerant is leaking, unplug the appliance, air out the room, and contact customer service.

→ Do not use any mechanical means to speed up the defrosting process.

→Do not pierce or burn the appliance: in case of intervention on the refrigerant circuit, the refrigerant must be recovered.

.../...

.../...

→ The refrigerant circuit containing flammable refrigerant complies with national gas regulations.

→ In case of operating on the refrigerant circuit:

1) Secure the area you will be working in

2) Inform people of the potential danger involved in the work

3) Check that the risk of inflammation is minimised

4) Avoid working in a confined space; the area must be sufficiently ventilated

5) Check the area with an appropriate leak detector before and during the work

6) Place a CO_2 or dry powder extinguisher near the work area

6.1 - Water circuit / Condensate draining

To check that the condensates are draining correctly:

- Remove the upper cover (see § «Electrical connections» procedure).
- Check for blockages in the drainage outlet.
- Clean the condensate recovery trough, where deposits from the air intake may have gathered.
- Clean the flexible drainage hose.

The pressure limiting device must be switched on regularly to eliminate limescale and to check for blockages.

Check that all hydraulic connections on the **heat pump water heater** are watertight.

6.2 - Air intake circuit

The only maintenance work needed on the air intake circuit is to clean the evaporator (at least once per year and dependent on the quality of air intake).

If using air filters check if they are clean regularly. Clean and replace if necessary.

The fan blades are sharp-edged and may cause injury; take care not to damage or deform them.

6.3 - Electrical maintenance

It is mandatory to periodically inspect for the cleanliness and the absence of dust deposits on the electronic circuit board and the electrical terminals:

- of the compressor;
- of the electrical resistance ;
- of the different condensers.

Verify the correct tightness of all lugs. Adapt the frequency of inspection to the air quality. In a dusty environment more frequent maintenance and inspection is necessary, at minimum 1 time per year.

Neglecting to clean the circuit board and other electronic components in a dusty environment can lead to a risk of overheating and ignition.

6.4 - Modification

Any modification of the device is **prohibited**. Any replacement of components must be done by a professional with original parts from the manufacturer.

6.5 - Decommissioning

6.5.1- Interim Decommissioning of Product

In the event of a prolonged absence with a power cut to the housing and product, ask a qualified professional to drain the product or protect it from freezing.

6.5.2- Final decommissioning of the product

Turn off the product to a specialized installer.

6.6 - Recycling and Disposal

Entrust the disposal of the packaging to the installer who installed the product.

The above symbol requires:

- Do not dispose of the product with the household waste.
- Dispose of the product at a collection point for used electrical and electronic equipment.

6.6.1- Disposal of refrigerant

The product contains refrigerant R290 (propane).

- Routinely dispose of refrigerant to qualified personnel.

-Follow the general safety conditions.

6.7 - Troubleshooting

• <u>The heat pump is not working</u>

Check that:

- The desired water temperature is higher than the temperature of the water in the tank.
- The appliance is connected to a power supply.
- The green light is on.
- The appliance is not in holiday mode (symbol).
- The air intake or ambient temperature is under -7°C or over +35°C (ELEC MODE displayed).
- The timer has not been programmed to stop the appliance operating («economy» light will be on).
- The appliance is not in load shedding mode.
- An error message is displayed on the screen (see § Error message codes).

• <u>No hot water</u>

Check that:

- The volume of water consumed is not higher than the volume in the tank.
- The time period that the appliance operates is not too short (12h minimum if connected to piping).
- The water temperature is not set too low.
- There is no recirculation pump.

• <u>Condensates are not draining</u>
(water present under the appliance)

Check that:

- The drainage system is not blocked:
  - Remove the cover (see § «External control» procedure).
  - Check the opening.
- The tubes do not have bends or "U" shapes that could collect water.
- The end of the tube gives out onto open air.
- The tank is properly positioned (vertical position and no tilting).

• <u>Electrical back-up is not working</u>

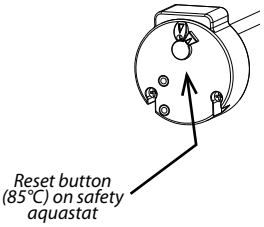
Check that:

- Your electricity provider or your timer is not preventing the appliance from functioning («Economy» light on).
- A heat-limiting safety thermostat for electrical back-up has not been activated after over-heating (>85°C). If this is the case, reset it.

Before resetting, check:

- That the heating element does not have limescale.
- Clean or replace if necessary.

Do not adjust settings on safety aquastat



6.8 - Drainage

1) Switch off the power supply.

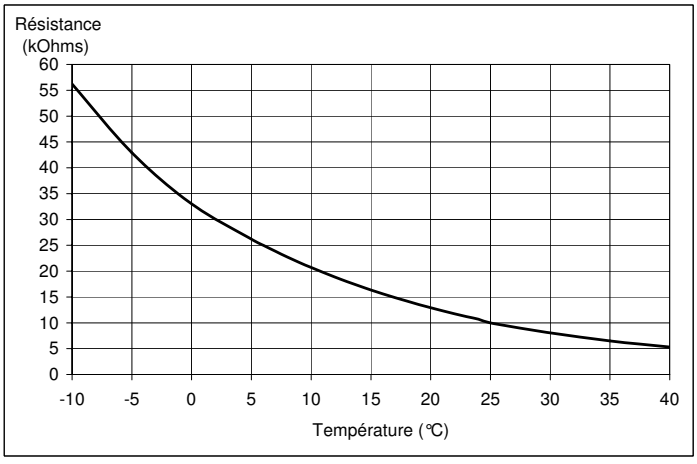
2) Shut off the cold water inlet valve on the safety group.

3) Open the hot water valves.

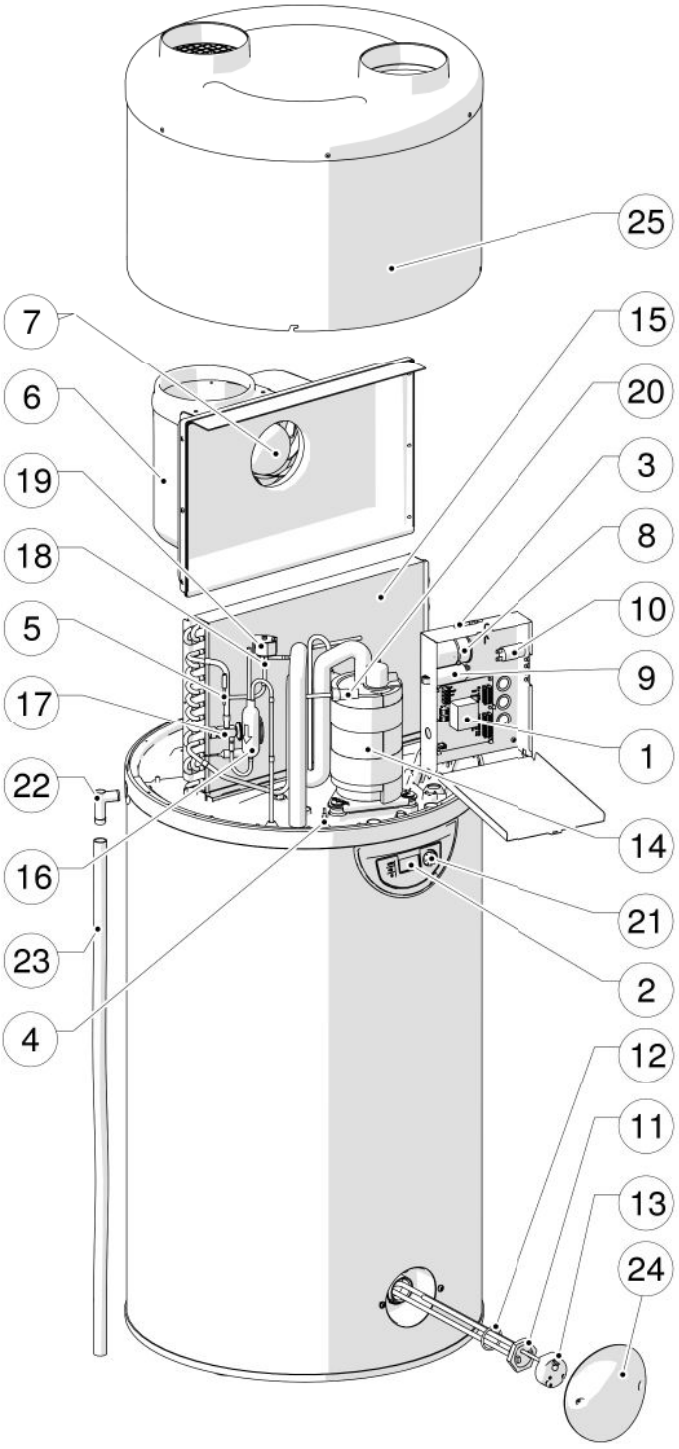
4) Set the safety group to the drainage position.

6.9 - Sensor data

All 4 sensors have the same ohmic values.



6.10 - List of spare parts



Rep.	200L	270L	Description
Regulation / display			
1	B1244096	B1244096	C3S electronic circuit board controller
2	B4992570	B4992570	Programmed display (200L/270L)
2'	-	B4994474	Programmed display (270L-1 exch.)
3	B1244576	B1244576	Temperature sensor lg460mm
4	B1244577	-	Temperature sensor lg00mm
4'	-	B1244575	Temperature sensor lg1200mm
5	B4993072	B4993072	Defrosting sensor kit
Electrical			
6	B4993826	B4993826	Fan kit
7	B1244647	B1244647	AC Ø190 Fan
8	B1244291	B1244291	25µF capacitor
9	B1244663	B1244663	5.5µF capacitor
10	B4993053	B4993053	2µF capacitor
19	B1239212	B1239212	650mm coil
not visible	B1244251	B1244251	Electrical supply cable
not visible	B4993827	B4993827	AC cabling kit
Thermodynamic components			
14	B4994992	B4994992	Compressor kit
15	B1472970	B1472970	Finned heat exchanger
16	B1472871	B1472871	Drying filter
17	B1472917	B1472917	Thermostatic expansion valve
18	B1239261	B1239261	Integrated solenoid valve
20	B1244424	B1244424	Pressure switch
not visible	B4472730	B4472730	Refrigerant loading pipe
Electrical back-up			
11	B4992886	B4992886	1200W heating element + gasket kit
12	B1657722	B1657722	Heating element seal
13	B1239160	B1239160	Aquastat
Casing			
21	B1758866	B1758866	Control panel dial
22	B1759504	B1759504	Condensate T-pipe
23	B4948423	B4948423	PVC pipe 18x23 : length1.8m
24	B1759551	B1759551	Heating element cover
25	B4994065	B4994065	Insulated hood
not visible	B4994426	B4994426	Acoustic Cover Kit
not visible	B1759346	B1759346	Adjustable foot

Nota : availability of spare parts :

The spare parts of our products are kept available for 10 years, from the date of stop of mass production, except events beyond our control.

6.11 - Error message codes: errors, solutions and operating in case of error

N.B. : Errors can be dismissed by briefly pressing the dial (manual reset)

Display	Error	Probable causes	Solutions	Temporary operation measures while waiting for the problem to be solved
MEMO/BUS	•Electronic board defect •Bus wire defect •Display screen defect	•Voltage too high on electrical network •Wiring error during electrical connection (connection to electricity provider or moisture sensor.) •Damage during transportation	•Replace main electronics board or •Replace display screen board	•Appliance non-functional
T_AIR	•Air temperature sensor defect (Temperature of air intake)	•Sensor not functioning •Sensor unplugged from board •Sensor cable damaged	•Replace sensor	•Heat pump non-functional •Electrical back-up heats water to 43°C (38°C minimum)
T_DEFROST	•Evaporator sensor defect (defrosting temperature)	•Sensor not functioning •Sensor unplugged from board •Sensor cable damaged	•Replace sensor	•Heat pump non-functional •Electrical back-up heats water to 43°C (38°C minimum)
T_WATER	•Tank water sensor defect	•Sensor not functioning •Sensor unplugged from board •Sensor cable damaged	•Replace sensor	•Heat pump non-functional
CLOCK	•Clock/timer defect	•Voltage too high on electrical network •Damage during transportation	•1-Press «clock settings» and set date and time •2-If the error message does not disappear, replace the electronics board	•Programmed heating periods are no longer valid: the water is maintained continuously at the standard set temperature (if no signal or control is connected to the «external control» switch)
OVER PRESS	•Heat pump pressure too high	•No water in the tank •Water is too hot (>75°C) •Water sensor removed from tank •Defective water sensor	•Check that the tank has been properly filled with water and purged of air •Change the water sensor •Check that the water sensor is in the right position in the tank	•Heat pump is non-functional •Must be manually reset
FREQ. DEFRO.	•Defrosting too often	•Insufficient airflow •Air inlet/ outlet blocked •Ventilation duct blocked •Air duct is too long or has too many elbows •Evaporator clogged	•Set the fan at max speed (FAN MODE 2) •Check that the air is circulating properly throughout the piping circuit •Check pipe lengths: -6 m total length of flexible hose -12 m total length of rigid piping •Check the condition of all filters on air ducts •Check that the evaporator is clean	•Heat pump non-functional •Electrical back-up heats water to 43°C (38°C minimum)
LOW PRES.	•Heat pump pressure too low	•Insufficient airflow •Air inlet/ outlet blocked •Ventilation duct blocked •Fan blocked or out of order •Evaporator clogged •Ice on evaporator	•Check that the fan is working •Check that air is circulating properly through the piping circuit •Check pipe lengths: -6 m total length of flexible hose -12 m total length of rigid piping •Check the state of all filters on air ducts •Check that the evaporator is clean	•Heat pump non-functional •Electrical back-up heats the water to 43°C (38°C minimum)
OVERHEAT	•Domestic hot water overheating (water temperature >85°C)	•Defective water sensor •Water sensor removed from tank	•Check that the sensor is in the right position in the tank	•Heat pump non-functional •Resets automatically

Display	Error	Probable causes	Solutions	Temporary operation measures while waiting for problem to be solved
ERR.01	•Incorrect temperature sensor reading	•The air and defrosting sensors are inverted on the electronics board •The defrosting and water sensors are inverted on the electronics board •The defrosting sensor is connected to the air input, the air sensor is connected to the water input, the water sensor is connected to the defrosting input	•Reposition the temperature sensors correctly on the main electronics board	•Heat pump non-functional
	•Incorrect reading from the defrosting sensor	•The defrosting sensor is not properly connected to the tube and is measuring air	•Reposition the defrosting sensor properly in the tube	
	•The heat pump has run out of refrigerant fluid	•There is a leak in the refrigerant circuit	•Find and repair the leak before filling the refrigerant circuit	
	•The expansion valve is not working	•The expansion valve bulb is damaged or broken due to work being carried out on the appliance, or it being in contact with a part that vibrates	•Replace the expansion valve	
	•The compressor is not working and safety temperature is activated	•Defect in compressor	•Replace the compressor	
ERR.02	•Incorrect temperature sensor readings	•The air and water sensors are inverted on the electronics board •The defrosting sensor is connected to the air input, the air sensor is connected to the water input, the water sensor is connected to the defrosting input	•Reposition the temperature sensors properly on the main electronics board	•Appliance non-functional
ERR.03	•Incorrect temperature sensor readings	•The defrosting sensor is connected to the air input, the air sensor is connected to the water input, the water sensor is connected to the defrosting input	•Reposition the temperature sensors properly on the main electronics board	•Appliance non-functional
ERR.04	•Incorrect defrosting and water sensor readings	•The defrosting and water sensors are inverted on the electronics board	•Reposition the temperature sensors properly on the main electronics board	•Heat pump non-functional
ALARME EPRO	•The display screen electronics board has a memory problem	•The display screen of the electronics board is damaged	•Replace the display screen of the electronics board	•Appliance non-functional
ERR.08	•Incorrect defrosting sensor readings	•The defrosting sensor is defective	•Replace thge sensor	•Appliance in alternative mode
ANTI BAC	• The anti-legionellosis cycle is not validated	•Sub-draft too high	•Restart a cycle	•Unit on
		•Set temperature too high	•Reduce cycle set temperature	
		•Failure of the resistance	•Clean the resistance •Replace the resistance	
		•Electrical back-up not allowed	•Authorize electrical back-up	

7 - WARRANTY

The tank is guaranteed against breakage for a period of five (5) years, starting from the date the appliance was activated, if the warranty form was sent back to the manufacturer. In the absence of this document, the date of manufacture will be used to determine the start date of the warranty. If the tank is broken, the whole appliance will be replaced.

The other parts are guaranteed for a period of two (2) years starting from the date the appliance was activated, if the warranty voucher was sent back to the the manufacturer. In the absence of this document, the date of manufacture will be used to determine the start date of warranty.

The appliance is guaranteed against all manufacturing defects, provided that it was installed by a qualified professional using our instruction manuals, the C15-100 standard for electrical connections and the hydraulic DTU 60-1 addendum 4 for domestic water.

A defective part does not warrant the whole appliance being replaced.

The warranty only extends to parts which we identify as being defective due to manufacturer defect.

If necessary, the part or product should be returned to the manufacturer but only with prior agreement from our technical department. Labour, transport, and packaging costs are the responsibility of the user. Repairs on a device will not result in compensation.

The warranty for replacement parts ends at the same time as the appliance warranty (2 years).

The warranty only applies to the appliance and its components, and excludes any part or installation external to the appliance.

Regular maintenance of the appliance by a trained professional is essential for ensuring sustained use and durability. In the absence of regular maintenance, the warranty will not apply.

If an appliance is presumed to have been the cause of any damage, the appliance and the damage must be left as they are and not tampered with.

7.1 - Limitations of warranty

7.1.1 - General information

The warranty does not apply to defects or damage caused by situations or events such as:

- Misuse, abuse, negligence, improper transport or handling.
- Incorrect installation, or installation which has been carried out without following the instructions in the manual and user guide.
- Insufficient maintenance.
- Modifications or changes carried out on the appliance.
- Impacts from foreign objects, fire, earthquakes, floods, lightning, ice, hailstones, hurricanes or any other natural disaster.
- Movement, imbalance, collapse or settling of the ground or the structure where the appliance is installed.
- Any other damage which is not due to defects in the product.

The heat pump water heater is not guaranteed against :

- Variations in the colour of the appliance or damage caused by air pollution, exposure to chemical elements, or changes brought about by adverse weather conditions.
- Dirt, rust, grease or stains which occur on the surface of the appliance.

7.1.2 - Exclusion from warranty

7.1.2.1 - Use

Cases (not limited to) where the warranty is void:

- The water supply being other than cold domestic water, (such as rainwater or other water from a well), or which has particularly hostile or abnormal properties which do not comply with the national regulations and current standards in effect.
- The appliance being switched on before it is filled with water.

7.1.2.2 - Handling

Cases (not limited to) where the warranty is void:

- Any damage sustained by impacts or falls during handling after delivery from the factory.
- Deterioration in the condition of the appliance after handling where the instructions in the manual have not been followed.
- Damage occurring in the appliance when it has been switched on less than an hour after it has been leaning to the side or laid flat.

7.1.2.3 - Installation site

Cases (not limited to) where the warranty is void:

- Placing the appliance where it can be subject to frost or other adverse weather conditions.
- Non-compliance with the instructions in the manual when installing the appliance.
- Installing the appliance on a surface which cannot bear its weight when filled with water.
- Installing the appliance in a room with a surface area of less than 20 m^2 where there is no piping for air intake and exhaust.
- Installing the appliance at an angle which does not allow condensates to flow out properly.

Costs incurred by access difficulties are not the manufacturer's responsibility.

7.1.2.4 - Electrical connections

Cases (not limited to) where the warranty is void:

- Faulty electrical connection which does not comply with the current national installation standards.
- Not following the connection diagrams in the instruction manual.
- Power supply being significantly under or over the required voltage.
- Failure to comply with supply cable standards.
- Absence of, or insufficient, electrical protection throughout the appliance (fuse/ circuit-breaker, grounding, etc.).
- Damage which results from deactivating the electrical back-up aquastat and/or the heat pump.

7.1.2.5 - Hydraulic connections

Cases (not limited to):

- Inversing the hot/cold water connections.
- Water pressure higher than 6 bars.
- Absence of, incorrect fitting of, or obstruction of, a pressure-relief valve.
- Not fitting the pressure-relief valve directly onto the cold water inlet of the appliance.
- Fitting a pressure-relief valve which does not comply with the current national standards (NFD 36-401).
- Installing a previously-used pressure-relief valve.
- Tampering with the pressure-relief valve.
- Abnormal levels of corrosion caused by an incorrect hydraulic connection (direct contact between iron and copper) without a sleeve (cast-iron, steel or insulator).
- External corrosion caused by the piping not being properly sealed or by condensates not draining off properly.
- Improper connection of the condensates recovery system.

No claim for compensation may be made for damage which has occurred as a result of not installing thermostatic mixing valves onto the appliance.

7.1.2.6 - Accessories

- The warranty does not cover defects resulting from:
  - Installation of accessories which do not comply with manufacturer recommendations.
  - Use of accessories not provided by the manufacturer.

7.1.2.7 - Maintenance

Cases (not limited to) where the warranty is void:

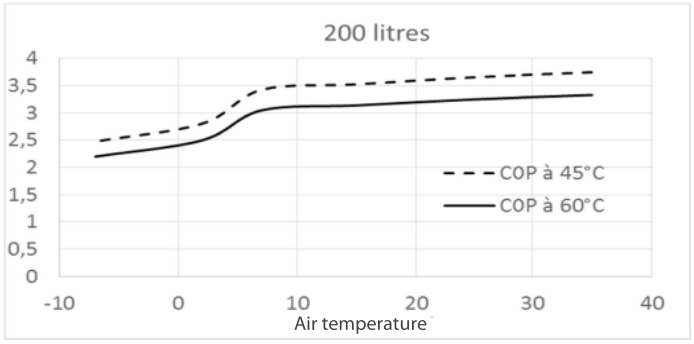
- Not maintaining the appliance, and not changing the anode in due time.
- Not maintaining the pressure-relief valve, resulting in excessive pressure.
- Absence of a pressure-reducing valve.
- Not maintaining the evaporator or the condensates draining system.
- Abnormal levels of limescale on heating elements or safety devices.
- Not using parts supplied by the manufacturer.
- Protective outer casing being subjected to any external damage.

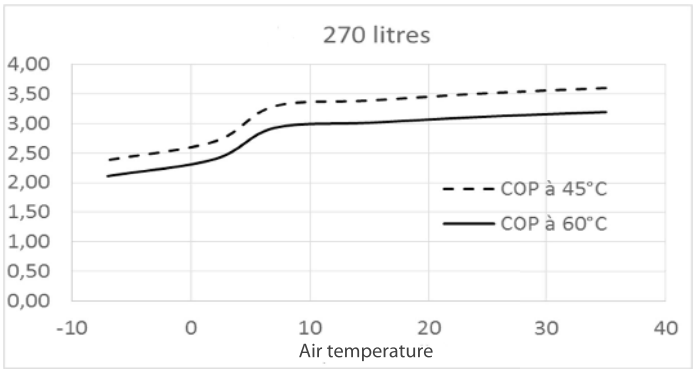
8 - APPENDICES

8.1 - Performance statistics

8.1.1 - COP development

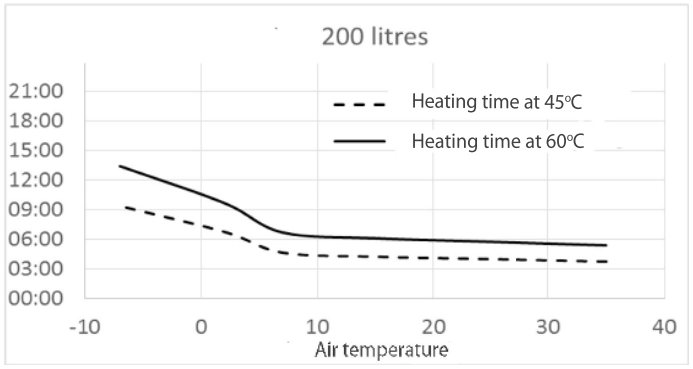
The performances are measured during a standardised heating cycle (EN 16147) with cold water at 10°C. This graph represents the development of the COP depending on the exterior air and the temperature of the domestic hot water.

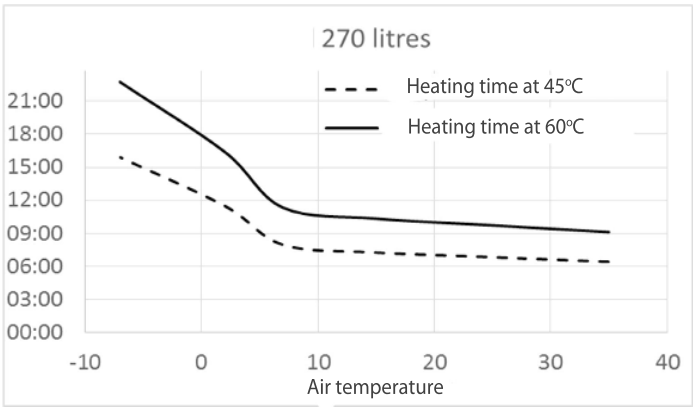




8.1.2 - Heating time

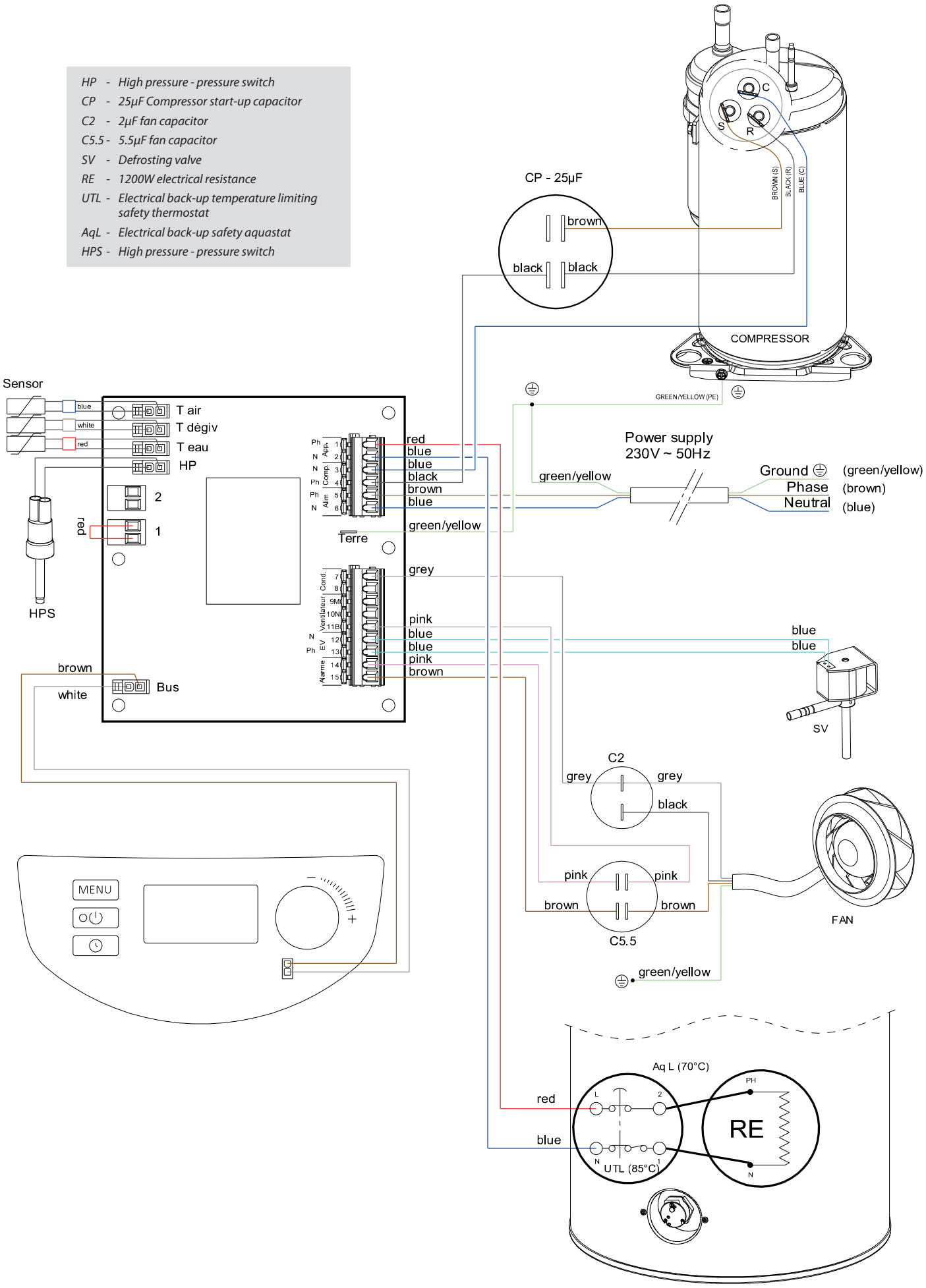
This graph represents the heating time for a full tank depending on the air and domestic hot water temperatures using the heat pump and without a back-up.





8.2 - Electrical wiring diagram

HP - High pressure - pressure switch
CP - 25µF Compressor start-up capacitor
C2 - 2µF fan capacitor
C5.5 - 5.5µF fan capacitor
SV - Defrosting valve
RE - 1200W electrical resistance
UTL - Electrical back-up temperature limiting safety thermostat
AqL - Electrical back-up safety aquastat
HPS - High pressure - pressure switch



NOTES

Any work carried out on the refrigerant circuit must be carried out by a qualified professional with a Category 1 certificate of aptitude. Releasing refrigerant gasses into the atmosphere is strictly prohibited. It is mandatory to collect the refrigerant fluid before carrying out any work on the circuit.

• Switch off the heat pump water heater before opening it.

• Wait for the fan to come to a complete stop before undertaking any work on the appliance.