Edel AIR

Air source heat pump water heater

for outdoor air or non-heated ambient air

www.auer.fr

Installation and operating instructions

Edel AIR 200 L
Edel AIR 270 L

Made in France

CE

Manual ref: 1895301
Edition n°: 15.342

CONTENTS

Keeping the documents

- This manual and any other relavant documents should be given to the system user.

The system user should keep these manuals for future reference.

1 - SAFETY

Danger of electrocution

Touching electrical live wires can cause severe injury.

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

Danger of death due to absence of, or defective, safety devices

Absence of safety devices can be dangerous and result in burns or other injuries that could be caused, for example, by pipes breaking.

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

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

Danger resulting from improper use

Any work carried out by a non-qualified person can result in damage to the installation or physical injury.

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

Intended use and applicable areas of use

This appliance is intended for use as a hot water production appliance.

The intended use of the appliance includes the following points:

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

Damp and/or water splashes

The appliance should be installed in a place where it is not exp osed to damp and is not at risk of being splashed with water.

Rules and regulations (directives, laws, standards)

When the appliance is installed and switched on, all orders, directives, technical rules, standards and safety measures should be respected in their current state of enforcement.

The user

This appliance should not be used by people (including children) with reduced physical, sensory or mental capacities, or who have insufficient experience or knowledge of the product, unless they are being supervised by someone who is responsible for their safety and in possession of the instructions for how the appliance operates.

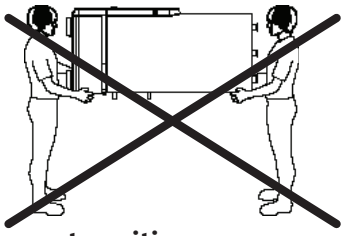
Children should be supervised to ensure that they do not play with the appliances.

1.1 - Storage and transport

1.1.1 - On-site installation

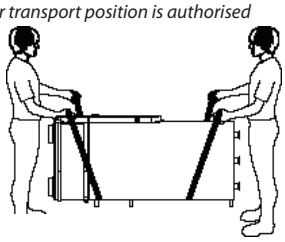
The upper covers of the appliance are not made to withstand force and should not be used for handling purposes.

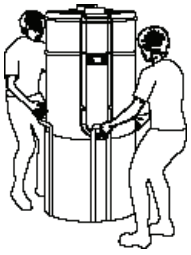
Non-permitted transport positions:



Permitted transport positions:

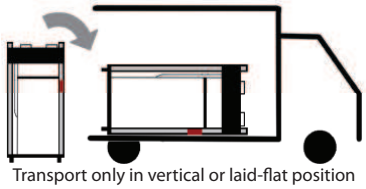
No other transport position is authorised





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

Risk of tipping/falling



Transport only in vertical or laid-flat position

Do not drop or lower suddenly

1.1.2 - Unpacking

- Remove plastic cover and cardboard packaging.
- Remove corner protection pieces, ensuring that all nails and staples are taken out.
- 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 an appropriate tool to remove the screws from underneath the pallet.

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

1.1.3 - Contents of package

- 1 domestic hot water heat pump
- 1 bag of accessories containing three adjustable feet.
- 1 documentation pack containing an instruction manual, a user manual and a warranty card.

1.1.4 - Symbols used

Refer to the installer instruction manual before undertaking any work on the product when handling, installing, using or carrying out maintenance work.

Contains controlled substances, do not throw in the bin. In case of disposal, please respect the regulations on recovery of electrical and electronic equipment.

Caution: *contains flammable refrigerant.*

Please take care to respect installation and handling precautions.

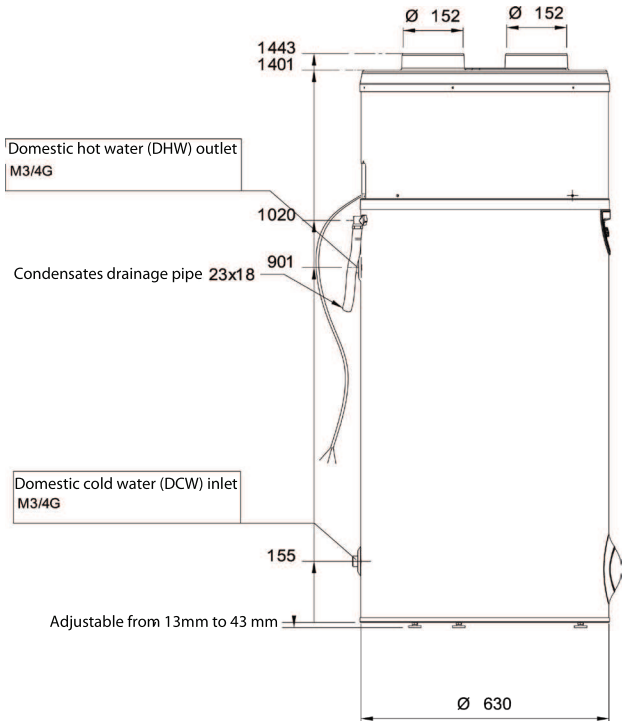
1.1.5 - Storage

STORAGE AND INSTALLATION PRECAUTIONS:

- **The appliance must not be stored in an enclosed space of less than 4 m² without ventilation.**
- **If the appliance is to be stored in a space with less than 4 m² surface area (e.g. in a cupboard) there must be ventilation points at the top and bottom of this space.**
- **The appliance must not be installed near a permanent flame or any other flammable source.**
- **The appliance must be installed in such a way that mechanical damage is prevented.**

2 - INSTALLATION

2.1 - Sizes 200 L - see annex for 270 L



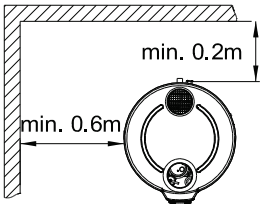
2.2 - Choosing the right place

When choosing the place where the appliance is to be installed, the following points should be taken into consideration:

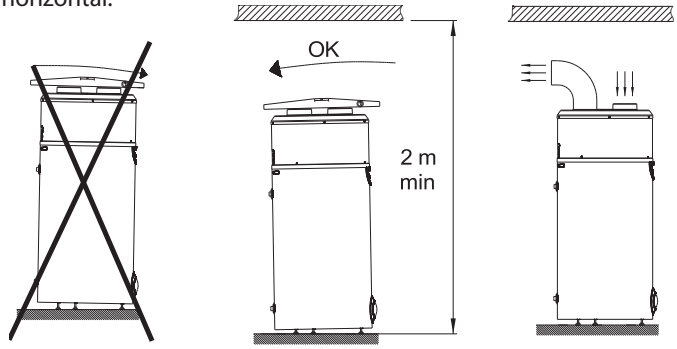
- **It is prohibited:**
  - to let the appliance operate using air intake which contains solvents or explosive matter
  - to use air intake which contains grease, dust or aerosol particles
  - to connect vented exhaust hoods to the ventilation system
- **It is PROHIBITED to install the appliance**
  - outdoors
  - in rooms which are exposed to frost
  - in humid rooms which have a lot of steam or vapour (for example, a bathroom)
  - in rooms where there is any risk of explosion due to gas, pollution or dust

- Avoid placing it close to bedrooms to minimise noise inconvenience.

View from above



- The floor must be able to support the weight of the appliance (weight of **heat pump water heater** when filled with water is approx. 440kg).
To facilitate the condensates flow, adjust the feet so that the appliance is horizontal.



2.3 - Air connection

2.3.1 - Without piping

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

- If the space available under the ceiling is less than 60cm in height above the water heater, we would recommend that you install an elbow at the air outlet and direct it towards the back or the sides.

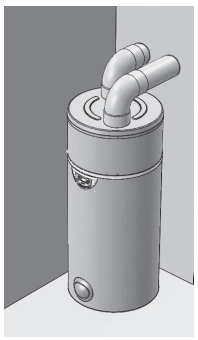
- The heat pump water heater enables heat to be recovered from the floor of non-heated, partially underground premises such as a workshop or garage.

- The heat pump water heater enables dehumidifying and cooling of rooms such as utility rooms or cellars.

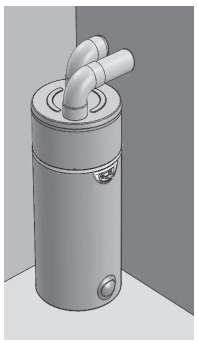
2.3.2 - With piping

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

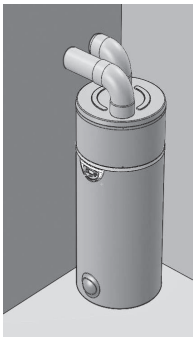
If connecting to piping, you will need to change the fan speed (see § "Changing the fan speed")



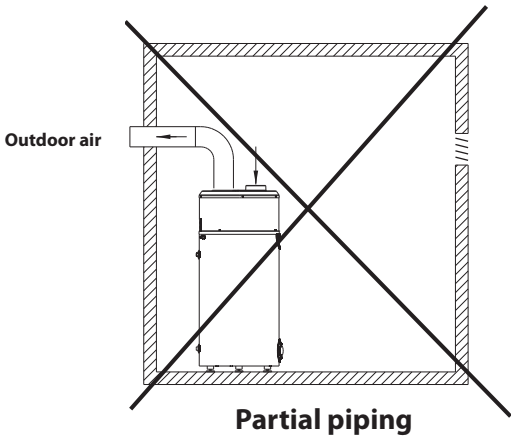
piping at the back



piping on the right



piping on the left



Partial piping

2.4 - Pipe dimensions

The **heat pump water heater** must be connected using **insulated** air ducts which are 160mm inside diameter.

Ø160 PVC elbows enable you to rotate the position of the pipes connected to the appliance through 360°.

Total maximum length Ø160 :
• 10m flexible hose
• 20m rigid piping
1elbow = 1m

2.4.1 - Ventilation accessories

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

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

They are assembled using a connector ❹ (Ref. 730014).

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

The stainless steel horizontal terminal ❺ (Ref. 730015) is equipped with a protective grille.

Figure	Part	Ref. n°.
❶	Semi-rigid pipe, 160mm Ø - lg 2m	730011
❷	90° insulated elbow160mm Ø	730012
❸	Collars for attaching to wall (set of 2)	730013
❹	Connectors for insulated pipe (set of 2)	730014
❺	Horizontal terminal for insulated pipe	730015

2.5 - Plumbing connections

- A **new** pressure-relief valve (not included) **must** be installed and set to 7 bar on the domestic cold water supply of the appliance. We would recommend a membrane valve. This valve must conform to domestic standards.

- 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 should be sized according to construction standards 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.

- The pressure-relief valve drainage outlet must be installed in a frost-free place, in a downward-sloping position.

- If the pressure of the domestic cold water supply is higher than 5 bar, 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).

- We would advise you 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 materials used in the 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 included) to avoid an iron / copper galvanic bridge.

- Rinse the supply line piping well before connecting the appliance to the domestic installation so as not to introduce any particles, metallic or other, into the appliance.

- Observe the standards in effect in the country of use, notably sanitation regulations and pressure safety regulations.

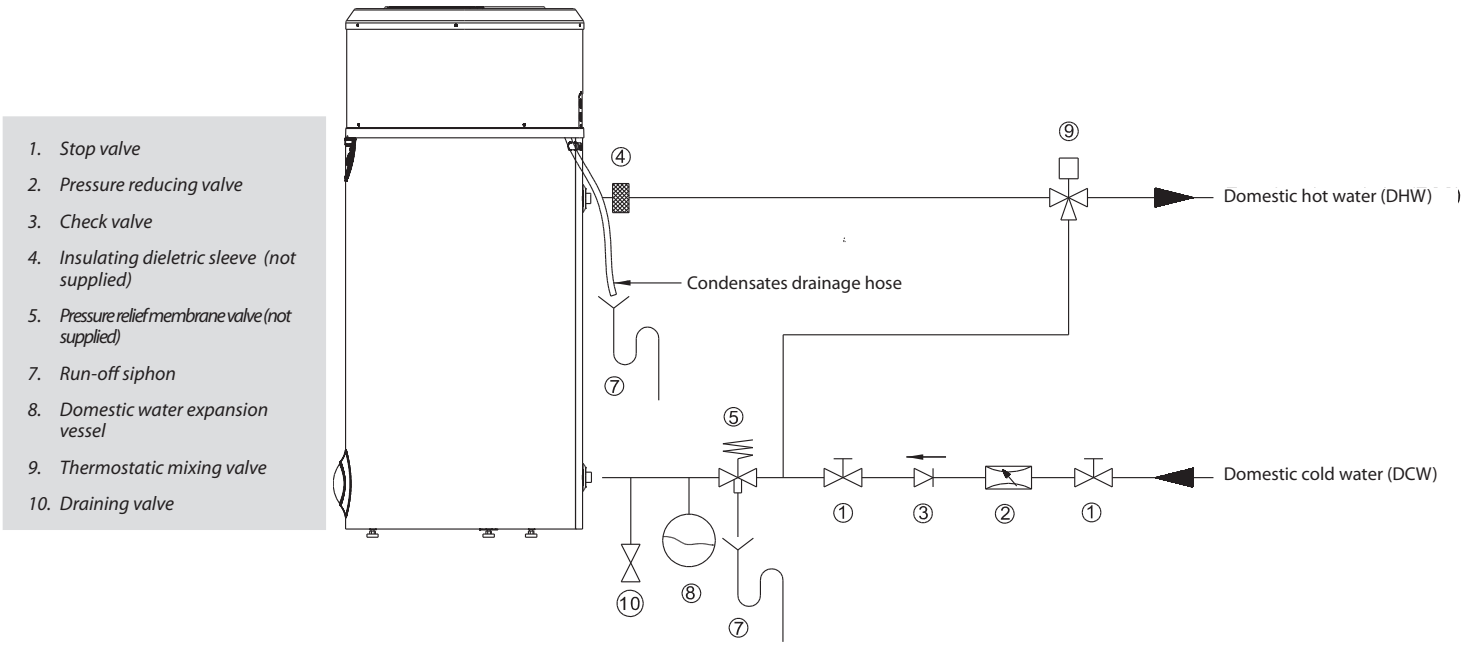
- The maximum domestic hot water temperature at the distribution points should never surpass 50°C for the toilets and 60°C for other uses. Adequate thermostatic mixing valves should be installed to avoid burn risk.

- In regions where water contains very high levels of limestone (TH>20°F), we recommend that the water be treated with a softener. Softened water should conform to the criteria defined by the country's regulations.

- In all cases, whether the water is softened or not, it should conform to the country's hot water additional clause standards relating to:
  - chloride levels
  - resistivity (between 2200 and 4500 ohm/cm)
  - 12°F < TH < 30°F
  - ...

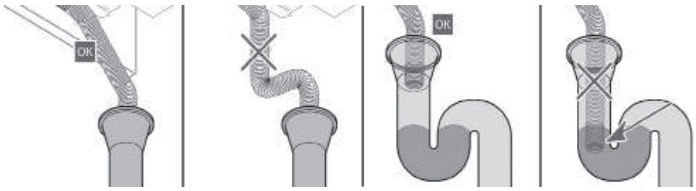
Use of a recirculation pump should be avoided. Recirculating can cause a lack of hot water and overconsumption of energy. If using a recirculation pump, piping should be insulated and the pump should be controlled by a timer or another system which will prevent domestic hot water from circulating continuously.

This warranty does not apply if any of these points have been neglected or if the water quality did not allow correct treatment within the legal framework.



2.6 - 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.



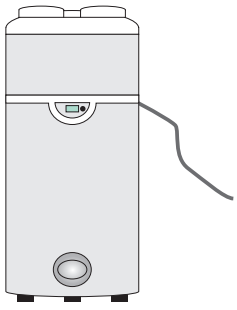
2.7 - Electrical connections

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

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

Protect the appliance with :

- A16A all-pole circuit-breaker with minimum 3mm contact opening.
- A protective16A circuit breaker with a 30mA differential.



If the power supply cable is damaged it must be replaced by the manufacturer, their after-sales service or a qualified technician.

Compliance with the polarity:
- **brown wire = 230V phase**
- **Blue wire = Neutral**
- **Green / yellow wire = Ground**

Grounding is compulsory

2.7.1 - External control (off-peak operation, controlled ventilation)

To access electrical connections :

- Remove the cover and the shell.
- Remove the cover of the appliance by taking out the screws which fix the shell onto the lower belt.
- Remove the black protective cover from the electronic board.

Only a dry contact, voltage-free, external connection may be used, or the electronics board may be destroyed.

2.7.1.1 -Controlled ventilation

The domestic hot water heat pump can be used to continuously ventilate a room even if the heating cycle is finished.
To stop the fan from operating, connect to a timer on a moisture sensor.
Use the same procedure as for the timer switch, but connect the 2-wire cable to "Entrée 2" on the electronic board.

- Switch off = fan will not operate
- Switch on = fan will operate

- Set the regulator to "External control ventilation" mode: VENT 3 mode.

2.7.1.2 - Electricity provider contact

To stop the electrical back-up running during peak time, connect the dry contact from your electricity meter to terminal n°1.

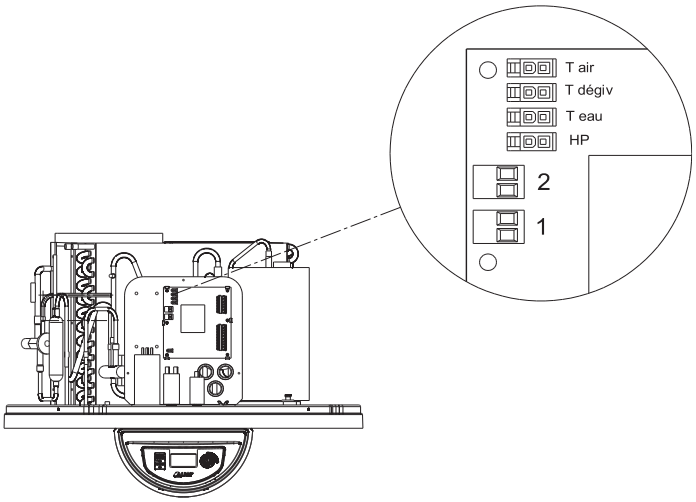
- Contact open = electrical back-up not authorised to run
- Contact closed = electrical back-up authorised to run

If you choose load shedding level 1, the electrical back-up is prevented from running. If you choose load shedding level 0, both the electrical back-up and the heat pump will be prevented from running (see § «Load shedding»).

To prevent electrical backup operating during peak hours, a timer switch should be used:

- Switch off = backup not allowed
- Switch on = backup allowed

By choosing level 0 or 1 load shedding (see § "load shedding"), you stop either the electrical backup alone (load shedding = 1) or the heat pump and electrical backup (load shedding 0) from operating.

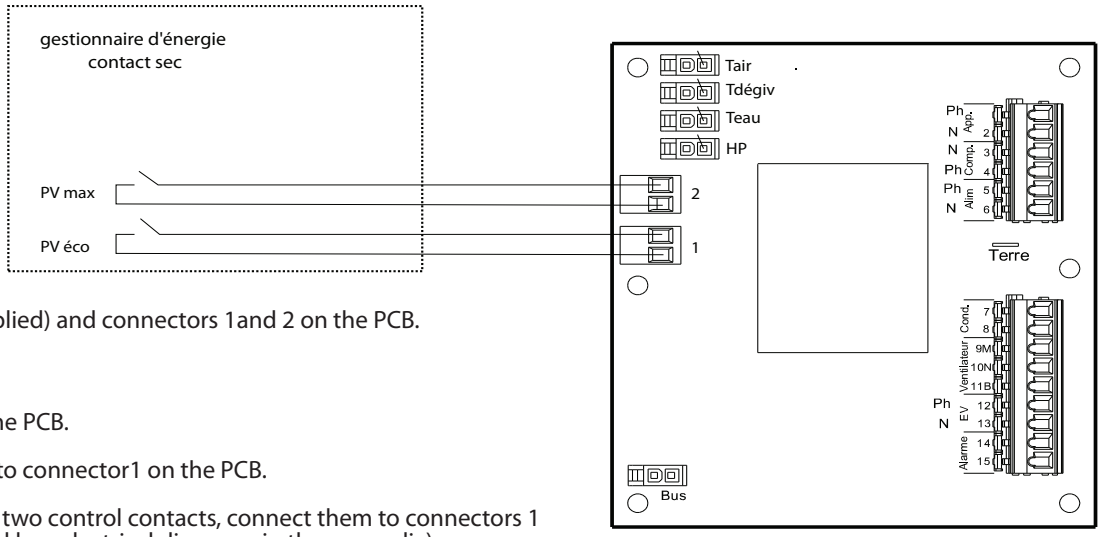


Only a zero-voltage, external control such as a timer switch should be used (if not, the electronic board could be destroyed)

- 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 round to the electronic 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 "Entrée 1" indicated on the electronic board, having removed the existing red bridge beforehand.

2.7.1.3 - Connecting the PV function

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 1and 2 on the PCB.



- Remove the protective casing.
- Remove the black cover from the PCB.
- Connect the PV function cable to connector1 on the PCB.
- If the PV function regulator has two control contacts, connect them to connectors 1 and 2 on the PCB (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.

Speed 1

3 - SET-UP AND USE

Filling the hydraulic circuit

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 highest hot water outlet on the installation.
- Open the cold water inlet on the pressure-relief valve.
- Fill the tank up until the water is coming out of the highest outlet.
- Close the hot water outlet.

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

The hot water heat pump mainly operates with the heat pump, as long as the air intake temperature remains in the authorised - 7°C to + 35°C range. Outside of this range, electrical backup ensures that the domestic hot water is heated.

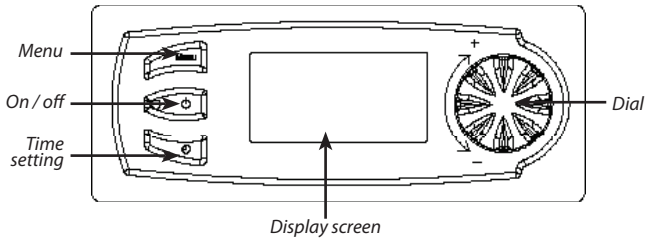
The domestic hot water temperature provided by the heat pump is adjustable up to 60°C.

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

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 backup. 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").

3.1 - Control box



Pictograms :

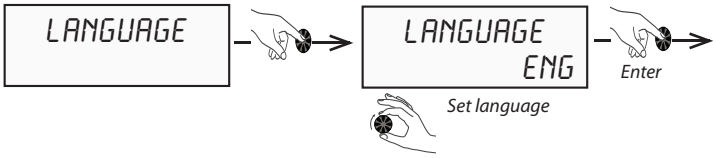
- ..... Compressor activated
- .... Fan activated
- ..... De-icing in progress
- ..... Electrical backup activated
- .... Domestic hot water request
- ..... Economy mode activated
- ..... Freeze protection mode activated
- ... Holiday mode activated

3.2 - Setting the language

The language must be selected when the appliance is switched on for the first time. Turn the dial to the left, select "English" and press he dial to confirm. The languages menu can be accessed at any time.

• Press: Menu.

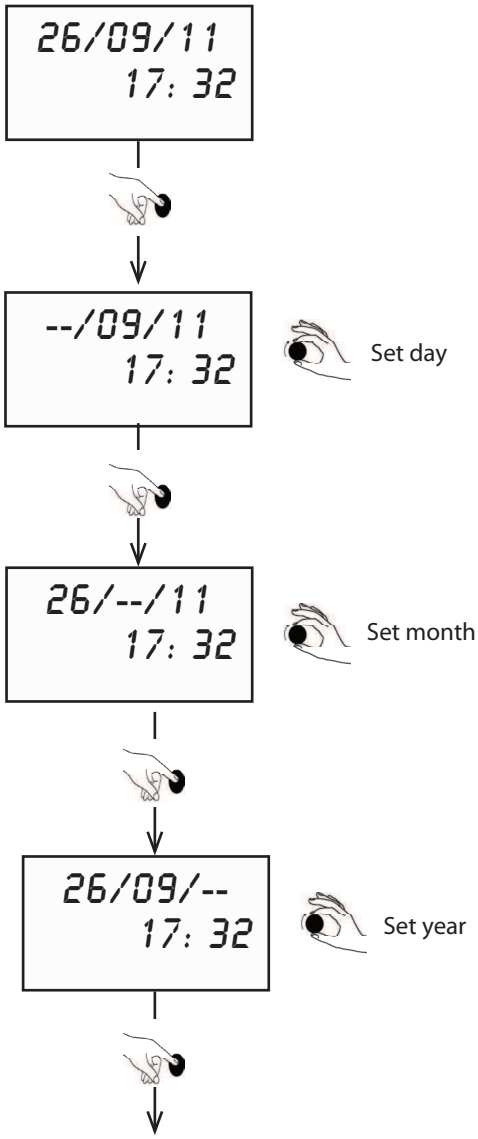
•Turn the dial to scroll through the menu options:

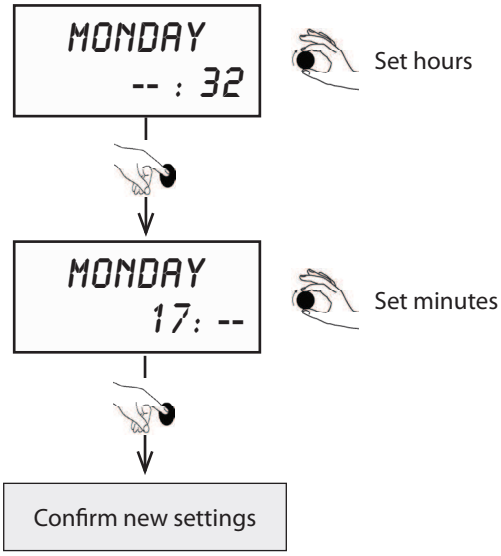


•Press Menu to return to main screen.

3.3 - Setting the time

• Press "**Clock settings**"

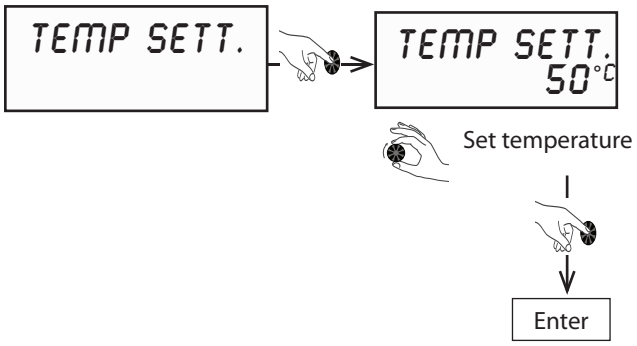




3.4 - Setting the water temperature

The water temperature can be adjusted between 30°C and 65°C. The heat pump alone heats the water up until 60°C. Beyond this temperature - up to 65°C - the electrical backup takes over.

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



• Press Menu to return to main screen.

• In order to get the best from your heat pump, we recommend that you do not leave the set water temperature too high unless necessary. The default temperature is set at 55°C.

3.4.1 Settings in PV mode

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

1. Press Menu
2. Turn the dial until T° PV ECO appears on the screen.
3. Press the dial.
4. Turn the dial to set the hot water temperature, applicable in case of electrical photovoltaic energy production.

T° PV ECO — The heat pump heats the water in the domestic hot water tank to a higher temperature than the usual hot water temperature.

T° PV MAX — The heat pump and the electrical back-up heat the water in the domestic hot water tank to a higher temperature than the T° PV ECO temperature setting.

5. Press the dial to confim your choice.

6. Press Menu to return to the main screen.

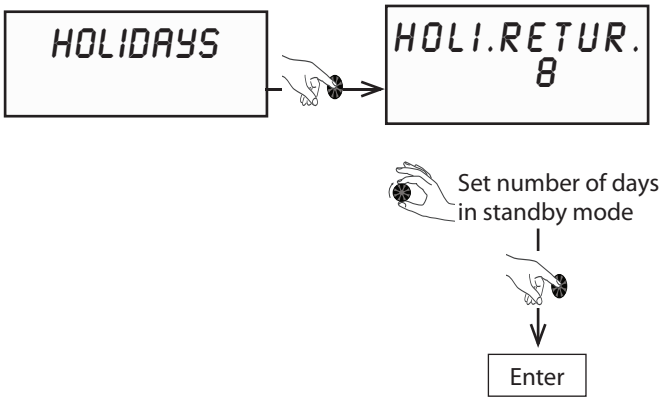
The settings are available according to the following reasoning:

WATER TEMP ≤ T° PV ECO ≤ T° PV MAX ≤ 65°C

3.5 - Standby mode

"HOLIDAY" mode puts the appliance on standby whilst the freeze protection mode remains active. This function can be programmed to run between 1 and 99 days and is effective as soon as the number of days has been confirmed.

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



•Press Menu to return to main screen.

"HOLIDAY" mode switches off automatically at the same time when the number of days set has ended. Throughout the holiday period, the heat pump water heater shows "HOLI. RETUR." on the display screen, as well as a countdown of the days.

3.6 - BOOST function
(for occasional use and guaranteed comfort)

The "BOOST" function temporarily forces electrical backup and backup from the pump at the same time to speed up the rise in temperature during a heating cycle. The "electrical backup" symbol ⚡ flashes while it is activated.

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

• Press Menu to return to main screen.

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

3.7 - Electric mode
(to operate with electrical backup)

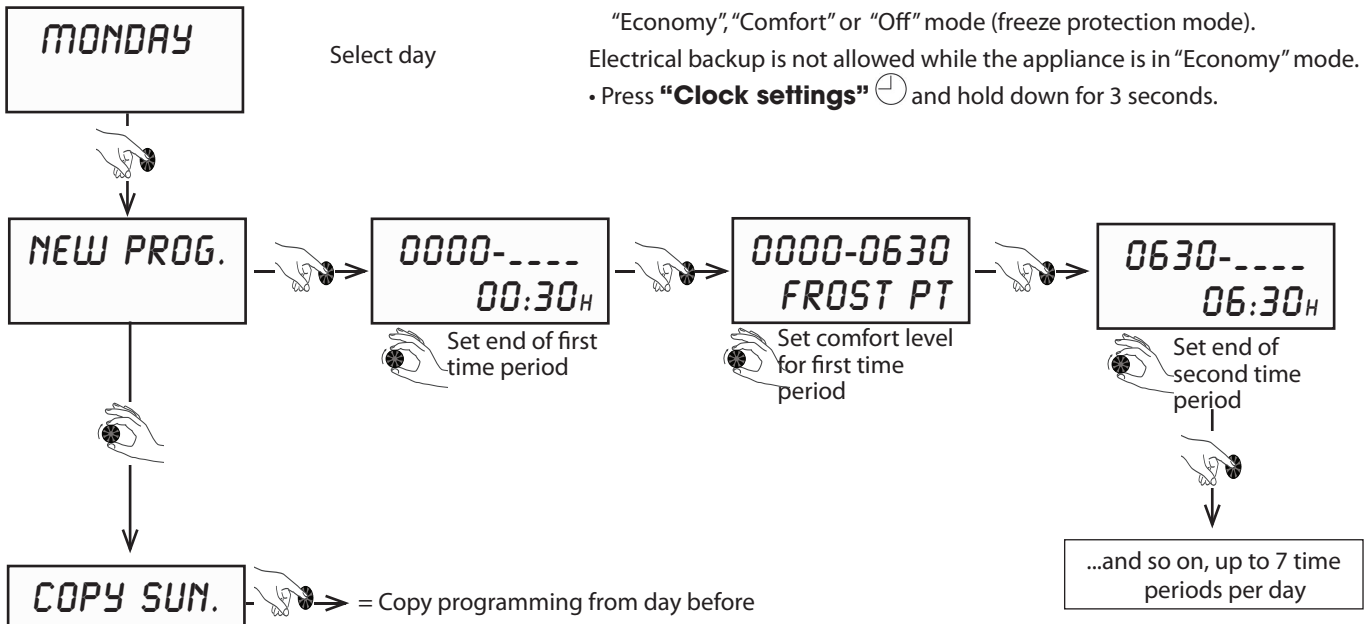
Electric mode uses only the boiler to heat the water in the heat pump water heater. It provides a back-up option if for any reason the heat pump is not running (piping not yet connected, dusty renovation work being carried out near the appliance....).

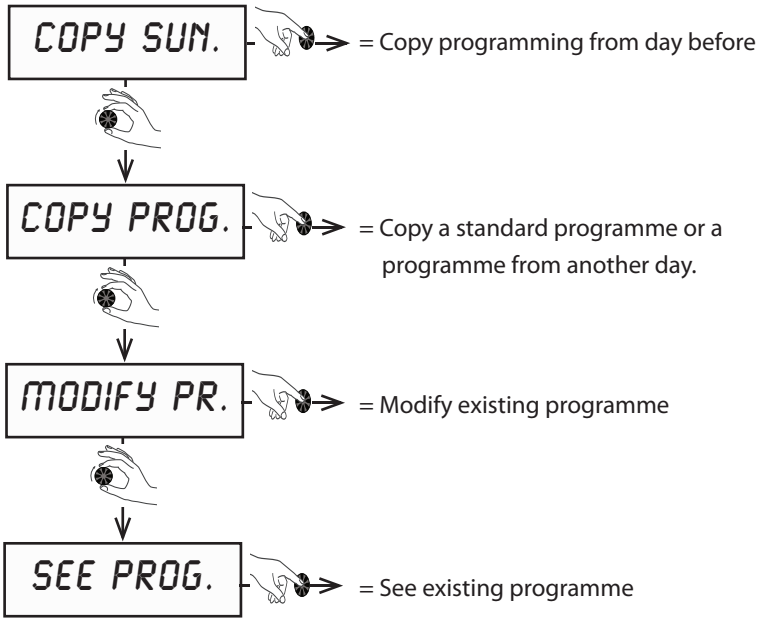
• Press Menu
• Turn the dial to scroll through the menu options

• Press Menu to return to main screen.

3.8 - Programming

Programming enables you to define the periods of time the appliance runs in "Economy", "Comfort" or "Off" mode (freeze protection mode).
Electrical backup is not allowed while the appliance is in "Economy" mode.
• Press **"Clock settings"** and hold down for 3 seconds.





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

FROST PT	= Frost protection mode
ECO	= Heat pump only running
CONF	= Heat pump only running + electrical back-up if needed

3.9 - Installer menu

It may be necessary to adjust certain 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"
- Press the "**Clock settings**" and "**Menu**" buttons **simultaneously**
- **Keep both buttons pressed down** for 3 seconds until the screen displays "SETTINGS".

SETTINGS

To adjust installation settings

RESET PAR.

To go back to default settings

DISPLAY

To display temperatures of sensors and inlets

COUNTERS

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

3.9.1 - PV mode

Setting	Description	Unit	Range	Factory setting
MODE PV	Photovoltaic mode activated	-	yes no	no
PRIORITY	Anti-legionellosis cycle time intervals	-	yes no	yes

1. If the **PV mode** regulator is connected to connectors 1 and 2 on the PCB, **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 photovoltaic electricity production. The heat pump generates a higher water temperature. The hot water temperature must be somewhere inbetween the ordinary 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 inbetween 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 the **Menu** key.

6. Set the desired domestic hot water temperature.

7. Turn the dial to select the primary function.

- **Menu** ⟶ **INST. MENU** ⟶ **PV mode** ⟶ **PRIORITY**

- **Yes**: the signals from connectors 1 and 2 take precedence over **eco** and **frost protection** modes.
- **No**: **frost protection** and **eco** modes take precedence over the signals from connectors 1 and 2.

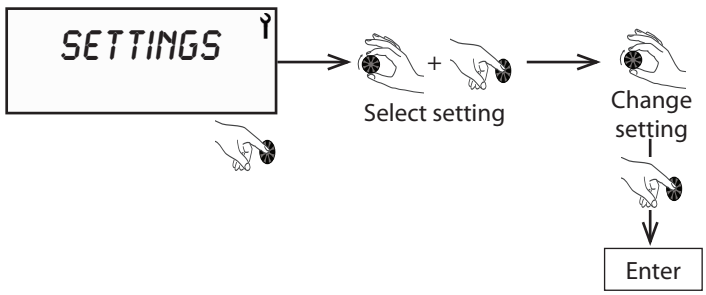
N.B:

If **PV mode** is chosen as the primary function, the domestic hot water will also be heated during non-selected time periods, eg 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 setting to "**No**".

8. Press the dial to confirm.

- 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.

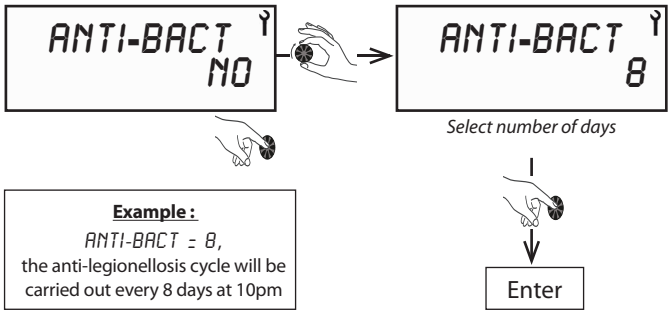
3.9.2 - Adjusting the operating settings



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

• Press Menu to return to main screen.

3.9.2.1 - ANTI-BACT anti-legionellosis cycle



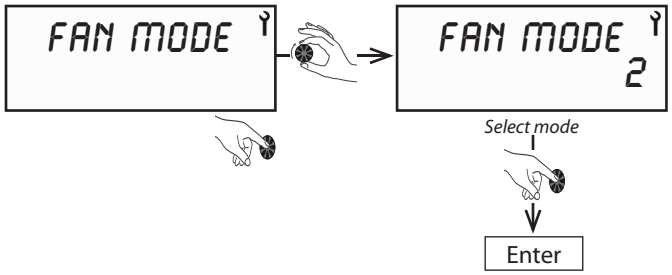
Example :
ANTI-BACT = 8,
the anti-legionellosis cycle will be carried out every 8 days at 10pm

Factory setting = NO

- No anti-legionellosis cycle except when returning from holidays and after a freeze protection period of more than three days.
- During the anti-legionellosis cycle the water temperature is raised to 60°C by the heat pump.
- If the set temperature for domestic hot water is already 60°C (see § "Setting the desired water temperature"), there will not be an anti-legionellosis cycle as it is already running continuously.
- If a cycle is interrupted by a period where backup is not allowed (electricity provider signal or programmed time period) it will relaunch during the next authorised period.

• Press Menu to go back to main screen.

3.9.2.2 - FAN MODE



Factory setting = 1

MODE 1 = Ventilation only activated during water heating periods

MODE 2 = Permanent ventilation

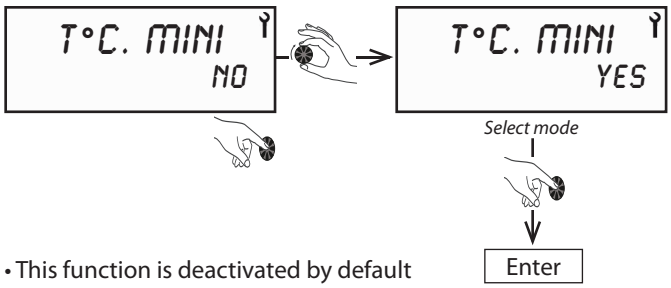
MODE 3 = Ventilation activated during water heating periods and ventilation regulated by external control (such as a moisture sensor).

The external control should be connected on the electric board's moisture sensor inlet in the heat pump water heater.

•Press Menu to return to main screen.

3.9.2.3 - MIN T°C Minimum temperature

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



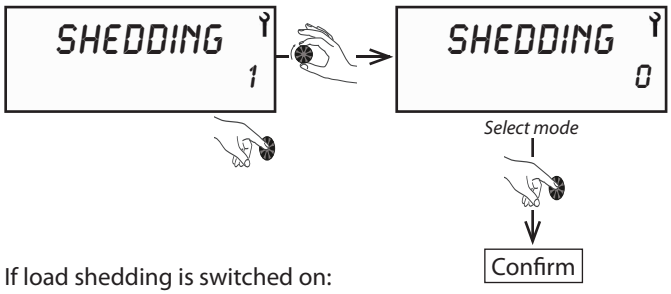
• This function is deactivated by default

• In case of load shedding, the "T°C mini" function is not activated.

• Press Menu to return to main screen.

3.9.2.4 - LOAD SHEDDING Level authorised during peak-time hours

When load shedding is activated you can choose to stop certain elements from running (electrical resistance or compressor).



If load shedding is switched on:

MODE 0 = No element is allowed to operate

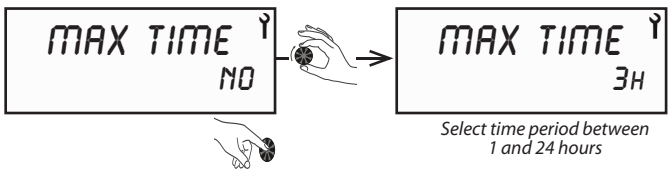
MODE 1 = Only the heat pump is allowed to operate

MODE 2 = The heat pump and backup are allowed to operate (neutralising the "peak time" function).

• Press Menu to return to the main screen.

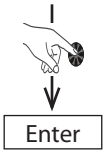
3.9.2.5 - MAX TIME Max heating time

A period of time can be chosen where the electrical back-up will run at the same time as the heat pump to speed up the heating of the water in the tank.
If you choose MAX TIME= AUTO, the heating time is limited to 8 hours maximum.



• This function is deactivated by default

• Press Menu to go back to main screen.

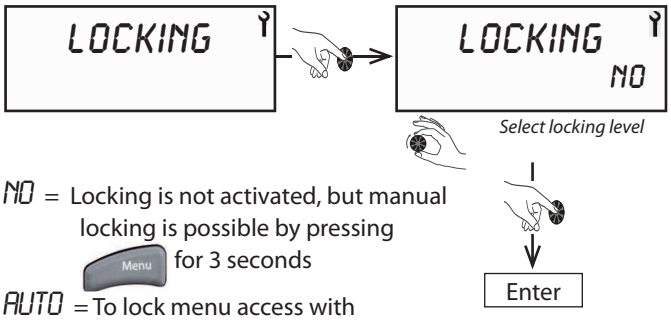


3.9.3 - Locking the keyboard

Permanent and automatic locking

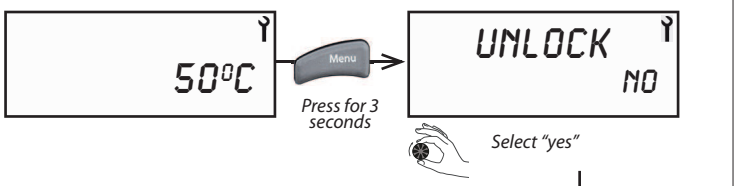
The "locking" option enables you to create three possible levels of locking for accessing the menus.

In the "Installer" menu, turn the dial to "LOCKING"

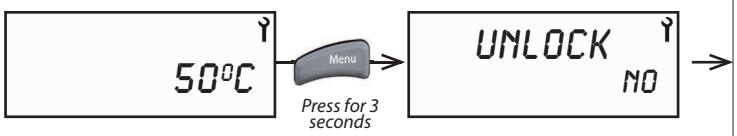


NO = Locking is not activated, but manual locking is possible by pressing Menu for 3 seconds

AUTO = To lock menu access with temporary unlocking (60 sec), press Menu for 3 seconds



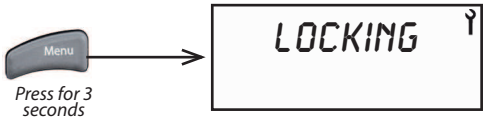
PRO = To lock access to menus with temporary unlocking (300 seconds), press Menu for 3 seconds then and for 3 seconds



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

Manual locking from the main screen

Without gaining access through the "Installer" menu and provided that locking settings are not already in place.

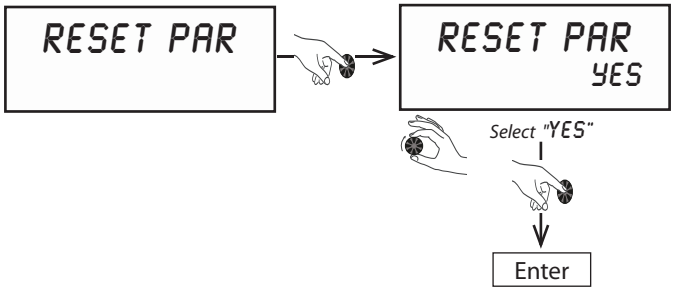


To lock manually, press Menu for 3 seconds.

3.9.4 - Resetting parametres

Resetting the parametres enables you to go back to the default settings.

Go to the "Installer" menu and turn the dial to "RESET".



3.9.5 - Reading 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)	Tdégiv.
CLOCK SWITCH	Off-peak hours switch (0 = on; 1 =off)	heures creuses
FAN CONTR.	Fan control switch (0 =on; 1 =off)	hygrostat
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.

3.9.6 - Counters (meters)

The "Counters" menu shows the number of start-ups from the heat pump and the electrical backup.

In the "Installer" menu, turn the dial to "COUNTERS"

-COUNTER N°1:
Number of start-ups from heat pump

-COUNTER N°2:
Number of start-ups from electrical backup

-COUNTER N°4:
Cumulated heat pump running time

4 - MAINTENANCE AND REPAIRS

In order to maintain efficiency and improve durability we advise 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 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 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 put water on any electrical parts.**
- **Check the wear on the magnesium anode every 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 material and products should be avoided:

- brushes with steel bristles
- 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 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 is inflammable.

→ 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 leaks, unplug the appliance, air the room and contact the after sales team,
→ do not use any mechanical means to speed up de-icing
→ do not pierce or burn the appliance: in case of intervention on the refrigerant circuit, the refrigerant must be recovered.

4.1 - Water circuit / condensate draining

To check that condensates are draining correctly:
- Remove upper cover (see § "Electrical connections").
- Check for blockages in the draining hole.
- Clean the condensate recovery container, where deposits from air intake may have gathered.
- Clean the flexible draining hose.

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

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

4.2 - Air intake circuit

The only maintenance work needed is to clean the evaporator (at least once a year and depending on the cleanliness of the air taken in). If using air filters check if they are clean regularly. If necessary, clean or replace them.

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

4.4 - Troubleshooting

• The heat pump is not working

Check :

- that the desired water temperature is higher than the temperature of the water in the tank.
- the power supply to the appliance.
- that the green light is on.
- that the appliance is not in holiday mode ( ).
- that the air intake or ambient temperature is under -7°C or over +35°C.
- that the timer has not been programmed to stop the appliance operating ("Economy" light will be on).
- that an error message is displayed on the screen (see § Error Codes).

• No hot water

Check that :

- the volume consumed is not higher than the volume in the tank.
- The time period the appliance operates is not too short (12 hrs minimum if connected to piping).
- the water temperature is not set too low .

• Condensates are not draining

(water under the appliance)

Check:

- the draining system for dirt or blockages
  - Remove the cover (see § "External control" procedure),
  - Check the opening ,
- that tubes do not have bends or "U" shapes that could collect water.
- that the end of the tube gives onto open air.

•Electrical backup is not working

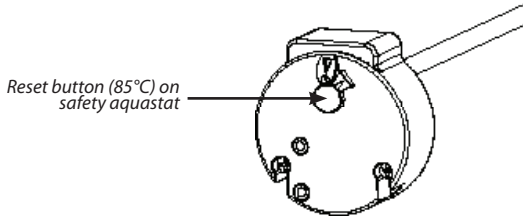
Check that :

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

Before resetting, check :

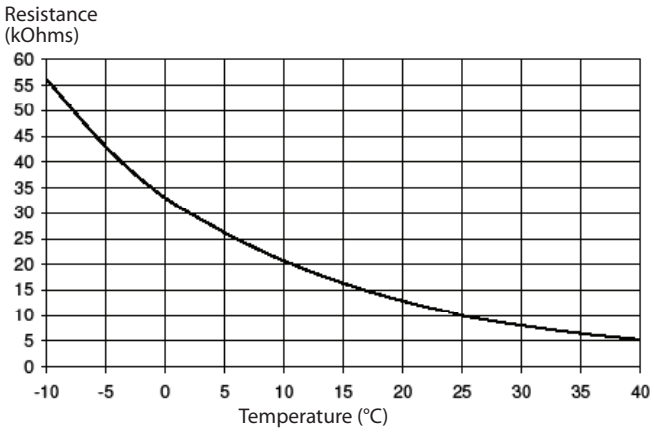
- that the heating element does not have limescale.
- Clean or replace if necessary.

Do not adjust settings on safety aquastat



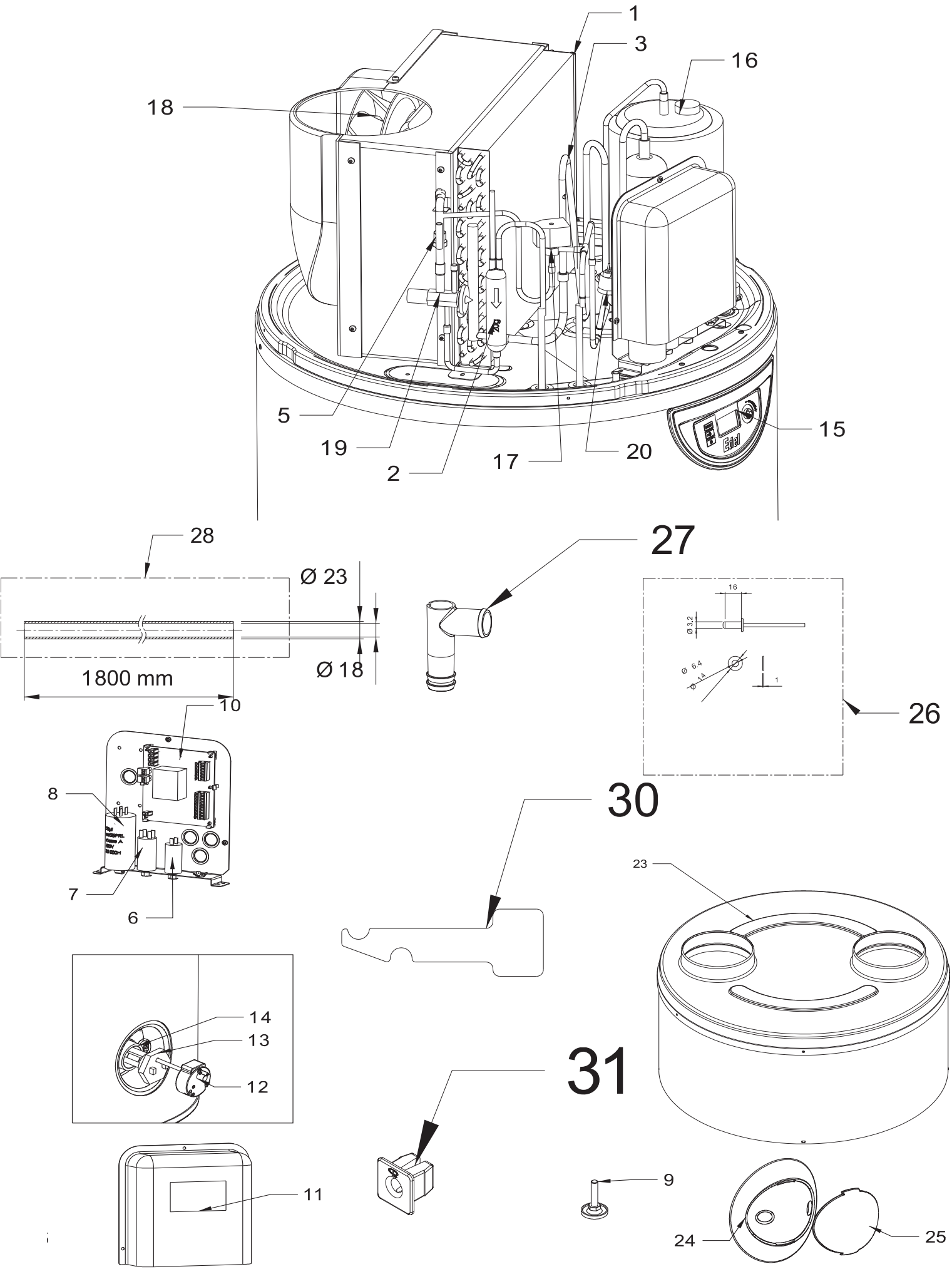
4.5 - Sensor data

All 4 sensors have the same ohmic values.



4.5 - Parts

Rep.	Reference	Description
1	1472853	Evaporator
2	1472871	Filter dryer
3	1244090	Temp. sensor - 10kOhm - 25°C - lg 460mm
4	1243923	Temp. sensor - 10kOhm - 25°C - lg 1200mm
5	1243950	Temp sensor - 10kOhm - 25°C - lg 900mm
6	1244413	1.5 µF capacitor
7	1244229	4µF capacitor
8	1244291	25µF compressor capacitor
9	4992747	3 feet
10	1244096	C3S PCB controller
11	4992027	Electrics box cover and label
12	1239160	70 - 85°C aquastat
13	1243926	1500W electric heating element
14	1657452	Electric heating element seal
15	4592233	PCB + Display .+ Pgm. - HPWH CR3 + cable (HPWH Air WITHOUT heat exchanger)
16	4992708	Compressor + accessories
17	1472777	4-way valve
18	1244419	Fan
19	1472872	Thermostatic expansion valve
20	1244002	High pressure switch
21	1758866	Display screen dial
22	1244251	Power supply cable
23	4592244	Insulated hood
24	1759012	Panel
		please see annex for complementary list


1
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25

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

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

Display	Error	Probable causes	Solutions	Temporary operation measures while waiting for problem to be solved
MEMO/BUS	•Electronic board defect •Bus wire defect •Display screen defect	•Voltage too high on electrical network •Cabling 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 taken in)	•Sensor not functioning •Sensor unplugged from board •Sensor cable damaged	•Replace sensor	•Heat pump non-functional •Electrical backup heats water to 43°C (min 38°C)
T_DEFROST	•Evaporator sensor defect (de-icing temperature)	•Sensor not functioning •Sensor unplugged from board •Sensor cable damaged	•Replace sensor	•Heat pump non-functional •Electrical backup heats water to 43°C (min 38°C)
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 still does not disappear, replace the electronics board	•Programmed heating periods are no longer valid: the waer 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 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 •Resets automatically •Authorised to run on backup
FREQ. DEFRO	•De-icing 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 to max.speed (capacitor shunted) •Check that air is circulating properly throughout the piping circuit •Check pipe lenghts: -10m total of flexible hose -20m total of rigid piping •Check any filters on air ducts •Check evaporator is clean	•Heat pump non-functional •Electrical backup heats water to 43°C (min 38°C)
LOW PRES	•Heat pump pressure too low	•Insufficient airflow •Air inlet / outlet blocked •Ventilation duct blocked •Fan blocked or out of ordre •Evaporator clogged •Ice on evaporator	•Set the fan is working •Check that air is circulating properly throughout the piping circuit •Check pipe lenghts: -10m total of flexible hose -20m total of rigid piping •Check any filters on air ducts •Check evaporator is clean	•Heat pump non-functional •Electrical backup heats water to 43°C (min 38°C)
OVERHEAT	•Domestic hot water overheat (water temperature >85°C)	•Defective water sensor •Water sensor removed from tank	•Check that sensor is in the right position in the tank	•Heat pump is non-functional •Resets automatically

Display	Error	Probable causes	Solutions	Temporary operation measures while wating for problem to be solved
ERR 01	•Incorrect temperature sensor reading	•The air and de-icing sensors are the wrong way round on the electronics board •The de-icing sensor and water sensors are the wrong way round on the electronics boar •The de-icing sensor is connected to the air input, the air sensor is connected to the water input, the water sensor is connected to the de-icing input	•Reposition the temperature sensors correctly on the main electronics board	•Heat pump non-functional
	•Incorrect reading from the de-icing sensor	•The de-icing sensor is not properly connected to the tube and is measuring air	•Reposition the de-icing sensor properly in the tube	
	•The heat pump has run out of gas	•There is a leak on 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 word being carried out on the appliance or it being in contact with a part which vibrates	•Replace expansion valve	
	•The compressort is not working and safety temperature is activated	•Weakness in compressor	•Replace compressor	
ERR 02	•Incorrect temperature sensor readings	•The air and water sensors are the wrong way round on the electronics board •The de-icing sensor is connected to the air input, the air sensor is connected to the water input, the water sensor is connected to the de-icing input	•Reposition the temperature sensors correctly on the main electronics board	•Appliance non-functional
ERR 03	•Incorrect temperature sensor reading	•The de-icing sensor is connected to the air input, the air sensor is connected to the water input, the water sensor is connected to the de-icing input	•Reposition the temperature sensors correctly on the main electronics board	•Appliance non-functional
ERR 04	•Incorrect de-icing and water sensor readings	•The de-icing sensor and the water sensor are the wrong way round on the electronics board	•Reposition the temperature sensors correctly on the main electronics board	•Heat pump non-functional
ALARM EPr0	•The display screen electronics board has a memory problem	•The display screen electronics board is damage	•Replace display screen electronics board	•Appliance non-functional

**DHW = Domestic Hot Water*

5 - 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 voucher was sent back to the manufacturer. In the absence of this document, the date of manufacture will be used to determine the start date. If the tank is broken, the whole appliance will be replaced.

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

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 plumbing DTU 60-1 additional clause 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 having been defective at manufacture.

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 parts warranty ends at the same time as the appliance warranty.

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.

5.1 - Warranty limits

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

5.1.2 - Exclusion from warranty

5.1.2.1 - Use

Cases where warranty (unlimited) is void :

- Water supply being other than cold domestic water, (such as rainwater or water from a well), or which has particularly hostile or abnormal properties which do not comply with the national rules and current standards (DTU 60 - 1 additional clause 4, hot water).
- The appliance being switched on before it is filled.

5.1.2.2 - Handling

Cases (unlimited) where 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.

5.1.2.3 - Installation site

Cases (unlimited) where the warranty is void:

- Placing the appliance where it can be subject to ice or other bad 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 it contains water.
- Installing the appliance in a room with surface area of less than $20m^2$ where there is no piping for air intake and rejection.
- Installing the appliance at a tilted angle which does not allow condensates to flow out correctly.

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

5.1.2.4 - Electrical connections

Cases (unlimited) 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 sections.
- Absence of, or insufficient, electrical protection throughout the appliance (fuse / circuit-breaker, grounding etc).
- Damage which results from deactivating the electrical backup aquastat and / or the heat pump.

5.1.2.5 - Hydraulic connections

Cases (unlimited) where warranty is void:

- Inversing the hot / cold water connections.
- Water pressure being higher than 7 bars.
- Absence of, incorrect fitting of, or obstruction of pressure-relief valve.
- Not fitting the pressure-relief valve directly onto the cold water inlet on the appliance.
- Fitting a pressure-relief valve which does not comply with the current national standards.
- 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 correctly sealed or 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 fitting thermostatic mixing valves.

5.1.2.6 - Accessories

• The warranty does not cover defects resulting from:
  - fitting accessories which do not comply with our recommendations,
  - using accessories which were not provided by us.

5.1.2.7 - Maintenance

Cases (unlimited) where the warranty is void:

- Non-maintenance of the appliance and in particular the anode not being replaced in time.
- Non-maintenance of the pressure-relief valve, resulting in excessive pressure.
- Non-maintenance of 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.

6 - APPENDICES

6.1 - Performance statistics

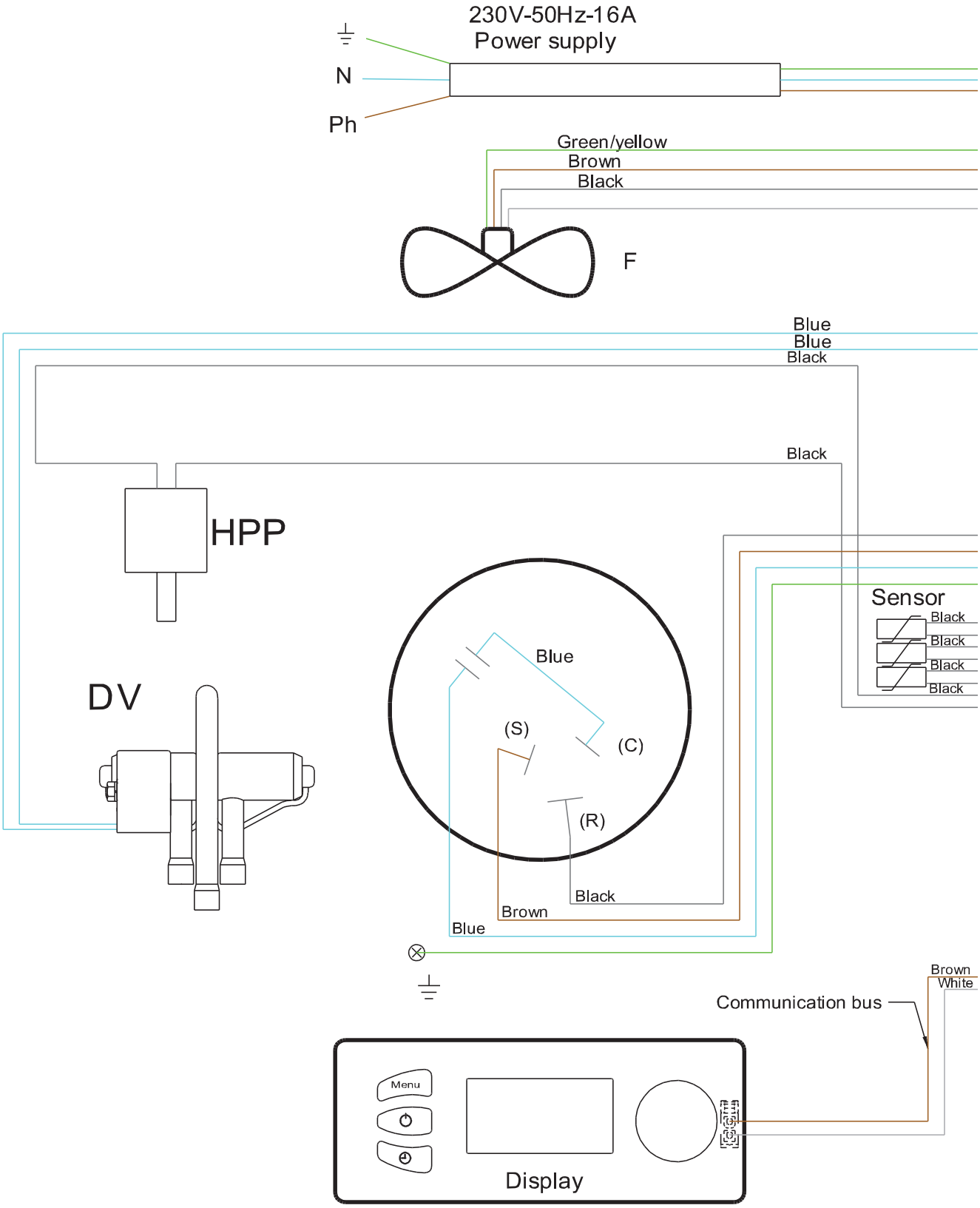
6.1.1 - Curve of the COP

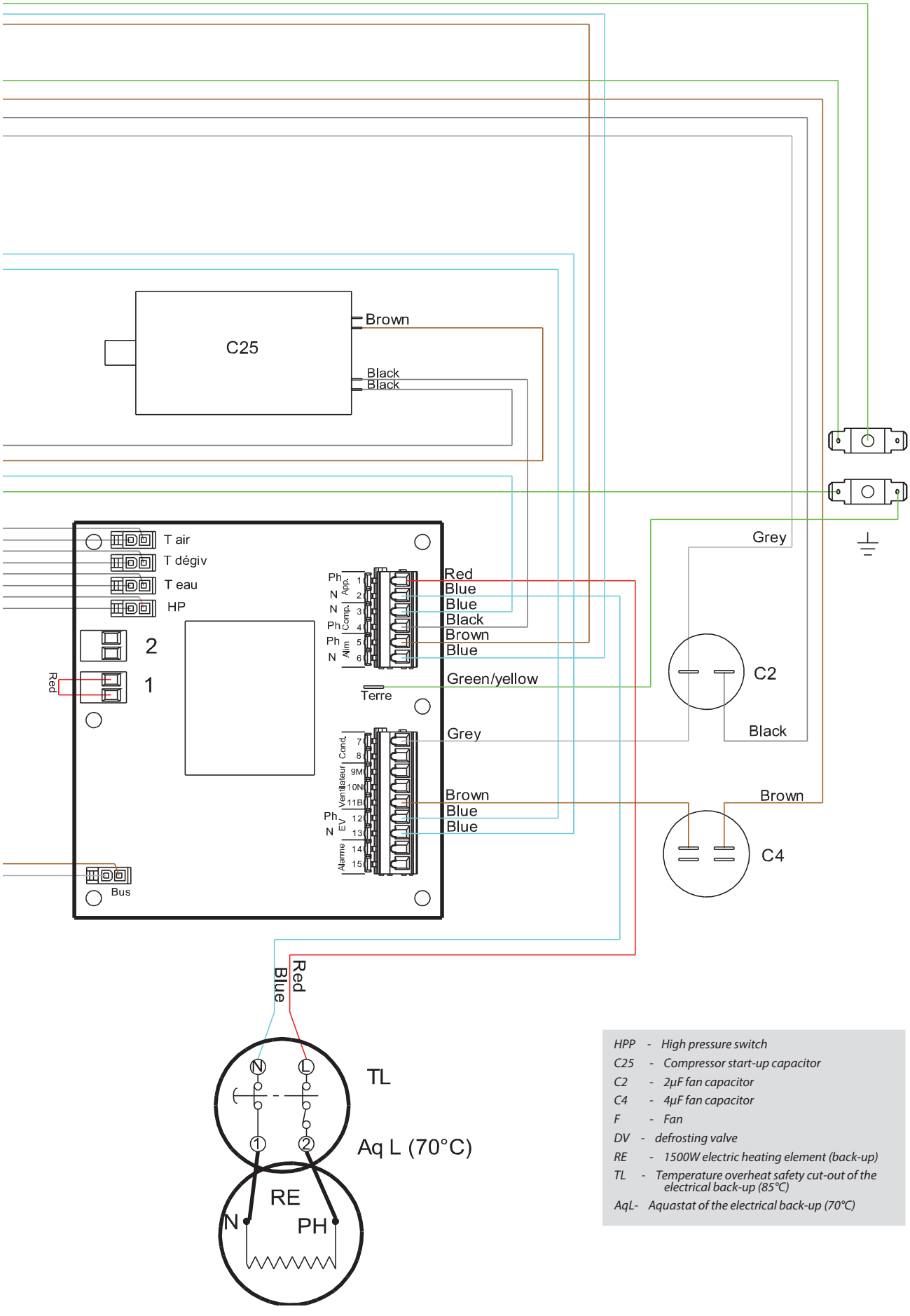
Please see performances in the annex

6.1.2 - Heating time

Please see the performances in the annex.

6.3 - Electrical wiring diagram





HPP - High pressure switch
C25 - Compressor start-up capacitor
C2 - 2µF fan capacitor
C4 - 4µF fan capacitor
F - Fan
DV - defrosting valve
RE - 1500W electric heating element (back-up)
TL - Temperature overheat safety cut-out of the electrical back-up (85°C)
AqL- Aquastat of the electrical back-up (70°C)

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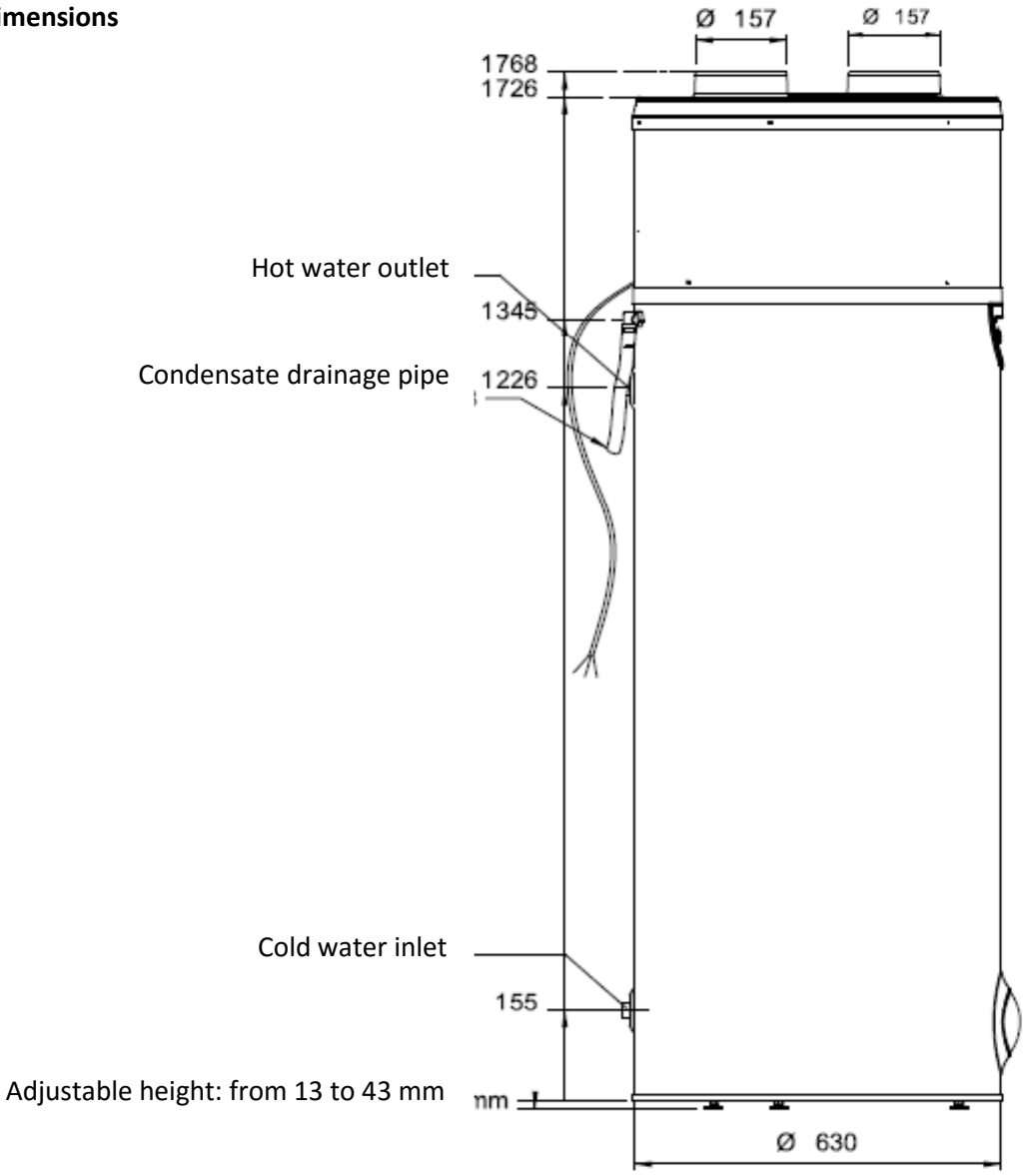
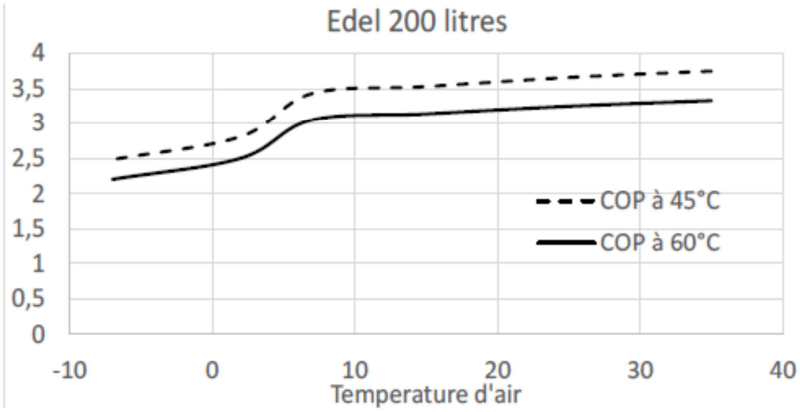
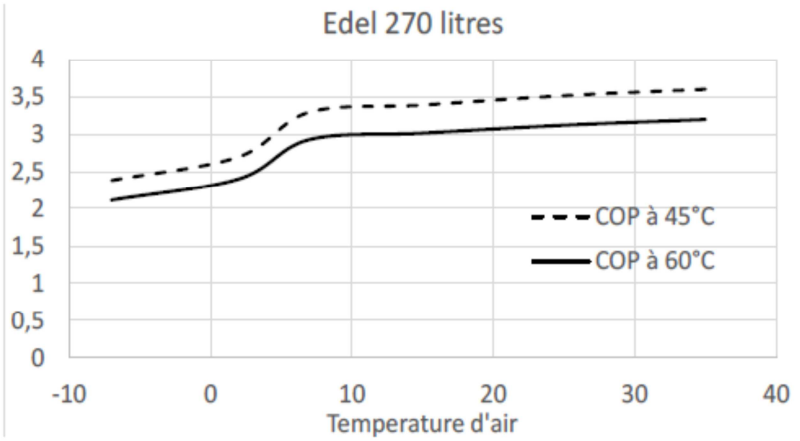
Annex

270 L Dimensions

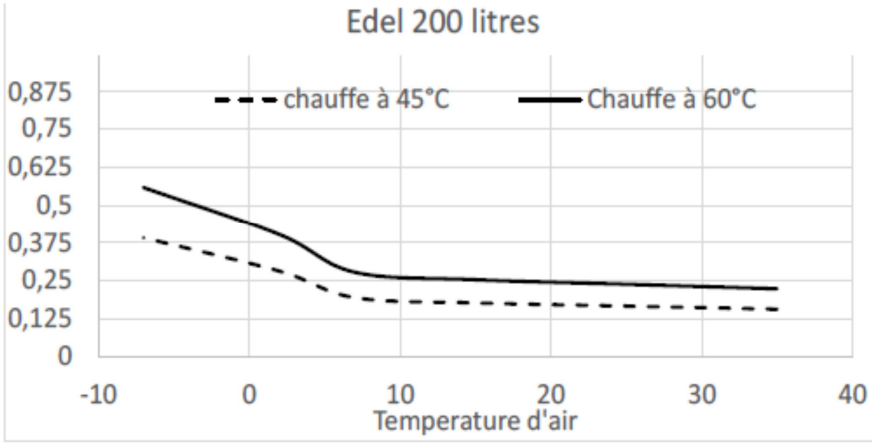


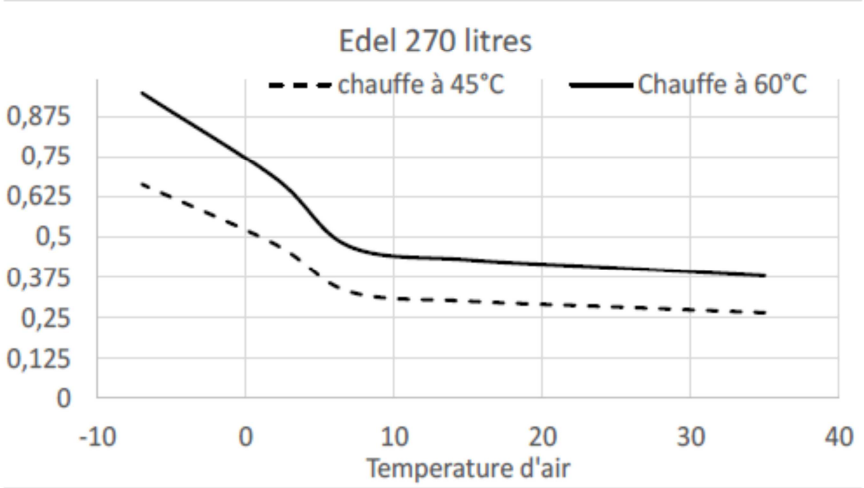
Efficiency ratio (COP) according to EN 16147 with cold water at 10°C and hot water at 45°C or at 60°C





Heating time





Technical data		
	200L	**270 L**
outer casing	plastic	
insulating material	50 mm PU foam	
nominal volume	200 L	270 L
tank material	stainless steel - K44 (food grade)	
maximum service pressure	0,6 Mpa (6 bar)	
dimensions	Ø 630 x h. 1470 mm	Ø 630 x h. 17480 mm
weight with packing	71,2 kg	80,7 kg
electrical supply	230 V - 50 Hz - 16A	
protection rating	IPX1	
maximum power	2200 w	
D-curve circuit breaker	16 A	
refrigerant	R 290 (propane) - 0,15 kg	
heat pump maximum pressure	2,5 Mpa (25 bar)	
water temperature with heat pump	60°C	
air temperarture operating range	from - 7°C to + 35°C	
noise level at speed 1 / speed 2 (1)	36 dB(A) at 2 meters	
air flow	350 m3 / hour	
maximum air duct length (Ø 160)	supple piping: 10 m / rigid piping: 20 m	
air inlet and outlet diameter	160 mm	
condensate flow	0,3 liter / hour	
water connection diameter	3/4" (male)	
condensate drainage pipe	18/23 mm	
electric back-up (85°C safety cut-out)	1500w	
max. water temp. with elec. back-up	65°C	
heat pump max. input power - water at 60°C	700w	
heat pump max. output power - water at 45°C	1650w	

efficiency with outside air at + 7°C		
water needs according to EN 16147 (cycle)	L	L
certified COP	3,21	3,1
input power to maintain water at 55°C (2)	0,024 kW	0,026 kW
reference temperature	53,46°C	54°C
heating time	6h13	10h30
hot water production within 8 hours	308 liters	348 liters
hot water production within 14 hours	643 liters	609 liters

efficiency with outside air at + 15°C		
water needs according to EN 16147 (cycle)	L	L
certified COP	3,3	3,28
input power to maintain water at 55°C (2)	0,026 kW	0,028 kW
reference temperature	53,77°C	54,5°C
heating time	5h40	9h30
hot water production within 8 hours	310 liters	404,8 liters
hot water production within 14 hours	681 liters	708 liters

(1) with piping for air intake and air rejection

(2) appliance re-starts each time water temp. decreases by 5°C from adjusted temperature

Complementary list of spare parts		
rep.	**part code**	**description**
17	1239208	defrosting valve
23	4592244	top cover with thermal insulation
24	1759012	front fitting
25	1759042	decoration fitting
26	4992612	white rivets and washers (6 pcs)
27	1759121	T for condensates
28	4948423	condensate pipe - 1,8 m long
	1472697	air sensor clip
30	4472888	clip support for the air sensor
31	1759025	fitting of the fan casing
	1759072	clamp
	4992758	fan
	4992776	wiring