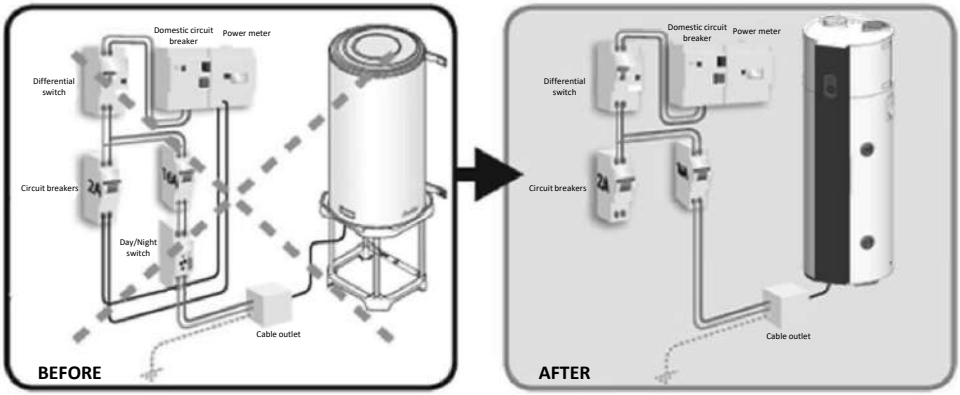
Connect the water heater's power cable to a cable outlet **(the water heater should not be connected to an electrical socket).**

Standard connection of an OP/P electric water heater

Installing the hot water heat pump



**This manual should be kept even after installation of the product.**

WARNINGS

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.

This appliance can be used by children aged from 3 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision. Children aged from 3 to 8 years are only allowed to operate the tap connected to the water heater.

The national rules in force concerning gas must be respected.

Do not use devices other than those recommended by the manufacturer, to speed up the appliance's defrosting or cleaning processes.

The appliance must be stored in a room in which there are no permanent sources of ignition (open flames, gas appliance or electric heater in operation, for example).

Do not pierce or burn.

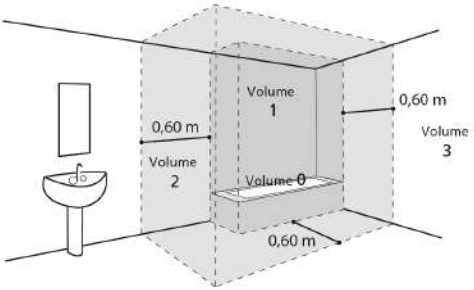
Caution, refrigerant fluid may be odourless.

## INSTALLATION

EN

**CAUTION**: Heavy items – handle with care:

- Install the appliance in a room protected from frost. If the appliance is damaged because the safety device has been tampered with, it is not covered by the warranty.
- If the appliance is to be installed in a room or location where the ambient temperature is constantly above 35 °C, ensure that the room is correctly ventilated.
- Position the appliance where it can be accessed.
- When installed in a bathroom, do not install the appliance in volumes V0, V1 or V2 (see figure opposite). If there is not enough space, they can be installed in volume V2.




- Refer to the installation figures. The clearance required to install the appliance correctly is specified in the "Installation" tab.
- This product is intended for use at a maximum altitude of 2000 m.
- Do not block, cover or obstruct the air inlets and outlets of the product.
- If the appliance is set up in a suspended ceiling, attic, or above living space, a storage area or a sensitive zone, a drain pan must be installed underneath the water heater. A drainage device connected to the sewer system is required. In all other cases, it is strongly recommended.
- The water heater must (in accordance with article 20 of EN 60335-1) be fixed to the ground using a mounting system intended for this purpose.

- This water heater is fitted with a thermostat with an operating temperature of above 60 °C at its maximum position, capable of reducing the growth of legionella bacteria in the tank. Caution! Above 50 °C, water could cause immediate scalding. Check the water temperature before taking a bath or shower.

## HYDRAULIC CONNECTION

A new safety device which conforms to current standards (EN 1487 in Europe), pressure 0.7 MPa (7 bar) and size 3/4" (20/27) in diameter must be fitted. The safety valve must be protected from frost.

A pressure reducer (not supplied) is required if the supply pressure is greater than 0.5 MPa (5 bar) and will be installed on the main supply pipe.

Connect the safety device to a discharge pipe, kept in the open air, in a frost-free environment, continuously sloping downwards to drain off the heat-expanded water or to allow for drainage of the water heater.

No components (stop valve, pressure reducer, etc.) must be positioned between the safety unit and the water heater cold water branch connection.

For products with a coil: The working pressure of the heat exchanger circuit must not exceed 0.3 MPa (3 bar), its temperature must not exceed 100 °C. Do not connect the hot water branch connection directly to the copper pipes. It must be equipped with a dielectric union (supplied with the appliance).

In the event of corrosion to the threads of hot water branch connections not equipped with this protection, our warranty is invalid.

## ELECTRICAL CONNECTION

Be sure to turn off the power before removing the cover, to prevent any risk of injury or electric shock.

Upstream of the appliance, the electrical installation must have an all-pole cut-out device (30 mA residual current device) compliant with the local installation rules in force.

Earthing is mandatory. A special terminal marked ⏚ is provided for this purpose.

In France, it is strictly prohibited to connect a product equipped with a cable with a plug.

## SERVICING – MAINTENANCE - TROUBLESHOOTING

Drainage: Switch the electric power supply and cold water off, open the hot water taps then operate the drainage valve of the safety device.

The pressure relief valve drainage device must be activated on a regular basis (at least once a month) in order to remove limescale deposits and to check that it is not blocked.

If the power cable is damaged, it must be replaced by the manufacturer, its customer service or a professional with similar qualification to prevent any hazards.

Maintenance must only be performed according to the manufacturer's recommendations.

This manual is available from customer services (address and contact details at the back of the manual).

## FLAMMABLE REFRIGERANT FLUID

Any work procedure which affects safety must only be performed by competent people (see the maintenance section).

No work (maintenance, repairs, servicing, etc.) other than leak detection (see procedure) is permitted on the refrigerant circuit. Failure to follow this procedure may lead to ignition or explosion due to the flammable fluid.

1. Checking the refrigerant equipment

When replacing electrical components, they must be suitable for use and meet the required specifications. The manufacturer's maintenance and servicing directives must be followed. If in doubt, contact the technical department for help.

The following checks must be applied for installations using flammable refrigerant fluids:

- The actual refrigerant fluid is suited to the size of the room in which the refrigerant circuit is installed
- The ventilation system and the openings operate correctly and are not obstructed
- If an indirect refrigerant circuit is used, the presence of refrigerant fluid in the secondary circuit must be checked;
- The markings on the equipment must always be visible and legible. Any markings and identifications which are illegible must be corrected.
- The pipework and the components of the refrigerant circuit are installed in a position where it is unlikely that they are exposed to substances likely to corrode components containing refrigerant fluid, unless the components are designed from materials which are naturally resistant to corrosion or suitably protected from such corrosion

2. Checking the electrical equipment

The repair and maintenance of electrical components must include initial safety checks and inspection procedures of components. If a fault which could compromise safety is found, then no power supply must be connected to the circuit until this problem is dealt with in a satisfactory manner. If the fault cannot be dealt with immediately, but it is necessary to continue the intervention, a suitable temporary solution must be used.

This must be reported to the equipment owner so that all the parties concerned are aware.

The initial safety checks must include:

- That the condensers are discharged: this must be performed safely to avoid the risk of sparks
- That no live components and live electrical cables are exposed when charging, recovering or purging the circuit
- That there is continuity of the earth connection

3. Wiring

Check that the wiring will not be subject to wear, corrosion, excessive pressure, vibrations, sharp corners or other unfavourable effects of the environment. The check must also take into account the effects of ageing or sources of continuous vibrations such as compressors or fans.

4. Detecting flammable refrigerant fluid

Under no circumstances can a potential ignition source be used to search for or detect refrigerant fluid leaks. A halide lamp (or any other detector which uses a naked flame) must not be used.

The following detection methods are deemed acceptable for refrigerant circuits:

- Electronic leak detectors can be used to detect refrigerant fluid leaks but, in the case of flammable refrigerant fluids, the sensitivity may not be adequate, or may require recalibration. (The detection devices must be recalibrated in a zone without refrigerant fluid.) Ensure that the detector is not a potential ignition source and is suitable for the refrigerant fluid used. Leak detection devices must be set at an LEL percentage of the refrigerant fluid and must be calibrated for the refrigerant fluid used, and the appropriate percentage of gas (25% maximum), and confirmed.
- Leak detection fluids are also appropriate for use with most refrigerant fluids, but the use of detergents containing chloride must be avoided as the chloride can react with the refrigerant fluid and corrode the copper piping.

NOTE: Examples of leak detection fluids

- Bubble method
- Fluorescent agent-based method

If a leak is suspected, all naked flames must be eliminated/ extinguished.

If a refrigerant fluid leak is found, no intervention is authorised. Ventilate the room until the product has been removed.

EN

# Contents

# Product presentation

## 1. Important recommendations

### 1.1. Safety instructions

Installation and service work on thermodynamic water heaters may present hazards due to high pressures and live parts.
Thermodynamic water heaters must be installed, commissioned and maintained by trained and qualified professionals only.

### 1.2. Transport and storage

**The product may be tilted on one side at 90°. This side is clearly marked on the product's packaging. The product must not be tilted onto the other sides. We recommend that you take care to comply with these instructions. Our liability cannot be incurred for any fault with the product resulting from the product being transported or handled in a way which does not meet our recommendations.**

**If the water heater has been tilted, wait at least 1 hour before powering on.**

## 2. Packaging contents

1 manual

1 bag containing a dielectric union with 2 seals to be installed on the hot water branch connection

Left + right duct adapter

Clamping collar

2 PV connectors

1 boiler connector

1 floor attachment bracket with screws

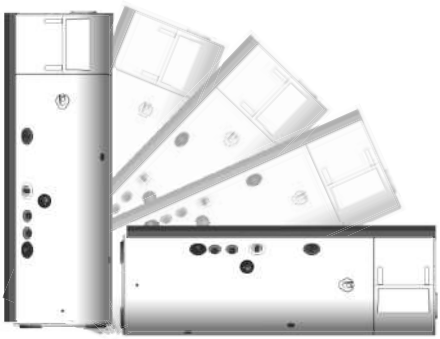
1 valve to be installed on the cold water branch connection (except for France and Belgium and Netherlands)

1 seal + 1 ¾" brass plug

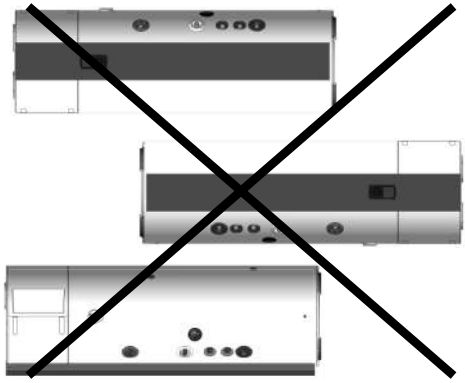
## 3. Handling

The product has several handles in order to facilitate handling to the installation site.

To transport the water heater to the installation site, use the top and bottom handles.



☺ Accepted transport position



☹ Prohibited positions

**Respect the transport and handling recommendations which appear on the packaging of the water heater.**

## 4. Operating principle

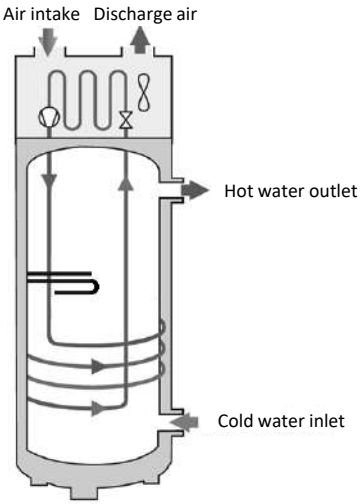
The thermodynamic water heater uses outside air to prepare domestic hot water.

The refrigerant fluid contained in the heat pump will go through a thermodynamic cycle which will allow the transfer of energy from the outside air to the boiler.

The fan will allow the air to flow into the evaporator. The refrigerant evaporates upon entering the evaporator.

The compressor compresses the fluid vapour, raising its temperature. This heat will be transmitted through the condenser wrapped around the tank, heating the water in the tank.

The fluid then will go through the thermostatic expansion valve, where it will cool down and regain its liquid form. It will then be ready to receive heat again in the evaporator.



## 5. Technical specifications

| Type of Device | Unit | 200 L | 200L C | 240L C | 270 L | 270L C |
|---|---|---|---|---|---|---|
| Dimensions (Height x Width x Depth) | mm | 1716 x 600 x 651 | | 1906 x 600 x 651 | 2056 x 600 x 651 | |
| Empty weight | kg | 85 | 90 | 100 | 105 | 110 |
| Tank capacity | L | 200 | 190 | 230 | 270 | 260 |
| Hot water / cold water / recirculation connection | - | 3/4'' | | | | |
| Exchanger connection (for Coil Model) | - | 1''F | | | | |
| Anti-corrosive protection | - | ACI Hybrid Titanium + Magnesium Anode | | | | |
| Predefined water pressure | MPa (bar) | 0.8 (8) | | | | |
| Electrical connection (line voltage/frequency) | V~ Hz | 220 - 240 50 | | | | |
| Maximum total consumption of the appliance | W | 1800 | | | | |
| Maximum power consumption of the heat pump | W | 600 | | | | |
| Electric backup power input | W | 1200 | | | | |
| Water setpoint temperature range | °C | 50 to 62 | | | | |
| Heat pump operating temperature range (ambient installation) | °C | +5 to 43 | | | | |
| Heat pump operating temperature range (ducted installation) | °C | -5 to 43 | | | | |
| Duct diameter | mm | 160 | | | | |
| Air flow rate at no load (ductless) at speed 1 | $m^3/h$ | 250 | | | | |
| Air flow rate at no load (small duct) at speed 2 | $m^3/h$ | 285 | | | | |
| Air flow rate at no load (large duct) at speed 2 | $m^3/h$ | 345 | | | | |
| Permissible pressure drops on the air circuit | Pa | 130 | | | | |
| Acoustic power * | dB(A) | 47 | | | | |
| R290 refrigerant fluid | g | 150 | | | | |
| Refrigerant fluid volume in tonnes equivalent | t.CO2.eq | 0.00000304 | | | | |
| Minimum water conductivity | µS/cm | 40 | | | | |

* Noise emitted by the product in ducted installation and tested in a semi-anechoic chamber in accordance with ISO 3744.

| Performance at 2°C outside air with a minimum differential pressure of 30 Pa (outside air)* | | | | | | |
|---|---|---|---|---|---|---|
| Capacity | L | 200 coil | 200 | 240 coil | 270 coil | 270 |
| Drawing-off profile | - | L | L | XL | XL | XL |
| Coefficient of performance (COP) | - | 2.77 | 2.77 | 2.99 | 2.75 | 2.73 |
| Power consumption at stabilised speed ($P_{es}$) | W | 26 | 26 | 29 | 29 | 27 |
| Heating time ($t_h$) | h.min | 09h26 | 09h50 | 11h23 | 12h33 | 13h26 |
| Reference temperature ($T_{ref}$) | °C | 53.47 | 52.89 | 53.77 | 52.61 | 52.60 |
| Air flow rate | $m^3/h$ | 285 | 285 | 285 | 285 | 285 |
| Volume of mixed water at 40°C (V40) | L | 272,2 | 273,8 | 328,7 | 356 | 361 |
| Energy efficiency for water heating ηwh | % | 115 | 115 | 123 | 113 | 112 |
| Annual electricity consumption AEC | kWh/a | 891 | 894 | 1363 | 1489 | 1502 |
| Nominal heat output Prated | kW | 1,01 | 0,97 | 1,01 | 0,99 | 0,94 |

| Performance at 7°C outside air with a minimum differential pressure of 30 Pa (outside air)* | | | | | | |
|---|---|---|---|---|---|---|
| Capacity | L | 200 coil | 200 | 240 coil | 270 coil | 270 |
| Drawing-off profile | - | L | L | XL | XL | XL |
| Coefficient of performance (COP) | - | 3,12 | 3,18 | 3,50 | 3,20 | 3,35 |
| Power consumption at stabilised speed ($P_{es}$) | W | 22 | 23 | 27 | 28 | 25 |
| Heating time ($t_h$) | h.min | 07h53 | 07h42 | 09h24 | 10h01 | 10h31 |
| Reference temperature ($T_{ref}$) | °C | 52,59 | 52,77 | 53,70 | 52,55 | 52,57 |
| Air flow rate | $m^3/h$ | 285 | 285 | 285 | 285 | 285 |
| Volume of mixed water at 40°C (V40) | L | 273 | 272,6 | 330,9 | 358 | 366,6 |
| Energy efficiency for water heating ηwh | % | 129 | 132 | 144 | 132 | 137 |
| Annual electricity consumption AEC | kWh/a | 793 | 776 | 1164 | 1273 | 1222 |
| Nominal heat output Prated | kW | 1,20 | 1,24 | 1,23 | 1,25 | 1,22 |

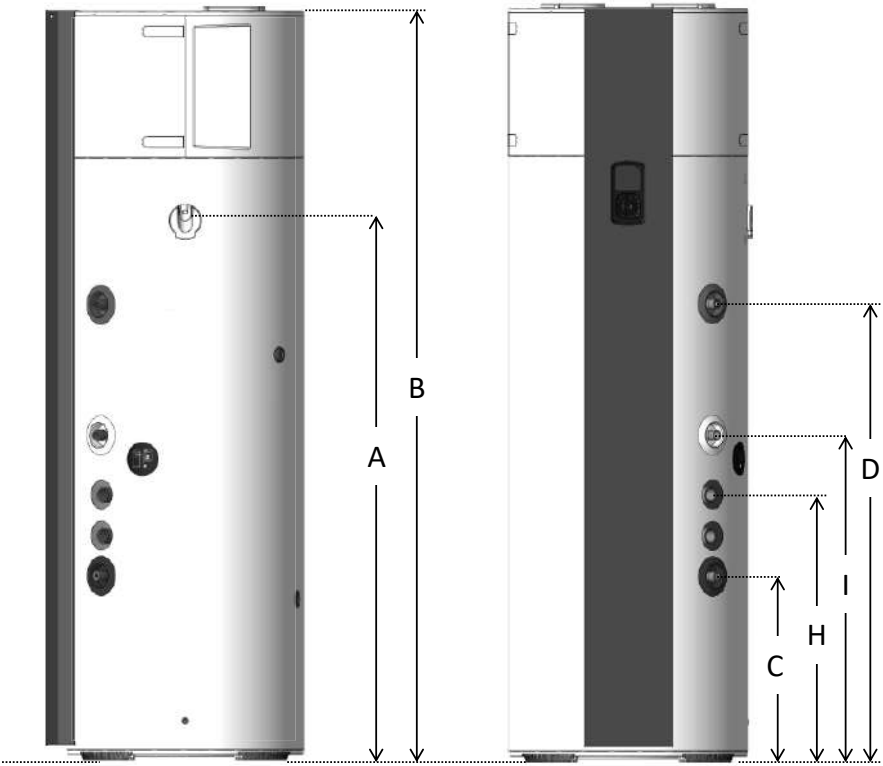
*Performance measured in factory configuration according to the protocol in the specifications for the NF Electricité Performance CdC LCIE 103-15/D mark for autonomous thermodynamic storage water heaters (based on standard EN 16147).
To return the product to its factory configuration, it must be reset according to the protocol explained in the 'Use' section of this manual.
The outdoor air tests are carried out with an installation configured as 'ducting less than 4m'.
Ambient air tests are carried out with an installation configured 'without ducting'.
These appliances comply with directives 2014/30/EU relating to electromagnetic compatibility, 2014/35/EU relating to low voltage, 2015/863/EU and 2017/2102/EU relating to ROHS and 2013/814/EU which completes directive 2009/125/EC relating to ecodesign.

| Performance at 14°C outside air with a minimum differential pressure of 30 Pa (outside air)* | | | | | | |
|---|---|---|---|---|---|---|
| Capacity | L | 200 coil | 200 | 240 coil | 270 coil | 270 |
| Drawing-off profile | - | L | L | XL | XL | XL |
| Coefficient of performance (COP) | - | 3,48 | 3,54 | 3,92 | 3,68 | 3,71 |
| Power consumption at stabilised speed ($P_{es}$) | W | 20 | 21 | 25 | 26 | 21 |
| Heating time ($t_h$) | h.min | 06h26 | 06h50 | 08h09 | 09h11 | 09h13 |
| Reference temperature ($T_{ref}$) | °C | 52,89 | 53,01 | 54,82 | 53,17 | 52,62 |
| Air flow rate | $m^3/h$ | 285 | 285 | 285 | 285 | 285 |
| Volume of mixed water at 40°C (V40) | L | 273 | 275,3 | 342,5 | 365,3 | 365 |
| Energy efficiency for water heating ηwh | % | 144 | 147 | 161 | 152 | 152 |
| Annual electricity consumption AEC | kWh/a | 711 | 697 | 1039 | 1105 | 1102 |
| Nominal heat output Prated | kW | 1,48 | 1,40 | 1,47 | 1,39 | 1,38 |

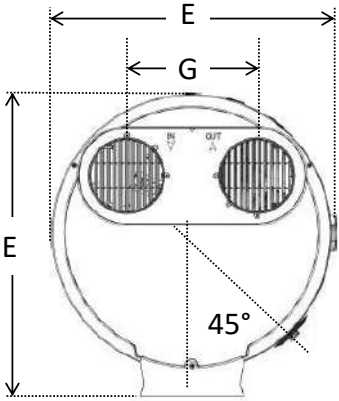
| Performance at 20°C of air in an unheated space (Ambient air) * | | | | | | |
|---|---|---|---|---|---|---|
| Capacity | L | 200 coil | 200 | 240 coil | 270 coil | 270 |
| Drawing-off profile | - | L | L | XL | XL | XL |
| Coefficient of performance (COP) | - | 3,64 | 3,63 | 3,91 | 3,70 | 3,84 |
| Power consumption at stabilised speed ($P_{es}$) | W | 21 | 19 | 24 | 24 | 21 |
| Heating time ($t_h$) | h.min | 06h04 | 06h26 | 07h51 | 08h32 | 08h43 |
| Reference temperature ($T_{ref}$) | °C | 52,96 | 52,88 | 54,86 | 52,86 | 52,60 |
| Volume of mixed water at 40°C (V40) | L | 266,7 | 275,9 | 342,2 | 363,2 | 364,3 |
| Energy efficiency for water heating ηwh | % | 151 | 150 | 161 | 152 | 157 |
| Annual electricity consumption AEC | kWh/a | 677 | 682 | 1043 | 1102 | 1065 |
| Nominal heat output Prated | kW | 1,53 | 1,50 | 1,52 | 1,49 | 1,46 |

*Performance measured in factory configuration according to the protocol in the specifications for the NF Electricité Performance CdC LCIE 103-15/D mark for autonomous thermodynamic storage water heaters (based on standard EN 16147).
To return the product to its factory configuration, it must be reset according to the protocol explained in the 'Use' section of this manual.
The outdoor air tests are carried out with an installation configured as 'ducting less than 4m'.
Ambient air tests are carried out with an installation configured 'without ducting'.
These appliances comply with directives 2014/30/EU relating to electromagnetic compatibility, 2014/35/EU relating to low voltage, 2015/863/EU and 2017/2102/EU relating to ROHS and 2013/814/EU which completes directive 2009/125/EC relating to ecodesign.

## 6. Dimensions/structure

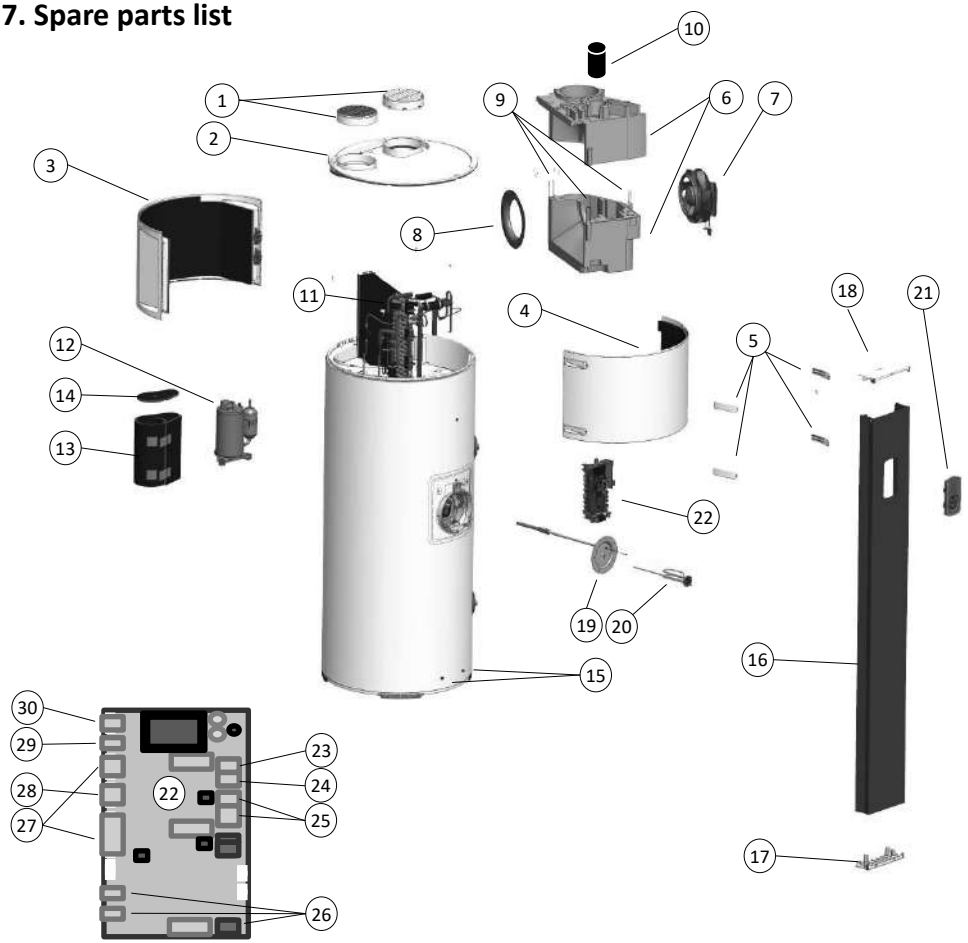



| Ref | MODEL | 200 L | 200L C | 240 L C | 270 L | 270L C |
|---|---|---|---|---|---|---|
| A | Condensate outlet | 1190 | | 1380 | 1530 | |
| B | Total height | 1716 | | 1906 | 2056 | |
| C | Cold water inlet | 306 | 451 | 451 | 306 | 451 |
| D | Hot water outlet | 963 | | 1153 | 1303 | |
| E | Total width | 600 | | | | |
| E | Total depth | 651 | | | | |
| G | Outlet centre distance | 280 | | | | |
| H | Exchanger inlet | - | 716 | 716 | - | 716 |
| I | Water recirculation inlet | 826 | | | | |




*Dimensions (mm)*

## 7. Spare parts list

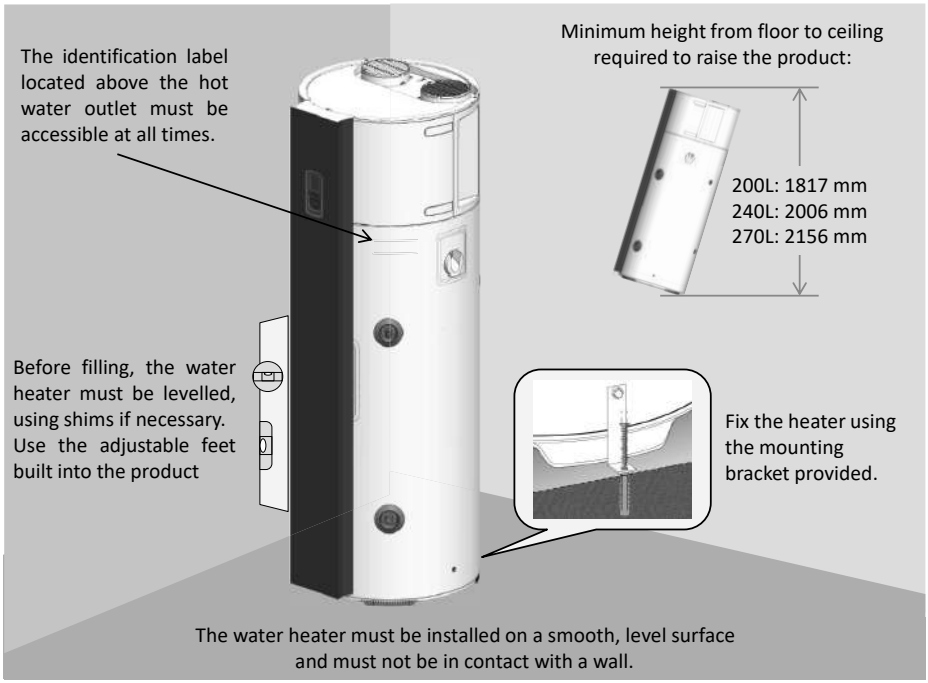



| | | | | | |
|---|---|---|---|---|---|
| 1 | Vents | 11 | Hot gas valve coil | 21 | Interface assembly |
| 2 | Top cover | 12 | Compressor | 22 | Control board |
| 3 | Rear cover | 13 | Compressor jacket | 23 | Electric heating element wiring |
| 4 | Front cover | 14 | Jacket cover | 24 | Supply wiring |
| 5 | Screw caps | 15 | Column support rail | 25 | Heat pump wiring |
| 6 | Volute assembly | 16 | Front column | 26 | Fan wiring |
| 7 | Fan | 17 | Column bottom plug | 27 | Heat pump sensor wiring |
| 8 | Fan sheet metal roof | 18 | Column top plug | 28 | Interface wiring |
| 9 | Volute elastic | 19 | Hybrid ACI flange | 29 | Water sensor wiring 1 |
| 10 | 15µF capacitor | 20 | Heating element | 30 | ACI wiring |

# Installation

## 1. Positioning the product

**If the appliance is set up in a suspended ceiling, attic, or above living space, a storage area or a sensitive zone, a drain pan must be installed underneath the water heater. A drainage device connected to the sewer system is required. In all other cases, it is strongly recommended.**




**The water heater must (*in accordance with article 20 of standard EN 60335-1*) be affixed to the floor using the mounting bracket provided.**

Whatever the chosen installation configuration, the installation site must comply with the IP X1B protection index, in accordance with the requirements of NFC 15-100.
The floor must withstand a minimum load of 400 kg/m² (surface area under the water heater).

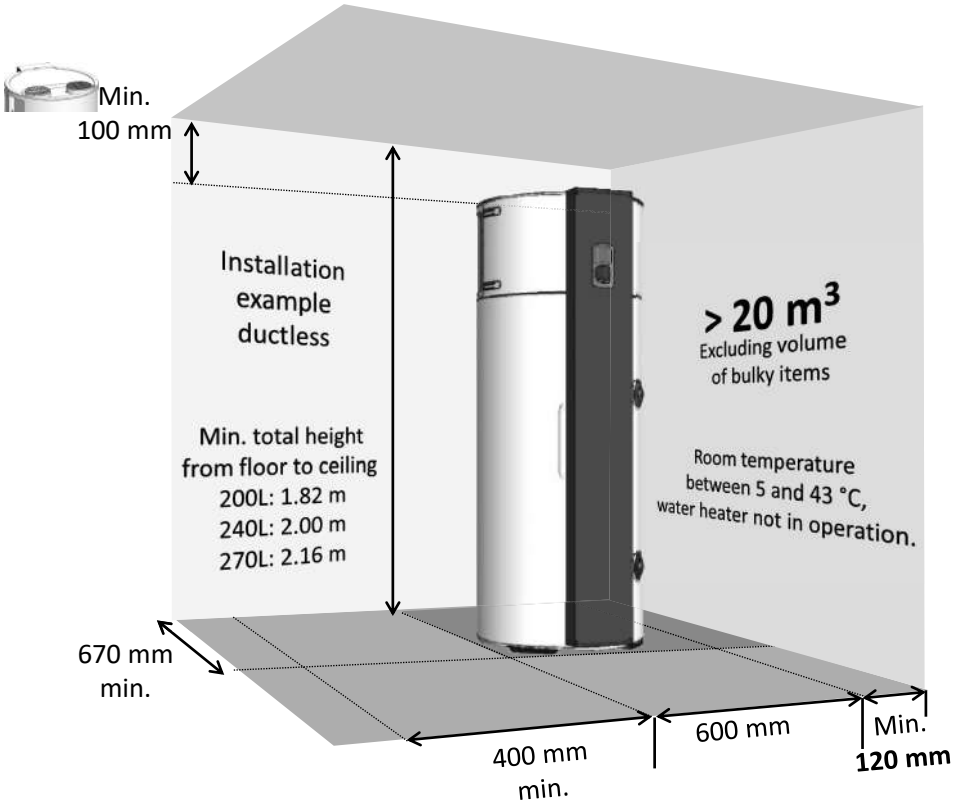
**Failure to comply with the installation recommendations may result in the system underperforming.**

## 2. Installation in non-ducted configuration.

- ✓ **Unheated room with a temperature above 5 °C, isolated from heated rooms in the house.**
- ✓ **Heat pump operation between 5 °C and 43 °C.**
- ✓ Set the "Installation type" parameter to "Ductless (Int./Int.)".
- ✓ Recommended location = buried or semi-buried, room with temperature above 10 °C all year round.

Examples of premises:

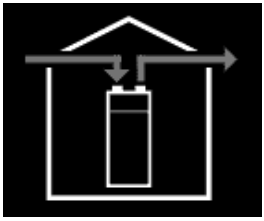
- Garage: recovery of free energy released from domestic appliances in operation.
- Laundry room: Dehumidification of the room and recovery of energy lost from washing machines and dryers.




**Respect the minimum specified spacing to prevent air recirculation.**

**Leave a space of 500 mm in front of the electrical equipment and 300 mm in front of the hydraulic equipment, so that the water heater is accessible for periodic maintenance.**

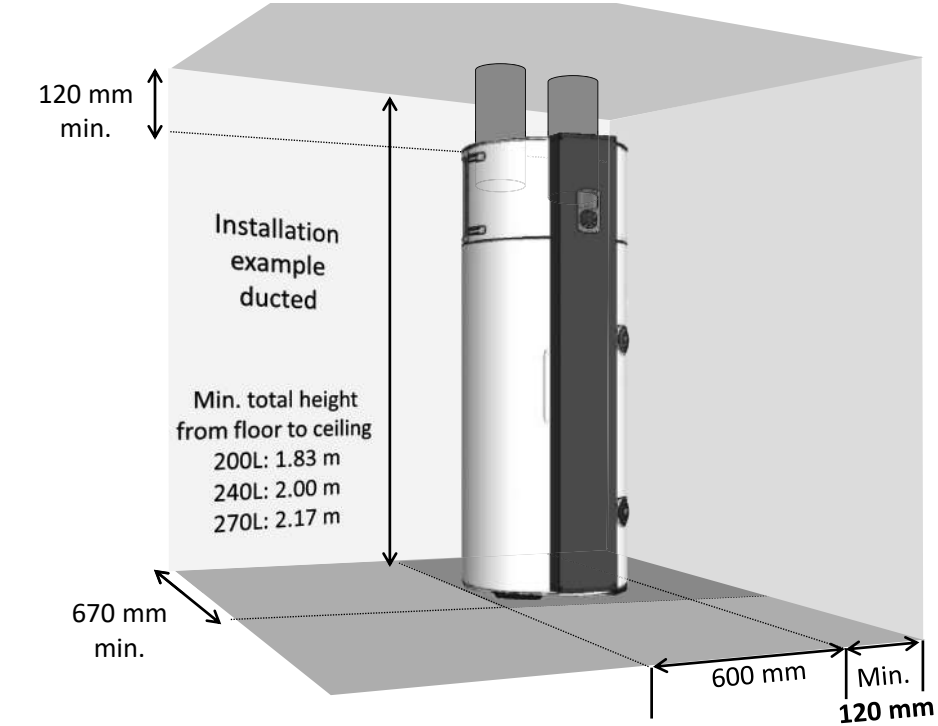
## 3. Installation in ducted configuration (2 ducts).



- ✓ **Minimum frost-free room (*T > 1 °C*).**
- ✓ **Heat pump operation between -5 °C and 43 °C.**
- ✓ Set the "Installation type" parameter to "Individual duct (Ext./Ext.)".
- ✓ Recommended location: habitable space (heat loss from the water heater is not lost), close to external walls. Avoid placing the water heater and/or ducts close to bedrooms, to reduce noise levels.

Examples of premises:

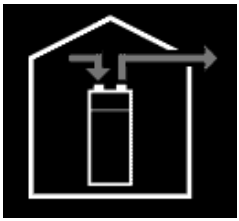
- Laundry room,
- Cellar,
- Integration into a cupboard is tolerated using a door with an undercut (>15mm) or fitted with a grille with a surface area greater than 400cm², opening onto a room whose combined surface area with that of the cupboard is greater than 4m² or ventilated.




**Observe maximum duct lengths. Use insulated rigid or semi-rigid ducts. Install air inlet and outlet grilles to prevent foreign bodies from entering. Caution: air inlet and outlet grilles with manual obstruction are prohibited.**

**Leave a space of 500 mm in front of the electrical equipment and 300 mm in front of the hydraulic equipment, so that the water heater is accessible for periodic maintenance.**

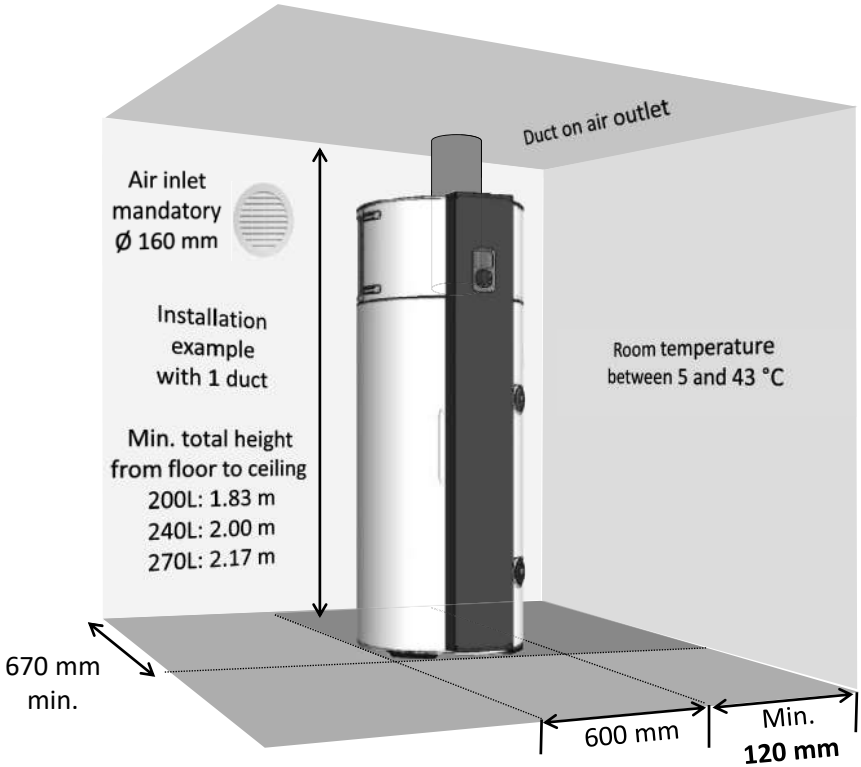
## 4. Installation in semi-ducted configuration (1 exhaust duct).



- ✓ **Unheated room with a temperature above 5 °C, isolated from heated rooms in the house.**
- ✓ **Heat pump operation between 5 °C and 43 °C.**
- ✓ Set the "Installation type" parameter to "Semi-ducted (Int./Ext.)".
- ✓ Recommended location = buried or semi-buried, room with temperature above 10 °C all year round.

Examples of premises:

- Garage: recovery of free energy released by the car engine after it has been running, or by other household appliances when they are operating.
- Laundry room: Dehumidification of the room and recovery of energy lost from washing machines and dryers.




**The negative pressure created in the room by the discharge of outside air causes air to enter through the joinery (*doors and windows)*. Install an air inlet (Ø 160 mm) to the outside to avoid drawing air from the heated space.**
**In winter, the air entering through the air inlet can cool the room.**

**Leave a space of 500 mm in front of the electrical equipment and 300 mm in front of the hydraulic equipment, so that the water heater is accessible for periodic maintenance.**

## 5. Prohibited configurations

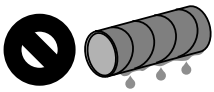
- Water heater drawing air from a heated room.
- Connection to the CMV.
- Connection to the attic.
- Duct on the outside air inlet and discharge of fresh air inside.
- Connection to an underground heat exchanger.
- Water heater installed in a room containing a natural draught boiler and ducted externally for discharge only.
- Aeraulic connection of the appliance to a dryer.
- Installation in dusty rooms.
- Drawing in of air containing solvents or explosives.
- Connection in an area of oily or polluted air (hood, etc.).
- Installation in an area affected by frost.
- Objects placed on top of the water heater.
- Connection with uninsulated flexible, PVC or galvanised ducts.
- Horizontal installation.
- Recirculation system on the cold water.

## 6. Aeraulic connection

To guarantee correct ductwork, always use:

- 160 mm diameter ducts
- insulated air ducts

Uninsulated air ducts: risk of condensation



- rigid or semi-rigid ducts.

Flexible air duct: risk of crushing

It is also possible to use the jig available on the water heater packaging to drill the walls and the duct adapters providers.

Positioning the duct:

❶ Go to top of product

❷ Unclip the grilles

❸ Fit the duct adapters (if necessary)

**This operation should be performed by a qualified person with the power off (only when using ducts, otherwise don not remove the grilles).**

**For connection to ducts, the control system must be configured accordingly.**
**The maximum duct lengths must be observed (see table below).**
Incorrect ductwork (crushed ducts, excessive number or lengths of elbows) can result in poor performance and machine malfunctions. Reminder: **it is prohibited to use flexible ducts**.

## Permitted duct lengths.

| Ext./Ext. duct | | Standard configurations | | | |
|---|---|---|---|---|---|
| | |  |  |  |  |
| Air inlets/outlets | |  X2<br>Roof |  <br>Wall-mounted Roof |  X2<br>Wall-mounted |  <br>Roof Wall-mounted |
| Max. lengths L1 + L2 | Ø160 mm insulated semi-rigid galvanised duct  | 12 m | 12 m | 5 m | 10 m |
| | Ø160 mm PEHD duct  | 24 m | 22 m | 19 m | 22 m |

If an additional 90° elbow is added, deduct 4 m from the permissible length.
If a 45° elbow is added, deduct 2 m from the permissible length.
For installations in which these configurations are not possible, please contact the manufacturer.

# 7. Hydraulic connection

**The use of a recirculation system on the cold water inlet is prohibited: such an installation causes water destratification in the tank and leads to the heat pump and electric heater having to work harder.**

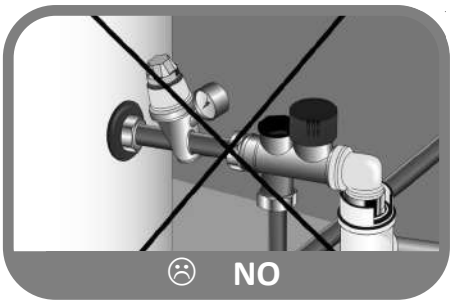
The cold water inlet has been marked with a blue flange, the hot water outlet with a red one. They have a gas thread with a diam. 20/27 (3/4").
For regions with water having a high mineral content (Water hardness - Th > 20 °f (11,20°dH)), water treatment is recommended. With a water softener, the hardness of the water must remain above 8 °f (4,48°dH). The water softener does not give rise to a waiver of our warranty, provided that it is authorised in the relevant country and set up in accordance with good engineering practices, and regularly checked and serviced.
The hardness criteria must respect that defined by DTU 60.1.

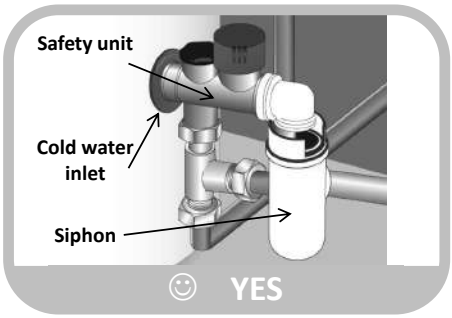
## 7.1. Cold water connection

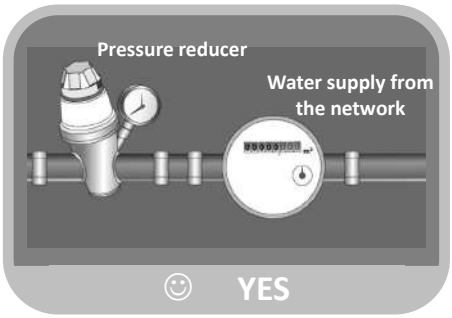
Before creating the hydraulic connection, check that the network pipes are clean.
The valve (supplied) must be installed with an opening pressure of 8 bar (0.8 MPa).

**No components (stop valve, pressure reducer, hose etc.) must be positioned between the safety unit and the water heater cold water branch connection.**

Water may flow from the discharge pipe of the pressure relief valve device; the discharge pipe must be kept vented. Irrespective of the installation type, it must include a shut-off valve on the cold water supply, upstream of the safety unit.
The drain of the safety unit must be connected to the wastewater to allow free flow, via a siphon. It must be installed in a frost-free environment. The safety unit must be activated regularly (1 to 2 times per month).
The installation must include a pressure reducer if the supply pressure is greater than 0.5 MPa (5 bar). The pressure reducer should be installed on the general distribution flow (upstream of the safety unit). A pressure of 0.3 to 0.4 MPa (3 to 4 bar) is recommended.



## 7.2. Hot water connection

**Do not connect the hot water union directly to the copper pipes. It must be equipped with a dielectric union (supplied with the appliance).**
**In the event of corrosion to the threads of the hot water union not equipped with this protection, our warranty is invalid.**

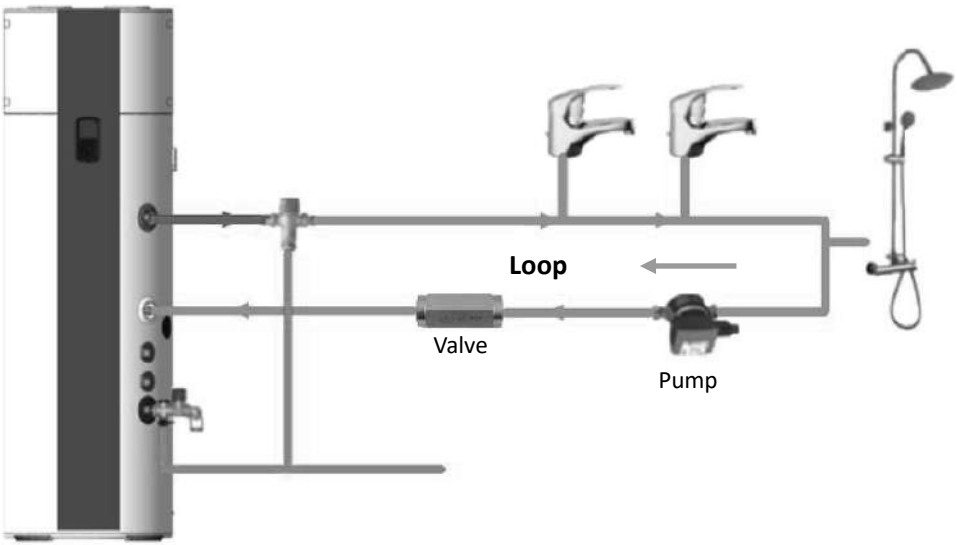
**If synthetic pipes (e.g. PEX, multi-layer) are used, it is mandatory to install a thermostatic regulator at the water heater outlet. It must be adjusted according to the performance of the material used.**

## 7.3. Connecting the recirculation branch connection

**Do not connect the recirculation branch connection directly to the copper pipes. It must be equipped with a dielectric union (not supplied with the appliance).**
**In the event of corrosion to the threads of recirculation branch connections not equipped with this protection, our warranty is invalid.**

**To limit heat loss, the entire recirculation loop must be insulated.**
**Use a circulation pump with a flow rate of between 0.5 and 4 l/min.**
**Program the circulation pump and choose very short time slots for this purpose.**

**If the recirculation branch connection is not used, a "plug + seal" assembly must be connected to this branch connection (supplied with the appliance).**



## 7.4. Primary circuit connection (for products with an internal exchanger)

**Protect against overpressure due to expansion of the water when heating with a 3 bar – 0.3 MPa valve, or an open expansion tank (at atmospheric pressure) or a closed diaphragm expansion tank. The working pressure of the circuit must not exceed 3 bar – 0.3 MPa and its temperature must not exceed 85 °C. When connecting to solar sensors, a glycol mixture must be used to protect against frost and corrosion: "TYFOCOR L" type. In the case of an installation with a stop valve at the inlet and outlet of the exchanger, never close the two valves at the same time to avoid any risk of the exchanger bursting.**

**Preparing the circuit**

For any installation (new or renovation), the pipes of the water network must be thoroughly cleaned. The aim of this pre-set-up cleaning is to eliminate any germs or residue that could lead to the build-up of deposits. In new installations in particular, residues of grease, rusty metal or copper micro-deposits must be removed. In the case of installations undergoing renovation, cleaning is intended to remove sludge and corrosion products formed during the previous period of operation.

There are two types of cleaning/sludge removal: a one-off operation that takes a few hours and a more gradual approach carried out over several weeks. In the first case, it is imperative to carry out this cleaning before connecting the new boiler. In the second case, fitting a filter on the boiler return will capture any loose deposits.

Cleaning the system before it is commissioned helps to improve efficiency, reduce energy consumption and combat scaling and corrosion. This operation requires the intervention of a professional (water treatment).

**If the primary circuit is not to be used, the exchanger inlet and outlet must be plugged (1''M plugs not supplied with the appliance).**

**Water quality**

The characteristics of the primary circuit water used from commissioning and for the life of the boilers shall comply with the following values:

- When filling a new installation, or when it has been completely drained, the filling water must comply with the following characteristics: TH < 10°f (5,60°dH).
- A large inflow of raw water would lead to large scale deposits, which could cause overheating and consequent breakages. Make-up water must be carefully monitored. A water meter is mandatory: the total volume of all the water introduced into the installation (filling + make-up) must not exceed three times the water capacity of the heating system. In addition, the make-up water must comply with the following parameter: TH < 1°f (0,56°dH).

If these instructions are not followed (the sum of the filling water and make-up water is more than three times the water capacity of the heating system), a complete cleaning (sludge removal and descaling) operation is required.

**Protecting the installation against scaling**

Additional precautions are required to protect the installation:

- If a softener is installed, the equipment must be checked in accordance with the manufacturer's recommendations to ensure that it is not discharging chloride-rich water into the network: the chloride concentration must always remain below 50 mg/litre.
- If the water in the network does not have the desired qualities (e.g. high hardness), treatment is required. This treatment must be carried out for the filling water as well as any subsequent refilling or topping up. Periodic monitoring of water quality in accordance with the water treatment supplier's recommendations is required.
- To avoid the build-up of scale deposits (particularly on the heat exchange surfaces), the installation should be commissioned gradually, starting with operation at minimum power and ensuring at least the nominal water flow rate of the system before the burner is started up.
- When work is carried out on the installation, it is not advisable to drain the entire system. Only the required sections of the circuit should be drained.

**Protecting the installation against corrosion**

The phenomenon of corrosion that can affect the materials used in boilers and other heating installation equipment is directly linked to the presence of oxygen in the heating water. The dissolved oxygen that enters the system when it is first filled reacts with the materials in the system and disappears quickly.

Without oxygen replenishment via large water inflows, the plant suffers no damage. However, it is important to comply with the installation's sizing and operating rules to prevent any continuous penetration of oxygen into the heating water. If this point is complied with, the water in the circuit will have the characteristics required to ensure a long installation life: $8.2 < pH < 9.5$ and dissolved oxygen concentration < 0.1 mg/litre.

Where there is a risk of oxygen ingress, additional protective measures must be taken. We advise you to call on companies specialising in water treatment, who will be able to offer:

- The appropriate treatment depending on the characteristics of the installation.
- A monitoring and performance guarantee agreement.

In the case of installations where the water is in contact with heterogeneous materials (e.g. copper, aluminium), appropriate treatment is recommended to ensure the longevity of the installation.

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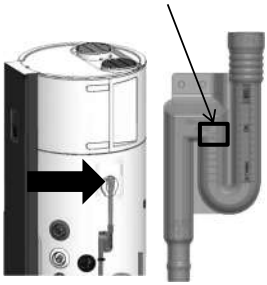
## 7.5. Condensate drainage

**Operating the heat pump generates condensation.**
**Condensed water is drained off via the pipe shown below.**

### 7.5.1. Installing the siphon

With the product stopped, fill the siphon with water up to the arrow, through the condensate drain pipe.



Please note: this operation is not required for an ambient installation.
In the case of a ducted product, the filled siphon can be used to check that the ductwork is correct on the intake side.

**Do not add a siphon downstream of the one already fitted to the product, the waste water outlet must be unobstructed. Risk of condensate overflowing the heat pump.**

### 7.5.2. Using the siphon

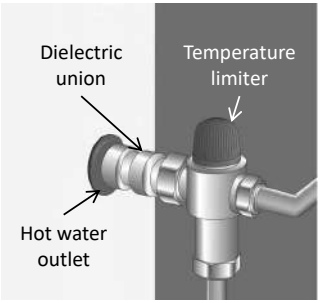
With the fan running, compare the water level with the colour bar.

| The level remains in the **OK zone** (green). The ductwork on the intake side is good. | The water level is in the **KO** zone (red), and the extracted flow rate is too low. The ductwork on the intake side is: obstructed/crushed and/or too angled and/or too long |
|---|---|
|  |  |

### 7.6. Advice and recommendations

A temperature limiter must be installed at the outlet of the water heater to limit the risk of scalding:

- For bathrooms, the fixed maximum hot water temperature is 50 °C at the points of use .
- In all other rooms, the domestic hot water temperature is limited to 60 °C at the points of use .
- Decree no. 2001-1220 of 20 December 2001 and circular DGS/SD 7A (only applicable in France).
- Compliant with DTU 60.1.




## 8. Connecting optional equipment

**Before carrying out any work, be sure to switch off the appliance.**

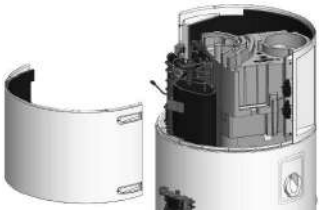
To connect optional equipment, follow the steps below:

❶ Remove the locking screw from the column.

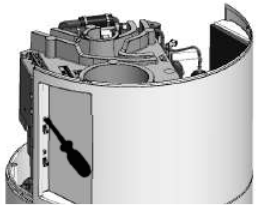
❷ Lift the column off the inserts at the bottom, paying attention to the control screen cable and the earth cable.

❸ Unscrew the 2 rear screws on the top and then unclip it.

❹ Remove the covers and unscrew the 4 screws on the front cover of the heat pump.

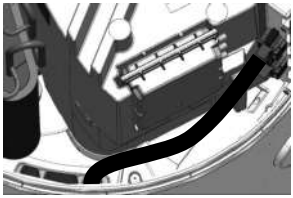


❺ Tilt the cover forward.



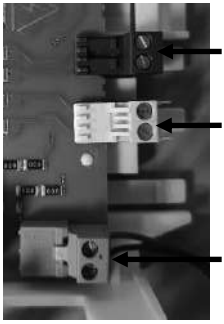
❻ Loosen the cable clamp on the rear cover to pass the optional equipment cable (not supplied) through it.

**We recommend using a 2x0.75 mm² multi-strand cable with crimped ferrules (not supplied).**

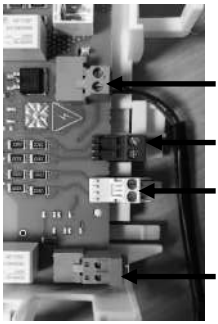


❼ Route the cable through the passage specifically designed for access to the PCB.

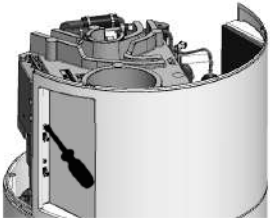
Without exchanger :




With exchanger :



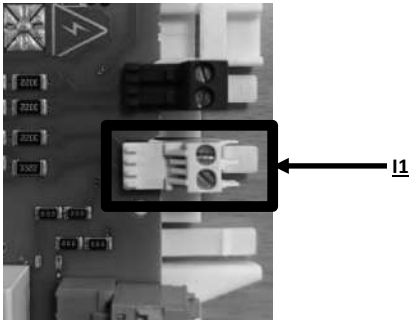

❽ Screw the cable to the appropriate connector depending on the equipment connected.



❾ Lock the cable clamp and repeat the steps in reverse order to close the product.

## 8.1. Connection to the Off-peak/Peak (OP/P) signal

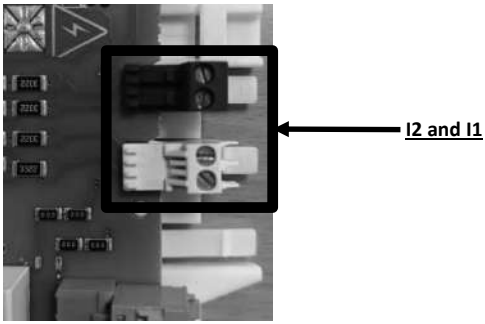
The OP/P signal is wired to terminal **I1** on the PCB.




## 8.2. Connection to the Smart Grid function

For appliances to be connected to a Smart Grid installation, the EMS (Energy Management System) needs to be connected to the water heater.
The wiring must be connected to terminals **I1 and I2** of the PCB, according to the following EMS states:

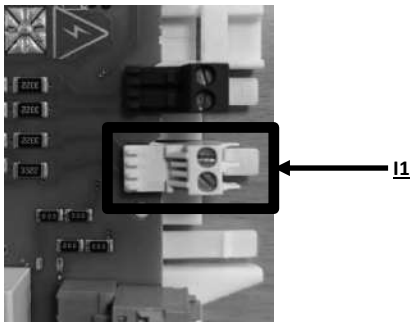
| PCB input I1 | PCB input I2 | EMS states | Operating mode |
|---|---|---|---|
| 0 | 0 | 0:0 | Normal Operation |
| 1 | 0 | 1:0 | Switch-on recommendation |
| 0 | 1 | 0:1 | Switch-off command |
| 1 | 1 | 1:1 | Switch-on at maximum power (Forced On) |



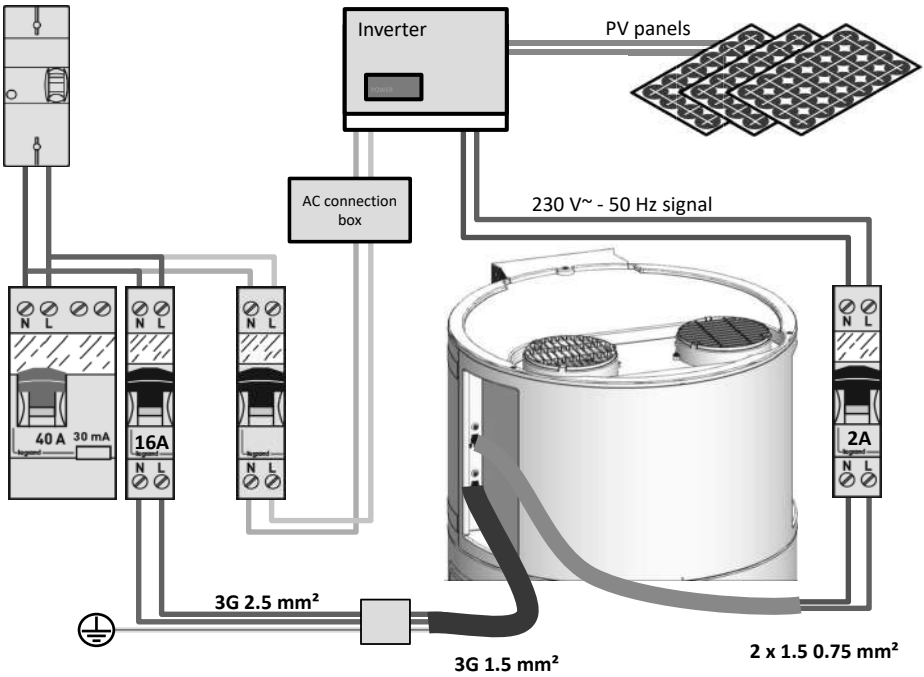
## 8.3. Connection to a PV station

For devices that will be connected to a PV system, the station must be connected to the water heater.
The signal from the PV station dedicated to the water heater must be configured (inverter, EMS system, etc.) for different trigger thresholds:
- Heat pump only: 450 W
- Heat pump and electric heating element: 1650 W

The PV station must be wired to terminal **I1** on the PCB.



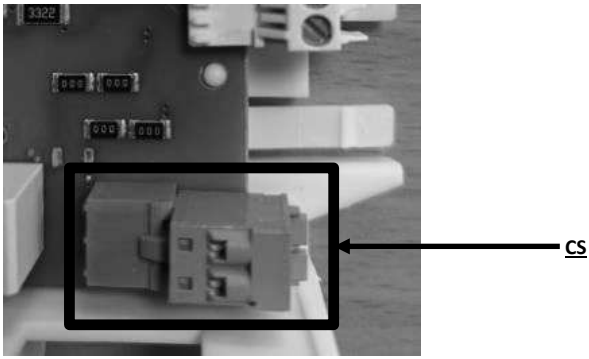

### Example of connection to a PV system:



## 8.4. Connection to a boiler.

For appliances fitted with an internal heat exchanger that will be coupled to a boiler, it is necessary to connect the boiler to the water heater. In this configuration, the water heater sends the heating command to the boiler.

The boiler must be wired to the **CS** terminal on the PCB. The signal must not exceed **1 A 230 V+/-10% 50 Hz.**

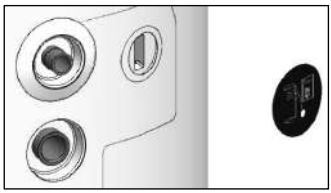



**The connection to the boiler is specific to each installation and should be the subject of a study.**

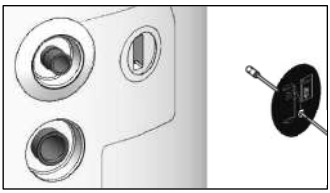
**If the water heater does not control the boiler as described above, it is possible to recover the domestic hot water sensor from the boiler and insert it in the slot provided on the water heater (see diagram below).**
**Caution: in this case, please refer to paragraph "10.3.1.2. Coil connection" to configure the function.**
**Simultaneous operation of the heat pump and heat exchanger may damage the product. It is therefore essential to use the heat pump in time slots when the boiler is not available (to do this, use the heat pump's time programming mode)**

**We do not recommend installation with an uncontrolled boiler, as this would reduce the performance and longevity of the product.**

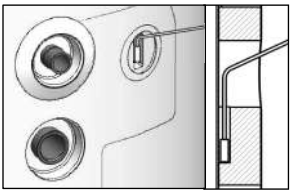
### Fitting the domestic hot water sensor



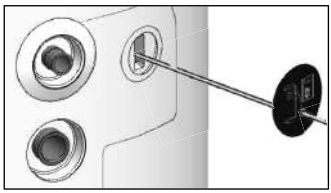
❶ Remove the magnet from the housing next to the internal heat exchanger branch connections...



❷ Pass the temperature sensor through the magnet (the magnet has been drilled for this purpose).



❸ Insert the sensor in the neck, ensuring that it is correctly positioned at the bottom of the housing.



❹ Replace the magnet on the product.

## 8.5. Summary table of optional equipment connections

| | I1 | I2 | MP |
|---|---|---|---|
| Off-Peak | ☑ | ⊘ | ⊘ |
| PV | ☑ | ⊘ | ⊘ |
| Smart Grid | ☑ | ☑ | ⊘ |
| Boiler | ⊘ | ⊘ | ☑ |

# 9. Electrical connection

Refer to the electrical connection diagram on the inside cover.

**The water heater must only be electrically connected once it is filled with water.**
**The water heater requires an uninterrupted power source.**

The water heater can only be connected to and operated via a single-phase 230 V AC. Connect the water heater using a rigid conductor cable with a 1.5 mm² cross-section. The installation must include:

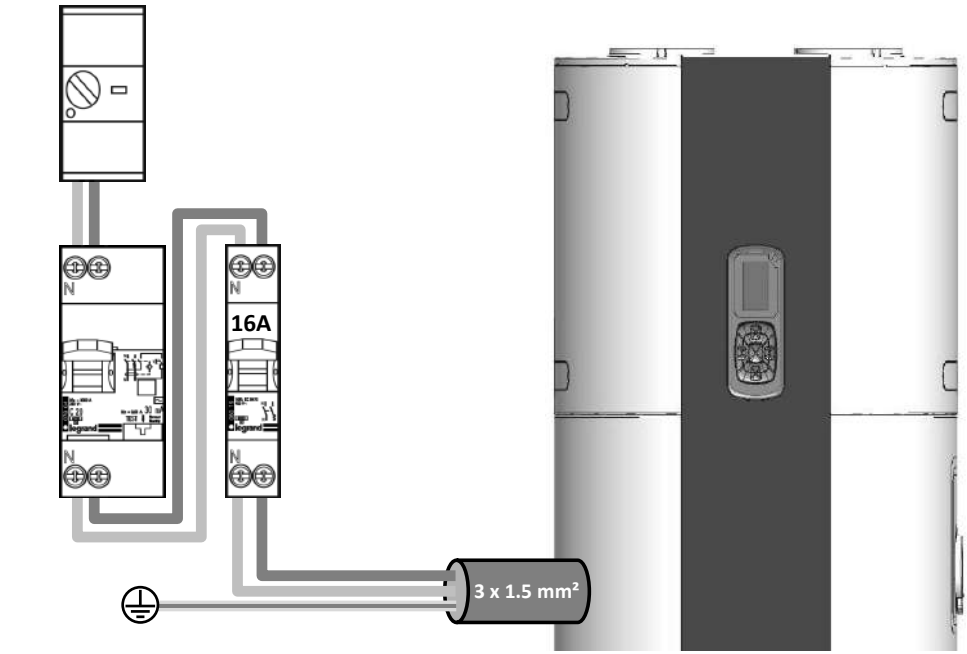
- An all-pole 16 A circuit breaker with a minimum opening gap of 3 mm,
- Protection by a 30 mA residual current device.

If the power cable is damaged, it must be replaced by the manufacturer, its customer service or a professional with similar qualification to prevent any hazards.

**Never provide direct power supply to the heating element.**

In no case should the safety thermostat on the electric heating element be repaired outside our factories. **Failure to comply with this clause will void the warranty.**
The appliance must be installed in accordance with the national rules regarding electrical installations.

## Electrical connection diagram




**Earthing is mandatory.**

# 10. System start-up

## 10.1. Filling the water heater

1. Open the hot water tap(s).
2. Open the cold water tap on the safety unit (ensure that the safety unit drain valve is closed).
3. Close the hot water valves after draining them. The water heater has been filled with water.
4. Check the sealing of the pipe socket connections.
5. Check the operation of the hydraulic components, by repeatedly opening the safety unit drain valve to eliminate any residue in the discharge valve.

## 10.2. Initial set-up

**If the water heater has been tilted, wait at least 1 hour before powering on.**


1. Power on the water heater.

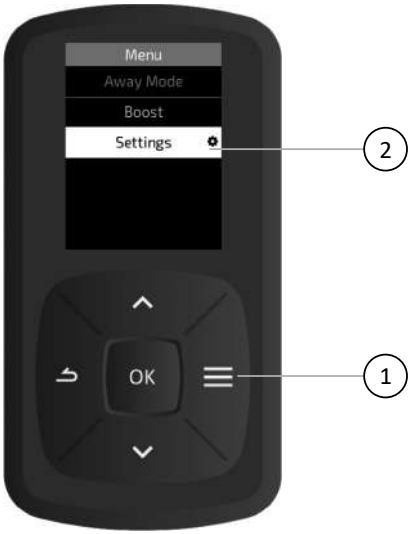
2. When you do so for the first time, the setting instructions will be displayed.
   Follow these instructions carefully to apply the settings
   - Language selection
   - Date and time setting
   - Installation type:
     -> Ventilation
     -> Coil connection
     -> Recirculation loop
   - External control
   - Heating times (Time programming)
   - Electric heating element
   - Setpoint management

To return to the settings at a later date, or for more information on commissioning, refer to the "Installation parameters" paragraph.
For the first heating, activate the BOOST to heat the water quickly.

## 10.3. Installation settings

(unless these have been made during the initial set-up)

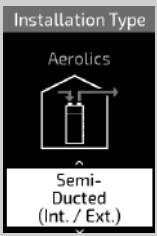
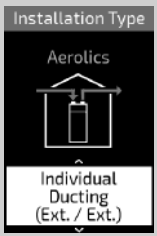
To access the various installation settings again:



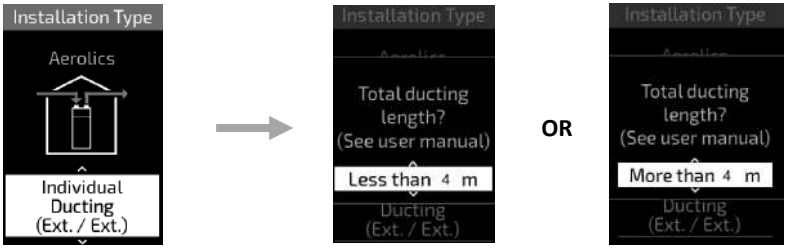

### 10.3.1. Installation type

#### 10.3.1.1. Ventilation

Configure the product according to its installation.

| Installation type | Ambient | Semi-ducted | Ducted |
|---|---|---|---|
| HMI visual |   |   |   |

**Ext./Ext. duct configuration**




**The choice of 'Less than 4 m' ducting must comply with the following conditions:**
**- the air intake and exhaust must be wall-mounted only**

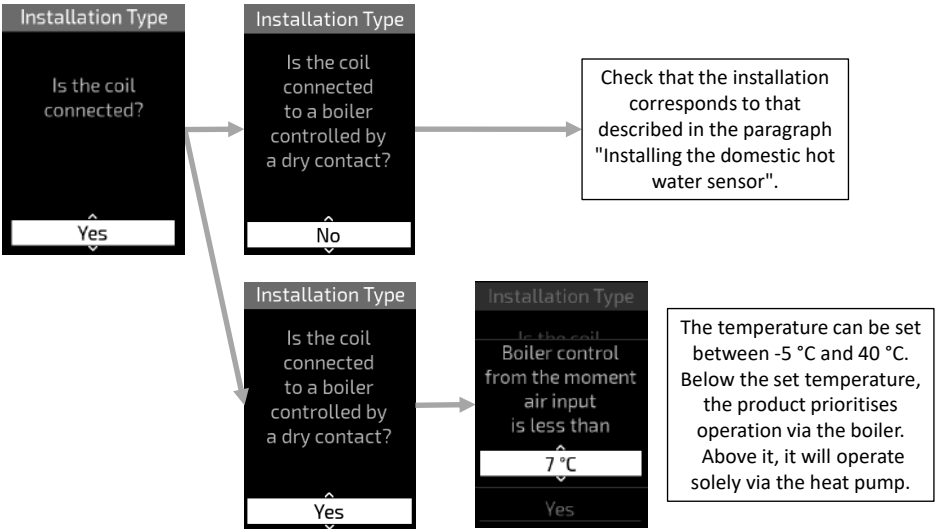

**- The total length of the sheathing must be <u>less than 4 m</u>**

**For any other type of installation, the choice must be for 'Over 4 m' sheathing.**

### 10.3.1.2. Coil connection

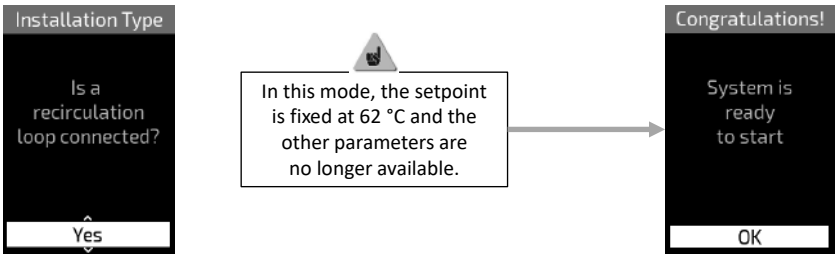
If the product coil is connected, set one of the following installation types:

**In this mode, only the manual setpoint is available.**




### 10.3.1.3. Recirculation loop

If the recirculation loop is connected, set up the product as described below:



### 10.3.2. External control

The water heater can be connected to an Off-Peak signal, a PV own consumption signal or a Smart Grid signal.

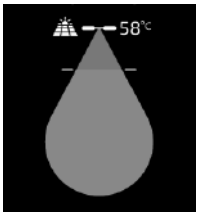
- Off-Peak signal:

In this mode, the electric heating element can only operate when the signal is present.
Depending on the user's selection, the heat pump is authorised to operate:
- As soon as necessary (to maximise comfort)
- From 10 am to 5 pm only (to maximise the efficiency of the heat pump)
- Only when the signal is present (to save as much as possible)

- Connecting to a PV station:

When combined with a PV system, the energy produced can be stored in the form of hot water.
The signal from the PV station dedicated to the water heater must be configured (inverter, EMS system, etc.) for different trigger thresholds:
- Heat pump only: 450 W
- Heat pump and electric heating element: 1650 W

When the signal is received, regardless of the time of day, the setpoint is automatically set at 62 °C (which can be modified in the Expert menu) and appears on the display.




Without a PV signal, the system is authorised to operate using one of the following settings:
- either daytime only (10 am to 6 pm)
- or daytime (10 am - 6 pm) and night-time (midnight - 4 am)

- Smart Grid signal:

The Smart Grid is an intelligent electrical network that can be used to optimise electricity distribution and consumption in real time. Our product is certified with the SG Ready label.

Without a Smart Grid signal, the system is authorised to operate on one of the following two settings:
- as required
- during programmed time slots only

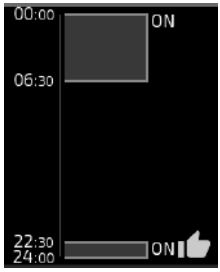
Depending on the Smart Grid signals received, the system is forced to start heating or is prohibited from heating, as described below:
- Receiving a signal on I1: the water heater operates up to a setpoint of 62 °C only with the heat pump.
- Receiving a signal on I2: heating is prohibited to smooth out consumption on the network.
- Receiving a signal on I1 and I2: the water heater operates up to a setpoint of 62 °C with the heat pump and the electric heating element.

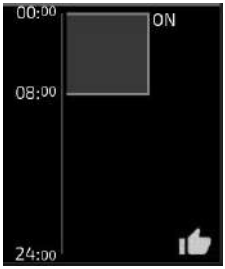
| Configuration | Time slot used | Terminals input I1 | Terminals input I2 | Time slot status | Heating possible | Setpoint |
|---|---|---|---|---|---|---|
| Smart Grid | Time slots programmed by the user | ON | ON | Within the programming range | YES | Max. (62 °C) |
| | | | | Outside the programming range | YES | |
| | | OFF | OFF | Within the programming range | YES | Customer setpoint |
| | | | | Outside the programming range | NO | |
| | | ON | OFF | Within the programming range | YES | Max. (62 °C) |
| | | | | Outside the programming range | YES | |
| | | OFF | ON | Within the programming range | NO | / |
| | | | | Outside the programming range | NO | |

### 10.3.3. Heating time slot (time programming)

This parameter defines the permissible time slots for starting the heat pump and the electric backup in accordance with the hot water requirements. It can be configured if there is no connection to the off-peak signal, or to the PV own consumption signal.

The configuration is made for each day of the week. A day must include between one and three time slots totalling at least 8 hours of heating. Settings are made in 15-minute increments.
Examples:




### 10.3.4. Electric backup

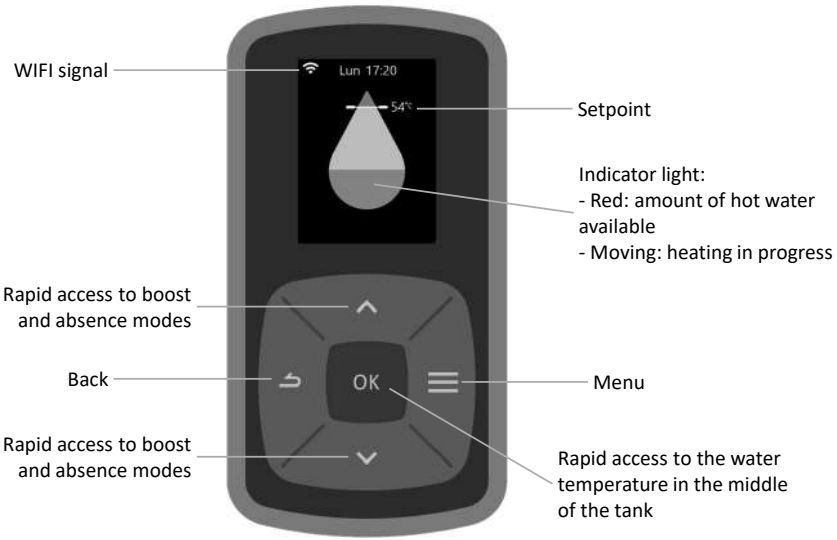
This menu is used to set the electric heating element authorisation time:
- as little as possible: only outside the heat pump's operating range or in the event of a heat pump fault
- to secure the quantity of hot water: in addition to the heat pump to guarantee a sufficient volume of hot water

### 10.3.5. Setpoint management

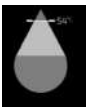
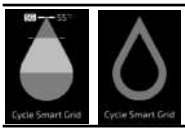
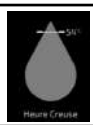
This function is used to select the mode:
- Eco+: the water heater autonomously programs consumption to adapt to the user's needs, and save energy while guaranteeing comfort. In this mode, the user has no control over the setpoint and it is not visible on the HMI. The water heater automatically adjusts the setpoint based on the usage.
- Manual: the user can set the water heating temperature to between 55 °C and 65 °C.

# Use

## 1. Control panel




## 2. Description of pictograms

| | | | |
|---|---|---|---|
|  | Amount of hot water |  | Absence recorded<br>Absence in progress |
|  | Boost in progress |  | Anti-Legionella cycle |
|  | Water temperature middle of the tank |  | PV |
|  | Smart Grid (2 displays) |  | Off-peak hours |
|  | Emergency mode |  | ECO+ |

# 3. Menu

## 3.1. Consumption

This menu allows you to view estimated consumption:
- the energy consumption in kWh for hot water production, for the current month, the previous month, the current year and the previous year since set-up
- the percentage of heat pump operation

If the date and times are not entered (e.g. due to a power outage), the energy consumptions will not be counted.

## 3.2. Absence

This menu can be used to set an absence:
- continuous from the current date
- up to a programmed date. On your return, the water in the tank will be hot.

During this absence period, the water temperature will be kept above 15 °C.
An anti-legionella cycle is run if you are absent for more than 2 days, starting 24 hours before your return.
The function can be stopped at any time by clicking the OK button.

## 3.3. Boost

This function temporarily increases hot water production:
- once, until the tank is full
- for several days (up to 7 days)

The heat pump and the electric heating element start up at the same time, at a setpoint of 62 °C.
Boost mode takes priority over the other modes. When the set period expires, the water heater will return to its previous mode.

## 3.4. Setpoint management

This function is used to select the mode:
- Eco+: the water heater autonomously programs consumption to adapt to the user's needs, and save energy while guaranteeing comfort. In this mode, the user has no control over the setpoint and it is not visible on the HMI. The water heater automatically adjusts the setpoint based on the usage.
- Manual: the user can choose the temperature at which the water is heated, between 50 °C and 62 °C (or 45 °C and 62 °C).

## 3.5. Parameters

### 3.5.1. Language

This menu is used to select the display language.

### 3.5.2. Date/Time

This menu is used to correct the time: if the power is cut for more than 5 minutes, it may be necessary to update the date and time.

### 3.5.3. Heating time slot (time programming)

This parameter defines the permissible time slots for starting the heat pump and the electric backup in accordance with the hot water requirements. It can be configured if there is no connection to the off-peak signal, or to the PV own consumption signal.

The configuration is made for each day of the week. A day must include between one and three time slots totalling at least 8 hours of heating. Settings are made in 15-minute increments.

### 3.5.4. Electric backup

This menu is used to set the electric heating element authorisation time:
- as little as possible: only outside the heat pump's operating range or in the event of a heat pump fault
- to secure the quantity of hot water: in addition to the heat pump to guarantee a sufficient volume of hot water

### 3.5.5. WIFI

This unit can be connected and controlled remotely using the Cozytouch app via WIFI (WIFI 2. 4G: 2400 MHz to 2483.5 MHz)

To connect your appliance to the internet, download the application from the App Store or the Play Store and follow the instructions.

During the process, you will need to scan the QR code on the appliance.

### 3.5.6. Manual

The QR code displayed on the screen can be used to access the online manual.

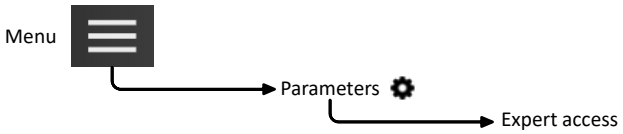
### 3.5.7. Expert access

This menu provides access to the advanced information, settings and test functions.
See the section on "Accessing the Expert menu and Emergency mode" in the User section.

**Caution! These settings are reserved for qualified personnel.**

## 4. Accessing the Expert menu and Emergency mode

To access the Expert menu:




## 4.1. Installation type

See installation section "10.3.1. Installation type".

## 4.2. Electric backup

This menu is used to set the electric heating element start time:
- when necessary: see the "Electric heating element" section in the User section
- never: Caution! There may be no hot water

## 4.3. Anti-Legionella

This menu is used to activate or deactivate the cycle, and to set its frequency and setpoint.
By default, the anti-legionella cycle is activated once every four weeks at a setpoint of 62 °C.

## 4.4. External control

See the "External control" section in the installation section.

## 4.5. Diagnostic

This menu can be used to access:
- The alarm log
- The system data
- Test mode

The Alarm log lists the last 10 errors reported by the product. These error codes are explained in the "Troubleshooting" section of the Maintenance section.
Clicking on each error provides a range of diagnostic information.

The system data provides access to sensor temperatures, actuator statuses, etc.

The test mode is used to check that the water heater is operating correctly.
- Heat pump test: start-up of the various heat pump actuators (fan, hot gas valve, compressor)
- Fan test: fan start-up at different setpoints
- Electrical heating element test: electric heating element start-up
- Defrosting test: start-up of the heat pump and then the hot gas valve
- Boiler test: boiler start-up in the case of a controlled installation (only product with exchanger)

Some tests are not available if the heating elements (heat pump, boiler and electric heating element) are faulty or unavailable.

## 4.6. Emergency mode

This mode is used in the event of a fault.
In this mode, the product operates only with the electric heating element at a setpoint of 62 °C.
Time programming is no longer available and only half the volume of water is heated.

## 4.7. Software

This menu is used:
- To display the software versions for the control panel, the control system and the WIFI.

## 4.8. Reset

This menu is used to return to the default settings and the starting tunnel.

# Servicing, Maintenance and Troubleshooting

## 1. User advice.

The water heater must be drained when the Absence mode cannot be used or when the appliance is powered off. Proceed as follows:

❶ Turn off the power supply.

❷ Close the cold water inlet.

❸ Open a hot water tap.

❹ Open the safety unit drain valve.

## 2. Maintenance.

In order to maintain the performance of your water heater, it is recommended to perform regular servicing.

By the USER:

| What | When | How |
|---|---|---|
| Safety unit | Once or twice a month | Operate the safety valve.<br>Check that the flow is correct. |
| General condition | Monthly | Check the general condition of your appliance: no error codes, no water leaks from the water connections, etc. |
| Condensate drainage | Once a year | Check the cleanliness of the condensate drain pipe. |
| Check the hydraulic sealing | Once a year | Check that there are no signs of seepage:<br>- hot / cold water connector<br>- electric heating element hatch seal |

**The appliance must be switched off before opening the covers/column.**

By the PROFESSIONAL:

| What | When | How |
|---|---|---|
| Ductwork | Once a year | Check that the water heater is connected to the ducts.<br>Check that the ducts are in place and not crushed.<br>Check that the ventilation system is not obstructed (ducts, wall or roof inlets and outlets). |
| Condensate drainage | Once a year | Check the cleanliness of the condensate drain pipe. |
| The electrical connection | Once a year | Check that no wires are loose on the internal and external wiring and that all the connectors are in position. |

| What | When | How |
|---|---|---|
| Electric heating element | Once a year | Check the correct operation of the electric heating element by measuring the power. |
| Scaling | Every 2 years | If the water supply to the water heater has scale, perform descaling. |

**Access to the expansion valve adjustment screw is prohibited, except to refrigeration engineers.**
**Any expansion valve adjustment without the approval of the manufacturer may void the product warranty.**
**It is recommended that the expansion valve is only adjusted once all the other repair solutions have been exhausted.**

By the REFRIGERATION PROFESSIONAL:

| What | When | How |
|---|---|---|
| Heat exchange with the heat pump | Every 2 years* | Check that the heat pump exchange is correct. |
| The heat pump components | Every 2 years* | Check that the 2-speed fan and the hot gas valve are operating correctly. |
| Evaporator | Every 2 years* | Clean the evaporator using a nylon brush and non-abrasive and non-corrosive products. |

** For dusty environments, increase the maintenance frequency.*

## 3. Troubleshooting.

In case of anomalies, no heating or vapour release when drawing water, turn off the power supply and notify your installer.

**Repair work must only be performed by a professional.**

### 3.1. Error code display.

| Code displayed | Causes | Consequences | Troubleshooting |
|---|---|---|---|
| Err W.3 | Faulty thermowell sensor (water T°) | Water temperature cannot be read: no heating | Check the connection (A1) and correct positioning of the sensor.<br>Check the ohmic value of the sensor (see table below).<br>If necessary, replace the sensor. |
| Err W.7 | No water in the tank or ACI line open | No heating | Fill the tank with water.<br>Check the ACI circuit (ACI connection, wiring and water conductivity, etc.). |

| Code displayed | Causes | Consequences | Troubleshooting |
|---|---|---|---|
| Err W.10 | No communication between the screen and the power board | Electric heating element heating in degraded mode up to 62 °C and no screen display update. | Check the connections and link cables between the screen and the power board. |
| Err W11 | No Off-Peak signal detection | The water heater operates without taking off-peak periods into account. | Check the wiring and transmission of the off-peak signal.<br>Change the start authorisation settings. |
| Err H.15 | Date/Time not set | The water heater disregards the programmed time slots. | Enter the date and time. |
| Err W.19 | The control detects that the product is connected as peak/off-peak | The tank is no longer protected against corrosion. | Check the electrical wiring to ensure that the power supply is permanent. |
| Err P.21 | Air temperature sensor faulty | Heat pump stops.<br>Heating via electric backup. | Check the connection (A4) and correct positioning of the sensor.<br>Check the ohmic value of the sensor (see table below).<br>If necessary, replace the sensor. |
| Err P.22 | Evaporator sensors faulty | Heat pump stops.<br>Heating via electric backup. | Check the connection (A4 and A2) and correct positioning of the sensor.<br>Check the ohmic value of the sensor (see table below).<br>If necessary, replace the sensors. |
| Err P.25 | HP pressure switch or Klixon compressor open or capacitor faulty | Heat pump stops.<br>Heating via electric heating element. | Check the connections to the compressor (R1), the start-up capacitor pressure switch and the hot gas valve (T2).<br>Check the compressor winding resistors. |
| Err P.27 | Discharge sensor faulty | Heat pump stops.<br>Heating via electric heating element. | Check the connection (A4) and correct positioning of the sensor.<br>Check the ohmic value of the sensor (see table below).<br>If necessary, replace the sensor. |
| Err P.29 | Return flow temperature fault | Heat pump stops.<br>Heating via electric heating element. | Seek professional assistance. |

| Code displayed | Cause | Consequence | Troubleshooting |
|---|---|---|---|
| Err. P.30.1 | Inefficient heating | Heat pump stops. Heating via electric heating element. | Check that the fan and compressor are operating correctly in "test" mode in the "Expert" menu. |
| Err P.30.2 | Lack of fluid | Heat pump stops. Heating via electric heating element. | Check that the fan and compressor are operating correctly in "test" mode in the "Expert" menu. |
| Err P.30.3 | Lack of fluid or defective heat pump components or lack of ventilation | Heat pump stops. Heating via electric heating element. | Check the operation of the ventilation and its connections (CS (France) or T1 (export) mark + M1 and M2). Check that the evaporator is clean. |

In the case of code P.40, the heat pump is not faulty but is outside its operating temperature range (air and/or water).

Table of temperature/resistance values for the product's air, evaporator and thermowell sensors (NTC 10 kΩ).

| Temperature in °C | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -20 | -15 | -10 | -5 | 0 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 |
| 97.9 | 73.6 | 55.8 | 42.7 | 32.9 | 25.5 | 20 | 15.8 | 12.5 | 10 | 8 | 6.5 | 5.3 | 4.4 | 3.6 | 3 | 2.5 | 2.1 | 1.8 | 1.5 | 1.3 |
| Resistance in kΩ | | | | | | | | | | | | | | | | | | | | |

Table of temperature/resistance values for the compressor discharge sensor (NTC 100 kΩ).

| Temperature in °C | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 10 | 20 | 25 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 |
| 347 | 207 | 126 | 100 | 80 | 52 | 34 | 23 | 16 | 11 | 8.1 | 6 | 4.4 | 3.3 | 2.5 |
| Resistance in kΩ | | | | | | | | | | | | | | |

## 3.2. Other faults without error codes displayed.

| Failure observed | Possible cause | Diagnostics and troubleshooting |
|---|---|---|
| No display | The screen is out of order.<br><br>The screen is not powered. | Check that the product is receiving the power supply.<br>Check for a voltage of 12 V DC between the red and black wires on the screen connector. |

| Failure observed | Possible cause | Diagnostics and troubleshooting |
|---|---|---|
| No hot water. | The power supply to the water heater is not continuous. | Ensure the appliance has a continuous power supply.<br>Check that no cold water is flowing back into the hot water circuit (possible faulty mixing valve). |
| | Setpoint temperature too low. | Set the setpoint temperature higher. |
| | Electric heating element in "never" mode. | Toggles the mode to "when necessary". |
| | Heating element or its wiring partially out of order. | Check the resistance on the wiring harness connector and that the wiring harness is in good condition.<br>Check the safety thermostat. |
| | Hot water distribution leak. | Locate and repair the leak. |
| | Hot water loop. | Resize the loop function (installation section). |
| Heating stops.<br>No hot water. | No power supply to the water heater: fuse, wiring, etc. | Check that there is no voltage on the supply wires.<br>Check the installation parameters (see operating ranges). |
| Insufficient hot water at max. setpoint (62 °C). | Water heater is under-sized. | Check the length of the programming time slots. |
| | Heat pump operating limit coupled with complete inhibition of the electric heating element. | Check that the electric heating element is not completely disabled in "Expert" mode or that it is out of order. |
| Low flow to the hot water tap. | Scaling of the water heater. | Descale the water heater. |
| | Water circuit clogged. | Seek professional assistance. |

| Failure observed | Possible cause | Diagnostics and troubleshooting |
|---|---|---|
| Continuous water loss from the safety unit outside heating periods. | Safety unit damaged or clogged.<br><br>Network pressure too high. | Replace the safety unit.<br><br>Check that the pressure at the water meter outlet does not exceed 0.5 MPa (5 bar), otherwise install a pressure reducer set to 0.3 MPa (3 bar) at the main water distribution system outlet. |
| The electric backup is not working. | Mechanical thermostat in safety mode.<br><br>Electric thermostat faulty.<br><br>Resistor faulty. | Reset the thermostat safety device on the resistor.<br><br>Replace the thermostat.<br><br>Replace the resistor. |
| Condensate overflow. | Condensate drain blocked.<br><br>Incorrect installation of the condensate drain pipe. | Check the heat pump compartment for dirt.<br>If it is dirty, clean the compartment and the condensate drainage system.<br><br>Check that the installation is correct (see the "Condensate drainage" section in the installation section). |
| Odour. | No siphon on the safety unit or the condensate drain.<br><br>No water in the safety unit siphon. | Install a siphon.<br><br>Fill the siphon. |

# Warranty

## 1. Scope of the warranty.

This warranty excludes malfunctions due to:

- **Abnormal environmental conditions:**
  - Various damages caused by shocks or falls during handling after leaving the factory.
  - Installing the appliance in a location subject to freezing or bad weather (moist, harsh environment or poorly ventilated).
  - Using water with hardness criteria as defined in DTU Plumbing 60-1 addendum 4 hot water (chlorides, sulphates, calcium, resistivity and TAC).
  - Water with a Th <8 °f / < 4,5°dH.
  - Water pressure above 0.5 MPa (5 bar).
  - Power supply with significant surges (*main supply, lightning etc.*).
  - Damage resulting from problems that could not be detected due to the installation location selected (*difficult access*), and which could have been avoided by immediate repair of the appliance.

- **An installation that is not in compliance with regulations, standards and best practices, including:**
  - Safety unit removed or not functioning (*pressure reducer, check valve or other valve, or recirculation loop, etc. placed upstream of the safety unit*).
  - No safety unit or incorrect installation of a new safety unit in compliance with standard NF EN 1487, change of its calibration, etc.
  - No sleeves (*cast iron, steel or insulating*) on hot water connection pipes which could lead to corrosion.
  - Faulty electrical connection: not compliant with NFC 15-100, improper earthing, insufficient cable length, connection with flexible cables without metal ends, failure to comply with the wiring diagrams as recommended by the manufacturer.
  - Turning on the power to the appliance before filling it (dry heating).
  - Start-up of the coil via the boiler without switching on the appliance (dry heating).
  - Positioning the appliance not in compliance with the instructions in the user guide.
  - External corrosion due to poor water tightness of the piping.
  - Installation of a domestic hot water recirculation system.
  - Incorrect configuration in the case of a ducted installation.
  - Ducting configuration does not meet our recommendations.

- **Improper maintenance:**
  - Abnormal scaling of heating components or safety units.
  - No maintenance of the safety unit resulting in overpressure.
  - No cleaning of the evaporator and condensate drain.
  - Alteration of the original equipment, without contacting the manufacturer or using spare parts not referenced by the manufacturer.

**An appliance with suspected damage must remain in-situ for expert assessment. The policy holder must inform their insurer.**

## 2. Warranty terms.

The water heater shall be installed by a qualified person in compliance with good engineering practices, applicable standards and the recommendations of our technical services.

It must be used under normal conditions, and regularly maintained by a specialist.
In these conditions, our warranty shall apply by exchanging or providing free-of-charge to our Distributor or Installer the parts recognised as defective by our services, or if applicable, the appliance, excluding labour and transportation costs, as well as any compensation and warranty extension.

Our warranty will begin from the installation date (*as per the installation invoice*). If no documentation is available, the warranty start date will be six months from the manufacturing date listed on the water heater's nameplate.

The warranty for the replacement part or water heater (*under warranty*) shall end at the same time as the warranty for the part or the water heater that was replaced.

NOTE: Any costs or damages due to faulty installation (*e.g. frost, safety unit not connected to wastewater drain, no drain pan*) or access difficulties shall under no circumstances be attributable to the manufacturer.

The terms of these conditions of warranty do not exclude the purchaser from enjoying the advantages of the legal warranty for hidden faults and defects which apply in any case.

Spare parts essential for the use of our products are supplied for 10 years from their date of manufacture.

**The failure of a component under no circumstances justifies replacement of the appliance.**
**In this case, replace the defective part.**

**WARRANTY**:
For information on warranty terms and deadlines, please refer to the general terms and conditions of the supplier

**END OF LIFE:**

- Before dismantling, turn off the power to the appliance and drain it.
- The combustion of some components may release toxic gases, do not incinerate the unit.
- At the end of life, the appliance must be taken to an electrical and electronic equipment recycling centre equipped for fluid recycling. For more information on existing waste collection centres, contact the local collection service.

The GWP (*Global Warming Potential*) of R290 is 0.02.

## 3. Declaration of conformity.

These appliances comply with directives 2014/30/EU relating to electromagnetic compatibility, 2014/35/EU relating to low voltage, 2015/863/EU and 2017/2102/EU relating to ROHS and 2013/814/EU which completes directive 2009/125/EC relating to ecodesign.

CICE (Fontaine site) and ATLANTIC (La Roche-sur-Yon site) hereby declare that the equipment referenced below complies with the essential requirements of the RED Directive 2014/53/EU.
The full EU declaration of conformity for this equipment is also available on request, from our after-sales service (see the back of this manual for details and address).
**Description**: Stable thermodynamic water heater (V5)
**Models**: see model references in the manual header

**Specifications:**
**Type :** EMETTEUR-RECEPTEUR RADIO BLE ET WIFI 2400 A 2483,5 MHz
**Maximum power of BLE antenna :** 10 dBm
**Max WIFI antenna power :** 20 dBm
**Radio frequency bands used by the Transmitter-Receiver:**
Wi-Fi 2.4G: 2400 MHz to 2483.5 MHz
**Maximum radio-frequency output**: <20 dBm
**Class 2 radio equipment:** can be marketed and commissioned without restriction
**Radio range:** from 100 to 300 metres in free field, variable according to the linked equipment (the range may be affected by the installation conditions and the electromagnetic environment)
**Software version:** HMI: U07482690
**Compliance with the Radio and Electromagnetic Compatibility standards has been checked by the following notified body:**
LCIE Pulversheim site – Accreditation 1-6189

The full EU declaration of conformity is available via the link below:

https://www.eu-declaration-of-conformity.com/permalink/variant_documents_9fa5e3ff-2dde-4c52-abec-3c18f81c1e26/rWQw8jI1rqKX4xMnhKKvgnA4RhDold0m