

3. Déclaration de conformité.

DECLARATION DE CONFORMITE DIRECTIVE RED 2014/53/UE (*)

Par la présente SATE déclare que l'équipement référencé ci-dessous est conforme aux exigences essentielles de la directive RED 2014/53/UE.

La déclaration de conformité UE complète de cet équipement est aussi disponible sur demande, auprès de notre service après-vente (voir adresse et coordonnées en fin de notice).

Désignation : Chauffe-eau thermodynamique V4E

Modèles : voir références du modèle en entête de notice

Caractéristiques :

Bandes de fréquence radio utilisées par l'Emetteur-Récepteur :

868.000MHz – 868.600MHz, 868.700MHz – 869.200MHz, 869.700MHz – 870.000MHz

Puissance de radiofréquence maximale : <25mW

Equipement Hertzien de Classe 2 : peut être mis sur le marché et mis en service sans restriction

Portée radio : de 100 à 300 mètres en champ libre, variable selon les équipements associés (portée pouvant être altérée en fonction des conditions d'installation et de l'environnement électromagnétique).

La conformité aux normes Radio et Compatibilité électromagnétique a été vérifiée par l'organisme notifié :

[Emitech] 0536 – Emitech, Juigné Sur Loire, France

Keep the manual, even after the product has been installed.

EN

WARNINGS

This product is not intended for use by persons (including children) whose physical, sensory or mental capacities are reduced, or persons without experience or knowledge, unless they have been given instructions & monitored previously when using the appliance by a person responsible for their safety.

Children must be supervised to ensure 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.

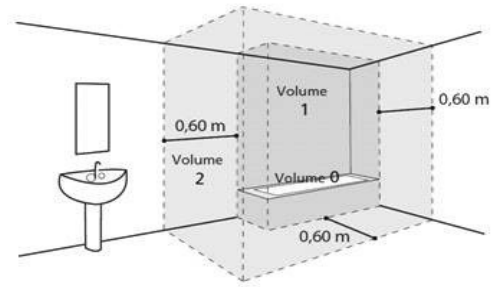
INSTALLATION

CAUTION: This product is heavy, handle with care:

- 1/ Install the appliance in a frost-free room. The destruction of the appliance by overpressure due to the blocking of the safety device inactivates the warranty.
- 2/ Ensure that the bulkhead is capable of supporting the weight of the water filled appliance.
- 3/ If the appliance is to be installed in a room or location where the ambient temperature is permanently above 35°C, provide ventilation in the room.

WARNINGS

4/ Do not use volumes V0, V1 or V2 if installing this product in a bathroom. Volume V2 can, however, be used if the dimensions cannot accommodate another size.



5/ Place the appliance in an accessible location.

6/ Refer to the installation illustrations in the “Installation” section.

This product is designed to be used at a maximum altitude of 2000m.

This water heater is fitted with a thermostat with an operating temperature of more than 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 burns. Check the water temperature before taking a bath or shower.

HYDRAULIC CONNECTION

You must install a frost-free safety device (or any other pressure relief device), which is new, with 3/4" (20/27) dimensions and 0.7 MPa (7 bar) pressure on the inlet of the water heater, which complies with local standards.

The dimensions of the space required for the correct installation of the appliance are specified in the figure on page 9.

A pressure reducer (not supplied) is required when the supply pressure is greater than 0.5 MPa (5 bar) - which must be attached to the main supply.

Connect the safety device to a drain hose, kept uncovered, in a frost-free environment, with a continuous downward slope for the release of excess water from the heater or if you are emptying the water heater.


WARNINGS

The operating pressure of the heat exchanger circuit must not exceed 0.3 MPa (3 bar) and its temperature must not exceed 100°C.

EN

ELECTRICAL CONNECTION

Before taking off the cover, make sure that the power is turned off to prevent injury or electric shock.

The electrical installation must include an omnipolar cut-off device (circuit-breaker, fuse) upstream of the appliance, complying with local installation rules in force (30mA differential circuit breaker). Grounding is mandatory. A special terminal bearing a marker  is provided for this purpose.

In France, it is strictly forbidden to connect a product equipped with a cable to a socket.

SERVICING - MAINTENANCE - TROUBLESHOOTING

Draining: Turn off the power supply and cold water, open the hot water taps and then operate the drain valve of the safety device. The pressure relief valve must be operated regularly to remove scale deposits and to ensure that it is not blocked.

If the power cable is damaged, it must be replaced by the manufacturer, their after sales service or a similarly qualified person, in order to avoid any danger. These instructions are also available from the customer service (contact details mentioned on the appliance).

Maintenance by a qualified person:

- a. Remove the scale sludge. Do not scrape or chip at lime scale deposited on the casing because this may damage the lining.
- b. Change the magnesium anode every 2 years or when its diameter is less than 10 mm. Changing the shielded heating element or the anode requires the water to be drained and the seal changed.

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Product overview

1. Important recommendations

1.1. Safety instructions

Installation and service work on thermodynamic water heaters can be hazardous due to high pressures and live parts.

Thermodynamic water heaters must be installed, commissioned and maintained by trained and qualified personnel only.

1.2. Transport and storage



One side of the product can be tilted at 90°. This side is clearly indicated on the product packaging. Tilting the product onto the other sides is prohibited. We recommend that you pay particular attention to these instructions. We shall not be liable for any defect of the product resulting from transport or handling of the product contrary to our recommendations.

2. Content of the packaging



1 Instructions



1 Bag each containing a dielectric connection with 2 seals to be installed on the hot water connection



1 Condensate drain pipe (2m)



1 ground hook with screws



1 valve to be installed on the cold water connection (not to be used in France and Belgium)



1 seal + 1 3/4" brass cap (only for PAW-DHW270C1F)

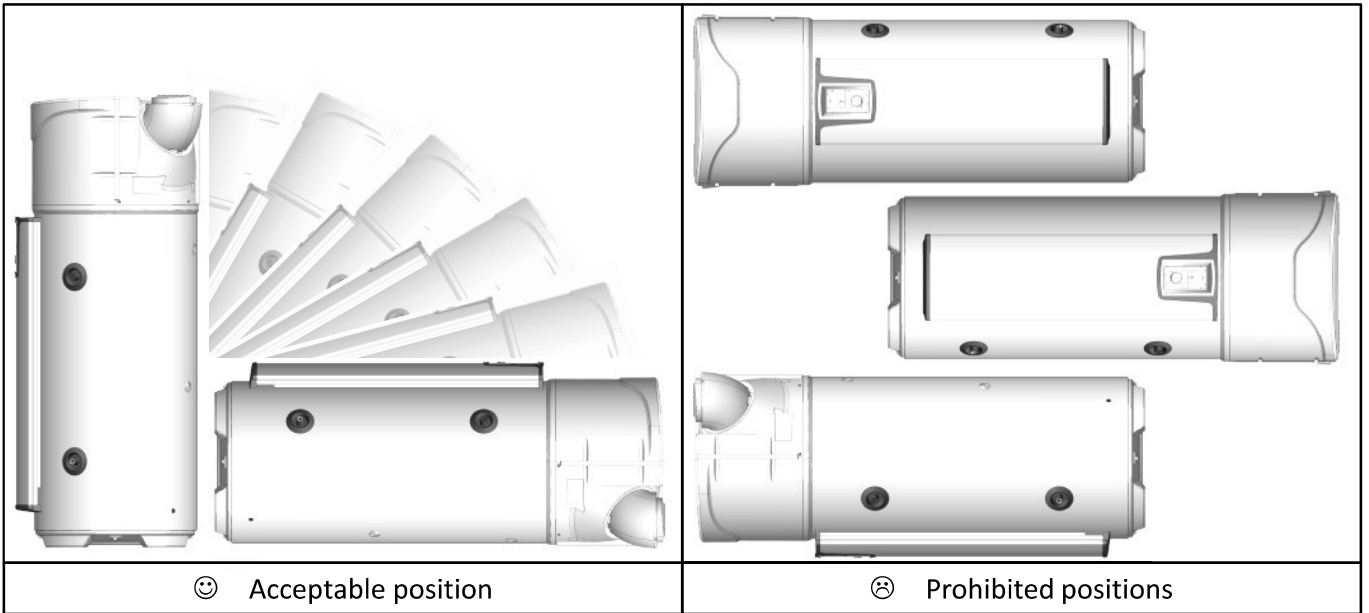


Adjustable feet

3. Handling

The product incorporates several handles making it easier to move to the location where it will be installed.

To transport the water heater to the installation location use the lower and upper handles.



Follow the transport and handling recommendations on the water heater's packaging.

4. Operating principle

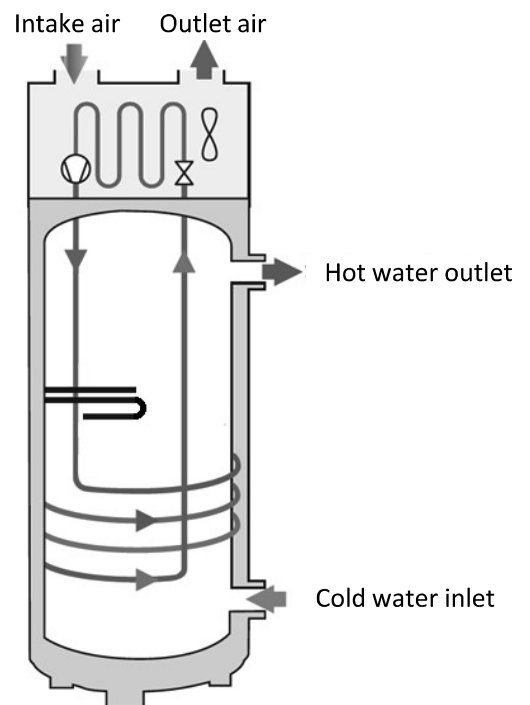
The thermodynamic water heater uses exterior air for heating the domestic supply water.

The refrigerant contained in the heat pump carries out a thermodynamic cycle allowing it to transfer the energy contained in the outside air to the water of the tank.

The fan sends a stream of air into the evaporator. As it passes through the evaporator, the refrigerant evaporates.

The compressor compresses the vapours of the fluid which raises its temperature. This heat is transmitted by the condenser wrapped around the tank and warms the water tank.

The fluid then flows into the thermostatic expansion valve, it cools and returns to its liquid form. It is then ready to receive heat again in the evaporator.



5. Technical characteristics

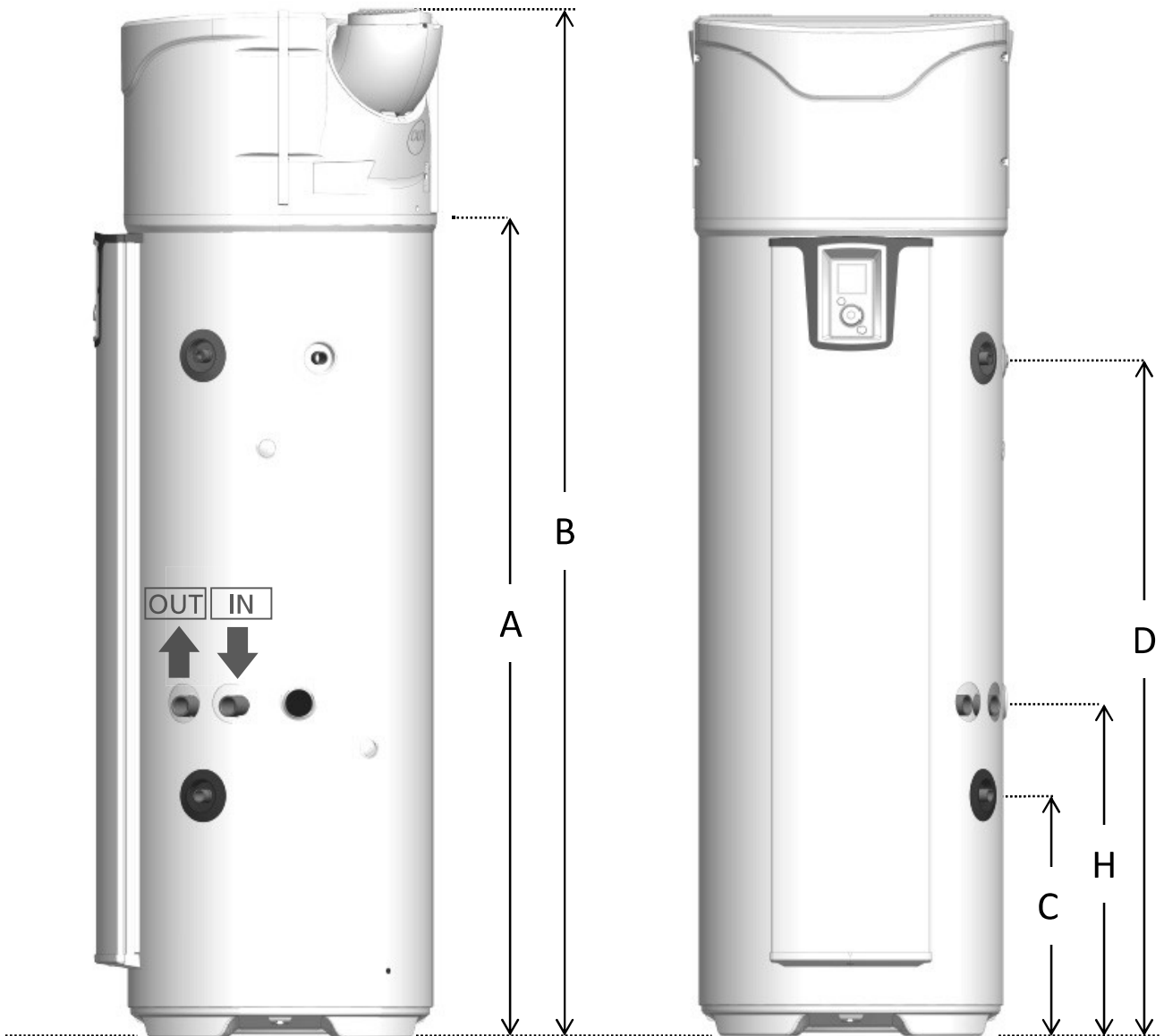
Model		200L	270L	270L C
Dimensions (Height x Width x Depth)	mm	1617 x 620 x 665		1957 x 620 x 665
Weight empty	kg	80	92	111
Tank capacity	L	200	270	263
Hot water/cold water connection	-	¾" M		
Connection of the recirculation system	-	-	¾" M	
Exchanger connection	-	-	1" M	
Exchanger coil surface	m ²	-	1.2	
Exchanger power at 60°C T _{Primary} and 1.5m ³ /h flow	kW	-	16	
Anti-corrosion protection	-	Magnesium		
Rated water pressure	MPa (bar)	0.8 (8)		
Electrical connection (voltage/frequency)	-	230V~ single phase 50 Hz		
Total maximum power absorbed by the appliance	W	2300		
Maximum power absorbed by the heat pump	W	700		
Power absorbed by the electrical backup	W	1600		
Setting range of the water temperature set point	°C	50 to 62		
Operating temperature range of the heat pump	°C	-5 to +43		
Duct diameter	mm	160		
Air flow (without duct) in speed 1	m ³ /h	310		
Air flow (without duct) in speed 2	m ³ /h	390		
Permissible load losses on the air flow	Pa	25		
Sound power*	dB(A)	53		
Refrigerant R513A	kg	0.80	0.86	
Refrigerant volume in equivalent tonnes	T.eq.CO2	0.50	0.54	
Refrigerant mass	kg/L	0.0040	0.0032	
Certified performance at 15°C air (ambient)	-	3,05	3,61	3,44
Certified performance at 20°C air (ambient)	-	3,24	3,77	3,79
Certified performance at 7°C air (CDC LCIE 103-15/C) & ducting at 30 Pa**				
Coefficient of performance (COP)	-	2,81	3,16	3,05
Extraction profile	-	L	XL	XL
Absorbed power in steady state (P _{es})	W	32	29	33
Heating time (t _h)	h.min	07:11	10:39	11:04
Reference temperature (T _{ref})	°C	52,7	53,1	52,9
Air flow rate	m ³ /h	320	320	320

* Tested in a semi-anechoic chamber in accordance with the NF 9614-2 standard.

** Performance measured for a water heater from 10°C to T_{ref} according to the protocol of the NF Electricity Performance Mark specifications No.LCIE 103-15C, self-heating thermodynamic water heaters (based on standard EN 16147).

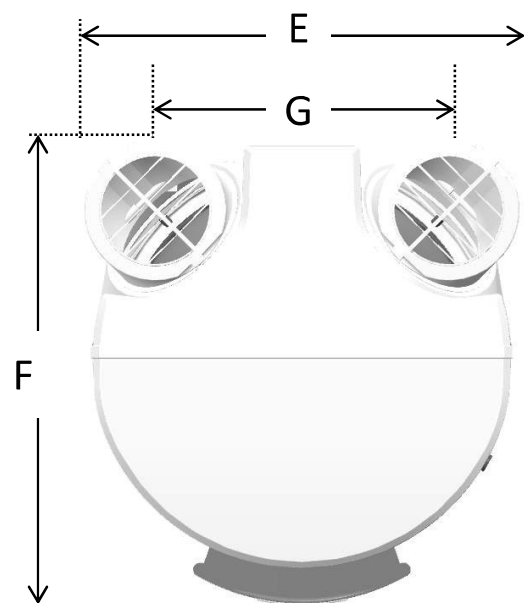
These appliances comply with the 2014/30/EU Electromagnetic Compatibility Directive, the 2014/35/EU Low Voltage Directive, the 2011/65/EU RoHS 2 Directive and the 2013/814/EU Regulation supplementing Directive 2009/125/EC for Ecodesign.

6. Dimensions/structure

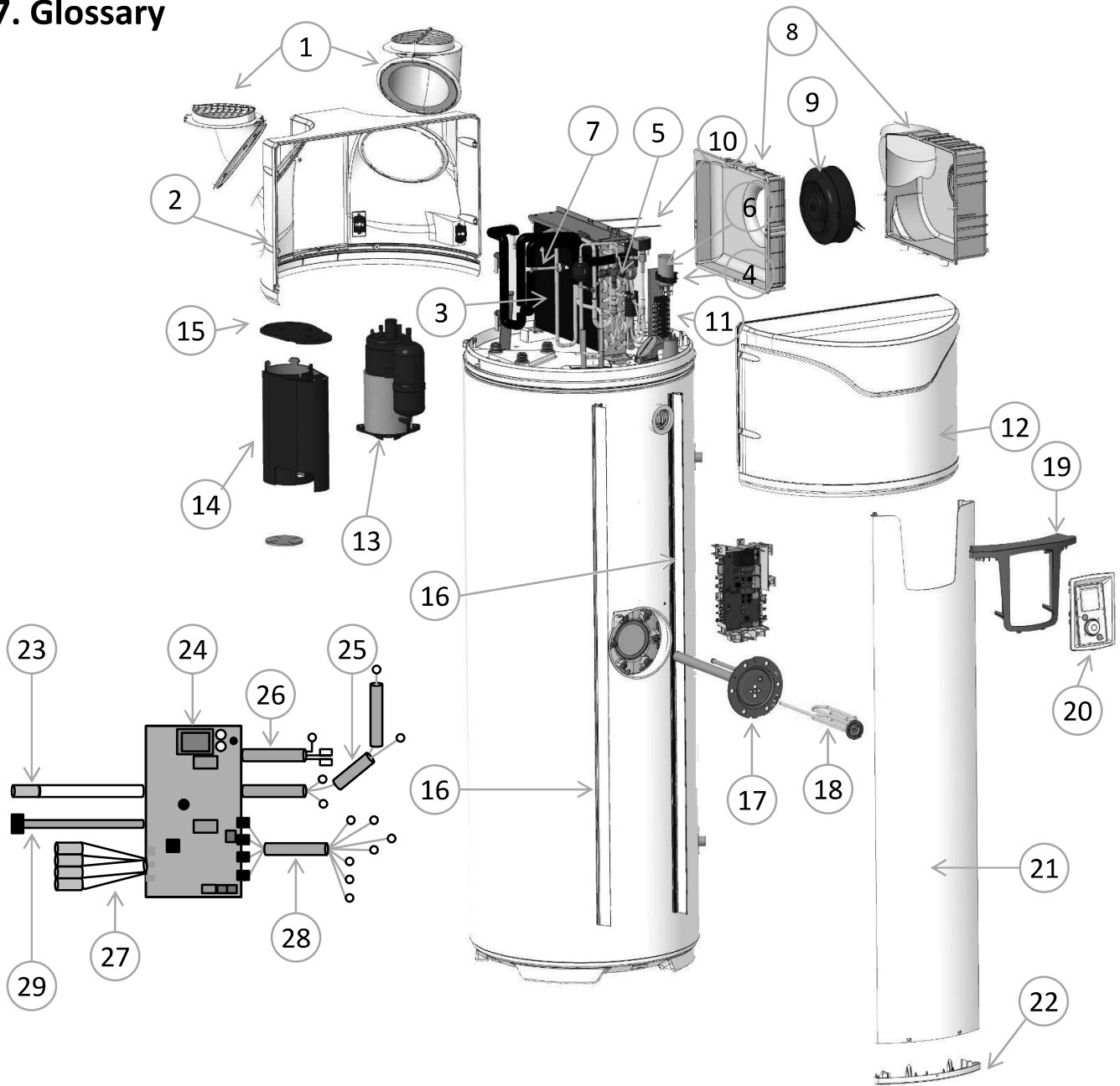


Ref	MODEL	200	270	270 COIL
A	Condensate outlet	1166	1525	1525
B	Total height	1617	1957	1957
C	Cold water inlet	304	304	462
D	Hot water outlet	961	1300	1300
E	Total width	620	620	620
F	Total depth	665	665	665
G	Inlet dimensions	418	418	418
H	Exchanger inlet	-	-	640

Dimensions in mm



7. Glossary



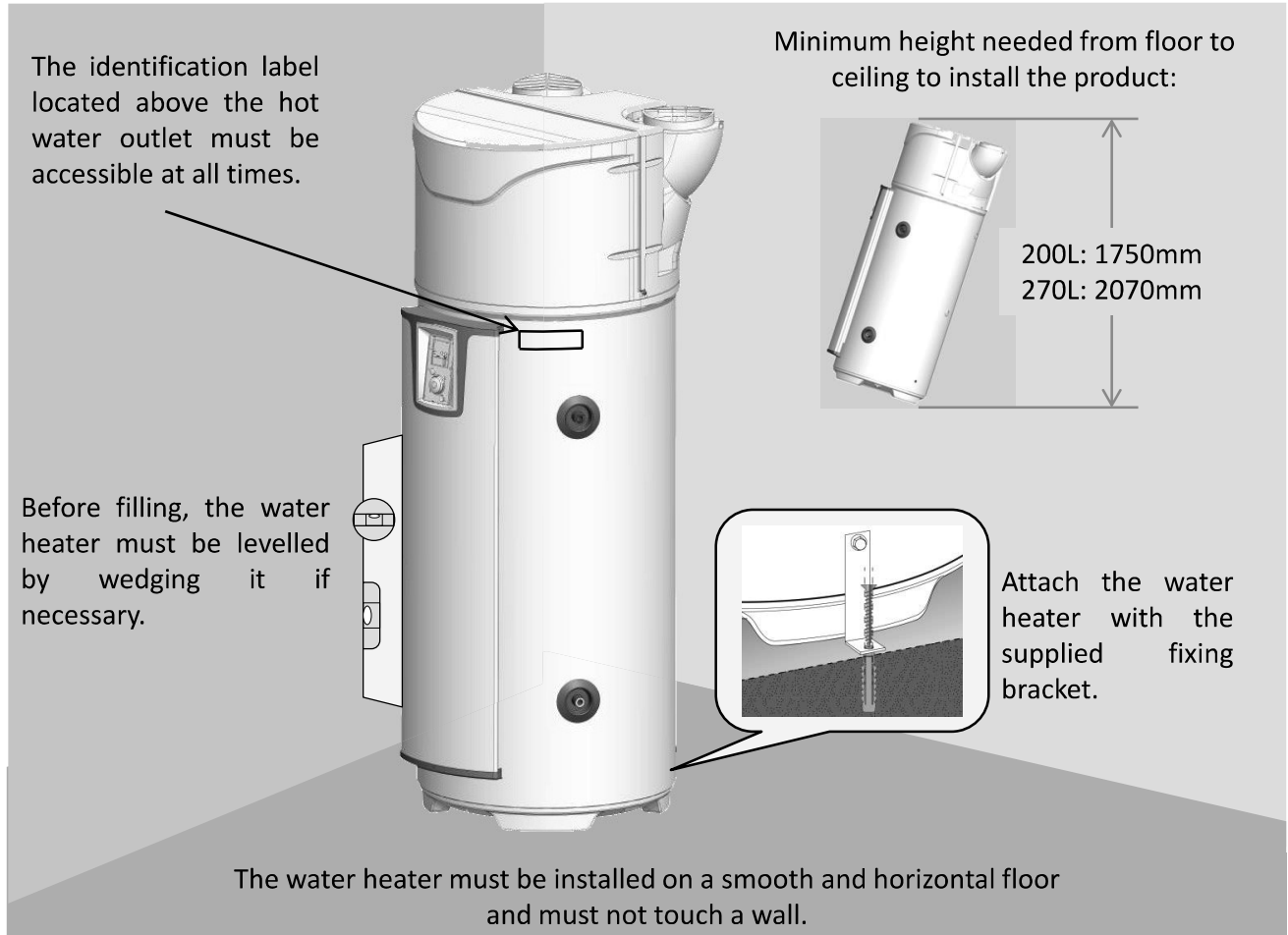
1	Directional inlet	11	Terminal assembly	21	Front column
2	Rear cover	12	Front cover	22	Lower column cap
3	Filtered	13	Compressor	23	Wiring 1 water tank probe
4	Capacitor 15 μ F	14	Compressor jacket	24	Regulation board
5	Expansion valve	15	Jacket cover	25	Compressor wiring
6	Hot gases valve assembly	16	Column rail mounting	26	Electrical back-up wiring
7	Pressure switch	17	Heating element + Mg	27	Wiring 4 Heat pump probes
8	Fan housing	18	Heating element	28	Fan-terminal wiring
9	Fan	19	Control panel	29	Interface wiring
10	Elastic fan housing	20	Control assembly		

Installation

1. Positioning the product



You must install a retention tank under the water heater if it is positioned in an attic or above inhabited premises.



The water heater must (*in compliance with Article 20 of Standard EN 60335-1*) be fixed to the ground using the fixing bracket provided for this purpose.

Regardless of the installation configuration chosen, the installation location must comply with the IP XIB protection rating, in accordance with the requirements of NFC 15-100.

The floor must support a load of at least 400 kg (surface under the water heater).



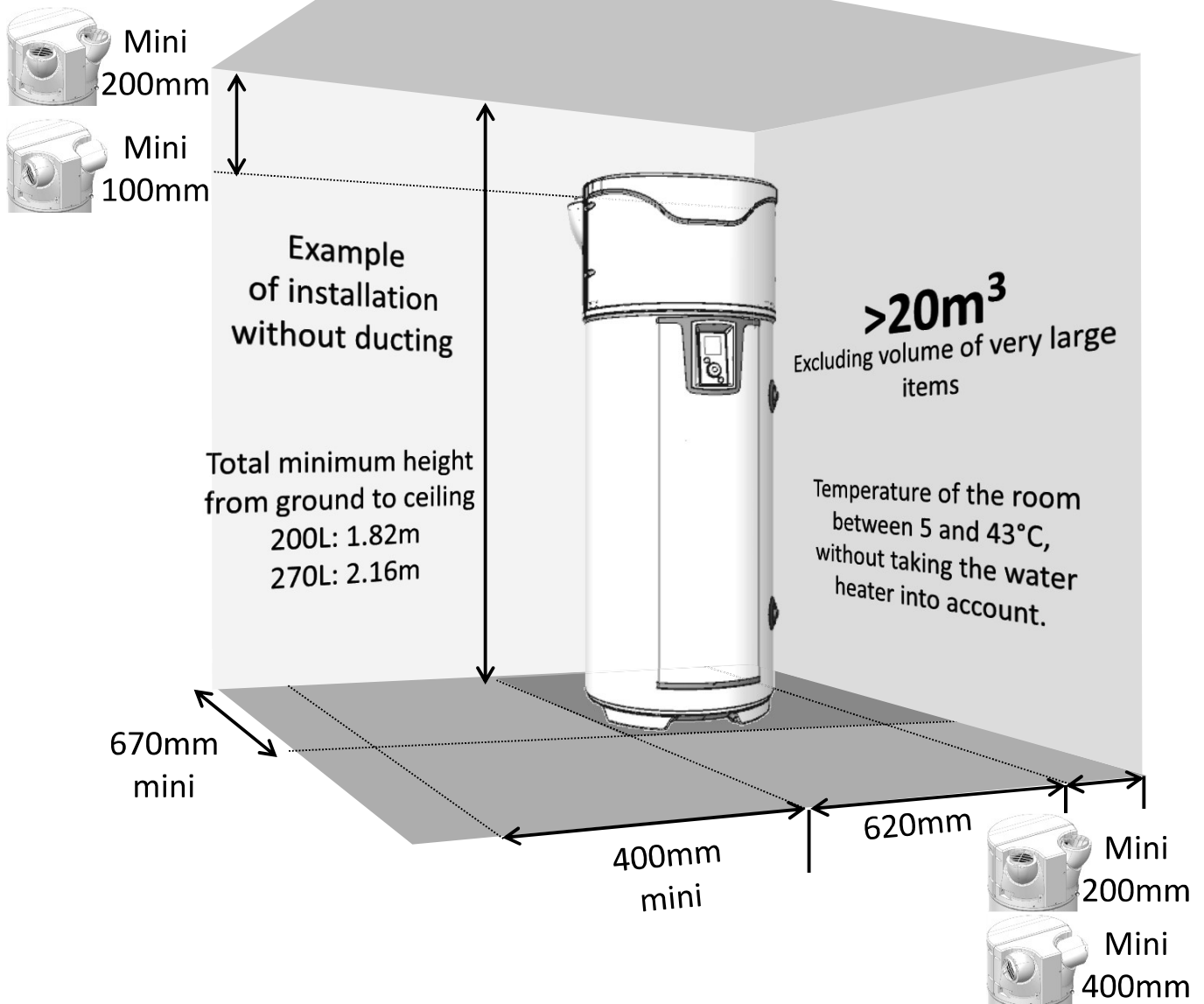
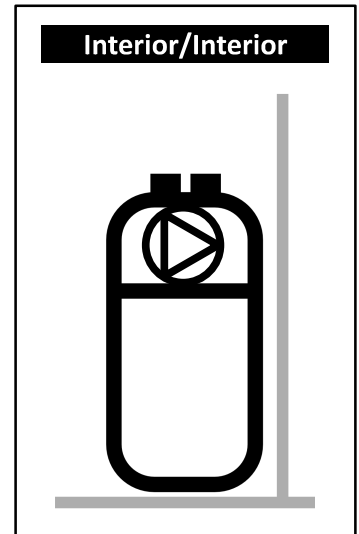
Failure to follow the installation recommendations can lead to under-performance of the system.

2. Installation in a non-ducted configuration.

- ✓ Unheated location at temperatures above 5°C and isolated from the heated rooms of the house.
- ✓ "Ducting" setting to be set to "Interior/Interior"
- ✓ Recommended location = underground or semi-underground, room where the temperature is higher than 10°C all year round.

Examples of locations:

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



Ensure these minimum spaces indicated to avoid recirculating the air.



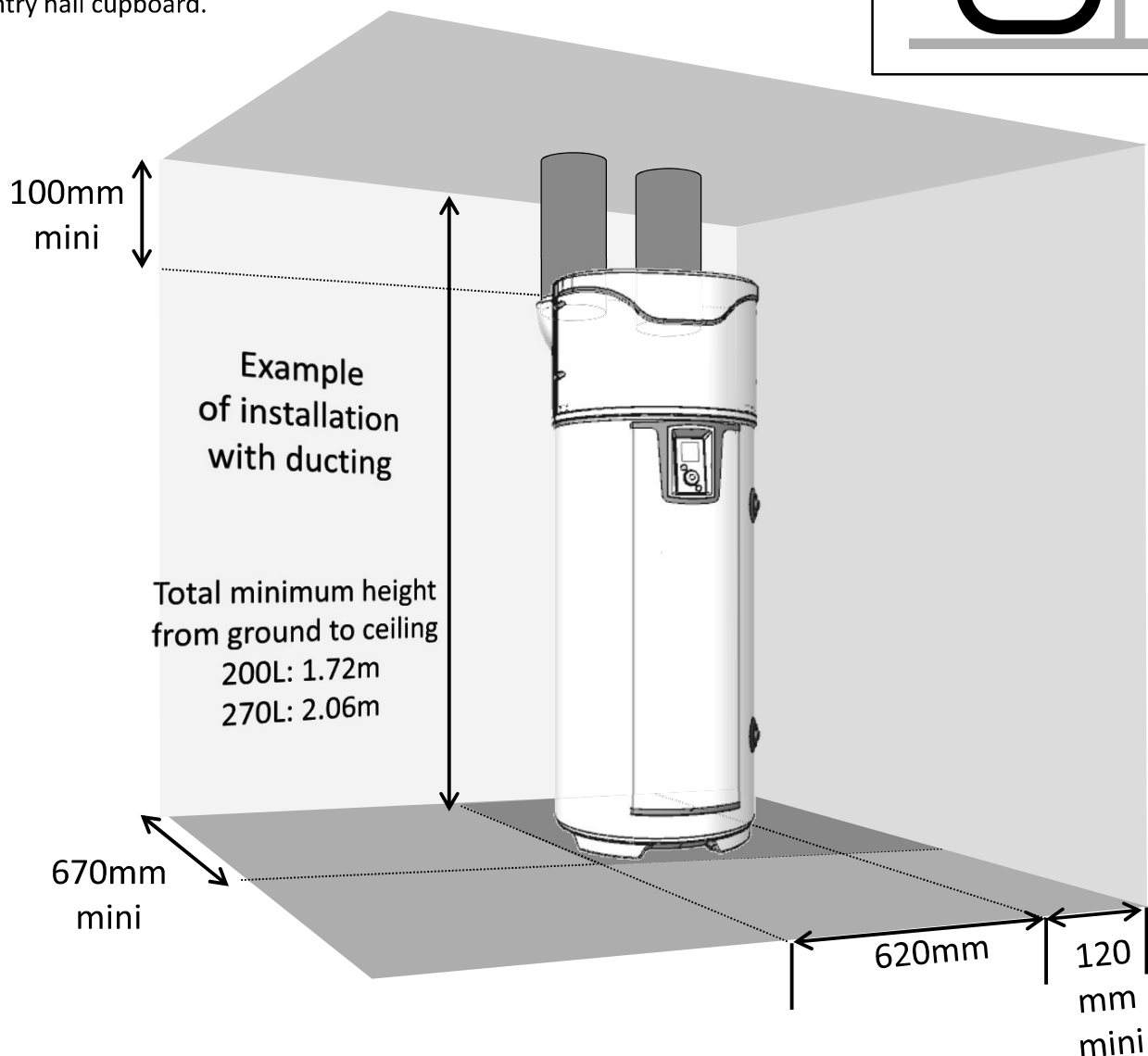
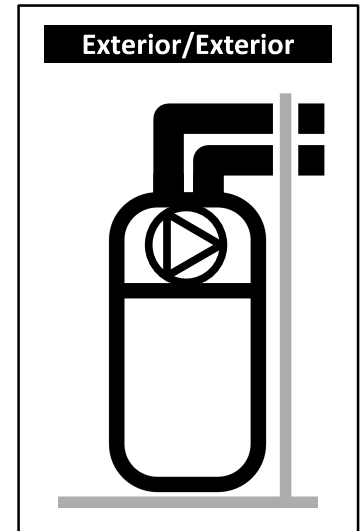
Leave a space of 500mm in front of the electrical equipment and 300mm in front of the hydraulic equipment so that the water heater is accessible for its periodic servicing.

3. Installation in ducted configuration (2 ducts).

- ✓ Location is at least frost-free ($T > 1^{\circ}\text{C}$).
- ✓ "Ducting" setting to be set to "Exterior/Exterior"
- ✓ Recommended location: living space (the thermal losses of the water heater are not lost), near the outer walls. Avoid placing the water heater and/or the ducts close to bedrooms for sound comfort.

Examples of locations:

- Laundry room,
- Cellar,
- Entry hall cupboard.



Respect the maximum lengths of ducting. Use rigid or semi-rigid insulated ducts. Provide grills on the air inlet and output to avoid and foreign objects entering. Attention, air inlet and outlet grills which can be manually obstructed are forbidden



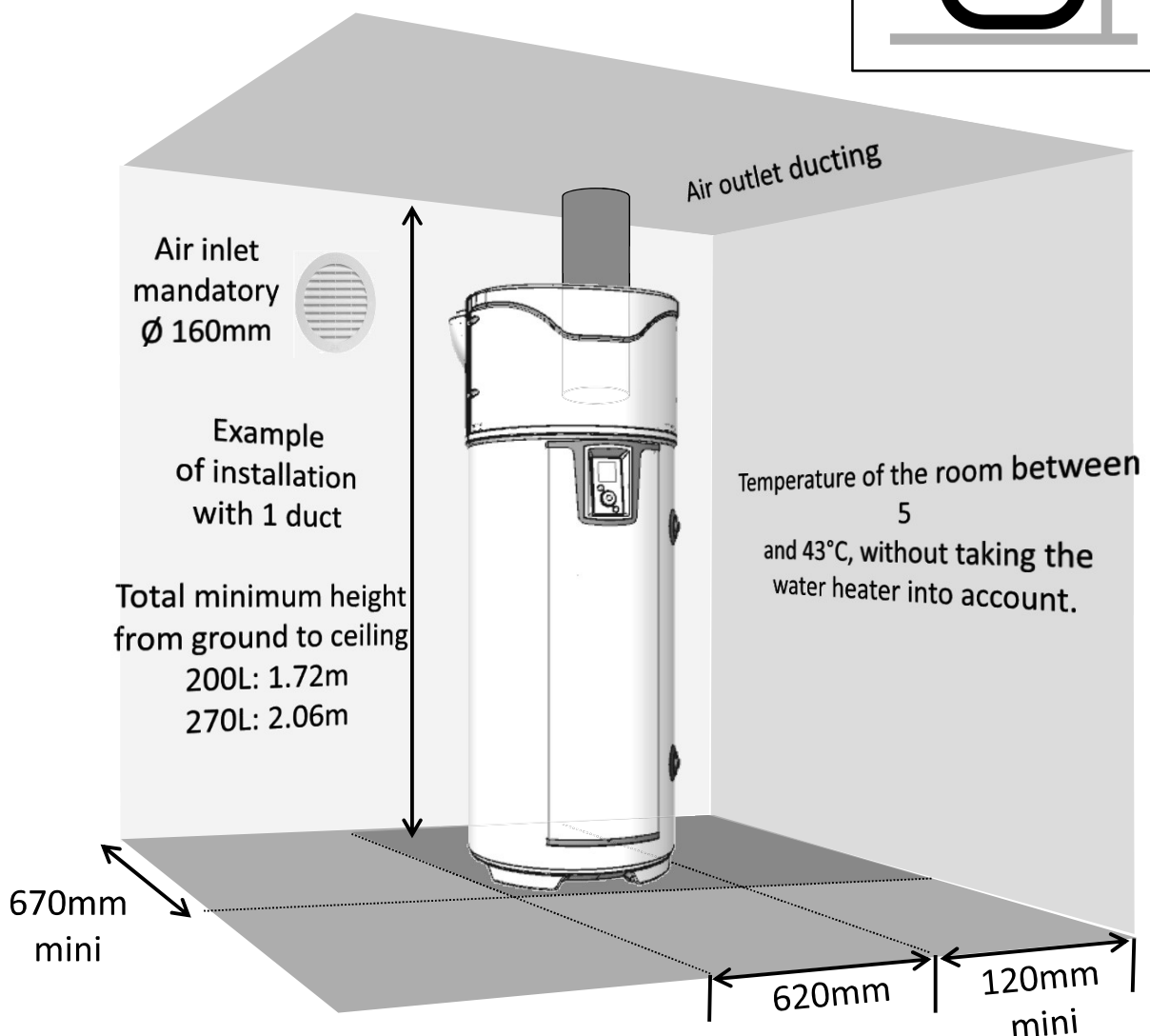
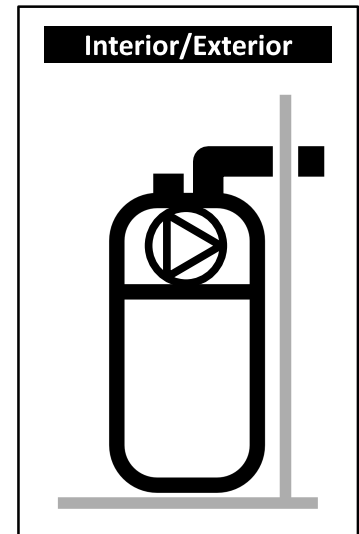
Leave a space of 500mm in front of the electrical equipment and 300mm in front of the hydraulic equipment so that the water heater is accessible for its periodic servicing.

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

- ✓ Unheated location at temperatures above 5°C and isolated from the heated rooms of the house.
- ✓ "Ducting" setting to be set to "Interior/Exterior"
- ✓ Recommended location = underground or semi-underground, room where the temperature is higher than 10°C all year round.

Examples of locations:

- Garage: recovery of free calories released by the car engine when it is shut down after operation, or other household appliances in operation.
- Laundry room: Dehumidification of the room and recovery of lost calories from washing machines and dryers.



The de-pressurising of the location by the outside air discharge generates air inlets through the woodwork (*doors and windows*). Install an air inlet (\varnothing 160mm) in relation to the outside one to avoid sucking air from the heated space.

In winter, the air entering through the air inlet can cool the room.



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

5. Prohibited configurations

- Water heater drawing air from a heated room.
- Connection to the CMV.
- Connection to the attic.
- Ducting for suction of outside air and discharge of fresh air inside.
- Connection to a Canadian well.
- Water heater installed in a room containing a natural draft boiler and ducted to the outside for air release only.
- Aeraulic connection of the appliance to a tumble dryer.
- Installation in dusty premises.
- Sucking air containing solvents or explosive materials.
- Connection to capture hoods releasing greasy or polluted air.
- Installation in room subject to freezing.
- Objects placed on top of the water heater.

6. Hydraulic connection



The use of a sanitary loop is strongly discouraged: this type of installation causes a destratification of the water in the heater and results in the increased operation of the heat pump as well as the electrical resistance

The cold water inlet is marked by a blue collar and the hot water outlet by a red collar. They have a gas thread with a diameter of 20/27 (3/4").

For areas with very calcareous water ($T_h > 20^\circ\text{f}$), it is best to treat it with a softener, the hardness of the water must remain above 8°f . The softener will not affect the warranty of our product, provided that it is approved for use in France and complies with current regulations and industry standards and is checked and maintained regularly.

The aggressiveness criteria must comply with those defined in DTU 60.1.

6.1. Cold water connection

Before proceeding with the hydraulic connection, check that the water mains pipes are clean.

The installation must be carried out using a safety unit calibrated at 7 bar (0.7 MPa) (not supplied), new, compliant with the NF EN 1487 standard and directly connected to the water heater's cold water connection.

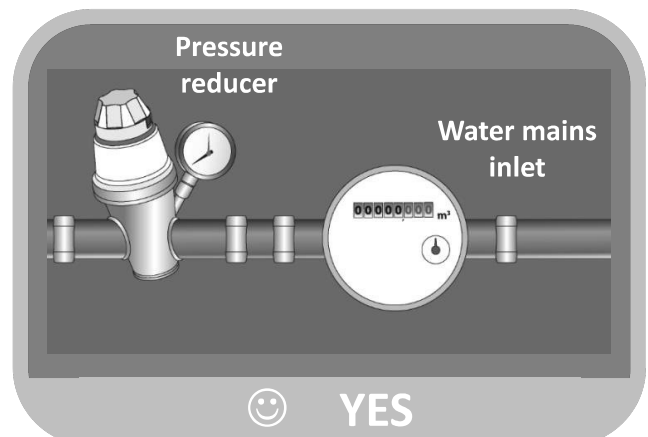
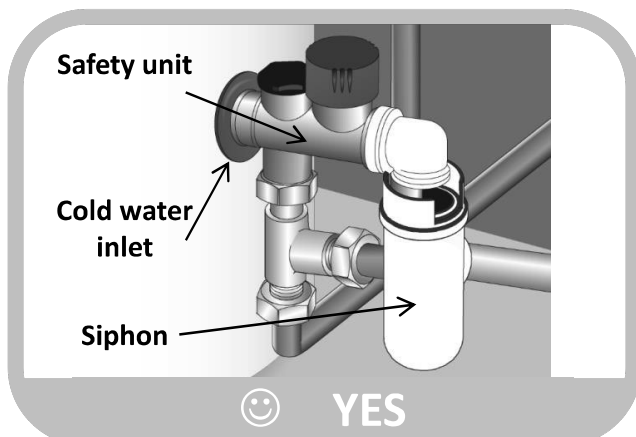
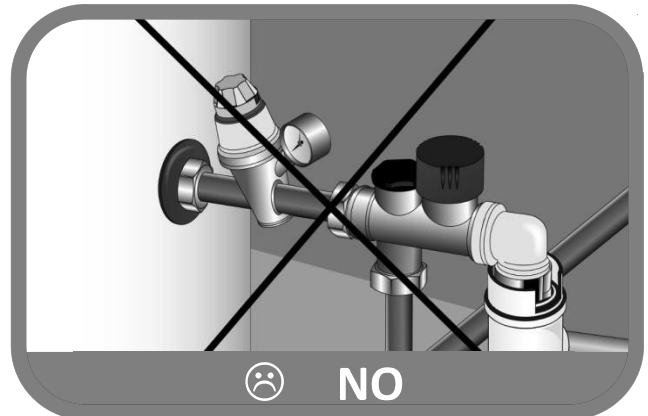


No element (shut-off valve, pressure reducer, hose, etc.) is to be placed between the safety unit and the cold water tap of the water heater.

As water can flow from the discharge pipe of the pressure relief device, the discharge pipe must be kept in the open air. Regardless of the type of installation, it must include a shut-off valve on the cold water supply, upstream of the safety unit.

The safety unit discharge must be connected to free-flowing waste water via a siphon. It must be installed in a frost-free environment. The safety unit must be put into operation regularly (once or twice a month).

The installation must have a pressure reducer if the supply pressure is greater than 0.5 MPa (5 bar). The pressure reducer must be installed by the general distribution (upstream of the safety unit). A pressure of 0.3 to 0.4 MPa (3 to 4 bar) is recommended.



6.2. Hot water connection



Do not connect the hot water connection directly to the copper pipes. It must be equipped with a dielectric connection (supplied with the appliance).

In case of corrosion of the threads of the hot water connection not equipped with this protection, our warranty will not apply.



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

6.3. Connection of the recirculation system (PAW-DHW270C1F)



Do not connect the recirculation system directly to the copper pipes. It must be equipped with a dielectric connection (not supplied with the appliance).

In case of corrosion of the threads of the recirculation system not equipped with this protection, our warranty will not apply.



If you are not using a recirculation system, a "plug + seal" unit must be connected to this tap point (supplied with the appliance).

6.4. Primary circuit connection (PAW-DHW270C1F)



Protect against excessive pressure caused by the expansion of the water when heated by a 0.3 MPa (3 bar) valve, or by an open-type expansion tank (at atmospheric pressure) or by a closed membrane tank. The operating pressure of the heat exchanger circuit must not exceed 0.3 MPa (3 bar) and its temperature must not exceed 85°C. In the case of connection to solar collectors it is necessary to apply a glycol mixture for frost protection and anti corrosion: such as "TYFOCOR L". If the installation includes a stop valve at the inlet and outlet of the exchanger, never close the two valves simultaneously in order to avoid the risk of the coil breaking.

Preparation of the circuit

For any installation (new or upgraded), a thorough cleaning of the water network's pipelines should be carried out. The purpose of this cleaning prior to commissioning is to eliminate germs and residue that could lead to the formation of deposits. In particular, in a new installation, grease, rusted metal or else micro-deposits of copper have to be removed. As for installations that are being upgraded, the cleaning is intended to remove sludge and the products of corrosion formed during the previous period of operation.

There are two types of cleaning/desludging: a rapid approach that is completed within a few hours and a more gradual approach that can take several weeks. In the first case, it is imperative to carry out this cleaning operation before the new boiler is connected. In the second case, placing a filter on the boiler's return pipe will allow the loosened deposits to be collected.

Cleaning prior to commissioning the installation contributes to an improvement of the installation's efficiency, a reduction of its energy consumption and the prevention of scale formation and corrosion. This operation requires the intervention of a (water treatment) professional.

Water quality

The characteristics of the primary circuit water used from the time of commissioning, and for the working life of the boilers, will conform to the following values:

- When filling a new installation, or when an installation has been completely emptied, the water used for filling should conform to the following values: $TH < 10^{\circ}\text{F}$.
- A substantial amount of raw water would lead to large deposits of scale, which can lead to overheating and breakages. Make-up water should be the subject of close monitoring. The presence of a water meter is obligatory: the total volume of all of the water introduced into the installation (filling + make-up water) must not exceed three times the water capacity of the heating installation. In addition, the make-up water must match the following setting: $TH < 1^{\circ}\text{F}$.

If these instructions are not followed (sum of the filling and make-up water greater than three times the water capacity of the heating installation), a full cleaning down (desludging and descaling) is necessary.

Protecting the installation against scaling

In order to protect the installation, additional precautions are necessary:

- When a water softener is present in the installation, a check of the equipment in conformity with the manufacturer's recommendations is required in order to verify that it is not discharging into the network water that is rich in chlorides: the chloride concentration should always be less than 50 mg/litre.
- When the network water does not present the desired qualities (e.g. very hard), a treatment is required. This treatment should be performed on the filling water as well as any subsequent filling or make-up water. Periodic monitoring of the water quality in conformity with the recommendations of the water treatment supplier is necessary.
- To avoid a concentration of scale deposits (on the exchange surfaces, in particular), the commissioning of the installation should be gradual, beginning with operation at minimum power and ensuring as a minimum the nominal water flow rate in the installation before starting up the burner.
- During work on the installation, it should not be completely drained; only the required sections of the circuit are to be drained.

Protecting the installation against corrosion

The phenomenon of corrosion, which 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 penetrates into the installation during the first filling reacts with the installation's materials and therefore disappears quickly.

Without a renewal of oxygen via substantial additions of water, the installation remains undamaged. However, it is important to follow the installation's dimensioning and operating rules, which aim to prevent any continuous penetration of oxygen into the heating water. If this point is followed, the circuit water presents the characteristics that are necessary to the durability of the installation: $8.2 < \text{pH} < 9.5$ and dissolved oxygen concentration < 0.1 mg/litre.

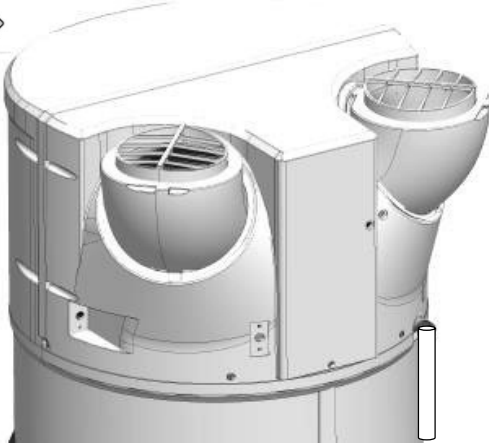
In the case where risks of oxygen intake exist, additional protective measures should be taken. We recommend using the services of companies that specialise in water treatment issues; they will be able to propose:

- The appropriate treatment for the installation's characteristics.
- A monitoring contract with a guarantee of results.

In the case of an installation with water that is in contact with heterogeneous materials, for example, with the presence of copper and aluminium, an appropriate treatment is recommended to ensure the installation's durability.

6.5. Condensate removal

The circulating air cools in contact with the evaporator and causes the water contained in the air to condensate. The flow of condensed water at the back of the heat pump must be carried away from the heat pump by plastic pipes in order to drain the condensates.



Depending on the humidity of the air, **up to 0.5l/h of condensates** may form. These condensates must not flow directly to the sewer, as the ammonia vapours discharged from the sewer could damage the fins of the heat exchanger and the components of the heat pump.

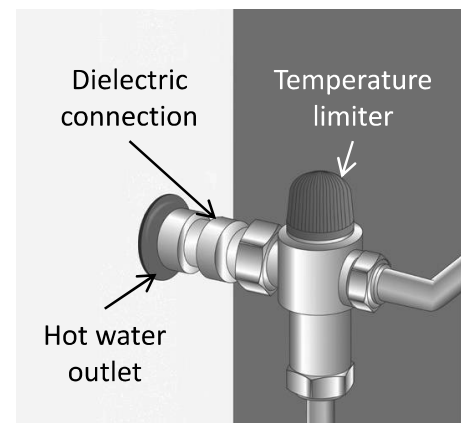


You must add a waste water release siphon (the supplied pipe must never be used as a siphon). This connection must never lead to the safety unit

6.6. Tips and recommendations

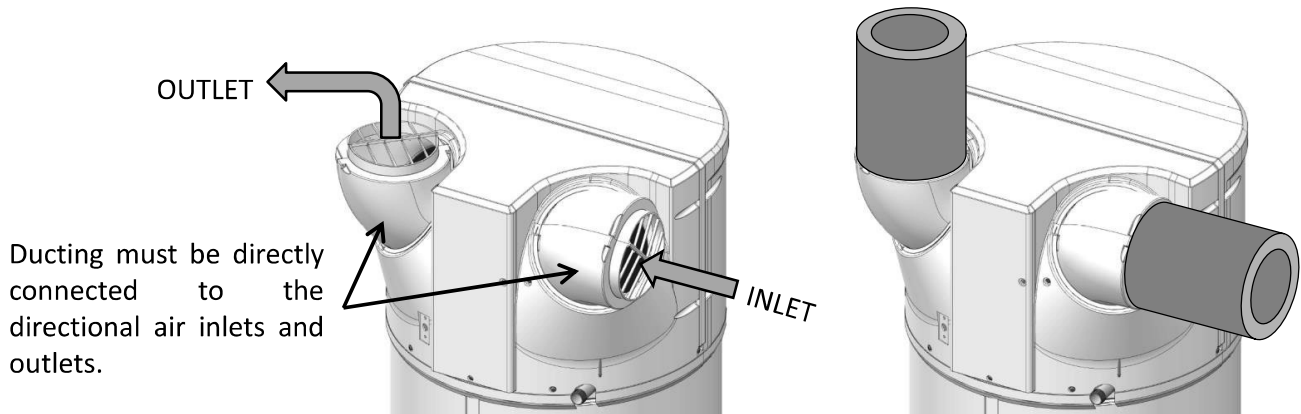
If the draw-off points are not equipped with thermostatic mixing valves, a temperature limiter must be installed on the water heater outlet to limit the risk of burns:

- In rooms intended for personal hygiene, the maximum temperature of the hot water is fixed at 50° C at the draw-off points.
- In other rooms, the temperature of the hot water is limited to 60° C at the draw-off points.
- Decree No. 2001-1220 from 20 December 2001 and circular DGS/SD 7A.
- Compliance with DTU 60.1



7. Air duct connection

When the volume of the room where your thermodynamic water heater is installed is less than 20m³, it can be connected to air ducts with a diameter of 160mm. If the air ducts are not insulated, condensation may appear on them during operation. **It is therefore imperative to opt for insulated air ducts.**

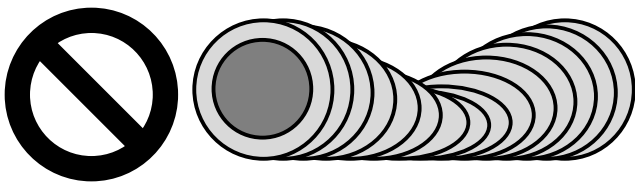


When connected to ducts, it is necessary to set the regulator accordingly.

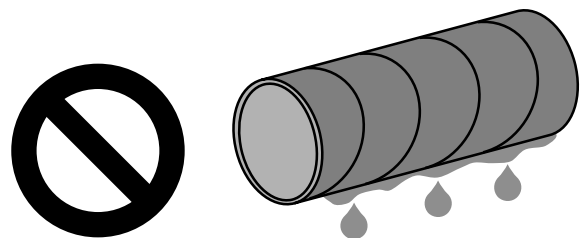
The total pressure drop of the ducts and accessories for release and suction of the air must not exceed 130 Pa. The maximum duct lengths must be respected.

Poor ducting (crushed ducts, excessive length or number of elbows ...) can result in reduced performance and malfunctions. **As a result, we do not recommend using flexible ducts.**


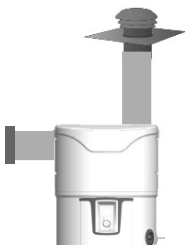

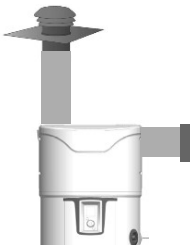







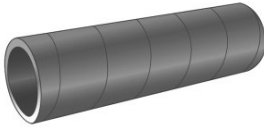
Crushed ducts:



Non-insulated ducts:

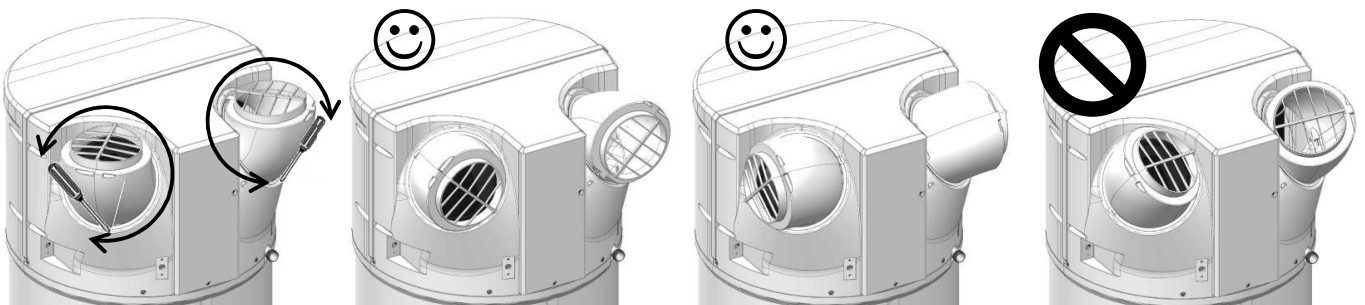


7.1. Lengths of permitted ducts.

Exterior/Exterior ducting		Standard configurations			
					
Air Outlets/Inlets		 x 2	 	 x 2	 
Lengths Max. L1 + L2	Semi-rigid galvanised duct Ø160mm 	12 m	12 m	5 m	10 m
	HDPE duct Ø 160 mm 	28 m	26 m	16 m	24 m

Note: The directional vents can reduce or eliminate the use of ducting elbows. For more information on directional vents, see "Positioning the product".

7.2. Adjustment of inlet and outlet vent direction.



1 Unscrew the vents' locking screws and rotate them to select the required direction

2 Turning them 120° points them backwards.

3 Turning them another 120° points them towards the sides.

4 Do not point the vents towards each other.

Configuration prohibited because of the recirculation of cold air in the device!

8. Electrical connection

Refer to the electrical wiring diagram on the next to last page.



**The water heater can only be turned on after it has been filled with water.
The water heater must be permanently powered by electricity.**

The water heater can only be connected and operated on a single-phase 230V AC grid. Connect the water heater using a rigid cable with 1.5 mm² conductors. The installation will include:

- An omnipolar 16A circuit breaker with a contact opening of at least 3mm,
- Protection by a 30mA differential circuit breaker.

If the power cable is damaged, it must be replaced by the manufacturer, their after sales service or a similarly qualified person, in order to avoid any danger.

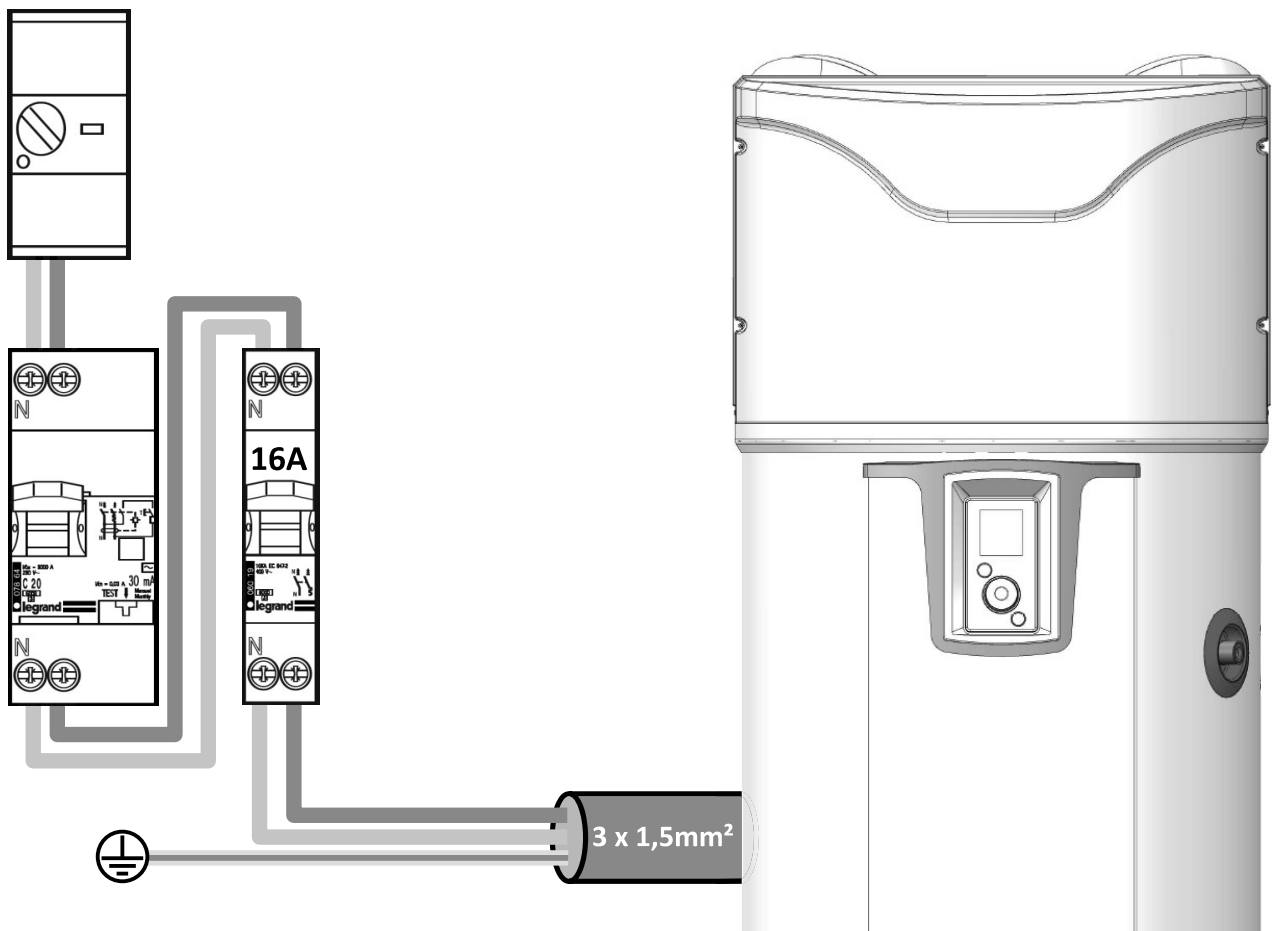


Never power the heating element directly.

The safety thermostat fitted to the electric heater must under no circumstances be repaired by anyone other than our service staff. **Non-compliance with this clause will void your warranty.**

The appliance must be installed in accordance with the national regulations concerning electrical installations.

Electrical connection diagram



The ground connection is mandatory.

9. Connection of optional equipment



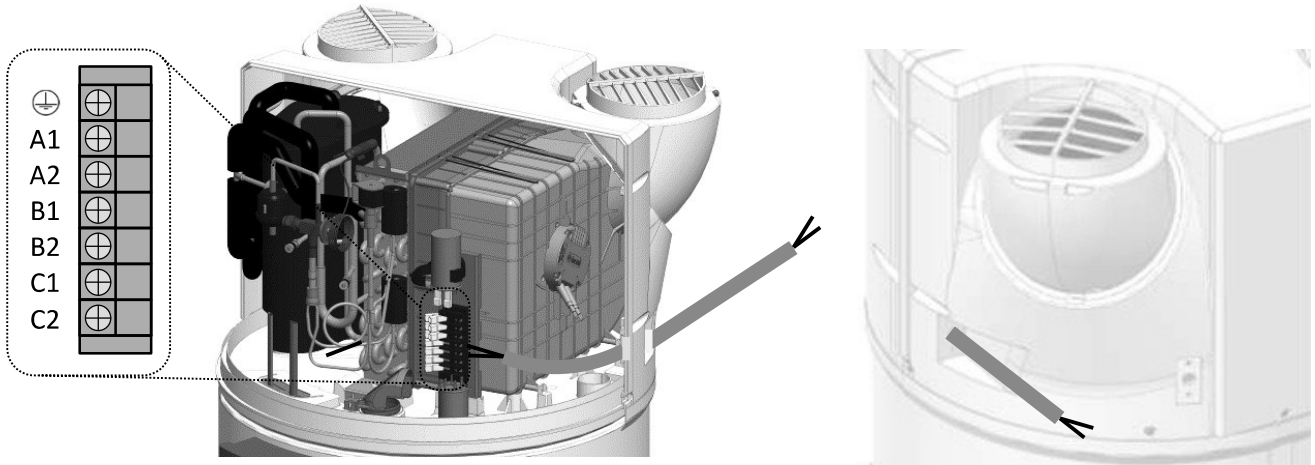
Before any operation, make sure to turn the appliance off.

Refer to the disassembly instructions on the front cover for accessing the customer's terminal block.



A cable bushing is specifically provided for connections. Be sure to use it.

The use of a 2x0.5mm² multi-strand cable with crimped ends is recommended (not supplied).



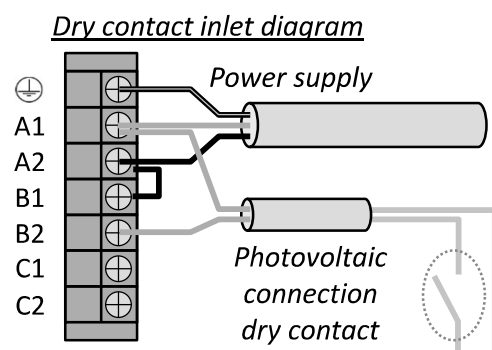
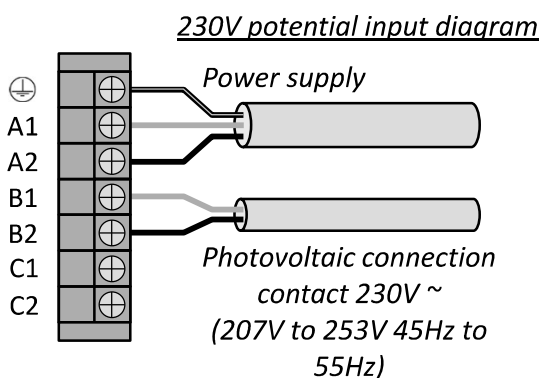
9.1. Connection to a photovoltaic station.

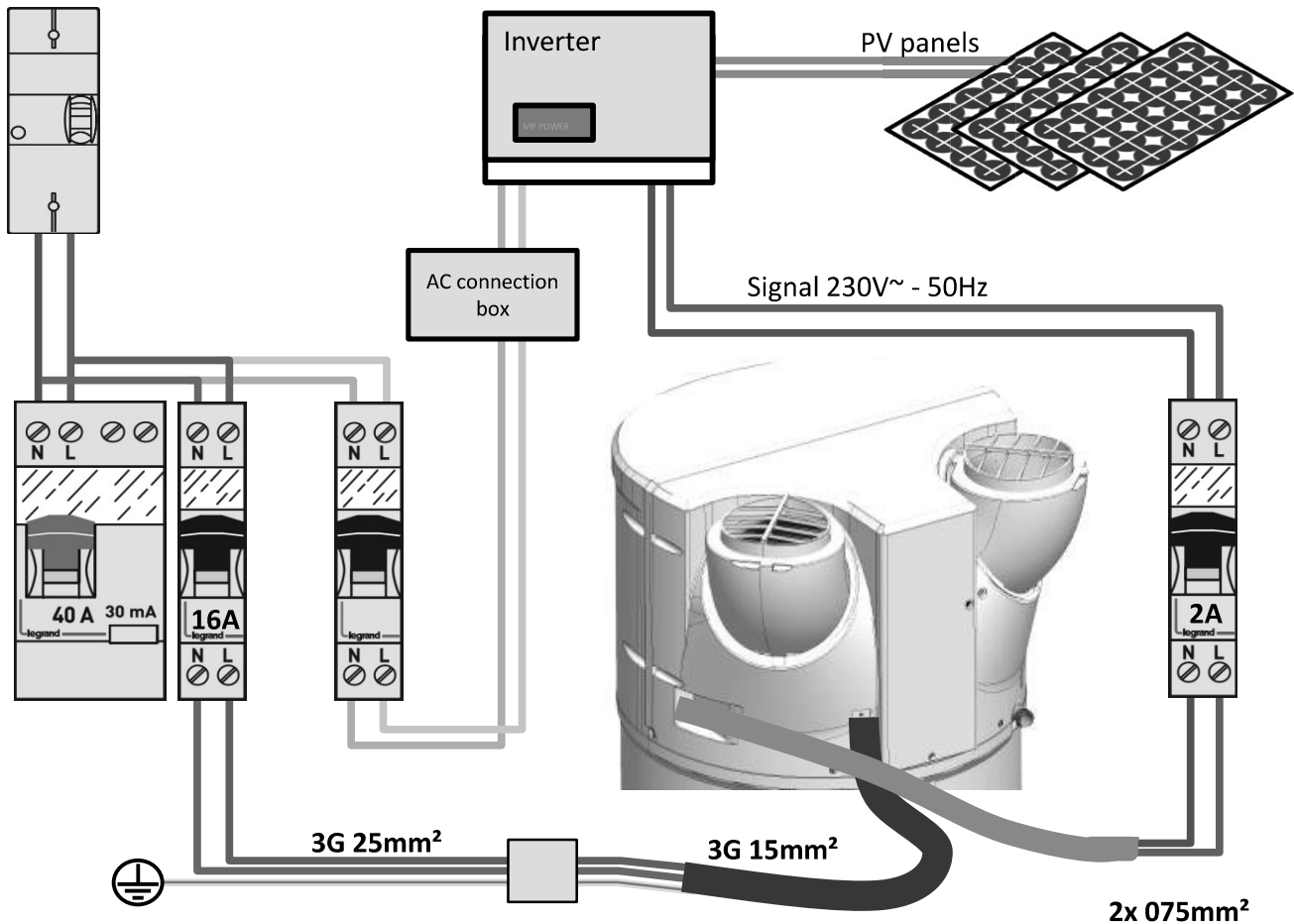
If the appliance is connected to a photovoltaic system, it is possible to store the surplus energy produced by the photovoltaic system in the form of hot water in the water heater, virtually cost-free. The thermodynamic water heater only activates the heat pump (PV mode) when it receives the signal from the house's photovoltaic system. This signal must be set for a trip threshold of **450W**. In this mode, the setpoint temperature is set to 62° C (not adjustable) and "PV" appears on the display.

When the signal is lost, the thermodynamic water heater automatically returns to the previously selected operating mode.

For appliances that will be connected to a photovoltaic system, it is necessary to connect the photovoltaic station to the water heater.

The photovoltaic station is connected to the **B1** and **B2** terminals of the customer terminal block.





9.2. Boiler connection

For appliances equipped with an internal heat exchanger that will be coupled to a boiler, the boiler must be connected to the water heater. The water heater sends the heating command to the boiler in this configuration.

The boiler is wired to the **C1** and **C2** terminals of the customer terminal block. The signal must not exceed **1A 230V +/- 10% 50Hz**.

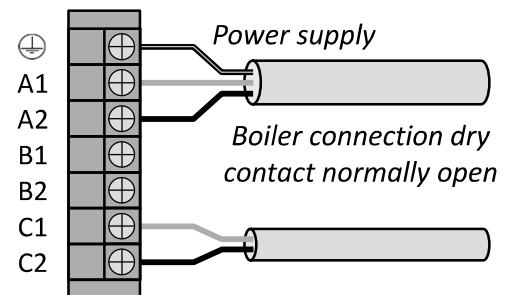
Boiler connections are specific to each installation and should be carefully examined.



If it is impossible to control the boiler as described above, the DHW sensor can be recovered from the boiler and inserted into the housing on the Thermodynamic water heater provided for this purpose (see section 9.4).

Be careful, as in this case it is important to choose "thermodynamics only" from the installer menu (Setup > Installation > Thermodynamics only).

Simultaneous operation of the heat pump and the heat exchanger can damage the product. It is therefore essential to use the heat pump during periods of time when boiler energy is not available (this can be done using the heat pump's time programming mode)



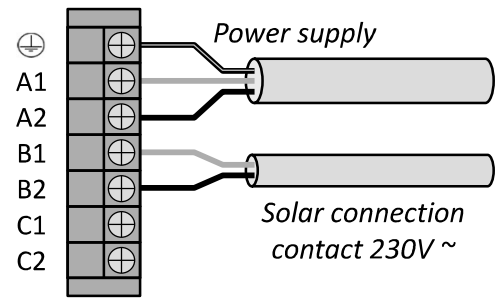
A boiler that is not controlled in an installation is not recommended, as it diminishes the product's performance and longevity.

9.3. Connection to a solar station.

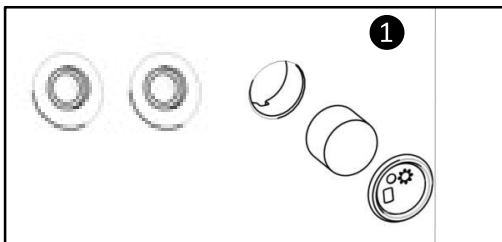
A solar heating station can be connected to the water heater (unit with heat exchangers in "solar" mode). In this configuration, the water heater only operates when it receives a signal from the solar station. After receiving the signal, the heat pump will start if heating is required and if the operating and air ranges allow it. If the heat pump can not start, the electrical backup will take over if it is in an operating range (permanent or programming).

Note: A solar thermal station signal and a PV signal can not be connected simultaneously.

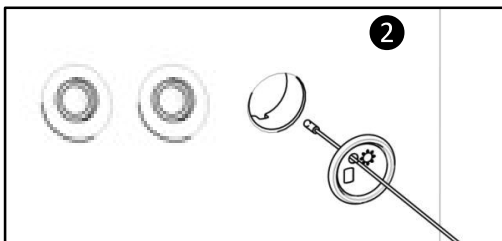
The solar station is wired to the **B1** and **B2** terminals of the customer terminal block.



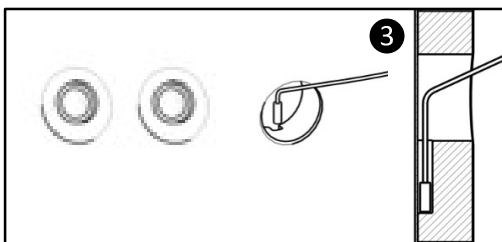
9.4. Installing the solar control sensor



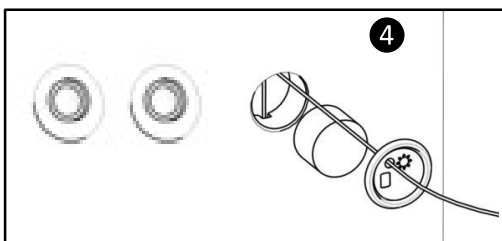
Remove the plug and foam from the housing next to the connections of the internal heat exchanger.



Push the temperature sensor through the plug (the plug has been drilled for this purpose).



Insert the sensor into the chute ensuring that it is well positioned at the bottom of the housing.



Put the foam back and insert the plug back into the product



10. Start-up

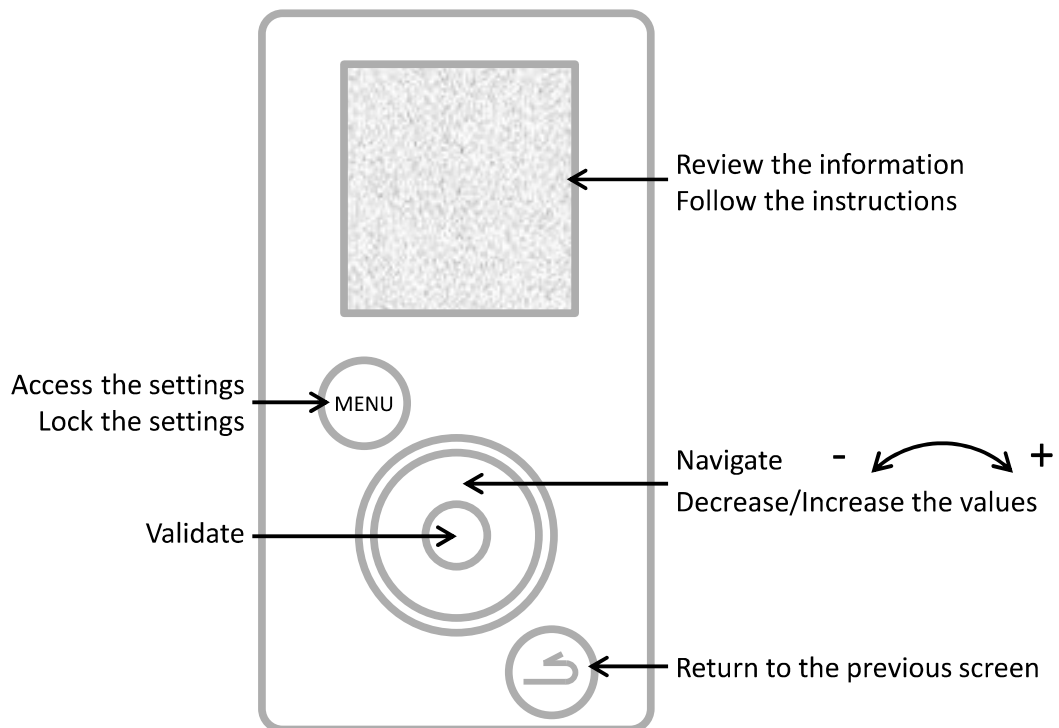
10.1. Filling the water heater

- ① Open the hot water taps.
- ② Open the cold water tap on the safety unit (make sure that the unit drain valve is in the closed position).
Close the hot water taps after filling is completed. The water heater is now full of water.
- ③ Check the sealing of the tubing connections.
- ④ Check the correct functioning of the hydraulic components by opening the drain valve of the safety unit
- ⑤ several times, in order to get rid of any residues in the discharge valve.

10.2. Appliance start up.




If the water heater was tilted, wait at least one hour before starting it.



- ① Turn on the water heater.
- ② Make sure that no error is displayed on the screen.
- ③ When the power is turned on for the first time, instructions appear on the screen for setting the parameters (Language, Date and Time, Air ducts, Installation, Photovoltaic, Operating ranges, Anti-legionella).
- ④ When the parameters are set, check the operation of the water heater (see paragraph "Checking operation").

Refer to the "Installation Adjustments" or "Installation Settings" sections for returning to previous settings.

10.3. Installation settings.

Re-access the installation's different settings:  +

Settings

- **Date and time**

Set the day and confirm. Proceed in the same way for the month, the year, the hour and the minutes.
Validate or not the automatic time change

- **Operating ranges**

This setting defines the authorised start-up ranges for the heat pump, the electric back-up and, if present, the hydraulic back-up, based on the hot water requirements:

Permanent 24h/24h

Start-up at any time of the day,

Programming

Start-up **only** within the programmed period.

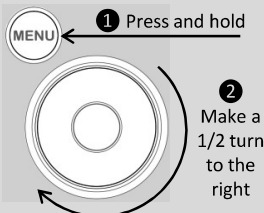
1st range duration: 4 hours < time < 14 hours;

Total duration of the 2 ranges: 8 hours minimum and 14 hours maximum.

- **Language**

Can be set to French, English, Dutch, Spanish, Portuguese, German, Italian and Polish.


10.4. The settings to adjust during installation.



The settings are accessible in **INSTALLER MODE** 

Hold down the MENU button and turn the dial a half turn to the right.

To exit the installer mode, proceed in the same way or wait 10 minutes.

Access settings →  →

Settings

- **Air ducts** (aeraulic operation):

This setting defines the type of aeraulic connection made:

Interior/Interior

Suction and discharge not connected to air ducts (ambient air)

Exterior/Exterior

Suction and discharge connected to air ducts (ducted air)

Interior/Exterior

Discharge connected to an air duct (semi-ducted)

- **Installation** (for products with coil):

Thermodynamics only

The internal heat exchanger is not used

Boiler backup

The internal heat exchanger is connected to a boiler controlled by the product

Solar backup

The internal heat exchanger is connected to a solar system

In "Boiler backup", you are next asked to define a preference concerning the priorities of operation between the boiler and the heat pump according to 4 levels:

Heat pump priority The backup will only be active at the end of heating for very low air temperatures (<7° C)

Heat pump optimised The backup will only be active at the end of heating and ± earlier depending on the air

Boiler optimised The heat pump is active at the start of heating and ± later depending on the air temperature

Boiler priority The heat pump is active at the start of heating and for air temperatures > 10 ° C.

- **Photovoltaic/Smart-grid:**

This setting allows you to activate the connection of the product with a photovoltaic system. The operation results in the forced start of the heat pump when a signal from the photovoltaic system is received by the water heater. The controls automatically return to the previously selected mode if the signal from the photovoltaic station is lost.

- **Air extraction :**

Activates the air extraction function (2 speeds: slow or fast). When the product is not heating sanitary water the fan is switched on to extract the ambient air to the outside (can only be activated with an Interior/Exterior type air-flow connection).

- **Anti-legionella:**

Activates the water disinfection function, set to between 1 and 4 times per month. The water temperature reaches 62° C during a cycle.

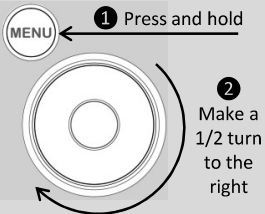
- **BACKUP mode:**


Activation of this mode allows permanent operation using only the electrical backup. The programming ranges are not taken into account.

- **Electrical backup**


Activates the electrical backup. If this is off the product will never use the electrical backup; there may be a shortage of hot water if temperatures are low.

10.5. Verification of operation

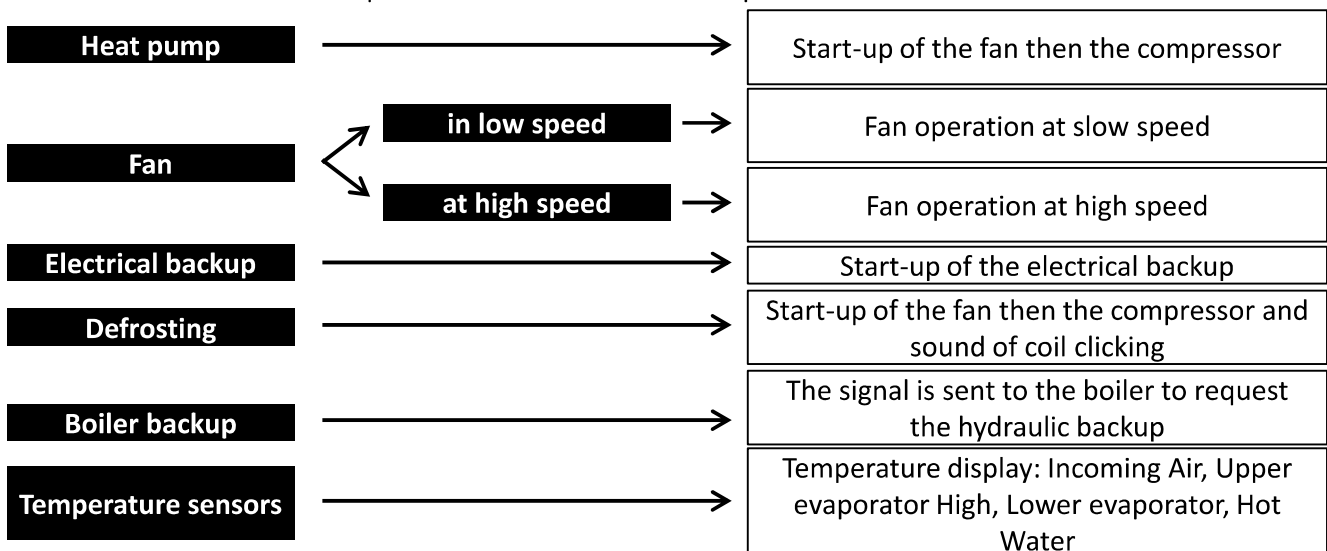


The verification is accessible in **INSTALLER MODE** 

Hold down the MENU button and turn the dial a half turn to the right. To exit the installer mode, proceed in the same way or wait 10 minutes.

Access settings →  → **Test** → **Actuators**

The TEST menu activates the product's actuators in forced operation.



10.6. Choice of operating mode

Pressing the  key accesses the menu

Mode

In AUTO mode:

This operating mode automatically manages the choice of energy that ensures the best compromise between comfort and savings.

The water heater analyses the consumptions from the previous days to adapt hot water production to the actual needs. The setpoint temperature is thus automatically adjusted between 50 and 62° C, depending on the consumption history.


The water heater preferentially selects the heat pump to operate. The electrical backup can be selected automatically to ensure sufficient hot water volume.

The product respects the operating ranges defined by the user's programmed times



This mode is unavailable on the "Boiler backup" and "Solar backup" installations

MANUAL mode:

This mode is used to set the desired amount of hot water by selecting the setpoint. This instruction is also represented in an equivalent number of showers ( : about 50 L of hot water). The product respects the operating ranges defined by the user's programmed times.

In Passive ECO mode, the water heater prioritises operation using only the heat pump. However, if air temperatures are low or consumption is high, the electric backup (or boiler) may be solicited at the end of heating to reach the temperature setpoint.

In Active ECO mode, the water heater works exclusively with the heat pump when the air temperature is between -5 to +43° C. Additionally, electrical backup is not allowed during the heating process. This feature maximises savings but can result in hot water shortages.

Regardless of the ECO setting, the electrical backup will be automatically selected to ensure a sufficient volume of hot water if the air temperatures are outside the range or the product has a fault.



MANUAL mode with "Solar backup" installation

This mode also allows the heat pump to operate with a thermal solar backup. However, simultaneous operation of the heat pump and solar backup can damage the product. It is therefore essential to use the heat pump during periods of time when solar energy is not available (this can be done using the heat pump's time programming mode).

BOOST mode: This mode activates the heat pump as well as all other available energy sources (boiler backup if incorporated, electrical backup) without taking into account the authorised operating periods. The number of the BOOST's operating days is adjustable from 1 to 7. The setpoint temperature (62° C) is not adjustable.

The water heater resumes its initial operation at the end of the selected time period.

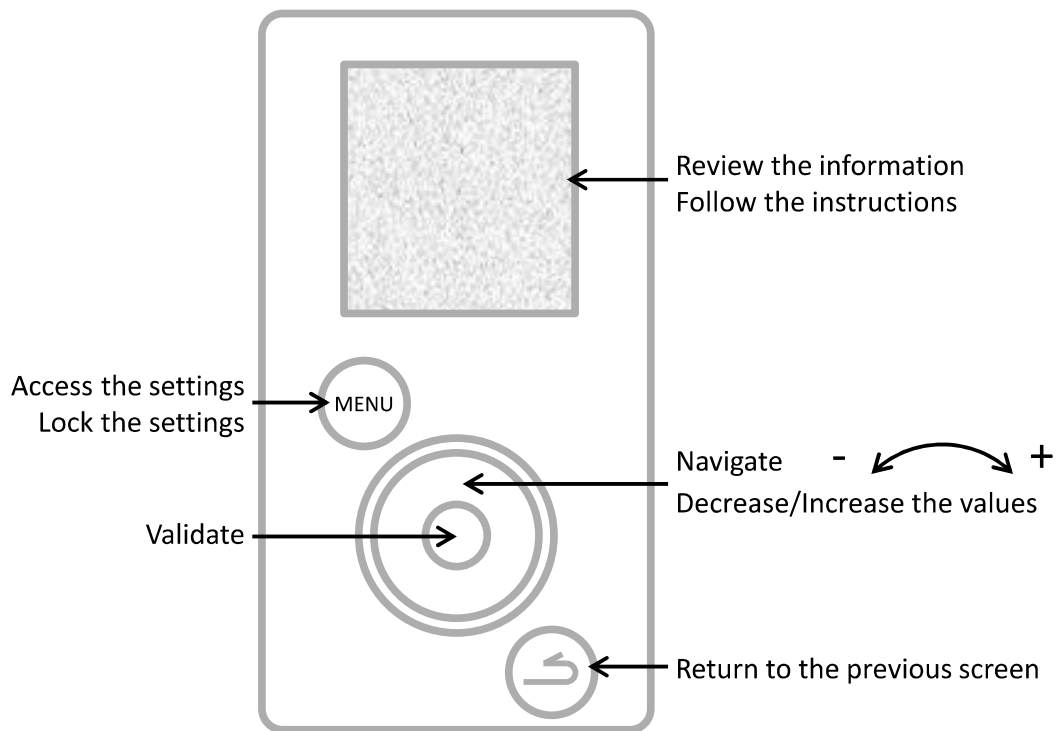
The BOOST can be stopped at any time.

ABSENCE mode: This mode maintains the sanitary water temperature above 15° C by using the heat pump. The boiler and electric backups can be activated if the heat pump is not available.

The function can be stopped at any time.

Use

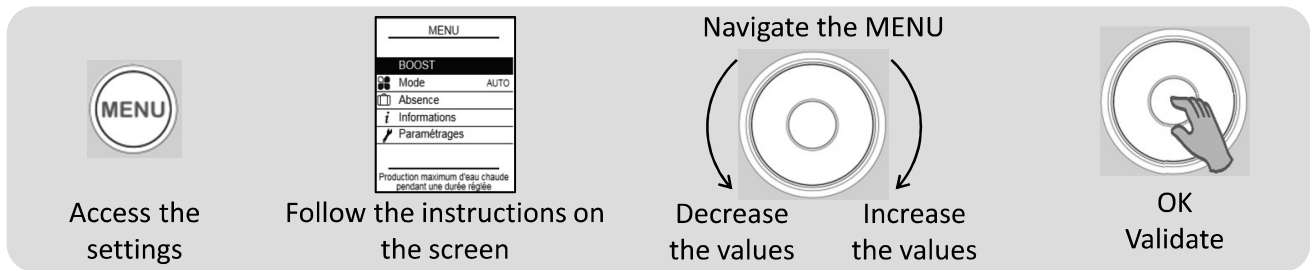
1. Control panel.



2. Description of pictograms.

BOOST	Recorded forced operation		Electrical backup currently operating
	Recorded/ongoing absence		Heat pump currently operating
	Current hot water temperature		Boiler backup currently operating
	Standby		Receipt of a signal on the solar system input
	Warning		Receipt of a signal on the photovoltaic/Smart-grid input

3. The main menu.



BOOST

Occasionally increase the production of hot water:

Set the number of days of BOOST operation (from 1 to 7).

The water heater resumes its initial operation at the end of the selected time period.

The BOOST can be stopped at any time:

Stop the BOOST



Choose the operating mode:

Select AUTO or MANUAL (see "Operating modes" paragraph)



Schedule an absence:

Provides indications to the water heater concerning

- a permanent absence starting from the current date.
- a scheduled absence (*set the start and end date of the absence*). The day before your return, an anti-legionella cycle is started.

During this period, the water temperature is maintained above 15° C.

The function can be stopped at any time:

Stop the absence



Viewing energy savings:

Displays the heat pump's and the electric backup's rate of use over the last 7 days, the last 12 months, since commissioning.

Viewing electrical consumption:

Displays energy consumption in kWh, over the last days, the last months, the last years.

Viewing the settings overview:

Displays all settings saved in the water heater.



Set the date and time:

Set the day and confirm. Then set the month, year, hour and minutes.

Set the operating ranges:

Sets the authorised product start-up ranges.

Set the language:

French, English, Dutch, Spanish, Portuguese, German, Italian and Polish.

Electrical backup:

Deactivates the electrical backup operation.

4. Operating modes.

4.1 Modes in "Thermodynamics only" installation:

AUTO: The setpoint temperature is thus automatically adjusted between 50 and 62° C depending on the consumption history. The water heater preferentially selects the heat pump to operate. The electrical backup can be activated automatically in support.

MANUAL - Passive ECO: The user chooses the fixed setpoint temperature between 50 and 62° C. The water heater preferentially selects the heat pump to operate. The electrical backup can be selected automatically to ensure sufficient hot water volume.

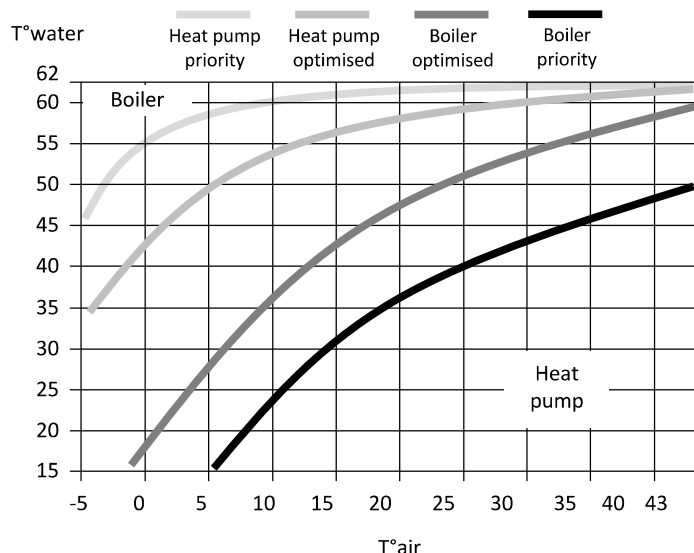
MANUAL - Active ECO: The user chooses the fixed setpoint temperature between 50 and 55° C. The water heater works exclusively with the heat pump to maximize savings. The electrical backup is only authorised to function when the air temperatures are outside the operating range.

4.2 Modes in "Boiler backup" installation:

MANUAL: The user chooses the fixed setpoint temperature between 50 and 62° C. (55° C if Active ECO). The water heater preferentially selects the heat pump to operate. The electrical backup can be selected automatically to ensure sufficient hot water volume. If the boiler is not available to provide support (boiler shut down for example), the electrical backup will be activated.

SMART Energy operation:

A heat pump draws available energy from the air and transforms this energy into hot water by the process of heat exchange around the tank. The heat pump's performance will therefore be improved with settings that encourage these energy exchanges; namely, with air that is hot and with cold water in the tank. Our product continuously calculates which energy is the most economical based on the air and water temperature. This **SMART Energy** function can therefore decide to start heating with the heat pump, before producing the last few degrees using the boiler backup.



In addition, the Smart Energy function can be set with 4 different priority levels:

Heat pump priority The backup will only be active at the end of heating for very low air temperatures (<7° C)

Heat pump optimised The backup will only be active at the end of heating and ± earlier depending on the air

Boiler optimised The heat pump is active at the start of heating and ± later depending on the air temperature

Boiler priority The heat pump is active at the start of heating and for air temperatures > 10 ° C.

4.3 Modes in "Solar backup" installation:

The water heater only operates during periods when there is no solar production (when it receives a signal from the solar station). During periods of solar production, the internal heat exchanger, the heat pump and the electrical backup will not produce hot water.

MANUAL: The user chooses the fixed setpoint temperature between 50 and 62° C. (55° C if Active ECO).



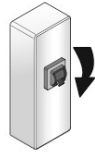
The electrical backup will never work if the "Electrical backup" setting is deactivated.

Servicing, Maintenance and Troubleshooting

1. Tips for the user.

The water heater should be drained if the absence mode cannot be used or when the appliance is switched off. Proceed as follows:

① Cut the power supply.



② Close the cold water inlet.

③ Open a hot water tap.

④ Open the drain tap of the safety unit.



2. Servicing.

In order to maintain the performance of your water heater, you must regularly service your appliance.

By the USER:

What	When	How
Safety unit	Once or twice a month	Operate the safety valve. Check that water is flowing correctly.
General condition	Once a month	Check the general condition of the appliance: No Error code, no water leakage by the connections, etc.



The appliance must be switched off before opening the covers.

By a PROFESSIONAL:

What	When	How
The ducting	Once a year	Check that the water heater is connected to the ducts. Check that the ducts are positioned correctly and not squashed.
Condensate flow	Once a year	Check the cleanliness of the condensate drain pipe.
Electrical connections	Once a year	Check that there are no loose wires in the internal and external wiring and that all connectors are in place.
Electrical backup	Once a year	Check that the electrical backup is working properly by means of a power meter.
Scaling	Every two years	If the feed water of the water heater is scaling, descale it.



Access to the regulator adjusting screw by non-refrigeration personnel is prohibited. Any adjustment of the regulator without approval from the manufacturer may lead to voiding of the warranty for this product. It is not recommended to touch the regulator setting until you have exhausted all other repair solutions.

By the REFRIGERATION PROFESSIONAL:

What	When	How
The heat exchange of the heat pump	Every two years*	Check the proper exchange of the heat pump.
The heat pump elements	Every two years*	Check the operation of the fan in both speeds and the hot gas valve.
The evaporator	Every two years*	Clean the evaporator with a nylon brush and do not use abrasive or corrosive products.
The refrigerant	Every five years*	Check the fluid level.

* For dusty environments, increase the frequency of servicing.

3. Opening the product for maintenance.

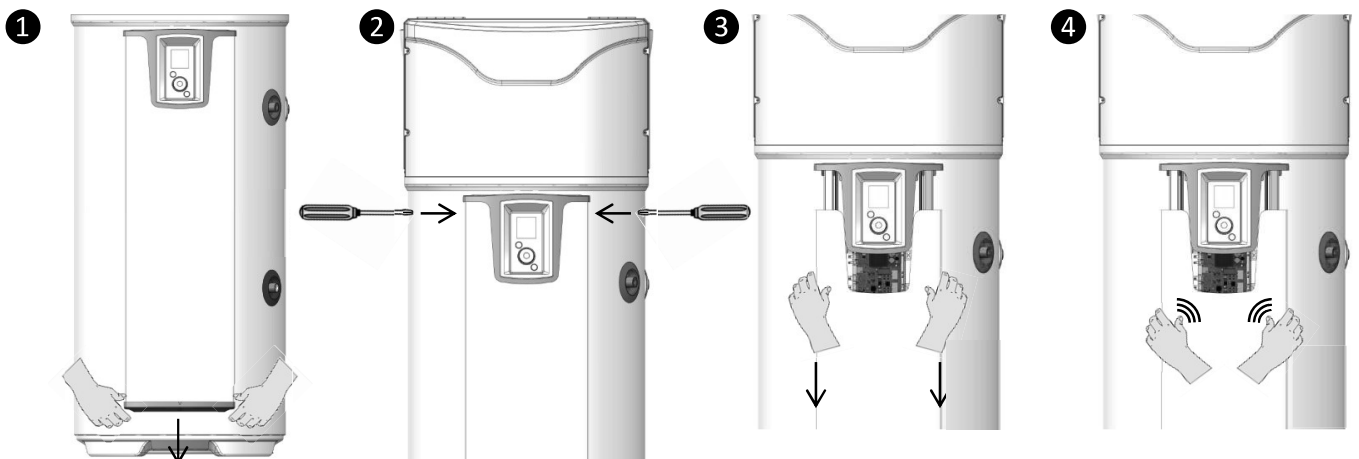
To access the controls compartment of the heat pump:

- 1 Remove the 4 screws from the front cover,
- 2 Open the front cover by tilting it forward.
- 3 Unclip the rear cover of the condensates plug



To access the controls compartment:

- 1 Remove the column's lower plug by unclipping it,
- 2 Unscrew the 2 retaining screws on each side of the column,
- 3 Slide the column down about ten centimetres to leave the control panel unobstructed,
- 4 Press the centre of the column to open and unclip it from the guide rails.



4. Fault diagnostic.

In the event of a fault, or when no heat or steam is issued from the filling point, switch off the power supply and inform your installer.



Troubleshooting operations must be carried out exclusively by a professional.

4.1. Display of error codes.

The alarm can be turned off or reset by pressing OK.

Code displayed	Causes	Consequences	Troubleshooting
Error 03	Water temperature sensor defective or out of range	Not possible to read the water temperature: no heating.	Check the connection (A1 mark) of the water temperature sensor (thermowell). Check the sensor resistance (see table below). If necessary, replace the sensor.
Error 07	No water in the tank	No heating	Fill the tank with water.
Error 09	Water temperature too high ($T > 80^{\circ}\text{C}$)	Risk of triggering mechanical safety: no heating	Check if the actual water temperature at the water outlet is high ($T > 80^{\circ}\text{C}$). Check the connection (A1 mark) and the position of the water temperature sensor (thermowell), it must be on the stopper. Check that the electrical backup is not running continuously. Reset the mechanical safety if necessary.
Error 15	Loss of connection/ loss of MMI time	Heating outside programming range	Reprogram the tile Check the product supply and the MMI connectors
Water too cold	Water temperature too cold ($T < 5^{\circ}\text{C}$)	HP stopped. Heating in ELEC.	Automatic reset when $T > 10^{\circ}\text{C}$. Check the conformity of the installation (frost-free room).
Error 21	Air inlet sensor defective or out of range (-20 to 60°C)	HP stopped. Heating in ELEC.	Check the connections (A4 mark) and the positioning of the incoming air sensor. Check the sensor resistance (see table below). If necessary, replace the sensor wiring bundle.
Error 22.1	Top evaporator sensor defective or out of range (-20 to 110)	HP stopped. Heating in ELEC.	Check the connections (A4 mark) and the correct positioning of the sensor on its tube. Check the fan's operation ensuring that it turns freely and without stopping (mark M1) and the power supply on the terminal block Check the sensor resistance (see table below).
Error 22.2	Bottom evaporator sensor defective or out of range (-20 to 110)	HP stopped. Heating in ELEC.	Check the connections (A4 mark) and the correct positioning of the sensor on its tube. Check the fan's operation ensuring that it turns freely and without stopping (mark M1) and the power supply on the terminal block Check the sensor resistance (see table below).

Code displayed	Cause	Consequence	Troubleshooting
Error 25	Pressure switch opening or thermal compressor safety	HP stopped. Heating in ELEC.	Check the connections of the compressor (mark R1), the pressure switch, the start capacitor (15mF) and the hot gas valve (Mark T2). Check the resistances of the compressor coils.
Error 28	Defrosting system fault	HP stopped. Heating in ELEC.	Check the cleanliness of the evaporator. Check the R513A fluid level (defrosting device). Check the fan's operation (M1 mark) and power supply on the terminal block. Check that the condensate is drained properly. Check the hot gas valve connections (T2 mark) and its operation (TEST menu).
W.30.1	Ineffective HP heating	HP stopped. Heating in ELEC.	Check the fluid level. Check the fan's operation (M1 mark) and power supply on the terminal block.
W.30.2	Ineffective HP heating	HP stopped. Heating in ELEC.	Check the fluid level. Check the fan's operation (M1 mark) and power supply on the terminal block.
W.30.3	Defective pressure regulator	HP stopped. Heating in ELEC.	Check there is no ice on the pipes between the regulator and the evaporator. Check the fluid level. If full, replace the regulator.

Temperature/ohmic value correspondence table for the product's air, evaporator and thermowell sensors (CTN 10k Ω).

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 k Ω																				

4.2. Other faults without error code display.

Fault observed	Possible cause	Diagnostics and troubleshooting
Water not hot enough.	The main power supply to the water heater is not continuous.	Check that power supply to the appliance is continuous. Check that there is no return of cold water to the hot water circuit, (possible faulty mixer tap).
	Set the temperature setpoint to a lower level.	Set the setpoint temperature higher.
	ECO mode selected and air temperature outside range.	Select the AUTO mode. Check the duration of the programming ranges.
	Heating element or its wiring partially out of order.	Check the resistance on the spark plug connector and that the beam is in good condition. Check the safety thermostat.

Fault observed	Possible cause	Diagnostics and troubleshooting
No more heat No hot water	No power supply to the water heater: fuse, wiring ...	Check the presence of voltage on the power cables Check the installation settings (see the operating ranges)
Not enough hot water At max. setpoint (62° C)	Hot water heater not large enough Operating in ECO	Check the duration of the programming ranges Select the AUTO mode
Not much flow from the hot water tap.	Safety unit's filter clogged Water heater scaled up	Clean the filter (see maintenance section). Descale the water heater.
Continuous flow of water to the safety unit when heater is not heating	Safety valve damaged or dirty Mains water pressure too high	Replace the safety unit Check that the outlet pressure of the water meter does not exceed 0.5 MPa (5 bar), otherwise install a pressure reducer set at 0.3 MPa (3 bar) from the general water supply
The electrical backup is not working.	Mechanical thermostat in safety mode Electric thermostat is faulty Resistor is faulty	Reset the thermostat safety at the resistor Replace the thermostat Replace the resistor
Condensate overflow.	Clogged condensate flow	Clean
Bad smell.	No siphon on the safety unit or the condensate drain No water in safety unit's siphon	Install a siphon Fill the siphon
Control panel fault or display problem	No power Display fault	Check the power supply. Check the connection (A3 reference) Replace the display.

After servicing or troubleshooting, check that the water heater is operating properly

Warranty

1. Scope of the warranty.

This warranty does not cover failures due to:

- **Abnormal environmental conditions:**
 - All types of damage caused by shaking or the appliance falling during handling after leaving the factory.
 - Placing the appliance in a location subject to frost or bad weather (humid, aggressive or poorly ventilated environments).
 - Use of water with aggression criteria such as those defined by the DTU 60-1 contract bill for sanitary plumbing, hot water 4 additives (chlorides, sulphates, calcium, resistivity and TAC).
 - Water having a Th < 8° f.
 - Water pressure above 0.5 MPa (5 bar).
 - Power supply with significant overvoltages (*network, lightning, etc.*).
 - Damage resulting from undetectable problems due to the choice of location (*hard to reach locations*) that could have been avoided by immediate repair of the unit.
- **An installation non-compliant with regulations, standards and industry practices, in particular:**
 - Safety unit removed or rendered inoperative (pressure reducer, non-return valve or valve, etc., placed upstream of the safety unit).
 - Absence or incorrect fitting of a new safety unit in accordance with standard NF-EN-1487, modification of its calibration, etc.
 - Absence of sleeves (*cast iron, steel or insulation*) on the hot water connection pipes that can lead to corrosion.
 - Faulty electrical connection: not compliant with NFC 15-100, incorrect earthing, insufficient cable cross-section, connections with flexible cables without metal tips, non-compliance with the connection diagrams specified by the manufacturer.
 - Switching on the appliance without filling it (dry heating).
 - Not positioning the appliance according to the instructions in the manual.
 - External corrosion due to poor sealing on the pipework.
 - Installation of a sanitary loop.
 - Incorrect settings in the case of a ducted installation.
 - Duct configuration contrary to our recommendations.
- **Faulty servicing:**
 - Abnormal scaling of heating elements or safety devices.
 - No servicing of the safety unit resulting in overpressure.
 - Non-cleaning of the evaporator or the condensate discharge.
 - Changes to the original equipment, without permission from the manufacturer or use of spare parts not recommended by the latter.



A damaged appliance must be left in place for experts to review, the customer must inform his insurer.

2. Warranty conditions.

The water heater must be installed by an authorised person in accordance with industry practices, the standards in force and the instructions from our technical services.

It must be used normally and regularly serviced by a specialist.

Under these conditions, our warranty is exercised by exchange or free supply to our Distributor or Installer of the parts deemed defective by our technicians, or if necessary of the appliance, excluding labour or transportation costs and any extended warranty.

Our warranty takes effect from the date of installation (*proof of installation invoice*). In the absence of proof, the date used will be that of manufacture indicated on the label of the water heater plus six months.

The warranty of the replacement part or water heater (*under warranty*) ceases at the same time as the warranty of the replaced part or water heater.

NOTE: Costs or damage due to a faulty installation (*for example, frost, safety unit not connected to the waste water outlet, absence of a retention tank*) or access difficulties cannot be attributed to the manufacturer.

The provisions of these warranty conditions do not prevent the buyer from benefiting from the legal warranty for defects and hidden defects that apply in any event under the conditions of Articles 1641 et seq. of the Civil Code.

The supply of spare parts necessary for the use of our products is provided for a period of 10 years from the date of manufacture of these products.



The failure of a single component does not justify the replacement of the appliance. You must therefore replace the defective part.

WARRANTY:

Water heater: 2 years (tank sealing, electronic boards, electrical backup and sensors).
Heat pump: 2 years.

END OF LIFE:

- Before dismantling the appliance, switch off the appliance and drain it.
- The combustion of some components may release toxic gases, do not incinerate the appliance.
- At the end of its life, the appliance must be taken to a sorting centre for electrical and electronic equipment which is equipped for recovering fluids. To find out more about existing waste collection centres, contact the local collection service.
- The refrigerant in the appliance must not be released into the atmosphere. Any degassing operation is strictly prohibited.

The GWP (*Global Warming Potential*) of the R513A is 631.

3. Certificate of conformity.

DECLARATION OF CONFORMITY DIRECTIVE RED 2014/53/EU (*)

SATE hereby declares that the equipment referenced below complies with the essential requirements of the RED 2014/53/EU Directive.

The complete EU declaration of conformity concerning this equipment is also available on request from our after-sales service (see address and contact details at the end of the instructions).

Designation: V4E Thermodynamic water heater

Models: see model references in the header of the user manual

Specifications:

Radio frequency bands used by the transceiver:

868.000MHz – 868.600MHz, 868.700MHz – 869.200MHz, 869.700MHz – 870.000MHz

Maximum radio-frequency power: <25mW

Class 2 radio equipment: may be marketed and used without restriction

Radio range: from 100 to 300 metres in free air, variable according to the associated equipment (range can be different depending the installation conditions and the electromagnetic environment).

Compliance with the Radio and Electromagnetic Compatibility standards has been verified by the authorised organisation:

[Emitech] 0536 – Emitech, Juigné Sur Loire, France