

Heat pump water heater

**Documentation for
installation and
operation**

**HPWH 200 COZY
HPWH 200 COIL COZY
HPWH 270 COZY
HPWH 270 COIL COZY**



The user keep this manual

WARNINGS

This appliance is not designed for use by people (including children) of reduced physical, sensory or mental capacity, or those inexperienced or not understanding this manual unless they have received prior instruction or supervision from someone responsible for their safety, about the use of the appliance.

Children must be supervised to ensure they do not play with the appliance. This appliance may be used by children of 8 years or over, and by people of reduced physical, sensory or mental capacity, or those inexperienced or ignorant if they are properly supervised or if they have been given instructions about the safe use of the appliance, and made aware of the associated risks. Children must not play with the appliance. Children must not clean or maintain the appliance without supervision.

INSTALLATION

WARNING: Product heavy, handle with care:

1/Install the appliance in a frost-free room. The warranty does not cover destruction of the appliance through excess pressure caused by a blockage in the safety valve.

2/Ensure that the wall on which it is mounted can support the weight of the appliance filled with water.

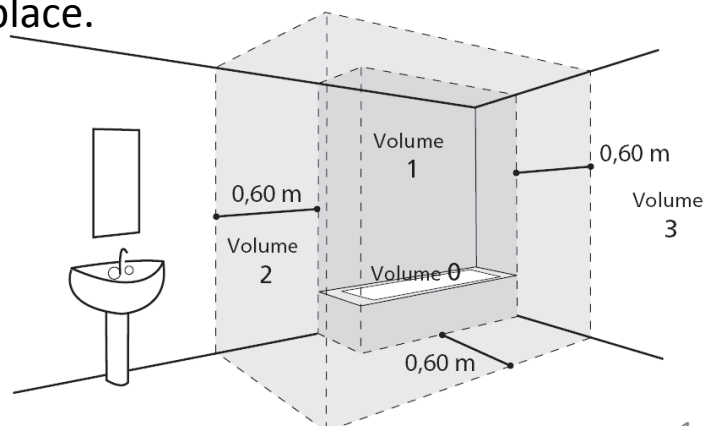
3/If the appliance has to be installed in a room or location with an ambient temperature always above 35°C, this room must be ventilated.

4/Place the appliance in an accessible place.

5/Refer to the installation diagrams.

The size of space needed for the appliance to be correctly installed is specified in the chapter installation.

It is mandatory for the water heater to be fixed to the floor using the fixing attachment provided.



WARNINGS

WATER CONNECTION

A new safety unit must be installed at the intake to the water heater, in a frost-free environment, with dimensions of 3/4" and with pressure of 7 bar - 0.7 MPa, compliant with local regulations in force.


A pressure reducer (not supplied) is needed when pressure is more than 5 bar (0.5 MPa) and it will be placed on the main supply.

Connect the safety unit to a drain pipe kept in the open air, in a frost-free environment, with a permanent downward gradient, to remove any expansion water from the heating process, or drainage water from the water-heater.

The operating pressure of the heat exchanger circuit must not exceed 3 bar - 0.3 Mpa, and its temperature must not be higher than 85°C.

ELECTRIC CABLING

Before removing the cover, always make sure that the power is turned off, to prevent any risk of injury or electric shock.

There must be an omni-polar power cut-off (circuit-breaker or fuse) fitted upstream of the electrical installation, compliant with local rules in force (30mA differential circuit-breaker). The system must be earthed. A special terminal, marked , is provided for the purpose.

French law strictly forbids connection of a product fitted with a cable and plug.

MAINTENANCE - REPAIR

Drainage: Cut the power and cold water supplies, open the hot water valves then operate the safety unit's drain valve.

The drainage device has a pressure limiting device that must be operated regularly to remove any scale deposits and check it is not blocked.

If the power cable is damaged, the manufacturer, the after-sales service or similarly qualified people must replace it, for safety's sake.

This manual is also available from the customer service department (contact details shown on appliance).

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Description

1. Important recommendations

1.1. Safety directives

Installation and commissioning work on thermodynamic water-heaters may pose hazards because of high-pressure and live electrical parts.

Thermodynamic water heaters must be installed, brought into service and maintained by trained and qualified personnel only.

1.2. Transport and storage



The product may be turned through 90° on one side. The side permitted is shown clearly on an information label placed on the product packaging. The product must not be turned on the other sides. An inclination indicator is used to check that the product has been transported and handled in accordance with our recommendations. We recommend you should be careful to respect these instructions. Our commercial warranty will not apply if the inclination indicator is red. We will not be responsible for any fault in the product resulting from transport or handling of the product in a way that does not comply with our recommendations.



2. Content of package



Water heater



1 Manual



1 bag with insulation sleeve with 2 seals to be fitted to the hot water outlet

Coil model only: an other additional insulation sleeve is provided to be fitted to the recirculation fitting.



1 safety valve to be installed on cold water pipe (not to be used in France)



1 connection for evacuation of the condensates



1 tube for condensates (2m)

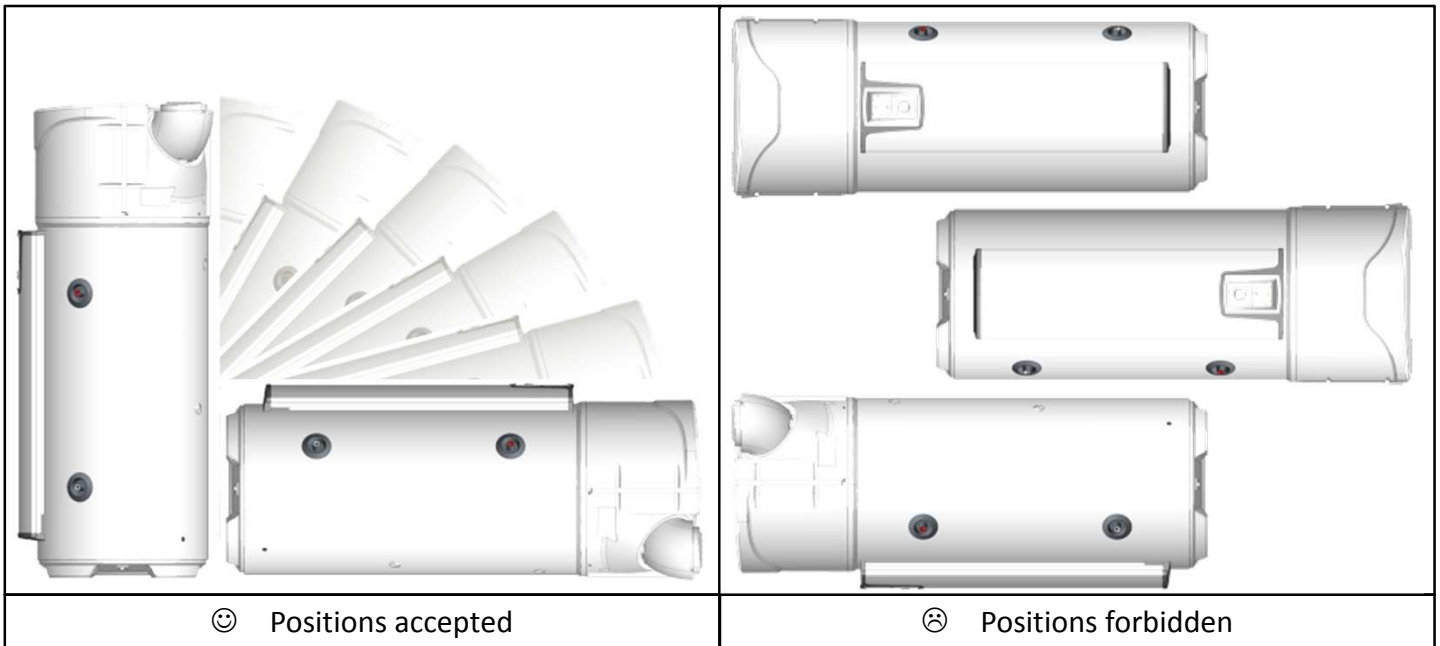


1 metal strap and screw to fix the device on the ground

3. Transport

The product integrates several handles to facilitate handling to the installation site.

To transport the boiler to the installation site, always use the lower grips and top handles as shown.



⚠ Observe the recommendations and handling on the packaging of the water heater.

4. Working principles

The heat pump water heater uses unheated air to heat domestic hot water.

The coolant in the heat pump sets up a thermodynamic cycle which allows the energy from the unheated ambient air or the outside air to be transferred to the water in the cylinder.

The air is passed through the device by a fan, ventilating the various components including the evaporator.

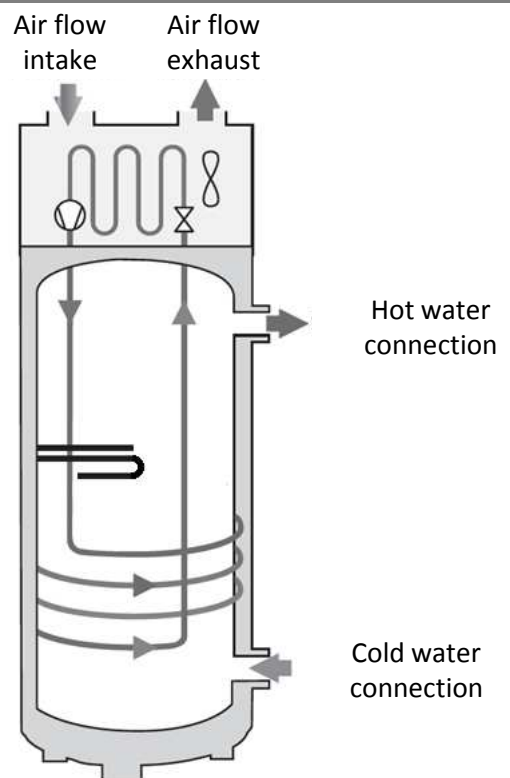
As it passes through the evaporator, the coolant evaporates and conveys calories to the intake air.

The compressor compresses the coolant causing its temperature to rise.

This heat is transmitted by the condenser to the domestic water stored in the cylinder.

The coolant expands in the thermostatic expansion valve and cools down. It is then once again ready to receive heat in the evaporator.

The colder the air, the harder it is to withdraw calories from it. Similarly, the higher the hot water setting, the harder it is for the heat pump to return the calories withdrawn



5. Technical data

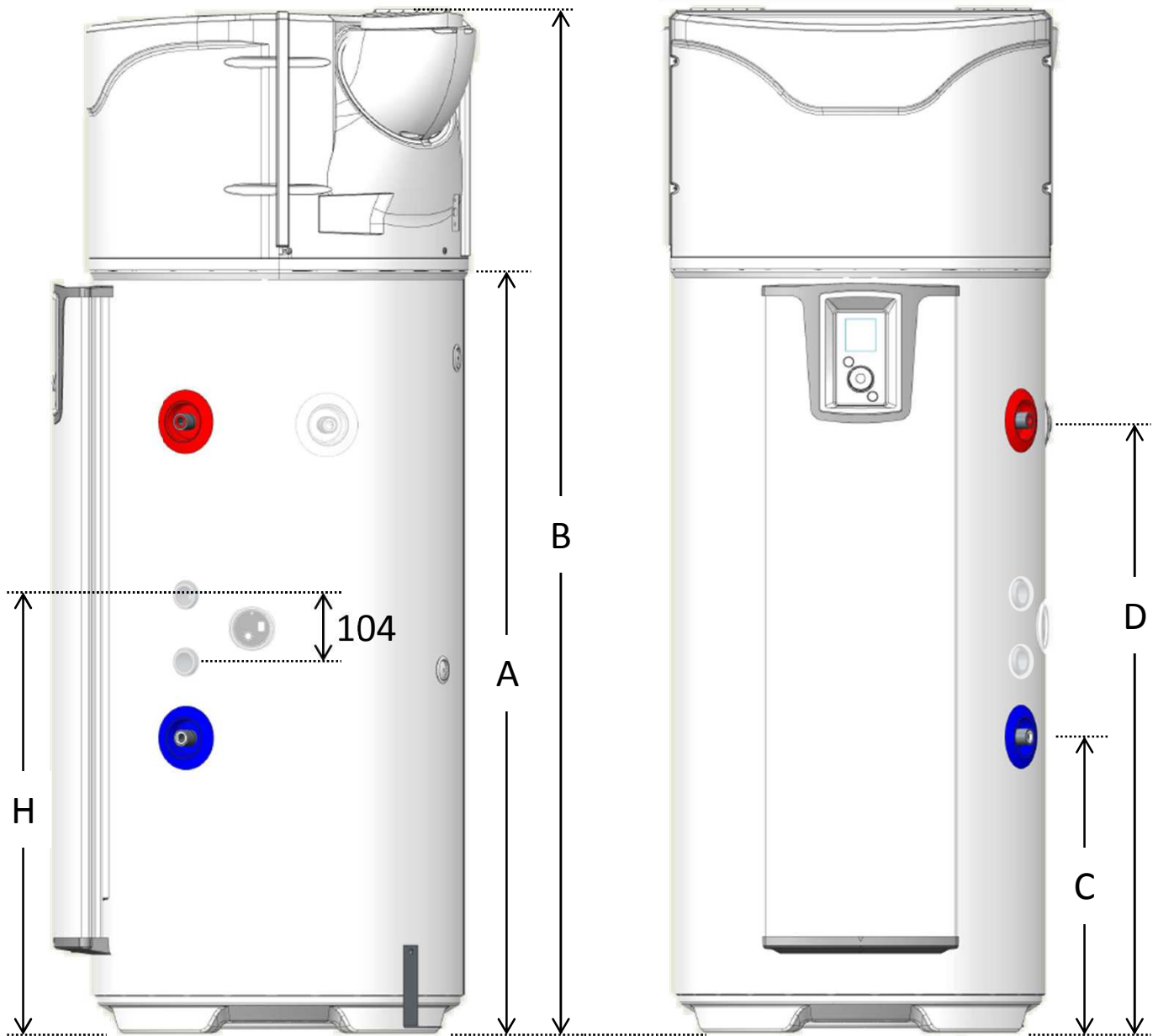
Model		200 liters	270 liters
Dimensions (Height x Width x Depth)	mm	1609 x 620 x 665	1949 x 620 x 665
Empty weight (model without coil)	kg	85	93
Empty weight (model with coil)	kg	100	108
Nominal capacity	L	200	270
Hot and cold water connection			¾ " M
Coil's connection			1" M
Coil's heating surface	m ²		1,2
Coil's power at T _{Primary} 60°C and flow 1,5m ³ /h	kW		16
Anticorrosion system			ACI Hybrid
Rated water pressure	Bar		8
Electrical connection (voltage/frequency)	-	230V single phase 50 Hz	
Maximal total power absorbed by the device	W	2465	
Maximal power absorbed by the heat pump	W	665	
Power absorbed by the auxiliary electrical unit	W	1800	
Heat pump water temperature setting range	°C	50 to 62	
Heat pump user temperature setting range (air temperature)	°C	-5 to +43	
Duct diameter	mm	160	
Air flow (without duct) at low speed	m ³ /h	300	
Air flow (without duct) at high speed	m ³ /h	390	
Load losses acceptable on ventilation circuit, without affecting performance	Pa	25	
Sound power level	dB(A)	50,3	
Sound pressure level at 2m	dB(A)	33,5	
R134a refrigerant capacity	kg	1,25	1,35
Hot water quantity at 40° : V40td in 8h(Off-peak)	L	312	347
Hot water quantity at 40° : V40td in 14h (Off-peak+6h)	L	579	607

Performance at 7°C air temperature (EN 16147)

Coefficient of performance (COP)	-	2,8	2,9
Tapping cycle	-	L	XL
Standby power input (P _{es})	W	27	30
Heating up time (t _h)	h.min	7h54	10h41
Reference hot water temperature (T _{ref})	°C	54	52,9
Flowrate (air)	m ³ /h	305,7	287,6

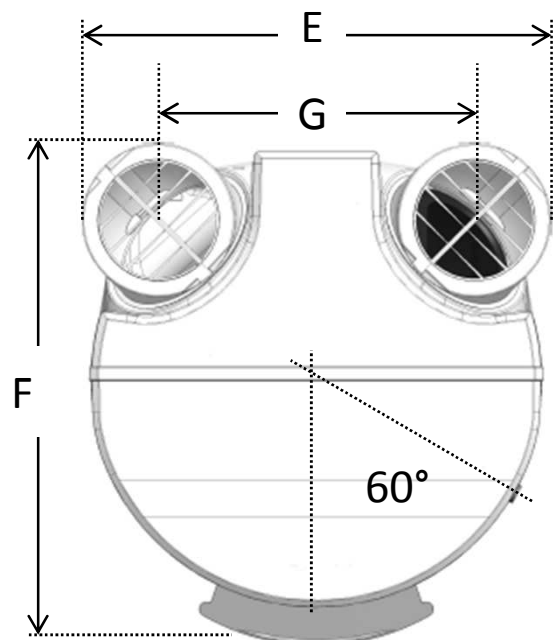
This device is compliant with directives 2004/108/CEE on electromagnetic compatibility and 2006/95/CEE on low voltage.

6. Dimensions

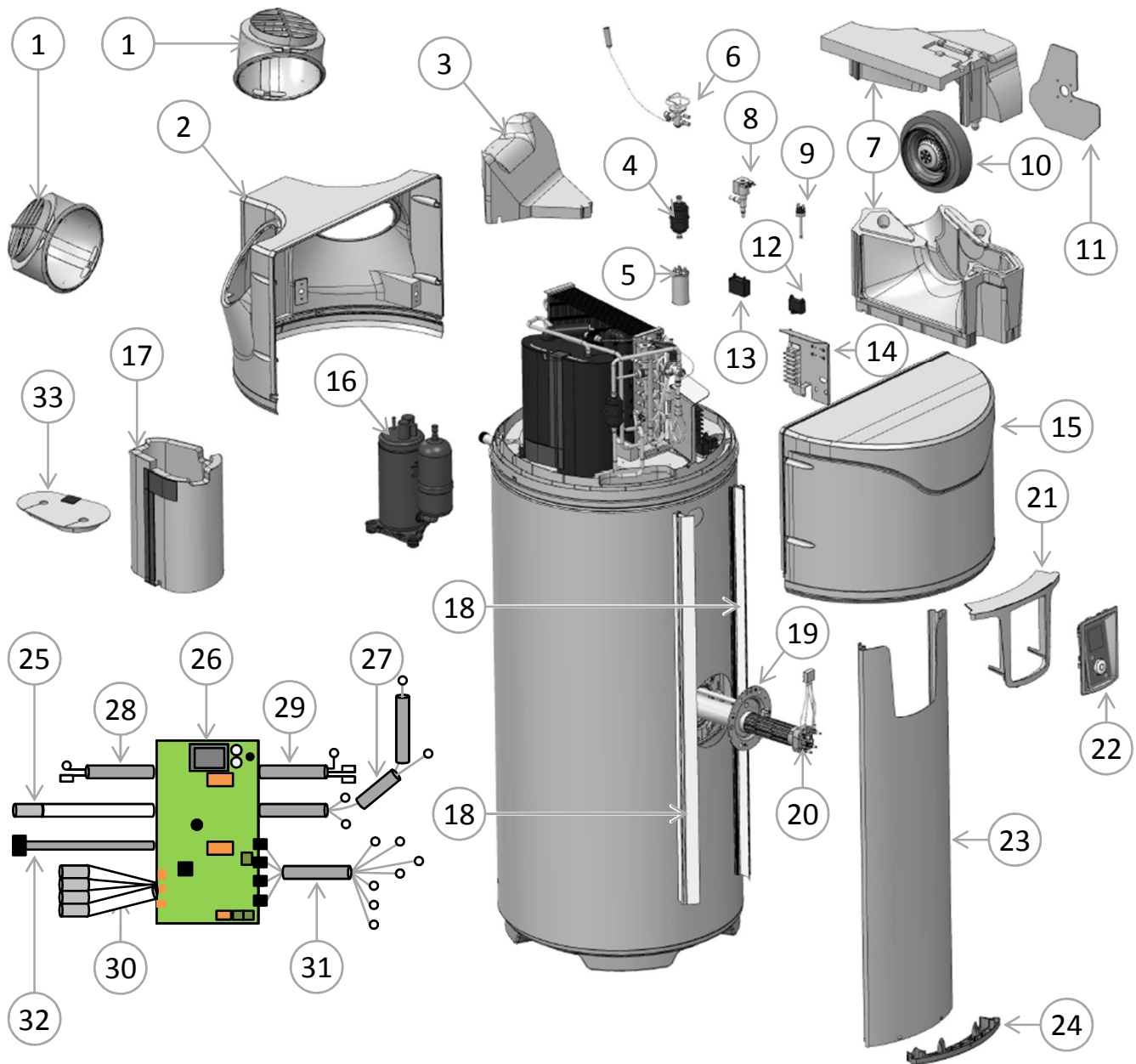


Ind	MODEL	200 STD	200 ECH	270 STD	270 ECH
A	Condensate outlet	1221	1221	1562	1562
B	Total height	1609	1609	1949	1949
C	Cold water inlet	304	462	304	462
D	Hot water outlet	961	961	1300	1300
E	Total width	620	620	620	620
F	Total depth	665	665	665	665
G	Distance between air inlet and outlet	418	418	418	418
H	Coil inlet	-	581	-	581

Dimensions in mm



7. Parts list



1 Adjustable inlet and outlet

2 Rear cover

3 Spoiler

4 Filter

5 Capacitor 15 μ F

6 TX valve

7 Fan scroll casing

8 Hot gas valve assembly

9 Pressure switch

10 Fan

11 Fan plate support

12 Capacitor 1,5 μ F13 Capacitor 4 μ F

14 Terminal connection block

15 Front cover

16 Compressor

17 Compressor jacket

18 Guide support rail

19 Hybrid heating sleeve

20 Electrical heating element

21 Controller desk

22 Controller

23 Front column

24 Lower column plug

25 ACI wire

26 Regulation controller PCB

27 Compressor wire

28 Water sensor wire

29 Electrical backup wire

30 Heat pump sensors wire

31 Fan wire

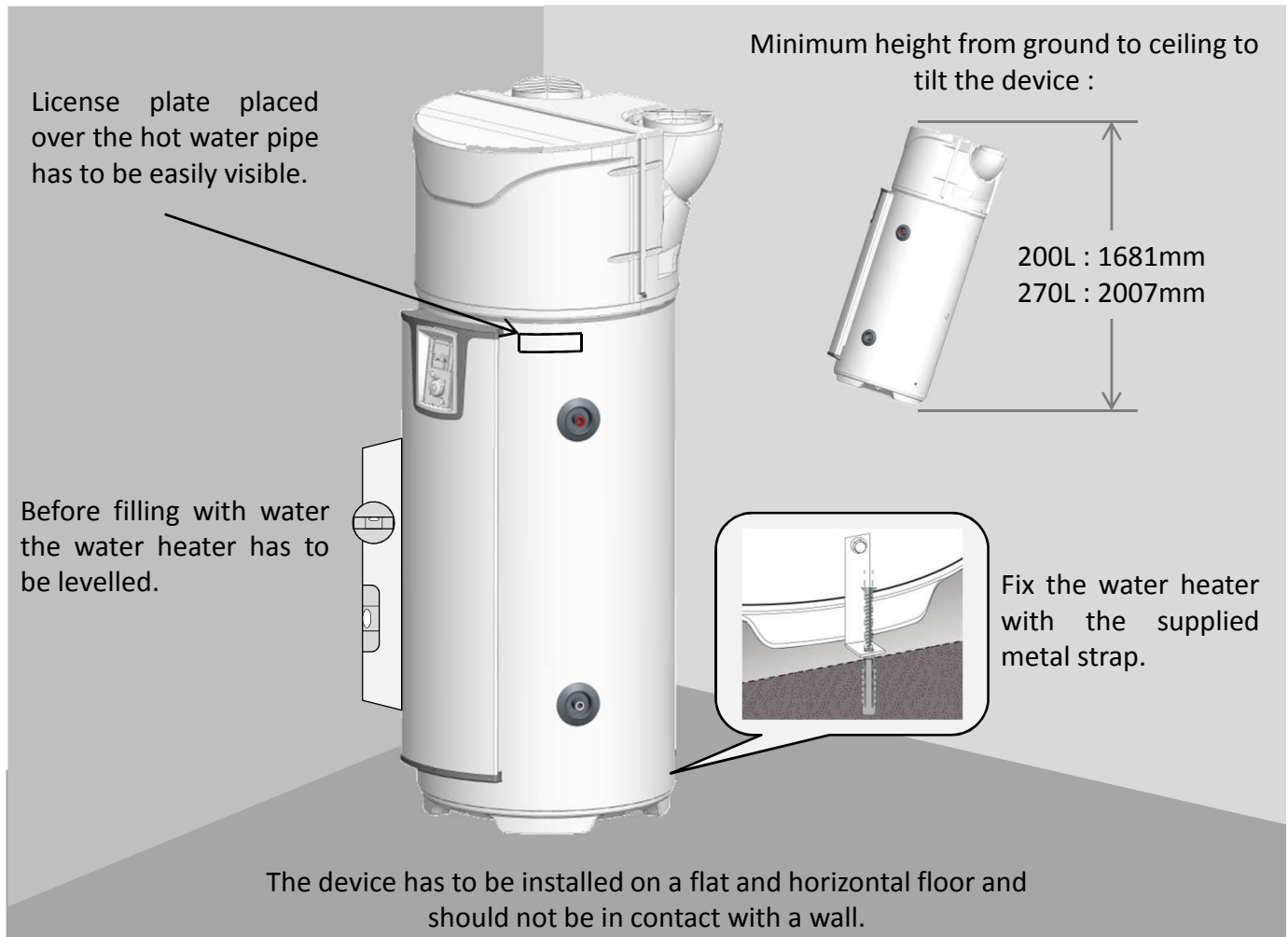
32 Controller wire

33 Compressor jacket cover

Installation

1. Product installation

 It is mandatory to install a retention basin below the water heater if installed above a living area.



 The device has to be fixed (according article 20 of EN 60335-1) on the ground with the supplied dedicated metal strap.

Whatever installation configuration is selected the place of installation has to conform to the protection level IP X1B, complying to the prescriptions of NFC 15-100 (or local equivalent).

The floor has to support a load of 400 kg minimum (surface below the water heater).

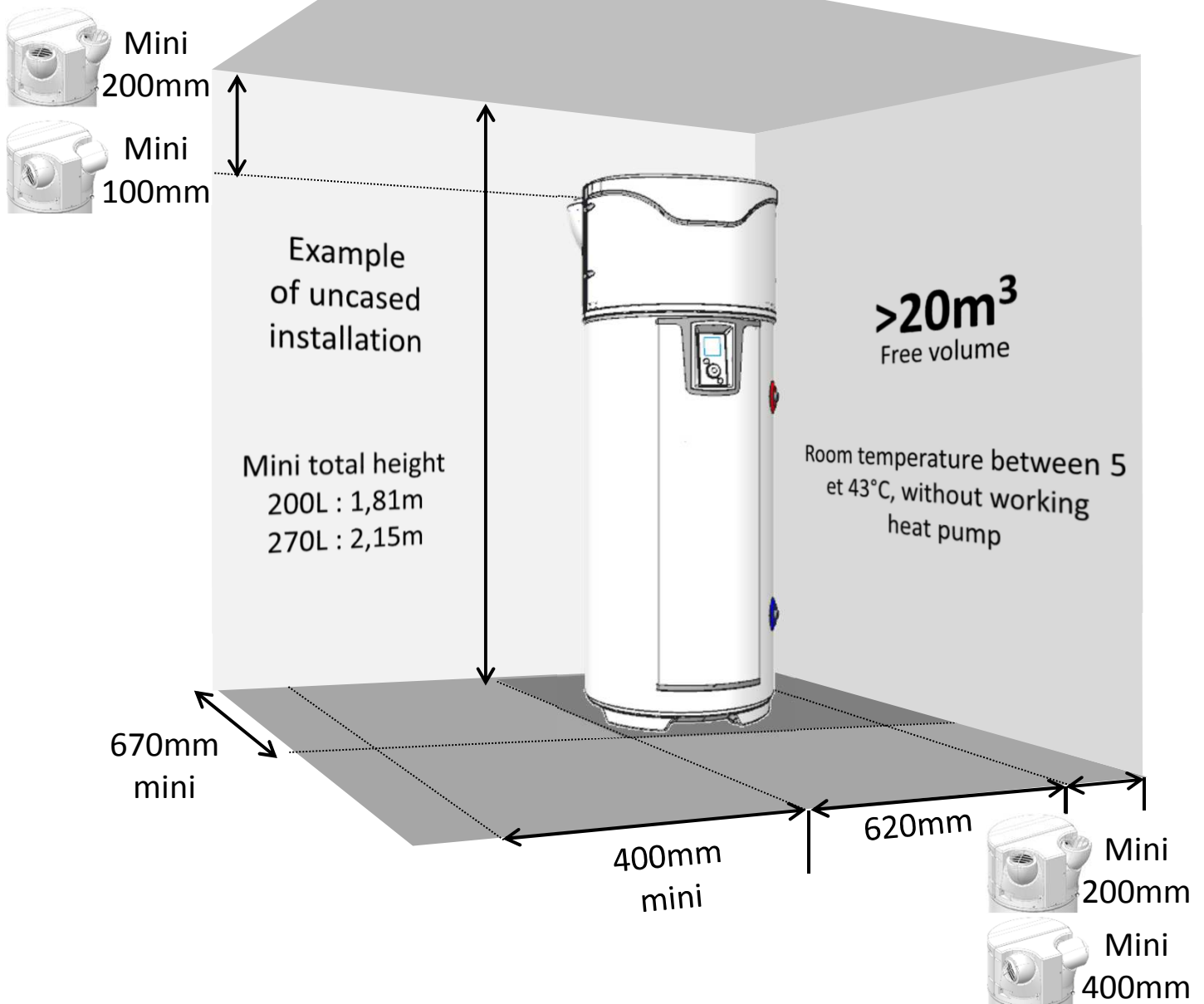
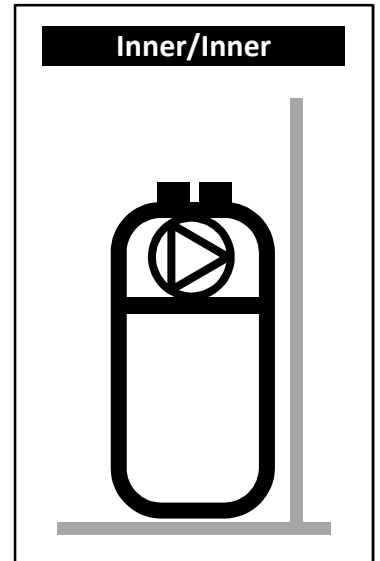
 The non-respect of installation guidelines can cause poor performances of the system.

2. Installation uncased (Ambient air).

- ✓ Unheated room with ambient temperature $> 5^{\circ}\text{C}$ and insulate the heated rooms of the dwelling.
- ✓ Parameter « Air pipes » to be set on « Inner/Inner »
- ✓ Recommended room = underground or partially underground, room where average yearly temperature is $> 10^{\circ}\text{C}^{\circ}$.

Examples :

- Garage : recovery of free calories from combustion engine or of domestic devices.
- Washing room : reduce humidity of the room and recover lost calories of washing machine and dryer.



It is mandatory to respect indicated distances to prevent air looping .



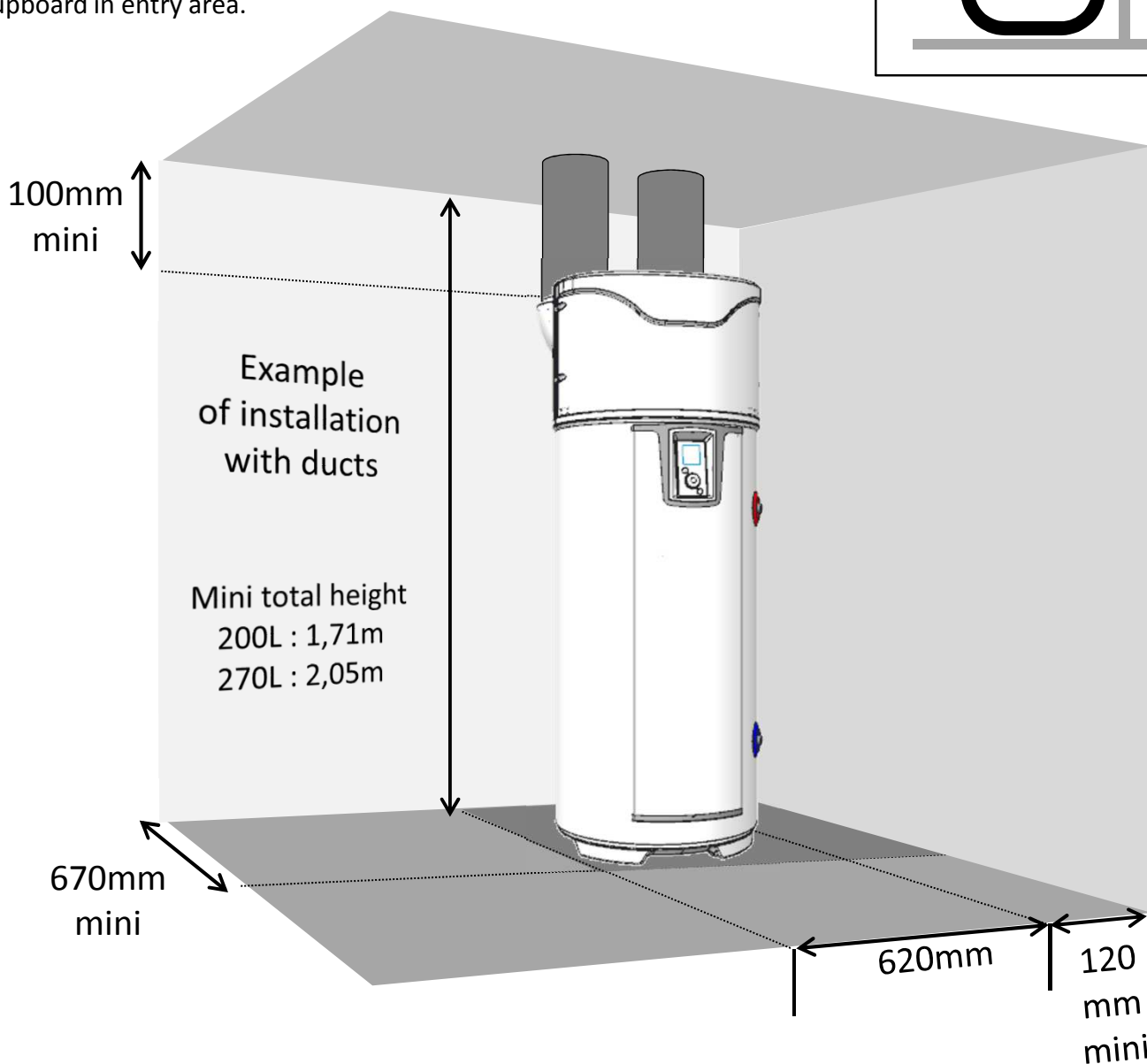
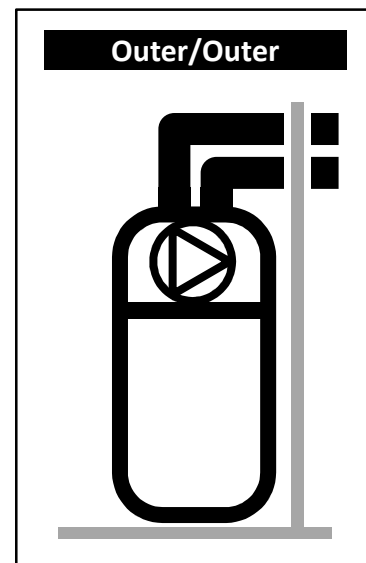
Keep a free space of 500 mm in front of electric compartment and 300 mm around hydraulic connections to allow easy access for maintenance.

3. Installation cased (2 ducts).

- ✓ Room at minimum frost free ($T > 1^{\circ}\text{C}$).
- ✓ Parameter « Air pipes» to be set « Outer/Outer »
- ✓ Recommended room : living area (the heat loss of the water heater remains in heated area), close to external walls. Avoid installation of water heater and/or ducts near to sleeping rooms.

Examples :

- Washing room,
- Storage room,
- Cupboard in entry area.



Respect the maximum length of ducts. Use insulated rigid ducts.
Plan grids at air entry and exit to avoid intrusion of objects or animals.
Attention, entry or exit grids with manual closing device are forbidden.



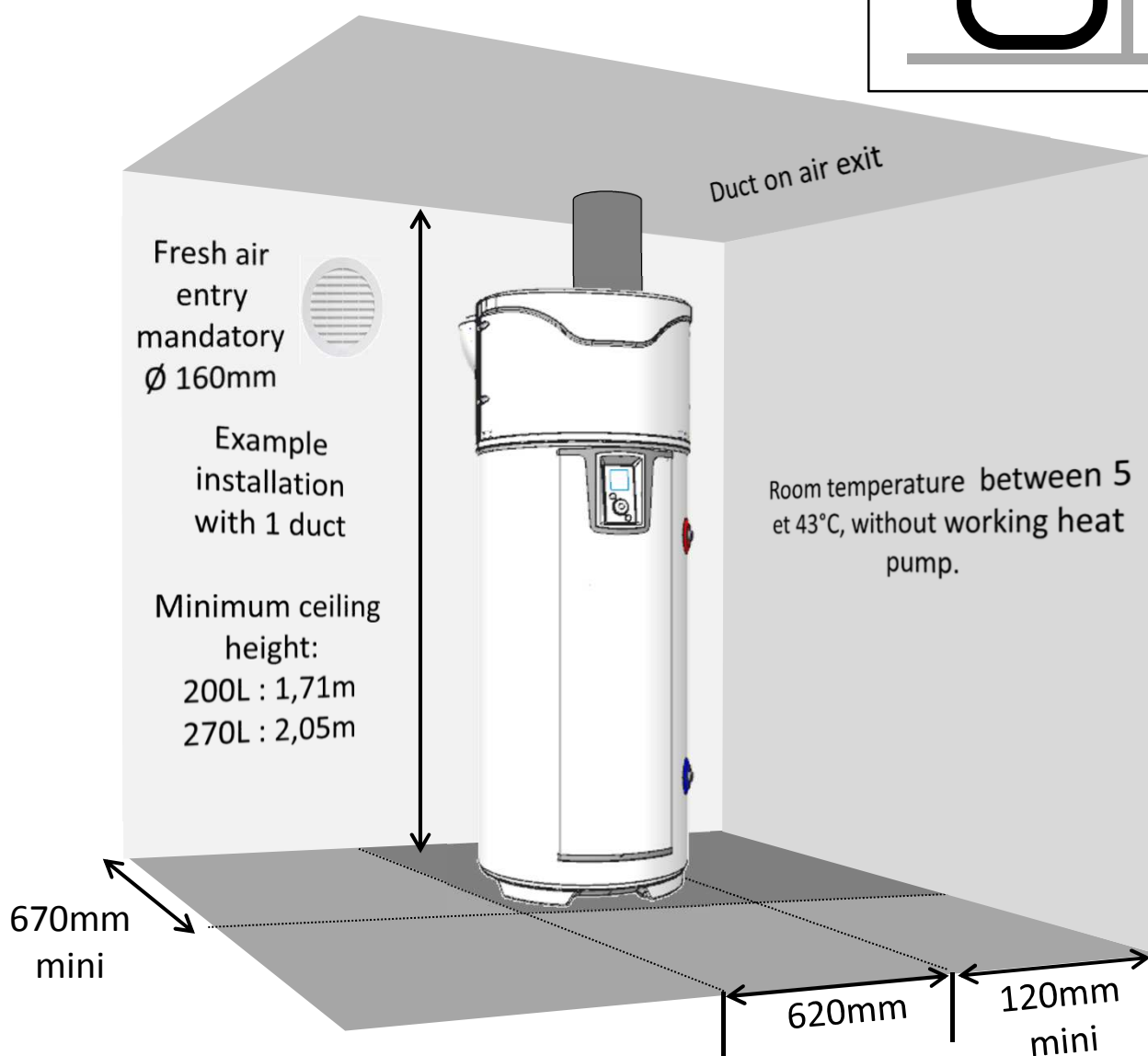
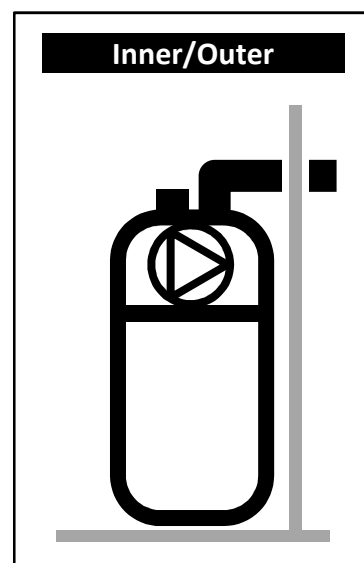
Keep a free space of 500 mm in front of electric compartment and 300 mm around hydraulic connections to allow easy access for maintenance.

4. Installation semi – cased (1 duct for air exit).

- ✓ non heated room with ambient temperature > 5° C and insulated to the heated rooms of the dwelling.
- ✓ Parameter « Air pipes » to be set on « Inner/Outer ».
- ✓ Recommended room = underground or partially underground, room where average yearly temperature is > 10° C°.

Examples :

- Garage : recovery of free calories from combustion engine or of domestic devices
- Washing room : reduce humidity of the room and recover lost calories of washing machine and dryer.



The pressure reduction in the room generated by the air extraction causes fresh air entry through doors and windows. Plan an air entry (Ø 160mm) from outside to avoid air sucking from heated living area.

In winter time the renewed air can cool the room.




Keep a free space of 500 mm in front of electric compartment and 300 mm around hydraulic connections to allow easy access for maintenance.

5. Prohibited configurations

- Water heater extracting air from heated room.
- Connection to a heat recovery ventilation unit.
- Connection of the ducts to the attic.
- Duct on outside air and air exit indoor.
- Connection to an underground air duct.
- Water heater installed in a room together with a boiler connected to a chimney with natural draft and 1 duct to outside.
- Direct air connection to a cloth drying machine.
- Installation in dusty rooms.
- Intake of air with solvents or explosive materials.
- Direct air connection to cooking hoods with polluted and fatty air.
- Installation in a room where freezing temperature can occur.
- Objects stacked on the top of the device.

6. Hydraulic connection

 The use of a circulation loop should be restrained. Such an installation may disturb the stratification inside the tank. This triggers more working cycles for the heat pump and the potential use of the electric backup heater.

Cold water inlet is marked with a blue collar and the hot water outlet has a red collar. Both have a thread gas dia. 20/27 (3/4").

For regions with a lot of scale ($Th > 20^\circ f$), we recommend to treat the water. The hardness after softener has to be higher than 15°f. The use of a softener does not influence the warranty if the softener is approved for the country of installation and set to the rules of art, with regular checking and maintenance.

Local criteria of drinking water quality have to be respected.

6.1. Cold water connection

Before connection check that the piping is clean without any particles from installation.

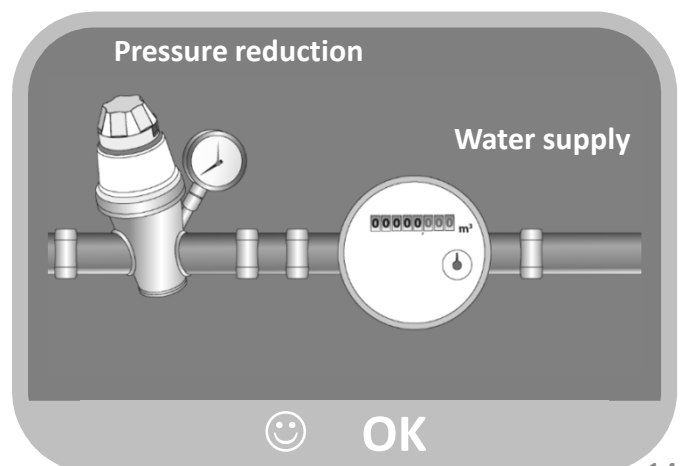
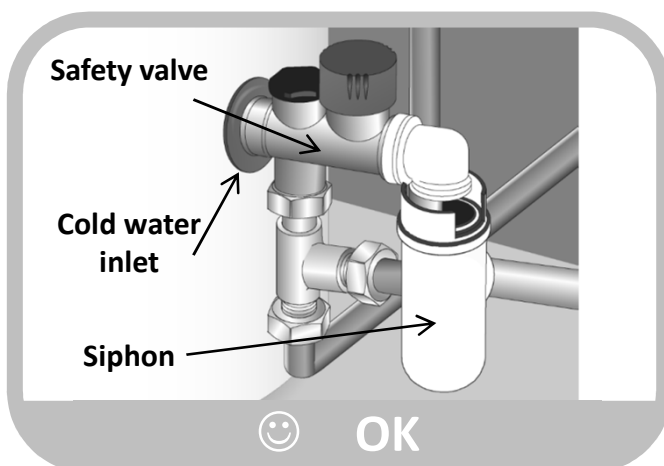
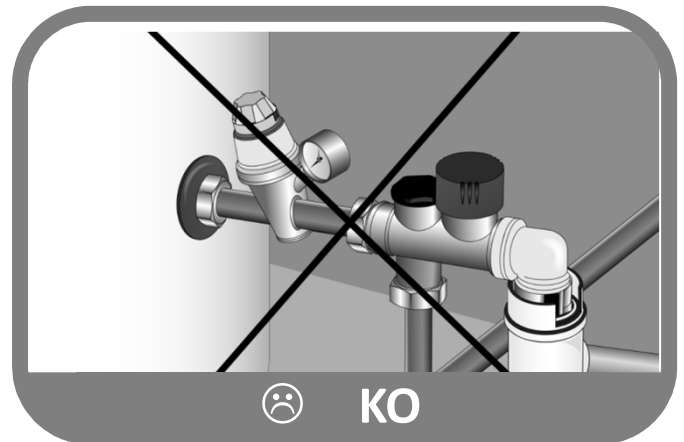
The installation has to include a new safety valve set to 7 bar (0,7 Mpa), compliant to EN 1487 and connected directly on the cold water inlet.

 No hydraulic device (stop valve, pressure reduction, flexible...) is allowed between the safety valve and the cold water inlet of the water heater.


As water can flow from the safety valve the drain should be kept in open air. In any type of installation there should be a cold water stop valve, before the safety valve.


The overflow of the safety valve has to be connected to the used water evacuation through a siphon. Installation has to be in a frost-free environment. The safety valve has to be operated regularly to check the working condition (1 - 2 times per month).

The installation should be equipped with a pressure reduction if the main water supply pressure is higher than 5 bar (0,5 MPa). The pressure reducing device has to be installed at the beginning of the distribution network (before the safety valve). We recommend a supply pressure of 3 - 4 bar (0,3 to 0,4 MPa).





6.2. Hot water connection

 Do not connect copper tubes directly on the tank connection. You have to fit the supplied insulation union (included in the supply).
In case that the tank connection is corroded without this protection the warranty will not apply.


 If the installation is made with synthetic pipes (e.g. : PER, multi-layer...), install mandatory a thermostatic control valve at the connection pipes of the water heater. The setting should be done in relation with the specification of the installed piping.

6.3. Connection of circulation loop


 Do not connect copper tubes directly on the tank connection. You have to fit the supplied insulation union (included in the supply).
In case that the tank connection is corroded without this protection the warranty will not apply.

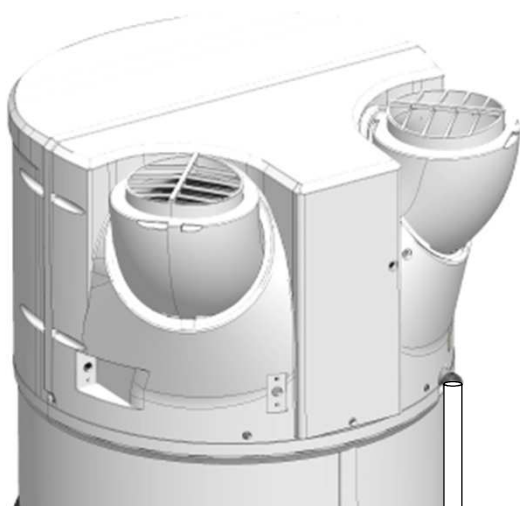
 If the circulation connection is not used install the plug and seal on this connection (included in the supply).

6.4. Connection of primary circuit (for water heater with coil)


 Protect the circuit against over pressure due to water expansion during heating with a safety valve 3 bar – 0,3MPa, or an expansion vessel open type (atmospheric pressure) or a closed expansion vessel. The nominal circuit pressure should not exceed 3 bar – 0,3MPa, the temperature not higher than 85°C. If the coil is connected to solar panels use an adapted water glycol mix to protect against frost and corrosion : e.g. « TYFOCOR L ». If the circuit is equipped with stop valves on the coil entry and exit do never close both valves simultaneously to avoid the risk of over-pressure in the coil.

6.5. Condensate evacuation

 The temperature drop of the air passing through the exchanger forms condensation from humidity in the air. The condensed water is evacuated on the rear of the tank using the supplied plastic tube.

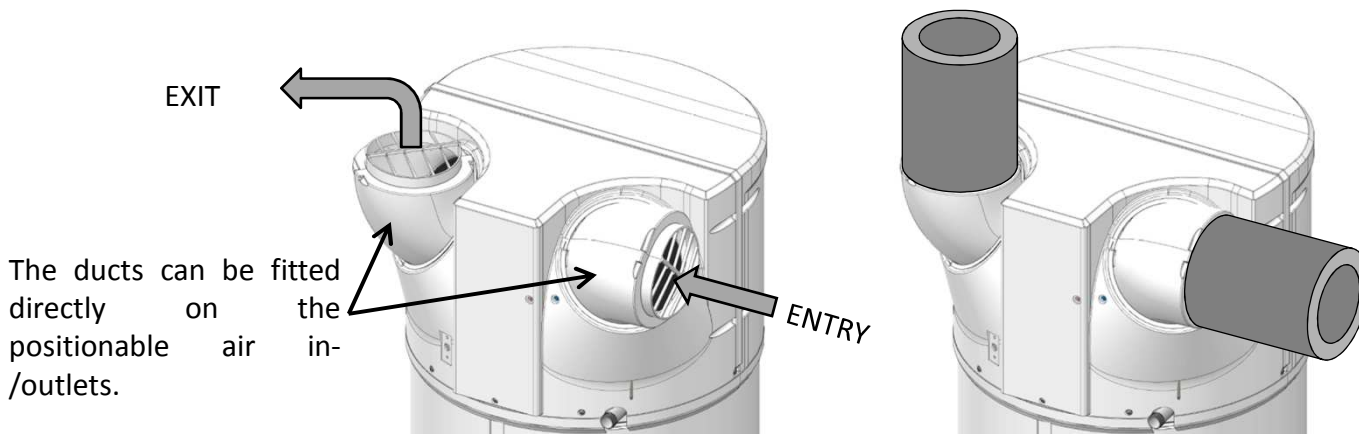


Depending on the degree of humidity in the air you can get up to 0,25l/h of condensation. The evacuation of condensate should not be made directly to sew water because of possible corrosive gasses damaging the exchanger fins and water heater parts.

 The use of a siphon to connect to sew water is mandatory (the siphon must not be made with the supplied tube).

7. Air connection

If the volume of the installation room is not sufficient the water heater can be connected to ducts with a diameter 160 mm. If the ducts are not insulated this could generate condensation in the ducts during operation. **The use of insulated ducts is mandatory.**



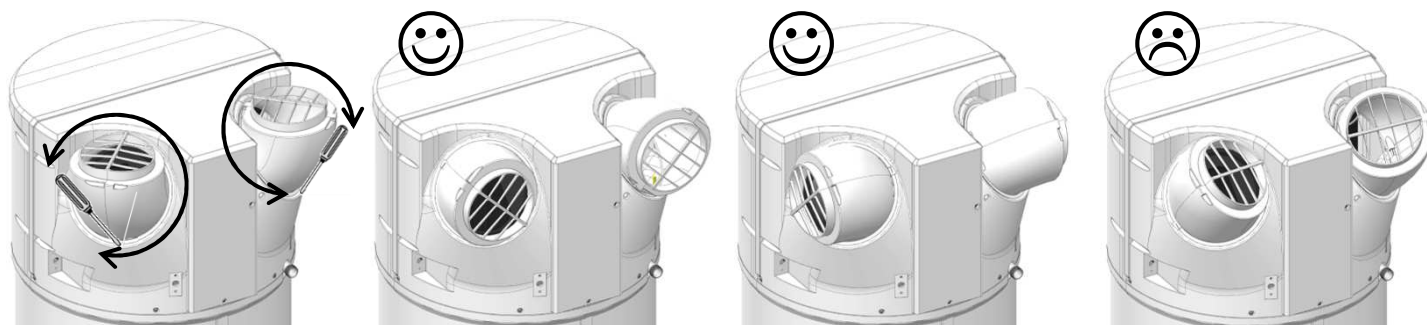
⚠ If the water heater is ducted the parameter setting has to be adapted. The total pressure drop of ducts and accessories for air intake and exit has to be less than 150 Pa. The recommended length of ducts has to be respected.

A poor duct installation (duct compressed, length or number of bends too high...) can reduce the performance. **Thus the use of flexible ducts is not recommended.**

Number of bends 90°	Total duct length with air intake and exit (ATL catalogue)	
	ALUMINIUM SEMI RIGID	PEHD
0	8m	19m
1	7m	16m
2	5m	12m

Note : The positionable air connections allow to reduce or avoid the duct bends. For further information on the positionable air connections, see the § « Positioning of the water heater ».

Position of the air intake and exit.



1 Unscrew the fixing screws of the air connection, then turn in the required direction.

2 Rotate by 120°, position to the rear.

3 Rotate again by 120°, position to the opposite sides.

4 Do not position the air connection partially face to face. Position not allowed as cold air will be recycled !

8. Electric connection

Refer to the electric connections diagram below and on page 34.



**The water heater must not be switched on before complete filling with water.
The water heater must be connected to electricity supply permanently.**

The water heater has to be connected on single phase 230 V alternative current. Connect the water heater with a cable with rigid conductors with section of 1,5 mm². The installation is composed of :

- A 16A omni-polar circuit breaker with contacts opening at minimum 3mm,
- A 30mA differential circuit breaker.

If the power cable is damaged, the manufacturer, the after-sales service or similarly qualified people must replace it, to avoid danger.

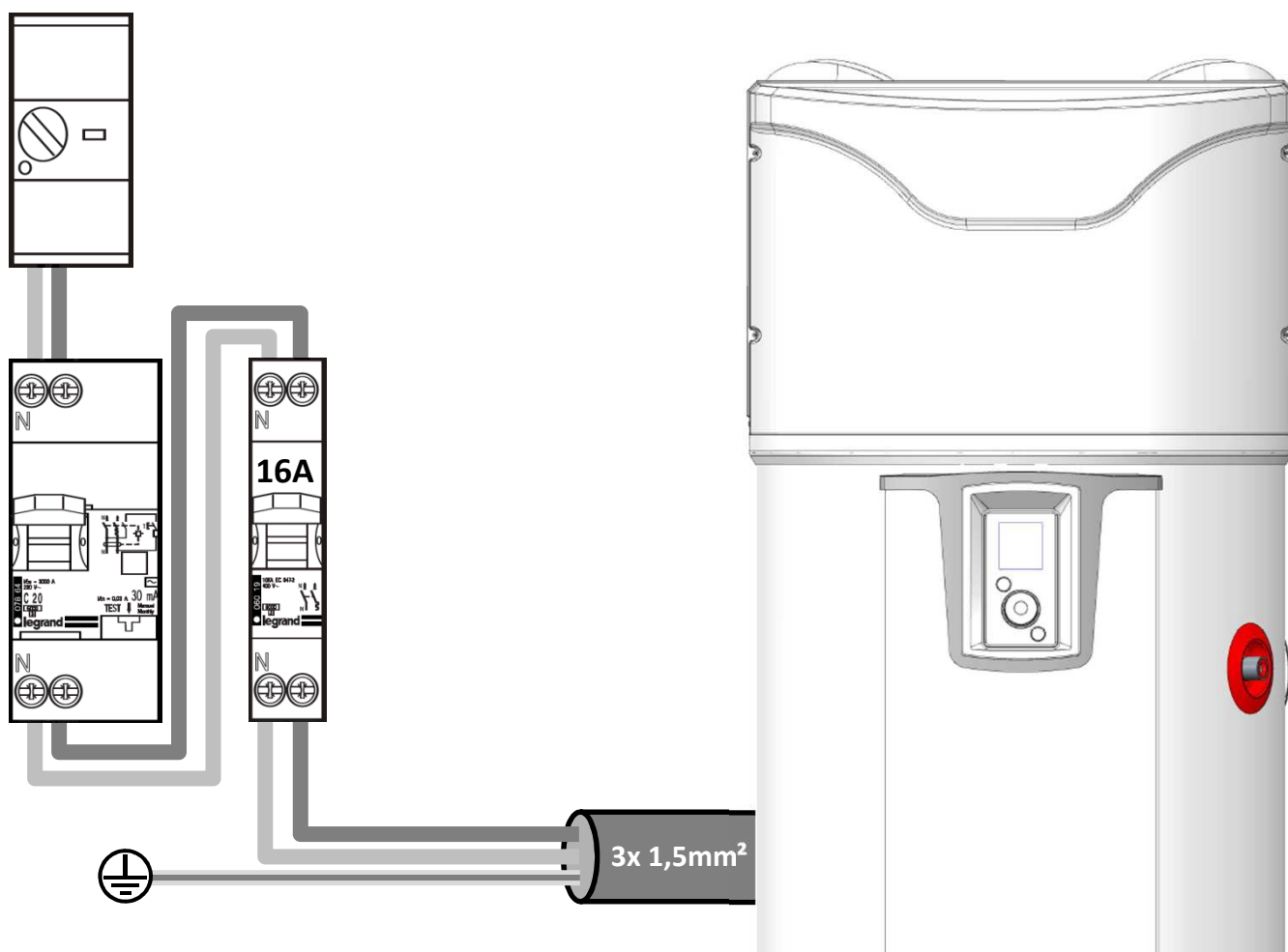


Never supply power directly to the heating element.

The security thermostat fitted to the auxiliary electric heating element must not be repaired in other places as our factory. **Failure to respect this clause invalidates the warranty.**

The device must be installed in accordance with the national electrical installation rules.

Electric connection diagram



Connection to earth is mandatory.

9. Connection of optional equipment



Always switch-off power before any operation.

To access the wiring board read the instructions to remove the front cover.



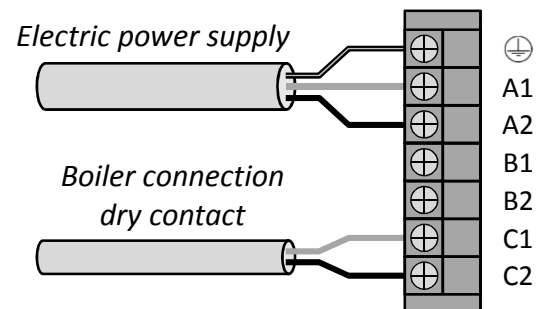
A dedicated cable channel exists for the connections. Please use it.



9.1. Connection to a boiler.

Water heaters with a coil can be connected to a gas / fuel oil boiler. In this configuration, the water heater commands the heat generation to the boiler.

The connection of the boiler has to be made on the contacts **C1** and **C2** of the wiring board.

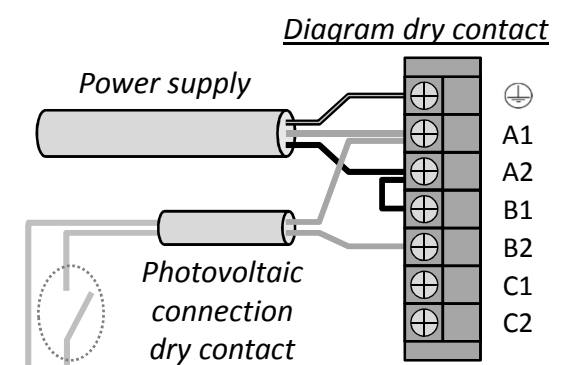
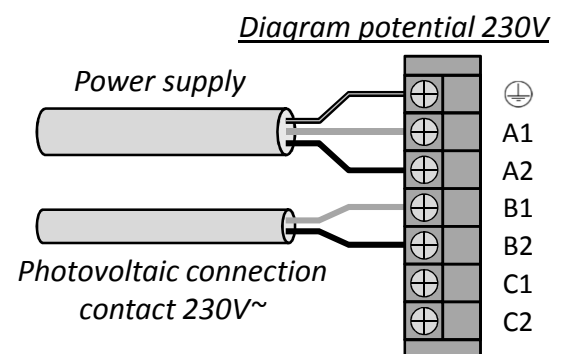


9.2. Connection of a photovoltaic station.

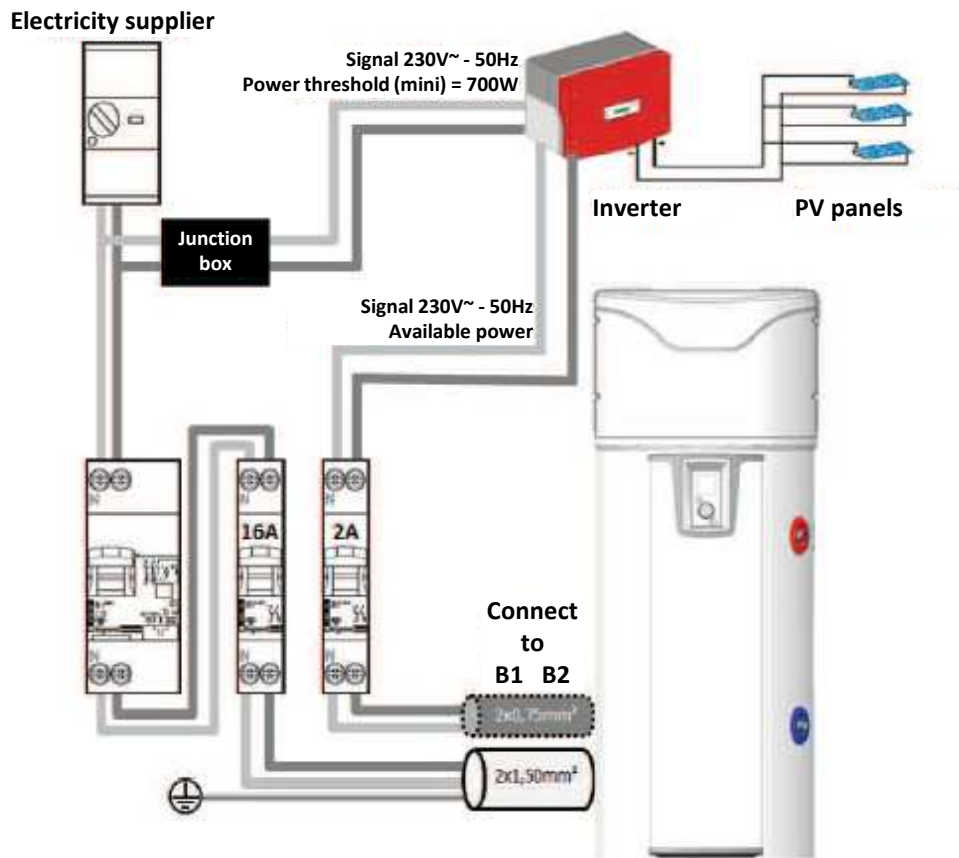
When associated with a photovoltaic system you can store the excess energy produced in the water heater as hot water. Once the photovoltaic panels produce enough energy, the inverter sends a signal to the water heater which switches into a special mode (PV) activating the heat pump. If the inverter signal stops, the water heater switches automatically back to the previous operating mode. In this PV mode the set temperature is changed to 62 ° C (no modification possible) and on the display appears «PV».

The water heaters linked to a photovoltaic installations has to be connected to the inverter module.

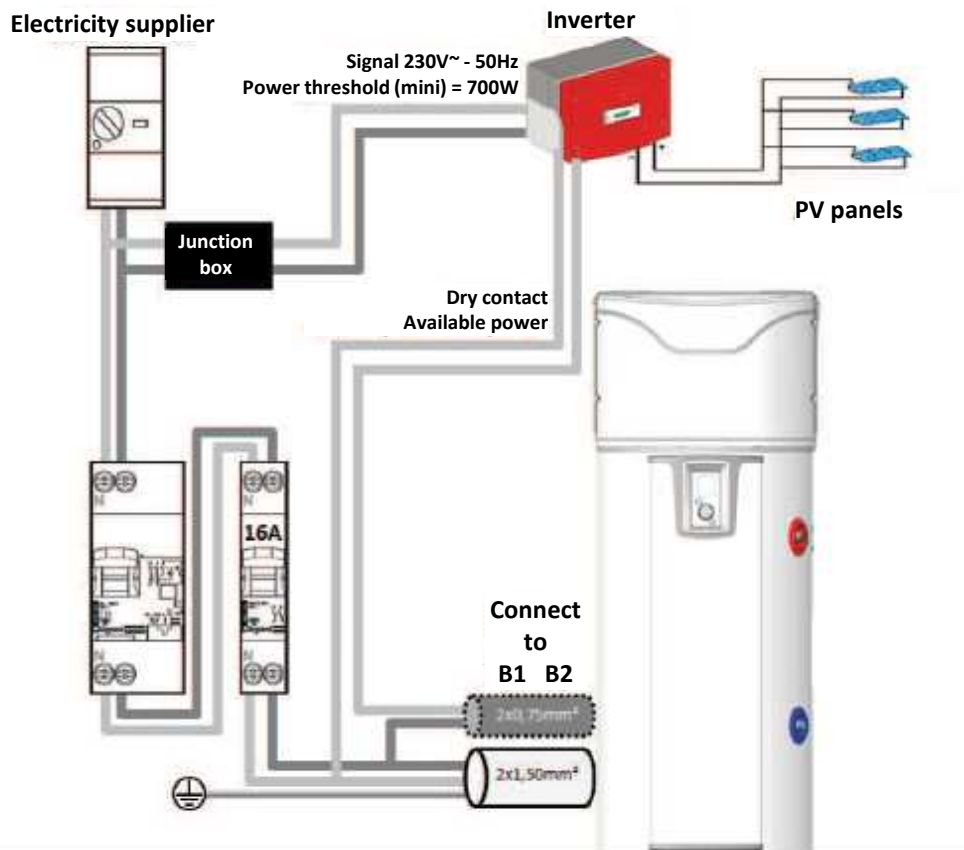
The connection to the inverter is done with **B1** and **B2** of the wiring board.



Photovoltaic connection: contact 230V



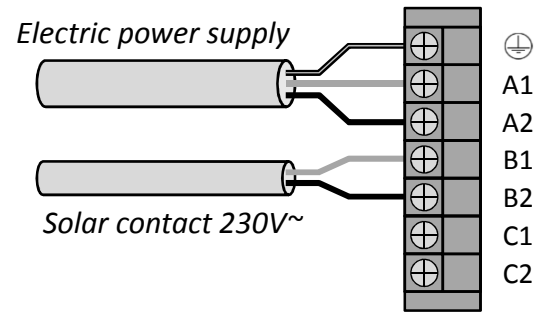
Photovoltaic connection: dry contact



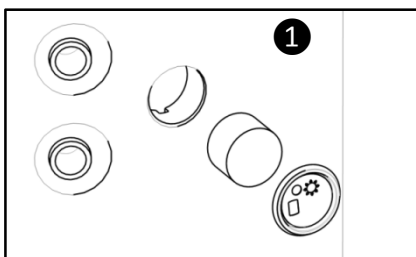
9.3. Connection to a solar station.

For thermal solar operation the water heater (models with « solar» exchanger) has to be connected to the solar station. In this configuration, the water heater receives the signal to operate the electric backup from the solar station. All other functions are not active. This connection should not be used for an automatic multi-energy operation.

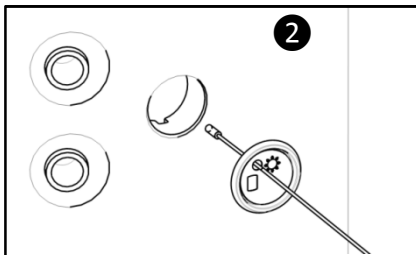
The connection to the solar station should be done on the contacts **B1** and **B2** of the connection board.



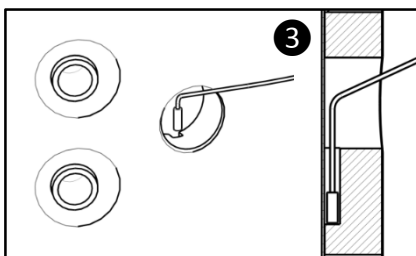
9.4. Installation of the solar sensor



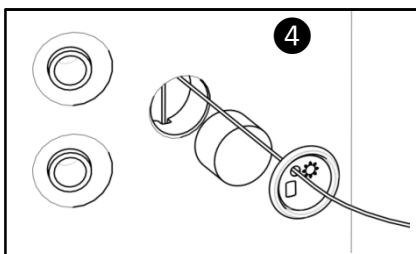
Take off the plastic cap and the foam plug located near the exchanger connections.



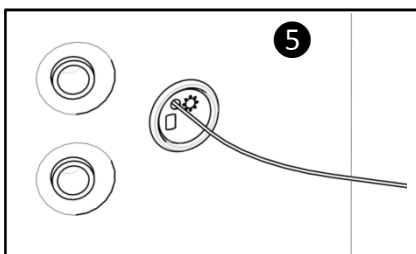
Push the sensor through the plastic cap (the cap has dedicated perforations).



Insert the sensor in the sensor slot and make sure that it is in correct position in the bottom of the sensor slot.



Replace the foam plug and clip the plastic cap.



10. Commissioning

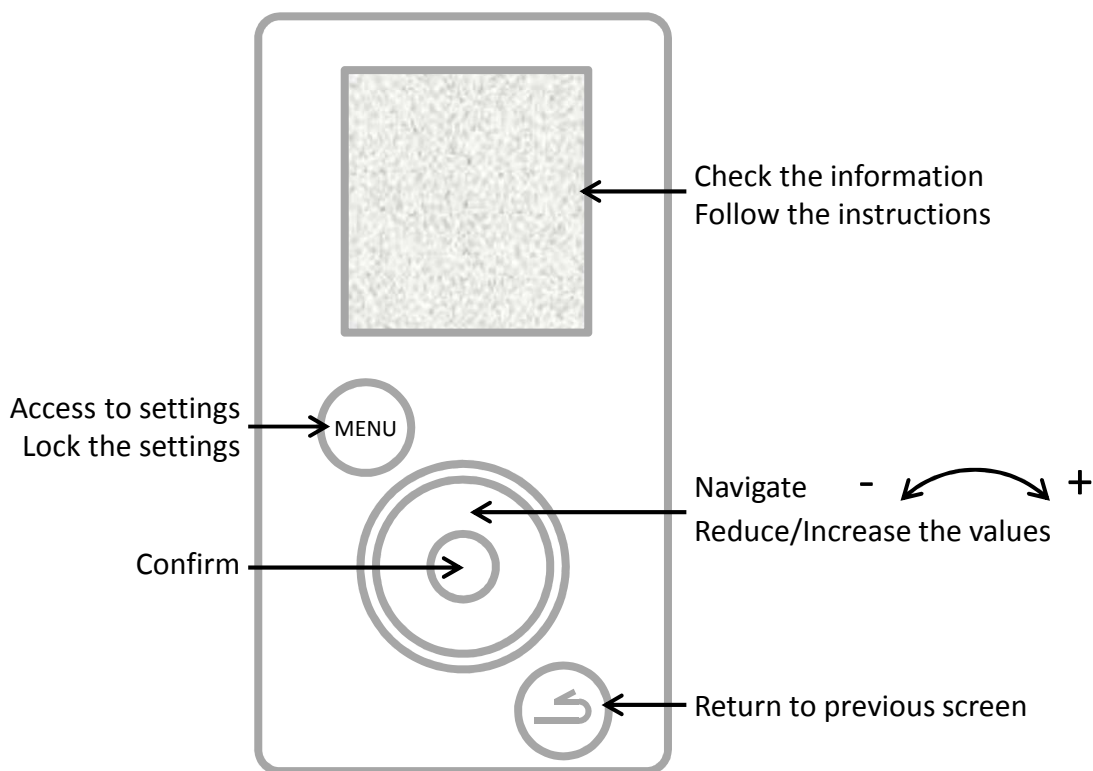
10.1. Filling of the tank

- ① Open one or several hot water taps.
- ② Open the cold water tap on the security group (make sure that the drain valve is closed).
- ③ When water starts flowing from the hot water taps close them. The tank is full.
- ④ Check the connections for possible leaks.
- ⑤ Check the correct function of valves and safety group by opening them several times in order to eliminate possible particles.

10.2. First operation



If the water heater has been tilted wait for minimum 1h before operation.



- ① Switch on the power supply.
- ② Check that no error message appears on the screen.
- ③ At the first switching on the setting instructions are shown on the display. Follow thoroughly the instructions on the display to set the parameters (Date and time, Air ducts, Installation, circulation loop, Photovoltaic system, operation range, Anti-legionella system).
- ④ When the parameters are set check the functions of the water heater (see § « Checking of operation »).

To return later to the settings, check the paragraphs « Setting of the installation » or « Parameters of installation ».

10.3. Settings of the installation.

Access again to the various settings of the installation :



Settings

- **Date and time**

Set the day and confirm. Proceed in the same way for the month, the year, the hour and the minutes.

- **Operation time**

This parameter defines the allowed working hours for the operation of the heat pump, the electric backup and, if existing, the hydraulic backup depending on the need of DHW :

Permanent 24h/24h

Start of the machine any time of the day,

Programming

Start of the machine during the programmed period only.

- **Connectivity**

The Water Heater can be paired with devices using



and remotely controlled.

- **Language**

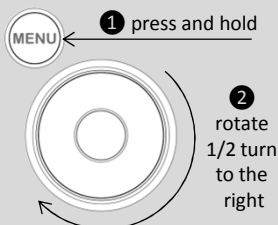
Setting possible in French, English, Flemish, Spanish, Portuguese, German, Italian et Polish.

- **Additional electric backup**

Allows to activate or not the use of the electric backup. If not activated, the water heater will never use the electric backup; in case of low air temperature a lack of hot water is possible.

10.4. The parameters to set on installation.

(If not set during the first commissioning)



The parameters can be used in MODE INSTALLER



Press and hold the button MENU and rotate the knob a half turn to the right.

To exit the installer mode, proceed in the same way or wait for 3 minutes.

Access to parameters →



Settings

- **Air pipes (aerualics operation) :**

This parameter defines the type of aerualics connection:

Inner/Inner

Air intake and exit are not connected to air ducts (ambient air)

Outer/Outer

Air intake and exit are connected to air ducts (fully ducted)

Inner/Outer

Air exit is connected to an air duct (semi ducted)

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

Thermodynamics only

The internal coil is not used

Connected to boiler

The internal coil is connected to a boiler managed by the water heater

Connected to solar sys.

The internal coil is connected to a solar system

In « Connected to boiler» mode , you have to define the degree of priority in the operation of the boiler and the heat pump in 4 levels :

HP prioritized

The backup operates at the end of heating up in case of low air temperature (<7°C)

HP optimized

The backup operates at the end of heating up and ± early depending on air °C

Boiler optimized

The heat pump works on the start of heating up and stops ± early depending on air °C

Boiler prioritized

The heat pump works on the start of heating up and for air temperature > 10°C.

• **PV system (Photovoltaic)/Smart-grid :**

This parameter activates the pairing of the water heater with a photovoltaic installation. This operating mode allows the forced start of the heat pump when the photovoltaic inverter sends a signal to the water heater. The regulation switches automatically to the previous operating mode 30mn after the loss of the photovoltaic signal.

During the signal reception the set temperature is automatically raised to 62°C (can not be changed).

• **Exhaust air :**

Allows to activate the air extraction function (2 speed : 300 or 390m³/h). When the water heater does not heat the tank, the ventilator turns to evacuate the ambient air to the outside (only possible to activate if the aeraulics connection is set to Indoor/Outdoor).

• **Anti-Legionella function :**

Allows to activate the function of water disinfection several times per month.

The water temperature reaches 62°C one to four times per month depending on the setting.

• **EMERGENCY-mode :**

When activated the water heater operates only on the electric backup heater.

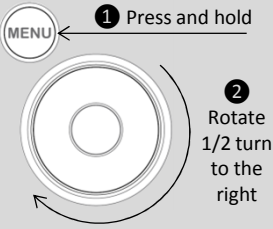
• **Circulation cycle:**


This mode is mandatory when a circulation loop is installed.

The set temperature changes to 65°C and the operation of the heat pump is adapted to this use.

The heat pump is allowed to work permanently (programming is not available).


10.5. Functional check



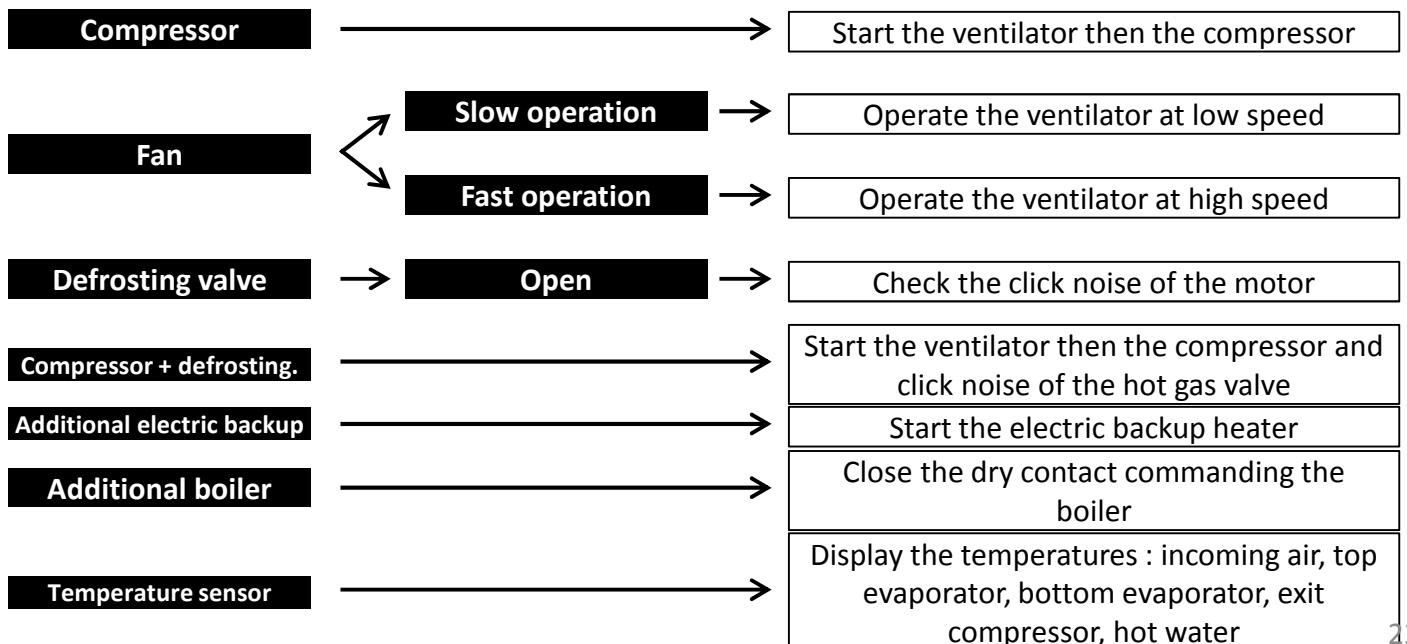
Functional check is available in **MODE INSTALLER** 

Press and hold the button MENU and turn the knob half a turn to the right.

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

Access to parameters →  **Test** → **Actuator**

The TEST menu allows to operate all components of the product.



10.6. Choice of operating mode

Press the button



to access the menu

Mode

Mode AUTO (only available on installations «heat pump only ») :


This operating mode manages automatically the choice of energy allowing to maximize economies while supplying a sufficient hot water comfort level.

The water heater analyses the water consumption of the previous days to adapt the hot water production as required. It reacts to unplanned events by launching working cycles during the day to assure enough hot water. The set temperature varies automatically between 50 and 62°C according to the consumption profile. The water heater chooses preferably the heat pump. The electric backup can automatically be added to provide the correct hot water volume.



This mode is not available on installations « boiler backup » and « solar backup »

Mode MANUAL :

This mode allows to define the desired hot water quantity by selecting the set temperature. The set temperature is also displayed as equivalence of showers  : about 50 L of hot water).

When the mode ECO is not activated, the water heater favors the operation of the heat pump. However if the air temperature is low or the water consumption high, the electric (or boiler) backup can be used at the end of the heating cycle to reach the set temperature.

When the mode ECO is activated, the water heater works exclusively with the heat pump in the air temperature range of -5 to +43°C. The electric backup heater is not used. This function maximizes the energy savings but can cause a lack of hot water.

Whatever setting of ECO, the electric backup heater is used automatically if the air temperature is outside the working range to assure a sufficient hot water volume.



The mode ECO activated/not activated can't be changed on installations « Boiler backup »



Mode MANUAL on installation « Solar backup »

This mode allows the work of the heat pump in combination with a solar backup. However the simultaneous working of the heat pump and the solar backup can damage the product. The heat pump must be used in periods when solar energy is not available (to do this use the programming mode of the water heater)

The mode BOOST : this mode activates the heat pump and all other available energy sources (boiler backup if set, electric backup) at the same time to reach the maximum set point of 62°C.

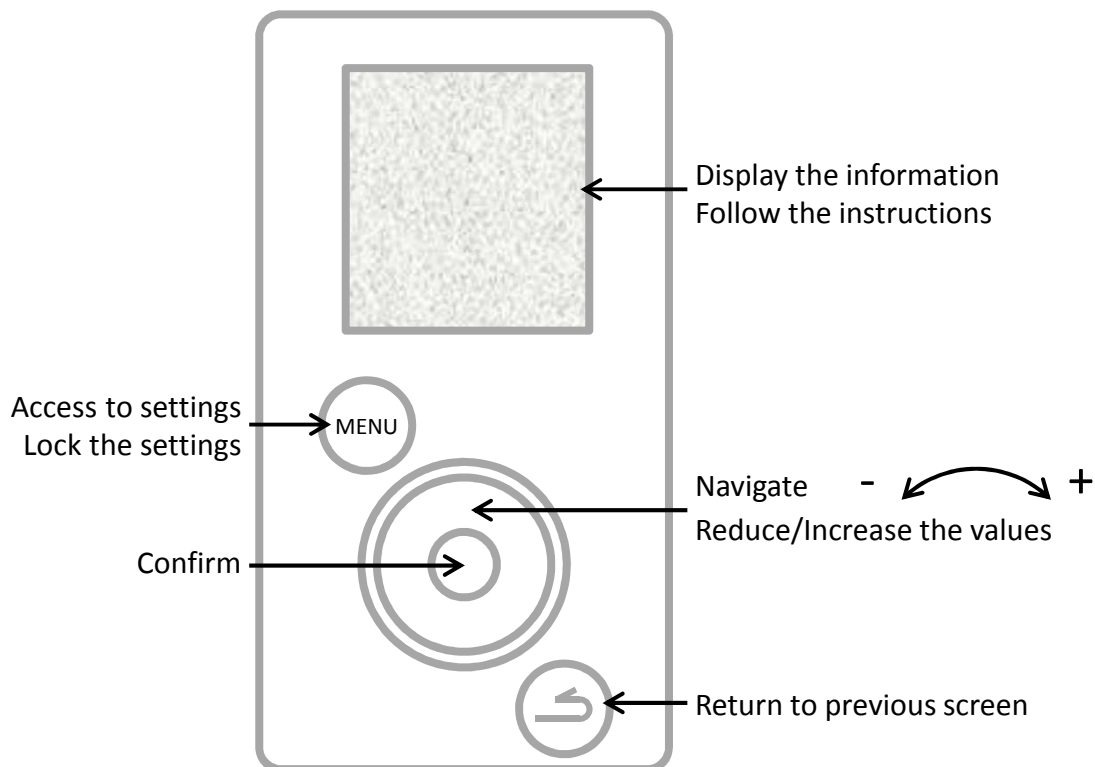
The mode ABSENCE : this mode maintains the hot water temperature above 15°C by using the heat pump. The boiler and electric backup can be used if the heat pump is not available.

10.7. Locking of interface

Press  for some seconds to lock/unlock the interface.

Operation

1. Interface.



2. Description of pictograms.

BOOST

Fast heating confirmed



Electric backup working



Absence registered / in operation



Heat pump working



Present hot water temperature



Boiler backup working



Waiting



Reception of signal on solar system contact

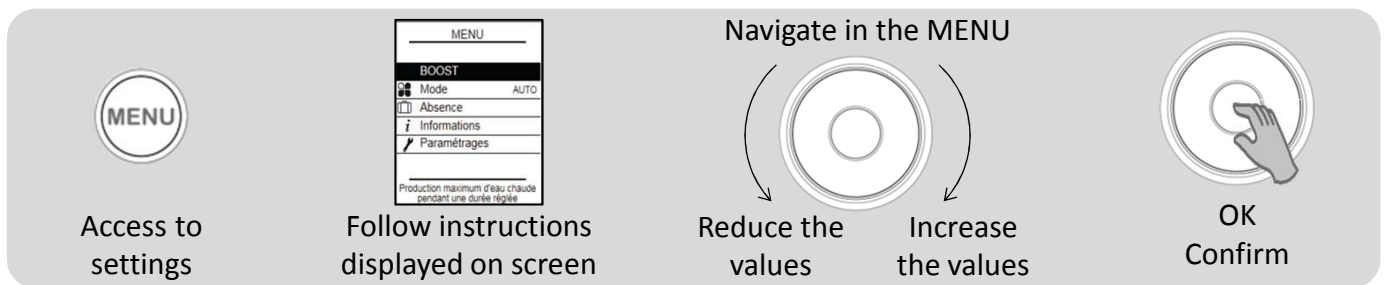


Warning



Reception of signal on photovoltaic / Smart-grid contact

3. Main menu.



BOOST

Increase the hot water production during the period :

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

At the end of the set period, the water heater resumes the initial operating mode.

BOOST can be stopped at any moment :

Stop BOOST



Choose the operating mode:

Select AUTO or MANUAL (see § « The operating modes »)



Program absence period:

Allows to indicate the water heater

- a permanent absence starting from the present day.
- a programmed absence (*set the starting date and the return date*). The day before return a anti-legionella heating cycle starts.

During the absence period, the water temperature remains above 15°C.

This function can be interrupted at any moment:

Stop absence



Display the energy savings :

Allows to display the working level of the heat pump and of the electric backup during the last 7 days, the last 12 months, since commissioning.

Display the electric consumption :

Allows to display the energy consumption in kw/h, of the last days, the last months, the last years.

Display the parameters :

Allows to display the registered settings.



Set the date and time :

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

Set the periods of operation :

Allows to define periods when the water heater may start.

Connectivity :

The Water Heater can be paired with devices using



and remotely controlled.

Set the language :

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

Additional Electric backup heater :

Allows to deactivate the use of the electric backup heater.

4. The operating modes.

4.1 The installation mode « Heat pump only » :

AUTO: The set temperature varies automatically between 50 and 62°C according to the consumption profile. The water heater chooses preferably the heat pump. The electric backup can automatically be added to provide the correct hot water volume.

MANUAL – ECO Not activated: The set temperature is fixed by the user between 50 and 62°C. The water heater chooses preferably the heat pump. The electric backup can automatically be added to provide the correct hot water volume.

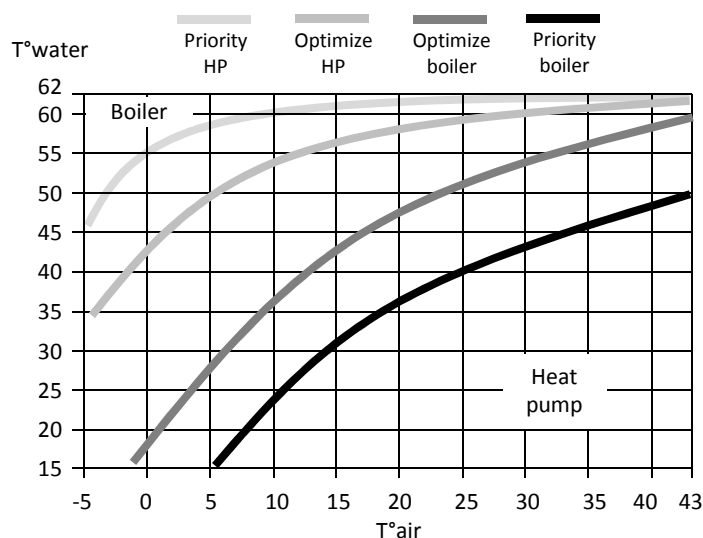
MANUAL – ECO Activated: The set temperature is fixed by the user between 50 and 62°C. The water heater chooses preferably the heat pump to maximize the energy savings. The electric backup is allowed to work if the air temperature is out of the operating range.

4.2 The installation mode « Boiler backup » :

MANUAL : The set temperature is fixed by the user between 50 and 62°C. The water heater chooses preferably the heat pump. The boiler backup can be activated automatically to provide the correct hot water volume. If the backup through the boiler is not available (e.g. boiler switched off), the electric backup will be activated.

SMART Energy Function :

A heat pump uses the available energy in the air and transfers this energy through an exchanger around the tank to the water. The heat pump performance is higher when the exchange parameters are more favorable; i.e. air temperature higher or tank temperature lower. Our regulation evaluates permanently the air and water temperature and what energy source is more economical. The function **SMART Energy** can decide to start heating with the heat pump and to finish heating up with the boiler backup.



The Smart Energy function can be set on 4 different management levels:

- HP prioritized** The backup operates at the end of heating up in case of low air temperature (<7°C)
- HP optimized** The backup operates at the end of heating up and ± early depending on air °C
- Boiler optimized** The heat pump works on the start of heating up and stops ± early depending on air °C
- Boiler prioritized** The heat pump works on the start of heating up and for air temperature > 10°C.

4.3 The installation mode « Solar backup » :

The water heater works only during the period when the solar system does not supply energy (when the solar system signal is off). During the periods of solar production, the hot water production is operated with the internal coil, the heat pump and the electric backup are not working.

MANUAL – ECO Not activated : The set temperature is fixed by the user between 50 and 62°C. The water heater chooses preferably the heat pump. The electric backup can automatically be added to provide the correct hot water volume.

MANUAL – ECO Activated : The set temperature is fixed by the user between 50 and 62°C. The water heater chooses preferably the heat pump to maximize the energy savings. The electric backup is allowed to work if the air temperature is out of the operating range.



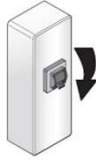
The electric backup will never work if the parameter « Electric backup » is deactivated.

Service, Maintenance and Repair

1. Advice to the user.

If the absence mode cannot be used it could be necessary to drain the water heater if the device is switched off. Proceed as follows:

① Switch off power supply.



② Close the cold water inlet.

③ Open a hot water tap.

④ Open the drain valve on the security group.



2. Service.

In order to maintain the performances of your water heater, we advice to service it regularly.

By the USER :

What	When	How
Security group	1 to 2 times per month	Operate the safety valve. Check that water evacuation is ok.
General	1 time per month	Check external shape of your device : no Error code displayed, no leakage on the connections...



The device has to be disconnected from mains before opening the cover.

By the INSTALLER :

What	When	How
Ducts	1 per year	Check if the device is ducted. Check if the ducts are well positioned and not deformed.
Condensates evacuation	1 per year	Check the cleanness of the condensates evacuation tube.
Electric connections	1 per year	Check that any internal and external cable connections are not loose and that all connectors are plugged in.
Electric backup	1 per year	Check the correct function of the electric backup by measuring the power.
Scaling	Every 2 years	If the supply water is hard clean the deposited scale.



Only a refrigeration engineer is permitted to have access to the expansion valve adjustment screw. If the expansion valve is adjusted without approval from the constructor, the product warranty may be invalidated.
it is not recommended to touch the expansion valve setting until all other repair solutions have been exhausted.

By the REFRIGERATION ENGINEER :

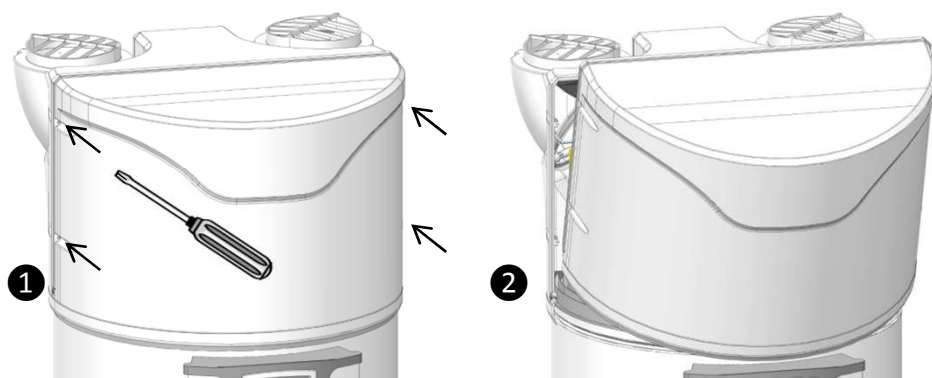
What	When	How
Thermal exchange of the heat pump	Every 2 years*	Check the correct working of the heat pump.
Components of the heat pump	Every 2 years*	Check the ventilator operation on it's 2 speeds and the hot gas valve.
Evaporator	Every 2 years*	Clean the evaporator with a nylon brush and products neither scratching nor corrosive.
Refrigerant	Every 5 years*	Check the refrigerant quantity.

* In case of dusty environment increase the maintenance frequency.

3. Open the water heater for maintenance.

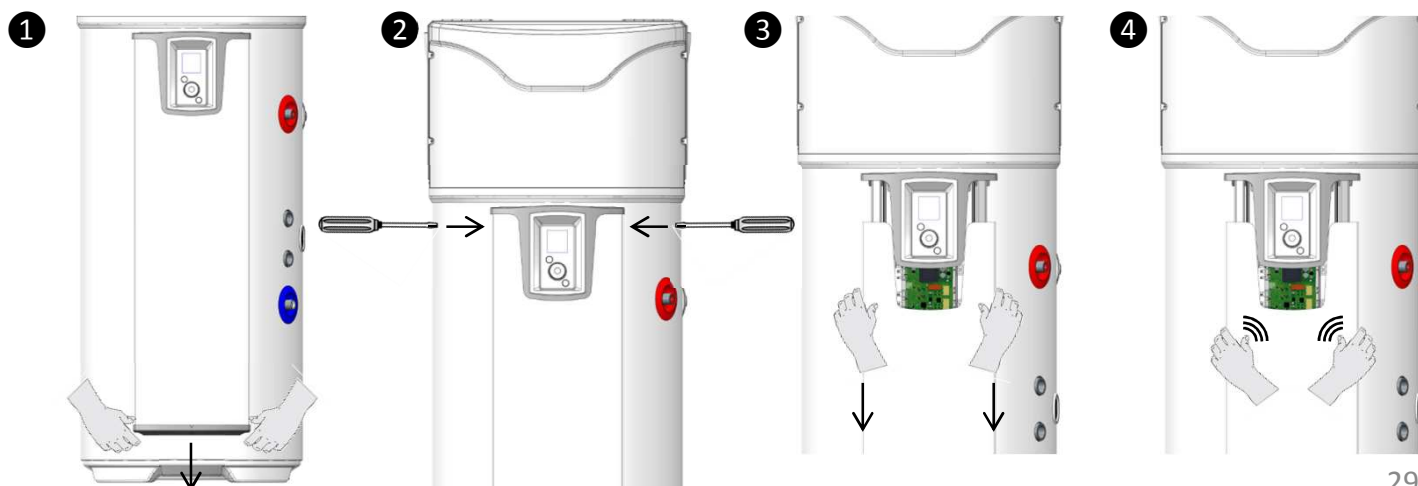
To access to the heat pump compartment :

- ① Remove 4 screws on the front,
- ② Tilt the hood to the front.



To access the regulation:

- ① Remove the clipped bottom plug of the front column,
- ② Unscrew the 2 screws on each side of the column,
- ③ Slide the column down for 10 centimeters to liberate the interface support,
- ④ Press the center of the column to open and remove from the guiding rails.



4. Trouble shooting.

If there is a problem, lack of heating or release of fumes from the water outlet, cut the power supply and notify your installer.



Repairs have to be done exclusively by a qualified installer.

4.1. Error codes.

The alarm can be paused or reset by pressing OK.

Displayed Code	Reason	Result	Service action
Error 03	Water temperature probe defect or out of measuring range	Reading of water temperature impossible : no heating up.	Check the connection (A1) of the probe (immersion sleeve). If required replace the probe.
Error 07	No water in the tank or ACI connection open	No heating up	Fill the tank with water. Check the connection (AC) of the cables, the water conductivity.
Error 09	Water temperature too hot (T>80°C)	Risk to trigger the mechanical security thermostat : no heating up	Check the real temperature at a tap (T>80°C). Check the connection (A1) and the position of the temperature probe (immersion sleeve). Check that the electrical backup is not working permanently. Reset the mechanical security device if necessary.
Water too cold	Cold water temperature too cold (T<5°C)	HP stopped. Heating with electric backup.	Resetting automatically at T>10°C. Control the situation of the installation room (frost-free).
Error 21	Air intake probe defect or out of measuring range	HP stopped. Heating with electric backup.	Check the connections (A4) and the position of the air intake probe. If necessary replace the probe cable harness.
Error 22	Evaporator top probe defect or out of measurement range (-20 to 110)	HP stopped. Heating with electric backup.	Check the connections (A4) and the correct contact of the probe to the tube. Check the operation of the ventilator and that it turns easily without any stop.
Error 23	Evaporator bottom probe defect or out of measurement range (-20 à 110)	HP stopped. Heating with electric backup.	Check the connections (A4) and the correct contact of the probe to the tube. Check the operation of the ventilator and that it turns easily without any stop.
Error 25	Pressure switch open or compressor thermal safety	HP stopped. Heating with electric backup.	Check the compressor connections (R1), pressure switch, starting capacitor (15mF) and the hot gas valve (T2). Control the resistance of compressor windings.

Displayed Code	Reason	Result	Service action
Error 27	Compressor probe defect or short circuit	HP stopped. Heating with electric backup.	Check the connections (A4) and the position of the compressor probe. If necessary replace the probe harness.
Error 28	Default on defrosting	HP stopped. Heating with electric backup.	Check the cleanness of the evaporator. Check the refrigerant R134a charge (defrosted). Check the operation of the ventilator. Check the correct evacuation of condensates. Check the hot gas valve connections (T2) and it's function (TEST menu).
Error 29	Flow temperature of the compressor too high	HP stopped. Heating with electric backup.	Control the resistance of compressor windings. Check the cleanness of the evaporator. Check the refrigerant R134a charge. Check that the air circulates without any obstacles.
Error 30	HP operates without stop more than 24h or lack of power.	HP stopped. Heating with electric backup.	Check the cleanness of the evaporator. High consumption or circulation loop or leak on hot water circuit. Check the connections (A4) and the correct contact of the probes to the tubes. Check the charge, the overheat value (5 minimum), the defrost operation... Control the resistance of compressor windings.

4.2. Other failures without error code display.

Default	Possible reason	Diagnosis and service
Water not hot enough.	Power supply is not permanent.	Check that the device receives permanently electric current. Check that no cold water flows into the hot water circuit (mixing tap defect).
	Set temperature too low.	Select a higher set temperature.
	Mode ECO selected & air temperature out of range.	Select the mode AUTO. Check the periods of programming.
	Electric backup or supply cables (partially) defect.	Check the resistance of the heating element on the plug, and the good shape of the cables. Check the security thermostat.

Default	Possible reason	Diagnosis and service
No heating No hot water	No power supply to the water heater : fuse, cabling...	Check the voltage on the power supply cable Check the parameters of the installation (see periods of operating)
Hot water volume not sufficient	Water heater layout too small Operation in ECO mode	Check the programmed periods and reception of Night / Low Tariff signal. Select AUTO mode
Low pressure on the tap.	Filter of security group clogged. Tank full of scale.	Clean the filter (see § maintenance). Remove the scale from the tank.
Water dripping out of the security group when the water heater is not heating	Security group damaged or clogged. Supply pressure too high	Replace the security group Check that the supply pressure after the water counter does not exceed 5 bar (0,5 MPa), if it does install a pressure reducer set to 3 bar (0,3 MPa) at the start of the water network.
The electric backup heater does not work.	Mechanical security thermostat was triggered. Thermostat defect Backup heater defect.	Reset the security thermostat on the heating element. Replacer the thermostat Replace the element
Condensate overflow.	Condensates evacuation clogged	Clean the evacuation
Bad smell	No siphon installed on the security group or on condensates evacuation No water in the siphon of the security group	Install a siphon Fill the siphon
Vapor on the hot water tap	Electric backup works permanently	Shut off the electricity supply and call the installer.
Interface does not work or display problems	No power supply Interface defect	Control the power supply. Replace interface.

After maintenance or repair, check the correct operating of the water heater.

Warranty

1. Scope of warranty application.

The following faults are excluded from this warranty: :

- **Abnormal environmental conditions::**

- Various damage caused by impact or dropping during handling after leaving the factory..
- Placing the appliance in a place exposed to frost or bad weather (damp, aggressive or poorly ventilated environments).
- Use of water with aggressiveness criteria as defined by DTU Plumbing 60 - 1 additive 4 hot water (chlorine rate, sulfates, calcium, resistivity and total alkali level)..
- Water with Th < 15° f.
- Water pressure higher than 5 bar (0,5 MPa).
- Electrical power with significant voltage spikes (mains, lightning, etc.).
- Damage from undetectable problems caused by choice of location (places difficult to access) and that could have been avoided if the appliance were repaired immediately.

- **Installation does not comply with regulations, standards, professional rules, especially:**

- Safety unit distant or rendered inoperative (pressure reducing valve, non return valve or valve, ..., placed upstream of the safety group).
- Missing or incorrectly fitted new safety unit NF-D 36-401 or equivalent, modification of calibration, etc. ...
- Missing dielectric union (cast iron, steel or insulating) on hot water connection pipes, leading to their corrosion.
- Faulty electrical connection (NF C 15-100 or equivalent): incorrect grounding, inadequate cable section, connection of flexible cables without metal terminations, failure to respect connection diagrams specified by the Manufacturer.
- Powering up the appliance without first filling it (dry heating).
- Placing the appliance without consideration of manual instructions.
- External corrosion caused by poor sealing on pipes.
- Installation of a circulation loop.
- Wrong parameter setting for a ducted installation.
- Duct configuration not compliant to our instructions.

- **Faulty maintenance: :**

- Abnormal scaling of heating elements or safety units.
- No maintenance of safety unit, leading to excess pressure.
- No cleaning of evaporator or condensate evacuation.
- Modification of original equipment, without notifying constructor, or use of spare parts not recommended by manufacturer.



A device being allegedly the origin of a damage has to remain on the place of installation for an expert visit, the person supporting the damage has to inform his insurance.

2. Warranty conditions.

The water heater must be installed by a person qualified to professional standards, in accordance with standards in force and the conditions of our technical departments..

It will be used in the normal way, and regularly maintained by a specialist.

Under these conditions, our warranty is implemented by free exchange or supply to our distributor or installer of parts acknowledged as faulty by our departments, or of the whole appliance if necessary, excluding labor costs, transport charges and any compensation for warranty extension.

Our warranty takes effect from the date of purchase (according to invoice), and where there is no documentary evidence, the date used will be that of manufacture as shown on the water heater information plate, plus six months.

The warranty on the replacement part or water heater (under warranty) ends at the same time as the part or water heater replaced.

N.B.: Costs or damages caused by a faulty installation (freezing, safety unit not connected to waste water discharge, no holding tank, for instance) or problems with access cannot in any case be blamed on the manufacturer.

The provisions of this warranty do not exclude the purchaser's enjoyment of the legal warranty against defects and hidden faults, that apply in all cases under the terms of articles 1641 ff of the French Civil Code.

The supply of spare parts necessary for the use of our products will be assured for 7 years after the production of the last unit.



Failure of a component does not in any case justify replacement of the appliance. Replace the faulty part.

WARRANTY :

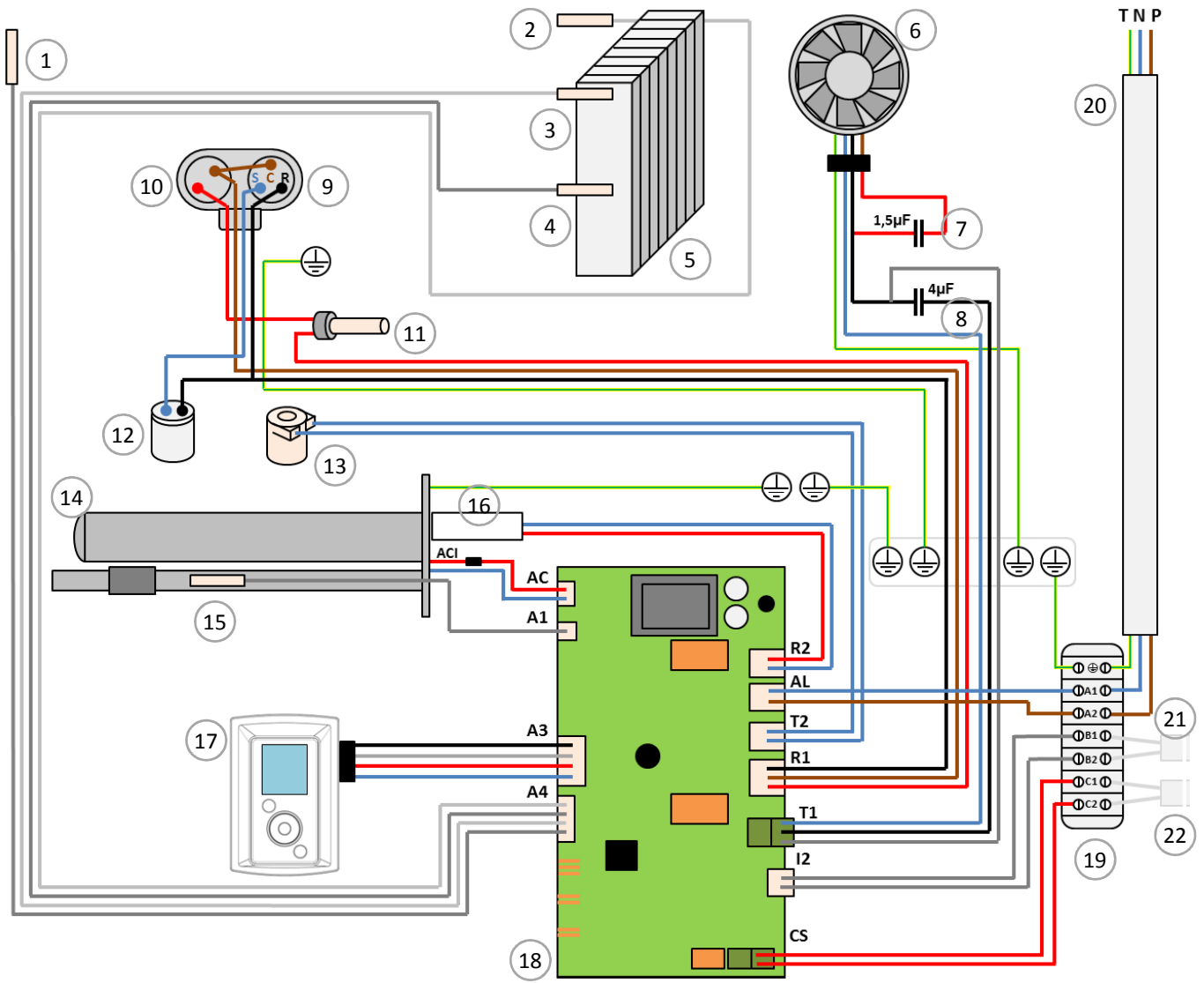
Water heater : 5 years (tank tightness, electronic PCB, electric backup and probes).

Heat pump : 2 years (except probes : 5 years).

APPLIANCE END OF LIFETIME:

- Before dismantling shut off power supply and drain the tank.
- The combustion of some components can liberate toxic gas, do not burn the appliance.
- At the end of lifetime the appliance has to be collected by a sorting center for electric and electronic devices equipped for the refrigerant reclaiming. To learn more about existing recycling centers, contact the local recycling organizations.
- The enclosed refrigerant must not be liberated into the atmosphere. Any degassing operation is formally prohibited.

ELECTRIC DIAGRAM



1	Probe outlet pipe of compressor	9	Compressor connections	17	Controller
2	Probe supply air	10	Compressor overheat protection	18	Regulation PCB
3	Probe evaporator top	11	Pressostat	19	Customer wiring board
4	Probe evaporator bottom	12	Capacitor compressor start	20	Permanent power supply cable
5	Evaporator	13	Hot gas valve motor		
6	Ventilator	14	Electric backup heater		Not supplied :
7	Capacitor ventilator start	15	Immersion sleeve water probe	21	Connection cable PV / Smart Grid / Solar
8	Capacitor small speed ventilator	16	Security thermostat	22	Connection cable boiler

