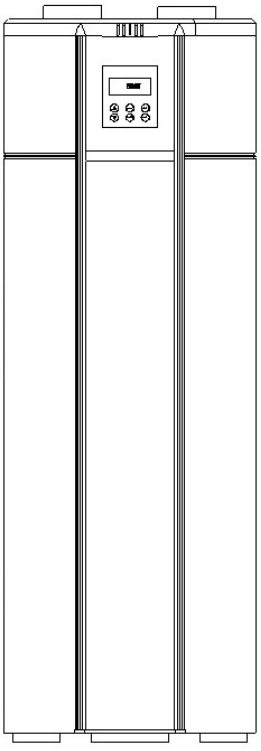
Installation manual

TFHZ

Thermodynamic water heater with solar exchanger

EN



22.AW.TFHZ.IOM.R134A.FR.03.06

Dear Customer,

Thank you for purchasing this device.
Please read this manual carefully before using your device. Keep this document in a safe place for future reference.
To ensure safe and efficient operation, we recommend that you perform the necessary maintenance regularly. Our After-Sales Service can assist you with these operations.
We hope you will be satisfied with our services for many years to come.

AIRWELL

The information contained in this manual is not binding and may be changed by the manufacturer without prior notice.

CONTENTS

1. SAFETY INSTRUCTIONS

1.1. General safety instructions

The precautions contained in this manual are subdivided as shown opposite.
They are important, so it is recommended that you follow them carefully.
Be sure to read these instructions carefully before proceeding with installation.
Keep this manual handy so that you can refer to it at any time if necessary.
The unit covered by this manual contains fluorinated gases. For specific information on the type and quantity of gas, refer to the data label affixed to the unit.
Contact your dealer for assistance.

CAUTION

The unit can be used by children aged 8 years and above and by persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge, provided they are supervised or have been given instruction on how to use the unit safely and understand the dangers involved. Children should not play with the unit. Cleaning and maintenance operations must not be carried out by children without supervision.

Before cleaning, switch off the unit and turn off the switch or unplug the power cord.

Failure to observe this precaution may result in injury or electric shock.

DANGER

Do not insert fingers, bars or other objects into the air inlet or outlet.
Any contact with the fan when it is rotating at high speed may cause injury.

Do not touch the internal parts of the regulator.

Do not remove the front panel. Contact with certain internal parts is dangerous or may cause the device to malfunction.

Meaning of the terms DANGER, WARNING, CAUTION and NOTE.

DANGER

Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

WARNING

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

Indicate a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. This term may also be used as a warning in the case of insufficiently safe procedures.

NOTE

Indicates situations situations that may cause only incidental damage to equipment or other property.

DANGER

Do not use flammable sprays such as hairspray or paint near the unit as this may cause a fire.

Do not remove, cover or alter the instructions, permanent labels or data labels on the outside of the unit or inside its panels.

Children and unassisted persons with disabilities are prohibited from using the appliance. Do not touch the appliance if you are barefoot or have wet body parts.

Do not clean the appliance until it has been disconnected from the mains power supply by turning the main switch to the "off" position.

Do not pull, detach or twist the electrical cables coming out of the appliance, even if it is disconnected from the mains power supply.

It is prohibited to climb on the device and/or place objects of any kind on it. It is prohibited to spray or throw water directly onto the device.

It is forbidden to insert sharp objects through the air intake and exhaust grilles.

Do not open the access doors to the interior of the appliance without first turning the main switch of the installation to "off".

Do not disconnect the power supply.

WARNING

If the power cable is damaged, it must be replaced by the manufacturer, its representative or a qualified person.

The wiring must be carried out by professional technicians in accordance with national wiring regulations.

In fixed wiring, an all-pole disconnecting device with a separation distance between poles of at least 3 mm and an earth leakage circuit breaker (RCD) with a rating greater than 10 mA must be incorporated.

The system automatically stops or restores heating.

The unit must always be powered to allow water heating, except during service and maintenance operations.

Keep this manual and the wiring diagram in a place accessible to the operator.

Supervise children to ensure they do not play with the unit.

WARNING

Make a note of the unit's identification details so that you can provide them to the support centre if you need assistance (see the section entitled 'Unit identification ").

Keep a logbook to record any maintenance carried out on the unit. This will make it easier to determine the appropriate frequency of maintenance and to identify any faults.

Exposure to water temperatures above 50°C can cause immediate severe burns or even death by scalding.

Children, disabled persons and the elderly are at the highest risk of burns. Touch the water before taking a bath or shower

It is recommended to use a mixing valve for the water temperature.

The unit must be moved, repaired and maintained by a qualified person: do not attempt to do this yourself.

In the event of a malfunction or fault:

- immediately switch off the unit.
- contact an authorised service centre.
- request the use of original spare parts.

Ask the installer to show you how to make the following adjustments:

- switching on/off
- changing set points
- standby mode
- maintenance
- what to do/not to do in the event of a breakdown.

1.2. General warnings

Read the user manual carefully and use the unit in strict accordance with the instructions provided to avoid personal injury, damage to the unit, damage to property and legal disputes. Our company accepts no legal responsibility for any damage caused by improper use of the unit. The location, hydraulic circuit, refrigerant, electrical circuit and air ducts must be decided by the installation designer or by a competent person, taking into account purely technical requirements and any local legislation in force that requires specific authorisations to be obtained.

Only a qualified qualified can intervene on the unit, as planned by the regulations in force. Use of the unit in the event of a breakdown or fault:

- voids the warranty
- may compromise the safety of the unit
- may increase repair costs and time. For all

operations, comply with local safety regulations.
Keep packaging materials out of the reach of children as they are a potential source of danger.
Recycle and dispose of packaging material in accordance with local regulations.

1.2.1. Hazardous situations

The unit is designed and manufactured in such a way as to avoid exposing people to health and safety risks.
During the design phase, it is not possible to address all potential hazards. Read the "Residual risks" section, which lists situations that may pose a risk to people or property.
Installation, start-up, maintenance and repair require specific knowledge; if carried out by inexperienced personnel, this may result in damage to people or property.

1.2.2. Intended use

The unit is designed solely for: domestic hot water heating, in compliance with the limits specified in the technical bulletin and in this manual.
Any other use does not imply any commitment or obligation of any kind on the part of the manufacturer.

1.2.3. Hydraulic circuit

Components
The choice and installation of circuit components must be carried out by the installer.

Water quality
Water quality can be checked by specialist personnel. The following factors must be analysed:

- Inorganic salts
- pH
- Biological contaminants (algae, etc.)
- Suspended solids
- Dissolved oxygen

Water with inadequate characteristics can cause:

- Increased pressure losses
- Decreased energy efficiency
- Increased corrosion

Risk of freezing
Take measures to prevent the risk of freezing if the unit or the corresponding hydraulic connections may be subjected to temperatures close to 0°C. The unit is designed to be permanently connected to the water supply network and must not be connected with flexible hoses.
Water may drip from the safety valve drain pipe, which must be left open to the atmosphere.
The safety valve must be operated regularly to remove limescale deposits and to check that it is not blocked.
The drain pipe connected to the safety valve must be installed in a continuous downward direction and in a location protected from freezing.

1.2.4. Electrical circuit

The characteristics of the lines must be established by personnel authorised to design electrical circuits, in compliance with current regulations. Always operate in accordance with current safety regulations.
To avoid the risk of death or injury, before using the unit, connect it to a grounded socket.
Do not install the unit if it is not possible to verify that the earthing of the domestic mains supply complies with current regulations.
Power must be supplied through an independent circuit with nominal voltage. The power circuit must be effectively earthed.
Do not use water pipes to connect the unit's earth connection. Wear personal protective equipment such as gloves and goggles when carrying out the necessary operations.
The cross-section of the power cables and protective cable must be determined according to the characteristics of the protective devices used.
The serial number label provides the specific electrical data for the unit, including any electrical accessories.
Connections
All electrical operations must be carried out by personnel who meet the requirements of current regulations and are aware of the risks associated with these operations.
Refer to the unit's wiring diagram (the wiring diagram number is indicated on the serial number label). Check that the network characteristics comply with the

information on the registration plate.
Protect the cables using cable glands of the appropriate size.
Before starting work, check that the isolation device at the start of the unit's power supply line is open, locked and fitted with the appropriate warning sign.
First connect the earth connection.
After connecting the wires, check again and make sure that the connection is correct before switching on the unit. Before supplying power to the unit, make sure that all the protective devices that were removed during the electrical connection work have been replaced.
Signal/data lines - installation
Do not exceed the maximum permitted distance, which varies depending on the type of cable and signal.
Lay the cables away from power lines with a different voltage or which emit electromagnetic interference. Avoid laying cables near devices that may cause electromagnetic interference.
Avoid laying cables parallel to other cables; any crossings with other cables are only permitted if they are at 90°.
The protective shield must be connected to a disturbance-free earth. Ensure the continuity of the protective shield along the entire length of the cable. Observe the specifications regarding impedance, capacitance and attenuation.

1.2.5. Modifications

Any modification to the unit will void the warranty and release the manufacturer from liability.

1.2.6. Failure or malfunction

Immediately switch off the unit in the event of a breakdown or malfunction. Contact a service centre approved by the manufacturer.
Request the use of original spare parts.

1.2.7. User training

The installer must instruct the user, particularly with regard to:

- Switching on/off;
- Changing set points;
- Shutting down
- Maintenance;
- What to do/not to do in the event of a breakdown.

1.2.8. Updating data

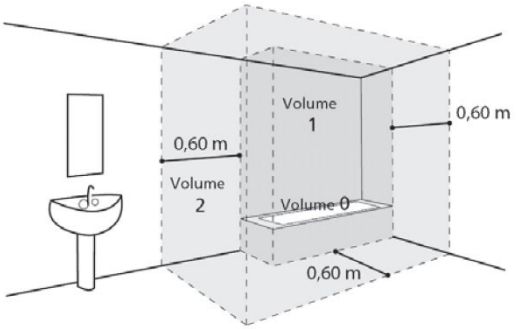
Continuous improvements to the product may result in changes to the data provided in this manual.
Consult the manufacturer's website for updated data.

2. INTRODUCTION

2.1. Warnings

2.1.1. Installation

CAUTION: Heavy product, handle with care:
1/ Install the appliance in a frost-free location. Damage to the appliance caused by overpressure due to the safety device becoming blocked is not covered by the warranty.
2/ Ensure that the partition wall is capable of supporting the weight of the appliance when filled with water.
3/ If the appliance is to be installed in a room or location where the ambient temperature is permanently above 35°C,
ensure that the room is adequately ventilated.
4/ In a bathroom, do not install this product in volumes V0, V1 and V2. If the dimensions do not allow it, they can nevertheless be installed in volume V2.
5/ This product is designed for use at a maximum altitude of 2,000 m.
6/ Place the appliance in an accessible location.
7/ Refer to the installation diagrams in the Installation section.



2.1.2. Hydraulic connection

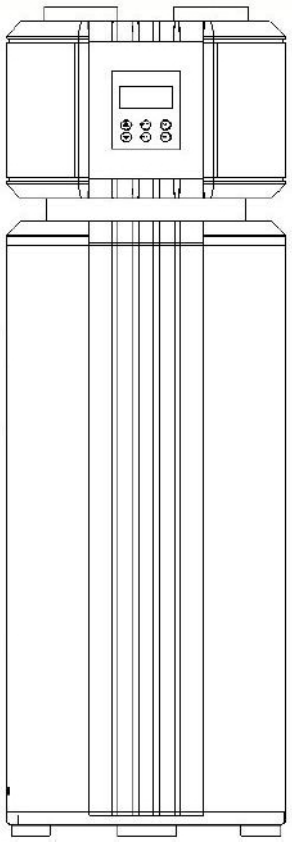
A new safety device, measuring ¾" and with a pressure rating of 0.7 MPa (7 bar), must be installed on the water heater inlet, protected from frost, in accordance with local regulations.
A pressure reducer (not supplied) is required when the supply pressure exceeds 0.5 MPa (5 bar) and must be installed on the main supply.
Connect the safety device to a drain pipe, kept in the open air, in a frost-free environment, with a continuous downward slope for the evacuation of expansion water from the heater or water in the event of the water heater being drained.
It is essential to install a drip tray under the water heater when it is located in a false ceiling, attic or above inhabited premises.
A drain connected to the sewer system is required.

2.1.3. Electrical connection

Before removing the cover, ensure that the power supply is disconnected to avoid any risk of injury or electrocution.
The electrical installation must include an omnipolar cut-off device (circuit breaker, fuse) upstream of the appliance in accordance with local installation regulations (30mA residual current device).
Refer to the wiring diagrams on the back cover.
Earthing is mandatory. A special terminal marked  is provided for this purpose.

3. PRESENTATION

3.1. Contents of the package



Water heater

1 installation manual

1 user manual

Condensate drain pipe

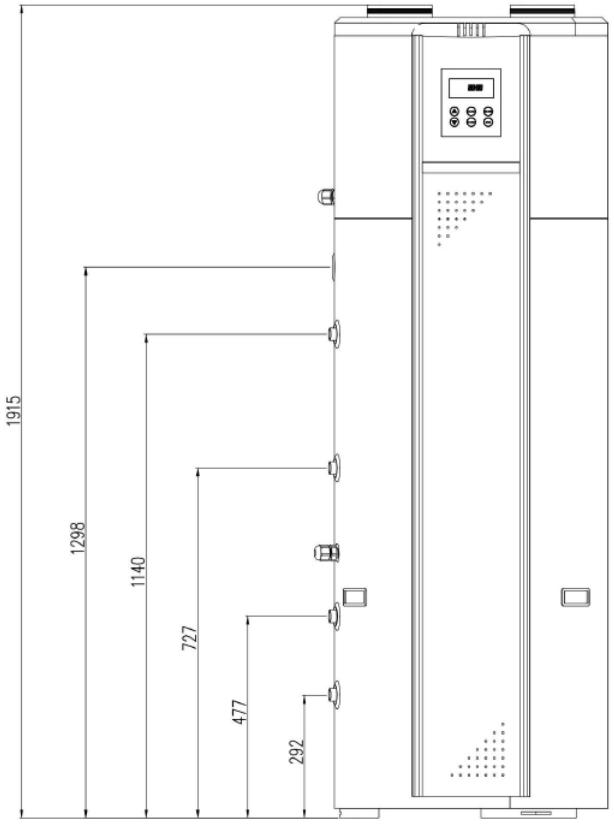
3.2. Handling

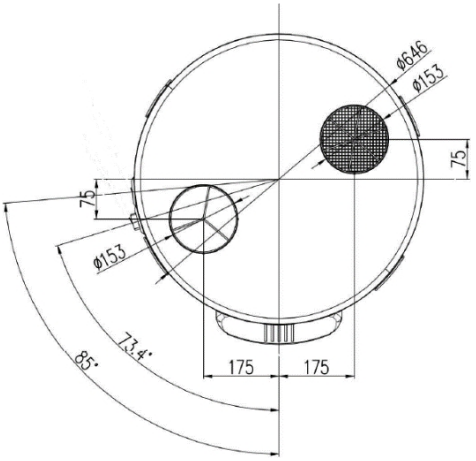
The water heater must not be transported horizontally. Horizontal transport may cause damage to the plastic components and the internal refrigeration circuit of the heat pump.

To move the water heater, use a hand truck and ensure that the water heater is not tilted more than 45°.

3.3. Dimensions

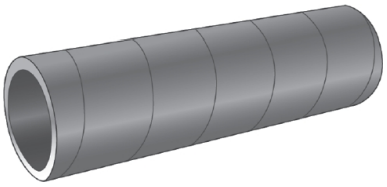
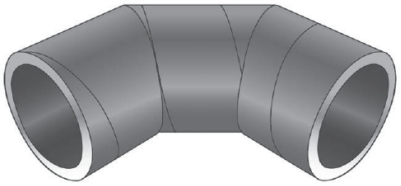
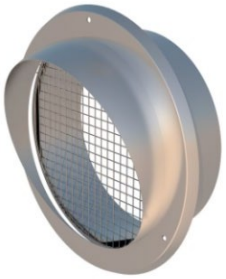
	300 L
Cold water inlet height	292 mm
Hot water outlet height	1140 mm
Condensate drain height	1298 mm
Total height	1915 mm
Solar exchanger inlet height	727 mm
Solar exchanger outlet height	477 mm
Weight	110 kg





3.4. Accessories

The following accessories are not supplied with the unit. You can find them in our catalogue or at your wholesaler.

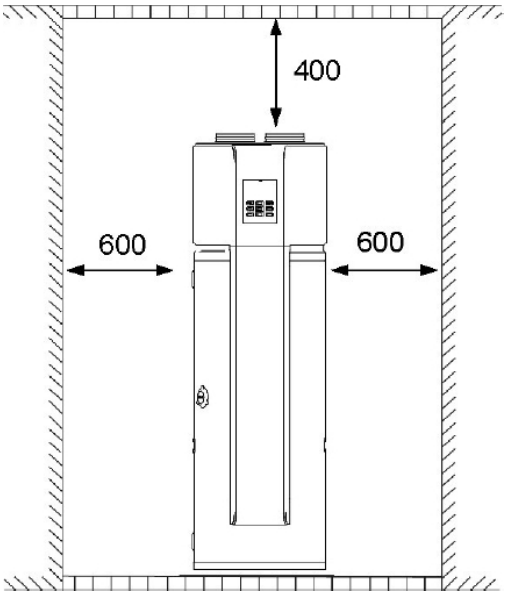
Straight duct Ø 160 mm (1 m)	
90° elbow Ø 160 mm	
Wall air inlet/outlet Ø 160 mm	
Connector Ø 160 mm	
Adapter Ø 150/160 mm	

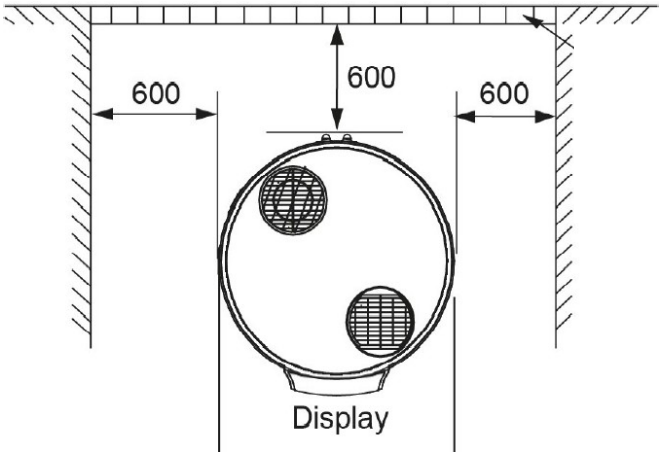
4. INSTALLATION

NOTE

It is strongly recommended that a water retention tray connected to the drain be installed under the water heater when it is positioned above inhabited premises.

The identification label must be accessible at all times.
Before filling, the water heater must be levelled by wedging it if necessary.
The water heater must be installed on a smooth, horizontal floor and must not be in contact with a wall.





CAUTION

The water heater must be secured to the floor (in accordance with Article 20 of standard EN 60335-1).

There are three possible installation configurations:

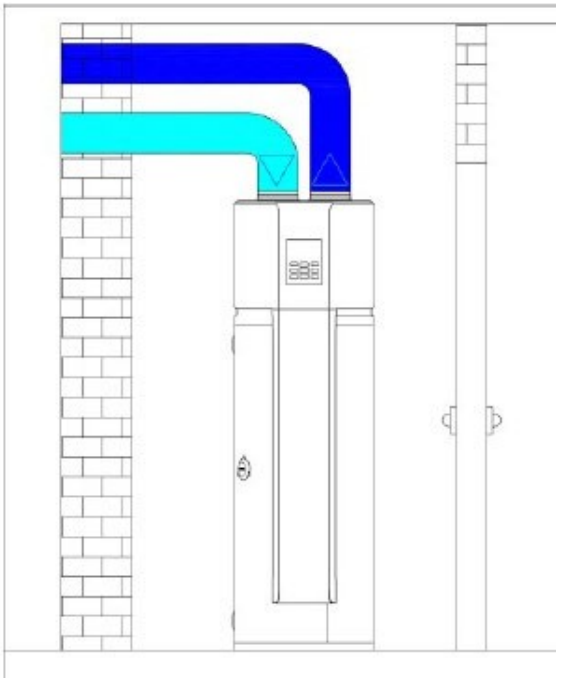
1 - Unsheathed Interior/Interior
2 - Cased exterior/exterior
3 - Sheathed Interior/Exterior

Regardless of the installation configuration chosen, the installation location must comply with protection rating IP X1B, in accordance with the requirements of NFC 15-100.
The floor must be able to support a minimum load of 500 kg (area under the water heater).

4.1. Sheathed installation

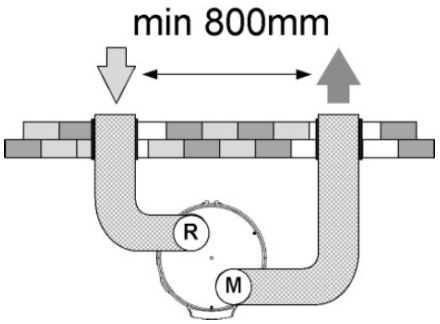
4.1.1. Sheathed installation (Outdoor/Outdoor)

The External/External connection prevents an increase in heat loss from the home (in the case of installation in heated premises). Avoid proximity to bedrooms with the water heater and/or pipes for acoustic comfort.

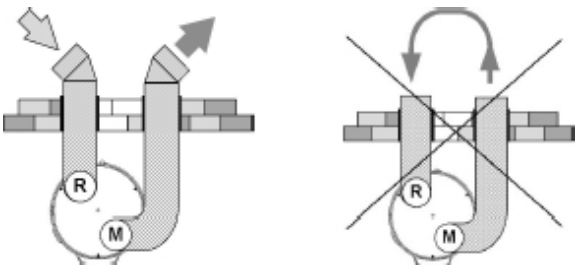


Example of room: laundry room/pantry/cupboard in the entrance hall

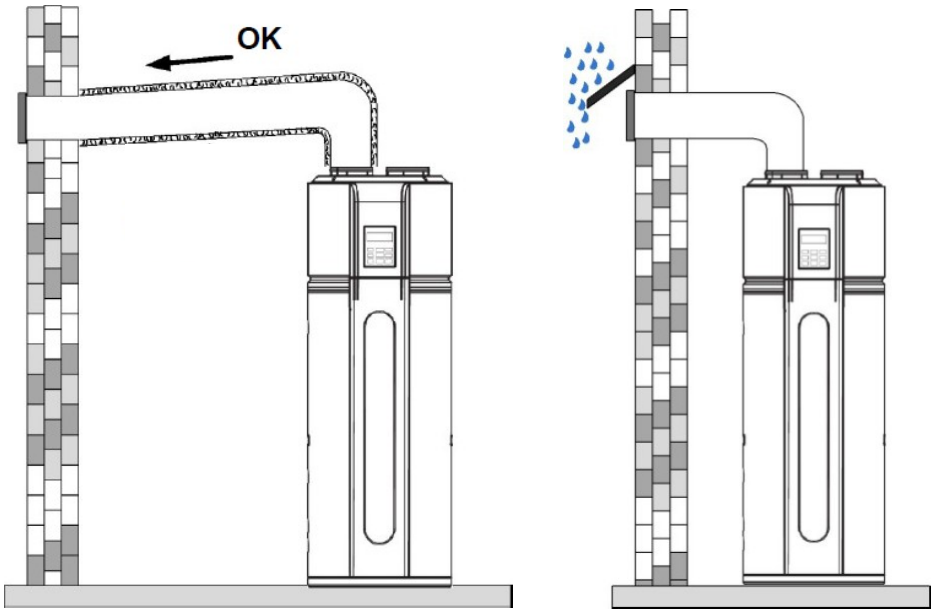
If the ducts are located on the same exterior wall, allow a minimum of 800 mm between the intake and exhaust.



If this is not possible, use adjustable vents to prevent the risk of air recirculation.



The vents must also be protected from any possibility of water entering the ducts and the unit.

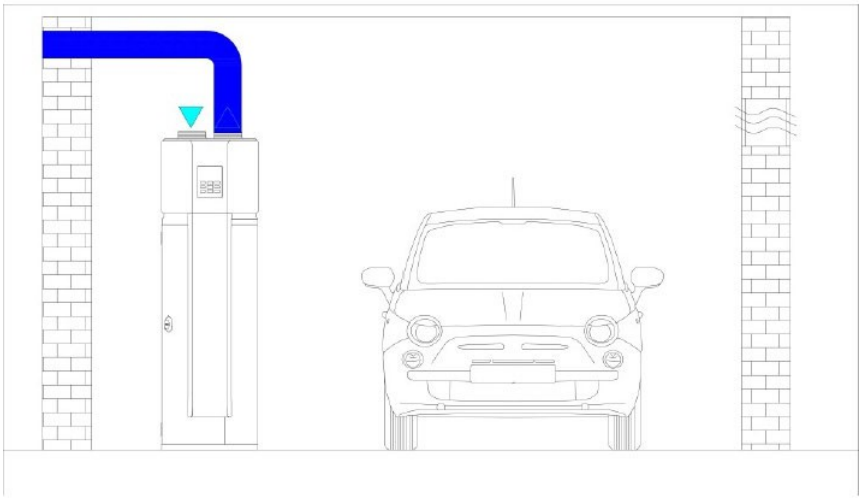


4.1.2. Ducted installation (indoor/outdoor)

The indoor/outdoor connection allows a positive suction temperature to be maintained. The performance of the water heater in winter will be less affected. The room must be unheated and insulated from the heated rooms of the dwelling.

NOTE

Creating negative pressure in the room by expelling outside air causes air to enter through the doors and windows. To avoid drawing in air from the heated space, provide an air inlet with the same diameter as the ducts leading to the outside.
In winter, this air will be colder than the ambient air in the room, thereby cooling the garage.

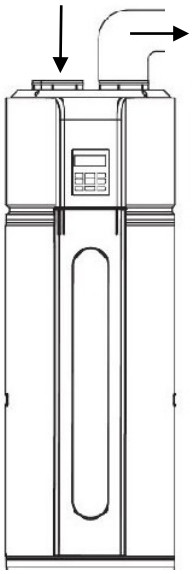


Example of a room:

- Garage: recovery of free heat from household appliances in operation.
- Laundry room: recovery of free heat from washing machines and tumble dryers and dehumidification of the room.

4.2. Uninsulated installation

The indoor/indoor connection maintains a positive suction temperature. The performance of the water heater in winter will be less affected. The room must be unheated and insulated from the heated rooms of the dwelling. The room must have a total volume (excluding bulky items) >20m^3.
The intake or exhaust air flow must be diverted to prevent recirculation at the intake.
The temperature inside this room must be above 5°C.



Example of premises:

- Garage: recovery of free heat from household appliances in operation.
- Laundry room: recovery of free heat from washing machines and tumble dryers and dehumidification of the room.
- Semi-underground room: recovery of free heat released by the ground and basement walls.

4.3. Prohibited configurations

- Water heater drawing air from a heated room.
- Connection to the CMV.
- Connection to the attic.
- Ducting to the outside air at the intake and discharge of fresh air inside the room.
- Connection to a ground source heat pump.
- Water heater installed in a room containing a natural draught boiler and externally ducted to the exhaust only.
- Air connection of the appliance to a tumble dryer.
- Installation in dusty rooms.
- Air intake containing solvents or explosive materials.
- Connection to hoods that exhaust greasy or polluted air.
- Installation in a room subject to freezing temperatures.
- Objects placed on top of the water heater.

4.4. Hydraulic connection

NOTE

The installation of a sanitary loop on the appliance is prohibited. In the event of a fault with the appliance on an installation with a loop, the warranty will not apply. For more information, contact the after-sales service.

The cold water inlet and hot water outlet are threaded 20/27 (3/4").

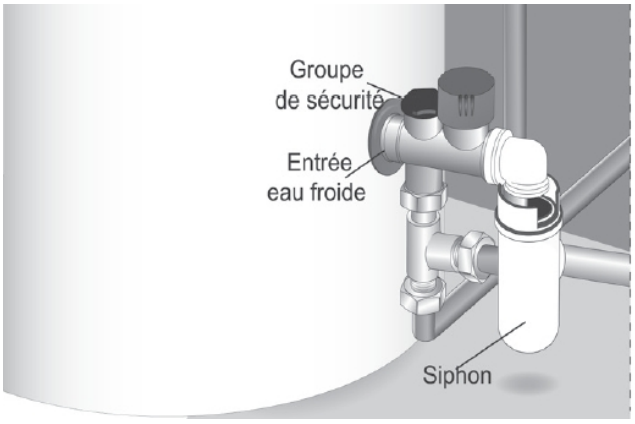
4.4.1. Cold water connection

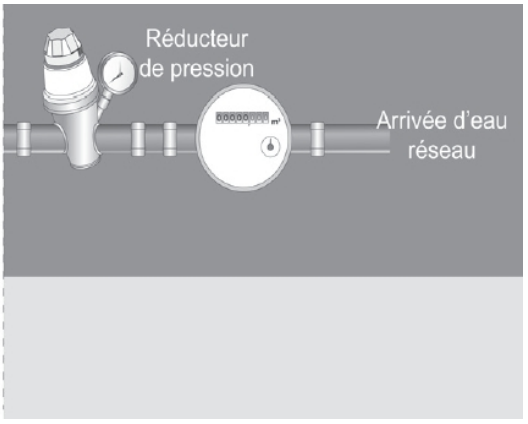
Before connecting the water supply, check that the pipes are clean.
The installation must be carried out using a new safety unit calibrated to 0.7 MPa (7 bar) (not supplied), bearing the NF mark (standard NF EN 1487) and connected directly to the cold water connection on the water heater.

CAUTION

No components (shut-off valve, pressure reducer, hose, etc.) should be placed between the safety unit and the cold water connection on the water heater.

As water may leak from the pressure limiter's discharge pipe, the discharge pipe must be kept exposed to 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 drain must be connected to the free-flowing waste water system via a siphon. It must be installed in a frost-free environment. The safety unit drain valve must be operated regularly (once or twice a month).
The installation must include a pressure reducer if the supply pressure exceeds 0.5MPa (5 bar). The pressure reducer must be installed at the start of the general distribution system (upstream of the safety unit). A pressure of 0.3 to 0.4 MPa (3 to 4 bar) is recommended.





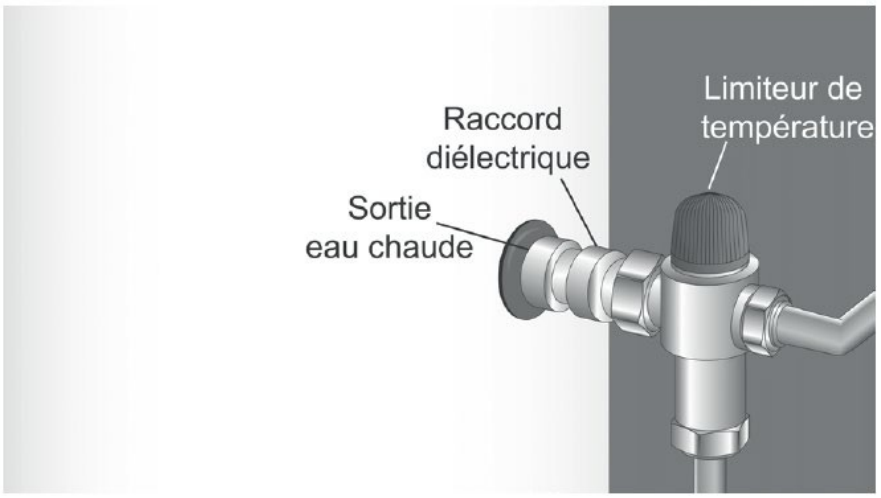
4.4.2. Hot water connection

CAUTION

Do not connect the hot water connection directly to copper pipes. It must be fitted with a dielectric connector (supplied with the appliance).
In the event of corrosion of the threads of the hot water connection not equipped with this protection, our warranty will not apply.

WARNING

French regulations require that in rooms intended for bathing, the domestic hot water temperature at the tap must not exceed 50°C. In other rooms, the domestic hot water temperature at the tap is limited to 60°C.
When using synthetic pipes (e.g. PER, multilayer, etc.), a thermostatic regulator must be installed at the water heater outlet. It must be adjusted according to the performance of the material used.



4.4.3. Condensate drainage

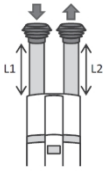
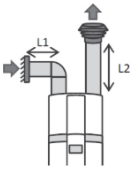
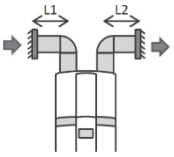
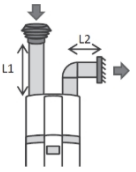
Insert the condensate drain pipe into the condensate drain outlet located at the rear of the product.
Cut the condensate drain pipe so that there is no loop in the pipe. Connect the end of the pipe to the waste water drain.

4.5. Air connection

The energy efficiency of the thermodynamic water heater is linked to the temperature of the air drawn in. The warmer the air drawn in, the better the COP (Coefficient of Performance).

- In the case of ducting, it is mandatory to use insulated air ducts with a diameter of 150 mm or 160 mm (with a 150/160 mm sleeve). Flexible ducts must not be used.

4.5.1. Maximum duct lengths

		Configurations			
					
L1+L2	HDPE duct ∅ 160 mm 	30 m	25 m	20 m	25 m

WARNING

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

4.6. Electrical connection

WARNING

The water heater must only be switched on after it has been filled with water.
The water heater must be permanently connected to the power supply.

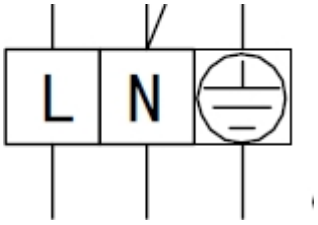
The electrical connection must be carried out by a qualified professional and with the power disconnected. The water heater must be connected to a 230V single-phase 50Hz alternating current network.
The electrical connection must comply with NFC 15-100 installation standards and the recommendations in force in the country where the water heater is installed.
The installation must include:

- A 16A omnipolar circuit breaker.
- Protection by a 30mA residual current device.

DANGER

Never connect the heating element directly to the power supply.

The safety thermostat fitted to the electric heater must not be repaired under any circumstances. Failure to comply with this clause will void the warranty.



POWER SUPPLY

DANGER

The earth connection must be connected.

4.7. Filling the water heater

1. Open the hot water tap(s).
2. Open the cold water tap located on the safety unit (ensure that the unit's drain valve is in the closed position).
3. After draining the hot water taps, close them. The water heater is now full of water.
4. Check that the pipe connections are watertight and that the hydraulic components are working properly by opening the safety unit's drain valve several times to remove any residue from the drain valve.

5. COMMISSIONING

NOTE

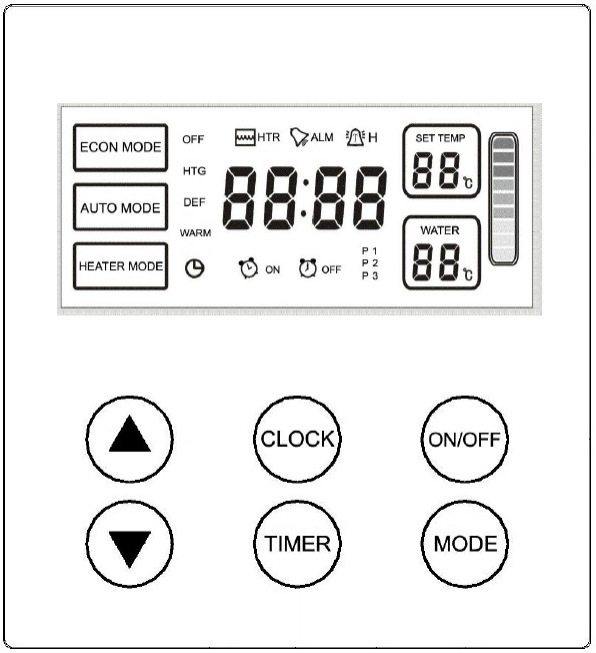
When starting up for the first time or after a power cut, the heat pump will start up after a delay of 3 minutes.
If the heat pump has been tilted, wait 1 hour before

- switching on the water heater.
- When switching on for the first time, you must set the time (see 6.1 Setting the clock).
- Then set the other parameters (see 6.2 & 6.3).
- Once the settings have been adjusted, check that the water heater is working properly.

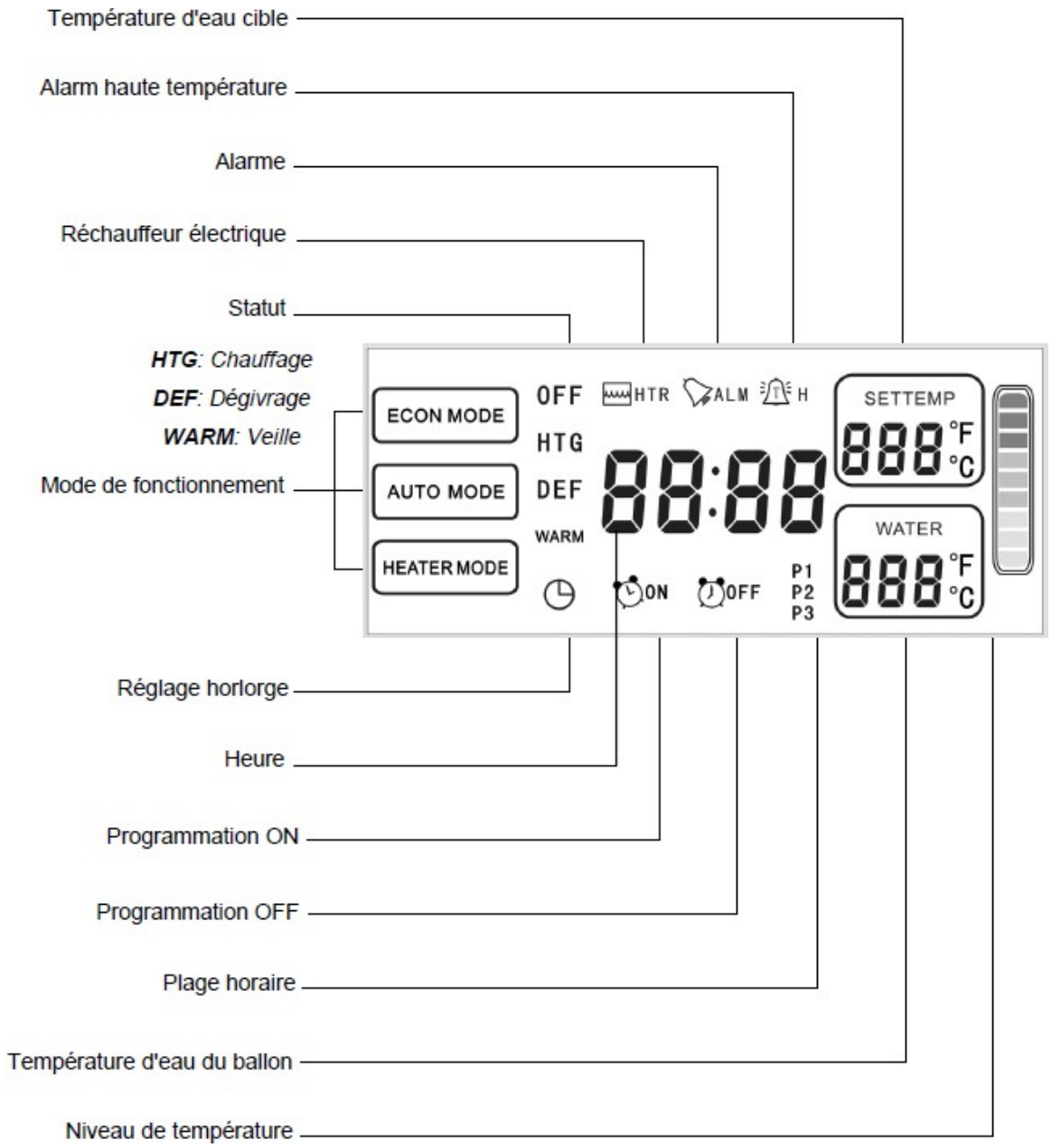
5.1. Check before first use

1. Check that the tank is filled with water and open the water outlet tap until water flows out.
2. Check that the water pressure is normal (0.15 MPa ~ 0.7 MPa).
3. Check that the air inlet or outlet is properly connected.
4. Check that the supply voltage is normal and complies with the requirements on the nameplate.
5. Check that the fitted parts are securely screwed/locked in place.
6. Check that the wiring complies with the circuit diagram and that the earth wire is connected.
7. Check that the air inlet and outlet have been cleaned and that there are no obstructions.
8. Check that the condensate drain pipe is properly connected and not blocked.
9. After switching on the power, check that the control panel display is normal.

6. CONTROL PANEL



ON/OFF	Switching the water heater on/off
MODE	Switch between the different operating modes of the water heater (see 6.2 Operating mode)
CLOCK	Set the clock (see 6.1 Setting the clock)
TIMER	Set the time programmes (see 6.3 Time programming)
▲ ▼	Select/increase/decrease



The high temperature alarm is activated if the water temperature exceeds 55°C.

6.1. Setting the clock

When using the appliance for the first time, you must set the clock to enable the water heater to regulate properly.

To do this, press the button CLOCK then the hours will flash, press ▲ ▼ to adjust the hour. Press CLOCK a second time to select the minutes. When the minutes are flashing, press ▲ ▼ to adjust the minutes.

Once the hour and minutes have been set, press CLOCK to exit the setting mode.

6.2. Operating mode

There are three different operating modes for the water heater. To change modes, press the button. MODE

6.2.1. ECON MODE

ECON (economy) mode is the only mode in which the operating ranges are operational. If you wish to operate your water heater during off-peak hours, you must use ECON mode and activate the time programming (see 5.4 Time programming).

NOTE

This is the most economical operating mode if you have an off-peak electricity tariff. If you have photovoltaic solar panels, this is also the most economical mode as you can set the time programming to coincide with the hours when your panels are producing energy.

6.2.2. AUTO MODE

AUTO (automatic) mode allows the water heater to turn on at any time when the temperature in the tank drops. The time settings are deactivated. The water heater turns on and off based solely on the temperature of the water in the tank.

6.2.3. HEATER MODE

HEATER mode allows the electric heater to operate continuously. The water heater turns on and off depending on the temperature inside the tank. The time settings are disabled.

NOTE

This operating mode is the least economical. Electricity consumption will be higher than expected. This operating mode should only be used when you want the tank to heat up quickly (e.g. when returning from holiday, etc.).

6.3. Time programming

Ensure that you are in ECON mode. If you are in another mode, see 6.2. Press the button TIMER to enter the time slot settings.

The first time slot will flash P1, and the alarm ON will also flash. You can now set the hour and minutes using ▲▼. Press TIMER again to move to the alarm OFF. You can now set the hour and minutes with ▲▼

Follow the same procedure for the other time slots.

7. ERROR CODES

If an error occurs, a sound will be heard. The message "Alarm" will appear on the screen.

The error code will appear alternately in place of the temperature.

Some alarms may disappear automatically.

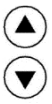
Error code	Details	Cause	Resolution
A1	Water temperature sensor	The water temperature sensor is damaged or incorrectly connected	-Reconnect the sensor -Replace the sensor
A2	Condenser temperature sensor condenser	The condenser temperature sensor is damaged or incorrectly connected	-Reconnect the sensor -Replace the sensor
A3	Exhaust air exhaust air temperature	The exhaust air temperature sensor is damaged or incorrectly connected	-Reconnect the sensor -Replace the sensor
A4	Room temperature sensor	The room temperature sensor is damaged or incorrectly connected	-Reconnect the probe -Replace the probe
A5	High pressure	-High pressure protection -Ambient temperature too high or dirty heat exchanger	-Check and/or replace the high pressure sensor -Check ambient temperature -Clean the heat exchanger
A6	Heater overheating -High temperature protection for the electric heater	-High temperature protection of the electric heater -Water in the tank too hot	-Check the tank temperature -Replace the electric heater
A7	Compressor discharge temperature	-Lack of refrigerant -Air in the circuit -Lack of oil in the compressor	-Top up refrigerant -Re-evacuate and refill with refrigerant -Change the compressor oil
A8	Condensate overflow	-Condensate drain pipe blocked -Condensate drain hole blocked	-Check that the pipe is not blocked -Check that the hole is not blocked
A9	Suction temperature sensor compressor	The compressor suction temperature sensor is damaged or incorrectly connected.	-Reconnect the sensor -Replace the sensor
--	The display does not light up or is not working properly	-Power supply problem -Communication cable between the display and the electronic board damaged or incorrectly connected	-Check the power supply and voltage -Reconnect the communication cable -Replace the display -Replace the electronic board

8. OPERATING PARAMETERS

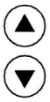
CAUTION

Modifying the operating parameters of the water heater is reserved for qualified personnel. Modifying these parameters may affect the performance and proper functioning of the water heater.

To access the water heater settings, press and hold the button for 5 seconds. 

Once in settings mode, you can view the settings code and press to change the settings. 

To enter the desired setting, press 

. You can then change the setting value by pressing  .

To exit the setting, press 

.

	Code	Detail	Adjustment range	Factory setting	Unit	Note
Temperature settings	F11	Maximum target temperature	5 – 75	55	°C	Sets the maximum temperature that can be set on the control panel.
	F12	Temperature difference	1 – 30	5	°C	Delta T before restarting the heat pump.
	F13	Minimum heat pump ambient temperature	-10 – 5	-7	°	Minimum ambient temperature for heat pump operation.
	F14	Maximum heat pump water temperature	20 – 75	55	°	Maximum water temperature for heat pump operation.
	F15	Activation of the electric heater	0–1	1	-	Enables activation of the electric heater. (0 = No / 1 = Yes)
	F16	Ambient temperature for RE	-10 – 20	0	°	Ambient temperature below which the electric heater activates.
	F17	Activation of the RE during the AL cycle	0	1	-	Enables activation of the electric heater during the anti-legionella cycle. (0 = No / 1 = Yes)
	F18	Anti-legionella cycle	1 – 990	336	Time	Time between 2 anti-legionella cycles.
	F19	Water temperature sensor hysteresis	-5 – 5	0	°C	Temperature reading compensation.
Compressor	F21	Start-up delays	0 – 10	3	Min	Compressor start-up delays.
	F28	Activation of the RE in ECON mode	0 – 1	1	-	Enables the electric heater to operate in ECON mode. (0 = No / 1 = Yes)
	F29	Activation of the heat pump in HEATER	0 – 1	1	-	Enables the heat pump to operate in HEATER mode. (0 = No / 1 = Yes)
Defrost	F31	Defrost activation temperature	-20 – 20	-	°	Condenser temperature for starting the defrost cycle.
	F32	Defrost stop temperature	0 – 50	25	°C	Condenser temperature for defrost shutdown.
	F33	Time before defrosting	1 – 999	30	Min	Minimum operating time before defrosting.
	F34	Maximum defrost time	Off, 1 – 99	5	Minute	Maximum defrost duration
Alarm	F50	Reserved				Reserved
	F51	Reserved				Reserved
	F52	Reserved				Reserved
	F54	Reserved				Reserved
	F55	Reserved				Reserved
	F56	Reserved				Reserved
	F57	Reserved				Reserved
	F58	Reserved				Reserved
	F59	Reserved				Reserved

	Code	Details	Adjustment range	Factory setting	Unit	Note
Function	F61	Power failure memory	Yes/No	Yes	-	Auto restart after power failure.
	F69	Reserved				Reserved
Expansion valve (EEV)	F70	Reserved				Reserved
	F71	Reserved				Reserved
	F72	Manual opening EEV	100 – 480	350		
	F73	Reserved				Reserved
	F74	Reserved				Reserved
	F79	Reserved				Reserved
System	F80	Password	OFF 0001 – 9999	4321		OFF = no password 0000 = to delete the password
	F85	Reserved				Reserved
Test	F98	Test mode (cold)	Adf			The fan, EEV and compressor start up. Press any button to stop. Otherwise, it will stop after 20 minutes.

9. MAINTENANCE

The water heater inlet filter should be cleaned once every 3 months. At the same time, every six months, we suggest draining all the storage water and washing it several times 2 to 3 times to remove dirt and sediment.

To maintain the unit's performance, clean the air inlet/outlet filter mesh once a month, or clean the heat exchanger. Be careful not to damage the copper pipes.

Clean the electric heater every 6 months. Turn off the power supply before cleaning.

Check the magnesium anode every 6 months for better corrosion and limescale protection. Depending on the water quality, replace the anode when it is depleted.

10. WATER QUALITY

The water quality must comply with the standards of European Directive 98/83 EC and the criteria defined in standard UNE 112.076. Water quality must be analysed before use to assess criteria such as concentration, pH value, conductivity, chloride ion (Cl-) concentration, sulphide ion (S2-) concentration, etc. Some of the parameters for chemical ingredients are shown in the following table:

Parameters	Value	Unit	Parameters	Value	Unit
Acrylamide	0.1	µg/l	Cadmium	5.0	µg/l
Antimony	5.0	µg/l	Chromium	50	µg/l
Arsenic	10	µg/l	Copper	2.0	mg/l
Benzene	1.0	µg/l	Cyanides	50	µg/l
Benzo(a)pyrene	0.010	µg/l	1,2-dichloroethane	3.0	µg/l
Boron	1.0	µg/l	Epichlorohydrin	0.10	µg/l
Bromates	10	µg/l	Fluorides	1.5	mg/l
Nickel	20	µg/l	Lead	10	µg/l
Nitrates	50	mg/l	Mercury	1.0	µg/l
Nitrites	0.50	mg/l	Selenium	10	µg/l
Pesticides	0.10	µg/l	Vinyl chloride	0.5	µg/l
Total pesticides	0.50	µg/l	Tetrachloroethylene and trichloroethylene	10	µg/l
Polycyclic aromatic hydrocarbons	0.10	µg/l	Total Trihalomethanes (THM)	100	µg/l

- PH value: between 6.5 and 8.5
- Water hardness: <50ppm.

AIRWELL GROUP
10 RUE DU FORT DE SAINT CYR
78180 MONTIGNY LE BRETONNEUX
FRANCE
www.airwell.com

22.AW.TFHZ.IOM.R134A.FR.03.06