

KALI KO ESSENTIEL



Installation and Service Manual

Thermodynamic water heater

KALI KO ESSENTIEL

ETWH 180 E

ETWH 230 E

Contents

- 1 Safety 5**
 - 1.1 General safety instructions 5
 - 1.2 Instructions on the hydraulic connections 7
 - 1.3 Specific safety instructions 9
 - 1.4 Liabilities 10
 - 1.4.1 Manufacturer's liability 10
 - 1.4.2 Installer's liability 10
 - 1.5 Safety data sheet: refrigerant fluid R-134a 10
 - 1.5.1 Product identification 10
 - 1.5.2 Hazard identification 10
 - 1.5.3 Composition of/Information on the ingredients 11
 - 1.5.4 First aid 11
 - 1.5.5 Fire prevention measures 11
 - 1.5.6 In the event of accidental spillage 12
 - 1.5.7 Handling 12
 - 1.5.8 Personal protection 12
 - 1.5.9 Regulations 13
 - 1.6 Website 13
- 2 About this manual 14**
 - 2.1 General 14
 - 2.2 Available documentation 14
 - 2.3 Symbols used 14
 - 2.3.1 Symbols used in the manual 14
 - 2.3.2 Symbols used on the appliance 14
- 3 Technical specifications 15**
 - 3.1 Homologations 15
 - 3.1.1 Certifications 15
 - 3.1.2 Directive 97/23/CE 15
 - 3.1.3 Ecodesign Directive 15
 - 3.1.4 Factory test 15
 - 3.2 Technical data 15
 - 3.2.1 Appliance specifications 15
 - 3.3 Dimensions and connections 17
 - 3.4 Electrical diagram 18
 - 3.4.1 Water heater ETWH 180 E and ETWH 230 E 18
- 4 Description of the product 20**
 - 4.1 General description 20
 - 4.2 Operating principle 20
 - 4.2.1 Operating principle for the thermodynamic water heater 20
 - 4.2.2 Operating principle with the different MODES 20
 - 4.2.3 Operating principle for the anti-legionella function 22
 - 4.3 Main components of the thermodynamic water heater 23
 - 4.4 Control panel description 24
 - 4.4.1 Description of the control keys 24
 - 4.4.2 Description of the display 24
 - 4.5 Standard delivery 24
 - 4.6 Accessories and options 24
- 5 Before installation 25**
 - 5.1 Regulations governing installation 25
 - 5.2 Choice of the location 25
 - 5.2.1 Data plate 25
 - 5.2.2 Location of the water heater 26
 - 5.3 Transport 27
 - 5.3.1 Precautions for transporting the appliance 27
 - 5.4 Unpacking & initial preparation 28
 - 5.4.1 Unpacking the appliance 28
- 6 Installation 29**
 - 6.1 General 29
 - 6.2 Preparation 29

6.2.1	Installation of the thermodynamic water heater	29
6.3	Hydraulic connections	29
6.3.1	Connecting the domestic water circuit	30
6.3.2	Hydraulic connection between the thermodynamic water heater and an instant boiler	31
6.3.3	Connecting the condensate discharge pipe	31
6.4	Electrical connections	33
6.4.1	Recommendations	33
6.4.2	Connecting the appliance	34
6.4.3	Types of connections to the distribution board	34
6.5	Filling the system	37
7	Commissioning	39
7.1	General	39
7.2	Points to check before commissioning	39
7.2.1	Checklist for commissioning	39
7.3	Commissioning procedure	39
7.3.1	Initial commissioning	39
7.3.2	Defrosting when heating water	39
7.4	Checks after commissioning	40
7.4.1	Points to check after commissioning	40
8	Operation	41
8.1	Use of the control panel	41
8.2	Shutting down the system	41
8.3	Prolonged absence	41
8.3.1	Automatic restart	41
9	Settings	42
9.1	List of parameters	42
9.2	Setting the parameters	42
9.2.1	Selecting the operating mode	42
9.2.2	Setting the various parameters	42
9.2.3	Configuring the anti-legionella function	42
9.3	Reading out measured values	43
9.3.1	Accessing the measured values	43
9.3.2	List of operating parameters	44
10	Maintenance	45
10.1	General	45
10.2	Standard inspection and maintenance operations	45
10.2.1	Refrigerant circuit	45
10.2.2	Hydraulic circuit	45
10.2.3	Aerualics	45
10.2.4	Magnesium anode	46
10.2.5	Checking the safety valve or safety unit	46
10.3	Maintenance form	47
11	Troubleshooting	48
11.1	Messages (Ex and Px type codes)	48
11.1.1	List of messages	48
11.2	Deleting the error codes	49
12	Disposal/recycling	50
12.1	General	50
12.1.1	Considerations relating to disposal	50
13	Spare parts	51
13.1	General	51
13.2	Spare parts lists	52
13.2.1	Heat pump	52
13.2.2	Thermodynamic water heater	54
14	Appendix	56
14.1	EC Declaration of Conformity	56
14.2	Commissioning protocol	56
14.2.1	Appliance concerned	56

Contents

14.2.2	General checks	56
14.2.3	Electrical checks	56
14.2.4	Points to check after commissioning	56
14.3	Maintenance protocol	57

1 Safety

1.1 General safety instructions

**Danger**

This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance should not be carried out by children without adult supervision.

**Caution**

The thermodynamic water heater must be installed by a qualified professional, in accordance with prevailing local and national regulations.

**Caution**

Install the thermodynamic water heater in a frost-free location.

**Danger of electric shock**

Before any work, switch off the mains supply to the thermodynamic water heater.

**Warning**

Take precautions with the domestic hot water. Depending on the settings of the thermodynamic water heater, the domestic hot water temperature may exceed 65°C.

**Caution**

Only genuine spare parts may be used.

**Caution**

Do not neglect to service the thermodynamic water heater. Service the appliance regularly to ensure that it operates correctly.

**Important**

Keep the water heater and the heat pump accessible at all times.



Important

Never remove or cover the labels and data plates affixed to appliances. Labels and data plates must be legible throughout the entire lifetime of the appliance.

Immediately replace damaged or illegible instructions and warning stickers.



Caution

If the home is unoccupied for a long period and there is a risk of frost, drain the water heater.



Caution

Remove the casing only to perform maintenance and repair work. Put the casing back in place after maintenance and repair work.



Important

Keep this document close to the place where the appliance is installed.

1.2 Instructions on the hydraulic connections



Warning

Do not touch the refrigeration connection pipes with your bare hands while the thermodynamic water heater is running. Danger of burn or frost injury.



Warning

Refrigerant fluid and pipes:

- Use only **R-134a** refrigerant fluid to fill the system.
- Use tools and pipe components especially designed for use with **R-134a** refrigerant fluid.
- Use copper pipes deoxidised with phosphorus to carry the refrigerant fluid.
- Use beading to guarantee the tightness of the connections.
- Store the refrigerant connection pipes away from dust and humidity (risk of damage to the compressor).
- Cover both ends of the pipes until the beading process.
- Do not use a load cylinder.



Caution

- The appliance is intended to be permanently connected to the water mains.
- Maximum / minimum water inlet pressure: See chapter on Technical Specifications.
- The pressure limiter device must be regularly operated in order to remove limescale deposits and ensure that it is not blocked.
- Draining: Shut off the domestic cold water inlet. Open a hot water tap in the installation and then open the valve on the safety unit. When the water stops flowing, the appliance has been drained.
- A pressure reducer (not provided) is necessary when the supply pressure exceeds 80% of the calibration of the safety valve or safety unit and it must be located upstream of the appliance.
- As water may flow out of the discharge pipe on the pressure limiter device, the discharge pipe must be kept clear and open.
- Connect the pressure limiter device to a drain pipe, kept open to the air, in a frost-free environment, and at a continuous downward gradient.



Danger

In the event of a refrigerant leakage:

1. Do not use a naked flame, do not smoke, do not operate electrical contacts or switches (doorbell, light, motor, lift, etc.).
2. Open the windows.
3. Switch off the appliance.
4. Avoid contact with the refrigerant. Danger of frost injuries.
5. Locate the probable leak and seal it immediately.

1.3 Specific safety instructions



Warning

In accordance with the NFC 15.100 electrical safety standard, only qualified professionals are permitted access to the inside of the appliance.



Warning

- Ensure correct earthing.
- Heating water and domestic water must not come into contact with each other.
- A disconnection device must be fitted to permanent pipes in accordance with installation rules.
- If the power cable is damaged, it must be replaced by the manufacturer, its after sales service or persons with similar qualifications in order to obviate any danger.
- This appliance must not be powered through an external switch, such as a timer, or be connected to a circuit which is regularly switched on and off by the electricity provider.
- Install the appliance in accordance with national rules on electrical installation.
- Wiring diagram: See chapter on Electrical Principle Diagram.
- Connecting the appliance to the mains: See chapter on Electrical Connections.
- Fuse type et calibre: See chapter on Electrical Connections.
- Regarding information on installation on the appliance, electrical connection and connection of the water circuit, refer to the paragraphs below in this manual.
- Regarding information on handling, servicing and scrapping the appliance, refer to the paragraphs below in this manual.



Caution

In order to limit the risk of being scalded, the installation of a thermostatic mixing valve on the domestic hot water flow pipes is recommended.

1.4 Liabilities

1.4.1 Manufacturer's liability

Our products are manufactured in compliance with the requirements of the various Directives applicable. They are therefore delivered with the CE marking and any documents necessary. In the interests of the quality of our products, we strive constantly to improve them. We therefore reserve the right to modify the specifications given in this document.

Our liability as manufacturer may not be invoked in the following cases:

- Failure to abide by the instructions on installing and maintaining the appliance.
- Failure to abide by the instructions on using the appliance.
- Faulty or insufficient maintenance of the appliance.

1.4.2 Installer's liability

The installer is responsible for the installation and initial commissioning of the appliance. The installer must observe the following instructions:

- Read and follow the instructions given in the manuals provided with the appliance.
- Install the appliance in compliance with prevailing legislation and standards.
- Carry out initial commissioning and any checks necessary.
- Explain the installation to the user.
- If maintenance is necessary, warn the user of the obligation to check the appliance and keep it in good working order.
- Give all the instruction manuals to the user.

1.5 Safety data sheet: refrigerant fluid R-134a

1.5.1 Product identification

Name of the refrigerant fluid: R-134a.

1.5.2 Hazard identification

Effects harmful to health:

- The vapours are heavier than air and may lead to asphyxia owing to reduced oxygen levels.
- Liquefied gas: contact with the liquid may cause serious frost burn and eye injuries.

Product classification:

- This product is not classified as a "hazardous preparation" according to European Union regulations.

1.5.3 Composition of/Information on the ingredients

Chemical nature:

- 1,1,1,2 - Tetrafluoroethane R-134a.

Ingredients that may lead to hazardous situations:

Tab.1 Fluid ingredients R-134a

Substance name	Concentration	Number CAS	Number CE	Classification	PRP
1,1,1,2 - Tetrafluoroethane R-134a	100%	811-97-2	212-377-0		1430

1.5.4 First aid

If inhaled:

- Evacuate the subject from the contaminated area and take him into the open air.
- If feeling unwell: call a doctor.

In the event of contact with the skin:

- Treat frost injuries like burns. Rinse with copious amounts of tepid water, do not remove clothing (risk of adhesion to the skin).
- If skin burns appear, call a doctor immediately.

In the event of contact with the eyes:

- Rinse immediately in water, holding the eyelids well apart (at least 15 minutes).
- Consult an ophthalmologist immediately.

1.5.5 Fire prevention measures

Appropriate extinguishing agents:

- All extinguishing agents can be used.

Inappropriate extinguishing agents:

- None to our knowledge. In the event of fire nearby, use the appropriate extinguishing agents.

Specific hazards:

- Pressure elevation: in the presence of air, an inflammable mixture may form under certain temperature and pressure conditions.

- Effect of heat: release of toxic and corrosive vapours.

Special intervention methods:

- Cool the volumes exposed to heat with water spray.

Protection of the firemen:

- Full self-contained breathing apparatus.
- Complete body protection.

1.5.6 In the event of accidental spillage

Individual precautions:

- Avoid contact with the skin and eyes.
- Do not intervene without appropriate protective equipment.
- Do not inhale the vapours.
- Evacuate the hazardous area.
- Stop the leakage.
- Eradicate all sources of ignition.
- Ventilate the spillage area mechanically (risk of asphyxia).

Cleaning / Decontamination:

- Allow residual product to evaporate.

1.5.7 Handling

Technical measures:

- Ventilation.

Precautions to be taken:

- No smoking.
- Prevent the build-up of electrostatic charges.
- Work in a well ventilated place.

1.5.8 Personal protection

Respiratory protection:

- If ventilation is insufficient: AX type cartridge mask.
- In confined spaces: self-contained breathing apparatus.

Hand protection:

- Protective gloves in leather or nitrile rubber.

Eye protection:

- Safety glasses with side protection.

Skin protection:

- Clothing made mostly of cotton.

Industrial hygiene:

- Do not drink, eat or smoke in the work place.

1.5.9 Regulations

- Regulation (UE) 517/2014 relating to fluorinated greenhouse gases.
- Classified installations No. 1185

1.6 Website

The installation manual can also be found on our website.

2 About this manual

2.1 General

This manual is intended for installers of ETWH 180 E or ETWH 230 E thermodynamic water heaters.


2.2 Available documentation


- Installation and service manual.
- User manual.


2.3 Symbols used

2.3.1 Symbols used in the manual


This manual uses various danger levels to draw attention to special instructions. We do this to improve user safety, to prevent problems and to guarantee correct operation of the appliance.

 **Danger**
Risk of dangerous situations that may result in serious personal injury.

 **Danger of electric shock**
Risk of electric shock.

 **Warning**
Risk of dangerous situations that may result in minor personal injury.


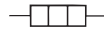






 **Caution**
Risk of material damage.

 **Important**
Please note: important information.

 **See**
Reference to other manuals or pages in this manual.

2.3.2 Symbols used on the appliance

Fig.1 Symbols used on the appliance

- | | | |
|---|---|--|
| 1  | 6  | 1 Alternating current |
| 2  | 7  | 2 Protective earthing |
| 3  | 8  | 3 Before installing and commissioning the appliance, carefully read the instruction manuals provided. |
| 4  | 9 IP21 | 4 Dispose of used products through an appropriate recovery and recycling structure. |
| 5  | | 5 Caution: danger of electric shock, live parts.
Disconnect the mains power prior to carrying out any work. |

MW-1000755-1

3 Technical specifications

3.1 Homologations

3.1.1 Certifications

■ NF certification

Appliances concerned: **ETWH 180 E, ETWH 230 E.**

Specifications **LCIE 103–15/B** (July 2011) for NF Electricity Performance Marking

This product complies with the requirements of the following NF Electricity Standards:

- EN 60335-1:2012 + A11:2014
- EN 60335-2-21:2003 + A1:2005 + A2:2008
- EN 60335-2-40:2003 + A11:2004 + A12:2005 + A1:2006 + A2:2009 + A13:2012
- EN 62233:2008
- EN 16147:2011
- EN 55014-1:2006+A1:2009+A2:2011
- EN 55014-2:2015
- EN 61000-3-2:2014
- EN 61000-3-3:2013

■ Electrical Conformity / CE Marking

This product complies with the requirements of the following European Directives and Standards:

- Low Voltage Directive 2014/35/EU
Generic standard: EN 60335-1
Relevant standards: EN 60335-2-21, EN 60335-2-40
- Electromagnetic Compatibility Directive 2014/30/EU
Generic standards: EN 61000-6-3, EN 61000-6-1
Relevant Standard: EN 55014

3.1.2 Directive 97/23/CE

This product conforms to the requirements of European Directive 97/23/EC, article 3, paragraph 3, on pressure equipment.

3.1.3 Ecodesign Directive

This product conforms to the requirements of European Directive 2009/125/EC on the ecodesign of energy-related products.

3.1.4 Factory test

Before leaving the factory, each appliance is tested for the following:

- Water tightness
- Air tightness
- Electrical tests (components, safety).

3.2 Technical data

3.2.1 Appliance specifications

Model	Unit	ETWH 180 E	ETWH 230 E
Daily electricity consumption Q_{elec}	KWh	4.058	6.339
Declared load profile		L	XL

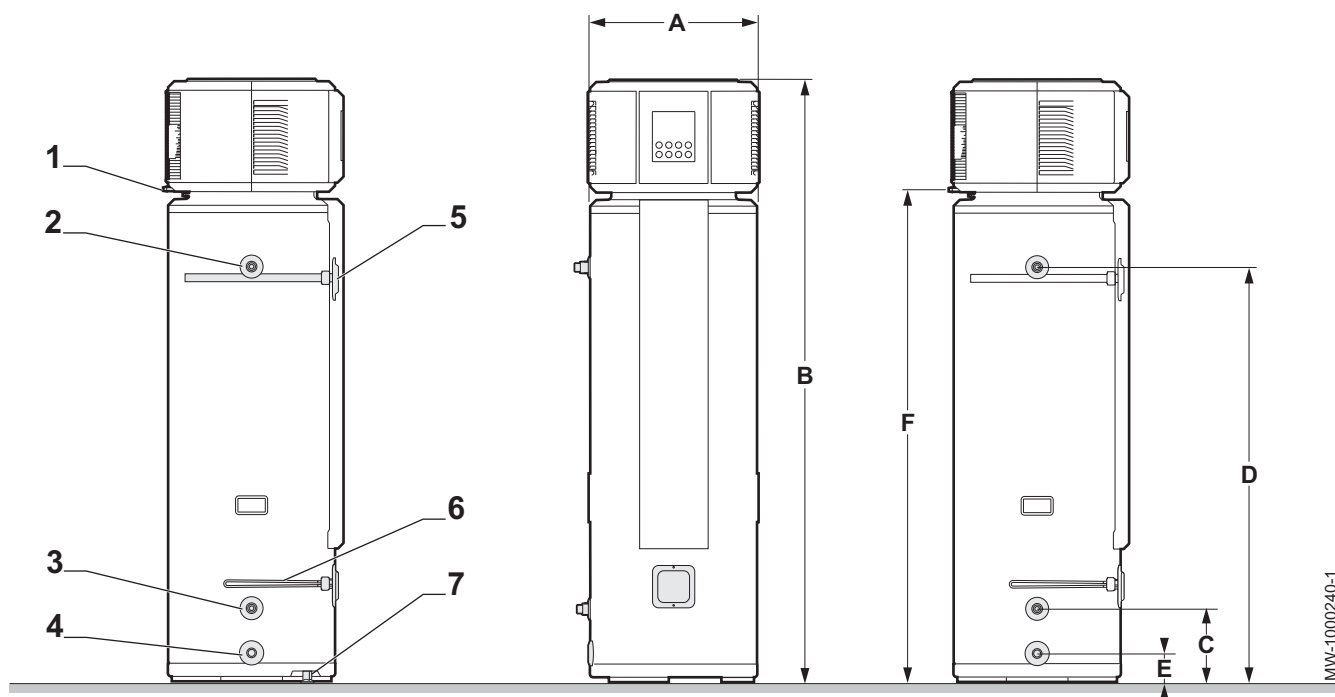
Model	Unit	ETWH 180 E	ETWH 230 E
Sound power level, indoors (L_{WA})	dB	60	60
Storage volume (V)	Litre	180.0	230.0
Mixed water at 40°C (V40)	Litre	207	318
Heat input (HP)	W	1000 ⁽¹⁾ / 1500 ⁽²⁾	1000 ⁽¹⁾ / 1500 ⁽²⁾
Absorbed electrical power (HP)	W	400 ⁽¹⁾ / 460 ⁽²⁾	400 ⁽¹⁾ / 460 ⁽²⁾
COP in accordance with the EN16147 standard		2.38 ⁽³⁾ / 2.88 ⁽⁴⁾	2.51 ⁽³⁾ / 3.02 ⁽⁴⁾
Maximum air flow rate	m ³ h	350	350
Electrical resistor output	W	1550	1550
Operating pressure	MPa (bar)	0.8 (8)	0.8 (8)
Power supply voltage	V	230	230
Circuit breaker	A	16	16
Heating time (10-54°C)	hours	8h39 ⁽³⁾ / 6h02 ⁽⁴⁾	11h50 ⁽³⁾ / 7h54 ⁽⁴⁾
Pes ⁽⁵⁾	W	37.0 ⁽³⁾ / 25.0 ⁽⁴⁾	46.9 ⁽³⁾ / 33.6 ⁽⁴⁾
Refrigerant fluid R-134a	kg	0.8	0.8
R-134a refrigerant ⁽⁶⁾	tCO ₂ e	1.14	1.14
Weight of the tank (empty)	kg	102	116
Protection of the thermodynamic water heater		IP21	IP21
Acoustic pressure ⁽⁷⁾	dB (A)	46.2	46.2
Minimum water inlet pressure	MPa (bar)	0.15 (1.5)	0.15 (1.5)
Maximum water inlet pressure	MPa (bar)	0.65 (6.5)	0.65 (6.5)
<p>(1) Value obtained with an air temperature of 7°C when heating from 10°C to 54°C. (2) Value obtained with an air temperature of 15°C when heating from 10°C to 54°C. (3) Value obtained with an air temperature of 7°C and a water inlet temperature of 10°C according to EN16147 based on LCIE Specifications No. 103-15/B: 2011. (4) Value obtained with an air temperature of 15°C and a water inlet temperature of 10°C according to EN16147 based on LCIE Specifications No. 103-15/B: 2011. (5) Absorbed electrical power at stabilised rate. (6) Quantity of refrigerant calculated in tonnes of CO₂ equivalent. (7) Measured at a distance of 2 metres.</p>			

i Important
 The values in tonnes of CO₂ equivalent are calculated using the following formula: quantity (in kg) of refrigerant fluid x GWP / 1000.
 GWP = Global Warming Potential. The GWP of R-134a is 1430.

i Important
 R-134a refrigerant is contained in equipment that has been hermetically sealed.

3.3 Dimensions and connections

Fig.2 Dimensions and connections



- 1 Condensate discharge
- 2 Domestic hot water outlet G 3/4"
- 3 Domestic cold water inlet G 3/4"
- 4 Drain opening
- 5 Magnesium anode
- 6 Shielded 1.55 kW immersion heater

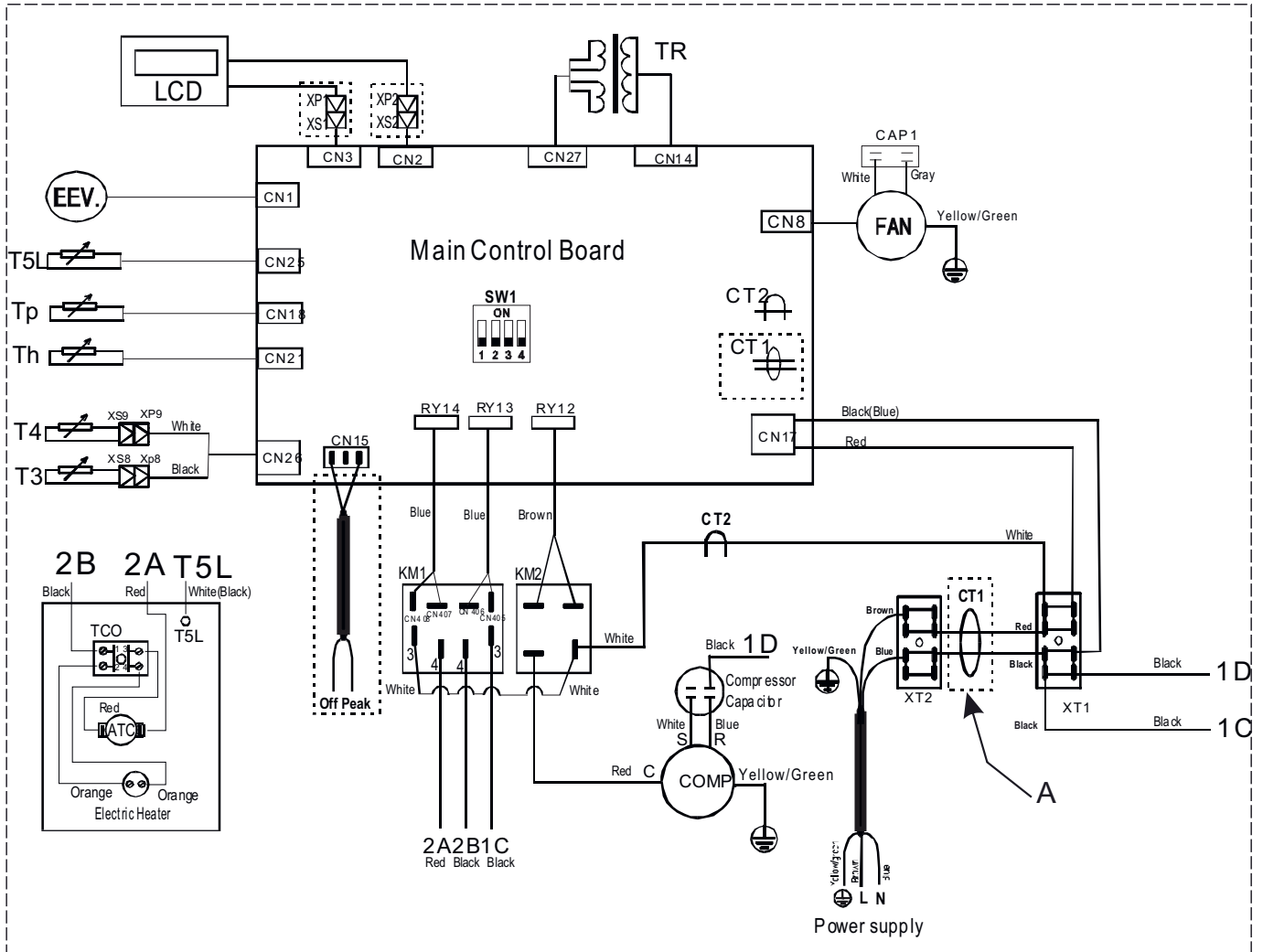
	Description	Unit	ETWH 180 E	ETWH 230 E
A	Diameter of the water heater	mm	552	552
B	Height of the water heater	mm	1670	1990
C	Height cold water connection	mm	240	240
D	Height hot water connection	mm	1050	1370
E	Height drain opening	mm	93	93
F	Height condensates discharge opening	mm	1308	1628

For more information, see
 Location of the water heater, page 26

3.4 Electrical diagram

3.4.1 Water heater ETWH 180 E and ETWH 230 E

Fig.3 Electrical diagram



MW-1000241-3

A To avoid any risk of malfunction, the conductors should pass through the inductance in the same direction.



Caution

Do not touch switches SW3_1 and SW3_2 which correspond to the detection of the immersion heater installed in the product (1550W) and not to the choice of output from the immersion heater.

Tab.2 Key

Connector	Description
Main Control Board	Control system PCB
LCD	Control panel
TR	Transformer
EEV	Electronic expansion valve
FAN	Fan
CAP1	Fan capacitor
COMP.	Compressor
Compressor Capacitor	Compressor capacitor
Power supply	Thermodynamic water heater power supply
Electric Heater	Electrical back-up immersion heater

Connector	Description
N	Neutral
L	Live
GND	Earth
Off Peak	Peak rate/Off-peak rate
CT1	Inductor
CT2	Inductor
Electric Heater	Electrical back-up
KM1	Electrical back-up relay
KM2	Compressor relay
RY12 / RY13 / RY14	Relay connection
ATCO	Safety thermostat on the electrical back-up
TCO	Immersion heater control system sensor
XP1 / XP2	Connectors
XS1 / XS2	Connectors
XT1 / XT2	Intermediate terminal blocks
SW1-3	Temperature set point switch
SW1-4	Anti-legionella function switch
2A / 2B / T5L	Cables connected inside the thermodynamic water heater
T5L	Water temperature sensor
Tp	Compressor discharge sensor
Th	Compressor suction sensor
T4	Ambient air temperature sensor
T3	Evaporator temperature sensor

Tab.3 Colour code

Colour	Description
Black	Black
Blue	Blue
Brown	Brown
Grey	Grey
Orange	Orange
Red	Red
White	White
Yellow/Green	Yellow/Green

4 Description of the product

4.1 General description

ETWH thermodynamic water heaters have the following specifications:

- Floor-standing thermodynamic water heater with heat pump taking energy from the ambient air.
- Control panel with display of the hot water temperature in the domestic hot water tank and timer programming.
- Shielded 1.55 kW immersion heater.
- Enamelled tank protected by magnesium anode.
- Very thick insulation containing 0% CFCs (chlorofluorocarbons).

The thermodynamic water heater is a hot water tank that can be heated by:

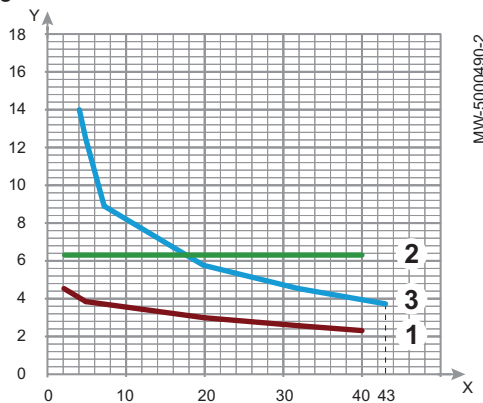
- The thermodynamic unit.
- The immersion heater. (up to 70°C).

4.2 Operating principle

4.2.1 Operating principle for the thermodynamic water heater

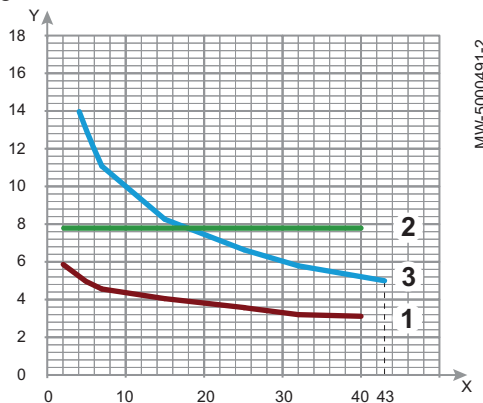
Depending on the source of energy used to heat the water in the thermodynamic water heater (heat pump only, immersion heater only, or heat pump and immersion heater combined), the heating time for the thermodynamic water heater varies according to the room temperature.

Fig.4 Model ETWH 180 E



- X Room temperature (°C)
- Y Heating time (hours)
- 1 Source of energy: heat pump and immersion heater combined
- 2 Source of energy: immersion heater
- 3 Source of energy: heat pump

Fig.5 Model ETWH 230 E



- X Room temperature (°C)
- Y Heating time (hours)
- 1 Source of energy: heat pump and immersion heater combined
- 2 Source of energy: immersion heater
- 3 Source of energy: heat pump

4.2.2 Operating principle with the different MODES

The main and default heat source for the thermodynamic water heater is the heat pump.

If the room temperature is outside the heat pump's operating range, it will cease the function. The water heater automatically activates the immersion heater and the LA icon on the control panel will come on.

The room temperature range adapted for this operating mode is between +3°C and +43°C.

For the 3 operating modes

- the thermodynamic water heater can heat the domestic hot water to a maximum temperature of 65°C,
- the domestic hot water temperature set point can be set to between 25 and 70°C.

■ Operation in ECONOMY MODE

The thermodynamic water heater can heat the water using the following sources of energy:

- the heat pump,
- the immersion heater
- or both systems simultaneously.

Tab.4

T = Ambient temperature	Source(s) of energy used
At least one of the following 3 conditions must be true: <ul style="list-style-type: none"> • $T < +3\text{ °C}$ • Water temperature $> 65\text{ °C}$ • $T > +43\text{ °C}$ 	Immersion heater
$+3\text{ °C} < T < T_d$	Heat pump and immersion heater operate simultaneously if necessary
The following 2 conditions must be true: <ul style="list-style-type: none"> • $T > T_d$ • Water temperature $< 65\text{ °C}$ 	Heat pump

■ Operation in HYBRID MODE



Important

HYBRID MODE = HYBRID MODE: heat pump with compulsory coupling to an instant boiler.

The thermodynamic water heater can heat the water using 2 sources of energy: heat pump or instant boiler:

- the heat pump is intended to preheat the domestic hot water,
- the instant boiler is used to provide heating of the domestic hot water until the required temperature for use is obtained.

No electrical back-up for this mode.

Tab.5

T = Ambient temperature	Source(s) of energy used
$T < T_4$	Instant boiler
<ul style="list-style-type: none"> • $T_4 < T < 43\text{ °C}$ • Water temperature $< 65\text{ °C}$ 	Heat pump + instant boiler

■ Operation in OPT.BACKUP (PEAK RATE/OFF-PEAK RATE OPTIMISATION MODE)

The thermodynamic water heater can only heat the water during:

- the programmed timer range,
- or when the off-peak rate signal is present.

The thermodynamic water heater can heat the water using the following sources of energy: heat pump or immersion heater:

- the heat pump operates as the priority source,
- the immersion heater starts when the heat pump is operating, to enable the required temperature set point to be reached before the end of the period.

Tab.6

T = Ambient temperature	Source(s) of energy used
<ul style="list-style-type: none"> • T < +3 °C • Water temperature > variable temperature set point according to the outdoor temperature • T > +43 °C 	Immersion heater
+3°C < T < 43°C	Heat pump and immersion heater operating simultaneously if necessary

4.2.3 Operating principle for the anti-legionella function

If the anti-legionella function is activated after the water heater is switched on, the control system confirms this mode at 23h00 the following day.

This function is then automatically activated once a week, at 23h00 on the 7th day.

For example: if the anti-legionella function is activated on 1 February at 09h00, the unit confirms anti-legionella mode on 2 February at 23h00 and then again on 9 February at 23h00, and so on.



Important

If the appliance is in ECONOMY MODE mode and the anti-legionella function temperature is set to 70°C, the heat pump will heat the water up to 65°C and will then shut down. The immersion heater will take over to heat the water up to 70°C.

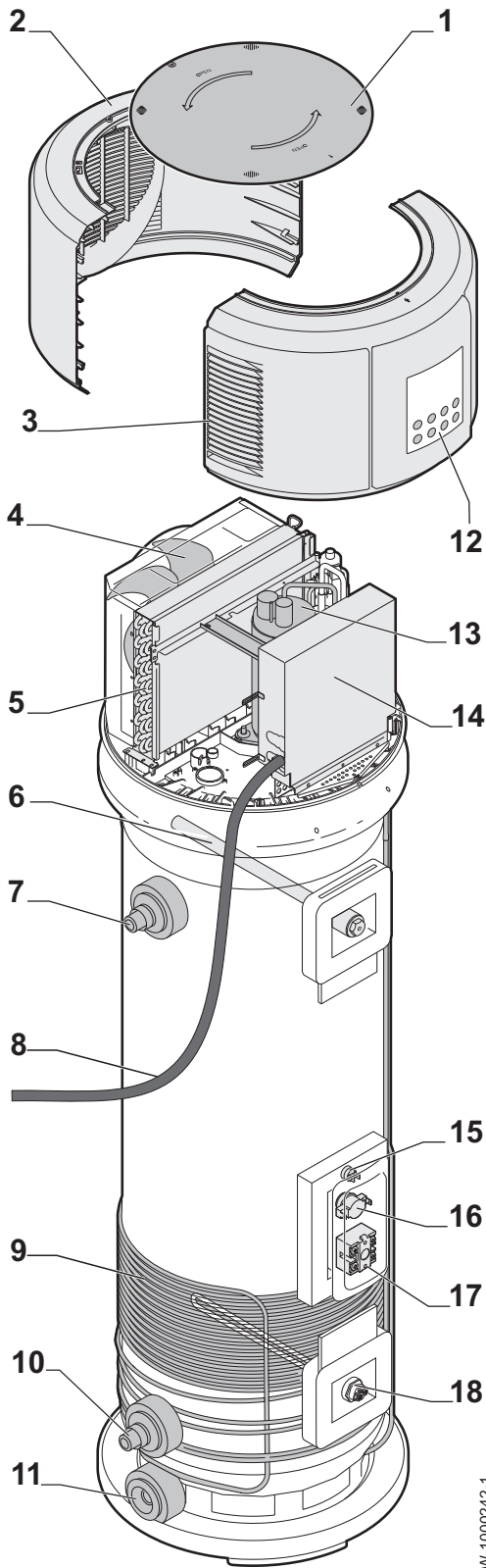


Important

The anti-legionella icon is displayed on the screen during this process. The anti-legionella function shuts down when the domestic hot water temperature reaches 65°C (or 70°C) and the anti-legionella icon goes off.

4.3 Main components of the thermodynamic water heater

Fig.6

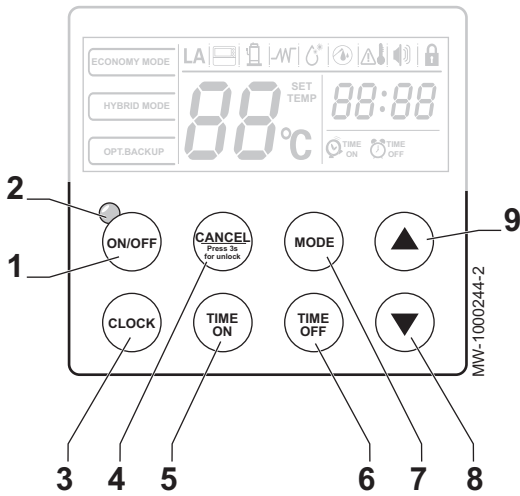


- 1 Top cover
- 2 Back cover
- 3 Front cover
- 4 Axial fan
- 5 Evaporator assembly
- 6 Magnesium anode
- 7 Domestic hot water outlet
- 8 Power supply cable
- 9 Condenser
- 10 Domestic cold water inlet
- 11 Finishing clamp for the drainage plug
- 12 Control panel
- 13 Compressor
- 14 Control unit casing
- 15 Temperature sensor
- 16 Safety thermostat on the automatic electrical back-up
- 17 Immersion heater control sensor
- 18 Shielded immersion heater

MW-1000242-1

4.4 Control panel description

Fig.7

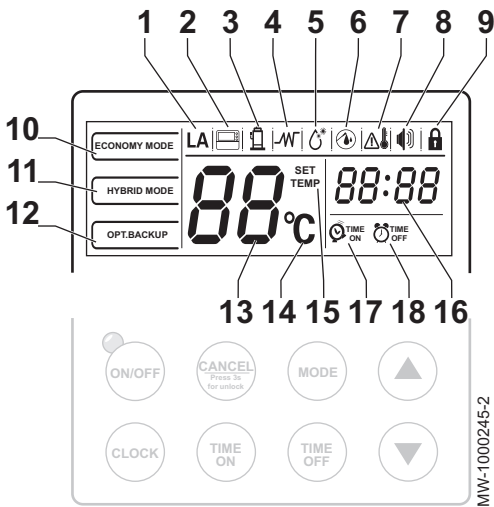


4.4.1 Description of the control keys

- 1 ON/OFF key
- 2 ON indicator (green)
- 3 Access to the clock for setting
- 4 - Cancellation key
- Screen unlocking key
- 5 Access to adjust the start-up time on the programmer
- 6 Access to adjust the shut-down time on the programmer
- 7 Selecting the operating **MODE** (**ECONOMY MODE** - **HYBRID MODE** - **OPT.BACKUP**)
- 8 Key for decreasing the setting values
- 9 Key for increasing the setting values

4.4.2 Description of the display

Fig.8



- 1 Low room temperature
- 2 Hard-wired control (function not available)
- 3 Operation of the compressor
- 4 Operation of the immersion heater
- 5 Operation of the anti-legionella function
- 6 Filling with water
- 7 Pictogram active when the set point temperature is above 50°C
- 8 Alarm indicator
- 9 Locking indicator
- 10 **ECONOMY MODE** = Economic mode
- 11 **HYBRID MODE** = Hybrid Mode
- 12 **OPT.BACKUP** = Peak rate/off-peak rate optimisation mode
- 13 Water temperature display
- 14 Unit of temperature
- 15 Set point temperature
- 16 Time display (hour:minutes)
- 17 Indicator showing that a start-up time has been programmed
- 18 Indicator showing that a shut-down time has been programmed

4.5 Standard delivery

The delivery includes:

- the thermodynamic water heater,
- the condensate discharge hose.

A bag of documentation containing:

- the Kyoto Protocol sticker,
- the user manual for the complete system,
- the installation and service manual for the complete system

4.6 Accessories and options

Accessories	Package
Connection kit for the safety control unit	ER208

5 Before installation

5.1 Regulations governing installation



Caution

The appliance must be installed and maintained by a certified professional in accordance with prevailing statutory texts and codes of practice.



Important

Pursuant to Article L. 113-3 of the French Consumer Code, this equipment must be installed by a certified operator whenever a refrigerant connection is necessary (the case with split systems, even when fitted with a quick coupling device).



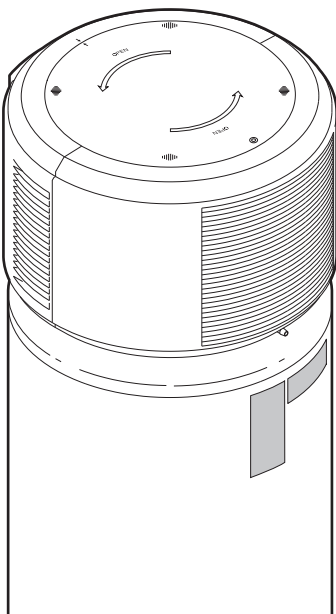
Caution

The installation must comply on all points with the standards and rules (DTU, EN and others...) which govern work and interventions in individual homes, blocks of flats and other buildings.

5.2 Choice of the location

5.2.1 Data plate

Fig.9 Viewing the data plates



MW-1000246-1

The data plates must be accessible at all times.

The data plate identifies the product and provides the following information:

- Appliance type,
- Date of manufacture (Year - Week),
- Serial number,
- Power supply (for the water heater).

5.2.2 Location of the water heater

Caution
When installing the appliance, abide by the IP21 protection rating.

Caution

- Do not install the thermodynamic water heater in premises exposed to gas, vapours or dust.
- Install the thermodynamic water heater in a dry, frost-free room at a minimum temperature of 5°C.
- Install the appliance on a base frame. The base frame must be able to support the load sufficiently at all times.
- Install the appliance on a flat, solid surface.
- Temperature of the ambient air or of the air taken in by the heat pump for optimum running: 10 to 35°C.

1. The floor must be capable of bearing the weight of the water heater once it has been filled with water.
 - For the 180 L tank: 286 kg
 - For the 230 L tank: 346 kg
2. Measures should be taken to protect the area from water damage. A metal recovery tank must be installed and connected to an appropriate discharge circuit.
3. Enough space must be allowed for maintenance of the water heater.
4. The air flow must be sufficient to allow the heat pump to function. The water heater must be placed in a space with a volume of more than 20 m³ in which the air flow is unhindered.

Caution
Also take into account the temperature of the ambient air when installing this appliance. In heat pump mode, the temperature of the ambient air must be between 5°C and 43°C. If the temperature of the ambient air exceeds these limits, the immersion heater is activated to meet hot water demand and the heat pump is not started up.

■ Installation in an enclosed space

- To ensure adequate access and facilitate maintenance, allow sufficient space around the appliance.
- The water heater must be placed in a space with a volume of more than 20 m³ in which the air flow is unhindered. For example, a room with a ceiling height of 2.50 m, 4 m in length and 2 m wide has a volume of 20 m³.
- The air flow rate is 350 m³/h.

Fig.10 Position and location of the thermodynamic water heater

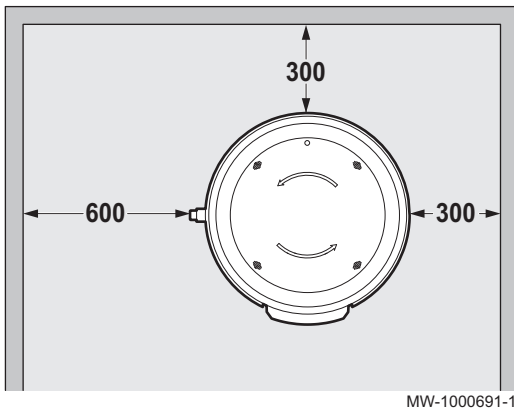
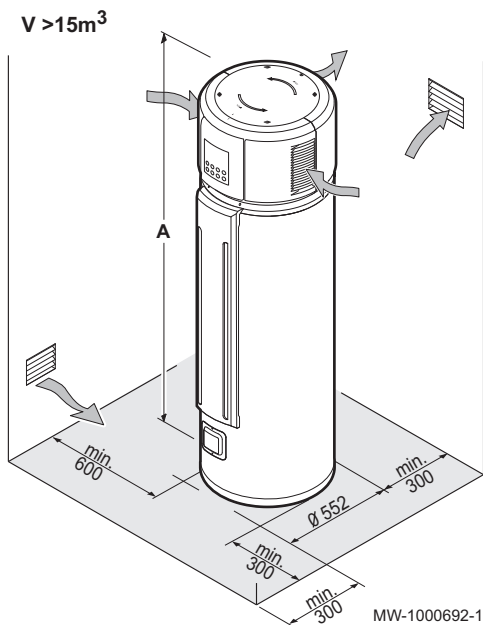


Fig.11 Clearance to be provided for the thermodynamic water heater



■ Ventilation

- Respect the minimum dimensions shown on the diagram.
- Respect the distances on either side of the water heater and between the back of the appliance and the internal wall of the premises.

	ETWH 180 E	ETWH 230 E
A (mm)	1670	1990

■ Premises

Unheated room at a temperature $> 5^{\circ}\text{C}$, insulated from the heated rooms in the home.

Example: Garage, boiler room, basement, etc.

Recommendation: room in which the temperature is higher than 10°C all year round.

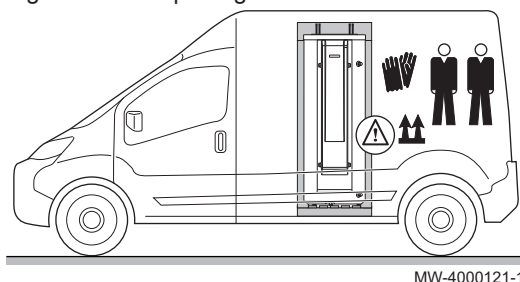


Important

Minimum of 400 mm from the ceiling.

5.3 Transport

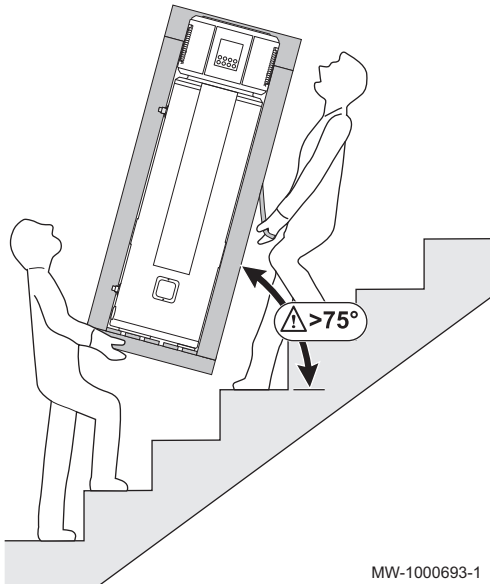
Fig.12 Transporting the water heater



5.3.1 Precautions for transporting the appliance

- The thermodynamic water heater must be stored and transported in its packaging and not filled with water.
- Permissible ambient transport and storage temperatures: -20 to $+60^{\circ}\text{C}$.

Fig.13



Caution

- Have 2 people available.
- Use a 3-wheel hand trolley, positioning the appliance against the rear surface of the item.
- Handle the appliance with gloves.



Important

We recommend shipping the appliance vertically. However, it can be tilted during shipping and unpacking.

5.4 Unpacking & initial preparation

5.4.1 Unpacking the appliance



Warning

- Remove all packaging materials.
- Check that the contents are intact. If you notice a defect, do not use the appliance and contact the supplier.



Important

Refer to the instructions affixed to the packaging of the appliance.

6 Installation

6.1 General



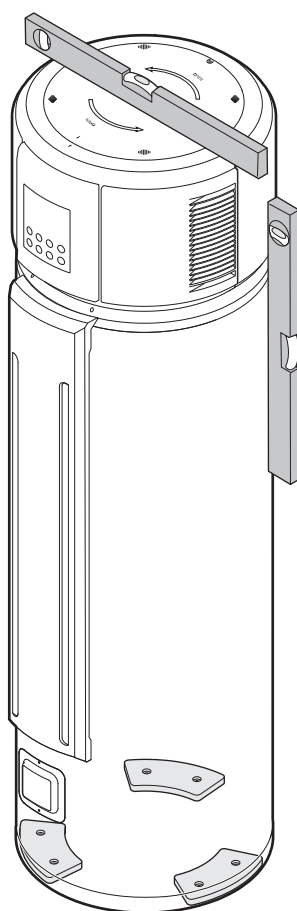
Important

Pursuant to Article L. 113-3 of the French Consumer Code, this equipment must be installed by a certified operator whenever a refrigerant connection is necessary (the case with split systems, even when fitted with a quick coupling device).

6.2 Preparation

6.2.1 Installation of the thermodynamic water heater

Fig.14 Installation



MW-1000250-1

1. Separate the water heater from its pallet.
2. Level the water heater, fitting metal blocks under the water heater feet if necessary.



Caution

Do not place the blocks on the external sides of the water heater.



Caution

To allow condensates to drain easily from the appliance, install it on a horizontal floor.

If this is not possible, the drain opening must be located at the lowest point.

The angle of incline must not exceed 2°.

6.3 Hydraulic connections



Caution

Before making the hydraulic connections, it is essential to flush the domestic hot water circuits.

If flushing has to be done using an aggressive product, neutralise the rinsing water before disposing of it in the waste water network.



Important

Using hoses which are too short or too rigid encourages the transmission of vibrations and the production of noises.

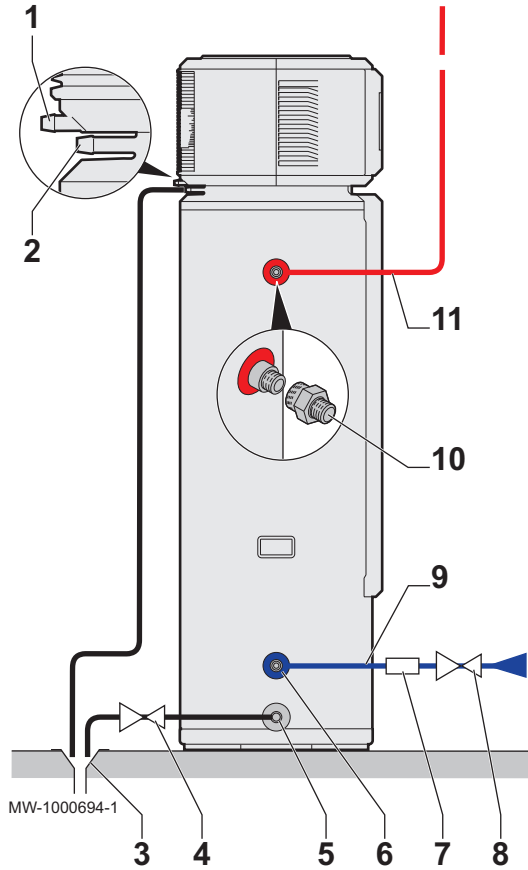
6.3.1 Connecting the domestic water circuit

Caution
 When making the connection, it is imperative that the standards and corresponding local directives be respected.

Specific precautions

Before making the connection, **flush the domestic water inlet pipes** in order not to allow metal or other particles into the appliance's tank.

Fig.15 Water circuit connections



1. Connect the incoming cold water pipe to the domestic cold water fitting.

- 1 Top condensate outlet
- 2 Bottom condensate outlet
- 3 Discharge opening
- 4 Stop valve
- 5 Drain opening
- 6 Water inlet
- 7 Safety unit
- 8 Stop valve
- 9 Domestic water inlet
- 10 Dielectric union
- 11 Domestic water outlet

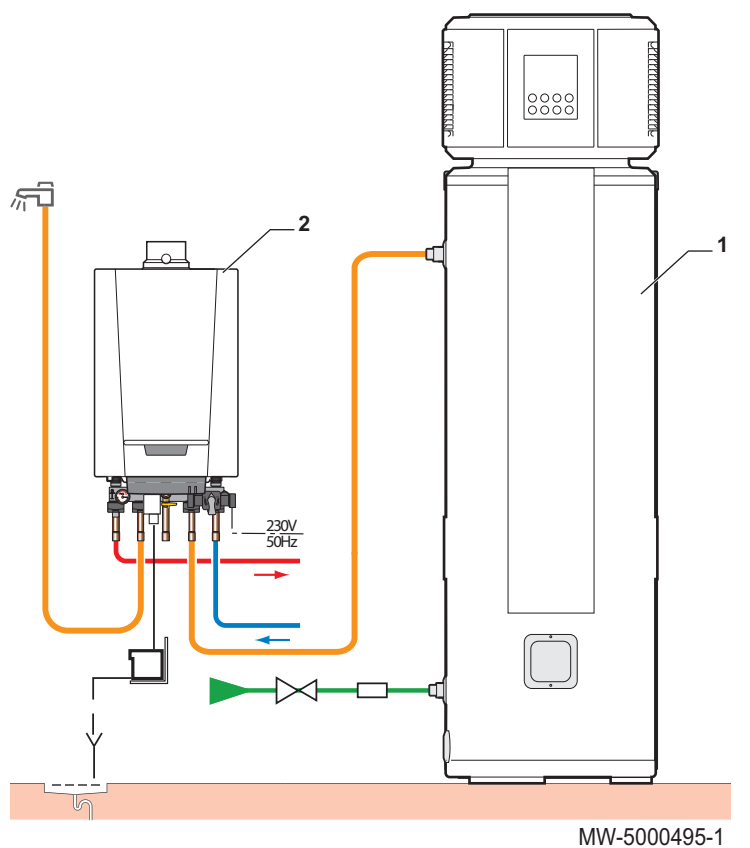
2. Connect the outgoing domestic hot water pipe to the domestic hot water fitting.

Caution
 Do not connect the domestic hot water fitting directly to copper pipes in order to prevent galvanic couplings in iron/copper (risk of corrosion). It is compulsory to fit the domestic hot water fitting with a dielectric union.

6.3.2 Hydraulic connection between the thermodynamic water heater and an instant boiler

Example of hydraulic connection in HYBRID Mode

Fig.16



1 Thermodynamic water heater

2 Instant boiler

6.3.3 Connecting the condensate discharge pipe

1. Insert the condensate collector hose (Ø 9 mm) into the discharge opening.



Caution

- Do not block the condensate discharge pipe.
- Connect the condensate discharge pipe in accordance with prevailing local standards.

■ Safety valve or safety unit



Caution

- Germany: In accordance with the safety regulations, a safety unit calibrated to 0.6 MPa (6 bar) must be fitted on the domestic cold water inlet on the domestic hot water tank.
- Belgium: In accordance with the safety regulations, a safety unit calibrated to 0.7 MPa (7 bar), and approved by Belgaqua, must be fitted on the domestic cold water inlet on the domestic hot water tank.
- Other countries: In accordance with the safety regulations, a safety unit calibrated to 0.7 MPa (7 bar) must be fitted on the domestic cold water inlet on the domestic hot water tank.
- France: We recommend NF-marked hydraulic diaphragm safety units.
- Integrate the safety valve in the cold water circuit.

- Install the safety valve close to the water heater in a place with easy access.

■ Sizing

The diameter of the safety unit and its connection to the water heater must be at least equal to the diameter of the domestic cold water inlet on the water heater.

- There must be no cut-off devices between the safety valve or unit and the water heater.
- The discharge pipe in the safety valve or unit must not be blocked.

To prevent the flow of water being hindered or obstructed in the event of a pressure surge:

- The discharge pipe from the safety unit must have a continuous and sufficient gradient, and its cross section must be at least equal to the cross section of the opening of the safety unit outlet (to prevent the flow of water being hindered if the pressure is too high).
- The cross section of the discharge pipe from the safety unit must be at least equal to the cross section of the opening on the safety unit outlet

■ Isolation valves

Hydraulically isolate the primary and domestic circuits with stop valves to facilitate maintenance on the water heater.

The valves make it possible to carry out maintenance on the tank and its components without draining the entire installation.

These valves are also used to isolate the water heater when conducting a pressurised check on the tightness of the installation if the test pressure is greater than the admissible operating pressure for the water heater.



Caution

If the mains pipes are made of copper, fit a sleeve made of steel, cast iron or any other insulating material between the tank's hot water outlet and the pipes to prevent corrosion to the connection.

■ Connecting the domestic cold water

- Make the connection to the cold water supply according to the hydraulic installation diagram.
- Install a water drain in the boiler room and a funnel-siphon for the safety unit.
- The components used for the connection to the domestic cold water supply must comply with the prevailing standards and regulations in the country concerned.

■ Pressure reducer

If the supply pressure exceeds 80% of the safety valve or unit calibration (e.g.: 0.55 MPa/5.5 bar for a safety unit calibrated to 0.7 MPa/7 bar), a pressure reducer must be located upstream of the appliance.

Install the pressure reducer downstream of the water meter in such a way as to ensure the same pressure in all of the system's pipes.

6.4 Electrical connections

6.4.1 Recommendations


Caution

Only qualified professionals may carry out electrical connections, always with the power off.


Caution

Do not connect the power supply directly to the Peak rate/Off-peak rate contact.

The connection is made on the terminal block.


Caution

To ensure the conformity of electrical installation, the appliance must be powered by a circuit comprising an omnipolar switch with an opening gap distance of more than 3 mm. The circuit must be protected by fuses or circuit breakers calibrated according to the output of the domestic hot water tank.


Caution

The equipment must be connected in accordance with European standards and, in all cases, connections must comply with prevailing national standards. The circuit must be protected by a 30-mA differential circuit breaker.


Caution

The electrical connection of the appliance is made with an appropriate rigid cable with a correctly sized cross-section that comprises a green / yellow earth conductor. Please refer to prevailing national regulations on electrical installations. The minimum is 3 x 2.5 mm² in single phase for an output of up to 3000 W.


Caution

The appliance must be connected to an alternating current network.


Caution

Earth the appliance before making any electrical connections.


Caution

It is always necessary to check the correct torque on the terminals before closing the cover on a domestic hot water tank fitted with an immersion heater. The connections must be made in such a way that no loosening or breakage of the filaments is possible due to overheating, variations in charge or equipment vibration under operating conditions.

Make the electrical connections of the appliance according to:

- The requirements of the prevailing standards;
- The instructions on the wiring diagrams provided with the appliance;
- The recommendations in these instructions.

Earthing must comply with the prevailing installation standards.

The electrical power supply is done by means of a mains connection cable (~230 V, 50 Hz) in accordance with prevailing national regulations for electrical installations.

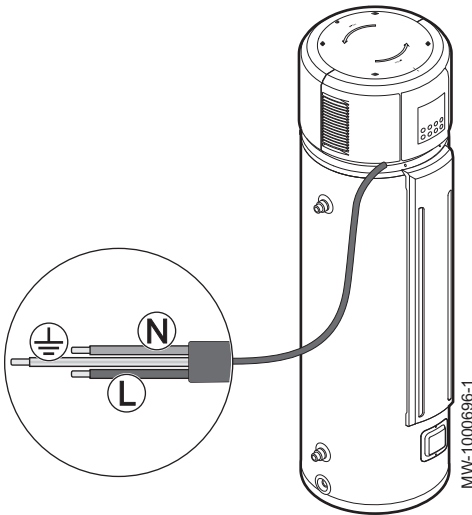
6.4.2 Connecting the appliance



Caution

Ensure the polarities shown on the terminals are followed: live (L), neutral (N) and earth (\oplus).

Fig.17 Connection



1. Connect the connection cable already wired into the distribution board.

6.4.3 Types of connections to the distribution board

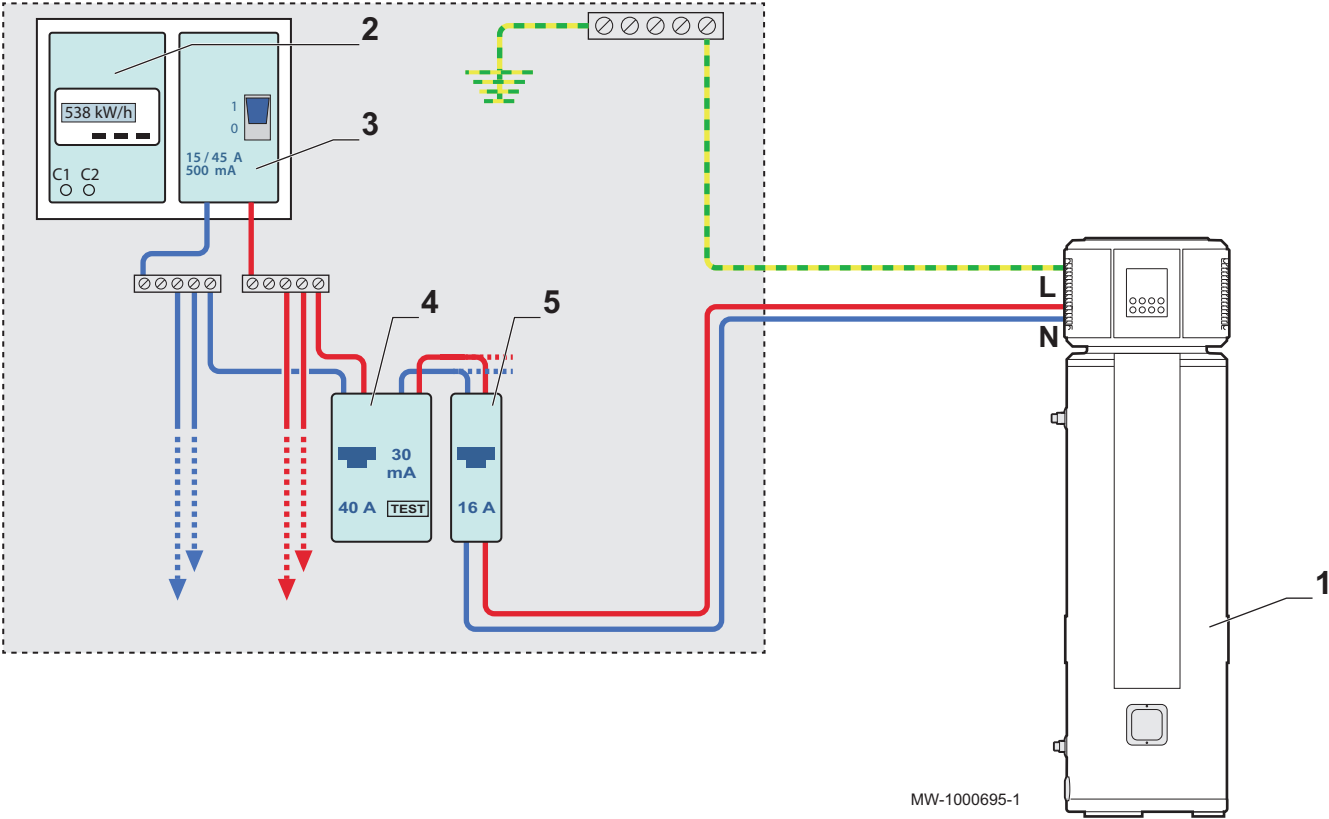
There are different types of electrical connection for the thermodynamic water heater depending on the end user's requirements.

The cables are provided by the installer.

Example of electrical connection:

- in ECONOMY MODE
- in HYBRID MODE
- in OPT.BACKUP
- or managed by the TIMER PROGRAMMING on the control panel

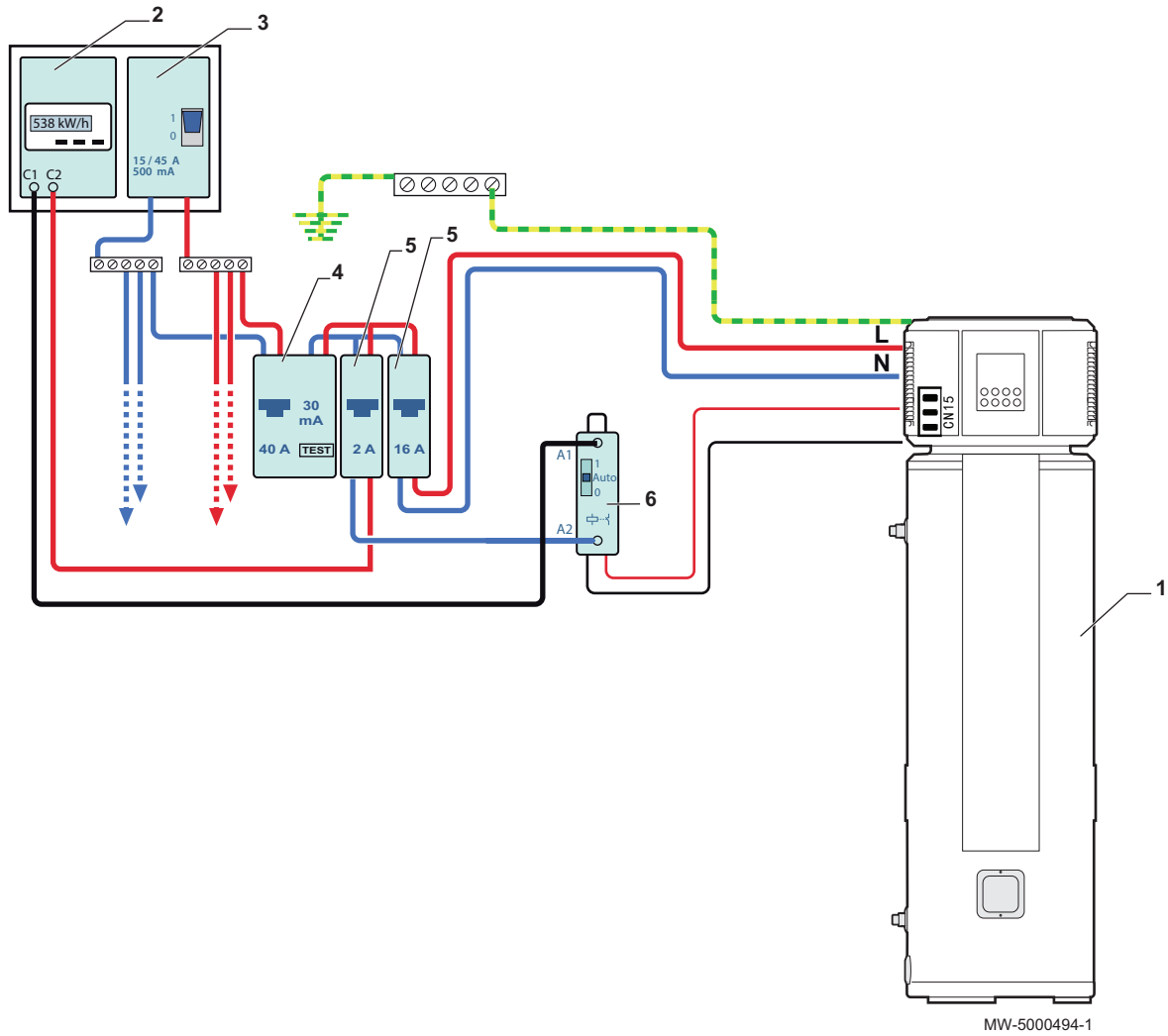
Fig.18



- 1 Thermodynamic water heater
- 2 Meter
- 3 Connection circuit breaker

- 4 AC-type differential switch
- 5 Circuit breakers

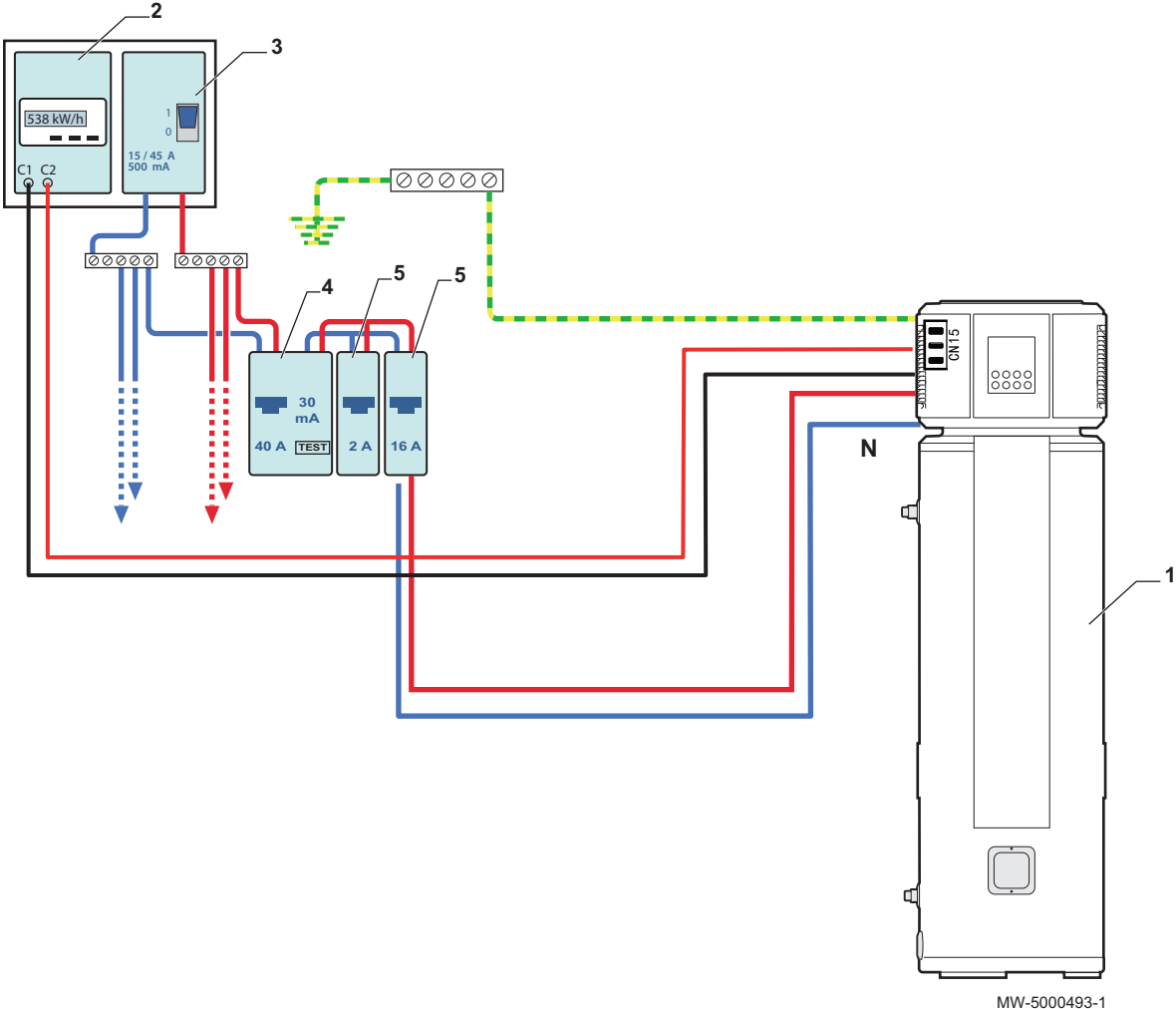
Fig.19 Example of electrical connection in OPT.BACKUP mode or with PEAK RATE/OFF-PEAK RATE cables – Assembly 1



- 1 Thermodynamic water heater
- 2 Meter
- 3 Connection circuit breaker

- 4 AC-type differential switch
- 5 Circuit breakers
- 6 Peak rate/Off-peak rate switch

Fig.20 Example of electrical connection in OPT.BACKUP mode or with PEAK RATE/OFF-PEAK RATE cables – Assembly 2



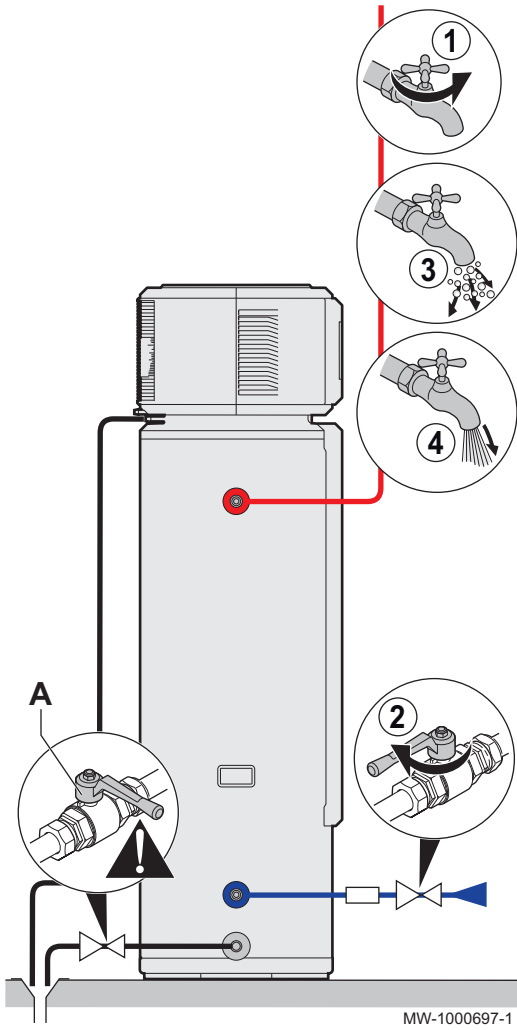
MW-5000493-1

- 1 Thermodynamic water heater
- 2 Meter
- 3 Connection circuit breaker
- 4 AC-type differential switch
- 5 Circuit breakers

6.5 Filling the system

Once the hydraulic and electrical connections have been made:

Fig.21 Filling the tank



1. Open a hot water tap.
2. Open the cold water tap to vent any air in the installation, ensuring that valve **A** on the drain opening is properly closed.
3. The water heater starts to fill up and any air exits via the hot water taps.
4. When the water overflows through the hot water tap, the tank is full.
5. Close all of the taps and check the pipes to make sure there are no leaks.

Caution
If the water inlet pressure is lower than 0.15 MPa (1.5 bar), a pump must be fitted to the water inlet. To guarantee the safe use of the water heater at a water inlet pressure of more than 0.65 MPa (6.5 bar), fit a pressure reducer on the water inlet pipe.

7 Commissioning

7.1 General

Commissioning of the thermodynamic water heater should be carried out:

- When it is used for the first time;
- After a prolonged shut-down;
- After any event that may require complete reinstallation.



Important

Commissioning of the thermodynamic water heater allows the user to review the various settings and checks to be made to start up the water heater in complete safety.

7.2 Points to check before commissioning

- Check that the thermodynamic water heater is full of water.
- Check the tightness of the connections.
- Check that the safety devices are working correctly.
- Check the operating mode.

7.2.1 Checklist for commissioning

General checks:

- Tightness of connections.
- Check whether there is any water in the end of the drain pipe on the safety valve. If any leaks are detected, replace the safety valve.

Electrical checks:

- Presence of the recommended circuit breaker,
- Tightening of the terminal blocks,
- Separation of the power and low voltage cables,
- Mounting and positioning of the sensor.

7.3 Commissioning procedure

7.3.1 Initial commissioning



Caution

Initial commissioning must be performed by a qualified professional.



See

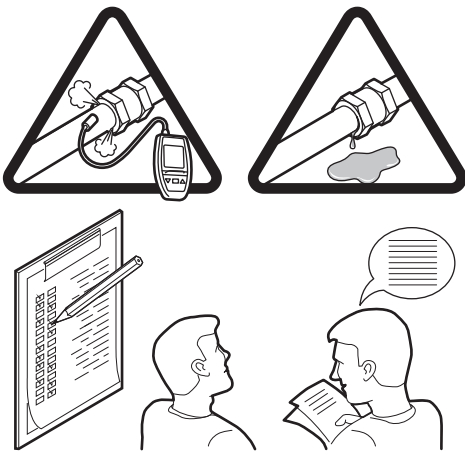
User manual for start-up of the display.

7.3.2 Defrosting when heating water

When the heat pump is running, if the evaporator is frozen owing to a lower room temperature, the system defrosts automatically to maintain efficient performance (approx. 5-15 min). During defrosting, the compressor shuts down but the fan motor continues to run.

7.4 Checks after commissioning

Fig.22 Checks



MW-4000183-2

7.4.1 Points to check after commissioning

1. Check the tightness of the connections.
2. Check the water pressure.
3. Check that there are no errors on the regulator.
4. Check the temperature on the domestic hot water temperature sensor to ensure that the appliance is working correctly.
5. If the readout value is incorrect, check the position of the sensor in contact against the tank.
6. Start up the compressor.
7. Check the transfer of heat to the domestic hot water tank.
8. Check back-up operation.
9. Inform the user of the periodicity of maintenance work to be carried out.
10. Explain to the user in how the system and the display work.
11. Hand over all manuals to the user.

Commissioning is now complete.



Important

A few days after commissioning of the appliance, a visual inspection must be made to check for any leaks in the water system or any blockages in the condensates run-off.



Caution

The condensates may leak if the discharge pipe is blocked. We recommend the use of a recovery tank.

8 Operation

8.1 Use of the control panel

- **Automatic key lockout:**
 - If the control panel keys are not used for a period of 1 minute, the keys are locked.
 - Pressing and holding the **CANCEL** key enables the control panel to be unlocked
- **Automatic screen lock:**
 - If there is no action on the control panel, the screen backlighting goes out.
 - Press any key to switch the control panel backlighting back on

8.2 Shutting down the system

**Caution**

Do not power off the appliance as this deletes the control system parameters.
Instead, press the **OFF** button on the display.

8.3 Prolonged absence

In the event of a prolonged absence (holidays), press the **OFF** button on the display.

**Important**

The thermodynamic water heater must be installed where there is no risk of freezing as it has no frost protection casing.

8.3.1 Automatic restart

If the water heater is switched off, it can memorise some of the parameter settings (ON or OFF status, operating mode, water set point temperature).

When switched on, the appliance restarts and takes into account the previous parameters saved in the memory.

9 Settings

9.1 List of parameters

The following parameters can be accessed in all operating modes:
ECONOMY MODE / HYBRID MODE / OPT.BACKUP

Tab.7 Parameters available in the operating modes

Parameter	Description	Factory setting
01: t r	Water temperature difference between the set point and the restart. Can be set from 3 to 20°C.	5°C
02: t 4	Room temperature limit authorised for operation of the heat pump.	5°C
03: t d	Room temperature operating limit for the electrical back-up. Can be set from 5 to 18°C	10°C
04: h 1	Main timer range duration at Off-peak rate if cabled	8 hours

9.2 Setting the parameters

9.2.1 Selecting the operating mode

1. Unlock the control panel by pressing the **CANCEL** key for 3 seconds.
⇒ The locking indicator goes out.
2. Select the required mode by pressing the **MODE** key.
3. Confirm the required operating mode by waiting 10 seconds.

9.2.2 Setting the various parameters

The adjustable parameters are as follows, regardless of the selected operating mode

1. Access the setting parameters by pressing the two keys opposite simultaneously.
2. Adjust the value for the parameter *t r* by pressing the keys opposite.
3. Adjust the parameter *t 4* by pressing the keys opposite.
4. Adjust the parameter *t d* by pressing the keys opposite.

Fig.23

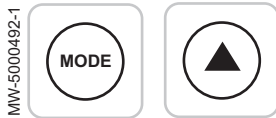


Fig.24

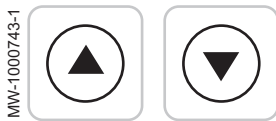


Fig.25

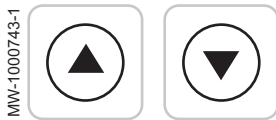


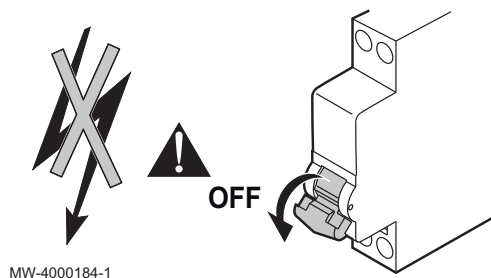
Fig.26



9.2.3 Configuring the anti-legionella function

Switch off the power supply by pushing the circuit breaker down to the **OFF** position.

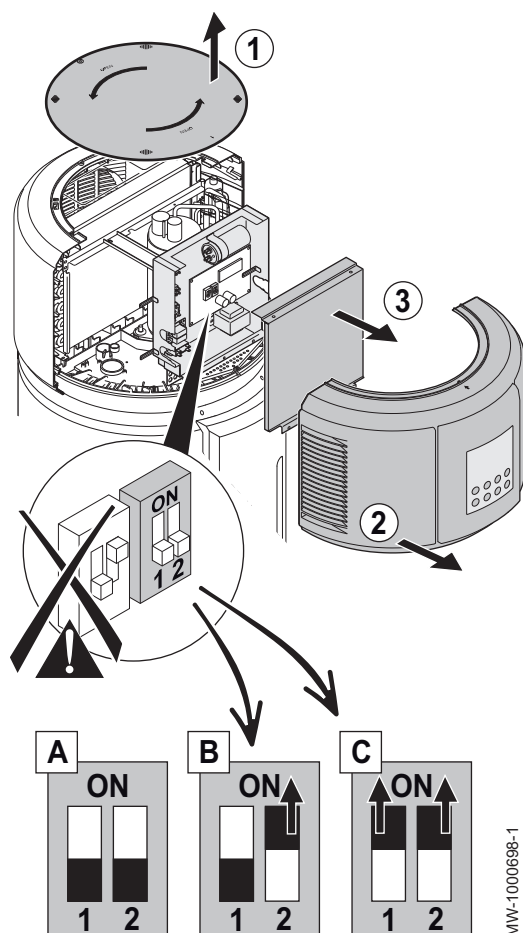
Fig.27



MW-4000184-1

The anti-legionella function is configured directly on the PCB using the switch **SW1-3**.

Fig.28 Anti-legionella mode



MW-1000698-1

1. Remove the top cover.
2. Remove the front panel.
3. Open the cover on the electronic control box to access the PCB.

- Default setting for the anti-legionella function:

A SW1-3 : OFF 65°C
SW1-4 : OFF anti-legionella mode disabled

- To activate the anti-legionella function:

B SW1-4 : ON mode activated

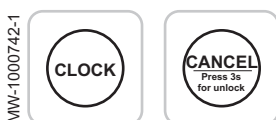
- To modify the anti-legionella mode temperature set point:

C SW1-3 : ON 70°C

9.3 Reading out measured values

9.3.1 Accessing the measured values

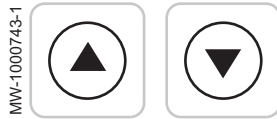
Fig.29



MW-1000742-1

1. Unlock the control panel by pressing the **CANCEL** key for 3 seconds.
⇒ The locking indicator goes out.
2. Access the measured values by simultaneously pressing the **CLOCK** and **CANCEL** keys for one second.
⇒ The appliance switches to maintenance and repair mode and the consultation function can be accessed.

Fig.30



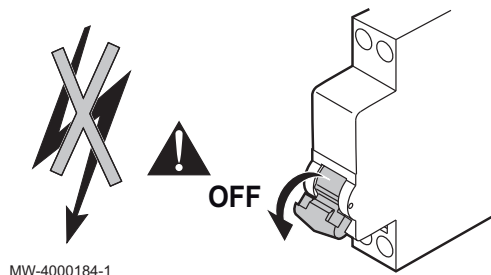
3. Press the arrows to show the measured values one by one (refer to the table below).
4. Exit the measured values menu by waiting for 10 seconds.

9.3.2 List of operating parameters

Parameter	Description	Unit
t 5L	Water temperature in the domestic hot water tank	°C
t 4	Measured room temperature	°C
t 3	Evaporator temperature	°C
t h	Intake temperature	°C
t P	Discharge temperature	°C
t r	Water temperature difference between the set point and the restart	°C
EEV	Electronic pressure release valve position	
UE : xx	<ul style="list-style-type: none"> • UE : Operating indication: <ul style="list-style-type: none"> - for the compressor - for the immersion heater - for the compressor and immersion heater combined • xx : Electrical power consumption 	A
X	Operating mode <ul style="list-style-type: none"> • 1 = ECONOMY MODE = Economic mode • 2 = HYBRID MODE = Hybrid mode • 4 = OPT.BACKUP = Peak rate/off-peak rate optimisation mode • 8 = OFF mode :	
X	Fan speed: <ul style="list-style-type: none"> • F0 = OFF • F1 = Slow • F2 = Moderate • F3 = Fast 	
DI : XX	Anti-legionella function: <ul style="list-style-type: none"> • DI : -- : Function not active, • DI : 65 : Anti-legionella temperature of 65°C, • DI : 70 : Anti-legionella temperature of 70°C 	
P1	Total energy consumption for the thermodynamic water heater	kWh
P2	Energy consumption for the heat pump over the last 24 hours	Wh
P3	Energy consumption for the immersion heater over the last 24 hours	Wh
t1	Total runtime for the thermodynamic water heater	hours
t2	Runtime for the heat pump	hours
t3	Runtime for the immersion heater	hours
1	Last error code	
2	Second error code	
3	Third error code	
YY-MM-DD	Software version	

10 Maintenance

10.1 General



MW-4000184-1



Caution

The appliance must be installed and maintained by a certified professional in accordance with prevailing statutory texts and codes of practice.



Caution

Before working on the appliance, ensure that it is switched off and safe.



Caution

Check the discharge from the compressor capacitor.



Caution

Before working on the refrigeration circuit, switch off the appliance and wait a few minutes. Certain items of equipment such as the compressor and the pipes can reach temperatures in excess of 100 °C and high pressures, which may cause serious injuries.



Important

When the appliance is switched off, the fan continues to run by inertia for approximately one minute.

Maintenance operations are important for the following reasons:

- To guarantee optimum performance;
- To extend the life of the equipment;
- To provide an installation which offers the customer optimum comfort over time.



Caution

The control components must never come into contact with water. Before cleaning, cut the power to the appliance.



Caution

If it becomes necessary to disconnect the refrigerant connections, be sure to recover the refrigerant fluid.

10.2 Standard inspection and maintenance operations

10.2.1 Refrigerant circuit



Important

No maintenance is required on the refrigerant circuit in the thermodynamic water heater.

- Check the tightness of the connections using a leak detector.
- Check the performance of the heat pump: check on temperatures.

10.2.2 Hydraulic circuit

- Check the tightness of the water connections.

10.2.3 Aerualics

■ Annual cleaning of the air filter

- A vacuum clean or clean water can be used to clean the air filter.
- If there is too much dust on the air filter, use a soft brush and a neutral detergent to clean it and leave it to dry thoroughly.

Caution
Risk of injury on the sharp-edged fins.

Caution
Do not distort or damage the fins.

- Clean the evaporator at regular intervals using a soft-haired brush.
- Carefully realign the fins using a suitable comb if they are bent.

■ **Cleaning the fan:**

- Check the cleanliness of the fan once a year.
Clogging by dust and other particles impairs the performance of the thermodynamic unit.
- Check the cleanliness of the condensates discharge pipe. A dust obstruction may cause poor condensates flow or even a risk of excessive accumulation of water.

Caution
Risk of malfunction in the thermodynamic unit.

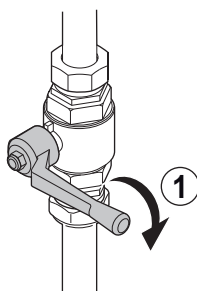
10.2.4 Magnesium anode

The magnesium anode must be checked every year.

After the first check and in light of the degree of wear of the anode, it is necessary to determine the frequency of future checks.

1. Shut off the domestic cold water inlet.
2. Drain the hot water tank:
 - 2.1. Open the hot water tap.
 - 2.2. Open the drain opening if the valve is connected; otherwise, open the safety unit tap.
3. Unscrew the magnesium anode.

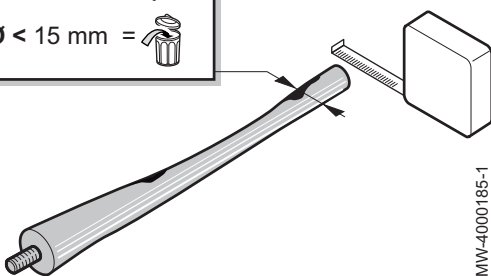
Fig.31



MW-4000186-1

Fig.32 Anode check

$\varnothing > 15 \text{ mm} = \checkmark$
 $\varnothing < 15 \text{ mm} =$



MW-4000185-1

4. Measure the diameter of the anode.

Caution
Replace the anode if its diameter is less than 15 mm.

5. Remount the magnesium anode.

10.2.5 Checking the safety valve or safety unit

Operate the safety valve or safety unit at least once a month to check that it is running correctly. This check helps to protect against any pressure surges that may damage the water heater.

11 Troubleshooting

11.1 Messages (Ex and Px type codes)

If a malfunction occurs, the screen displays an error code beside the water temperature indicator:

- the "ALARM" pictogram appears,
- the audible signal sounds.

1. Make a note of the code displayed.
 - ⇒ The code is important for the correct and rapid diagnosis of the type of error and for any technical assistance that may be needed.
2. Switch off and then switch the appliance back on.
 - ⇒ The appliance starts up again autonomously when the reason for the disruption has been cleared.
3. If the code is displayed again, correct the problem by following the instructions in the table below:

11.1.1 List of messages

Tab.9

Code	Description	Check / Solution
<i>E 1</i>	Sensor error T5 (water temperature sensor)	Check the connection between the sensor and the PCB. Replace the sensor.
<i>E 4</i>	Evaporator temperature sensor error T3.	Check the connection between the sensor and the PCB. Replace the sensor.
<i>E 5</i>	Room temperature sensor error T4.	Check the connection between the sensor and the PCB. Replace the sensor.
<i>E 6</i>	Compressor discharge TP temperature sensor error.	Check the connection between the TP sensor and the PCB. Replace the sensor.
<i>E 9</i>	Compressor intake TH temperature sensor error.	Check the connection between the sensor and the PCB. Replace the sensor.
<i>P 8</i>	Open circuit error on the immersion heater (IEH (difference in current between ON and OFF on the immersion heater) < 1 A).	Check to ensure the immersion heater is not damaged and that the cables have not been incorrectly connected after a repair.
<i>P 2</i>	Protection against high discharge temperatures: <ul style="list-style-type: none"> • $T_p > 115$: Protection active. • $T_p < 90$: Protection inactive. 	Check to ensure the compressor is not damaged and that there are no refrigerant leaks. Check that the TP and T5 sensors are not damaged.
<i>P 4</i>	Protection against overloads on the compressor (ten seconds after switching on the compressor, the current overload control starts up). <ol style="list-style-type: none"> 1. If the compressor is running: if the current load is > 7 A, the compressor is shut down and the protection activated. 2. If the compressor and the immersion heater are running: if the current load is > IEH + 7, the compressor is shut down and the protection activated. Load value when the compressor and the electric water heater start up at the same time: 14 A (1550-W electric water heater). 	Check to ensure the compressor is not damaged.
<i>L A</i>	Room temperature outside of the optimum operating range.	This scenario is normal. It is not necessary to run repairs.



For more information, see

Operating principle with the different MODES, page 20

11.2 Deleting the error codes

MW-100741-1



1. Delete the error codes from the control panel memory by simultaneously pressing the **TIME ON** and **CANCEL** keys.
⇒ After these 2 buttons are pressed simultaneously, an audible signal sounds once.

12 Disposal/recycling

12.1 General

12.1.1 Considerations relating to disposal

- Product waste: consult the manufacturer or the supplier for information on recovery or recycling.
- Soiled packaging: reuse or recycle after decontamination. Destroy in authorised installations.

**Caution**

This appliance bears the recycling symbol pursuant to European Directive 2012/19/EC on Waste from Electrical and Electronic Equipment (WEEE). In correctly disposing of this appliance, you are helping to prevent any consequences harmful to the environment or human health.



The symbol found on this appliance and in the documentation that accompanies it indicates that this product may under no circumstances be treated as household waste. It must therefore be brought to a waste collection centre responsible for recycling electrical and electronic equipment.

**Warning**

The thermodynamic water heater must be dismantled and scrapped by a qualified professional in accordance with prevailing local and national regulations.

If electrical appliances are discarded on a rubbish tip, hazardous substances may leak into the groundwater, enter the food chain and have harmful consequences on health and well-being.

13 Spare parts

13.1 General

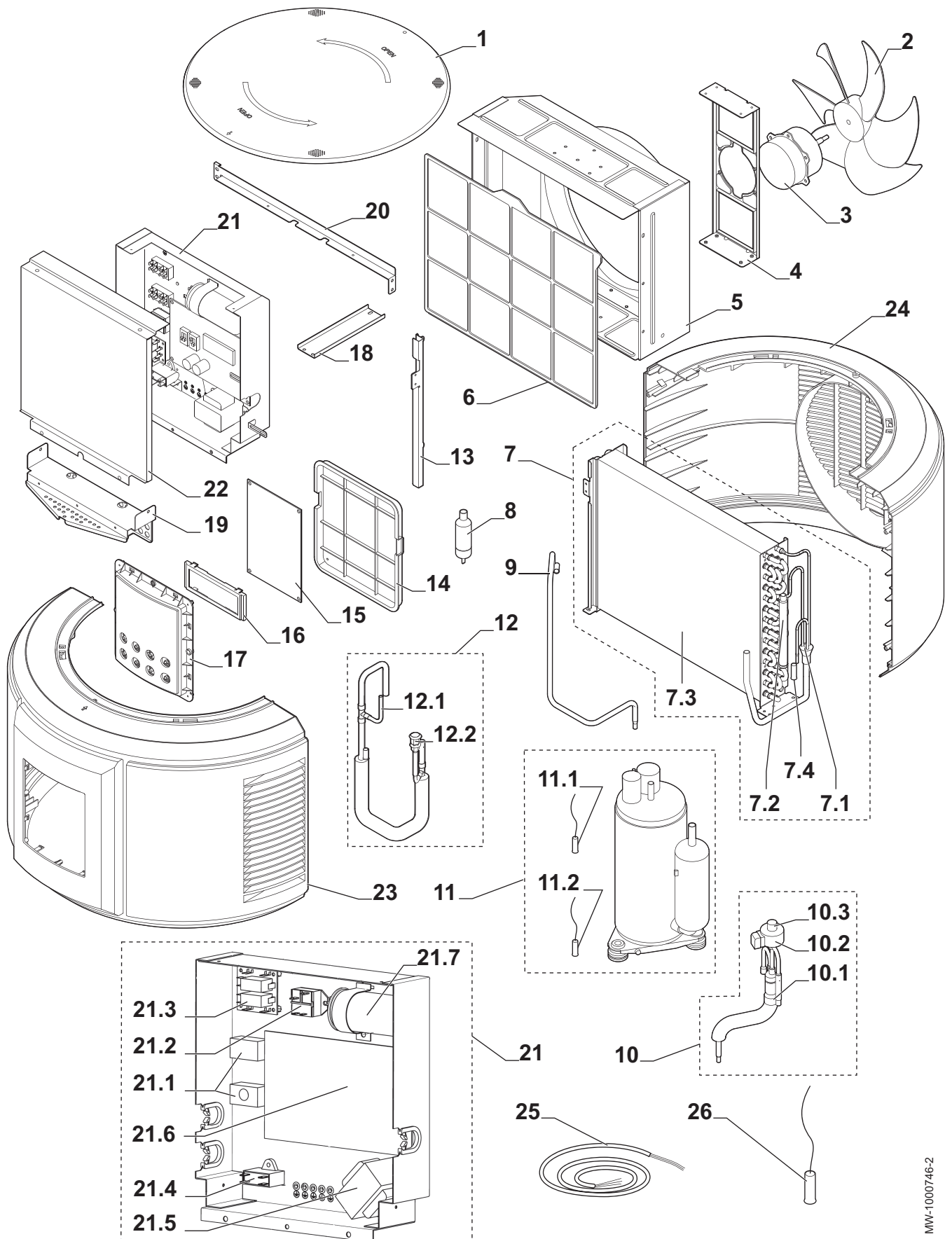
When it is observed subsequent to inspection or maintenance work that a component in the appliance needs to be replaced, use only original spare parts or recommended spare parts and equipment.

To order a spare part, give the reference number shown on the list.

13.2 Spare parts lists

13.2.1 Heat pump

Fig.33

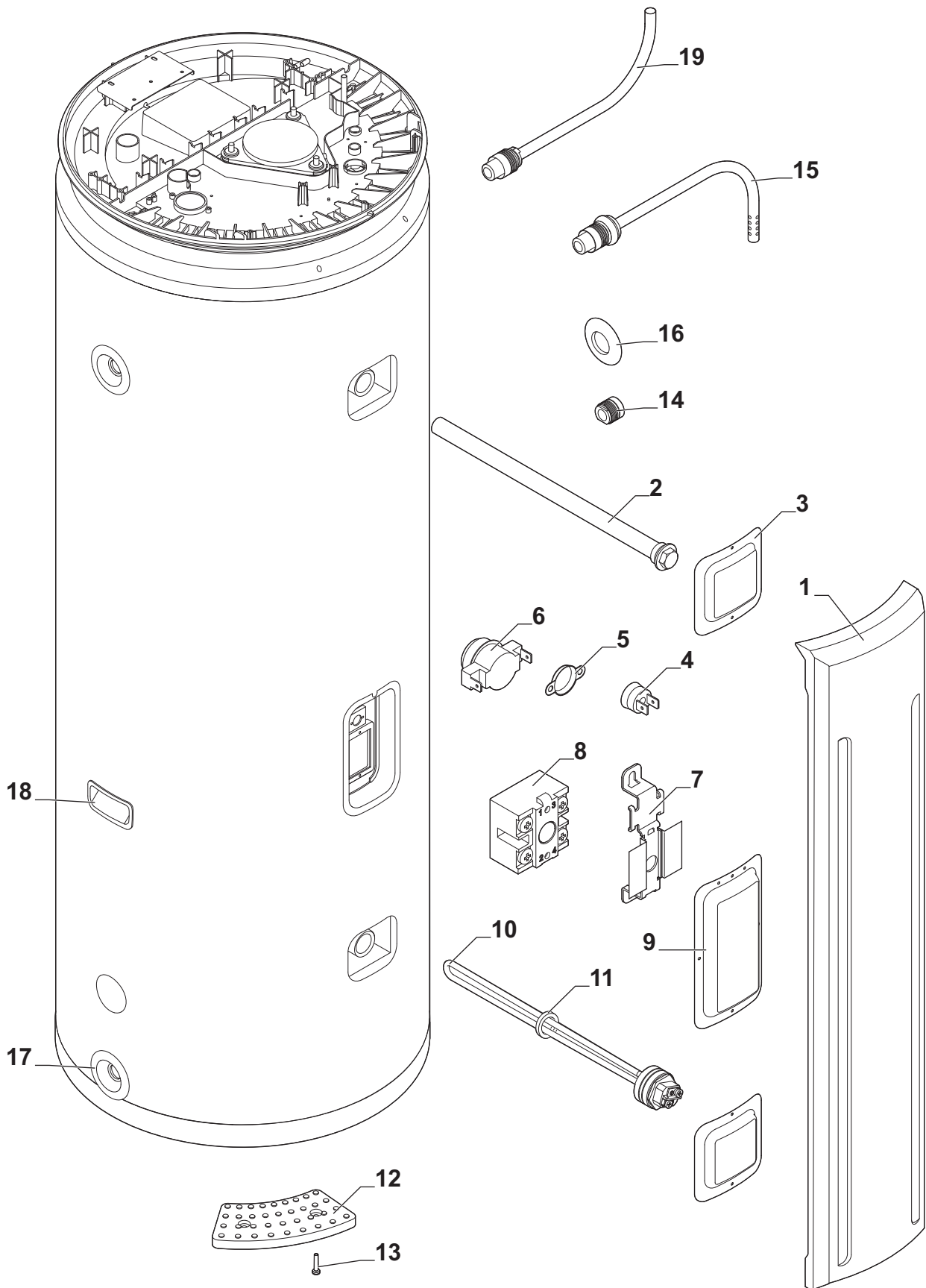


Tab.10 List of spare parts for ETWH 180 E and ETWH 230 E

Markers	References	Components
1	7628460	Top cover
2	7628461	Axial fan
3	7628508	Fan motor
4	7628473	Fan bracket
5	7628475	Air duct
6	7628469	Air filter
7	7628487	Evaporator assembly
7.1	7628499	Evaporator inlet pipe
7.2	7628495	Evaporator outlet pipe
7.3	7628486	Evaporator
7.4	7629585	Evaporator T3 temperature sensor
8	7628490	Dehydrator filter
9	7628494	Compressor flow line
10	7628497	Pressure release valve assembly
10.1	7628489	Filter
10.2	7628492	Coil
10.3	7628493	Expansion valve
11	7628485	Compressor
11.1	7629583	Compressor flow Tp sensor
11.2	7629586	Compressor suction Th sensor
12	7628498	Compressor suction line
12.1	7628488	Load pipe
12.2	7628491	Pressure measurement point
13	7628476	Filter support
14	7628468	Display cover
15	7673805	Display PCB
16	7628470	Display
17	7628472	Display fascia
18	7628480	Retaining plate for the control unit casing
19	7628477	Support for the control unit casing
20	7628474	Support for the control unit casing
21	7673799	Control unit casing
21.1	7628505	Terminal block
21.2	7628502	Relay
21.3	7673804	Electrical back-up control panel
21.4	7628510	Fan capacitor
21.5	7628503	Transformer
21.6	7673802	Regulator PCB
21.7	7628509	Compressor capacitor
22	7628479	Cover for the control unit casing
23	7628467	Front cover
24	7628463	Back cover
25	7628511	Power supply cable
26	7629584	T4 ambient air temperature sensor

13.2.2 Thermodynamic water heater

Fig.34



MW-1000747-1

Markers	References	Components
1	7628471	Front panel
2	7628515	Magnesium anode
3	7628482	Cover for magnesium anode and/or electric resistor
4	7628504	T5 sensor
5	7628481	T5 sensor bracket
6	7628506	Control system thermostat
7	7628478	Safety thermostat bracket
8	7628507	Safety thermostat
9	7628518	Electrical back-up power supply cover
10	7628512	Electrical back-up
11	7628514	Tightness gasket
12	7628466	Plastic feet
13	7628513	Screw
14	7628496	Drainage plug
15	7628501	Water inlet connection
16	7628464	Finishing clamp for the water inlet connection
17	7628465	Finishing clamp for the drainage plug
18	7628517	Handle (for handling)
19	7628500	Water outlet connection

14 Appendix

14.1 EC Declaration of Conformity

The unit complies with the standard type described in the EC declaration of conformity. It has been manufactured and put into circulation in accordance with the requirements of the European Directives.

The original declaration of conformity is available from the manufacturer.

14.2 Commissioning protocol

14.2.1 Appliance concerned

Description of the appliance	Please fill in
Range	
Model	
Software version	

14.2.2 General checks

Inspection points	Checked?
Position of the water heater, distance from the wall	
Circulation direction of the refrigerant fluids	
Tightness of the refrigerant fittings	
Pressure during evacuation prior to filling	
Evacuation time and outside temperature during evacuation	

14.2.3 Electrical checks

Inspection points	Checked?
Presence of the recommended circuit breaker (curve D)	
Tightened terminal blocks	
Separation of the power and low voltage cables	
Mounting and positioning of the sensors	

14.2.4 Points to check after commissioning

Inspection points	Checked?
Check the tightness of the connections	
Check the water pressure	
No faults on the regulator	
Check the domestic hot water temperature to ensure that the appliance is working correctly.	
If the readout value is incorrect, check the positioning of the sensor in the sensor tube	
Compressor start-up	
Transfer of heat to the domestic hot water tank	
Back-up heating working	
Instruct the user in how the product operates	

14.3 Maintenance protocol



For more information, see

Standard inspection and maintenance operations, page 45

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ETWH 180 E

CERTIFIÉ PAR LCIE



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ETWH 230 E

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