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EASYLIFE

Installation, user and service manual

Thermodynamic water heater

ELENSIO

ELENSIO 200
ELENSIO 250
ELENSIO 200 H
ELENSIO 250 H

De Dietrich
SUSTAINABLE COMFORT®

Contents

1 Safety instructions and recommendations

1.1 General safety instructions

Tab.1 Operation

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 shall not be made by children without supervision.

Tab.2 General

- Before any work on the appliance, carefully read all the documents provided with the thermodynamic water heater. These documents are also available on our website. See the **back cover**.
- Only qualified professionals are authorised to carry out:
  - installation,
  - commissioning,
  - maintenance,
  - repair,
  - and removal of the thermodynamic water heater.

  They must respect prevailing local and national regulations during fitting, installation and maintenance of the installation.

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

- Compliance with national gas regulations shall be observed.
- The system must satisfy each point in the rules in force in the country that govern works and interventions in individual homes, blocks of flats or other buildings.
- Do not draw air containing dust, solvents or explosive substances into the thermodynamic water heater.
- Keep this document close to the place where the thermodynamic water heater is installed.

Tab.3 Precautions

- All work on the refrigeration circuit must be carried out by a qualified professional, in accordance with the prevailing codes of practice and safety in the profession (recovery of refrigerant).
- Before any work, switch off the power supply to the heat pump water heater and the hydraulic backup if present. Wait a minute until the heat pump water heater's capacitors have discharged.
- Do not make any modifications to the thermodynamic water heater without the written consent of the manufacturer. To benefit from warranty cover, no modifications should be made to the appliance.
- Use only original spare parts.

Warning

- Do not attempt to speed up the defrosting process or clean using methods other than those recommended by the manufacturer.
- The appliance shall be stored in a room without continuously operating ignition sources (for example: open flames, an operating gas appliance or an operating electric heater).
- Do not pierce or burn.
- Be aware that refrigerants may not contain an odour.

The appliance contains a highly flammable refrigerant (A3)

See also
Symbols used on the appliance, page 12

1.2 R290 refrigerant (Propane)

Tab.4 Product identification

Name of the refrigerant:	R290 (PROPANE)
Belgium: **Emergency call: Anti-poison Centre**	Hôpital Central de la Base / +32 70 245 245

Tab.5 Labelling elements - Labelling in accordance with (CE) N° 1272/2008 [CPL] regulations

Warning notice	Danger
Danger notices	• **H220** : Extremely flammable gas • **H280** : Contains pressurised gas; may explode if exposed to heat
Precautions	• **P210** : Keep away from heat, hot surfaces, sparks, naked flames or any other source of ignition. Do not smoke. • **P377** : In the event of an ignited gas leak, do not extinguish unless this can be done safely. • **P381** : In the event of a leak, eliminate all ignition sources. • **P410 + P403** : Protect against solar radiation. Store in a well-ventilated area.

Tab.6 Composition of/Information on the R290

Name	Proportion	Number CE	Number CAS	GWP(1)
Propane	>=99.5 %	200-827-9	74-98-6	3
Isobutane (impurity)	<0.5	200-857-2	75-28-5	3
n-Butane (impurity)	<0.5	203-448-7	106-97-8	4

(1) Global Warming Potential

Tab.7 First aid

Main symptoms and effects	Contains refrigerated gas, may cause: • burns or cryogenic injuries, • asphyxia, • loss of consciousness, • oxygen starvation, • death.
If inhaled	• Evacuate the subject from the contaminated area and into the open air. • If feeling unwell, call a doctor.
In the event of liquid 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 with water, holding the eyelids well apart (for at least 15 minutes) • Consult an ophthalmologist immediately

Tab.8 Fire prevention measures

Appropriate extinguishing agents	Water spray. Dry powder. Carbon dioxide.
Inappropriate extinguishing agents	Solid water jet
Risk of fire	Extremely flammable gas. Risk of explosion if exposed to heat, due to a rise in internal pressure. The vapours are heavier than air and may lead to asphyxia owing to reduced oxygen levels. Formation of dangerous gas/vapour in case of breakdown.
Fire prevention instructions	Cool exposed containers using water mist or spray.
Protection of the firemen	• Full self-contained breathing apparatus. • Complete body protection

Tab.9 Measures to be taken in the event of accidental spillage

Individual precautions	• Do not intervene without appropriate protective equipment • Avoid contact with the skin and eyes • Do not inhale the vapours • Do not smoke • Evacuate staff to a safe location • Ventilate the spillage area • Stop the leak as safely as possible
Protecting the environment	The product evaporates quickly to the atmosphere. Avoid discharging to the mains or drinking water.
Confinement/Cleaning	Ventilate the spillage area mechanically

Tab.10 Handling and storage

Precautions to be taken for safe handling	• Make sure that the work station is well-ventilated • Pressure vessel • Protect against solar radiation and do not expose to temperatures above 50 °C • Do not pierce or burn, even after use • Use non-sparking tools • Prevent the accumulation of electrostatic charges
Safe storage conditions	• Keep packaging sealed • Store in a cool, well-ventilated area

Tab.11 Personal protective equipment

Respiratory protection	• If ventilation is insufficient: AX-type cartridge mask • In confined spaces: self-contained breathing apparatus
Hand protection	Protective gloves in leather, nitrile rubber or VITON
Eye protection	Safety glasses with side protection
Skin and body protection	Clothing made primarily of cotton
Industrial hygiene	Do not drink, eat or smoke at the place of work

Tab.12 Considerations on disposal

Waste disposal legislation	Disposal must be performed in accordance with applicable local and national regulations.
Recommendations on processing product/packaging	• Packaging disposal methods • Reuse or recycle after decontamination • Destroy in authorised installations
Additional information	Users should be aware of any applicable special community, national or local legal, regulatory or administrative provisions governing disposal. Consult the manufacturer or the supplier for information on recovery or recycling.
Environment - waste	Do not discharge to the atmosphere. Consult the manufacturer or the supplier for information on recovery or recycling.

Tab.13 Regulatory information

• No restrictions based on Annex XVII of REACH • R290 (PROPANE) - AHRI is not on the REACH Candidate list • R290 (PROPANE) - AHRI is not listed in Annex XIV of REACH • R290 (PROPANE) - AHRI is not subject to regulation (EU) No. 649/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 concerning the export and import of hazardous chemicals • R290 (PROPANE) - AHRI is not subject to regulation (EU) No. 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

1.3 Installation location

The heat pump water heater must be installed in the following conditions:

- on a solid, stable structure capable of bearing its weight when full of water and fitted with its various accessories
- positioned more than 1 m away from any source of flame or heat source above 80 °C (open boiler, kitchen stove, etc.)
- As close as possible to draw-off points in order to minimise energy losses through the pipes
- in a space with no air exchange with a heated room
- in a space thermally insulated from adjacent heated spaces
- in a space with high thermal inertia, for example a semi-underground space with no interior insulation
- in a space protected from freezing (between 5 °C and 42 °C).

The local installation directives and the space requirements for the heat pump water heater must be observed.

1.4 Water connections

- When making the hydraulic connection, it is imperative that the standards and corresponding local directives are respected.
- A disconnection device must be fitted to the fixed wiring in accordance with installation rules.
- Respect the minimum and maximum water pressure and temperature to ensure the appliance operates correctly. See the Technical Specifications chapter.
- Limit temperature at the draw-off point: the maximum domestic hot water temperature at the draw-off point is subject to special regulations in the various countries in which the appliance is sold in order to protect the user. These special regulations be observed when installing the appliance.
- To reduce the risk of burns, install a thermostatic mixing valve (not provided) on the thermodynamic water heater outlet.
- To drain the heat pump water heater. See the **Maintenance** chapter.

To ascertain the type or specifications of the pressure limiter and to find out how to connect it, refer to the chapter, "Connecting the heat pump water heater to the drinking water mains".

Caution
Safety unit (not provided)

- In accordance with the safety rules, a safety pressure relief valve calibrated to 0.7 MPa (7 bar) (not supplied) must be mounted on the heat pump water heater's domestic cold water inlet.
- The pressure limiter device (safety pressure relief valve or safety unit) must be regularly operated in order to remove limescale deposits and ensure that it is not blocked.
- The pressure limiter device must be connected to a drain pipe, kept open to the air, in a frost-free environment, and at a continuous downward gradient.
- As water may flow out of the drain pipe on the pressure limiter device, the pipe must be kept open to the air, in a frost-free environment, and at a continuous downward gradient.
- A pressure reducer (not provided) is required when the supply pressure exceeds 80% of the safety valve or safety unit calibration and must be located upstream of the thermodynamic water heater.
- There must be no cut-off devices between the safety valve or safety unit and the domestic hot water tank.

See also
Using dielectric unions, page 34
Safety unit, page 35
Operate the safety valve or unit, page 57
Draining the heat pump water heater, page 58

1.5 Electrical wiring

Danger
Before any wiring work on the electrical circuit, switch off the power supply, check that no voltage is present and secure the circuit breaker with a circuit breaker lockout.

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

- Only a qualified installer or technician is authorised to work on the electrical system of the thermodynamic water heater. Under no circumstances must this work be done by an unqualified individual since failure to carry out the work properly may result in electric shocks and/or electrical leaks.
- The appliance must be installed in accordance with national wiring regulations. Capacity shortages in the power supply circuit or an incomplete installation may cause an electric shock or fire.
- Use wiring that meets the specifications in the Installation Manual and the stipulations in the local regulations and laws. Use of wiring which does not meet the specifications may give rise to electric shocks, electrical leakage, smoking and/or a fire.
- Always connect a protective earthing cable (grounding. Earthing must comply with the prevailing installation standards. Earth the appliance before making any electrical connections. Incomplete grounding can cause a malfunction or electric shock.
- Install a circuit breaker that meets the specifications in the installation manual and the stipulations in the local regulations and laws.
- Install the circuit breaker where it can be easily accessed by the technician.

- In order to avoid the danger of an unexpected thermal circuit breaker reset, 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.
- If a power supply cable comes with the appliance and it turns out to be damaged, it must be replaced by the manufacturer, its after-sales service or persons with similar qualifications in order to avoid danger.
- When connecting the appliance to the electricity mains or carrying out any other wiring work, refer to the instructions given in the installation manual and the provided wiring diagrams.
- Separate the very low voltage cables from the 230/400 V power supply cables.

Caution
Install the appliance in accordance with national rules on electrical installation.
If the water heater is not wired in the factory, carry out the wiring according to the wiring diagram described in the Electrical Connections chapter in the appliance's instruction manual.
This appliance must be connected to the protective earthing. Earthing must comply with the prevailing installation standards. Earth the appliance before making any electrical connections. Type and calibre of the protective equipment: refer to the "Recommended cable cross-sections" chapter.
To connect the appliance to the electricity mains, refer to the "Electrical Connections" chapter.

Caution
Respect the minimum and maximum water pressure and temperature to ensure the appliance operates correctly. See chapter on Technical Specifications.

See
Allow the space required to install the appliance correctly, referring to the chapter Dimensions of the Appliance.

Check that wiring will not be subject to wear, corrosion, excessive pressure, vibration, sharp edges or any other adverse environmental effects. The check shall also take into account the effects of ageing or continual vibration from sources such as compressors or fans.

Make the electrical connections on the appliance, respecting the protection rating IP21.

The earth connection must comply with current standards:

- France: NFC 15–100.
- Belgium: RGEI.
- Italy: IEC

Connect the appliance using a circuit breaker:

- Other countries: type K curve omnipolar 16 A, with a contact opening distance of 3 mm or more.

All countries except Germany: The power supply circuit must be protected by a 30 mA differential circuit breaker.

All countries except Poland: The heat pump water heater is delivered with a 3G cable. If the power supply cable is damaged, it must be replaced by the manufacturer, its after sales service, or persons with similar qualifications in order to prevent any danger.

The heat pump water heater is delivered with a 3G cable. If the power supply cable is damaged, it must be replaced by the agreed maintenance company (AFS).

The electricity supply is connected to the mains by connection cable (~230 V, 50 Hz).

The appliance's user interface must remain switched on to ensure that the impressed current anode can operate. Failure to comply with this instruction may cause deterioration to the water heater tank and void its warranty.

1.6 Air duct fitting

Caution
The ducts connected to the heat pump water heater must not contain or lead to a source of ignition.

- The maximum duct lengths are observed (including flue bends, roof- or wall-mounted terminals).
- Only ducts and accessories with a diameter of 160 mm with specifications which are at least equivalent to those of the recommended ducts and accessories are used.
- Only rigid or semi-rigid, smooth and insulated ducts are used, to ensure condensation is limited.
- External terminals are installed with protective railings to prevent the introduction of foreign bodies.

Using accessories leads to drops in pressure. Refer to the section: Pressure drops of the recommended accessories.

- The pressure drops must be less than or equal to those of the recommended accessories.
- The sum of the equivalent straight lengths for the recommended accessories (excluding flue bends and external terminals) must comply with the recommended extraction and intake duct lengths

1.7 Information for service personnel

Tab.14

Subject	Details
Operative	**Caution** Only qualified professionals are authorised to carry out maintenance work on the heat pump and the heating system.
Safety checks	Prior to beginning work on systems containing flammable refrigerants, safety checks are necessary to ensure that the risk of ignition is minimised.
Work procedure	Work shall be undertaken under a controlled procedure so as to minimise the risk of a flammable gas or vapour being present while the work is being performed.
General work area	All maintenance staff and others working in the local area shall be instructed on the nature of work being carried out. Work in confined spaces shall be avoided.
Potential leak of refrigerant	The area shall be checked with an appropriate refrigerant detector prior to and during work, to ensure the technician is aware of potentially toxic or flammable atmospheres. If a refrigerant leak is detected, all naked flames shall be removed/extinguished. If a leakage of refrigerant is found which requires brazing, all of the refrigerant shall be recovered from the system prior to brazing activities.
Presence of a fire extinguisher	If any hot work is to be conducted on the refrigerating equipment or any associated parts, appropriate fire extinguishing equipment shall be kept close by. Have a dry powder or CO_2 fire extinguisher adjacent to the charging area.
No ignition sources	Do not smoke on the premises during maintenance operations.
Ventilated area	Ensure that the area is in the open or that it is adequately ventilated before opening up the system or conducting any hot work. There must be continued ventilation while the work is being carried out. The ventilation should safely disperse any released refrigerant and preferably expel it externally into the atmosphere.
Spare parts	Use only original spare parts.
Electrical devices	Repair and maintenance of electrical components must include initial safety checks and component inspection procedures. In the event of a fault that could compromise safety, no power supply may be connected to the circuit until said fault has been dealt with satisfactorily. If the fault cannot be corrected immediately but it is necessary to continue operation, an appropriate temporary solution must be adopted. This shall be reported to the owner of the equipment to ensure all parties are duly informed. Initial safety checks shall include: • discharging of the capacitors: this shall be done in a safe manner to avoid any possibility of sparking; • ensuring no live electrical components and wiring are exposed while charging, recovering or purging the system; • ensuring the continuity of the earth bonding.
Refrigerant circuit	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.
Recycling Labelling Recovery of the refrigerant Refrigerant recovery equipment	Refer to the chapter **Decommissioning and disposal**

See also
Decommissioning and disposal, page 65

1.8 Recommendations

Tab.15 For use

- Do not switch the thermodynamic water heater off. Frost protection mode does not work if the heat pump water heater is switched off.
- Keep the thermodynamic water heater accessible at all times.
- Do not drain the installation, except in cases of absolute necessity. Examples:
  - Several months' absence with the risk of freezing in the building. See chapter **Maintenance**.
  - disposal. See chapter **Decommissioning and disposal**.

Tab.16 For installation

- Install the thermodynamic water heater:
  - in a frost-free location,
  - on a solid, stable structure that can support its weight.
- Insulate the pipes to reduce heat losses to a minimum.
- Do not make any modifications to the thermodynamic water heater without the written consent of the manufacturer.
- To benefit from warranty cover, no modifications should be made to the appliance.
- Do not install the thermodynamic water heater in a location which:
  - has an atmosphere with a high salt content,
  - is exposed to steam and combustion gas,
  - may get covered in snow.

1.9 Liabilities

Tab.17 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 the appliance.
- Failure to abide by the instructions on using the appliance.
- Faulty or insufficient maintenance of the appliance.

Tab.18 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.

Tab.19 User's liability

To guarantee optimum operation of the system, the user must follow the instructions below:

- Read and follow the instructions given in the manuals provided with the appliance.
- Call on a qualified professional to carry out installation and initial commissioning.
- Get your installer to explain your installation to you.
- Have the required inspections and maintenance carried out by a qualified installer.
- Keep the instruction manuals in good condition close to the appliance.

2 Symbols used

2.1 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.

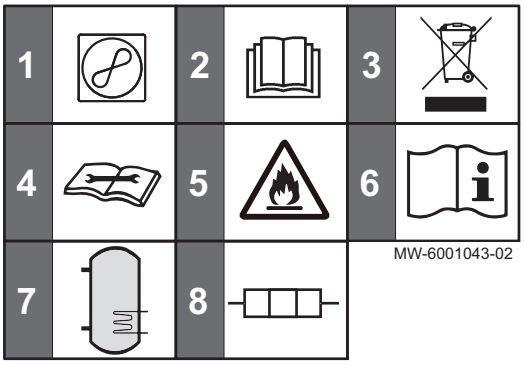
Caution
Risk of material damage.

Important
Please note: important information.

See
Reference to other manuals or pages in this manual.

2.2 Symbols used on the data plate

Fig.1



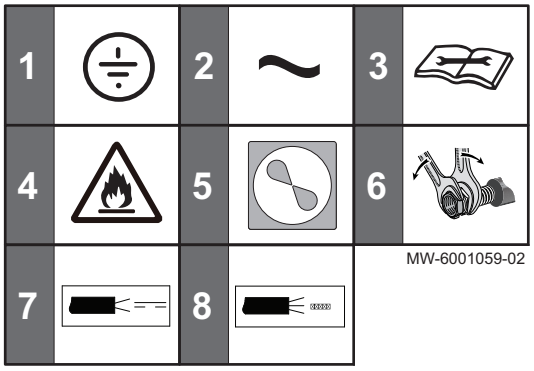
1 Information concerning the heat pump: refrigerant type, maximum allowable operating pressure and absorbed output
2 Before installing and commissioning the appliance, carefully read the instruction manuals provided
3 Dispose of used products in an appropriate recovery and recycling structure
4 Read technical manual
5 The appliance contains highly flammable refrigerant (A3)
6 See operating instructions
7 Information on the domestic hot water tank: volume, maximum admissible pressure
8 Information on the electrical backup: power supply and maximum output

2.3 Symbols used on the appliance

Fig.2

Caution: Danger of electric shock, live parts
1 Disconnect the mains power prior to carrying out any work.
2 Work on the appliance is only authorised if carried out by a qualified engineer

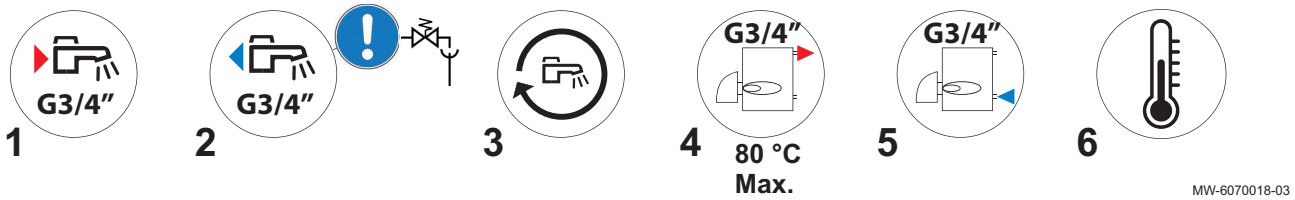
Fig.3



1 Protective earthing
2 Alternating current
3 Read the technical manual
4 The appliance contains a highly flammable refrigerant (A3)
5 Heat pump
6 Tighten with a backup spanner
7 Sensor cable, very low voltage cable
8 230 V power supply cable

2.4 Symbols used to mark the connections

Fig.4



1 Domestic hot water outlet
2 Domestic cold water inlet, a safety unit must be installed
3 Recirculation loop return, G3/4"
4 Hydraulic backup inlet
5 Hydraulic backup return
6 Temperature sensor for hydraulic backup

3 Technical specifications

3.1 Directives

De Dietrich hereby declares that the radio-electrical ELENSIO type equipment is principally designed for domestic use. It is compliant with the following directives and standards. It has been manufactured and put into circulation in accordance with the requirements of the European Directives.

The full text of the EU declaration of conformity is supplied separately with your appliance.

The object of the declaration described above is in conformity with the relevant Union harmonisation legislation:

- Low Voltage Directive 2014/35/EU
- Electromagnetic Compatibility Directive 2014/30/EU
- RoHS Directive 2011/65/EU
- Ecodesign Directive 2009/125/EC and implementing regulations (EU) N °814/2013
- Energy Labeling related regulations (EU) 2017/1369, N°812/2013

In addition to the legal requirements and guidelines, the supplementary guidelines in this manual must also be followed.

Supplements or subsequent regulations and guidelines that are valid at the time of installation shall apply to all regulations and guidelines specified in this manual.

3.2 Technical data

3.2.1 Heat pump water heater

Tab.20 General specifications

	Unit	ELENSIO 200	ELENSIO 250	ELENSIO 200 H	ELENSIO 250 H
Storage capacity	litres	196	251	188	243
Weight empty	kg	88	99	102	113
R290 refrigerant	kg	0.15	0.15	0.15	0.15
R290 refrigerant(1)	tCO_2e	0	0	0	0
Immersion heater output	W	1800	1800	1800	1800
Maximum pressure (PS) permitted by the tank	MPa (bar)	1.0 (10)	1.0 (10)	1.0 (10)	1.0 (10)
Maximum pressure permitted by the refrigerant circuit	MPa (bar)	2.8 (28)	2.8 (28)	2.8 (28)	2.8 (28)

(1) Quantity of refrigerant calculated in tonnes of CO_2 equivalent.

Tab.21 Outdoor air performance (ducted). According to the specifications for the NF Electricity Performance label (No. LCIE No.103-15/C) based on the EN16147 standard. Air temperature (dry source at 7°C / humid source at 6°C). Domestic cold water inlet temperature of 10°C.

	Unit	ELENSIO 200	ELENSIO 250	ELENSIO 200 H	ELENSIO 250 H
Heating time	hours	06:33(1)	08:56(2)	06:29(1)	08:37(2)
Load profile	-	L	XL	L	XL
Coefficient of performance (COP)	-	3.09	3.48	3.15	3.28
Volume of mixed water at 40 °C (V_{40})	litres	254	338	249	320
Power absorbed at stabilised rate (Pes)	kW	0.023	0.025	0.022	0.030
Air flow rate	m^3/h	380	380	380	380

(1) from 10 to 55 °C
(2) from 10 to 54 °C

Tab.22 Ambient air performance (non-ducted). According to the specifications for the NF Electricity Performance label (No. LCIE No.103-15/C) based on the EN16147 standard. Air temperature (dry source at 15°C / humid source at 12°C). Domestic cold water inlet temperature of 10°C.

	Unit	ELENSIO 200	ELENSIO 250	ELENSIO 200 H	ELENSIO 250 H
Heating time	hours	06:06(1)	08:08(2)	05:52(1)	07:58(2)
Load profile	-	L	XL	L	XL
Coefficient of performance (COP)	-	3.63	3.8	3.33	3.54
Volume of mixed water at 40 °C (V_{40})	litres	255	339	249	322
Power absorbed at stabilised rate (Pes)	kW	0.0265	0.029	0.026	0.029

(1) from 10 to 55 °C
(2) from 10 to 54 °C

Tab.23 Hydraulic backup

	Unit	ELENSIO 200 H	ELENSIO 250 H
Exchanger surface	m^2	0.93	0.93
Exchanged power(1)	kW	21.5	21.5
Continuous flow rate (ΔT = 35K)	l/h	528	528
Exchanged power(2)	kW	24.4	24.4

	Unit	ELENSIO 200 H	ELENSIO 250 H
Continuous flow rate (ΔT = 35K)	l/h	599	599
V_{40}(3)	l	280	360

(1) Cold water inlet: 10 °C - Domestic hot water outlet: 45 °C - Flow: 75 °C - Flow rate: 1m^3/h
(2) Cold water inlet: 10 °C - Domestic hot water outlet: 45 °C - Flow: 80 °C - Flow rate: 1$m^{3/h}$
(3) As per EN12897

3.2.2 Technical data - Heat pump water heaters

Tab.24 Technical parameters for heat pump water heaters

			ELENSIO 200	ELENSIO 250	ELENSIO 200 H	ELENSIO 250 H
Daily electricity consumption	Q_{elec}	kWh	3.770	5.470	3.698	5.822
Declared load profile			L	XL	L	XL
Sound power level, indoors	L_{WA}	dB(A)	49	49	49	49
Storage volume	V	l	196.0	251.0	188.0	243.0
Mixed water at 40 °C	V40	l	254	338	249	320
Sound power level, outdoors	L_{WA}	dB(A)	61	58	61	58

3.2.3 Temperature sensor specifications

Tab.25 NTS (Negative Temperature Sensor)

Temperature	°C	0	10	15	20	30	40	50	60	70	80
Nominal resistance	Ω	27282	17959	14696	12091	8313	5827	4160	3020	2228	1668

3.2.4 Limit operating temperatures

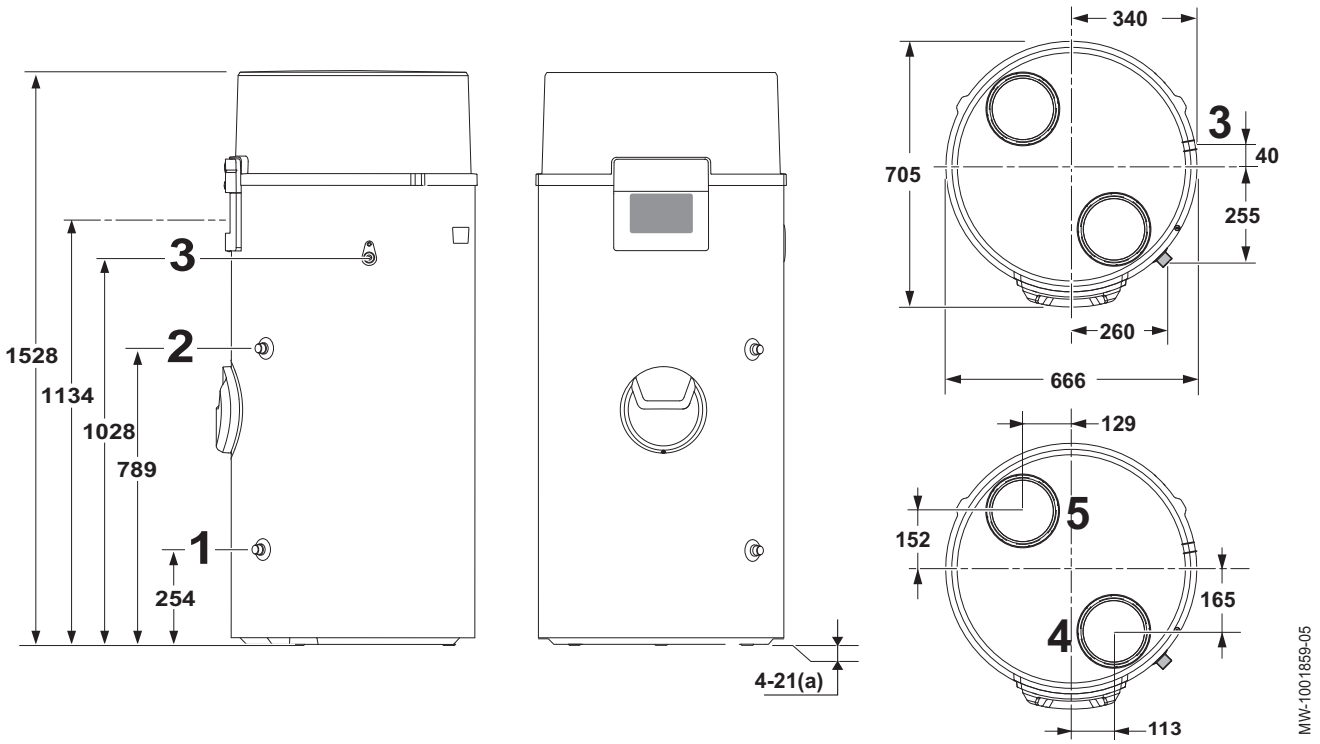
Tab.26

	ELENSIO 200	ELENSIO 250	ELENSIO 200 H	ELENSIO 250 H
Temperature of ambient or outdoor air	from -7 °C to +42 °C	from -7 °C to +42 °C	from -7 °C to +42 °C	from -7 °C to +42 °C
Domestic hot water temperature limit	75 °C	75 °C	75 °C	75 °C

3.3 Dimensions and connections

3.3.1 ELENSIO 200

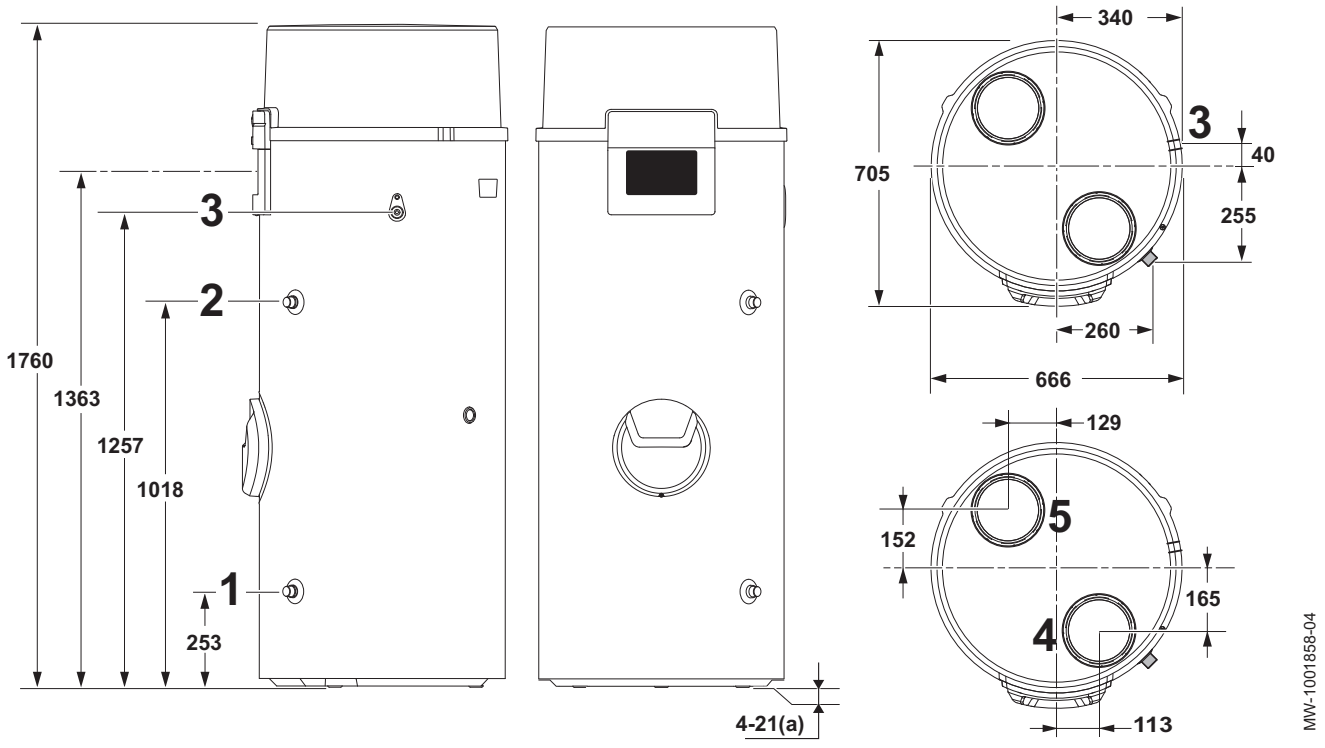
Fig.5



1 Domestic cold water inlet, G 3/4"
2 Domestic hot water outlet, G 3/4"
3 Condensate outlet
4 Air inlet, 160 mm diameter
5 Air discharge, 160 mm diameter
(a) Adjustable feet

3.3.2 ELENSIO 250

Fig.6

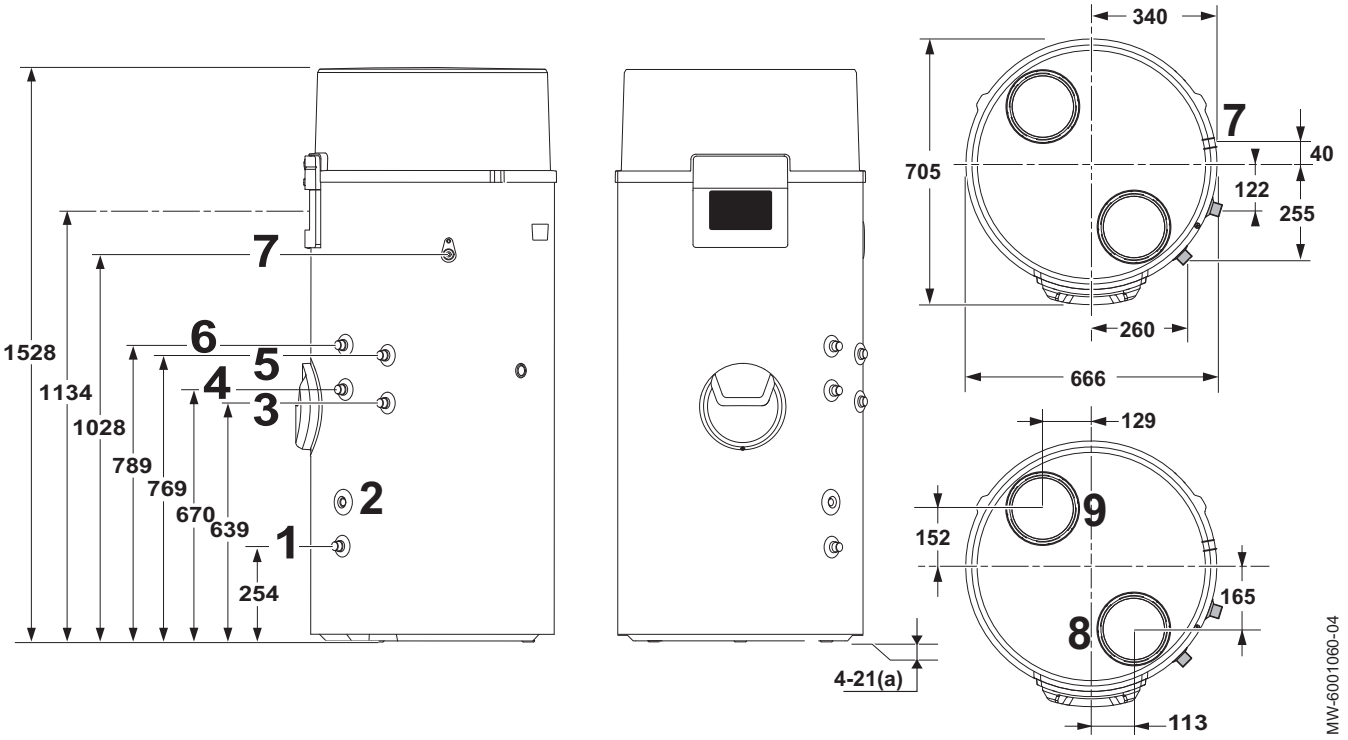


1 Domestic cold water inlet, G 3/4"
2 Domestic hot water outlet, G 3/4"

3 Condensate outlet
4 Air inlet, 160 mm diameter
5 Air discharge, 160 mm diameter
(a) Adjustable feet

3.3.3 ELENSIO 200 H

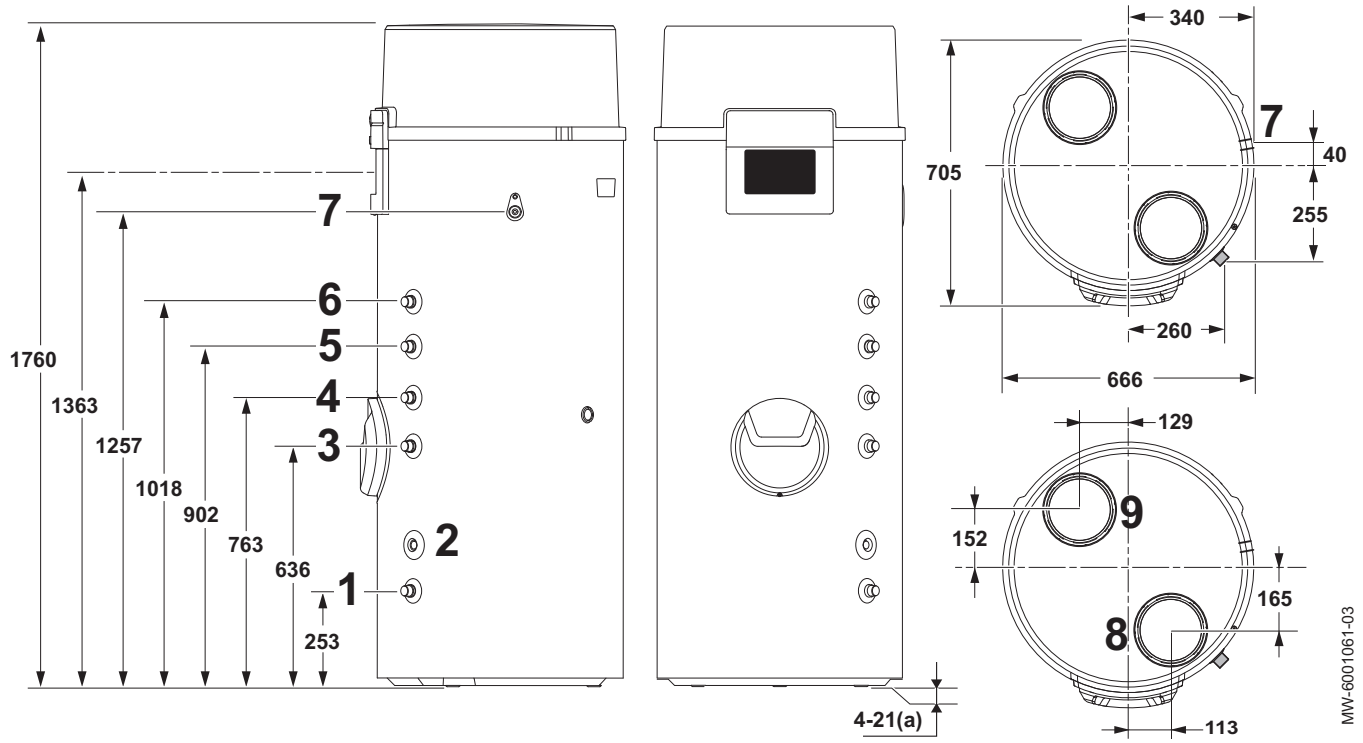
Fig.7



1 Domestic cold water inlet, G 3/4"
2 Sensor tube for the hydraulic backup sensor
3 Hydraulic backup return, G 3/4"
4 Domestic hot water recirculation loop inlet, G 3/4”
5 Hydraulic backup inlet, G 3/4"
6 Domestic hot water outlet, G 3/4"
7 Condensate outlet
8 Air intake, 160 mm diameter
9 Air discharge, 160 mm diameter
(a) Adjustable feet

3.3.4 ELENSIO 250 H

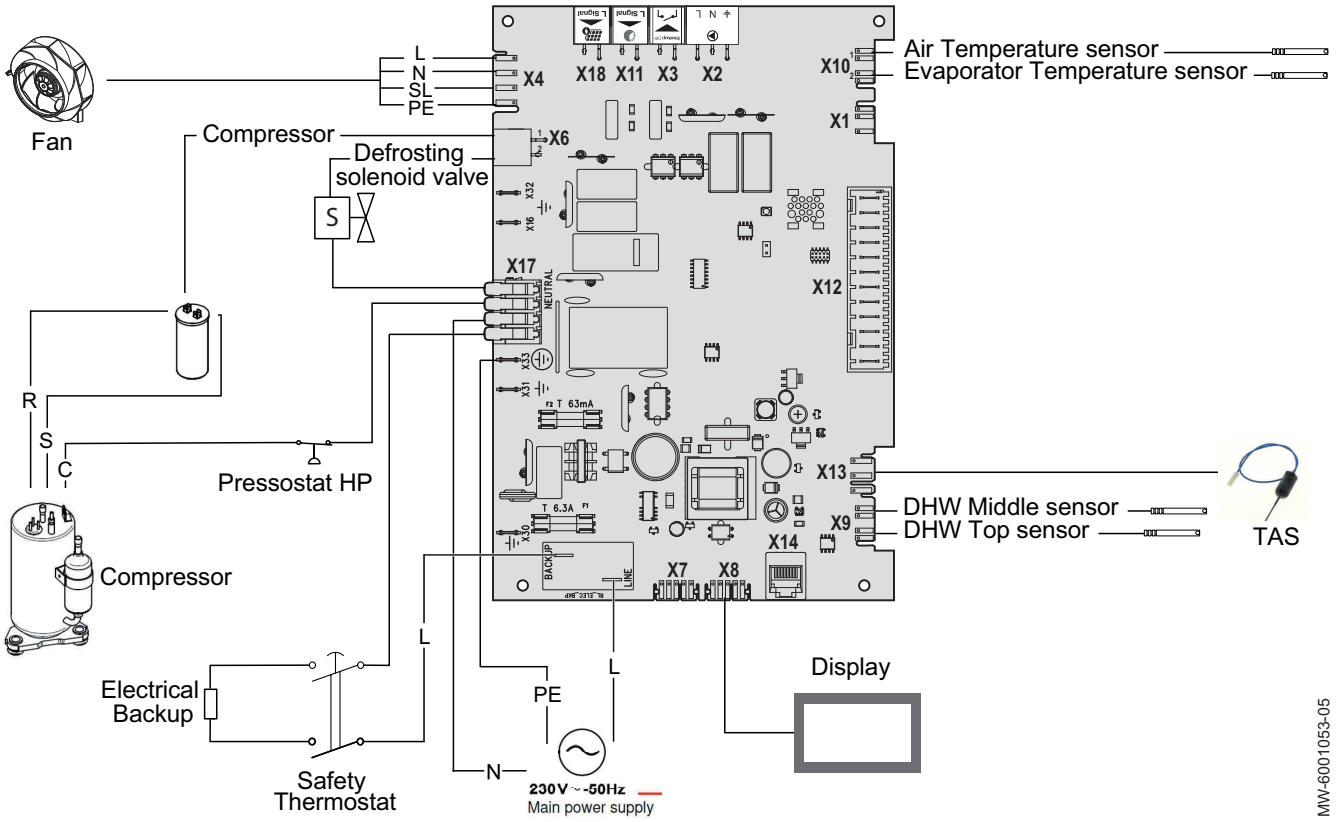
Fig.8



1 Domestic cold water inlet, G 3/4"
2 Sensor tube for the hydraulic backup sensor
3 Hydraulic backup return, G 3/4"
4 Hydraulic backup inlet, G 3/4"
5 Domestic hot water recirculation loop inlet, G 3/4”
6 Domestic hot water outlet, G 3/4"
7 Condensate outlet
8 Air intake, 160 mm diameter
9 Air discharge, 160 mm diameter
(a) Adjustable feet

3.4 Electrical diagram

Fig.9



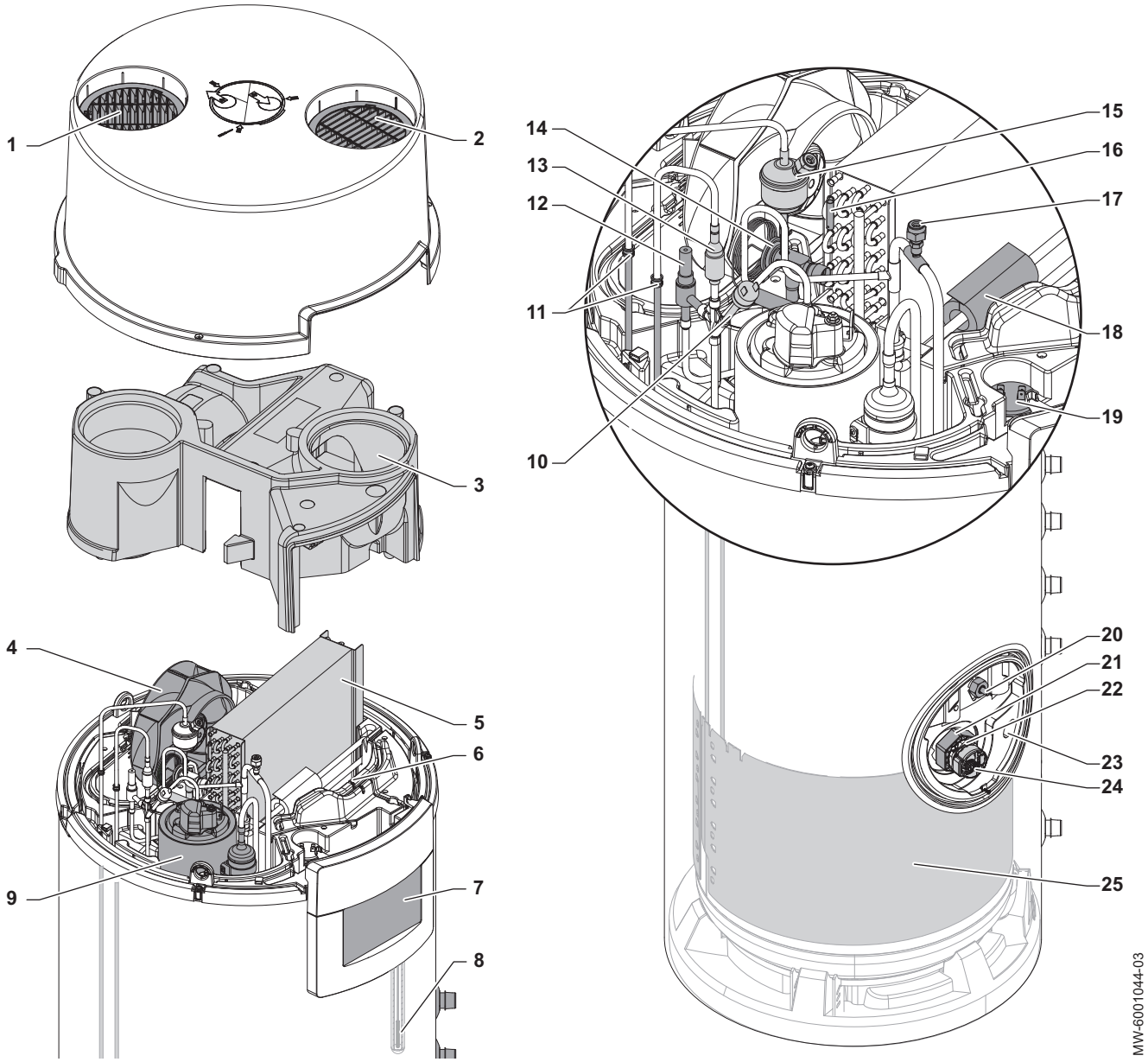
Tab.27

Air Temperature sensor	Air temperature sensor
Compressor	Compressor
Defrosting solenoid valve	Defrosting solenoid valve
DHW Middle sensor	Bottom domestic hot water temperature sensor
DHW Top sensor	Top domestic hot water temperature sensor
Display	User interface
Electrical Backup	Electric backup
Evaporator Temperature sensor	Evaporation temperature sensor
Fan	Fan
Main power supply	Main power supply
Pressostat HP	High-pressure switch
Safety Thermostat	Safety thermostat
TAS	Impressed current anode

4 Description of the product

4.1 Main components

Fig.10

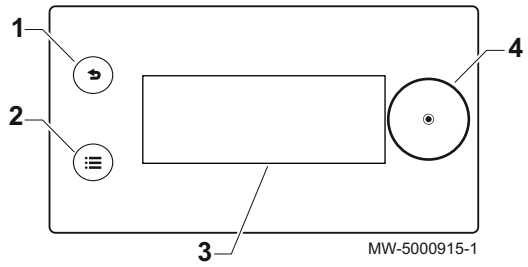


1 Air outlet grille
2 Air inlet grille
3 Central cover
4 Fan
5 Evaporator
6 Air temperature sensor
7 User interface
8 Top domestic hot water temperature sensor
9 Compressor
10 High-pressure switch
11 Condenser inlet/outlet
12 Defrosting solenoid valve
13 Non-return valve
14 Thermostatic expansion valve
15 Filter-drier equipped with Schrader high pressure circuit valve
16 Evaporation temperature sensor
17 Schrader low pressure circuit valve
18 Expansion valve bulb
19 Compressor capacitor
20 Impressed current anode
21 Dielectric union
22 Electric backup
23 Bottom domestic hot water temperature sensor
24 Safety thermostat
25 Condenser

4.2 Control panel description

4.2.1 Description of the interface

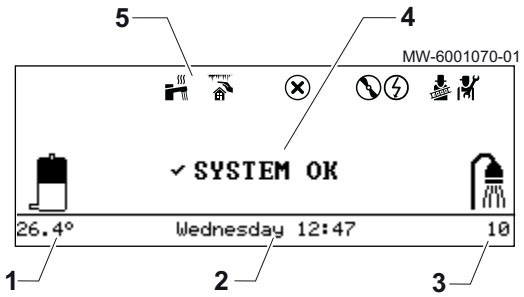
Fig.11



1 Back button
2 Main menu button
3 Display
4 Selection/validation button

4.2.2 Description of the standby screen

Fig.12



The user interface on your appliance automatically goes into standby mode if no buttons are activated for a period of 5 minutes: the backlighting is switched off and information relating to the general status of the appliance is displayed.

Press one of the buttons on the user interface to switch standby off.

1 Domestic hot water temperature
2 Day and time
3 Number of showers available
4 General status of the appliance
5 Icons indicating the appliance status

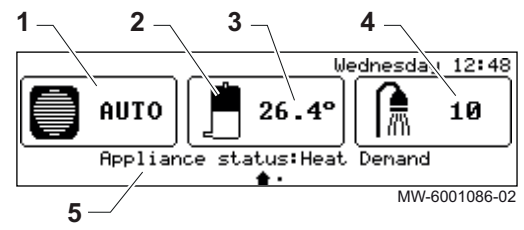
4.2.3 Description of status icons

Tab.28

Icons	Description
	• Steady symbol: domestic hot water available • Flashing symbol: domestic hot water production in progress
	Frost protection mode activated
	Error detected
	The heat pump compressor is running
	The electrical backup is running
	Operating test mode activated
	Installer level activated

4.2.4 Description of the home screen

Fig.13

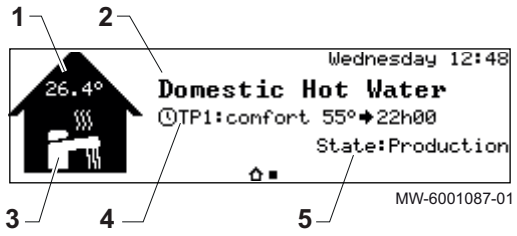


If the user interface is on standby, turn the button to access the home screen.

1 Operating mode for the heat pump
2 Filling rates at the setpoint temperature
3 Temperature measured by the bottom sensor
4 Number of showers available
5 Status of the appliance

4.2.5 Description of the Zone display

Fig.14



From the home screen, turn the ⊙ button to access the screen for the zone for your installation.

1 Temperature of the domestic hot water measured by the bottom sensor
2 Domestic Hot Water (domestic hot water) zone
3 Zone symbol
4 Operating mode currently active
5 Information on the circuit status

4.2.6 Description of the carousel

Fig.15

The carousel is used to quickly access the user interface menus. The displayed menus depend on the system configuration.

Display the carousel by pressing the Main menu ☰ button.

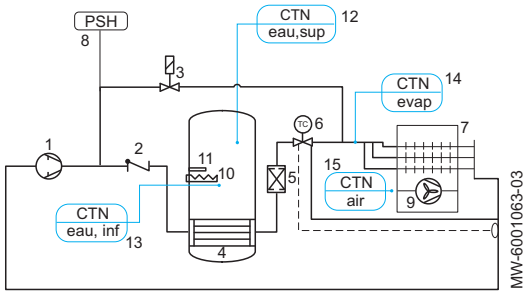
Scroll through the menu by turning the ⊙ button.

Tab.29

Symbol menu	Description of the symbols	Description
	Domestic Hot Water On/Off	Shutting off domestic hot water production
	Water temperature	Modifying the domestic hot water setpoint temperatures
	Hot water boost	Forcing domestic hot water production (override)
	System holiday mode	Periods of absence or going on holiday
	User settings	Changing the daily operation settings
	Test mode	Testing the operation of the heat pump water heater
	Installer	Menu not accessible to the user Installer level: List of Installer menu parameters
	Finder	Menu not accessible to the user Installer level: Using the parameter search
	Signals status setpoints	Menu not accessible to the user Installer level: Displaying the measured values
	Energy counter	Monitoring the energy consumption
	System settings	Regional and ergonomic parameters
	Version information	Version information

4.3 Schematic diagram for the heat pump water heater

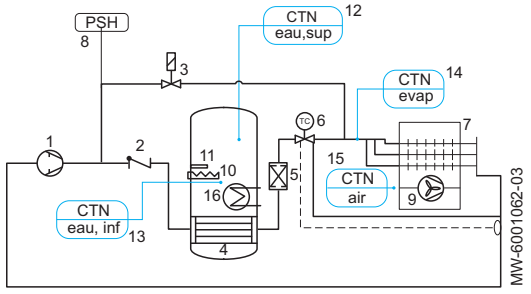
Fig.16 With electrical backup



1 Rotary compressor
2 Non-return valve
3 Solenoid valve for defrosting
4 Condenser
5 Filter-drier
6 Thermostatic expansion valve
7 Evaporator
8 High-pressure switch
9 Fan
10 Electric backup
11 Impressed current anode
12 Top domestic hot water temperature sensor

13 Bottom domestic hot water temperature sensor
14 Evaporation temperature sensor
15 Air temperature sensor

Fig.17 With electrical and hydraulic backups

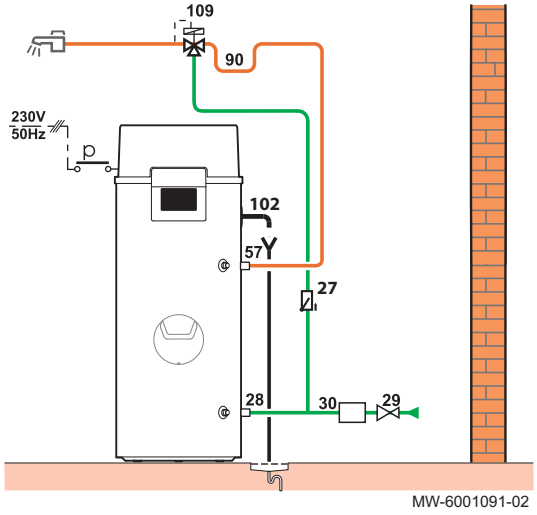


1 Rotary compressor
2 Non-return valve
3 Solenoid valve for defrosting
4 Condenser
5 Filter-drier
6 Thermostatic expansion valve
7 Evaporator
8 High-pressure switch
9 Fan
10 Electric backup
11 Impressed current anode
12 Top domestic hot water temperature sensor
13 Bottom domestic hot water temperature sensor
14 Evaporation temperature sensor
15 Air temperature sensor
16 Hydraulic backup coil (solar station or boiler)

5 Connection and installation examples

5.1 Standard installation

Fig.18



No electrical connection to be carried out on the heat pump water heater.

27 Non-return valve
28 Domestic cold water inlet with dielectric union
29 Pressure reducer
30 Safety unit
57 Domestic hot water outlet with dielectric union
90 Anti-thermosiphon loop
102 Condensate drain hose
109 Thermostatic mixing valve

5.2 Installations with a backup boiler

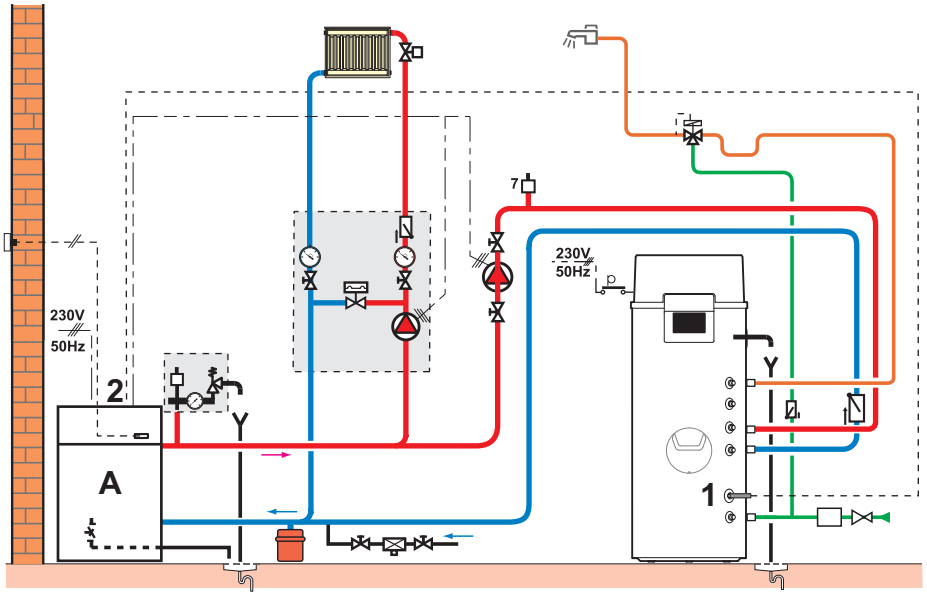
The hydraulic backup (generated by a boiler) can be controlled in one of two ways:

- Either by the boiler.
- Or by the heat pump water heater.

5.2.1 Hydraulic backup controlled by a boiler

No connection is required on the heat pump water heater PCB.

Fig.19



MW-6001093-03

A Boiler

1 Domestic hot water temperature sensor

2 Boiler domestic hot water sensor contact

1. Install the domestic hot water temperature sensor in the sensor tube.
2. Connect the domestic hot water temperature sensor to the domestic hot water sensor contact on the boiler.
3. On the backup boiler, set the flow temperature to a maximum of 80 °C.

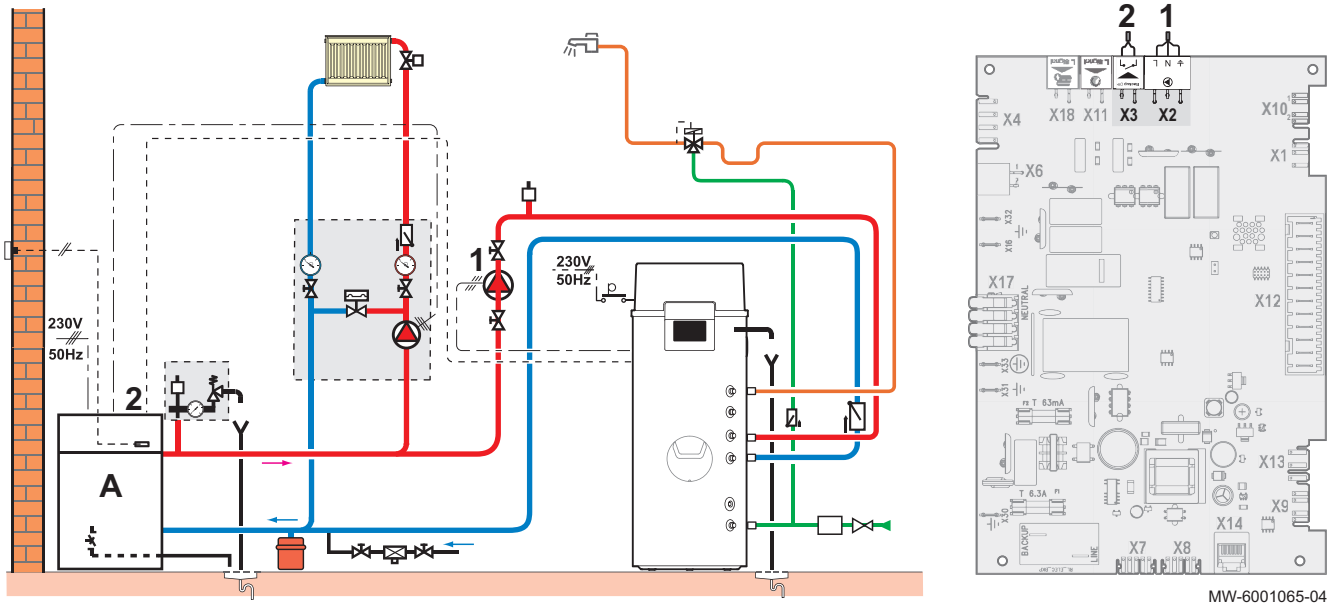
See
Boiler manual

5.2.2 Hydraulic backup controlled by the heat pump water heater

Two connections are required on the heat pump water heater PCB:

- the backup demand,
- the backup booster pump control

Fig.20



MW-6001065-04

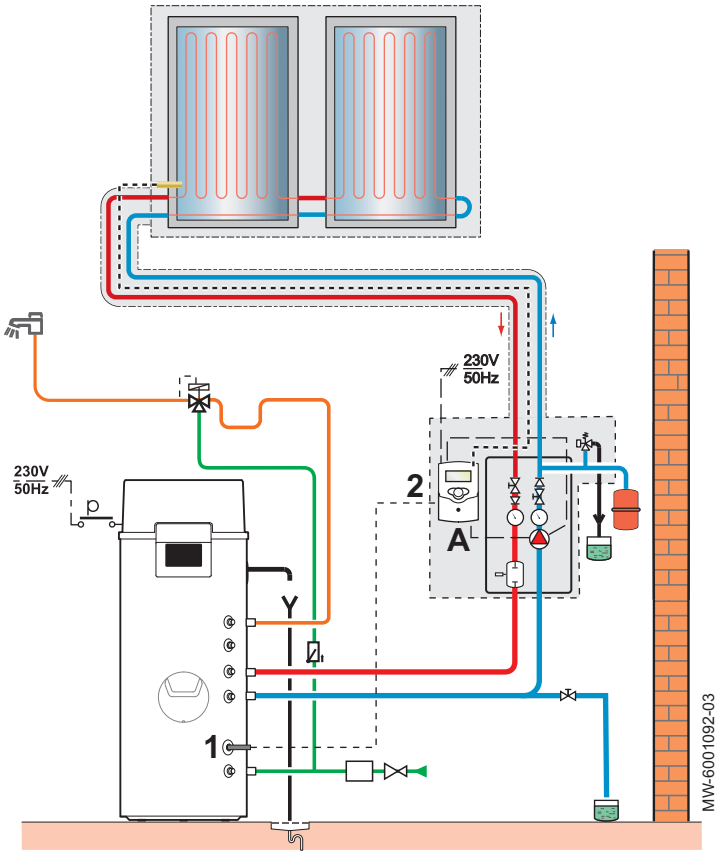
A Boiler
1 Hydraulic backup booster pump
2 Boiler domestic hot water sensor contact

1. Connect the boiler domestic hot water sensor contact to X3 on the CU–HW-01 PCB.
2. Connect the hydraulic backup booster pump to X2 on the CU–HW-01 PCB.
3. On the backup boiler, set the flow temperature to a maximum of 80 °C.

See
Boiler manual

5.3 Installation with solar collectors

Fig.21



A Solar collector control
1 Domestic hot water temperature sensor
2 Solar collector control contact

1. Install the domestic hot water temperature sensor in the sensor tube.
2. Connect the domestic hot water temperature sensor to the solar control.
3. Limit the hydraulic backup flow temperature to 80 °C on the solar control system.

See
Solar control system manual

6 Installation

6.1 Standard delivery

Tab.30

Package	Contents
Heat pump water heater	• A heat pump water heater • A 3G - 2.5 mm^2 power supply cable 1.5 m in length
Documentation bag	• An installation, use and service manual • A quick user guide • An energy label • A data plate • CE Certificate of Conformity
Accessories bag	• Two 3/4" flat gaskets • Two 3/4" dielectric unions • A condensate discharge hose • Cable clamps • A strap for fixing to the floor or wall

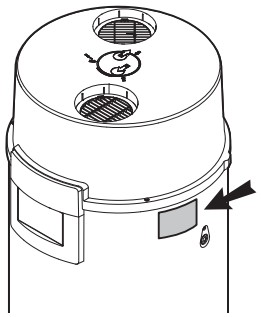
6.2 Accessories

Tab.31

Description	Package no.
90° galvanised elbow (diameter 160 mm)	EH77
Insulated semi-rigid ducting (diameter 160 mm - length 3 m)	EH206
Set of 2 attachment clamps (diameter 160 mm)	EH207
Connection kit for safety unit	ER208
Straight PPE duct (diameter 160 mm, length 2x 1 m) + two sleeves	EH272
Two 90° PPE elbows (diameter 160 mm) + two sleeves	EH273
Two PPE sleeves (diameter 160 mm)	EH274
Black roof outlet (diameter 160 mm)	EH275
Waterproof base for flat roofs (diameter 160 mm)	EH276
Waterproof base for 25° to 45° pitched roofs (diameter 160 mm)	EH277
Kit with 2 air flow gaskets	HK437
EPE duct kit + gaskets + wall grilles (intake and discharge)	HK438

6.3 Data plate

Fig.22



MW-6001057-02

The data plate must be accessible at all times. They identify the product and provide important information: product type, date of manufacture (year - week), serial number, electrical power supply, operating pressure, electrical output, IP rating, refrigerant type. An additional plate is included in the documentation bag, if required.

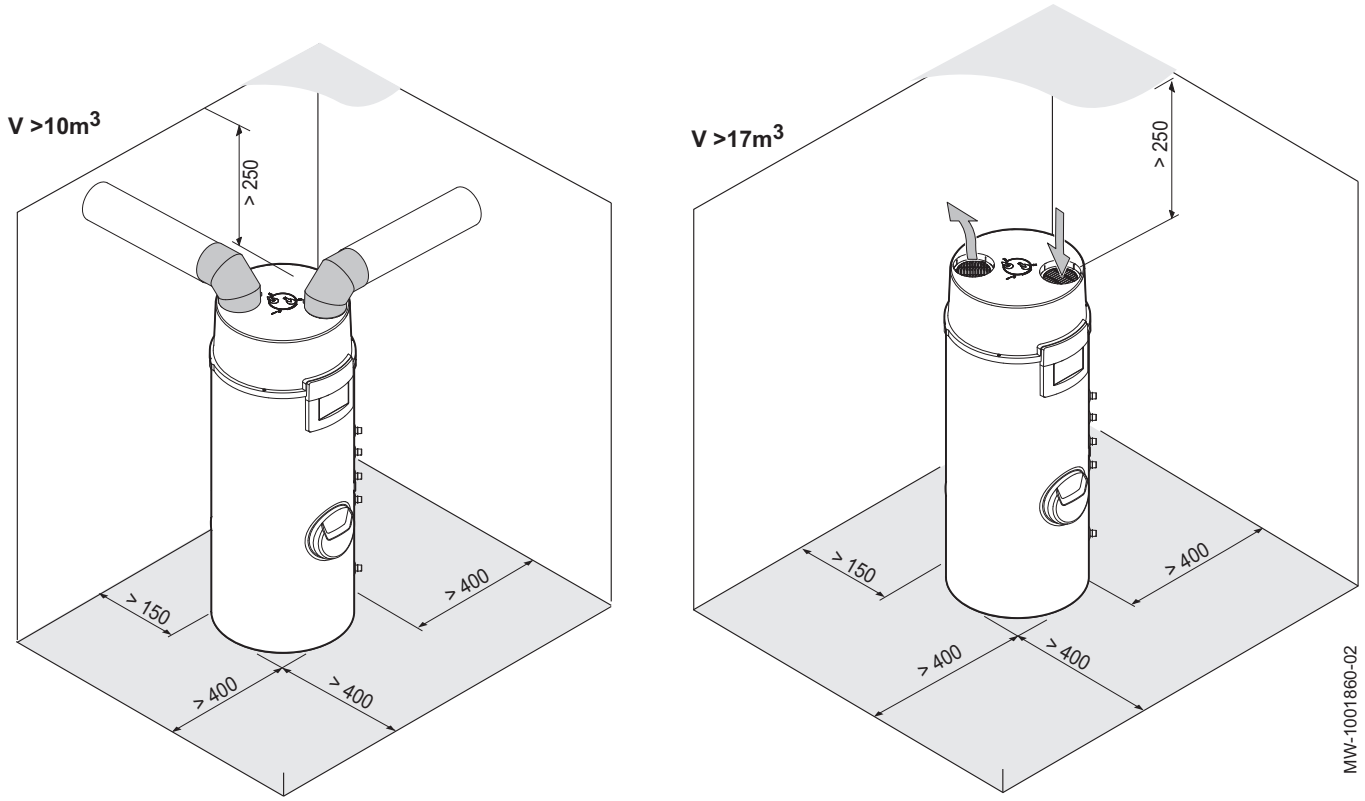
Important

- Never remove or cover the data plate and label affixed to the heat pump water heater.
- The data plate must be visible throughout the entire lifetime of the heat pump water heater. Immediately replace any damaged or illegible instructions and warning labels.

6.4 Installing the heat pump water heater

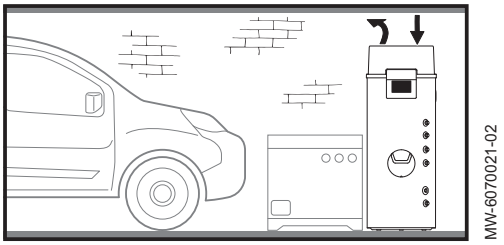
6.4.1 Accessibility and volume of the installation room

Fig.23



6.4.2 Recommended locations without air ducts (non-ducted)

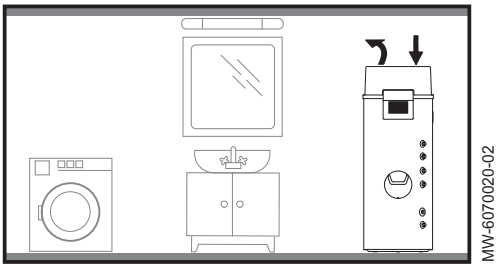
Fig.24



Garage: The appliance draws in and discharges air into a closed space.

Allows recovery of the free energy released by your vehicle's engine when switched off after use or by household appliances in operation.

Fig.25

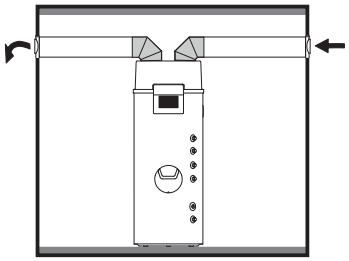


Laundry room: The appliance draws in and discharges air into a closed space.

Allows to dehumidify the room and to recover the free energy released by operating household appliances.

6.4.3 Recommended locations with air ducts

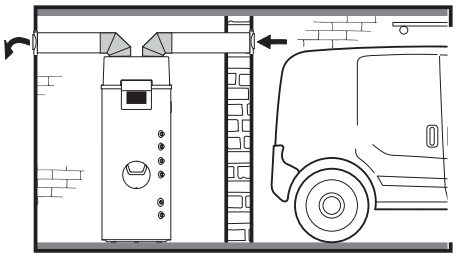
Fig.26



The appliance draws in and discharges air outside.

Connection to the outside air may lead to overconsumption of electricity if the outside air temperature falls outside the operating range.

Fig.27



The appliance draws air in from a closed space and discharges air outside.

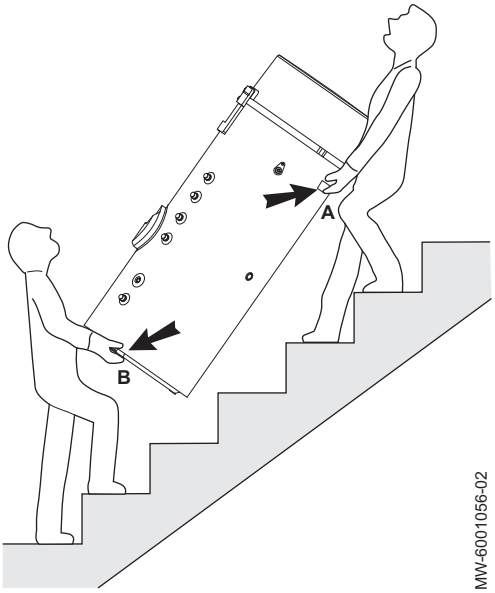
Allows recovery of the free energy released by your vehicle's engine when switched off after use or by household appliances in operation.

6.4.4 Handling the heat pump water heater

When unpacking, the heat pump water heater may be gently tilted, however we do recommend that it is carried vertically.

Take into account the effective dimensions for handling.

Fig.28



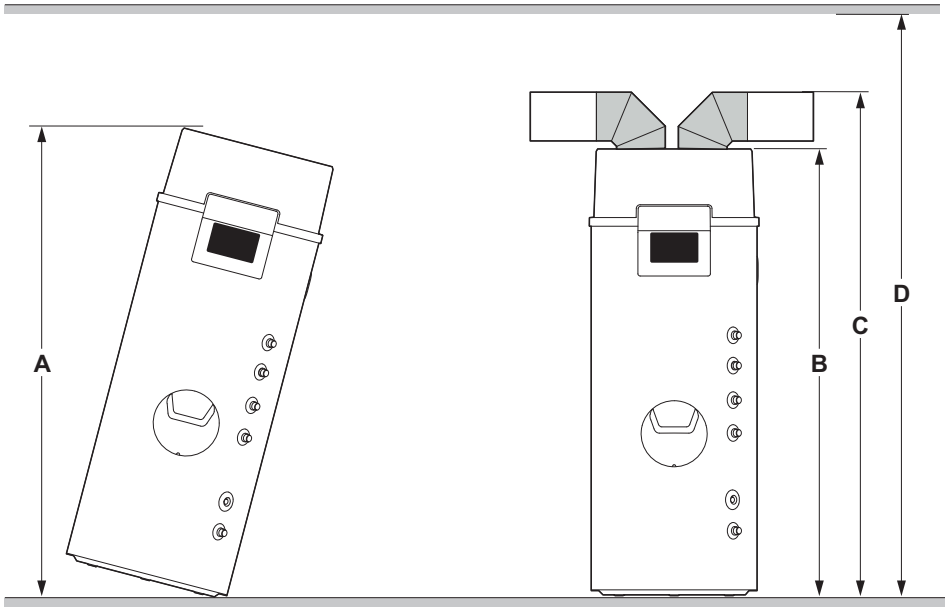
A Upper handles
B Lower handles

Use the handles **A** and **B** to carry the heat pump water heater.

Important
Do not use the top cover for handling purposes.

6.4.5 Effective dimensions for handling

Fig.29

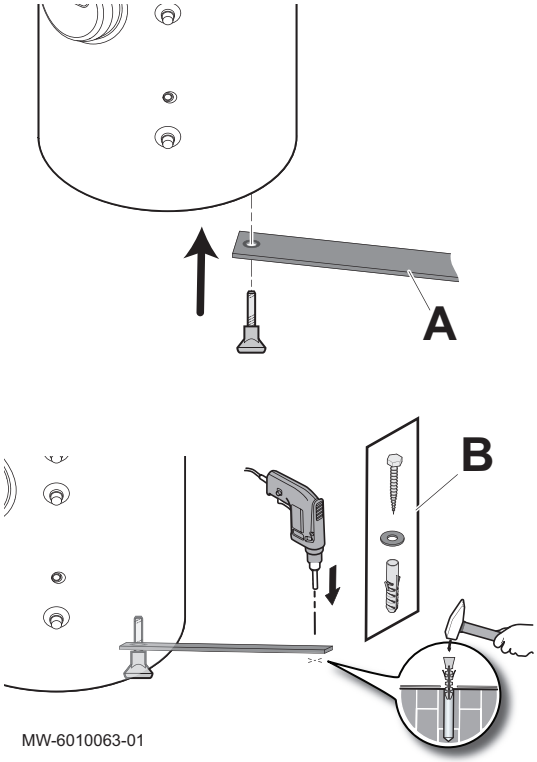


Tab.32

Markers	ELENSIO 200	ELENSIO 250	ELENSIO 200 H	ELENSIO 250 H
A	1630	1840	1630	1840
B	1530	1760	1530	1760
C	1790	2020	1790	2020
D	> 1820	> 2050	> 1820	> 2050

6.4.6 Securing to the floor or wall

Fig.30



The appliance must be secured to the floor or to a wall.

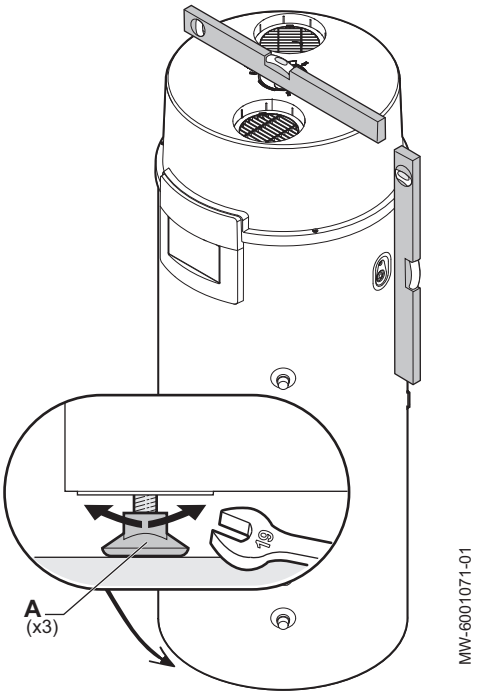
1. Unscrew one of the feet from the heat pump water heater.
2. Feed the foot through the hole in the fixing strap and screw it back in.
3. Firmly secure the fixing strap to the floor or the wall.

Important
The installer is responsible for choosing the type of mounting depending on the wall.

A Fixing strap supplied in the accessories bag
B Screw, washer and wall plug (not provided)

6.4.7 Levelling the heat pump water heater

Fig.31



A Feet, adjustable from 4 to 21 mm

1. Level the appliance by tightening or loosening the adjustable feet using a 19 mm flat spanner.
2. Check that the appliance is level using a spirit level or a plumb line. Tolerance ± 3 degrees.

6.5 Air duct fitting

6.5.1 Setting the fan

The heat pump water heater is a equipped with a two-speed fan.

1. Follow the access path described below.

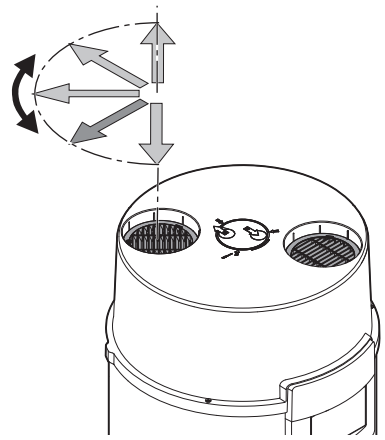
Access path
> Installer > Commissioning > Output test > Fan speed

2. Select **On**
3. Set the fan speed to **Speed 1** or **Speed 2** depending on the configuration:

Speed	Setting the HP028 parameter	Type of configuration
1	Air supply duct	Outdoor installation of the heat pump water heater (ducted)
2	Ambient air	Ambient installation of the heat pump water heater (non-ducted)

6.5.2 Ambient air installation of the heat pump water heater (non-ducted)

Fig.32



Do not remove the grilles provided for installation for use with ambient air (non-ducted).

The grilles prevent ingress of foreign bodies and guide the flow of air.

Only the air outlet grille can be angled.

Important
Do not place anything on the top of the appliance.

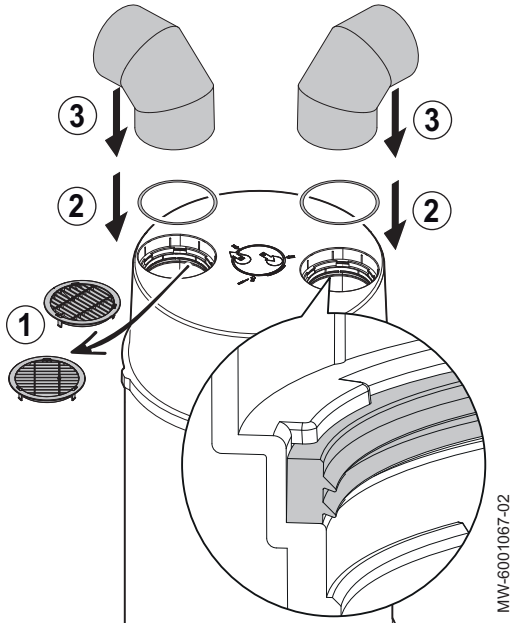
1. Orient the air outlet grille to ensure turbulence is not created at the air inlet.
2. Unlock the air outlet grille using a screwdriver.
3. Orient the grille to one of the five predefined positions.
4. Set the fan speed to **Speed 2**.

See also
Searching for a parameter or a measured value, page 44

6.5.3 Outdoor air installation of the heat pump water heater (ducted)

Caution
The air ducts connected to the heat pump water heater must not contain or lead to a source of ignition.

Fig.33



1. Remove the air inlet and air outlet grilles.
2. Fit the gaskets (option HK437) required when using galvanised ducts, with the lip facing downwards.
   Gaskets are not required for use with PPE ducts.
3. Connect the air ducts (accessories) to the air inlet and the air outlet.
4. Connection the supplementary air ducts, ensuring that the authorised duct lengths are observed.
5. Set the fan speed to **Speed 1**.
6. At the ends of the air ducts, check that air is drawn into the air inlet and that air is expelled from the air outlet.

See also
Searching for a parameter or a measured value, page 44

■ Pressure drops of the recommended accessories

Using accessories leads to drops in pressure.

These pressure drops are equivalent to the lengths shown in the table below.

The total of the lengths must comply with the values given in the tables below for each of the configurations. This total is obtained by adding together all of the lengths of accessories used once or more in the installation.

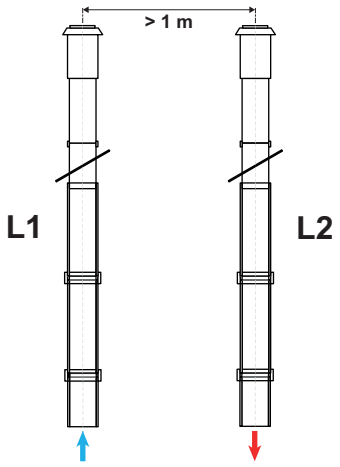
Tab.33

Accessories	Package	Equivalent straight lengths (m)
90° galvanised elbow (diameter 160 mm)	EH77	1
90° PPE elbow (diameter 160 mm)	EH273	1

Accessories	Package	Equivalent straight lengths (m)
Straight PPE duct (length 1 m)	EH272	1
Black roof outlet (diameter 160 mm)	EH275	1
Wall inlet/outlet kit	HK438	3
Insulated semi-rigid duct (length 3 m)	EH206(1)	3
(1) Accessory permitted		

■ Vertical air outlet and air inlet

Fig.34



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For a fan speed set to **Speed 2**.

Tab.34 Authorised duct lengths

L1 (m)	L2 (m)
≤ 10	≤ 10

For a fan speed set to **Speed 1**.

In this configuration, one of the duct lengths (L1 or L2) may be required by the installation.

Tab.35 Authorised L1 duct lengths

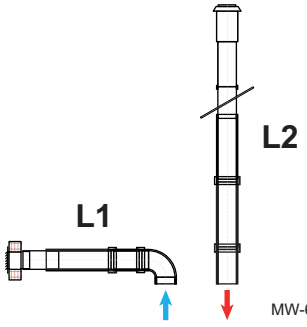
L2 required (m)	L1 authorised (m)
≤ 3	≤ 4
4 to 5	≤ 5
6	≤ 6
7	≤ 7
8	≤ 8
9	≤ 9
10	≤ 10

Tab.36 Authorised L2 duct lengths

L1 required (m)	L2 authorised (m)
≤ 4	≤ 10
5	4 to 10
6	6 to 10
7	7 to 10
8	8 to 10
9	9 to 10
10	10

■ Horizontal air outlet and vertical air inlet

Fig.35



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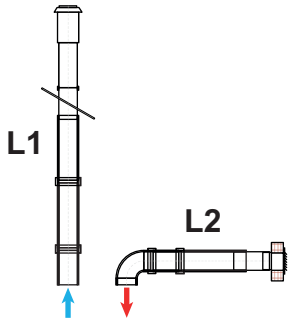
For a fan speed set to **Speed 1** or **Speed 2**

Tab.37 Authorised duct lengths

L1 (m)	L2 (m)
≤ 10	≤ 10

Vertical air outlet and horizontal air inlet

Fig.36



For a fan speed set to **Speed 1**.

In this configuration, one of the duct lengths (L1 or L2) may be required by the installation.

Tab.38 Authorised L1 duct lengths

L2 required (m)	L1 authorised (m)
≤ 2	≤ 9
3 to 5	≤ 8
6 to 10	≤ 7

Tab.39 Authorised L2 duct lengths

L1 required (m)	L2 authorised (m)
≤ 7	≤ 10
8	≤ 5
9	≤ 2

For a fan speed set to **Speed 2**.

In this configuration, one of the duct lengths (L1 or L2) may be required by the installation.

Tab.40 Authorised L1 duct lengths

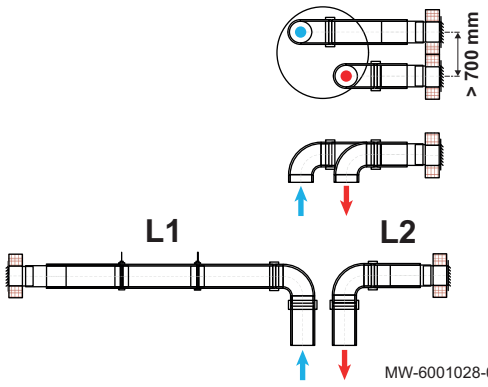
L2 required (m)	L1 authorised (m)
≤ 2	≤ 3
3 to 5	≤ 2
6 to 10	≤ 1

Tab.41 Authorised L2 duct lengths

L1 required (m)	L2 authorised (m)
1	≤ 10
2	≤ 5
3	≤ 2

Horizontal air outlet and air inlet

Fig.37



For a fan speed set to **Speed 1**.

Tab.42 Authorised duct lengths

L1 (m)	L2 (m)
≤ 10	≤ 10

For a fan speed set to **Speed 2**.

In this configuration, one of the duct lengths (L1 or L2) may be required by the installation.

Tab.43 Authorised L1 duct lengths

L2 required (m)	L1 authorised (m)
≤ 3	≤ 10
4	≤ 9
5	≤ 8
6	≤ 7
7	≤ 6
8	≤ 5

L2 required (m)	L1 authorised (m)
9	≤ 4
10	≤ 3

Tab.44 Authorised L2 duct lengths

L1 required (m)	L2 authorised (m)
≤ 3	≤ 10
4	≤ 9
5	≤ 8
6	≤ 7
7	≤ 6
8	≤ 5
9	≤ 4
10	≤ 3

■ Semi-ducted

The only authorised semi-ducted configuration is as follows:

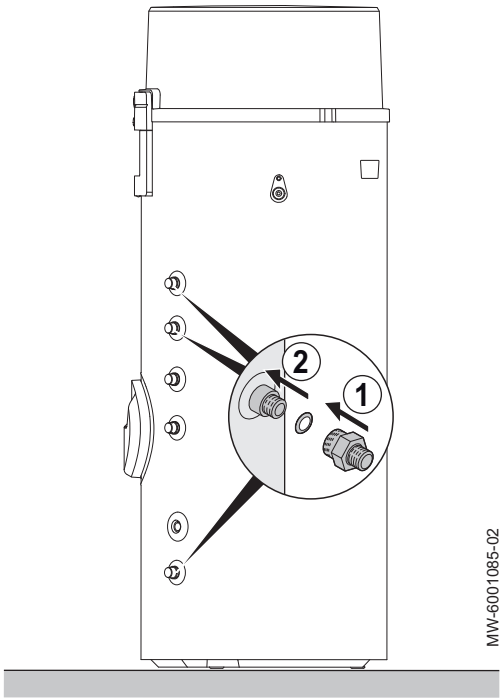
- ambient air inlet (non-ducted)
- air extraction (ducted)

In this case, the fan speed is set to **Speed 1**.

6.6 Hydraulic connections

6.6.1 Using dielectric unions

Fig.38



It is imperative that the corresponding standards and local directives are respected.

1. Fit the dielectric unions (supplied in the accessories bag) by inserting the gasket on the domestic water inlet and outlet fittings.

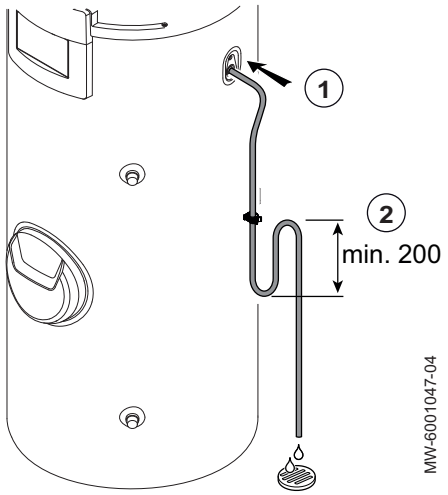
Important
It is recommended to place one dielectric union (not supplied) on the recirculation loop connection.

Caution
In order to prevent iron/copper galvanic couples, and the resulting risk of corrosion, do not connect the domestic water fittings directly to the copper pipes.

2. Connect the pipes on the various circuits to the unions.

6.6.2 Connecting the condensate drain

Fig.39



It is recommended to use a trap (not supplied) or to create one using the hose to avoid:

- Disrupting the flow of condensate when the fan is operating due to vacuum formation caused by intake air circulating in the wrong direction.
- Unwanted odours in ambient air installations (non-ducted).

1. Fit the condensate drain hose.
2. Create a trap using the drain hose or connect the drain hose to the existing trap.

6.6.3 Domestic hot water recirculation loop

To guarantee the availability of domestic hot water as soon as the taps are turned on, a recirculation loop (for private housing only) can be installed between the draw-off points and the heat pump water heater.

The length of the recirculation loop must not exceed (out/return):

- ELENSIO 200 H: 20 metres.
- ELENSIO 250 H: 36 metres.

Tab.45 Settings to be made

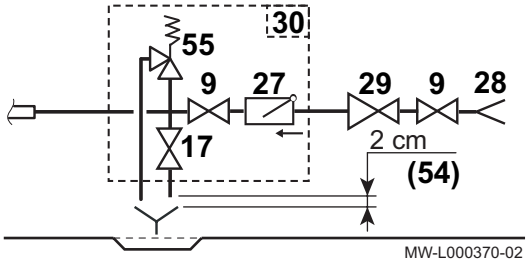
Parameters	ELENSIO 200 H	ELENSIO 250 H
DHW comfort temperature setpoint **DP070**	65° C	60° C
Hysteresis DHW temperature setpoint **DP120**	15° C	10° C

Important
To optimise energy consumption, control the recirculation loop with an additional programmable timer.

See also
Searching for a parameter or a measured value, page 44

6.6.4 Safety unit

Fig.40



9 Isolation valve
17 Drain valve
27 Non-return valve
28 Domestic cold water inlet
29 Pressure reducer
30 Safety unit
54 End of the discharge pipe free and visible 2 to 4 cm above the flow funnel
55 Safety valve 0.7 MPa (7 bar)

6.7 Electrical connections

6.7.1 Recommended cable cross sections

When making electrical connections to the mains, respect the following polarities.

Tab.46

Colour of the wire	Polarity
Brown wire	Live
Blue wire	Neutral
Green/yellow wire	Earth

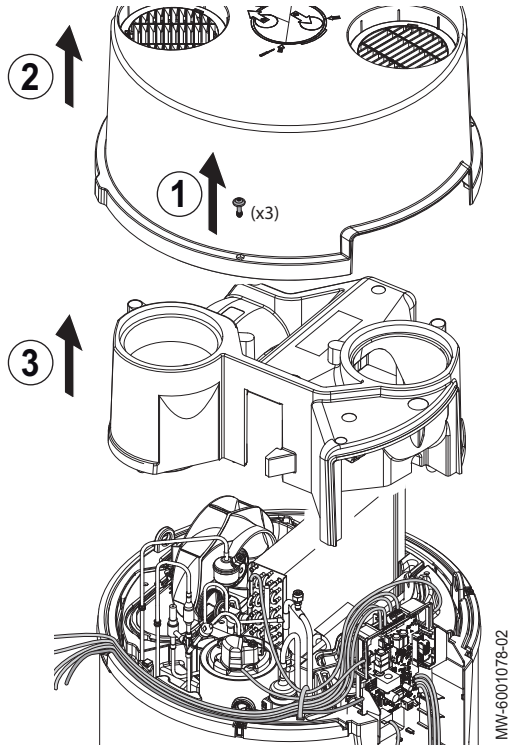
Tab.47

Connection	Power supply type	Cable cross section (mm^2)	Circuit breaker type K	Maximum intensity of differential type A
Power supply	230 V single phase	3 x 2.5 supplied	16 A	30 mA
Wiring with hydraulic backup(1)(2)	Backup control Backup pump control	2 x 0.75 3 x 1.5	-	-
Off-peak rate control(3)	230 V single phase	2 x 1.5	-	-
Photovoltaic equipment wiring	230 V single phase	2 x 1.5	-	-
Photovoltaic control wiring	230 V single phase	2 x 1.5	-	-

(1) Two connectors to be connected to authorise the backup and the backup pump control
(2) Connection linking another item of equipment to the appliance
(3) Connection cable linking the off-peak rate signal to the appliance

6.7.2 Accessing the PCB connection terminal block

Fig.41



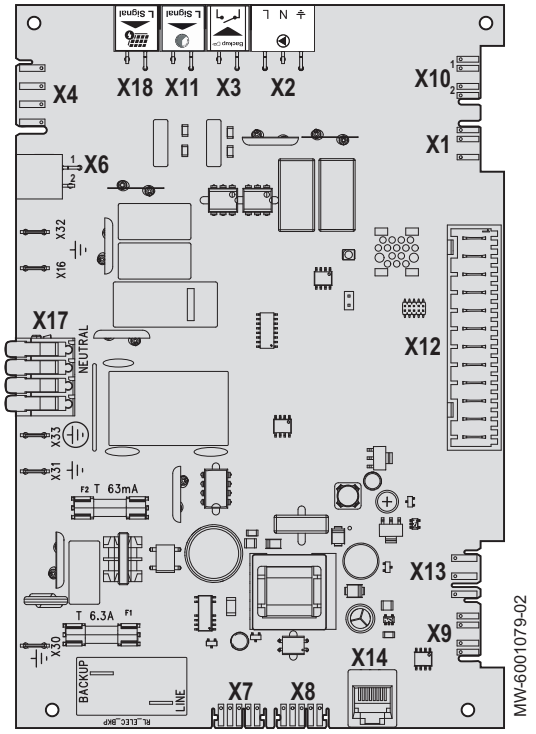
Depending on the equipment, it may be necessary to remove the elbows on the air inlet and the air outlet.

1. Remove the three retaining screws from the top cover.
2. Remove the top cover.
3. Remove the intermediate cover.
4. Refit the entire assembly in the reverse order to disassembly.

Important
When refitting, ensure that the top cover is correctly sealed and the three screws are fitted.

6.7.3 CU–HW-01 PCB terminal block

Fig.42



X2 Hydraulic backup booster pump
X3 Hydraulic backup control
X4 Fan control
X6
- X6-1: Compressor control
- X6-2: Defrosting valve

X7 L-BUS
X8 L-BUS to the user interface
X9 Domestic hot water sensors
X10
- X10-1 : Evaporator sensor
- X10-2: Air sensor

X11 Peak rate/Off-peak rate input
X13 Impressed current anode (TAS)
X14 Service Port
X17 Neutral connection terminal block (4-pin)
- X17-1 : Defrosting valve
- X17-2 : Compressor control
- X17-3 : 230 V - 50 Hz power supply
- X17-4 : Electric backup

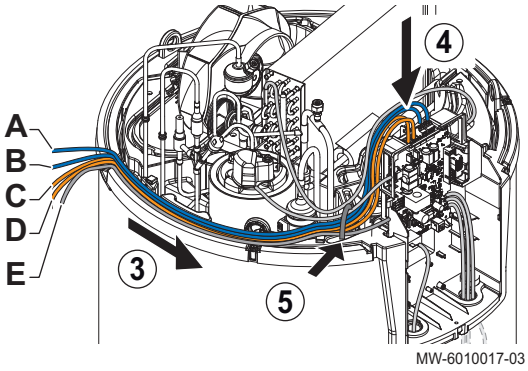
X18 Signal input for the photovoltaic panels
X30 Earth: electric backup
X32 Earth: compressor
X33 Earth: mains power supply
Backup Electrical backup (phase)
Line 230 V - 50 Hz power supply (phase)

6.7.4 Connecting the options to the CU–HW-01 PCB

Various options can be connected to the heat pump water heater PCB.

If the heat pump water heater is ducted, it is necessary to remove the air ducts to remove the top and intermediate covers.

Fig.43



A Hydraulic backup pump power supply
B Hydraulic backup control
C Peak rate/Off-peak rate input
D Photovoltaic panels signal input
E General power supply

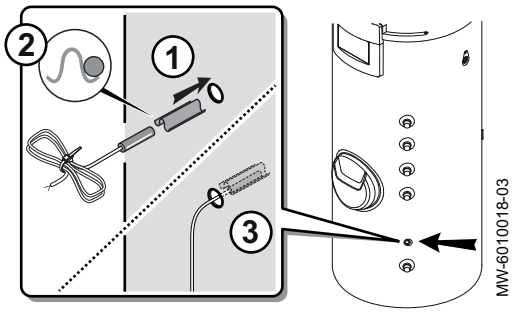
1. Remove the top and intermediate covers.
2. Remove the user interface.
3. Place the cable for the option to be connected alongside the main power supply cable **E** to ensure the cables are routed correctly.
4. Connect the cable to the upper terminal block corresponding to the option to be installed.
   If there are several options to be connected, repeat steps 3 and 4.
5. Use the cable clamps provided in the accessories bag to secure the cables.
6. Refit the entire assembly in the reverse order to disassembly.
   When refitting, ensure that the top cover is correctly sealed and the three screws are fitted.

See also
Accessing the PCB connection terminal block, page 37

6.7.5 Installing the temperature sensor for the hydraulic backup

A temperature sensor (not supplied) must be used if the hydraulic backup is controlled by a boiler or by solar collectors.

Fig.44

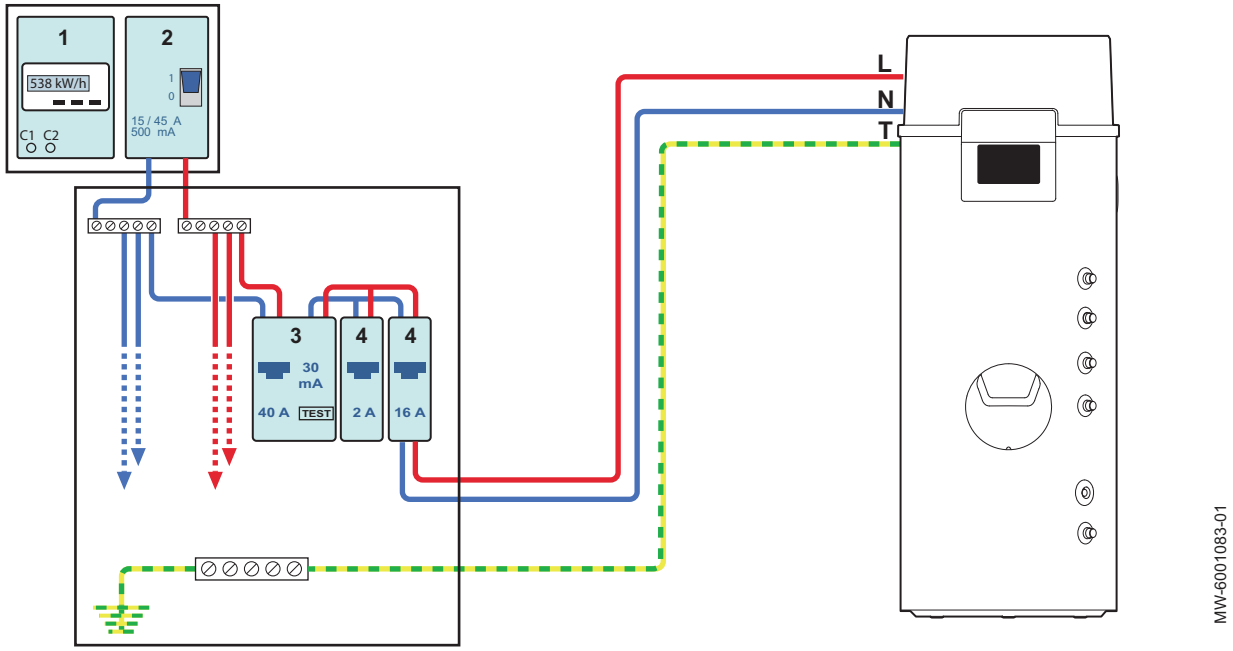


1. Position the sensor in the sensor tube, using the sensor tube separator.
2. Check that the sensor is correctly positioned in the sensor tube.
3. Check the mounting of the sensor tube separator.

6.7.6 Conventional electrical connection

Opt for the timer programming (Programme 1, 2 or 3) to benefit from a domestic hot water temperature adapted to the activities undertaken throughout the day.

Fig.45

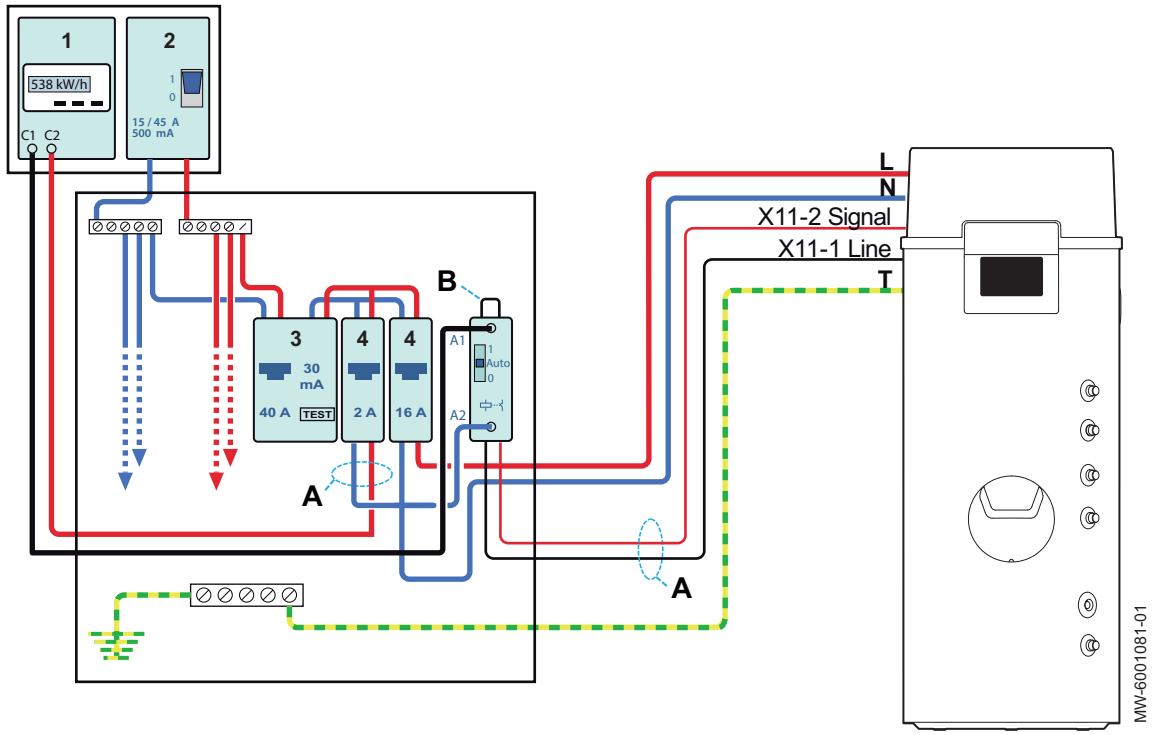


1 Counter
2 Connection circuit breaker
3 AC-type differential switch
4 Circuit breaker

See also
Activating and configuring a timer programme for domestic hot water, page 50

6.7.7 Connecting to the off-peak rate/peak rate contact by shunt

Fig.46



1 Counter
2 Connection circuit breaker
3 AC-type differential switch
4 Circuit breaker

A 230 V voltage cable, 1.5 mm^2
B Dry contact 1.5 mm^2 (Shunt)

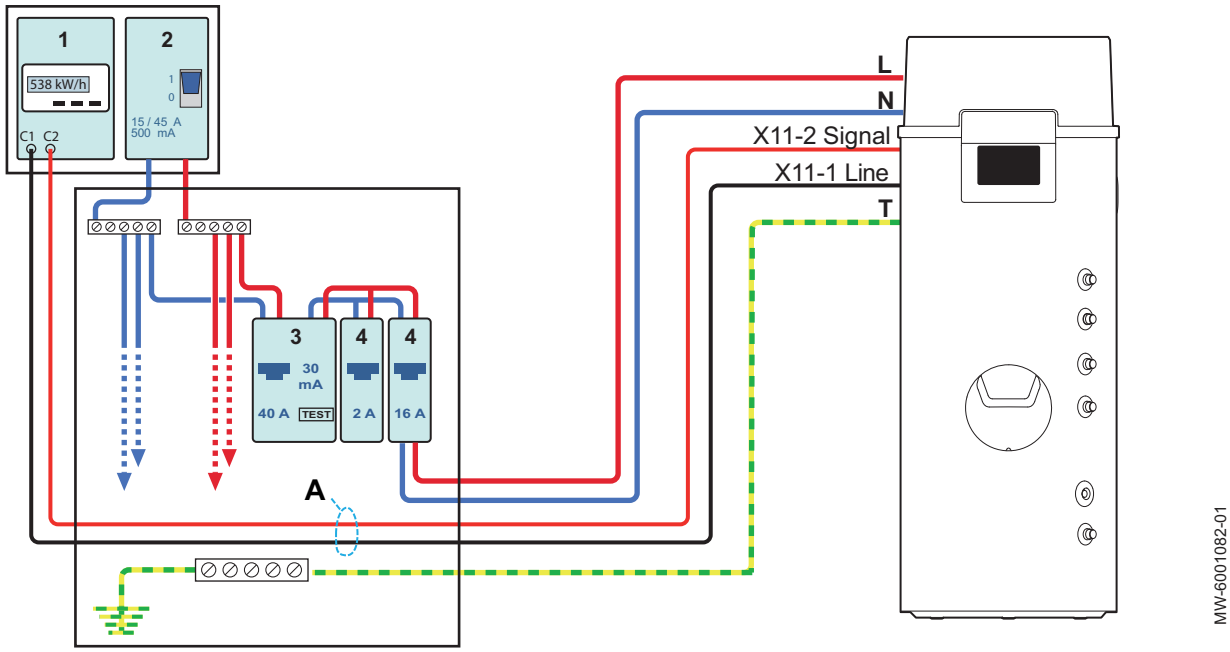
1. Connect to the dry contact on the X11 connector of the heat pump water heater.
2. Set the **AP024** parameter to Yes.

Important
The heat pump water heater and backups are not permitted to operate in peak hours.

See also
Searching for a parameter or a measured value, page 44

6.7.8 Connecting to the off-peak rate/peak rate contact directly on the meter

Fig.47



1 Counter
2 Connection circuit breaker
3 AC-type differential switch
4 Circuit breaker
A 230V voltage cable, 1.5 mm^2

1. Connect to the dry or voltage contact on the X11 connector of the heat pump water heater.
2. Set the **AP024** parameter to Yes.

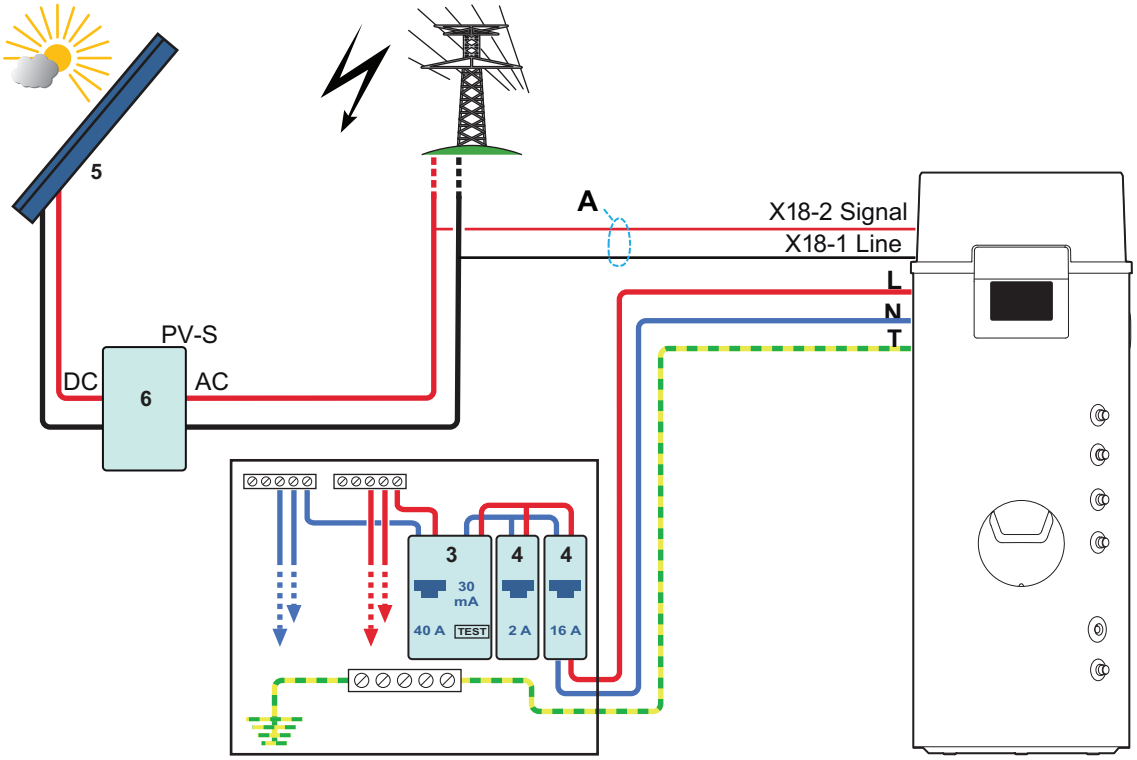
Important
The heat pump water heater and backups are not permitted to operate in peak hours.

See also
Searching for a parameter or a measured value, page 44

6.7.9 Connecting to a photovoltaic signal

Opt for the timer programming (Programme 1, 2 or 3) to benefit from a domestic hot water temperature adapted to the activities undertaken throughout the day.

Fig.48



3 AC-type differential switch
4 Circuit breaker
5 Photovoltaic panel
6 Photovoltaic inverter
A 230 V voltage cable, 1.5 mm^2

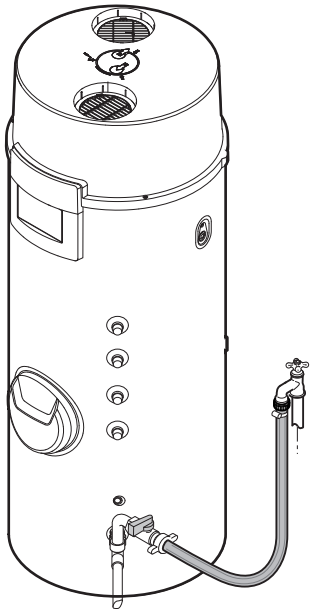
When the photovoltaic signal is active:

1. Set the **DP512** parameter to 62 °C.
2. Set the **AP055** parameter to **PV with HP + BU**.
3. Set the **AP057** parameter depending on the active photovoltaic signal type:
   - **Normally open**.
   - **Normally closed**.

See also
Searching for a parameter or a measured value, page 44
Activating and configuring a timer programme for domestic hot water, page 50

6.8 Filling the heat pump water heater

Fig.49



1. Turn on a hot water tap.
2. Completely fill the water heater via the cold water inlet pipe.
   ⇨ When the water flows out from the hot water tap, the appliance is full.
3. Close the hot water tap.

7 Commissioning

7.1 General

The commissioning procedure for the heat pump is performed:

- the first time it is used,
- after a prolonged shutdown.

Commissioning of the heat pump allows the user to review the various settings and checks to be made to start up the heat pump in complete safety.

7.2 Points to check before commissioning

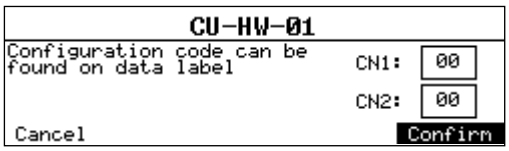
1. Check that the thermodynamic water heater is full of water.
2. Check the tightness of the connections.
3. Check that the safety devices are working correctly.
4. Check the operating mode.

7.3 Commissioning procedure

Caution
Commissioning must be performed only by a qualified professional.

1. Arm the heat pump water heater circuit breaker.
   ⇨ The **Welcome** message is displayed.
2. Select Country and language.
3. Configure Date and time.
4. Configure the Enable daylight save function.

Fig.50

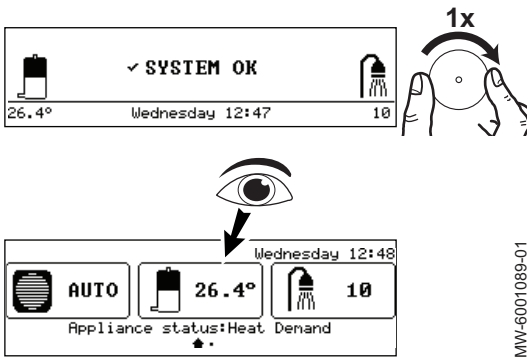


5. Set the **CN1** and **CN2** parameters. The values are available on the data plate on the heat pump water heater. They are also shown in the table below.
   These parameters can also be accessed after commissioning:

Tab.48

Access path
> Installer > Installer code 0012 > Advanced menu > Set configuration code

Fig.51



6. Select **Confirm** to save the settings.
   ⇨ Check the domestic hot water temperature display.

7.3.1 CN1 and CN2 parameters

The **CN1** and **CN2** parameters on the data plate are used to configure the installation based on the type of backup and the capacity of the heat pump water heater.

Tab.49

	CN1	CN2
ELENSIO 200	1	7
ELENSIO 250	3	7
ELENSIO 200 H	2	7
ELENSIO 250 H	4	7

7.4 Checks after commissioning

Tab.50 General checks

Inspection points	Checked?
Leak-tightness of the air duct connections	
Leak-tightness of the refrigerant fittings	
Domestic hot water tank filled with water	
Perform a visual inspection to check for any leaks in the water system or any blockages in the condensate run-off.	

Tab.51 Electrical checks

Inspection points	Checked?
Presence of the recommended circuit breaker	
Tightening the terminal blocks and electrical connections	

7.5 Final instructions for commissioning

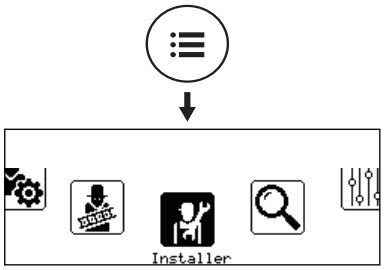
1. Explain the operation of the installation to the user.

2. Hand over all manuals to the user.

8 Settings

8.1 Accessing the Installer level

Fig.52



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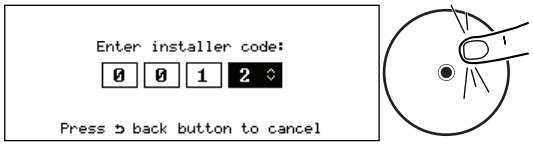
Certain parameters, which may affect the operation of the appliance, are protected by an access code. Only the installer is authorised to modify these parameters.

To access the Installer level:

1. Press the ☰ button until the carousel screen appears.
2. Select **Installer**.

Fig.53



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3. Enter the code **0012**.
   ⇨ The Installer level is now activated. All the functions and parameters are accessible.

If no action is taken for 30 minutes, the system will automatically exit the Installer level.

8.2 Searching for a parameter or a measured value

If you know the code for a parameter or a measured value, using the 🔍 Search function is the easiest way to access it directly.

1. Follow the access path described below.

Access path
☰ > 🔍 Search

2. Enter the Installer access code (**0012**) if you are prompted to do so.
3. Enter the code for the required parameter or measured value using the ⊙ button.
4. Press the ⊙ button to start the search.
   ⇨ The requested parameter or measured value is displayed.

8.3 Saving and restoring settings

8.3.1 Resetting the configuration numbers

If you have replaced the PCB or made an error during setting, you must reset the configuration numbers CN1 and CN2. Thanks to these numbers, the system recognises the type of heat pump water heater and type of backup present on the installation.

To reset the configuration numbers:

1. Press the ☰ button.
2. Select **Installer**.
3. Select **Advanced menu > Set configuration code**.
4. Set the **CN1** and **CN2** parameters. The values are available on the data plate on the heat pump water heater.
5. Select **Confirm** to save the settings.

See also
CN1 and CN2 parameters, page 43

8.3.2 Auto-detecting options and accessories

Use this function after replacing a PCB on the heat pump water heater in order to detect all the devices connected to the L–BUS communication bus.

To detect devices connected to the L–BUS communication bus:

1. Press the ☰ button.
2. Select 🔧 **Installer**.
3. Select **Advanced menu > Auto detect**.
4. Select **Confirm** to carry out the auto-detect.

8.3.3 Restoring the factory settings

To restore the factory settings for the heat pump water heater:

1. Press the ☰ button.
2. Select 🔧 **Installer**.
3. Select **Advanced menu > Reset to factory settings**.
4. Select **Confirm** to revert to the factory settings.

8.4 List of parameters

8.4.1 ☰ > 🔧 Installer > Installation setup > Domestic Hot Water (Domestic Hot Water)

In the Domestic Hot Water sub-menu, you will find all parameters related to the domestic hot water tank.

AP : Appliance Parameters = Appliance parameters

DP : Direct Hot Water Parameters = Domestic hot water tank parameters

Tab.52 Sub-menu > Set Domestic Hot Water temperatures

Parameters	Description of the parameters	Factory setting
DHW comfort setpoint DP070	Comfort temperature setpoint for the Domestic Hot Water tank Can be set from 10 °C to 75 °C	55°C
DHW reduced setpoint DP080	Reduced temperature setpoint from the Domestic Hot Water tank Can be set from 10 °C to 75 °C	10 °C

Tab.53 Sub-menu > General

Parameters	Description of the parameters	Factory setting
DHW tank mode DP456	DHW tank mode • ECO (Only HP) • Comfort (HP+Boiler)	ECO (Only HP)
DHW comfort setpoint DP070	Comfort temperature setpoint for the Domestic Hot Water tank Can be set from 10 °C to 75 °C	55°C
DHW reduced setpoint DP080	Reduced temperature setpoint from the Domestic Hot Water tank Can be set from 10 °C to 75 °C	10°C
Peak input mode AP024	Peak input mode enabled/disabled • No • Yes	No
DHW Tank Volume CP790	Volume of water contained in the tank Can be set from 100 l to 300 l	200 l

Parameters	Description of the parameters	Factory setting
DHW shower volume DP522	DHW shower volume Can be set from 0 l to 200 l	30 l
Hysteresis DHW DP120	Hysteresis temperature relative to the DHW temperature setpoint Can be set from 1 °C to 20 °C	5

Tab.54 Sub-menu > Anti legionella

Parameters	Description of the parameters	Factory setting
Legionella calor. DP004	Legionella mode protection calorifier • Disabled • Weekly • Daily	Disabled
DHW AntiLeg Setpoint DP160	Setpoint for DHW anti legionella Can be set from 60 °C to 75 °C	65°C
Start time anti-leg DP440	Starting time for the DHW anti-legionella program Can be set from 00h00 to 23h50	03h00

Tab.55 Sub-menu > Advanced

Parameters	Description of the parameters	Factory setting
PV input config AP055	PV input contact configuration • Off • PV with HP • PV with HP + BU • PV with BU	Off
PV contact logic AP057	Logic level configuration of PV input contact • Normally open • Normally closed	Normally closed
DHW temp PV input DP512	DHW tank temperature setpoint for PV input Can be set from 25 °C to 75 °C	55°C

8.4.2 > Installer > Installation setup > Air HP for TWH

In the Air HP for TWH sub-menu, you will find all the parameters related to the heat pump.

AP : Appliance Parameters = Appliance parameters

HP : Heat pump Parameters = Heat pump parameters

Tab.56 Sub-menu > General

Parameters	Description of the parameters	Factory setting
DHW function on AP017	Enable domestic hot water heat demand processing • Off • On	On
Backup type HP029	Type of backup used in the heat pump • No Backup • 1 Electrical Stage • Boiler Backup	1 Electrical Stage
HP air ambient/duct HP028	HP installation configuration with ambient air or with air supply duct • Ambient air • Air supply duct	Ambient air

Tab.57 Sub-menu > Service settings

Parameters	Description of the parameters	Factory setting
Service notification AP010	Select the type of service notification • None • Custom notification	None

Tab.58 Sub-menu > Advanced

Parameters	Description of the parameters	Factory setting
Time before BU start HP153	Time delay before backup start Can be set from 0 Hours to 10 Hours	5 Hours

8.4.3 > Installer > Counters

You can display several values concerning the current status of the heat pump water heater, such as the number of operating hours.

AC : Appliance Counters = Heat pump water heater counters

DC : Direct Hot Water Counters = Counters dedicated to domestic hot water heating

HC : Heat pump Counters = Heat pump counters

Tab.59

Parameter	Description
Total EnergyConsumed	Total energy consumed
DHW starts DC004	Number of starts for domestic hot water
DHW run hours DC005	Total number of hours that the appliance has been producing energy for domestical hot water
Backup 1 hours AC028	Number of operating hours of the first electrical backup stage
Backup 1 starts AC030	Number of starts of the first electrical backup stage
Defrosting time HC002	Defrosting time
Defrosting cycles HC003	Total number of defrosting cycles.
Service run hours AC002	Number of hours that the appliance has been producing energy since last service
Hours since service AC003	Number of hours since the previous servicing of the appliance
Starts since service AC004	Number of heat generator starts since the previous servicing.

8.4.4 > Installer > Signals

You can display several values concerning the current status of the heat pump water heater.

AM : Appliance Measured = Measured values for heat pump water heater

DM : Direct Hot Water Measured = Measured values for the domestic hot water tank

HM : Heat pump Measured = Measured values for the heat pump

Tab.60 Sub-menu > Domestic Hot Water (Domestic Hot Water)

Parameter	Description
DHW tank mode DM084	DHW primary tank operating mode
DHW activity DM019	Domestic Hot Water current activity
Auto/Derog DHWstatus DM009	Automatic/derogation status of Domestic Hot Water mode
DHW tank temp bottom DM001	Domestic Hot Water tank temperature (bottom sensor)
DHW tank temp top DM006	Domestic Hot Water tank temperature (top sensor)
DHW setpoint DM029	Domestic Hot Water temperature setpoint
Peak input state AM032	Peak input contact state
Number of showers DM094	Number of showers at 40°C
DHW tank filling DM104	DHW primary tank filling level

Tab.61 Sub-menu > Air HP for TWH

Parameter	Description
HP flow T. setpoint HM003	Heat pump flow temperature setpoint
Compressor HM008	Compressor operation
Heat pump defrost HM009	Heat pump defrost function in progress
Backup1 HM012	First stage of backup operation
High Pressure Switch HM025	Status of the high pressure switch of the thermodynamic circuit.
Start compressor HM030	Request to start compressor
Backup demand HM052	Status if the backups are in starting request or not
T evaporation HM055	Evaporation temperature
T ambient air HM071	Ambient air temperature
T setpoint backup HM072	Setpoint temperature backup

8.5 Operating mode and status of the backups

The behaviour of the hydraulic and/or electrical backup for domestic hot water production depends on the configuration of the **DP456** DHW tank mode parameter.

Tab.62 Behaviour of the electrical and/or hydraulic backup depending on the equipment

Parameter	Operating description	Adjustment required
DHW tank mode DP456	If the parameter is set to ECO (Only HP) (economy), the system prioritises energy saving. Only the heat pump is used for domestic hot water production (without backup).	ECO (Only HP)
	If the parameter is set to Comfort (HP+Boiler), the system prioritises comfort and accelerates domestic hot water production by simultaneously using the heat pump and the electrical and/or hydraulic backup (depending on the equipment).	Comfort (HP+Boiler)

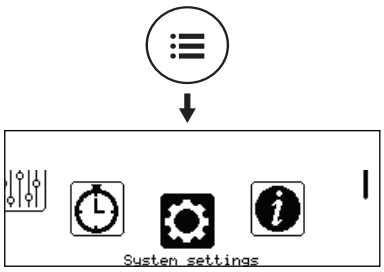
See also
Searching for a parameter or a measured value, page 44

9 Operation

9.1 Regional and ergonomic parameters

You can personalise your appliance by modifying the parameters linked to your geographic location and the ergonomics of the user interface.

Fig.54



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1. Press the ☰ button.
2. Select ⚙ **System settings**.
3. Perform the required settings.

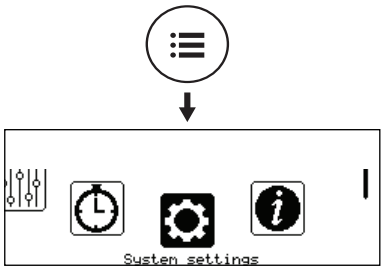
Tab.63

Menu	Setting
Country and language	Select the country and language
Date and time	Set the date and time, then the automatic switch between summer and winter time
Installer details	Save the name and phone number of the installer
Display settings	Set the display settings: • Set the display contrast • Activate/deactivate the child lock

9.2 Activate/deactivate the child lock

The child lock prevents children from accidentally altering the settings.

Fig.55



MW-6000876-01

1. Press the ☰ button.
2. Select **System settings**.
3. Select **Display settings**.
4. Modify the value of the **Child lock** parameter:

Yes	Child lock activated
No	Child lock deactivated

When the child lock is activated, you can temporarily deactivate the display by briefly pressing the ☰ and ⊙ buttons simultaneously.

9.3 Domestic hot water temperature

9.3.1 Selecting the operating mode

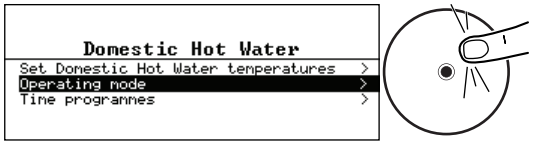
For the production of domestic hot water, you can choose between five operating modes. We recommend the **Scheduling** mode which enables domestic hot water production periods to be programmed according to your needs and to optimise your energy consumption.

Fig.56

MW-6001108-01

1. From the home screen, access the screen for the relevant zone.
2. Press the ⊙ button.

Fig.57



MW-6000884-1

3. Select **Operating mode**.
4. Select the desired operating mode:

Tab.64

Operating mode	Description
Scheduling	The domestic hot water is produced according to the defined timer programme number
Manual	The domestic hot water temperature remains at the comfort temperature permanently
Temporary temperature change	The production of domestic hot water is forced to the comfort temperature until the defined time
Holiday	The domestic hot water temperature is reduced during an absence period to save energy.
Off	The equipment and the installation are shut down but remain protected during the winter, in frost protection mode

9.3.2 Activating and configuring a timer programme for domestic hot water

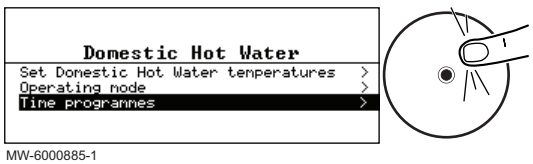
A timer programme can be used to vary the domestic hot water temperature depending on activities during the day. This can be programmed for each day of the week.

Fig.58

MW-6001108-01

1. From the home screen, access the screen for the Domestic Hot Water zone.
2. Press the ⊙ button.

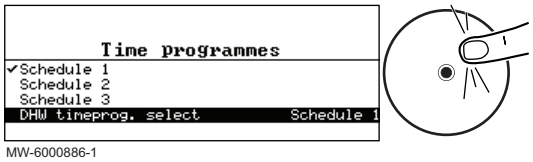
Fig.59



MW-6000885-1

3. Select **Time programmes**.
   ⇨ Three timer programmes are available. The programme that is currently active is marked with a tick.

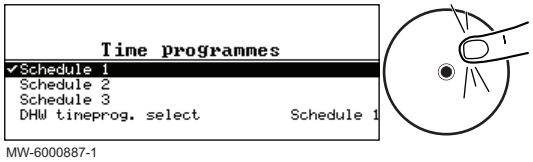
Fig.60



MW-6000886-1

4. To activate another timer programme, select **DHW timeprog. select**.

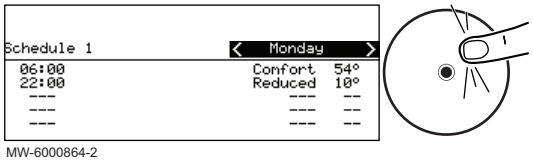
Fig.61



MW-6000887-1

5. To change the timer programming, select the programme you wish to change.
   ⇨ The programmed activities for Monday are displayed.
   The last activity of the day remains active until the first activity of the following day.

Fig.62



MW-6000864-2

6. Select the day to be modified.
7. Carry out the following actions according to your needs:

Tab.65

Action	Procedure
Modify the timer settings for programmed activities	• Select a programmed activity. • Press the ⊙ button. • Change the start time and/or the associated activity. • Select Confirm to save the modification.
Add a new time range	• Move the cursor to an empty line. • Press the ⊙ button. • Select the start time for the activity. • Select the activity required at this time. • Select Confirm to save the new time range.
Deleting a programmed activity	• Select the activity you want to delete. • Press the ⊙ button. • Select Delete to delete the activity.
Copying programmed daily activities to other days	• Position the cursor on the Copy to other days line which appears at the end of the empty lines. • Press the ⊙ button. • Check the days of the week which are to follow the same timer programming as the current day. • Select Confirm to apply the current timer programme to all of the selected days.

9.3.3 Forcing domestic hot water production (Temporary temperature change)

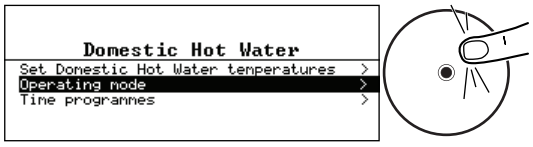
Regardless of the selected operating mode, you can force domestic hot water production to the comfort temperature until the required time.

Fig.63

MW-6001108-01

1. From the home screen, access the screen for the Domestic Hot Water zone.
2. Press the ⊙ button.

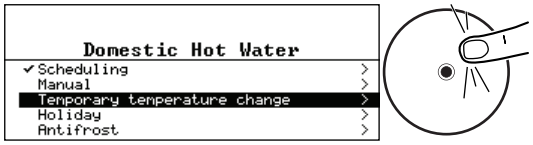
Fig.64



MW-6000884-1

3. Select **Operating mode**.

Fig.65



MW-6000888-1

4. Select **Temporary temperature change**.
5. Indicate the time when the override will end.
6. Select **Confirm** to confirm the override.

To cancel the override, select another operating mode.

9.3.4 Modifying the domestic hot water set point temperatures

The production of domestic hot water operates with two set point temperature parameters:

- **DHW comfort setpoint**: used in **Scheduling**, **Manual** and **Temporary temperature change** modes
- **DHW reduced setpoint**: used in **Scheduling**, **Holiday** and **Frost Protection** modes.

You can change these set point temperature settings to adapt them to your needs.

Fig.66

MW-6001108-01

1. From the home screen, access the screen for the Domestic Hot Water zone.
2. Press the ⊙ button.

Fig.67

MW-6000889-1

3. Select **Set Domestic Hot Water temperatures**.
4. Change the required setpoint temperature:
   - **DHW comfort setpoint**
   - **DHW reduced setpoint**

9.4 Shutting off domestic hot water production

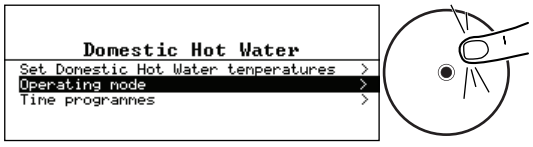
If you wish, you can shut off the domestic hot water production whilst continuing to use the frost protection function.

Fig.68

MW-6001108-01

1. From the home screen, press the ⊙ button.

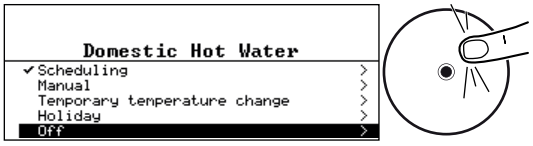
Fig.69



MW-6000884-1

2. Select **Operating mode**.

Fig.70



MW-6001109-01

3. Select **Off**.
4. Select **Confirm** to confirm the modification.

Important
Frost protection mode remains active.

9.5 Periods of absence or going on holiday

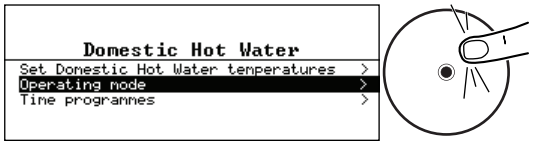
If you will be absent for several weeks, you can reduce the domestic hot water temperature in order to save energy. To do so, activate the **System holiday mode** operating mode.

Fig.71

MW-6001108-01

1. From the home screen, press the ⊙ button.

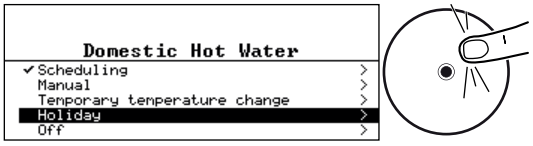
Fig.72



MW-6000884-1

2. Select **Operating mode**.

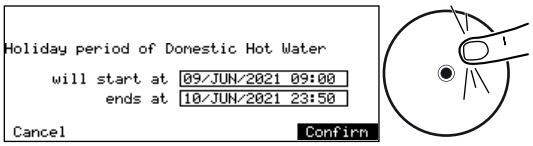
Fig.73



MW-6001110-01

3. Select **Holiday**.

Fig.74



MW-6001111-01

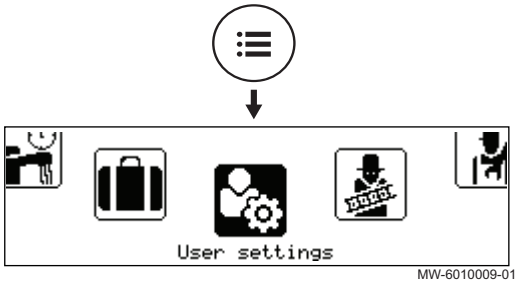
4. Set the start and end date and time for your holiday period.
5. Select **Confirm** to confirm the setting.

Important
The setpoint temperature during the absence period is set automatically to the **DP080** DHW reduced setpoint parameter.

9.6 Monitoring the energy consumption

If your installation is equipped with an energy meter, you can monitor your energy consumption.

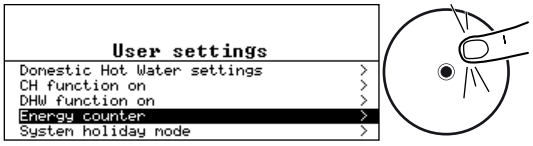
Fig.75



MW-6010009-01

1. Press the ☰ button.
2. Select **User settings**.

Fig.76



3. Select **Energy counter**.
   ⇨ The energy consumed since the last energy consumption meter reset is displayed.

9.7 Configuring the anti-legionella function

The anti-legionella function is used to bring the water in the heat pump water heater to a temperature above the usual setpoint; this is done once a week, to remove any bacteria (legionella) which may be forming. This function is disabled upon delivery.

To activate the anti-legionella function:

1. Follow the access path described below.

Access path
> **Installer** > **Installation setup** > **Domestic Hot Water** (Domestic Hot Water) > **Anti legionella**

2. Set the **DP004** parameter to **Weekly**.
3. Set the **DP160** parameter to **65°C**.
4. Set the start time for the anti-legionella function, **DP440** parameter.

See also
> Installer > Installation setup > Domestic Hot Water (Domestic Hot Water), page 45

9.8 Shutting down the heat pump water heater

The heat pump water heater must be shut down in certain situations, for example during any intervention on the equipment. In other situations, such as an extended absence period, we recommend using the **Holiday** operating mode to protect the installation from frost.

To shut down the heat pump water heater:

1. Switch off the heat pump water heater circuit breaker on the electric panel.

9.9 Frost protection

During extended periods of absence (holidays), program the corresponding number of days.

The temperature of the water contained in the tank is maintained at 10°C.

10 Maintenance

10.1 Precautions to be taken during maintenance operations

An annual inspection with a leak-tightness check in accordance with prevailing standards is obligatory.

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 user optimum comfort over time.

Danger of electric shock
Before any work, switch off the power supply to the heat pump water heater and the hydraulic backup if present.

Important
- Maintenance must only be performed in accordance with the manufacturer's recommendations; it must be performed by a certified professional in accordance with prevailing statutory texts and codes of practice.
- Replace any damaged component.

10.2 List of inspection and maintenance operations

Tab.66 Checking the operation of the installation

Check	Operations to be carried out
Checking the operation of the heat pump water heater	
User interface	Perform a visual inspection of the interface. Check the condition and operation of the buttons.
Fault history	Browse the history, and note the faults requiring a check or an intervention. After the intervention, clear the history.
Operating time and number of start-ups for back-ups	see the Counters chapter
Operating time and number of start-ups for the compressor	see the Counters chapter

Tab.67 Tightness tests

Check	Operations to be carried out
Leak-tightness of the top cover	Check that the cover is positioned correctly (in contact with the sealing gasket) and the 3 retaining screws are tightened
Leak-tightness of the domestic hot water circuit	Inspection
Leak-tightness of the refrigerant circuit	Use a sniffer leak detector

Tab.68 Inspecting the safety devices

Check	Operations to be carried out
Domestic hot water circuit safety pressure relief valve	Actuate the safety pressure relief valve to check that it is operating correctly

Tab.69 Other inspection and maintenance operations

Check	Operations to be carried out
Casing	Clean the outside of the appliance using a damp cloth and a mild detergent
Electrical connections and tighten the electrical terminals	Replace any faulty parts and cables
Screws and nuts	Check all screws and nuts (cover, support, etc.)
Insulation	Replace the parts with damaged insulation (air intake on the top cover and expansion valve bulb)
Domestic hot water flow rate	Check the domestic hot water flow rate
Hydraulic pressure	Recommended hydraulic pressure: 1.5 bar to 2 bar **Important** When the circulating pump is switched on, there is a pressure measurement difference between the mechanical pressure gauge and the information given by the user interface which may be around 0.5 to 0.7 bar.
Evaporator	Clean the heat pump evaporator

Check	Operations to be carried out
Checking and cleaning the fan	Visually inspect the external appearance and check that the dust does not stick
Condensate collector box (underneath the evaporator)	Check that the dust and dirt do not prevent the drain water from flowing. If needed, pour water in front of the evaporator to remove any impurities. Use a bottle brush to unplug the 2 orifices where the condensate drain hose is connected
Condensate drain hose	Check the hose is clean and connected correctly

10.3 Service notification

You can set up the system to display a service notification after a defined number of service hours. This will remind you that it is time to service the appliance. After servicing, you can clear the notification.

10.3.1 Configuring the service notifications

1. Follow the access path described below.

Access path
> Installer > View service reminder

2. Select the desired type of notification:

Type of notification:	Description
None	No service notification
Custom notification	The service notification is displayed after the number of heat pump operating hours.

3. If Custom notification is chosen, select **Service hours mains** (AP011) to set the operating hours before a service notification is issued.

10.3.2 Clearing the service notification

1. Follow the access path described below.

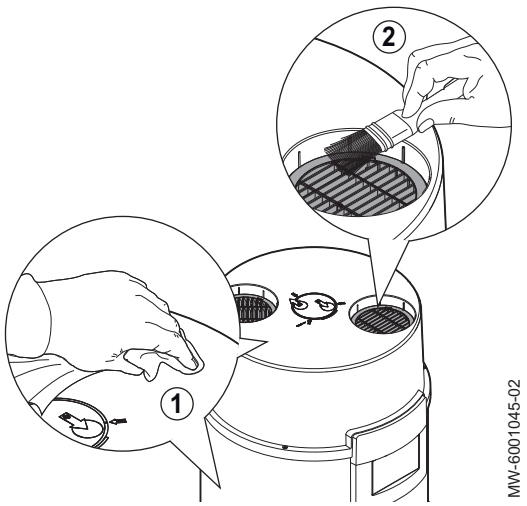
Access path
> Installer > View service reminder

2. Select **Reset service reminder** to clear the service notification.

10.4 Standard inspection and maintenance operations

10.4.1 Cleaning the casing

Fig.77



1. Clean the outside of the appliance with a damp cloth and soapy water.
2. Clean the ventilation grid with a long-haired brush.

10.4.2 Checking the impressed current anode

No maintenance required on the impressed current anode.

If there is a fault with the anode, a lockout code signals a major anomaly on the heat pump water heater (control panel flashes red).

Important
The user interface for the heat pump water heater must remain switched on to ensure that the impressed current anode can operate. Failure to comply with this instruction may cause damage to the tank and void its warranty.

See also
Lockout codes, page 63

10.4.3 Operate the safety valve or unit

Operate the safety valve or unit **at least once a month** to ensure it works properly and take precautions against possible pressure surges which would damage the domestic hot water tank.

Caution
Failure to follow this maintenance requirement may cause damage to the domestic hot water tank and void its warranty.

10.4.4 Cleaning the condensate drain hose

Dust causing an obstruction may prevent the condensates from flowing correctly or may even risk excessive accumulation of water.

1. Disconnect the drain hose from the heat pump water heater.
2. Visually inspect the hose to ensure it is clean.
3. Run water through the hose and check it flows out correctly.
4. Connect the discharge hose to the heat pump water heater.

10.5 Specific maintenance operations

10.5.1 Cleaning the evaporator

Danger
Risk of injury on the sharp-edged fins.

Caution
Do not distort or damage the fins.

1. Clean the evaporator at regular intervals using a soft-haired brush.
2. If the fins are bent, straighten them carefully using an adapted comb.

10.5.2 Cleaning the fan

Clogging by dust and other particles impairs the heat pump's performance.

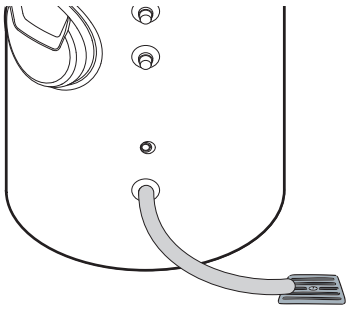
Check the cleanliness of the fan once a year.

1. Power off the thermodynamic water heater before any interventions on the appliance. The fan will continue to run for approximately one minute, due to inertia.
2. Remove the top and intermediate covers.
3. Visually check the swing and balance of the fan.
4. Clean the fan blades using a soft bristled brush or a compressed air nozzle.
5. Refit in the reverse order to disassembly.

See also
Accessing the PCB connection terminal block, page 37

10.5.3 Draining the heat pump water heater

Fig.78

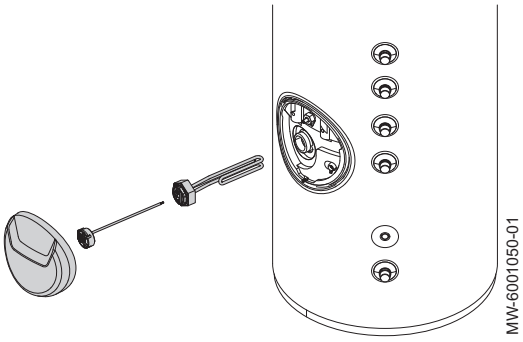


Important
The majority of maintenance operations require the heat pump water heater to be drained. Schedule these operations at the same time.

1. Switch off the power supply.
2. Shut off the domestic cold water inlet.
3. If necessary, connect a hose to the domestic cold water inlet close to the run-off.
4. Open the isolation valve and allow the heat pump water heater to drain over the run-off.
5. Open a hot water tap to completely drain the installation.

10.5.4 Descaling the body of the heating element

Fig.79



In hard water regions, you are recommended to ask the installer to descale the water heater exchanger once a year in order to maintain its performance levels.

The heat pump water heater should be descaled when it is drained.

1. Switch off the power supply.
2. Drain the water heater.
3. Remove the front cover from the electric backup compartment.
4. Undo the 2 supply wires from the electric backup.
5. Remove the safety thermostat.
6. Disconnect the lug for the earth wire.
7. Remove the electric backup with its dielectric nut.
8. Remove the scale deposited as sludge or flakes on the body of the heating element.
9. Refit all the parts in reverse order.

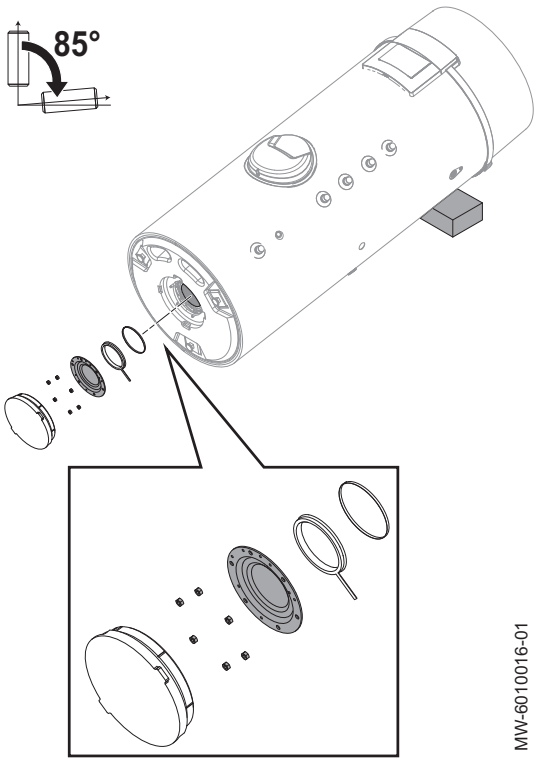
Important
If replacing the heating element, it is essential to replace the silicone gasket on the dielectric nut to guarantee leak-tightness.

10. After each intervention, ensure that the installation is watertight.

Important
The dielectric union is tightened to 35 Nm. Use a torque wrench.

10.5.5 Descaling the heat pump water heater body and exchanger

Fig.80



Important
Have a new lip gasket and a new retainer ring on hand for the inspection hatch.

1. Disconnect the power supply.
2. Drain the water heater.
3. Set the appliance to the repair position.
4. Remove limescale deposits from the bottom of the tank.
   Leave the limescale on the walls of the tank: it provides effective protection against corrosion and enhances the water heater's insulation.
5. Remove limescale deposits from the exchanger to guarantee its performance.
6. Remount the unit.

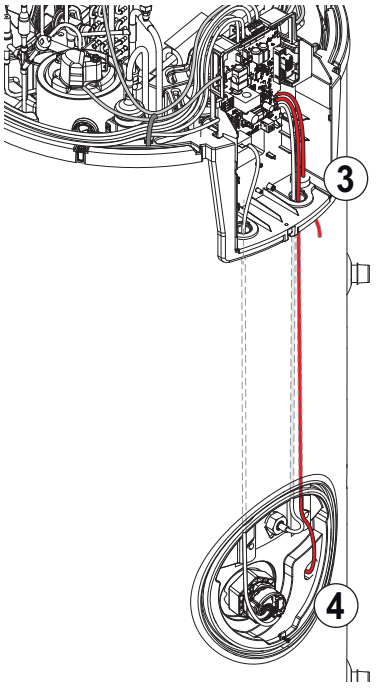
Important
Each time it is opened, the lip gasket + retainer ring unit must be replaced to guarantee a tight seal. Place the positioning lug on the gasket towards the outside of the water heater.

7. After reassembly, check the tightness of the lower flange.

Important
The screws for the inspection hatch must be tightened to 6 N·m +1/-0. Use a torque wrench.

10.5.6 Replacing the domestic hot water temperature sensors

Fig.81



1. Remove the top, intermediate and front covers.
2. Remove the control panel.
3. Remove and replace the top sensor which is inserted into the steel sensor tube to the right of the control panel.
4. Remove and replace the bottom sensor which is inserted into the sensor tube in the electrical backup compartment.
   The cable passes inside the right-hand smooth rigid insulation pipe.
5. Refit the entire assembly in the reverse order to disassembly.
   When refitting, ensure that the top cover is correctly sealed and the three screws are fitted.

See also
Accessing the PCB connection terminal block, page 37

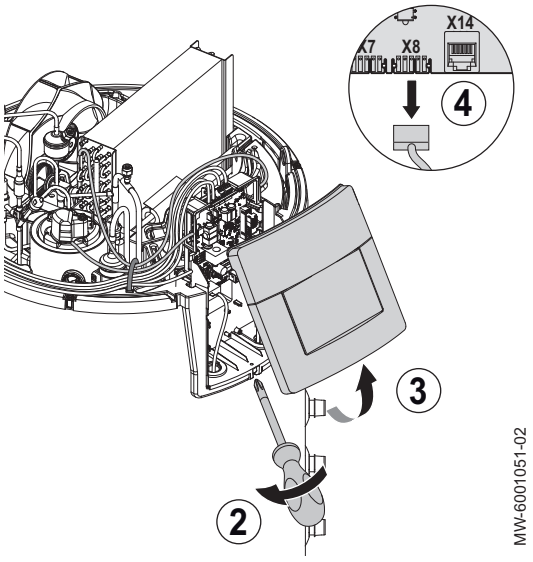
10.5.7 Checking the operation of the heat pump water heater

You can force the heat pump and the backups to check that they are operating correctly.

1. Press the ☰ button.
2. Select **Installer**.
3. Select **Commissioning** > **Test mode** > **Func. test status**.
4. Select **Medium power** and confirm.

10.5.8 Replacing the battery in the control panel

Fig.82



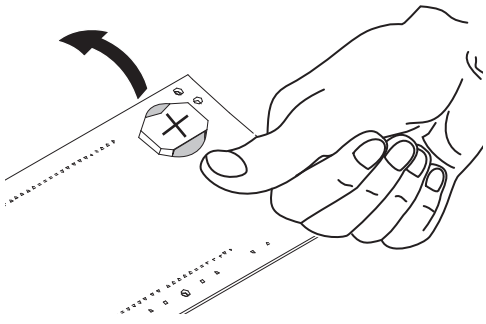
If the heat pump water heater is switched off, the control panel battery takes over to keep the correct time.

The battery must be replaced when the time is no longer saved.

To replace the battery, access to the inside of the control panel is required:

1. Remove the top and intermediate covers.
2. Remove the screw underneath the control panel.
3. Tilt the control panel upwards to release it from its housing.
4. Disconnect the X8 connector.

Fig.83



5. Remove the battery located in back plate of the control panel by pushing it gently forwards.
6. Insert a new battery.

Important
Battery type:
- CR2032, 3 V
- Do not use rechargeable batteries
- Do not discard used batteries in the dustbin. Take them to an appropriate collection place.

7. Refit the entire assembly in the reverse order to disassembly.

See also
Accessing the PCB connection terminal block, page 37

10.5.9 Refrigerant unit

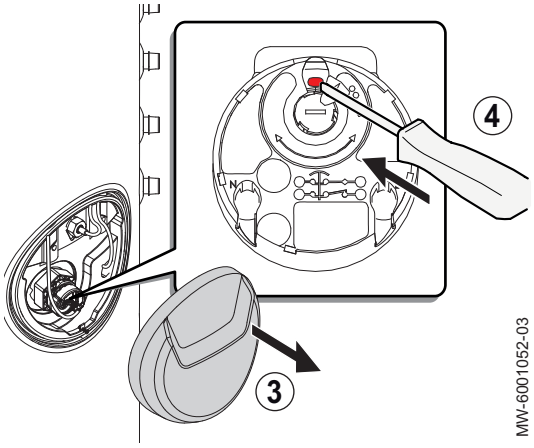
Maintenance is not authorised on the heat pump water heater refrigerant unit.

In the event of a fault, replace the complete refrigerant unit excluding the condenser.

11 Troubleshooting

11.1 Resetting the safety thermostat

Fig.84



A thermal safety cut-out is integrated into the safety thermostat. It stops water from being reheated should accidental overheating occur. Remove the cause of the overheating and then reset the safety thermostat.

Danger
Before any work, switch off the mains power supply to the heat pump water heater.

If you suspect that the safety thermostat was triggered:

1. Cut off the power supply by lowering the circuit breakers on the electric panel.
2. Locate and correct the cause of power cut before resetting the safety thermostat.
3. Remove the front cover.
4. Push in the reset button located on the thermostat.
5. Refit the front cover.
6. Reconnect the power supply.

11.2 Resolving operating errors

When your appliance malfunctions, the display switches from its initial colour to red and may flash. A message is displayed with an error code on the home screen.

This error code is important for the correct and rapid diagnosis of the type of malfunction and for any technical assistance that may be needed.

Tab.70

Type of code	Code format	Colour of the display
Warning	Axx.xx	Continuous red
Blockage	Hxx.xx	Continuous red
Lockout	Exx.xx	Flashing red

If an error occurs:

1. Make a note of the code displayed on the screen.
2. Remedy the problem described by the error code or contact the installer.
3. Switch the heat pump off and back on to check that the cause of the error has been removed.
4. Contact the installer if the code is displayed again.

11.2.1 Warning codes

A warning code signals that the optimal operating conditions are not fulfilled. The system continues to operate safely, but there is a risk of shutdown if the situation continues to deteriorate.

If the situation improves, the warning code may disappear spontaneously.

Tab.71

Code	Message	Description
A00.16	DHW sensor Open	Domestic Hot Water tank temperature sensor is either removed or measures a temperature below range • Check the wiring between the PCB and the sensor • Check that the sensor has been correctly fitted • Check the Ohmic value of the sensor • Replace the sensor if necessary
A00.17	DHW sensor Closed	Domestic Hot Water tank temperature sensor is either shorted or measures a temperature above range • Check the wiring between the PCB and the sensor • Check that the sensor has been correctly fitted • Check the Ohmic value of the sensor • Replace the sensor if necessary
A00.57	T DHW Top Open	Domestic Hot Water top temperature sensor is either removed or measures a temperature below range • Check the wiring between the PCB and the sensor • Check that the sensor has been correctly fitted • Check the Ohmic value of the sensor • Replace the sensor if necessary
A00.58	T DHW Top Closed	Domestic Hot Water top temperature sensor is either shorted or measures a temperature above range • Check the wiring between the PCB and the sensor • Check that the sensor has been correctly fitted • Check the Ohmic value of the sensor • Replace the sensor if necessary

11.2.2 Blocking codes

A blocking code indicates a fault on the heat pump water heater.

Several possibilities:

- The system automatically attempts to correct the error.
- The heat pump water heater is shut down but automatically switches on again when the error disappears.
- A heat pump error is still present: production of hot water is managed by the backup.
- A DHW sensor error is still present: production of hot water is managed by a single sensor.

Tab.72

Code	Message	Description
H06.44	Curative blocking (1)	Curative blocking after too many detected curative cycles in a short time and Defrost blocking after too many detected defrost cycles in a short time Malfunction on the defrosting function • Check that the sensor values are consistent and that the air and evaporator sensors are correctly positioned • Outdoor air installation (ducted): - Check that the evaporator is not clogged - Check the air flow • Ambient air installation (non-ducted): - Check that the evaporator is not clogged - Check that there is no risk of cold air recirculation at the air intake - Perform an inspection to detect any leaks
H06.45	Defrost blocking (1)	

Code	Message	Description
H06.51	Compressor blocking	Compressor blocking because thermal protection is open or high pressure switch is open • Check the operation of the hot gas valve • Check the compressor wiring (condition of the connections on the capacitor and compressor terminal blocks) • Check the pressure switch connection • Check that the capacitor is not deformed
H06.52	Pump down	Leakage (vacuum draw) detected when the compressor was started • Check the position of the evaporator and air sensors • Check that the fan is operating • Check that the fan is correctly mounted (the fan must not rub against the PPE) • Perform an inspection to detect any leaks and check the gas charge
H06.53	Tambiant air is below allowed minimum	The ambient air temperature is below the allowed minimum The room temperature is below -7°C. The compressor is outside of its operating range: • Modify the parameters according to the instructions in the manual • The compressor will ensure production of domestic hot water once the room temperature is above -7°C
H06.54	Tambiant air is above allowed maximum	The ambient air temperature is above the allowed maximum The room temperature is above 42°C. The compressor is outside of its operating range: • Modify the parameters according to the instructions in the manual • The compressor will ensure production of domestic hot water once the room temperature is below 42°C
H06.55	DHW tank temp above allowed maximum	The DHW tank temperature is above the allowed maximum The temperature in the tank is above the authorised limit. The error will be cleared when the temperature drops back below the authorised limit. Check that the backup heating temperature does not exceed the maximum temperature of the heat pump water heater
(1) after three attempts, the heat pump water heater is locked out		

11.2.3 Lockout codes

A lockout code signals a major anomaly affecting the heat pump water heater: the system is shut down as the safety conditions are not fulfilled.

Two operations are necessary for the system to resume normal operation:

1. Remove the causes of the anomaly.
2. Acknowledge the error message manually on the control panel.

Tab.73

Code	Message	Description
E00.59	DHW top sensor expected but no detect	Domestic Hot Water top temperature sensor was expected but not detected The DHW temperature sensors are faulty or missing • Check the wiring between the PCB and the sensors • Check that the sensors are correctly fitted • Check the ohmic values of the sensors • Replace the sensors if necessary
E00.64	Source outlet sensor removed	Source outlet temperature sensor is either removed or measures a temperature below range The evaporator temperature sensor is missing or a temperature below the range has been recorded • Check the wiring between the PCB and the sensor • Check that the sensor has been correctly fitted • Check the Ohmic value of the sensor • Replace the sensor if necessary

Code	Message	Description
E00.65	Source out sensor shorted or above range	Source outlet temperature sensor is either shorted or measures a temperature above range The evaporator temperature sensor has a short circuit or a temperature above the range has been detected • Check the wiring between the PCB and the sensor • Check that the sensor has been correctly fitted • Check the Ohmic value of the sensor • Replace the sensor if necessary
E00.103	Tambient air sensor closed	Ambient air temperature sensor is either shorted or measures a temperature above range The ambient air temperature sensor has a short circuit or a temperature above the range has been detected • Check the wiring between the PCB and the sensor • Check that the sensor has been correctly fitted • Check the Ohmic value of the sensor • Replace the sensor if necessary
E00.104	Tambient air sensor open	Ambient air temperature sensor is either removed or measure a temperature below range The ambient air temperature sensor is missing or a temperature below the range has been recorded • Check the wiring between the PCB and the sensor • Check that the sensor has been correctly fitted • Check the Ohmic value of the sensor • Replace the sensor if necessary
E02.66	DHW corrosion protection not connected	The anti corrosion protection (TAS) of the Domestic Hot Water tank is not connected • Check that the connection cable between the PCB and the anode is not severed • Check that the anode is not broken • Check that the water heater tank is filled with water
E02.67	DAS corrosion protection short circuit	The anti corrosion protection (TAS) of the Domestic Hot Water tank is shortend • Check that the connection cable between the PCB and the anode has not short-circuited • Check that the anode is not short-circuited
E06.48	Compressor locking	Compressor locking after too many detected compressor blockings. • Check the operation of the hot gas valve • Check the compressor wiring (condition of the connections on the capacitor and compressor terminal blocks) • Check the pressure switch connection • Check that the capacitor is not deformed
E06.50	Defrost locking	Defrost locking after too many detected defrost blockings Malfunction on the defrosting function • Check that the sensor values are consistent and that the air and evaporator sensors are correctly positioned • Check that there is no risk of cold air recirculation at the air intake • Perform an inspection to detect any leaks • Outdoor air installation (ducted): - check that the evaporator is not clogged - check the air flow • Ambient air installation (non-ducted): check that the evaporator is not clogged
E06.56	pump down locking	Pump down locking after too many detected pump downs have been detected. • Check the position of the evaporator and air sensors • Check that the fan is operating • Check that the fan is correctly mounted (the fan must not rub against the PPE) • Perform an inspection to detect any leaks and check the gas charge

11.3 Displaying and clearing the error memory

The error memory stores the 32 most recent errors. You can check the details of each error and then clear it from the error memory.

To display and clear the error memory:

1. Follow the access path described below to access this information.

Access path
☰ > Installer > Error history

⇨ The list of the 32 most recent errors is displayed with the error code, a short description and the date.

2. Select the error for which you want to view the details and press the ⊙ button.
3. To clear the error memory, press and hold the ⊙ button.

11.4 Accessing information on the hardware and software versions

Information about the hardware and software versions of the different appliance components is stored in the user interface.

1. Press the ☰ button.
2. Select the **Version information** icon.
3. Select the component for which you would like to see the version information.

Tab.74

Component	Description
CU–HW-01	Main PCB for the heat pump
MK2.1	User interface

12 Decommissioning and disposal

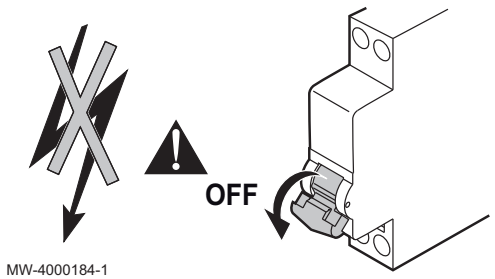
12.1 Decommissioning procedure

To decommission the thermodynamic water heater temporarily or permanently:

1. Cut the mains power supply to the thermodynamic water heater.
2. Cut the power supply if photovoltaic panels are present.
3. Shut off the supply to the boiler or solar panels if a hydraulic backup is present.
4. Drain the thermodynamic water heater.

See also
Draining the heat pump water heater, page 58

Fig.85



MW-4000184-1

12.2 Disposal and recycling

Fig.86

MW-3000179-03

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

1. Switch off the heat pump water heater.
2. Cut the mains electricity supply to the heat pump water heater.
3. Close the water mains.
4. Drain the installation.
5. Dismantle the heat pump water heater.

6. Scrap or recycle the heat pump water heater in accordance with local and national regulations.

12.3 Recover refrigerants

When decommissioning the heat pump, all refrigerants need to be recovered safely. Prior to the task being carried out, an oil and refrigerant sample shall be taken in case analysis is required prior to re-use of recovered refrigerant. It is essential that electrical power is available before the task is commenced.

Before attempting the procedure, ensure that:

- mechanical handling equipment is available, if required, for handling refrigerant cylinders;
- all personal protective equipment is available and being used correctly;
- the recovery process is supervised at all times by a competent person;
- recovery equipment and cylinders conform to the appropriate standards.

1. Become familiar with the equipment and its operation.
2. Isolate system electrically.
3. Pump down refrigerant system, if possible.
4. If a vacuum is not possible, make a manifold so that refrigerant can be removed from various parts of the system.
5. Make sure that cylinder is situated on the scales before recovery takes place.
6. Start the recovery machine and operate in accordance with instructions.

Important
- Do not overfill cylinders (no more than 80 % volume liquid charge).
- Do not exceed the maximum working pressure of the cylinder, even temporarily.

7. When the cylinders have been filled correctly and the process completed, make sure that the cylinders and the equipment are removed from site promptly and all isolation valves on the equipment are closed off.

Important
Recovered refrigerant shall not be charged into another refrigerating system unless it has been cleaned and checked.

12.4 Labelling

Equipment shall be labelled stating that it has been de-commissioned and emptied of refrigerant. The label shall be dated and signed.

12.5 Recovery equipment

When removing refrigerant from a system, either for servicing or decommissioning, it is recommended good practice that all refrigerants are removed safely.

When transferring refrigerant into cylinders, ensure that only appropriate refrigerant recovery cylinders are employed. Ensure that the correct number of cylinders for holding the total system charge is available. All cylinders to be used are designated for the recovered refrigerant and labelled for that refrigerant (i.e. special cylinders for the recovery of refrigerant). Cylinders shall be complete with pressure-relief valve and associated shut-off valves in good working order. Empty recovery cylinders are evacuated and, if possible, cooled before recovery occurs.

The recovery equipment shall be in good working order with a set of instructions concerning the equipment that is at hand and shall be suitable for the recovery of all appropriate refrigerants including, when applicable, flammable refrigerants. In addition, a set of calibrated weighing scales

shall be available and in good working order. Hoses shall be complete with leak-free disconnect couplings and in good condition. Before using the recovery machine, check that it is in satisfactory working order, has been properly maintained and that any associated electrical components are sealed to prevent ignition in the event of a refrigerant release. Consult manufacturer if in doubt.

The recovered refrigerant shall be returned to the refrigerant supplier in the correct recovery cylinder, and the relevant waste transfer note arranged. Do not mix refrigerants in recovery units and especially not in cylinders.

If compressors or compressor oils are to be removed, ensure that they have been evacuated to an acceptable level to make certain that flammable refrigerant does not remain within the lubricant. The evacuation process shall be carried out prior to returning the compressor to the suppliers. Only electric heating to the compressor body shall be employed to accelerate this process. When oil is drained from a system, it shall be carried out safely.

13 Energy savings

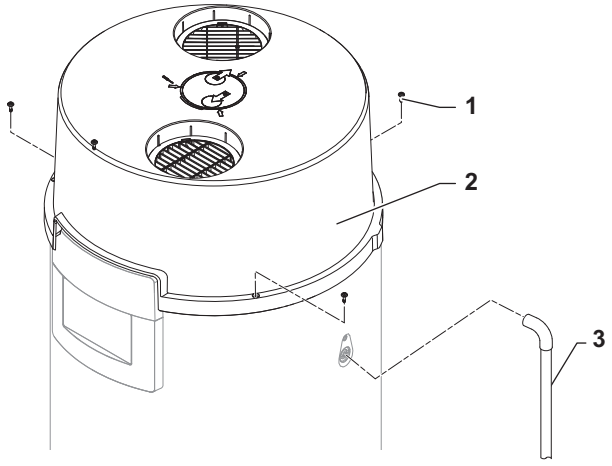
Energy-saving advice:

- Do not block the heat pump water heater aeration vents.
- Do not run hot (or cold) water pointlessly.
- Insulate the pipes in rooms that are not heated (cellars and lofts).
- Install an energy-saving shower head, which can save up to 40 % energy.
- Take showers rather than baths. A bath consumes twice as much water and energy.
- It is not necessary to heat the water beyond a certain point. Furthermore, increased limescale deposits occur at hotter water temperatures (above 60°C), which will impair the function of your domestic hot water storage tank and increase energy consumption.
- If you do not need domestic hot water over a long period of time, switch the domestic hot water heating production off or use the holiday mode.

14 Spare parts

14.1 Top cover

Fig.87



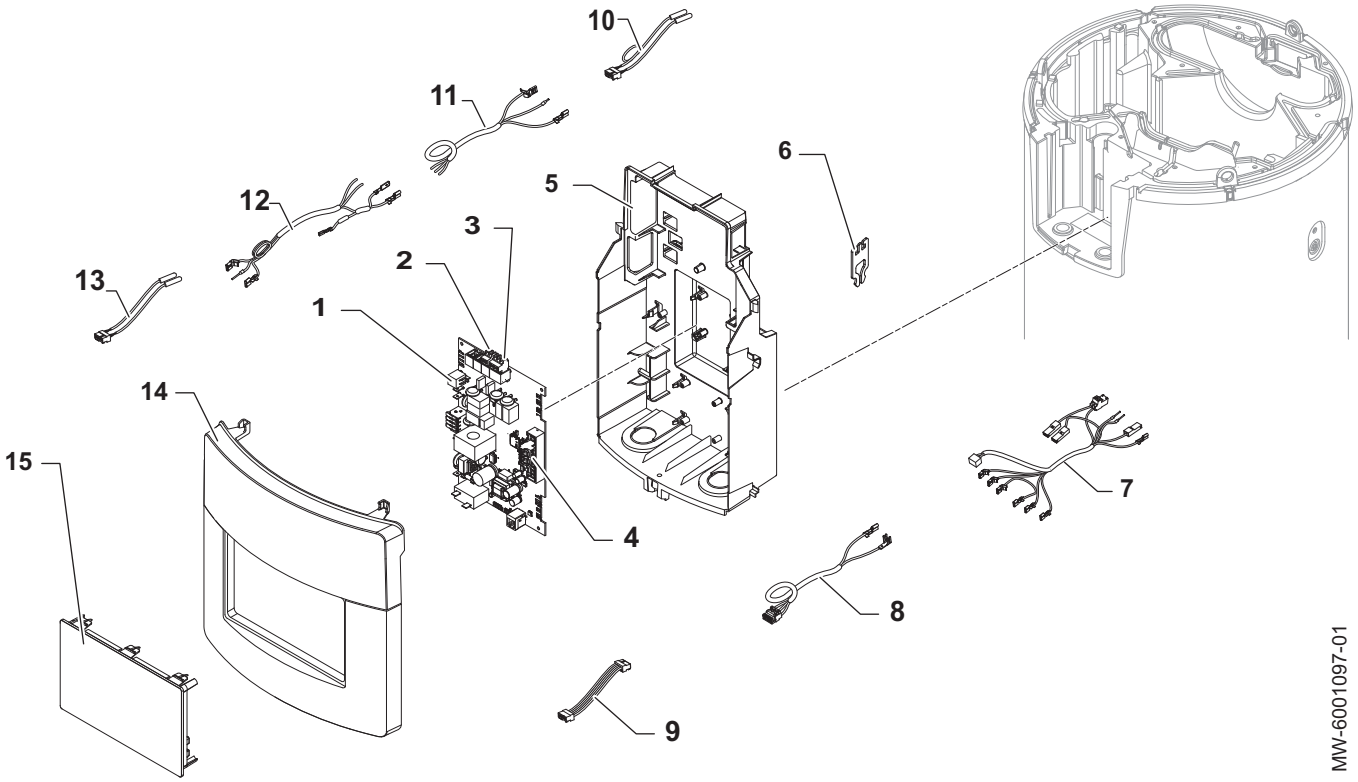
MW-6001100-02

Tab.75

Marker	Reference	Description
1	S62708	M5 x 20 mm captive screw
2	7766890	Complete upper cover
3	7602241	Condensates hose

14.2 Control panel

Fig.88

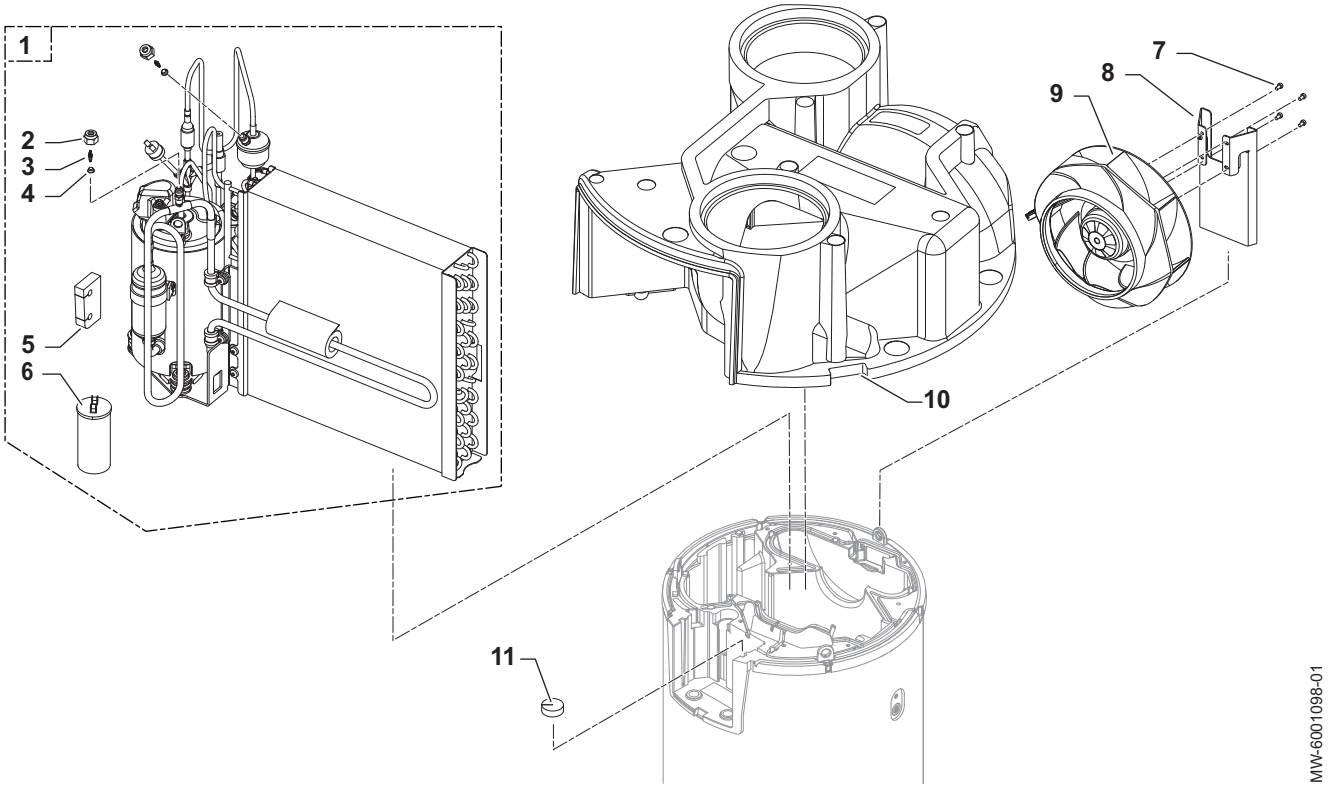


Tab.76

Marker	Reference	Description
1	7765100	CU–HW-01 PCB
2	300024269	2-pin connector
3	7674749	3-pin connector
4	200009965	BL 2-pin connector
5	7778710	Complete control panel unit
6	7601764	Heat pump sensor support
7	7755585	Compressor cable
8	7774992	Impressed current anode cable
9	7622059	L-BUS harness, length 300 mm
10	7755584	Tank sensor harness
11	7755586	Power supply cable
12	7755587	Preheater cable
13	7755588	Heat pump sensor harness
14	7785040	Control panel trim
15	7787159	Control panel

14.3 Heat pump

Fig.89

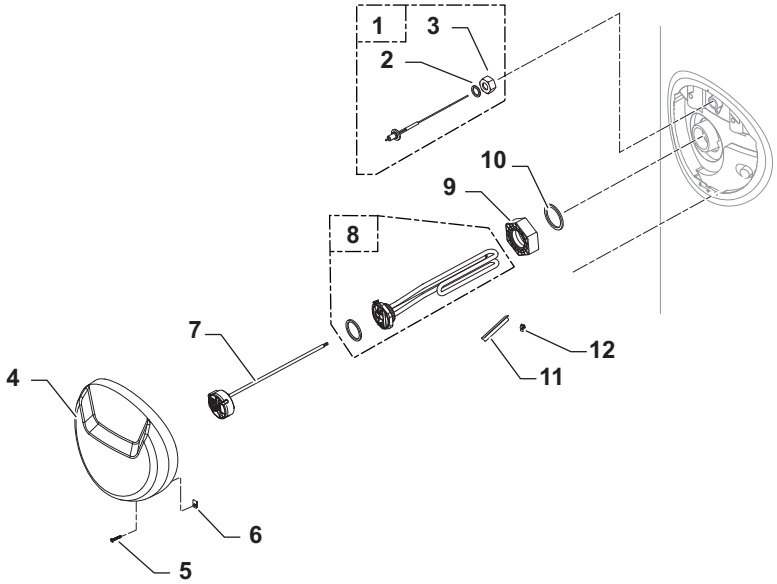


Tab.77

Marker	Reference	Description
1	7793300	R290 refrigerant unit
2	368857	Schrader 1/4" SAE nut
3	7778241	43000 Schrader valve
4	368986	1/4" SAE copper gasket
5	7783760	Pipe feedthrough
6	7751828	400 V-13 µF capacitor
7	7670154	ISO 14580 M4x8 - 8.8 screw
8	7726782	Fan bracket
9	7776888	R3G225 cabled fan
10	7759340	Central cover
11	7625466	Tank sensor tube insulation

14.4 Front cover

Fig.90



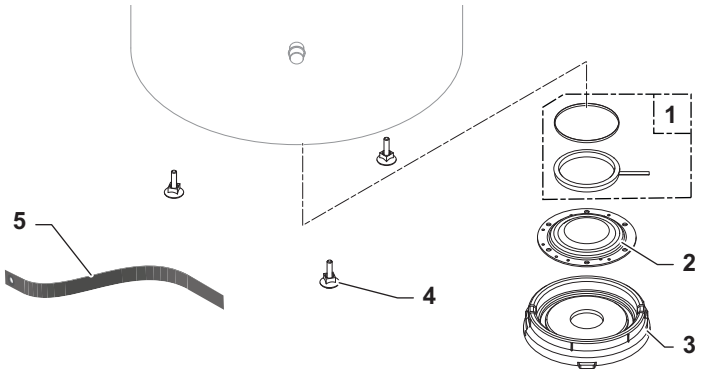
MW-6001101-03

Tab.78

Marker	Reference	Description
1	200021118	Impressed current anode with 3/4" fitting
2	95013060	Green gasket, 24 x 17 x 2 mm
3	300027388	Female union, G3/4" - diameter 15 mm
4	7768003	Front cover
5	95770697	3.94 x 25 screws
6	97758856	Quick-fit nut
7	7768070	Safety thermostat
8	7784152	Complete heating element, 1800 W
9	7745169	Dielectric union, G2" / G1-1/4"
10	7777343	Silicone gasket, 54 x 44 x 3 mm
11	95365613	Sensor tube separator, length 90 mm
12	7720184	Earth clip

14.5 Lower inspection hatch

Fig.91



MW-6001105-03

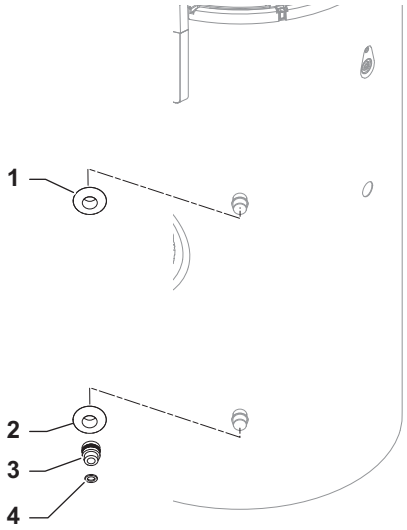
Tab.79

Marker	Reference	Description
1	89705511	Retainer ring + lip seal, diameter 112 x 7 mm
2	89525501	Enamelled inspection hatch, diameter 192 mm
3	300026994	PSE inspection hatch insulation

Marker	Reference	Description
4	97860646	Adjustable foot M10 x 35 mm
5	7793199	Link

14.6 ELENSIO 200 connections

Fig.92



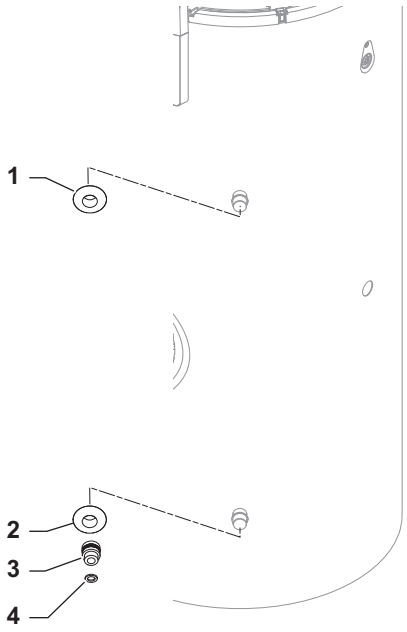
MW-6010022-01

Tab.80

Marker	Reference	Description
1	7759214	3/4" pipe collar, red
2	7759216	3/4" pipe collar, blue
3	7605675	Male/female 3/4" dielectric union
4	0287914	3x24x15 EPDM gaskets

14.7 ELENSIO 250 connections

Fig.93



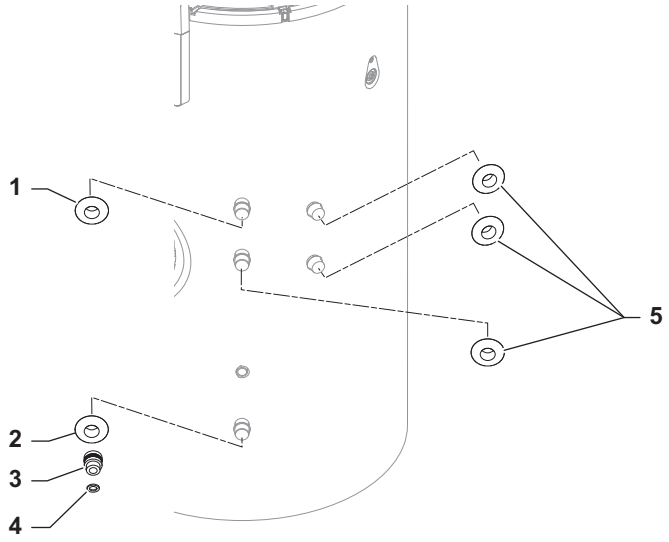
MW-6010025-01

Tab.81

Marker	Reference	Description
1	7759214	3/4" pipe collar, red
2	7759216	3/4" pipe collar, blue
3	7605675	Male/female 3/4" dielectric union
4	0287914	3x24x15 EPDM gaskets

14.8 ELENSIO 200 H connections

Fig.94

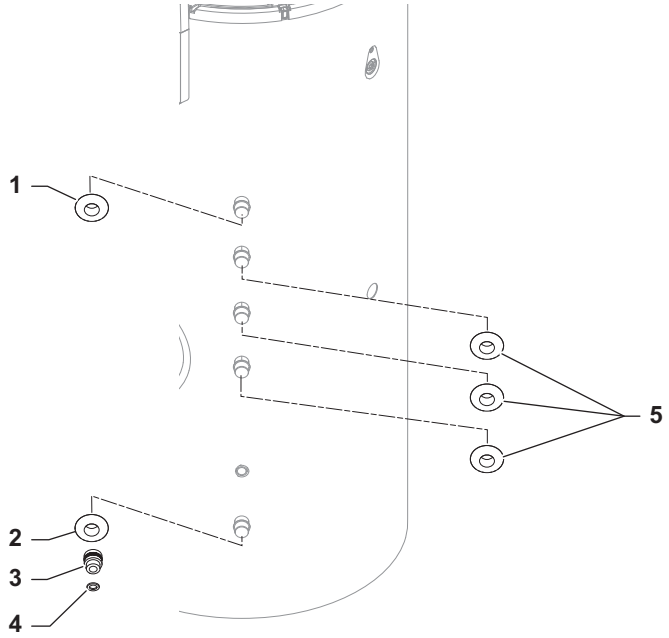


Tab.82

Marker	Reference	Description
1	7759214	3/4" pipe collar, red
2	7759216	3/4" pipe collar, blue
3	7605675	Male/female 3/4" dielectric union
4	0287914	3x24x15 EPDM gaskets
5	300026694	Collar for 3/4" pipe

14.9 ELENSIO 250 H connections

Fig.95



Tab.83

Marker	Reference	Description
1	7759214	3/4" pipe collar, red
2	7759216	3/4" pipe collar, blue
3	7605675	Male/female 3/4" dielectric union
4	0287914	3x24x15 EPDM gaskets
5	300026694	Collar for 3/4" pipe

15 Appendix

15.1 Product fiche - Heat pump water heaters

Tab.84 Product fiche for heat pump water heaters

		ELENSIO 200	ELENSIO 250	ELENSIO 200 H	ELENSIO 250 H
Declared load profile		L	XL	L	XL
Water heating energy efficiency class under average climate conditions		A+	A+	A+	A+
Water heating energy efficiency under average climate conditions	%	128.00	143.00	130.00	135.00
Annual electrical energy consumption	kWh	800	1172	786	1242
Other load profiles for which the water heater is suitable and the corresponding water heating energy efficiency and annual electricity consumption					
Thermostat temperature setting	°C	55.00	54.00	55.00	54.00
Sound power level L_{WA} indoors(1)	dB(A)	49	49	49	49
Ability to function during off-peak hours		No	No	No	No
Water heating energy efficiency, under **colder** - **warmer** climate conditions	%	97.70 - 138.00	113.70 - 157.00	99.10 - 147.00	114.40 - 152.00

		ELENSIO 200	ELENSIO 250	ELENSIO 200 H	ELENSIO 250 H
Annual energy consumption, under **colder** - **warmer** climate conditions	kWh	1048 - 740	1473 - 1066	1033 - 695	1464 - 1105
Sound power level L_{WA} outdoors(1)	dB(A)	61	58	61	58
(1) ducted					

See
For specific precautions about assembling, installing and maintaining: See Safety

15.2 Package fiche - Water heaters

Fig.96 Package fiche for water heaters indicating the water heating energy efficiency of the package

Water heating energy efficiency of water heater

(1) **'I'** %

Declared load profile: ☐

Solar contribution

from fiche of solar device

Auxiliary electricity

(1.1 x 'I' - 10%) x 'II' - 'III' - 'I' = + (2) ☐ %

Water heating energy efficiency of package under average climate

(3) ☐ %

Water heating energy efficiency class of package under average climate

	G	F	E	D	C	B	A	A+	A++	A+++
☐ M	<27%	≥27%	≥30%	≥33%	≥36%	≥39%	≥65%	≥100%	≥130%	≥163%
☐ L	<27%	≥27%	≥30%	≥34%	≥37%	≥50%	≥75%	≥115%	≥150%	≥188%
☐ XL	<27%	≥27%	≥30%	≥35%	≥38%	≥55%	≥80%	≥123%	≥160%	≥200%
☐ XXL	<28%	≥28%	≥32%	≥36%	≥40%	≥60%	≥85%	≥131%	≥170%	≥213%

Water heating energy efficiency under colder and warmer climate conditions

Colder: (3) ☐ **- 0.2 x** (2) ☐ **=** ☐ **%**

Warmer: (3) ☐ **+ 0.4 x** (2) ☐ **=** ☐ **%**

The energy efficiency of the package of products provided for in this fiche may not correspond to its actual energy efficiency once installed in a building, as this efficiency is influenced by further factors such as heat loss in the distribution system and the dimensioning of the products in relation to building size and characteristics.

AD-3000762-01

I The value of the water heating energy efficiency expressed in %.
II The value of the mathematical expression $(220 \cdot Q_{ref})/Q_{nonsol}$, where Q_{ref} is taken from Regulation EU 812/2013, Annex VII Table 3 and Q_{nonsol} from the product fiche of the solar device for the declared load profile M, L, XL or XXL of the water heater.
III The value of the mathematical expression $(Q_{aux} \cdot 2{,}5)/(220 \cdot Q_{ref})$, expressed in %, where Q_{aux} is taken from the product fiche of the solar device and Q_{ref} from Regulation EU 812/2013, Annex VII Table 3 for the declared load profile M, L, XL or XXL.

16 Warranty

16.1 General

You have just purchased one of our appliances and we thank you for the trust you have placed in our products.

Please note that your appliance will provide good service for a longer period of time if it is regularly checked and maintained.

Our customer support network is at your disposal at all times.

16.2 Terms of warranty

Tab.85

Belgium	The following provisions regarding the contractual warranty are not exclusive of the buyer being able to benefit from the legal provisions applicable in Belgium regarding hidden defects.
Germany	The following provisions are not exclusive of the buyer being able to benefit from the legal warranty stipulated in Articles 1641 to 1648 of the Civil Code.
Portugal	The following provisions do not adversely affect consumers' rights, as laid down in Decree-Law 67/2003 of 8 April amended by Decree-Law 84/2008 of 21 May, warranties on sales of consumer goods and other implementing rules.
Russia, Ukraine	The foregoing provisions in no way affect the rights of the consumer, which are guaranteed by the legislation of the Russian Federation as regards hidden defects.
Other countries	The following provisions do not affect the application, in favour of the buyer, of the legal provisions with regard to hidden defects that are applicable in the buyer's country.

Tab.86

Spain, Portugal	The duration of our warranty is shown on the certificate delivered with the appliance.
Switzerland	The warranty is applied in accordance with the terms of sale, delivery and warranty of the company marketing De Dietrich products.
Russia, Ukraine	The terms and conditions of warranty and the terms and conditions of application of the warranty are indicated on the warranty form. The warranty shall not apply as regards the replacement or repair of wearing parts under normal use. These parts include fuses and gaskets.
France and other countries	Our heat pump water heaters and compressors are covered by a two-year warranty. The tanks on our heat pump water heaters are covered by a five-year warranty.
All countries: Except Germany, Poland and Russia	Your appliance is covered by a contractual guarantee against manufacturing defects as of the date of purchase stated on the installer's invoice. Our warranty does not cover replacement or repair costs for parts that may become defective due to normal wear, incorrect usage, the intervention of unqualified third parties, inadequate or insufficient supervision or maintenance, a mains supply that is not appropriate or the use of unsuitable or poor quality fuel.
All countries: Except Germany, Italy, Poland, Russia and Turkey	The warranty period is stated in our price list.
All countries: Except Germany, Austria, Portugal and Russia	Our warranty is limited to the replacement or repair of the parts found to be defective by our technical services team, excluding labour, transfer and transport costs.

Tab.87

Germany	Refer to the contractual terms of warranty stated in on pre-sales documents (for example: current price list) **Warning** **INFORMATION regarding obligatory maintenance:** Maintenance of this appliance must be carried out once a year, according to the codes of practice. If this requirement is not respected, the warranty term is limited to 12 months.
Austria	The supply of spare parts is guaranteed ten years from the date of purchase stated on the installer's invoice.
All countries except: Germany and Russia	The warranty is only valid for sub-sets such as motors, pumps, electrical valves, etc. if these parts have never been dismantled. The rights established in European Directive 99/44/EEC, implemented by legal decree No. 24 of 2 February 2002 and published in Official Journal No. 57 of 8 March 2002, remain in force.

Tab.88

Italy	As a manufacturer, we can by no means be held liable if the appliance is used incorrectly, is poorly maintained or not maintained at all, or is not installed correctly (it is your responsibility to ensure that installation and maintenance works are carried out by a qualified professional and by an after-sales service company, respectively). In particular, we cannot be held liable for material damage, intangible losses or physical injury resulting from an installation that does not comply with: • the legal and regulatory requirements laid down by national laws and the regulations of local authorities, • our instructions and prescriptions on installation and maintenance in accordance with prevailing legislation.
Turkey	In accordance with legislation and regulations, the product life for this appliance is 10 years. During that time the manufacturer and/or the distributor is required to provide after sales services and spare parts.
Other countries	We can by no means be held liable if the appliance is used incorrectly, is poorly maintained or not maintained at all, or is not installed correctly (it is your responsibility to ensure that installation is carried out by a qualified professional).
All countries: Except Germany, Italy and Russia	As a manufacturer, we can by no means be held liable if the appliance is used incorrectly, is poorly maintained or not maintained at all, or is not installed correctly (it is your responsibility to ensure that installation is carried out by a qualified installer). In particular, we cannot be held liable for material damage, intangible losses or physical injury resulting from an installation that does not comply with: • Legal or regulatory requirements or provisions laid down by the local authorities, • National or local regulations and special provisions relating to the installation, • Our manuals and installation instructions, in particular in terms of regular maintenance of the appliances, • **All countries: Except The Netherlands**: the codes of practice.

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