

Installation and maintenance instructions



aroSTOR

VWL B 200/5 UK

VWL B 270/5 UK

GB, IE

Publisher/manufacturer

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1 Safety

1.1 Action-related warnings

Classification of action-related warnings

The action-related warnings are classified in accordance with the severity of the possible danger using the following warning signs and signal words:

Warning symbols and signal words



Danger!

Imminent danger to life or risk of severe personal injury



Danger!

Risk of death from electric shock



Warning.

Risk of minor personal injury



Caution.

Risk of material or environmental damage

1.2 Intended use

There is a risk of injury or death to the user or others, or of damage to the product and other property in the event of improper use or use for which it is not intended.

The product is intended for hot water generation.

Intended use includes the following:

- observance of accompanying operating, installation and maintenance instructions for the product and any other system components
- installing and setting up the product in accordance with the product and system approval
- compliance with all inspection and maintenance conditions listed in the instructions.

Intended use also covers installation in accordance with the IP code.

Any other use that is not specified in these instructions, or use beyond that specified in this document, shall be considered improper use. Any direct commercial or industrial use is also deemed to be improper.

Caution.

Improper use of any kind is prohibited.

1.3 Risk caused by inadequate qualifications

The following work must only be carried out by competent persons who are sufficiently qualified to do so:

- Set-up
- Dismantling
- Installation
- Start-up
- Inspection and maintenance
- Repair
- Decommissioning
- ▶ Proceed in accordance with current technology.

1.4 Risk of death from electric shock

There is a risk of death from electric shock if you touch live components.

Before commencing work on the product:

- ▶ Disconnect the product from the power supply by switching off all power supplies at all poles (electrical partition with a contact gap of at least 3 mm, e.g. fuse or circuit breaker).
- ▶ Secure against being switched back on again.
- ▶ Check that there is no voltage.

1.5 Risk of death due to lack of safety devices

The basic diagrams included in this document do not show all safety devices required for correct installation.

- ▶ Install the necessary safety devices in the installation.
- ▶ Observe the applicable national and international laws, standards and directives.

1.6 Risk of death due to explosive and flammable materials

- ▶ Do not use the product in storage rooms that contain explosive or flammable substances (such as petrol, paper or paint).



1 Safety

1.7 Risk of being burned or scalded by hot components

- ▶ Only carry out work on these components once they have cooled down.

1.8 Material damage due to unsuitable installation surface

The installation surface must be even and have sufficient load-bearing capacity to support the operating weight of the product. An uneven installation surface may cause leaks in the product.

If the installation surface does not have sufficient load-bearing capacity, the product may topple.

There is a risk of death if the connections are subject to leaks.

- ▶ Make sure that the product is positioned flush against the installation surface.
- ▶ Ensure that the installation surface has sufficient load-bearing capacity to bear the operating weight of the product.

1.9 Risk of injury due to the heavy weight of the product

- ▶ Make sure that the product is transported by at least two people.

1.10 Risk of material damage caused by frost

- ▶ Do not install the product in rooms prone to frost.

1.11 Risk of material damage caused by using an unsuitable tool

- ▶ Use the correct tool.

1.12 Risk of material damage caused by water that is too hard

Water that is too hard may impair the system's functionality and cause damage in a short period of time.

- ▶ Ask your local water company about the water hardness.
- ▶ When deciding whether the water used must be softened, follow the national regulations, standards, directives and laws.
- ▶ In the installation and maintenance instructions for the product that your system com-

prises, you can read the qualities that the water that is used must have.

1.13 Risk of damage from corrosion caused by unsuitable room air

Sprays, solvents, chlorinated cleaning agents, paint, adhesives, ammonia compounds, dust or similar substances may lead to corrosion on the product and in the air pipes.

- ▶ Ensure that the air supply is always free of fluorine, chlorine, sulphur, dust, etc.
- ▶ Ensure that no chemical substances are stored at the installation site.
- ▶ Ensure that the air is not routed through an old hearth.
- ▶ If you are installing the product in hairdressing salons, painter's or joiner's workshops, cleaning businesses or similar locations, choose a separate installation room in which an air supply is ensured that is technically free of chemical substances.
- ▶ If the air in the room in which the product is installed contains aggressive vapours or dust, ensure that the product is sealed and protected.

1.14 Risk of poisoning caused by insufficient air supply

Condition: Open-flued operation

- ▶ Ensure that the air supply to the product's installation room is permanently unobstructed and sufficient in accordance with the relevant ventilation requirements.

1.15 Structural damage due to escaping water

Escaping water can cause damage to the building.

- ▶ Install the hydraulic lines without tension.
- ▶ Use seals.





1.16 Regulations (directives, laws, standards)

- ▶ Observe the national regulations, standards, directives, ordinances and laws.



2 Notes on the documentation

2 Notes on the documentation

2.1 Observing other applicable documents

- ▶ Always observe all the operating and installation instructions included with the system components.

2.2 Storing documents

- ▶ Pass these instructions and all other applicable documents on to the end user.

2.3 Validity of the instructions

Validity: Great Britain

These instructions apply only to:

Unit – article number

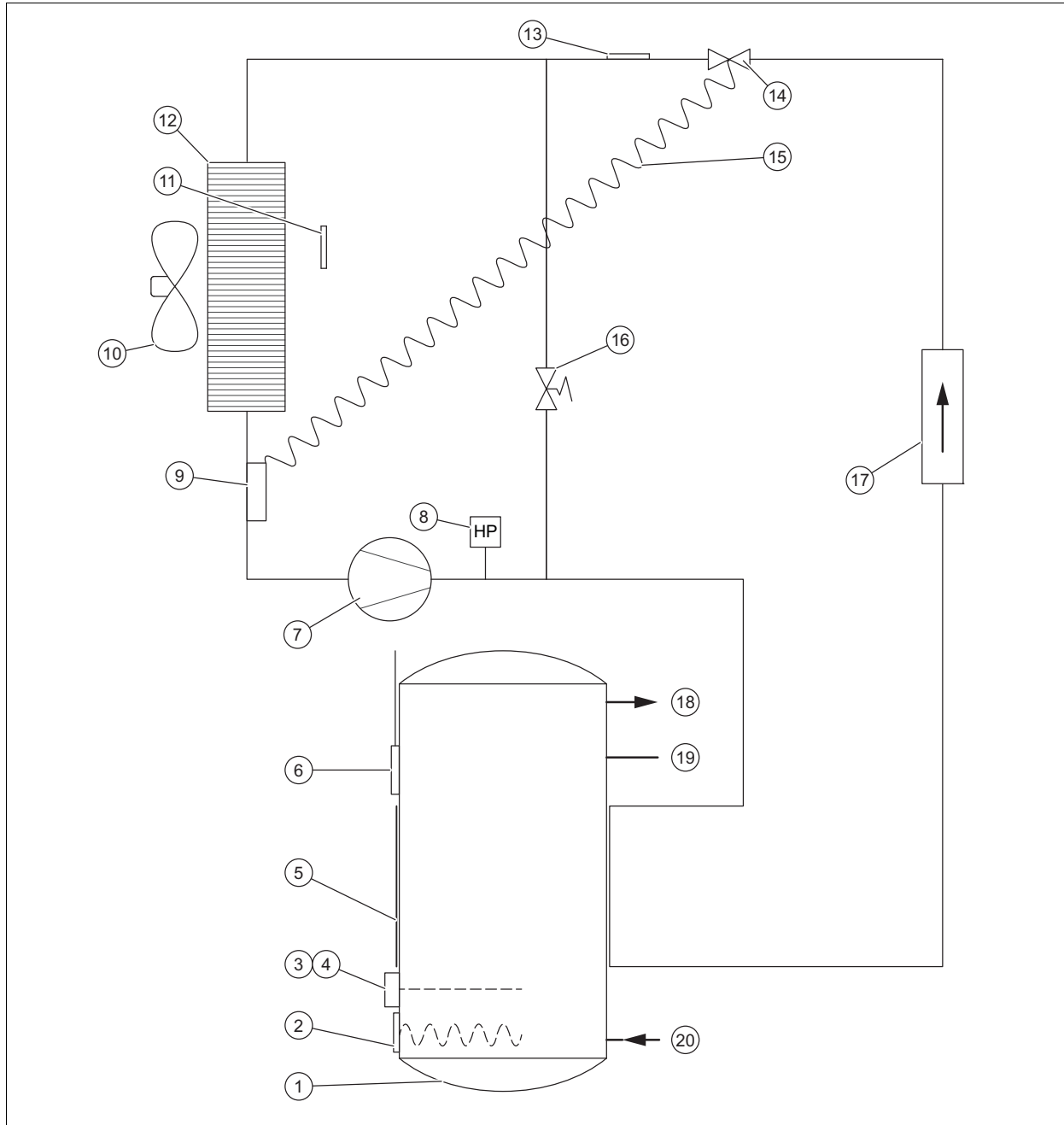
aroSTOR VWL B 200/5 UK	0010024440
aroSTOR VWL B 270/5 UK	0010028218

3 Product description

3.1 System diagram

Validity: aroSTOR VWL B 200/5

OR aroSTOR VWL B 270/5

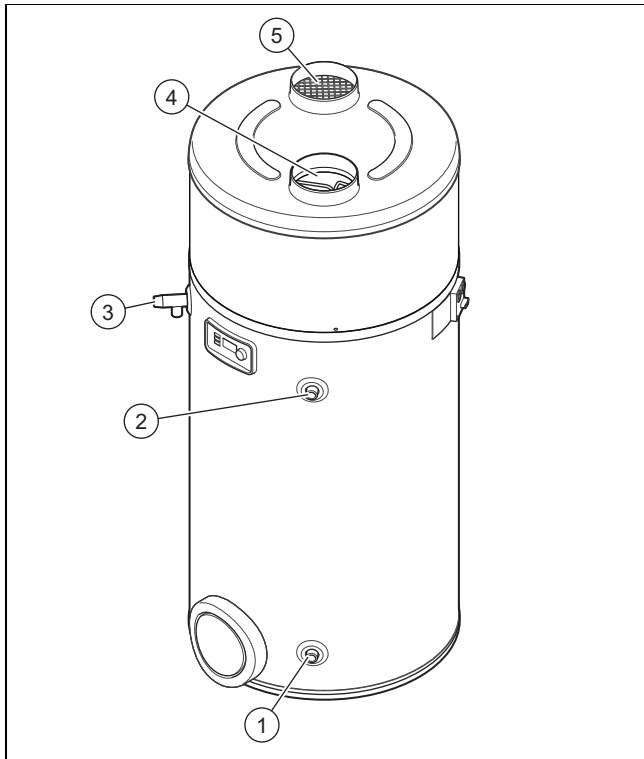


- | | | | |
|----|--|----|---|
| 1 | Domestic hot water cylinder | 11 | Air inlet temperature sensor |
| 2 | Heating coil | 12 | Evaporator |
| 3 | Immersion heater temperature cut-out | 13 | Defrosting sensor |
| 4 | Immersion heater safety cut-out | 14 | Thermostatic expansion valve |
| 5 | External condenser | 15 | Thermostatic expansion valve capillary |
| 6 | Domestic hot water cylinder temperature sensor | 16 | Defrosting valve |
| 7 | Compressor | 17 | Drainage filter |
| 8 | Pressure switch | 18 | Domestic hot water flow |
| 9 | Sensor head thermostatic expansion valve | 19 | Temperature and pressure expansion relief valve |
| 10 | Fan | 20 | Cold water connection |

3 Product description

3.2 Product design

Validity: aroSTOR VWL B 200/5, Great Britain



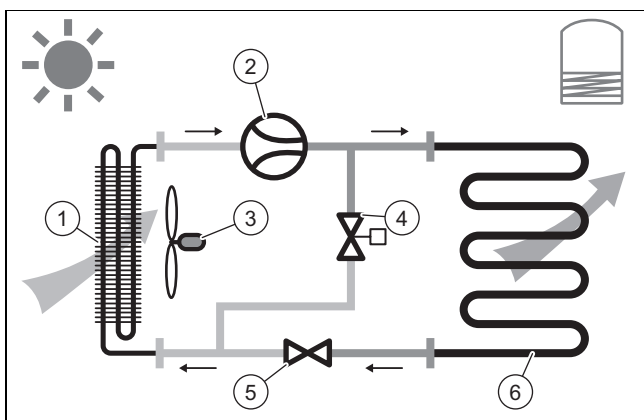
- | | |
|-----------------------------|---|
| 1 Cold water inlet | 3 Temperature and pressure expansion relief valve |
| 2 Domestic hot water outlet | 4 Air supply |
| | 5 Air removal |

3.3 Operation

The unit includes the following circuit:

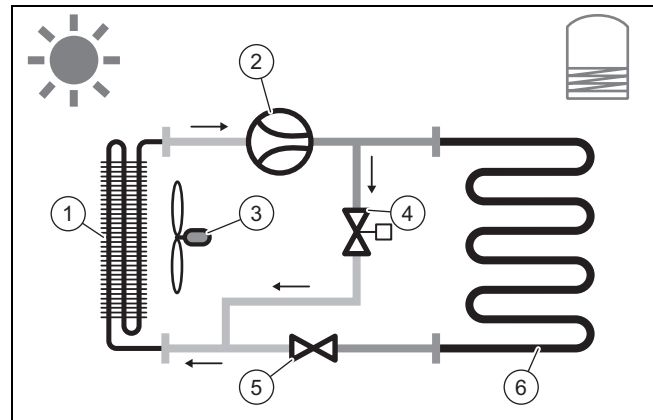
- The refrigerant circuit releases heat into the domestic hot water cylinder by means of evaporation, compression, condensation and expansion

3.3.1 Heating mode



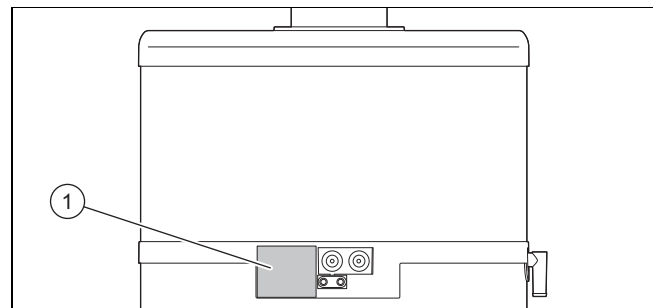
- | | |
|--------------|--------------------------------|
| 1 Evaporator | 4 Defrosting valve |
| 2 Compressor | 5 Thermostatic expansion valve |
| 3 Fan | 6 Condenser |

3.3.2 Defrosting mode



- | | |
|--------------|--------------------------------|
| 1 Evaporator | 4 Defrosting valve |
| 2 Compressor | 5 Thermostatic expansion valve |
| 3 Fan | 6 Condenser |

3.4 Type designation and serial number



The type designation and serial number are on the data plate (1).

3.5 CE marking



The CE marking shows that the products comply with the basic requirements of the applicable directives as stated on the data plate.

The declaration of conformity can be viewed at the manufacturer's site.

3.6 Hot Water Association

Validity: HWA-labelled

Vaillant is a full member of the Hot Water Association and promotes the scheme in association with its cylinder range. Details are available on the web site www.vaillant.co.uk

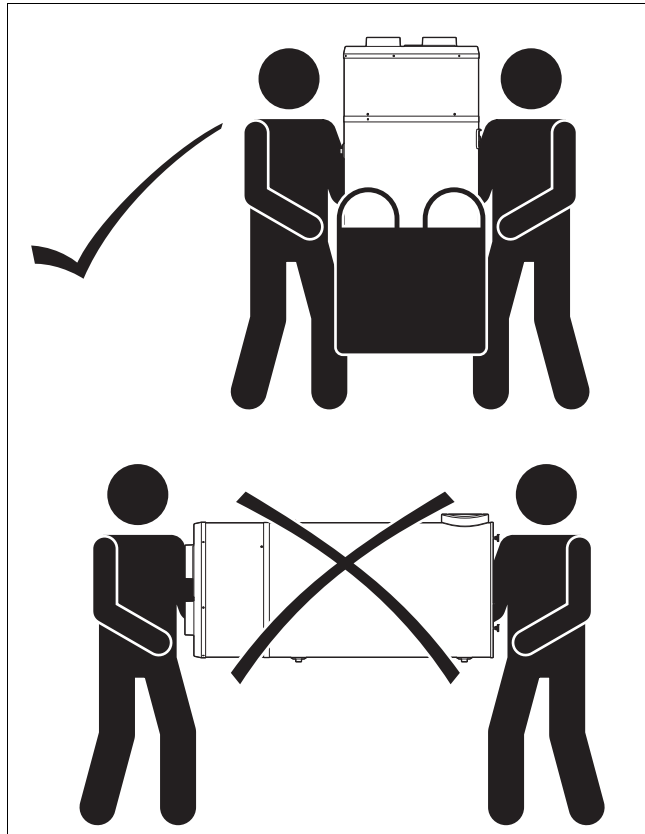


4 Set-up

4.1 Transporting the product to the installation site

When being transported, the product must always be in a vertical position.

4.2 Carrying the product



Caution.
Risk of material damage caused by incorrect handling.

The product's upper covering hood is not designed for loading and must not be used for storage.

- ▶ Do not lift the product by the top covering hood when transporting it.



Warning.
Risk of injury from lifting a heavy weight.

Lifting weights that are too heavy may cause injury to the spine, for example.

- ▶ When transporting the product, lift it with the help of a second person.
- ▶ Observe the product weight stated in the technical data.
- ▶ When transporting heavy loads, observe the applicable directives and regulations.

1. Transport the product to the installation site using a fork-lift truck or pallet truck.

2. Transport the product in the upright position only.
3. Carry the product to the final installation site in the transportation bag supplied.
4. When transporting the product using a hand truck, secure it using a belt.
5. In order to avoid scratches and damage, protect the sides of the product that come into contact with the hand truck.
6. If you need to place the unpackaged product on the pallet onto the floor, use chocks to avoid damaging the product.

4.3 Unpacking the product

1. Remove the packaging film without damaging the product.
2. Dispose of the packaging film.
3. Remove the cardboard.
4. Remove the corner bracket and pull out the nails and clamps.
5. Remove the protective film.
6. Remove the accessory pack from the transport bag.
7. Remove the fixing screw from the underside of the pallet without tipping the product.
8. Ensure that no-one leans against the product or knocks it.

4.4 Checking the scope of delivery

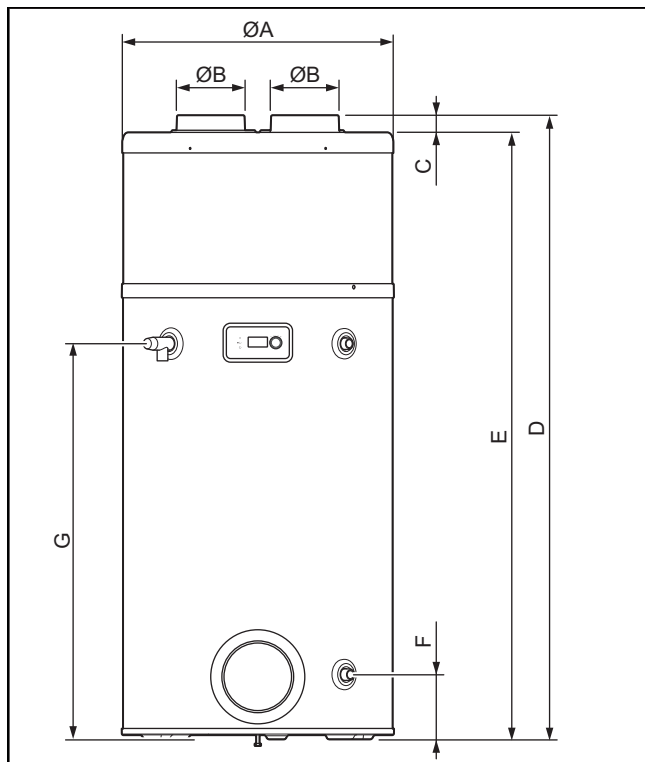
- ▶ Check that the scope of delivery is complete.

Quantity	Designation
1	Heat pump domestic hot water cylinder
1	Plug
1	Enclosed documentation

4 Set-up

4.5 Product dimensions and connection dimensions

Validity: aroSTOR VWL B 200/5 UK, aroSTOR VWL B 270/5 UK, Great Britain

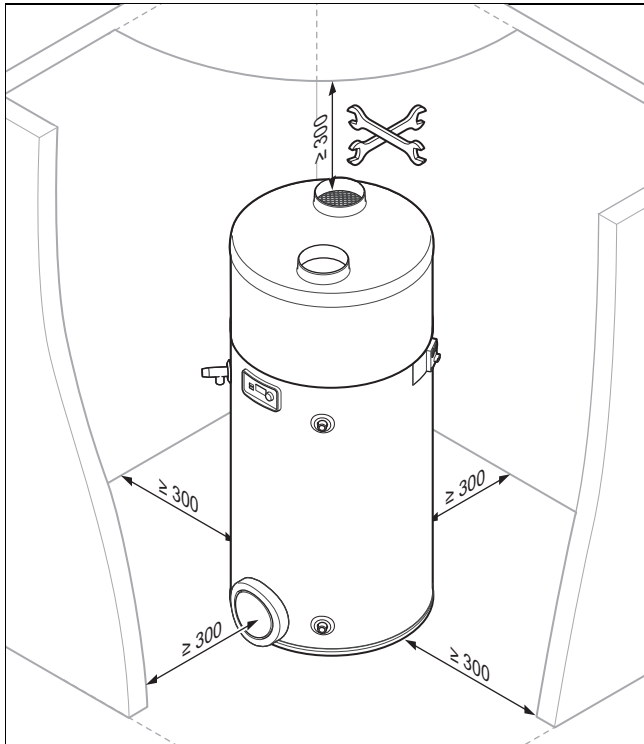


Unit dimensions and connection dimensions (→ Page 10)

Unit dimensions and connection dimensions

	aroSTOR VWL B 200/5 UK	aroSTOR VWL B 270/5 UK
A	634 mm	634 mm
B	158 mm	158 mm
C	40 mm	40 mm
D	1,458 mm	1,783 mm
E	1,418 mm	1,743 mm
F	151 mm	151 mm
G	924 mm	1,249 mm

4.6 Minimum clearances



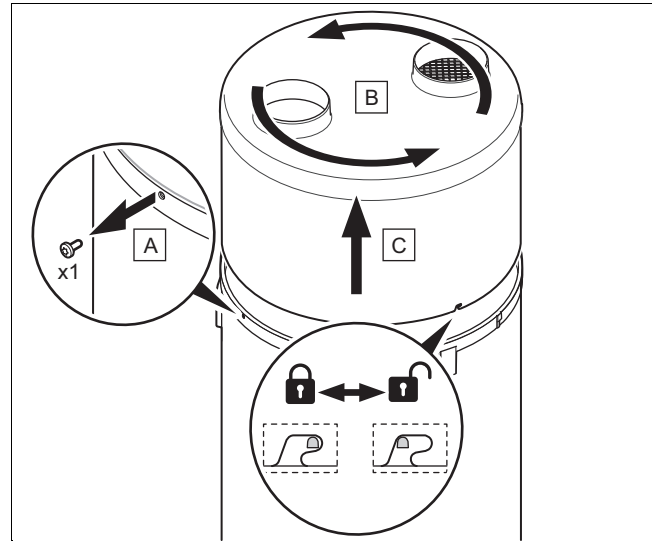
1. To guarantee sufficient air flow and to facilitate maintenance work, observe the minimum clearances that are specified above.
2. Ensure that the cables are routed appropriately.

4.7 Requirements for the installation site

- ▶ Select a dry room that is frost-proof throughout and in which the maximum installation height is not exceeded and the ambient temperature is neither above nor below the permitted range.
- ▶ If the product is to operate as room-sealed, it must not come within 500 m of any coastline.
- ▶ Do not place the product in the vicinity of another unit which could damage it (e.g. next to a unit which releases vapour or grease), or in a room with a high level of exposure to dust or in a corrosive environment.
- ▶ If the installation room does not meet the required minimum area of 20 m², install pipelines for the air that is extracted and the air that is conducted away.
- ▶ Ensure that the required minimum clearances can be maintained.
- ▶ When selecting the installation site, you must take into consideration that when the heat pump is in operation, it will transfer vibrations to the floor and the nearby walls.
- ▶ In order to avoid noise disturbance, do not install the product near bedrooms.

4.8 Removing/installing the protective cover

4.8.1 Removing the covering hood



1. Turn the screw (A) on the product's ring by a few millimetres using a Torx screwdriver.
2. Turn the unit out of the covering hood (B) and turn the ring anti-clockwise in order to loosen the lugs on the bayonet fitting.
3. Lift the unit out of the upper covering hood (C) and ring, and remove it.

4.8.2 Installing the covering hood

1. Install the unit from the upper covering hood (C) and ring.
2. Turn the unit out of the covering hood (B) and turn the ring clockwise by a few millimetres in order to allow the lugs on the bayonet fitting to click into place.
3. Ensure that the insulating material is not damaged.
4. Ensure that the ring is positioned correctly on the domestic hot water cylinder and the lugs on the bayonet fitting are not bent.
5. Secure the ring by tightening the screw (A).

5 Installation



Caution.

Risk of material damage due to heat transfer during soldering.

- ▶ Do not carry out any welding work in the area of the product's connectors.
- ▶ Before any welding work, insulate the water-carrying pipes on the product's outlet and the installation.



Danger!

Risk of scalding and/or damage due to incorrect installation leading to escaping water.

Mechanical stresses in the connection pipes may lead to leaks.

5 Installation

- ▶ Ensure that there is no mechanical stress when installing the connection pipes.



Caution.
Risk of damage in the pipelines due to residue.

Residue from pipelines, such as welding beads, scale, hemp, putty, rust and coarse dirt, may be deposited in the product and cause malfunctions.

- ▶ Flush the pipelines thoroughly before connecting to the product in order to remove any possible residue.



Note
Only connect accessories to the temperature and pressure relief valve if they comply with the requirements of the Building Regulation G3.

5.1 Installing the air supply and air exhaust

5.1.1 Selecting air duct systems

Validity: Vaillant



Caution.
Risk of material damage caused by incorrect installation.

- ▶ Do not connect the product to extractor hoods.

1. Use only commercially available, insulated air ducts with suitable heat insulation, to prevent energy loss and condensation from forming on the air ducts.

Maximum length of the air pipes L1 + L2 (L1 = air intake pipe; L2 = air outlet pipe)

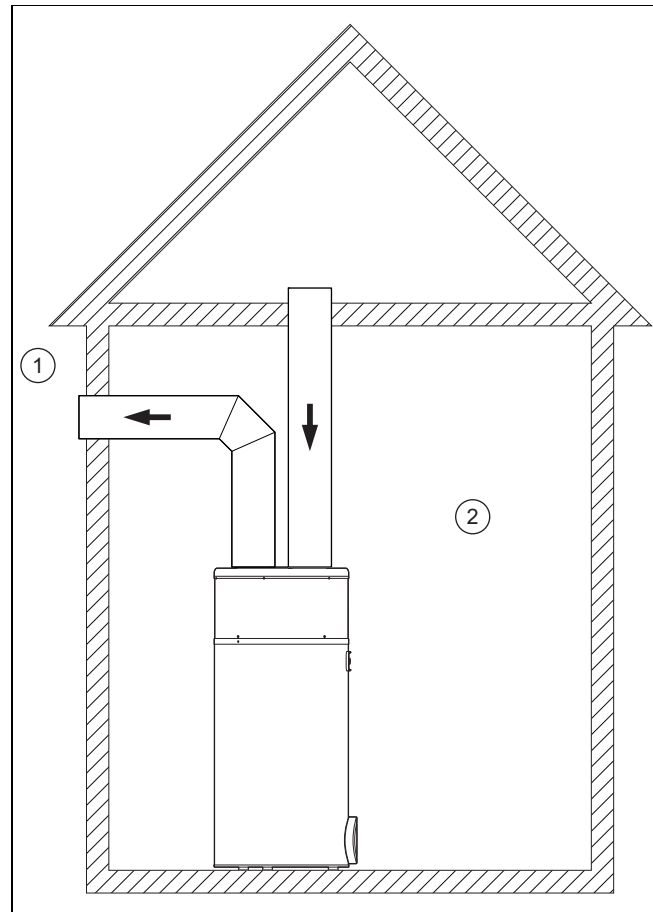
Standard value	L1 + L2
Condition: Flexible pipes	10 m Note In addition to the total length, two 90° elbows can be added.
Condition: Fixed pipes	20 m Note In addition to the total length, two 90° elbows can be added.



Note
In an installation with rigid pipes, elbows, attachments and mesh create additional pressure losses in the air duct system that may correspond to five metres of straight pipe length per element. Make sure that the maximum permitted lengths are not exceeded with the elements used.

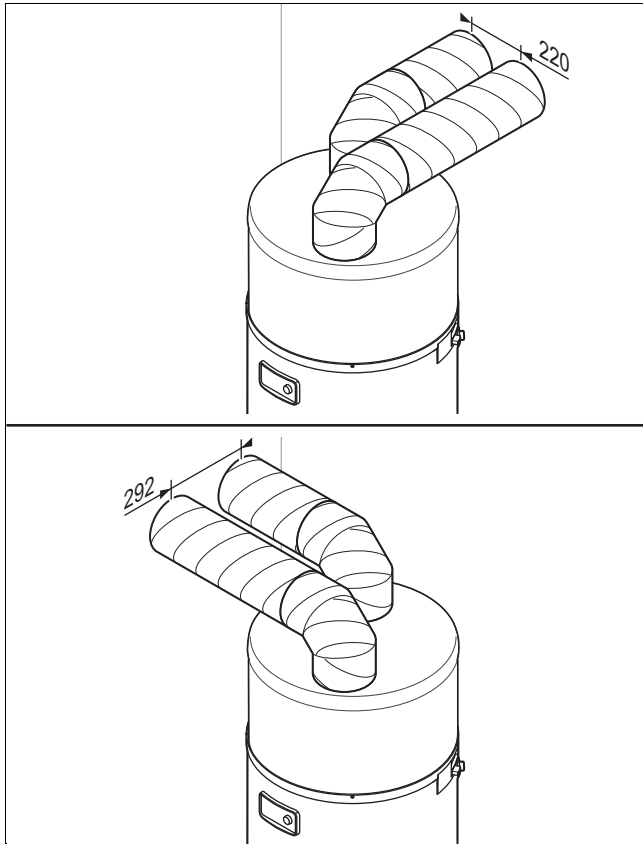
2. Protection devices must be installed at the openings of the air ducts to prevent water or foreign bodies from penetrating the pipelines (protective grille for vertical walls, roof terminals).
3. Always protect the product against modification or intervention in order to prevent water or foreign substances from penetrating as this may damage the pipes or other components.
4. Use a circulation pump with a throughput between 0.5 and 4 l/min.

5.1.2 Installing the complete pipe system



1 External area 2 Internal area (heated or not heated)

The air inlet and outlet are located in the external area.

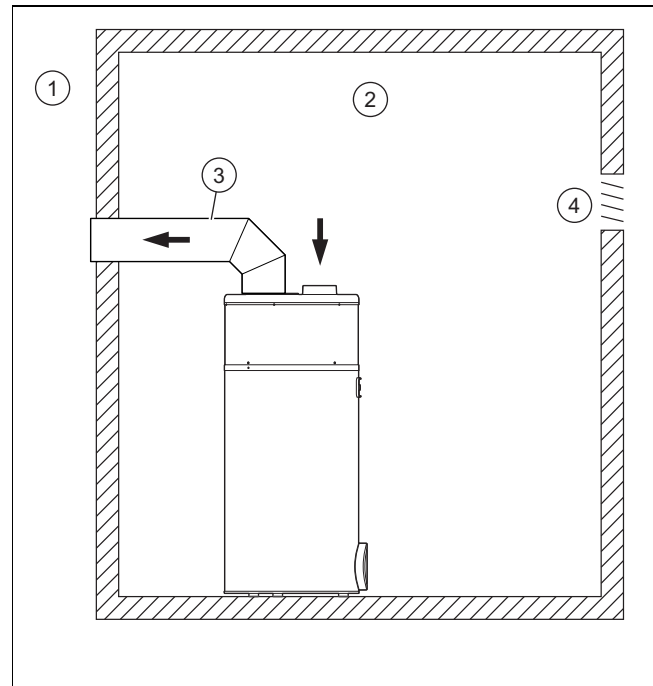


This installation type is particularly suitable for small rooms (supply or store room, etc.).

Use this configuration with priority because no part of the room cools down and the ventilation remains unimpaired.

- ▶ In order to prevent leak air from being extracted by recirculation, maintain a clearance between the ends of the air pipes.
 - Clearance: ≥ 220 mm

5.1.3 Installing the partial pipe system



- | | | | |
|---|--------------------------------------|---|--|
| 1 | External area | 3 | Heat-insulated pipe (diameter ≥ 160 mm) |
| 2 | Internal area (heated or not heated) | 4 | Ventilation |

The hot air is drawn into the room and the cold air is released outside.

With this installation type, the room is used as an energy collector. The room is cooled by outdoor air which flows in via the ventilation openings.

- Room volume at installation site: ≥ 20 m³



Caution.

Risk of material damage due to condensation forming on the outside of the pipe.

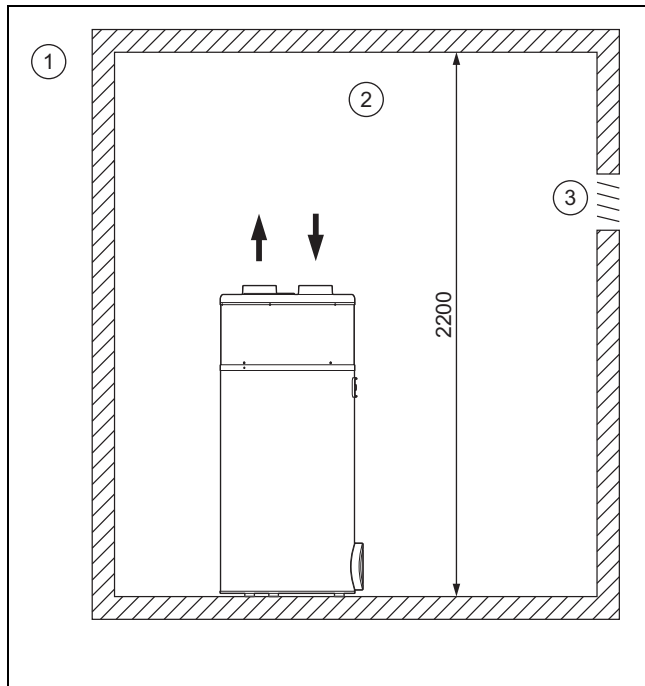
The difference in temperature between the air flowing through the pipe and the air in the installation room can cause condensation to form on the outside surface of the pipe.

- ▶ Use air pipes with suitable heat insulation.

- ▶ Avoid having negative pressure in the installation room, so that air is not extracted from surrounding heated rooms.
- ▶ Check whether the existing ventilation can compensate for the withdrawn air flow.
 - Air flow: ≥ 400 m³/h
- ▶ Add to the withdrawn air flow the flow rate that is required for normal ventilation of the installation room.
- ▶ If required, adjust the ventilation.

5 Installation

5.1.4 Installing without a pipework system



- 1 External area 3 Ventilation
2 Internal area (heated or
not heated)

The air is drawn into and conducted away from the same room .

With this type of installation, the room is used as an energy collector. The room is cooled by the hot and cold air that the product emits.



Caution.

Risk of material damage caused by frost inside the house

Even at outdoor temperatures above 0 °C, there is a risk of frost in the installation room.

- ▶ Use suitable heat insulation to protect pipelines and other elements in the installation room that are sensitive to cold.

To prevent the cold air emitted by the product from re-entering it, maintain the minimum clearance between the upper side of the product and the ceiling.

- Area of the installation room: 20 m²
- Minimum room height: ≥ 2.20 m

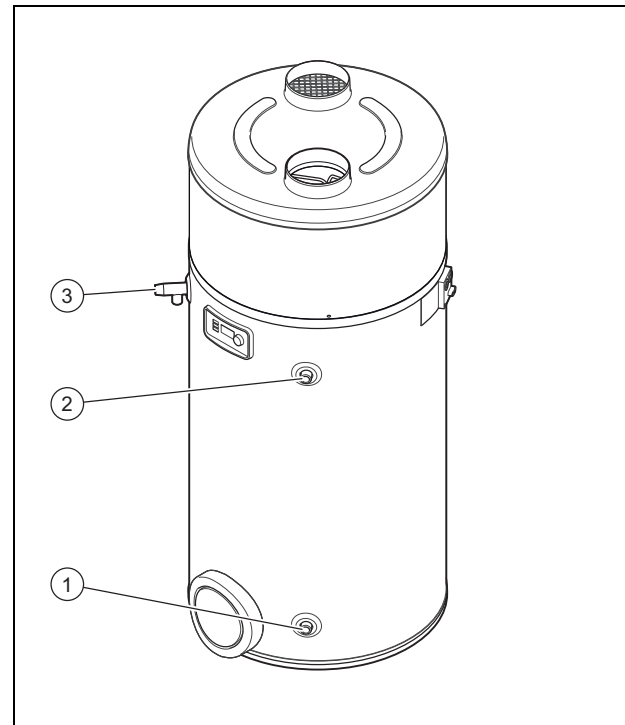
5.2 Installing the water connections

5.2.1 Hydraulics installation

- ▶ Use flat seals.
 - Torque: ≤ 20 Nm

5.2.2 Connecting the domestic hot water cylinder

Validity: aroSTOR VWL B 200/5, Great Britain



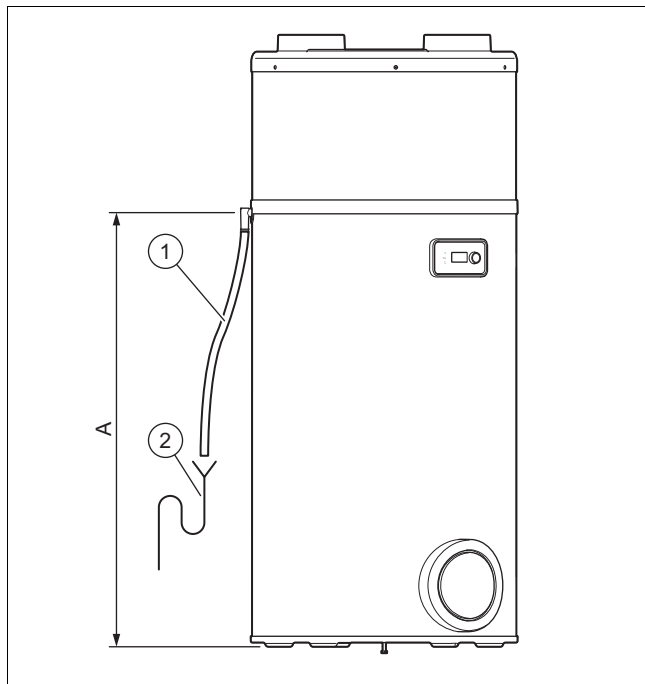
- ▶ Use only dielectric connections (to be provided on-site) to connect the water-carrying lines in order to ensure galvanic partitioning.

1. Connect the cold water pipe (1).
2. Connect the domestic hot water flow to (2).
3. Carry out a leak-tightness check on all connections, including the expansion relief valve (3).

5.2.3 Connecting the condensate discharge pipe for 200 and 270 l

Validity: Great Britain, aroSTOR VWL B 200/5, aroSTOR VWL B 270/5

1. Observe the locally applicable rules and regulations on condensate discharge.



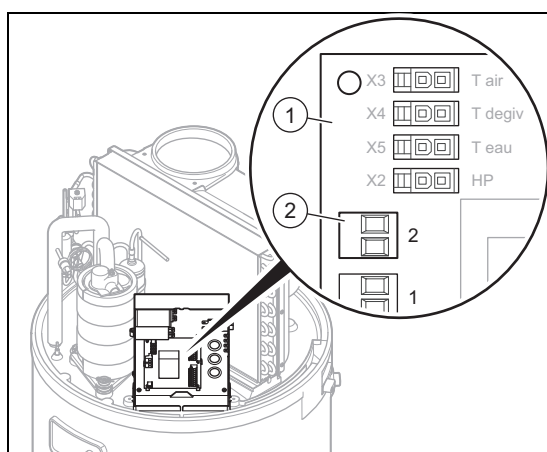
2. Connect the condensate discharge pipe (1) to a pre-installed drain siphon (2).

Cylinder volume	Dimensions (A)
aroSTOR VWL B 200/5 UK	1047 mm
aroSTOR VWL B 270/5 UK	1367 mm

3. Route the condensate discharge pipe with a downward gradient and without any kinks.
4. Fill the drain siphon with water.
5. Leave a small clearance between the end of the condensate discharge pipe and the drain siphon.
6. Ensure that the connection between the condensate discharge pipe and the drain siphon is not air-tight.
7. Check whether the condensate drains off without any problems.

5.2.4 Controlling the fan externally

Condition: Installing a partial pipe system



- ▶ If you want to keep a room aerated permanently, even when the product is switched off, you can connect the contact of the external ventilator control system (fan control).



Caution.

Risk of material damage caused by incorrect handling.

Only external control contacts are compatible.

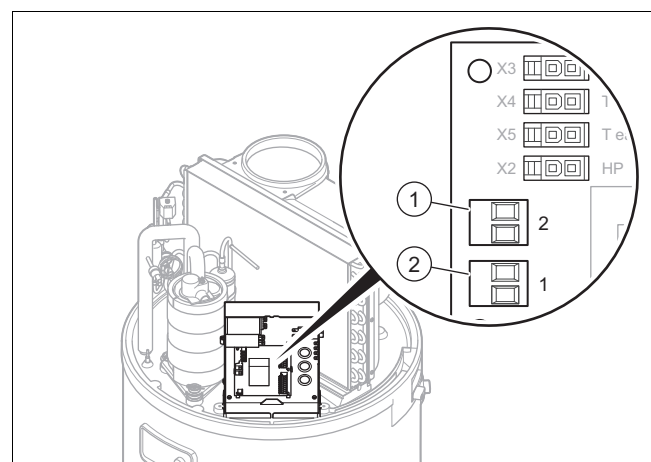
- ▶ Only connect the external control contacts to potential-free contacts.
- ▶ In particular, do not connect any live cables.

- ▶ Remove the covering hood.
- ▶ Remove the black protective cover from the PCB.
- ▶ Guide the cable through the grommet on the rear of the product and through the grommet on the rear of the electronics box.
- ▶ Connect the fan control cable to the plug (2) on the PCB (1).
 - ◁ Contact opened: Fan not running
 - ◁ Contact closed: Fan running
- ▶ In the menu, set the "Fan with external control system" mode to **FAN MODE 3**.

5.2.5 Connecting the photovoltaic installation

Condition: Existing photovoltaic installation

This function can make use of the self-sufficiency optimised by the photovoltaic installation to supply the heat pump and the electrical immersion heater and to heat up the water in the cylinder.



1 Connection terminal 1 2 Connection terminal 2



Caution.

Risk of material damage caused by incorrect handling.

Only external control contacts are compatible.

- ▶ Only connect the external control contacts to potential-free contacts.
- ▶ In particular, do not connect any live cables.

- ▶ Remove the covering hood.

6 Start-up

- ▶ Remove the black protective cover from the PCB.
- ▶ Connect the cable to the photovoltaic installation to connection terminal **(1)** on the PCB.
- ▶ If your photovoltaic installation's control has two control contacts, connect it to the photovoltaic installation at connection terminal **(1)** and **(2)** on the PCB; see "Electronics box wiring diagram" in the appendix.
 - Connection terminal **(1)**: Lower level of electrical energy generated by the photovoltaic installation
 - Connection terminal **(2)**: Upper level of electrical energy generated by the photovoltaic installation

5.3 Electrical installation

Only qualified electricians are allowed to carry out the electrical installation.



Danger!
Risk of death from electric shock!

The mains connection terminals L and N remain live even if the product is switched off.

- ▶ Switch off the power supply.
- ▶ Secure the power supply against being switched on again.



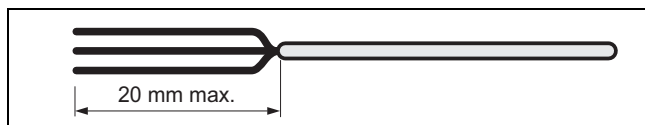
Danger!
Risk of death from electric shock!

The condensers are still charged even hours after the power supply was disconnected.

- ▶ Wait until the condensers have discharged.

The product's power supply must not be interrupted by a timer.

5.3.1 Carrying out the wiring



1. Guide the extra-low and low-voltage cables through different grommets on the rear of the product.
2. Ensure that the inner conductors' insulation is not damaged when stripping the outer sheathing.
3. Remove max. 20 mm of insulation from the cables.

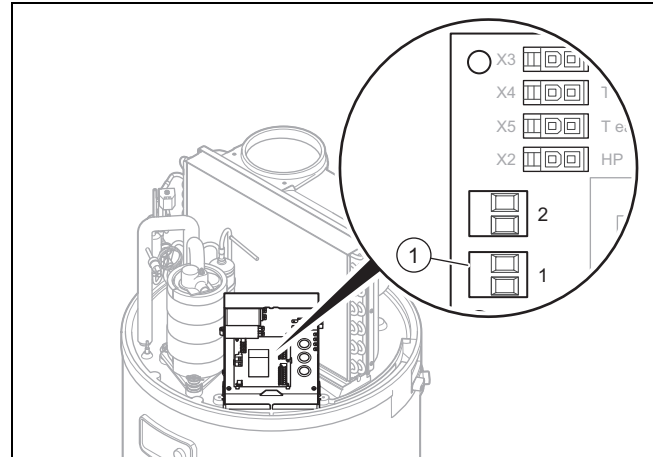


Note
If cables are stripped by more than 20 mm, you must secure them using cable ties.

4. Fit the stripped ends of the conductors with crimp pin terminals to ensure a secure connection that is free from loose strands and to thus prevent short circuits.

5.3.2 Connecting the cable for low-tariff or high-tariff load relief

1. In order to keep the product's operating times as low as possible during high-tariff periods of the power supply (where applicable), connect the electricity meter's control contact.



2. Remove the protective cover. (→ Page 11)
3. Remove the black protective cover from the PCB.
4. Remove the red bridge from the energy supply company's connection terminal **(1)** (ESC contact).
5. Run the cable through the grommet on the rear of the product and through the grommet on the rear of the electronics box.



Note
When doing so, ensure that the grommet is slit open as little as possible to prevent air escaping while the product is in operation.

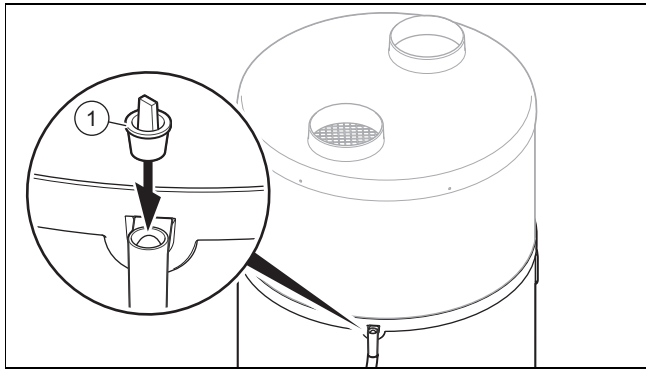
6. Use the plug **(1)** to establish the connection to the electricity meter's control contact.
 - Twin-core cable: 0.75 mm²
7. Inform the end user if the product is controlled via the low-tariff contact, so that any programming of operating times does not conflict with the high- and low-tariff periods.

6 Start-up

6.1 Filling the hot water circuit

1. Disconnect the product from the power grid.
2. Open the highest domestic hot water draw-off point in the installation.
3. Open the stopcock upstream of the safety group on the cold water inlet.
4. Fill the domestic hot water cylinder until water escapes at the highest draw-off point.
5. Close the domestic hot water draw-off point.

6.2 Switching on the product



1. Before starting up the product, ensure that the plugs (1) have been removed from the condensate discharge connection.
2. Ensure that the stopcock upstream of the safety group at the cold water inlet is open.
3. Before switching on the power supply, ensure that the domestic hot water cylinder is full.
4. Ensure that the product has been connected to the power supply.
5. Press the product's on/off button.
 - ◁ The display switches on.
 - ◁ A green LED lights up on the display.
 - ◁ The background lighting on the display flashes and prompts you to set the language.
 - Turn the rotary knob to set the language. Press the rotary knob to confirm the selection.
 - ◁ The unit only offers you the language selection when it is switched on for the first time. However, you have the opportunity to change the language setting. To do this, follow the instructions in the section on setting the language.
 - ◁ The heat pump only starts when the cold water temperature is below the set water temperature and when, according to the operating programme, the switch-on time corresponds to the heat-up time and heating is permitted by the electricity tariff.
 - ◁ When the heat pump is running, there is an air flow at the air inlet and outlet.



Note

After the initial start-up, depending on the air intake temperature and cold water temperature, the heat pump requires 5 to 12 hours to reach a temperature of 55 °C.

7 Handing the product over to the operator

- ▶ Explain to the operator how the safety devices work and where they are located.
- ▶ Inform the operator how to handle the product.
- ▶ In particular, draw attention to the safety information which the operator must follow.
- ▶ Inform the operator of the necessity to have the product maintained according to the specified intervals.
- ▶ Pass all of the instructions and documentation for the product to the operator for safe-keeping.

- ▶ Inform the operator about measures taken concerning the air pipe and inform them that they must not make any changes.

8 Adapting the unit to the installation

8.1 Calling up the installer level

1. Press the menu button.
2. Turn the rotary knob until the **INST.MENU** menu appears in the display.
3. Hold down the clock button and the menu button for three seconds.
 - ◁ The first menu item of the installer level **PV MODE** is displayed.

8.2 Activating and setting photovoltaic mode

Condition: Existing photovoltaic installation

- ▶ If the control for the photovoltaic installation is connected to plug no. 1 and no. 2 on the product's PCB, you must activate **PV MODE**.
 - ◁ The electrical energy generated is stored in the form of domestic hot water. You can set two efficiency levels for the photovoltaic installation.
 - ◁ **PV ECO** = Low level of photovoltaic power generation. The heat pump generates an increased domestic hot water temperature. The increased domestic hot water temperature must be between the normal domestic hot water temperature and 60 °C.
 - Factory setting: 60 °C
 - ◁ **PV MAX** = High level of photovoltaic power generation. The heat pump and the immersion heater generate an increased domestic hot water temperature. The increased domestic hot water temperature must be between the domestic hot water temperature of the **PV ECO** mode and 65 °C.
 - Factory setting: 65 °C
- ▶ Turn the rotary knob to set the mode. **INST.MENU PV MODE**
 - ◁ You can select which function has higher priority (photovoltaic mode or frost protection/eco mode)
- ▶ Select **YES**.
- ▶ Press the rotary knob to confirm the selection.
- ▶ Press the menu button.
- ▶ Set the required domestic hot water temperature.
- ▶ Turn the rotary knob to set the priority. **INST.MENU → PV MODE → PRIORITY**.
 - ◁ **YES** : The signals from connection plugs no. 1 and no. 2 have priority over the frost protection and eco mode.
 - ◁ **no** : Frost protection and eco mode have priority over the signals from connection plugs no. 1 and no. 2.

8 Adapting the unit to the installation



Note

When photovoltaic mode has the higher priority, domestic hot water is also heated during periods that have not been set (e.g. holiday mode and outside of programmed time periods).

If you only want to heat the domestic hot water during the permitted time period, set the priority to **no**.

- ▶ Press the rotary knob to confirm the selection.
 - ◁ The immersion heater is supplied with electricity in order to use the energy from the photovoltaic installation.
 - ◁ When the fan mode is activated (**FAN MODE**), option 3 can no longer be selected.
 - ◁ The **SHED DING** function is not available.
- ▶ Press the menu button to return to the original display.

8.3 Reading the input data

1. If you want to read the product's input data, you must select this menu. **DI SPLAY** → **INST.MENU**.
2. Press the rotary knob in the **DI SPLAY** menu.
 - ◁ **WATER** = Domestic hot water temperature in the central section of the domestic hot water cylinder
 - ◁ **AIR INLET** = Air temperature at the air intake
 - ◁ **T_EV APOR** = Temperature of the evaporator
 - ◁ If **PV MODE** is deactivated:
 - **SHED DING** : Connection contact no. 1/low-tariff contact input (0: Contact opened; 1: Contact closed)
 - **FAN CONTR.** : Connection contact no. 2/hygrostat input (0: Contact opened; 1: Contact closed)
 - ◁ If **PV MODE** is activated:
 - **PV ECO** : Connection contact no. 1 input (0: Contact opened; 1: Contact closed)
 - **PV MAX** : Connection contact no. 2 input (0: Contact opened; 1: Contact closed)
3. Press the menu button to return to the original display.

8.4 Setting the anti-legionella function

The anti-legionella function heats the water in the product to a temperature between 60 °C and 70 °C. 60 °C is set as the standard value at the factory. It is possible to set a target temperature of up to 70 °C. If the target domestic hot water temperature is already set to 60 °C or above, the anti-legionella function is not carried out. If an anti-legionella cycle is interrupted by a time period in which heating mode is prevented (high tariff or time programming), the anti-legionella function will be restarted in the next operating time.

- ▶ Turn the rotary knob to set the time interval (in days) for the anti-legionella function. **SET TINGS** → **ANTI -BACT.** → **INST.MENU** .
- ▶ Press the rotary knob.
- ▶ Select the time interval between two anti-legionella function charges.
- ▶ Press the rotary knob to confirm the selection.
- ▶ Press the menu button to return to the original display.

8.5 Selecting the load relief stage

Condition: Cable for low-tariff/high-tariff load relief connected

- ▶ Select the components that can be used during high-tariff periods.
 - Heat pump only
 - Heat pump and immersion heater
- ▶ Turn the rotary knob to set the mode. **INST.MENU** → **SET TINGS** → **SHED DING**.
 - ◁ 0 = No components may operate in the high-tariff periods
 - ◁ 1 = Only the heat pump may operate in the high-tariff periods
 - ◁ 2 = The heat pump and immersion heater may operate in the high-tariff periods



Note

When using a low-tariff connection, you should not set any additional time-programming.

- ▶ Press the menu button to return to the original display.
- ▶ If you are using a high-tariff connection, inform the end user of the optimal energy use.

8.6 Setting the minimum temperature

You can use the minimum temperature function to prevent the domestic hot water temperature falling below 38 °C. In doing so, the back-up heater (immersion heater) supports the heat pump until a domestic hot water temperature of 43 °C has been reached.

Depending on the parameter selection when setting the load relief stage, the minimum temperature function may not be available in high-tariff periods under certain circumstances. **INST.MENU** → **SET TINGS** → **T°C MINI**

- ▶ Press the rotary knob.
- ▶ Turn the rotary knob and select a hot water temperature of 43 °C.
- ▶ Press the rotary knob to confirm the selection.
- ▶ Press the menu button to return to the original display.

8.7 Setting ventilator mode

- ▶ Turn the rotary knob to set the mode **INST.MENU SET TINGS FAN MODE**.
 - ◁ 1 = Fan operates only when the heat pump is running. The fan speed does not automatically adjust to the heat pump's requirements.
 - ◁ 2 = Fan operates only when the heat pump is running. The fan runs at maximum speed.
 - ◁ 3 = Fan operates only if the heat pump is running or if the external control system permits this (hygrostat)

8.8 Setting the maximum heating time

1. If you switch off this function, the domestic hot water cylinder charging time is shortened. **INST.MENU → SETTINGS → MAX. TIME.**
2. Press the rotary knob.
3. Turn the rotary knob to set the maximum heating time via the heat pump (**Auto** /number of hours).
 - ◁ In **Auto** mode, the product optimises its use of energy sources (heat pump and back-up heater) in order to prevent the heating from starting less than five hours after a low-tariff period has begun.
 - When in the **Auto** setting, the product only uses the back-up heater during low-tariff periods and programmed time periods. The heat pump is used first. The back-up heater is switched on as late as possible.
 - If the unit is not connected to the energy supply company's high-/low-tariff contact, it may not recognise that the five-hour time period has started and consequently the **Auto** function may not work.
 - ◁ In "Number of hours" mode, the product optimises its use of energy sources (heat pump and back-up heater) in order to reach the set temperature within n hours of the heating starting.
 - The shorter the maximum heating time is set to, the more often the back-up heater is switched on and the higher the energy consumption and consequently the energy costs as a result.



Note

The amount of power available depends on the load relief level and the time period (Comfort, Eco, Frost protection, High/Low tariff) that have been programmed.

4. Press the rotary knob to confirm the selection.
5. Press the menu button to return to the original display.

8.9 Reading the meter status

1. If you want to read the product's counter statuses, select this menu **INST.MENU COUNTERS.**
2. Press the rotary knob in the **COUNTERS** menu.
 - ◁ No. 1 = Number of heat pump switching operations
 - ◁ No. 2 = Number of immersion heater switching operations
 - ◁ No. 3 = Function deactivated
 - ◁ No. 4 = Number of compressor operating hours
3. Press the menu button to return to the original display.

8.10 Locking the control elements

1. Turn the rotary knob until the **LOCK ING** menu is displayed.
 - If the control elements are blocked, you can only reset the fault codes or unblock the control elements **INST.MENU LOCK ING.**
2. Press the rotary knob to confirm.
3. Turn the rotary knob to set the automatic level of locking.
 - ◁ **no** = Automatic blocking is not active.
 - ◁ **Auto** = The control elements are blocked 60 seconds after the last entry. This is how you unblock the control elements (→ Page 19).
 - ◁ **Pro** = The control elements are blocked 300 seconds after the last entry. This is how you unblock the control elements (→ Page 19).
4. Press the rotary knob to confirm the selection.
5. Press the menu button to return to the original display.

8.10.1 Unblocking control elements in the Auto mode

1. Press and hold the menu button for three seconds.
2. Select the rotary knob **YES.**
3. Press the rotary knob to confirm the selection.
4. Press the menu button to return to the original display.

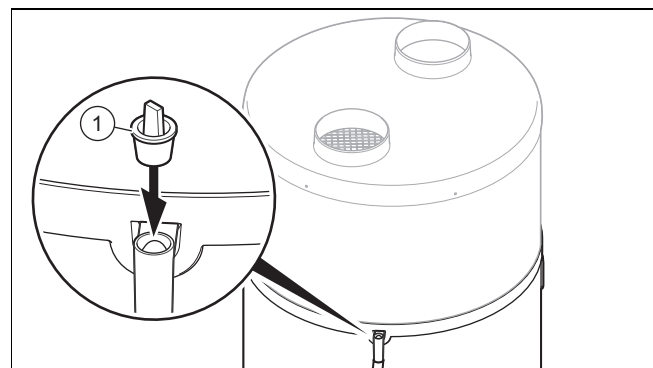
8.10.2 Unblocking control elements in the Pro mode

1. Press and hold the menu button for three seconds.
2. Press and hold the rotary knob and the clock button for three seconds.
3. Select the rotary knob **YES.**
4. Press the rotary knob to confirm the selection.
5. Press the menu button to return to the original display.

8.10.3 Manually locking the operator control elements

1. In the basic display, hold down the menu button and the clock button for three seconds.
2. Select the rotary knob **YES.**
3. Press the rotary knob to confirm the selection.
4. To lift manual locking, hold down the menu button for three seconds .

8.10.4 Preparing a blower door test



1. If you want to carry out a blower door test, you must seal the product's condensate overflow.

9 Troubleshooting

- Use the supplied plug (1) to seal the condensate overflow.



Caution.

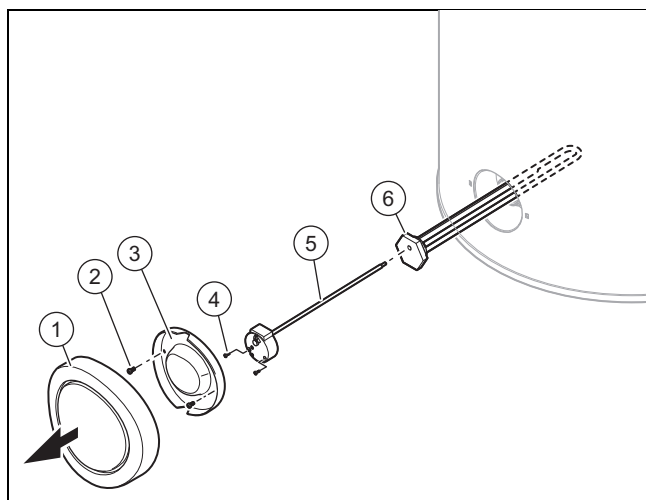
Risk of material damage when closing the condensate overflow

The condensate cannot flow out via the overflow if the waste-water pipework is blocked.

- ▶ After the blower-door test and before starting up the product, ensure that the plug for sealing the overflow has been removed.

- You will need to remove the plug from the condensate overflow before starting up the product again.

8.11 Checking the immersion heater



- Press the on/off button.
- Disconnect the product from the power grid.
- Drain the product. (→ Page 21)
- Remove the black decorative panel by pulling it forcefully to the side.
- Undo the screws (2) on the lower covering hood (3).
- Remove the lower covering hood (3).
- Undo the screws (4) and pull the cables out of the immersion heater.
- Remove the limit thermostat (5) from the immersion heater (6).
- Unscrew the set-up unit along with the immersion heater (6) and its seal.
- Check the scale deposition on the immersion heater.
- Replace the seal.

9 Troubleshooting

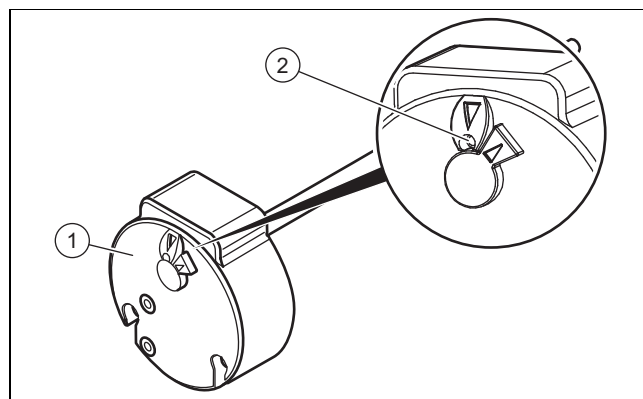
9.1 Eliminating faults

- ▶ Before eliminating the fault, check that the product is supplied with power.
- ▶ Check whether the stopcocks are open.
- ▶ If fault messages appear, eliminate the fault after checking the table in the appendix. Fault messages – Overview
- ▶ After eliminating the fault, start up the product once again.
- ▶ If you are unable to eliminate the fault, contact Customer Service.

9.2 Resetting parameters to factory settings

- Turn the rotary knob until the **RESE T PAR.** menu is displayed. – **INST.MENU RESE T PAR..**
- Press the rotary knob.
- Turn the rotary knob to select **YES**.
- Press the rotary knob to confirm the selection.
- Press the menu button to return to the original display.

9.3 Resetting the safety cut-out



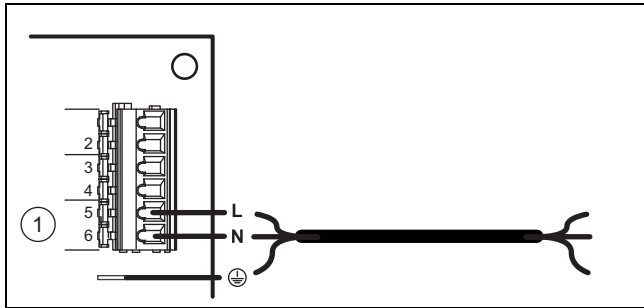
- Before resetting the safety cut-out (1), check whether operation has been switched off by a low-tariff contact or time programming.
- Check whether the safety cut-out for the auxiliary electric heating has been tripped as a result of overheating (> 87 °C), or as a result of a defect.
- Remove the covering hood. (→ Page 11)
- Ensure that the immersion heater is not calcified.
- Press the button (2) to reset the safety cut-out.



Note

The safety cut-out settings must not be changed.

9.4 Replacing the mains connection cable



1. If the product's mains connection cable is damaged, it must be replaced.



Note

The electrical installation must only be carried out by a competent person.

2. Remove the covering hood.
3. Remove the cover from the PCB.
4. Carry out the wiring. (→ Page 16)
5. Guide the mains connection cable through the cable duct on the rear of the electronics box.
6. Connect the mains connection cable to the product's power supply connection.

9.5 Completing repair work

1. Install the covering hood.
2. Establish the power supply.
3. Open all of the stop cocks.
4. Switch on the product.
5. Check that the product and the hydraulic connections work correctly and are leak-tight.

10 Inspection and maintenance

10.1 Preparing the maintenance and repair work

1. Decommission the product.
2. Disconnect the product from the power grid.
3. Wait until the fan has come to a complete stop.
4. Close the stopcocks in the hydraulic circuit.
5. Close the stopcock upstream of the safety group on the cold water inlet.
6. Remove the covering hood.
7. Drain the product if you want to replace water-bearing components of the product.
8. Make sure that water does not drip on live components (e.g. the electronics box).
9. Use only new seals.

10.2 Observing inspection and maintenance intervals

- ▶ Adhere to the minimum inspection and maintenance intervals.
- Annual inspection and maintenance work – Overview

10.3 Draining the product

1. Decommission the product.
2. Disconnect the product from the power mains.
3. Close the stop cock upstream of the safety group on the cold water inlet.
4. Ensure that the waste water outlet is connected to the safety group.
5. Open the safety group valve and check that water is flowing into the outflow.
6. Open the highest hot water draw-off point in the house to drain the water pipes completely.
7. Once the water has completely drained out, close the safety group valve and the hot water draw-off point again.

10.4 Procuring spare parts

The original components of the product were also certified by the manufacturer as part of the declaration of conformity. If you use other, non-certified or unauthorised parts during maintenance or repair work, this may void the conformity of the product and it will therefore no longer comply with the applicable standards.

We strongly recommend that you use original spare parts from the manufacturer as this guarantees fault-free and safe operation of the product. To receive information about the available original spare parts, contact the contact address provided on the back page of these instructions.

- ▶ If you require spare parts for maintenance or repair work, use only the spare parts that are permitted for the product.

11 Decommissioning

11.1 Decommissioning the product

- ▶ Press the on/off button.
- ▶ Disconnect the product from the power mains.
- ▶ Drain the product.

11.2 Arranging disposal of refrigerant



Warning.

Risk of damage to the environment

This heat pump contains the refrigerant R 290. The refrigerant must not be allowed to escape into the atmosphere.

- ▶ Refrigerant must only be disposed of by qualified competent persons.

The competent person who installed the heat pump must dispose of the refrigerant.

12 Recycling and disposal

Personnel who are approved for energy recovery must have the relevant certification that corresponds to the valid regulations.

- ▶ In order to recycle the refrigerant, you must collect it in a suitable vessel prior to disposing of the product.

12 Recycling and disposal

Disposing of the packaging

- ▶ Dispose of the packaging correctly.
- ▶ Observe all relevant regulations.

Appendix

A Annual inspection and maintenance work – Overview

No.	Work
1	Check that the safety devices are functioning properly.
2	Check the refrigerant circuit for leak-tightness.
3	Check the hydraulic circuit for leak-tightness.
4	Check the temperature and pressure expansion relief valve.
5	Check that the safety group is working properly.
6	Check whether the components of the refrigerant circuit show any signs of rust or traces of oil.
7	Check the unit's components for wear.
8	Check whether the unit's components are defective.
9	Check that the cables are securely seated on the connection terminals.
10	Check the electrical installation in accordance with the applicable standards and regulations.
11	Check the product's earthing.
12	Check the heat pump's flow temperature and inspect the settings.
13	Check the compressor for ice formation.
14	Remove the dust from power supply connections.
15	Clean the evaporator carefully to avoid damaging the fins. Make sure that the air can circulate between the fins and around the product.
16	Check that the fan runs freely.
17	Check whether the condensate drains off without any problems.
18	Check the scale deposition on the immersion heater. If the layer of limescale is thicker than 5 mm, you must replace the immersion heater.
19	Record the inspection/maintenance work carried out.

B Fault messages – Overview

Fault code	Description	Possible cause	Solution	Temporary operation
buS	<ul style="list-style-type: none"> – PCB defective – Bus connection to the display is faulty – Display defective 	<ul style="list-style-type: none"> – Overvoltage in the power grid – Cabling fault in the power supply connection (low-tariff contact or external ventilator control system) – Damage during transport 	<ul style="list-style-type: none"> – Replacing the PCB – Replacing the display PCB – Replacing the display connection cable 	Product decommissioned.
T_AIR	Air temperature sensor defective (extracted air)	<ul style="list-style-type: none"> – Sensor defective – Sensor not connected to the PCB – Sensor cable damaged 	Replace the sensor	Heat pump decommissioned. The selected back-up heater keeps the water temperature at 38 °C.
T_DE FROST	Evaporator temperature sensor defective (Defrosting temperature)	<ul style="list-style-type: none"> – Sensor defective – Sensor not connected to the PCB – Sensor cable damaged 	Replace the sensor	Heat pump decommissioned. The selected back-up heater keeps the water temperature at 38 °C.
T_WA TER	Water temperature sensor defective	<ul style="list-style-type: none"> – Sensor defective – Sensor not connected to the PCB – Sensor cable damaged 	Replace the sensor	Heat pump decommissioned.
CLOC K	Time	<ul style="list-style-type: none"> – Overvoltage in the power grid – Damage during transport 	<ul style="list-style-type: none"> – Replacing the display PCB – Replacing the display connection cable 	Operating times are no longer considered: Target temperature for domestic hot water is permanently maintained (no signal on connection plug numbers 1 and 2).

Appendix

Fault code	Description	Possible cause	Solution	Temporary operation
OVER PRESS.	Overpressure inside the heat pump	<ul style="list-style-type: none"> - No water in the domestic hot water cylinder - Water temperature too high (> 75 °C) - Water temperature sensor removed from the domestic hot water cylinder - Water temperature sensor defective 	<ul style="list-style-type: none"> - Checking that the product is correctly filled with water and purged - Replacing the water temperature sensor - Checking that the water temperature sensor is sitting correctly in the cylinder dry pocket 	Heat pump decommissioned. The reset must be implemented manually. Possible operation of the back-up heater.
FREQ.DEFRO.	Excessive de-icing	<ul style="list-style-type: none"> - Air flow too low - Air inlet/outlet opening blocked - Air pipe blocked - Pipeline too long or too many elbows - Evaporator contaminated - Air temperature sensor missing from the air flow 	<ul style="list-style-type: none"> - Checking that the air flows through the entire pipework system without any problems - Check the pipe length - Checking the status of any filters present in the air pipes - Checking that the evaporator is free of dust - Positioning the air temperature sensor correctly 	Heat pump decommissioned. The selected back-up heater keeps the water temperature at 38 °C.
LOW PRES.	Low pressure inside the heat pump	<ul style="list-style-type: none"> - Air flow too low - Air inlet/outlet opening blocked - Air pipe blocked - Fan blocked or defective - Evaporator contaminated and blocked - Evaporator frozen - Air temperature sensor missing from the air flow 	<ul style="list-style-type: none"> - Checking that the fan is running - Checking that the air flows through the entire pipework system without any problems - Check the pipe length - Checking the status of any filters present in the air pipes - Checking that the evaporator is free of dust - Positioning the air temperature sensor correctly 	Heat pump decommissioned. The selected back-up heater keeps the water temperature at 38 °C.
OVER HEAT	Domestic hot water overheating (Water temperature > 87 °C)	<ul style="list-style-type: none"> - Water temperature sensor defective - Water temperature sensor removed from the domestic hot water cylinder 	Checking that the sensor is correctly positioned in the pocket	Heat pump decommissioned. Resetting is effected automatically.
ERR. 01	Incorrect temperature sensor readings	<ul style="list-style-type: none"> - The air temperature sensor and the defrosting sensor have been inverted on the PCB - The defrosting sensor and the water temperature sensor have been inverted on the PCB - The defrosting sensor is connected to the air connection plug. The air temperature sensor is connected to the water connection plug and the water temperature sensor is connected to the defrosting connection plug 	Connecting the temperature sensors to the PCB correctly	Heat pump decommissioned.

Fault code	Description	Possible cause	Solution	Temporary operation
ERR. 01	Incorrect defrosting sensor readings	Defrosting sensor incorrectly installed on the pipe. Air temperature is measured	Re-establishing contact between the defrosting sensor and the pipe	Heat pump decommissioned.
	Heat pump out of gas	Leak in the cooling circuit	Finding and repairing the leak before filling the cooling circuit	
	Expansion valve shut down	Break in the copper pipe for the expansion valve following interference or due to contact with a vibrating component.	Replacing the expansion valve	
	Compressor shut down and safety cut-out activated	Compressor defective	Replacing the compressor	
ERR. 02	Incorrect temperature sensor readings	<ul style="list-style-type: none"> – The air temperature and the water temperature sensors have been inverted on the PCB. – The defrosting sensor is connected on the water connection plug. The water temperature sensor is connected to the air connection plug, and the air temperature sensor is connected to the defrosting connection plug. 	Connecting sensors to the PCB correctly	Product decommissioned.
ERR. 03	Incorrect temperature sensor readings	The defrosting sensor is connected on the water connection plug. The water temperature sensor is connected to the air connection plug, and the air temperature sensor is connected to the defrosting connection plug.	Connecting sensors to the PCB correctly	Product decommissioned.
ERR. 04	Incorrect defrosting and hot water temperature sensor readings	The defrosting sensor and the water temperature sensor have been inverted on the PCB.	Connecting sensors to the PCB correctly	Heat pump decommissioned.
ERR. 08	Incorrect measurements by the defrosting sensor	The defrosting sensor is defective.	Replace the sensor	The product works in alternating operation with the heat pump.
EPrO	Display card has a storage problem	<ul style="list-style-type: none"> – Display card is damaged – Display connection cable is damaged 	<ul style="list-style-type: none"> – Replacing the display card – Replacing the display connection cable 	Product decommissioned.

C Installer level – Overview

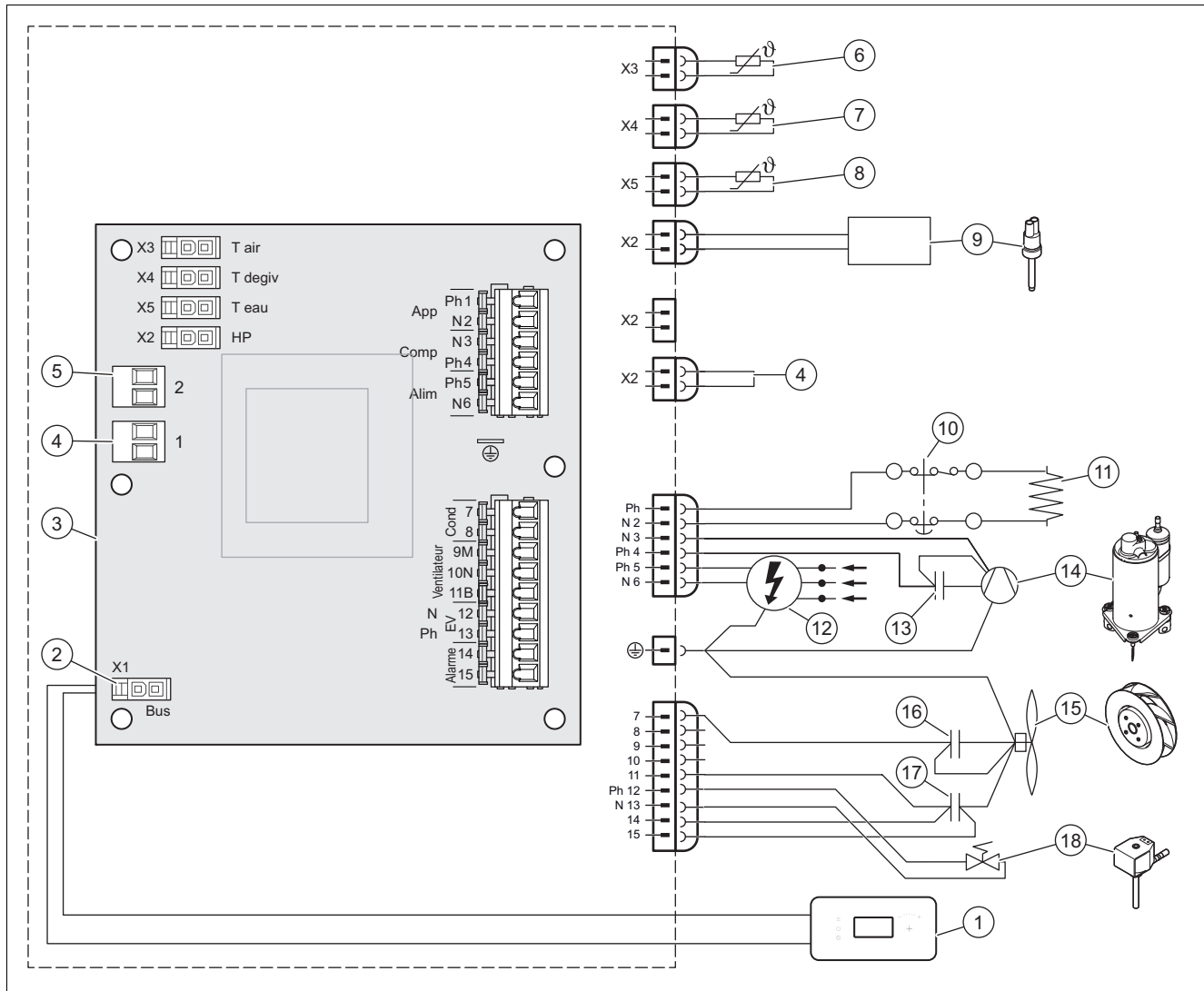
Setting level	Values		Unit	Increment, select, explanation	Default setting
	Min.	Max.			
INST.MENU → PV MODE →					
PV MODE	Current value			YES, no	no
INST.MENU → PV MODE → PRIORITY					
PRIORITY	Current value			YES: PV MODE has higher priority than frost protection and eco mode; no: PV MODE has lower priority than frost protection and eco mode	YES
INST.MENU → DI SPLAY →					
WATE R	Current value		°C		
AIR INLET	Current value		°C		
T_EV APOR	Current value		°C		

Appendix

Setting level	Values		Unit	Increment, select, explanation	Default setting
	Min.	Max.			
PV ECO	Current value			Only visible if PV MODE = YES 0: Contact opened; 1: Contact closed	
PV MAX	Current value			Only visible if PV MODE = YES 0: Contact opened; 1: Contact closed	
SHED DING	Current value			Only visible if PV MODE = no 0: Contact opened; 1: Contact closed	
FAN CONTR.	Current value			Only visible if PV MODE = no 0: Contact opened; 1: Contact closed	
INST.MENU → SET TINGS →					
ANTI -BACT.	Current value			no ; number of days	no
SHED DING	Current value			Only visible if PV MODE = no 0: Product out of operation during high tariff 1: Only heat pump in operation during high tariff 2: Heat pump and immersion heater in operation during high tariff	1
T°C MINI	43	43	°C	no ; 43 °C	no
FAN MODE	Current value			1 = Fan operates only when the heat pump is running. The fan speed does not automatically adjust to the heat pump's requirements. 2 = Fan operates only when the heat pump is running. The fan runs at maximum speed. 3: Ventilator is controlled by an external fan control If PV MODE = YES : Only 1 and 2 can be selected	1
MAX. TIME	2	24	h	no , Auto , number of hours	no
INST.MENU → RESE T PAR. →					
RESE T PAR.	Current value			YES , no	no
INST.MENU → COUN TERS →					
COUN TERS	Current value			No. 1: Heat pump start cycles No. 2: Immersion heater start cycles No. 3: Not used No. 4: Compressor operating hours	
INST.MENU → LOCK ING →					
LOCK ING	Current value			no ; Auto ; Pro	no

D Electronics box wiring diagram

Validity: aroSTOR VWL B 200/5, aroSTOR VWL B 270/5, Great Britain



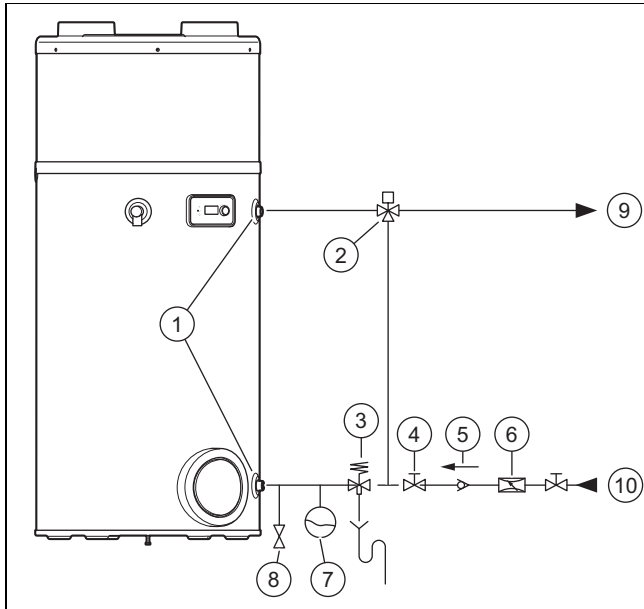
- 1 Control panel
- 2 Control panel connection plug
- 3 Main PCB
- 4 Connection plug no. 1: Low tariff or lower level of electrical energy generated by the photovoltaic installation
- 5 Connection plug no. 2: Ventilator control system or upper level of electrical energy generated by the photovoltaic installation
- 6 Air temperature sensor
- 7 Defrosting temperature sensor
- 8 Water temperature sensor

- 9 Pressure switch
- 10 Safety cut-out, 87 °C
- 11 Immersion heater
- 12 230 V power supply
- 13 20 μF condenser
- 14 Compressor
- 15 Fan
- 16 2 μF condenser
- 17 5.5 μF condenser
- 18 Defrosting valve

Appendix

E Basic hydraulic diagram

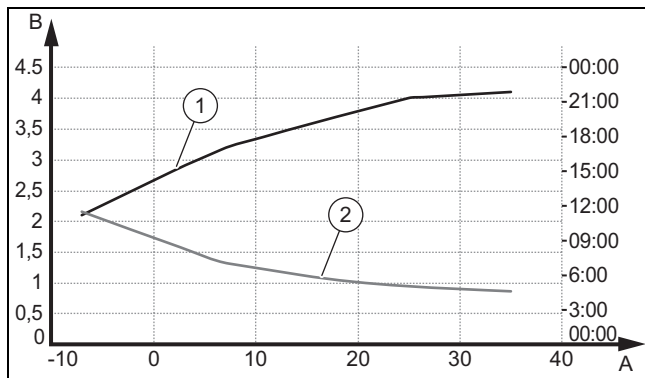
Validity: aroSTOR VWL B 200/5, aroSTOR VWL B 270/5



- | | | | |
|---|--|----|-------------------------|
| 1 | Dielectrically isolated hydraulic connection | 6 | Pressure reducer |
| 2 | Thermostatic mixer tap | 7 | Expansion vessel |
| 3 | Safety group | 8 | Drain valve |
| 4 | Stopcock | 9 | Domestic hot water flow |
| 5 | Non-return valve | 10 | Cold water pipe |

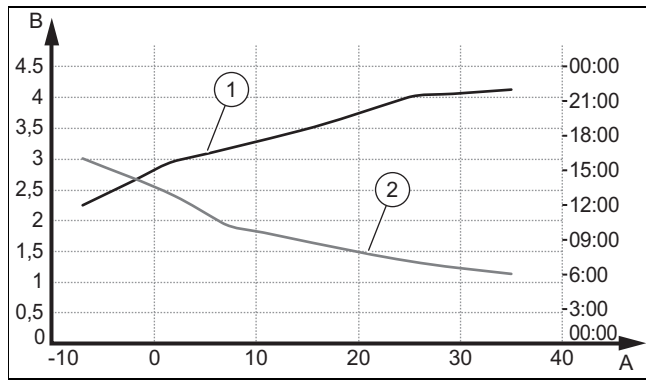
F Heat pump output curves

Validity: aroSTOR VWL B 200/5



- | | | | |
|---|---|---|---|
| A | Air temperature in °C | 2 | Heating time at a water temperature of 10 °C for a target temperature of 55 °C (EN 16147:2017/extraction cycle L) |
| B | Working figure (COP) | | |
| 1 | COP at a cold water temperature of 10 °C for a target temperature of 55 °C (EN 16147:2017/extraction cycle L) | | |

Validity: aroSTOR VWL B 270/5



A Air temperature in °C

2

Heating time at a water temperature of 10 °C for a target temperature of 55 °C (EN 16147:2017/extraction cycle L)

B Working figure (COP)

1 COP at a cold water temperature of 10 °C for a target temperature of 55 °C (EN 16147:2017/extraction cycle L)

G Technical data

Technical data – General

	aroSTOR VWL B 200/5 UK	aroSTOR VWL B 270/5 UK
Nominal capacity	200 l	270 l
Outer diameter	634 mm	634 mm
Height	1,458 mm	1,783 mm
Weight (when empty)	55 kg	68 kg
Weight (filled)	255 kg	338 kg
Material of the product container	Stainless steel	Stainless steel
Heat insulation	Polyurethane foam 50 mm	Polyurethane foam 50 mm
Corrosion protection	–	–
Maximum pressure in the drinking water circuit	0.6 MPa (6.0 bar)	0.6 MPa (6.0 bar)
Max. hot water temperature with the additional electric heating	65 °C	65 °C
Maximum pressure of the temperature and pressure relief valve	0.7 MPa (7.0 bar)	0.7 MPa (7.0 bar)
Maximum temperature of the temperature and pressure relief valve	90 °C (194.0 °F)	90 °C (194.0 °F)

Technical data – Electrical specifications

	aroSTOR VWL B 200/5 UK	aroSTOR VWL B 270/5 UK
Voltage and frequency of the product's power supply	230 V – 50 Hz	230 V – 50 Hz
Max amperage of the power supply circuit	8 A	8 A
Length of the electrical cable supplied	1.5 m	1.5 m
IP rating	IPX4	IPX4
Nominal heat output of the electric back-up heater	1,200 W	1,200 W
Heat input of the electric back-up heater	7 W/cm ²	7 W/cm ²

Technical data – Hydraulic connections

	aroSTOR VWL B 200/5 UK	aroSTOR VWL B 270/5 UK
Connections for the hot water circuit	M 3/4"	M 3/4"
Connecting the temperature and pressure relief valve	M 3/4"	M 3/4"

Technical data – Specifications for the heat pump

* In accordance with EN 16147:2017

Appendix

	aroSTOR VWL B 200/5 UK	aroSTOR VWL B 270/5 UK
Refrigerant type	R 290	R 290
Refrigerant volume for complete filling	0.15 kg	0.15 kg
Max. overpressure in the heat pump	2.5 MPa	2.5 MPa
Max. low pressure in the heat pump	1.5 MPa	1.5 MPa
Permitted air temperature	-7 to 35 °C	-7 to 35 °C
Sound pressure level, LpA, in 1 m clearance (V1/V2)	40/43 dB	40/43 dB
Sound power level, LWA, in 1 m clearance (V1/V2)	50/52 dB	50/52 dB
Nominal heat output of the heat pump (water temperature: 55 °C)	700 W	700 W
Nominal heat output of the heat pump (water temperature: 45 °C)	1,420 W	1,420 W
Coefficient of performance (COP _{DHW} (outdoor air temperature: 7 °C, extraction cycle: L)*	3,19	3,14
Maximum usable domestic hot water volume V _{max} (outdoor air temperature: 7 °C, extraction cycle: L)*	247.4 l (65.36 liq. gal _{US})	349.3 l (92.28 liq. gal _{US})
Reference domestic hot water temperature Θ' _{WH} (outdoor air temperature: 7 °C, extraction cycle: L)*	54.2 °C (129.56 °F)	53.8 °C (128.84 °F)
Heat-up time (environmental air temperature: 7 °C, extraction cycle: L)*	7.04 h	10.15 h
Power consumption during standby periods P _{es} (outdoor air temperature: 7 °C, extraction cycle: L)*	23 W	25 W

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