# DHW 250P

Dimplex®

## Installation and Operating Instructions

English



## Domestic hot water heat pump

Issue 1

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# 1. Warnings

## 1.1. Intended use

This device is only intended for use as specified by the manufacturer. Any other use beyond that intended by the manufacturer is prohibited. This requires the user to abide by the relevant project planning documents. Please refrain from tampering with or altering the device.

## 1.2. Important information

**⚠ ATTENTION!**

Read these installation and operating instructions before commissioning!

**⚠ ATTENTION!**

Work on the domestic hot water heat pump is to be performed by qualified personnel only! Observe accident prevention regulations!

**⚠ ATTENTION!**

The device cover cannot be used for carrying (the cover cannot withstand significant forces).

**⚠ ATTENTION!**

Once the heat pump has been set up, the guard plate must be removed!

**⚠ ATTENTION!**

The heat pump may only be transported in upright position (see chapter "Transport").

**⚠ ATTENTION!**

When installing the on-site pipework, ensure that the pipes are not contaminated (flush pipes before connecting the domestic hot water heat pump if necessary).

**⚠ ATTENTION!**

The domestic hot water heat pump must only be operated when filled with water.

**⚠ ATTENTION!**

Disconnect the power supply before opening the domestic hot water heat pump; possible fan coasting must be considered.

**⚠ ATTENTION!**

Risk of injury caused by sharp-edged fins. Fins must not be deformed or damaged!

**⚠ ATTENTION!**

Disconnect the power supply before opening the device.

## 1.3. Regulations / safety notes

**⚠ ATTENTION!**

Read these installation and operating instructions before commissioning!

The domestic hot water heat pump is used exclusively to heat water for domestic use and drinking water within the specified operating temperature limits. The heating of fluids other than domestic water is not permitted. Technical regulations for domestic water installation are to be observed. The nominal pipe widths for the on-site sanitary installation must be determined taking into account the building-specific requirements and the valid directives and regulations. Any necessary safety devices, such as pressure reducing valves, must be installed according to the specific requirements.

The following are not permitted:

- Operating the pump with solvent-based or explosive exhaust air
- The use of exhaust air containing grease, dust or aerosols
- Connecting extractor hoods to the ventilation system

It is not permissible to install the device:

- Outdoors
- In rooms which are exposed to frost
- In rooms subject to high humidity (e.g. bathrooms)
- In rooms with air which is potentially explosive because of gases, vapours or dust

It is not permissible to operate the device

- With an empty cylinder
- During the construction phase of the building

The construction and design of the domestic hot water heat pump complies with the relevant EU directives.

The specialist technician must ensure that the refrigerant is flushed adequately to allow maintenance and repair work to be carried out on refrigerant circuit components without risk. Refrigerant must be properly handled and disposed of; it must not be released into the environment! The refrigeration circuit is "hermetically sealed" and contains the refrigerant R290. Information on the GWP value and $CO_2$ equivalent of the refrigerant is available under "Device information". The refrigerant is CFC-free, non-ozone depleting and combustible.
Always disconnect the power supply before carrying out any work on the domestic hot water heat pump.

When connecting the domestic hot water heat pump to the power supply, the relevant country-specific standards must be complied with. Also observe the technical connection requirements of the electrical utility companies.

This heat pump is designed for use in a domestic environment according to Article 1, Paragraph 2 k) of EU directive 2006/42/EC (Machinery Directive) and is thus subject to the requirements of EU directive 2014/35/EU (Low Voltage Directive).

**⚠ ATTENTION!**

Work on the domestic hot water heat pump is to be performed by qualified personnel only!

# 2. Description

## 2.1. General

The domestic hot water heat pump's main components are a domestic hot water cylinder, the components of the refrigerant, air and water circuits and the control, regulation and monitoring devices required for automatic operation.

The domestic hot water heat pump is supplied with electrical energy and uses the heat stored in the intake air for domestic hot water preparation. The devices are equipped with an electric heating element as standard (1.2 kW).

The device is designed for use without an air duct. The temperature of the intake air from the heat source acts as the reference value for the energy consumption, the domestic hot water preparation heat-up time and domestic hot water temperature. For this reason, an air duct system (DN 160, max. 2 m with max. two 90° elbows) can be connected to the standard spigot of the domestic hot water heat pump for targeted waste heat recovery.

For the heat pump to be operated effectively, air short circuits between the intake air and the outlet air must always be avoided. For example, this can be achieved by using a bend on the intake and outlet side.

Falling outlet air temperatures reduce the heat pump's heat output and increase the heat-up time. In order for the heat pump to be operated economically, the air intake temperature should not fall below 15 °C.

## 2.2. Functions of the electric heating

- Supplementary heating
  The "Boost" setting enables domestic hot water preparation to be carried out with
  support from the electric heating for a certain period.
- Emergency heating
  In the event of a heat pump fault, the domestic hot water supply is maintained by the electric heating.
- Preventative thermal disinfection
  Domestic hot water temperatures above 60 °C (up to 65 °C) can be programmed by selecting "ANTI-BACT." in the menu using the operator panel keypad.
- Reheating
  Water temperatures over 60 °C are achieved with the electric heating.

## 2.3. Safety and control devices

The domestic hot water heat pump is equipped with the following safety devices:

**High pressure switch (HP)**

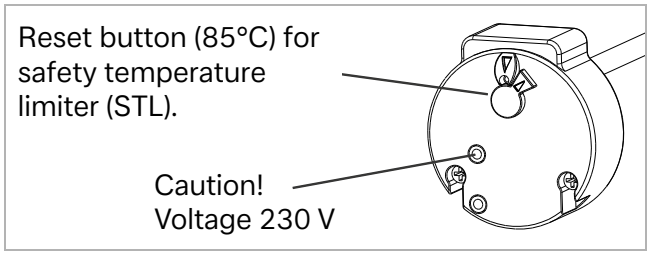
The high pressure switch protects the heat pump against unacceptably high operating pressure in the refrigerant circuit and switches the heat pump off in the event of a fault. The heat pump restarts with a time delay once the pressure in the refrigerant circuit has dropped again.

**Safety temperature limiter for electric heating (STL)**

The STL prevents unacceptably high temperatures from developing in the domestic hot water cylinder.

The electric heating switches off if the set switching value (99 °C) is exceeded.

The electric heating cannot be switched on again until the domestic hot water temperature has decreased to≤ 90 °C and the reset button on the STL (under flange cover) is pressed (this must only be done by qualified personnel).



## 3. Scope of supply

- 1 Domestic hot water heat pump
- 1 Documentation pouch with the following contents:
  - 1 Installation and operating instructions
  - 1 Transport case

## 4. Storage

**NOTE**

The permissible transport and storage temperature for the domestic hot water heat pump is between -5 °C and +35 °C.

## 5. Transport

**NOTE**

The hood of the domestic hot water heat pump must not be used as a transport aid.

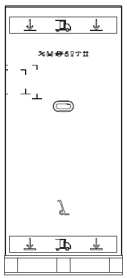
**NOTE**

No other objects are to be stored on the cardboard packaging. This is particularly important for transportation by truck. Non-compliance can lead to destruction of the cover or the refrigeration circuit.

**NOTE**

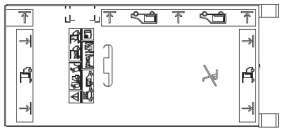
Maximum tilt angle 30°

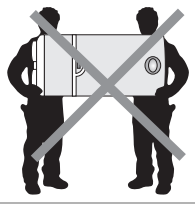
Permissible transport position:





Impermissible transport position:





**NOTE**

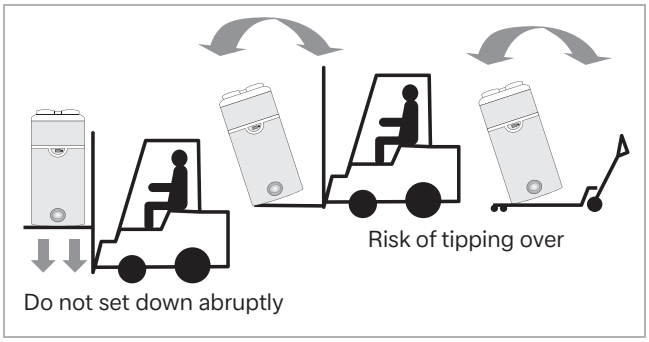
All other transport positions are prohibited.

**NOTE**

Transporting the device in a wrong horizontal position may permanently destroy the components of the heat pump refrigeration circuit. Pay attention to the imprint on the cardboard packaging during transport!

**NOTE**

Risk of tipping over! Centre of gravity moved upwards. Handle with care!

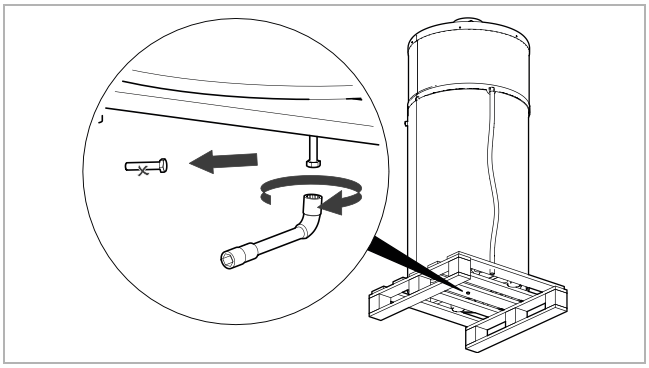



**NOTE**

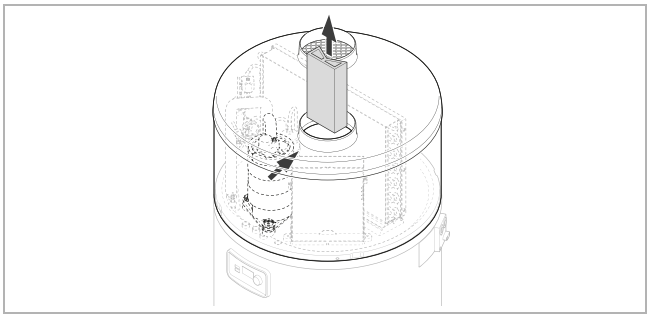
After installing the domestic hot water heat pump in its installation location, wait 60 minutes before commissioning.

## 6. Unpacking

Remove the cardboard packaging. Ideally, remove it upwards or carefully cut the packaging with a knife.
Remove the centring holders and spacers fitted around the heat pump.
Remove the document pack and transport case and store them securely.
Loosen the transport screw under the pallet using a suitable tool.
Use to transport case to transport the heat pump to the final installation location.



Remove the transport and holding wedges for the compressor by lifting them upwards.



**i NOTE**

Plastic bags and the transport bag should be kept away from small children. There is a risk of suffocation.

## 7. Installation location

### 7.1. Selecting the installation location

**⚠ ATTENTION!**

Take the following into account during installation: The device must not be installed close to a constant flame or other ignition source. The device must be installed so that mechanical damage is avoided.

Installation location criteria:

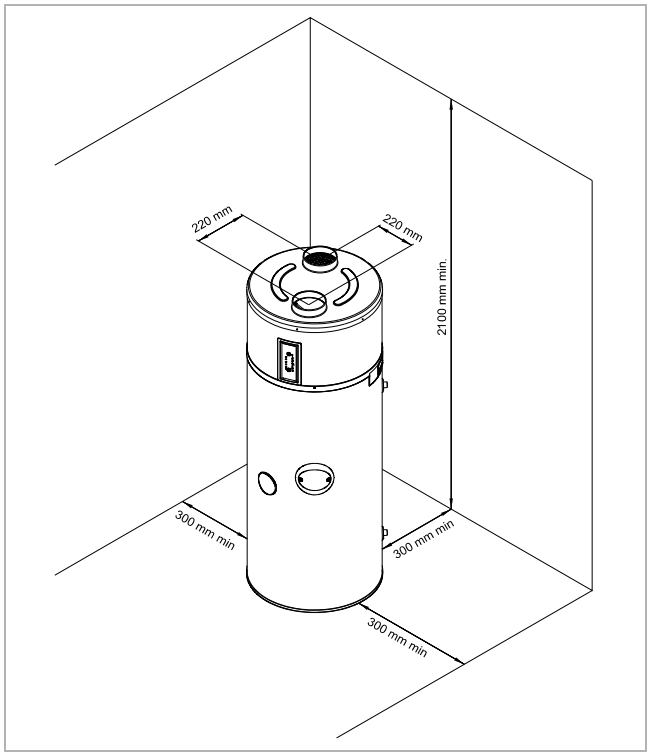
- The domestic hot water heat pump must be installed in a dry and frost-free room (room size min. 20 m³).
- Room height min. 2 m with bend for intake or air outlet to prevent air short circuit.
- Furthermore, installation and air intake is not permitted in rooms with air which is potentially explosive due to gases, vapours or dust.
- Observe thermal bridges, particularly if a room cooled by the outlet air is directly adjacent to a heated room.
- Condensate drainage (with a siphon) must be provided.
- The air taken in may not be excessively contaminated or contain large amounts of dust.

It is forbidden to install the device as follows:

- Outdoors.
- in rooms with exposure to frost or with a prevailing temperature below 7 °C, even if the device is in operation.
- In very humid rooms with release of high vapour concentrations.
- In rooms where there is a risk of explosion due to the presence of gases, vapours or dust.

### 7.2. Arrangement and fixing

To ensure fault-free operation and to allow any maintenance and repair work, minimum clearances of 0.3 m are required on the left and right of the device and 0.4 m to the ceiling (see figure).




The floor must have an adequate load bearing capacity (weight of the domestic hot water heat pump, filled with 250 l water = 335 kg).

**i NOTE**

The domestic hot water heat pump must be installed vertically. Otherwise, condensate may overflow, causing water to accumulate on the floor.

# 8. Connection

## 8.1. Air-technical connection

The device is designed for use without an air duct. When using an air duct for intake, a total length of 2 m with a maximum of two 90° elbows is permitted. Failure to observe these regulations will void the manufacturer warranty

Without an air duct, the device must be installed in an unheated room (at least 20 m³) separate from neighbouring heated rooms.

If the clear height under the ceiling over the device is less than 60 cm, it is advisable to install an elbow on the air outlet and to direct it to the rear or to the sides.

The domestic hot water heat pump can also be used in unheated workshops and garages if the parameters listed in chapter 7 are complied with.

The domestic hot water heat pump enables dehumidification and cooling of rooms such as laundry rooms and storerooms.

## 8.2. Connecting the water pipes

A new safety group (not included in the scope of supply - special accessories SVK 825 - 326660).) must be installed that is set to 6 bar on the cold water inlet of the device. We recommend installing a safety assembly.

This safety group must correspond to the national standards and comply with DIN 1988, Part 2; DIN 4753, Part 1 and DIN EN 1488.

The safety group must be mounted as close as possible to the cold water inlet of the device and

the water flow must never be obstructed by an accessory (valve, pressure reducer etc.)

The drainage outlet from the safety group must be installed in a frost-free environment and have a downward slope.

The drainage outlet from the safety group must be designed in accordance with DTU regulations (standardised technical documents) and must never be blocked. It must be connected via a funnel (at least 20 mm to free air) to a vertical outlet line with a diameter that corresponds at least to that of the connection line of the device.

If the pressure on the cold water inlet is more than 5 bar, a pressure reducing valve must be installed upstream of the safety group on the flow.

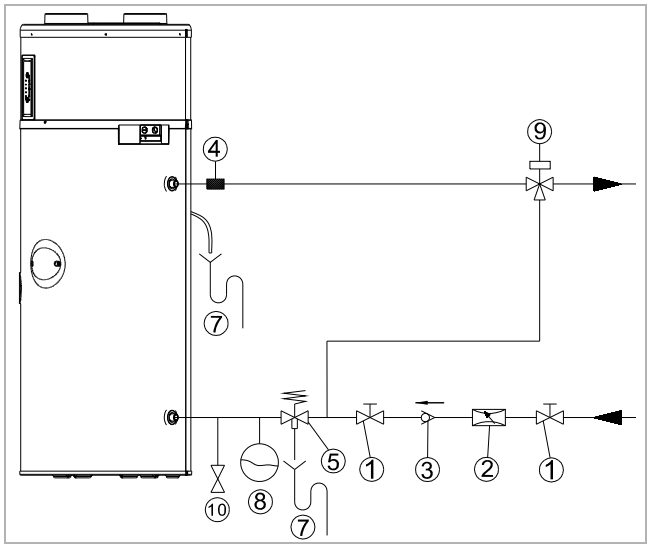
We recommend mounting an isolation valve before the safety group.

For systems

- with pipes with a small diameter,
- with a ceramic ball cock

valves must be installed as close as possible to the cocks, or an expansion vessel adapted to the system, to prevent pressure surges.

**Connection diagram**




| | |
|---|---|
| 1 | Isolation valve |
| 2 | Pressure reducing valve |
| 3 | Check valve |
| 4 | Dielectric insulation sleeve, optional (not included in the scope of supply) |
| 5 | Safety assembly (SVK 825) (not included in the scope of supply) |
| 7 | Siphon drain |
| 8 | Expansion vessel |
| 9 | Thermostatic mixer |
| 10 | Drain valve |

The following materials must be used for the domestic hot water circuit:

- Copper
- Stainless steel
- Brass
- Plastic

**i NOTE**

Depending on the materials used for the domestic hot water circuit, corrosion-related damage may occur due to incompatibilities.

For this reason, connection of the device to copper domestic hot water lines must be carried out with a cast or steel connection or using dielectric connections (not included in the scope of supply), which prevent any galvanic bridge (iron/copper).

The supply line upstream of the device connection to the sanitary installation must be flushed well so that no metal parts or other foreign bodies are transported into the device.

The standards applicable at the installation location must be complied with in particular with regard to the sanitary conditions and the pressure safety conditions.

**NOTE**

The maximum value of the domestic hot water temperature must not exceed 60 °C at the tapping points. Suitable thermostatic mixer taps must be installed to rule out any risk of scalding.

The device works with water with a total hardness between 6.5 °dH and 17 °dH. For particularly hard water (total hardness >14 °dH), we recommend using a water softener.

Failure to observe the conditions outlined above will void the warranty for the use of the cylinder (the values apply for a water temperature of 20 °C).

| Specific resistance | 2200 V.cm < R < 4500 V.cm | |
|---|---|---|
| Water hardness | > 1.6 l eq. | > 6.5 °dH<br>< 17 °dH |
| Free CO2 | <15 mg/l | – |
| Calcium ($Ca^{++}$) | > 1.6 l eq. | > 4.5 °dH |
| Sulphate ($SO_4$--) | < 2 l eq. | > 5.6 °dH |
| Chloride (Cl-) | < 2 l eq. | > 5.6 °dH |
| Sulphate and chloride ($SO_4^{--}$ + $Cl^-$) | < 3 l eq. | > 5.6 °dH |

**NOTE**

We strongly advise against using a circulation line. This device is not designed for this type of connection. A circulation connection will result in a significant temperature drop in the cylinder.

**NOTE**

We are unable to honour a warranty if these points have not been observed or if a correct procedure could not be observed in line with the legislation due to the water quality.

**NOTE**

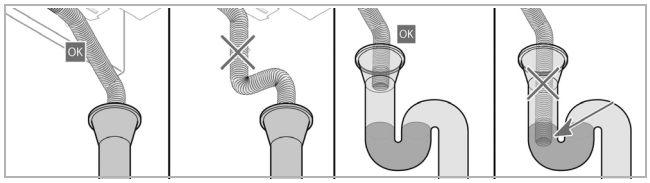
The cylinder has a sacrificial magnesium anode. This must be checked for wear at regular intervals. Replace if necessary (measured value < 0.3A if sacrificial anode is exhausted).

### 8.3. Condensate drain

The condensate hose must not be connected directly to the drain. It must end in the free air in a siphon, which must be mounted and filled with water.

Do not fit a sleeve connection.

Do not bend the hose.




### 8.4. Electrical connection

**NOTE**

Do not connect the domestic hot water heat pump to the electric line of an old water heater that is connected to the contact for peak and low load times.

**NOTE**

Continuous voltage must be applied on the domestic hot water heat pump. The control of the peak and low load times takes place via a cable to be installed separately Earthing is essential here.

The supply takes place mono-phase with 230 V (1/N/PE 230 V ~, 50/60 Hz).

The power supply must be compliant with the regulations valid in the installation country and with the standard NFC 15-100.

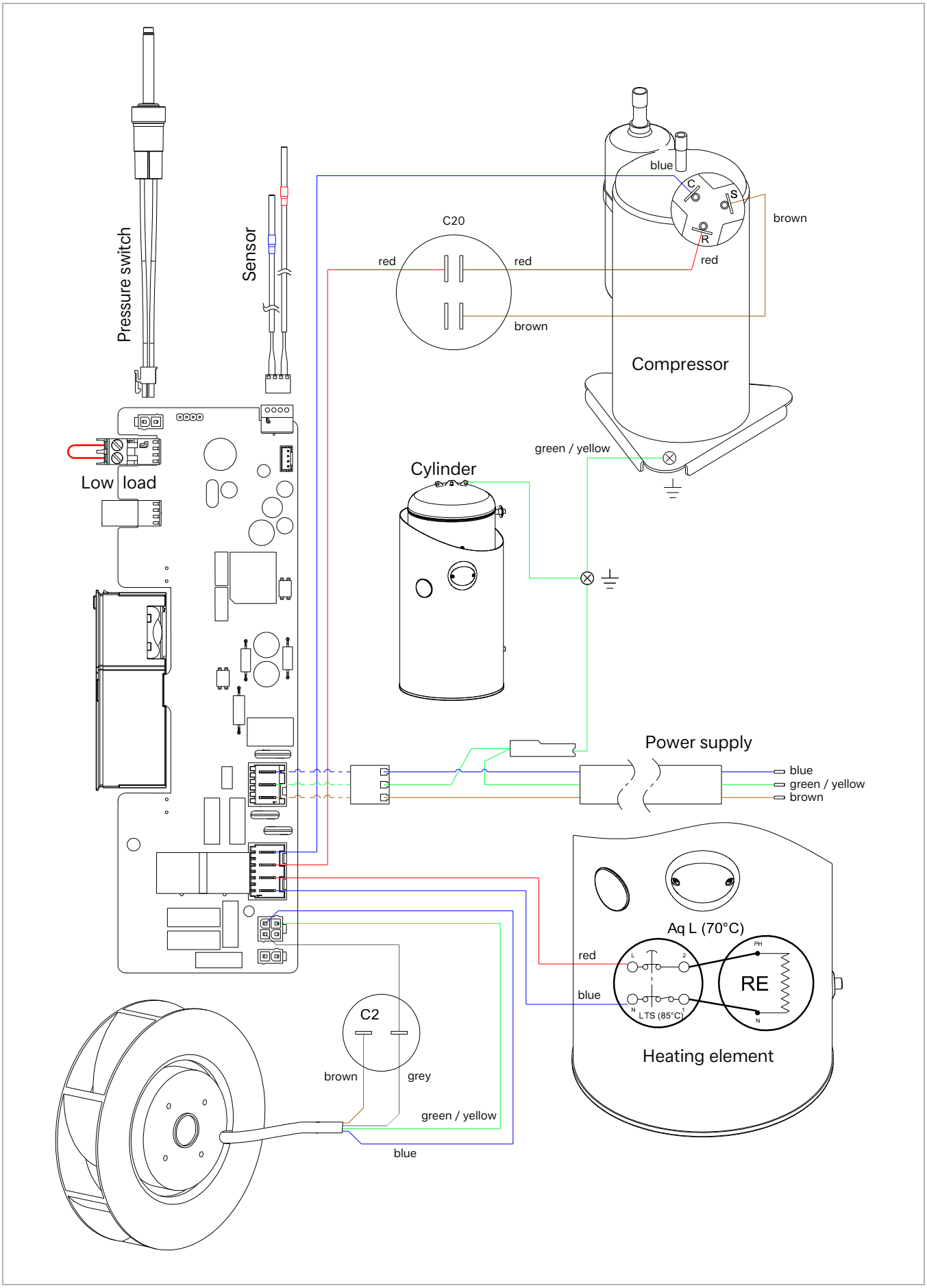
A separating device must be installed on fixed lines in accordance with the installation regulations, which can guarantee a complete shutdown under the conditions of category III

The device must be protected as follows:

- with an all-pole circuit breaker 13 A with
- contact opening of at least 3 mm,
- with a circuit breaker 13 A with differential 30 mA.

If the supply line is damaged, it must be replaced by the manufacturer, the manufacturer's after-sales service or a person with comparable qualification to avoid damage.

## Circuit diagram



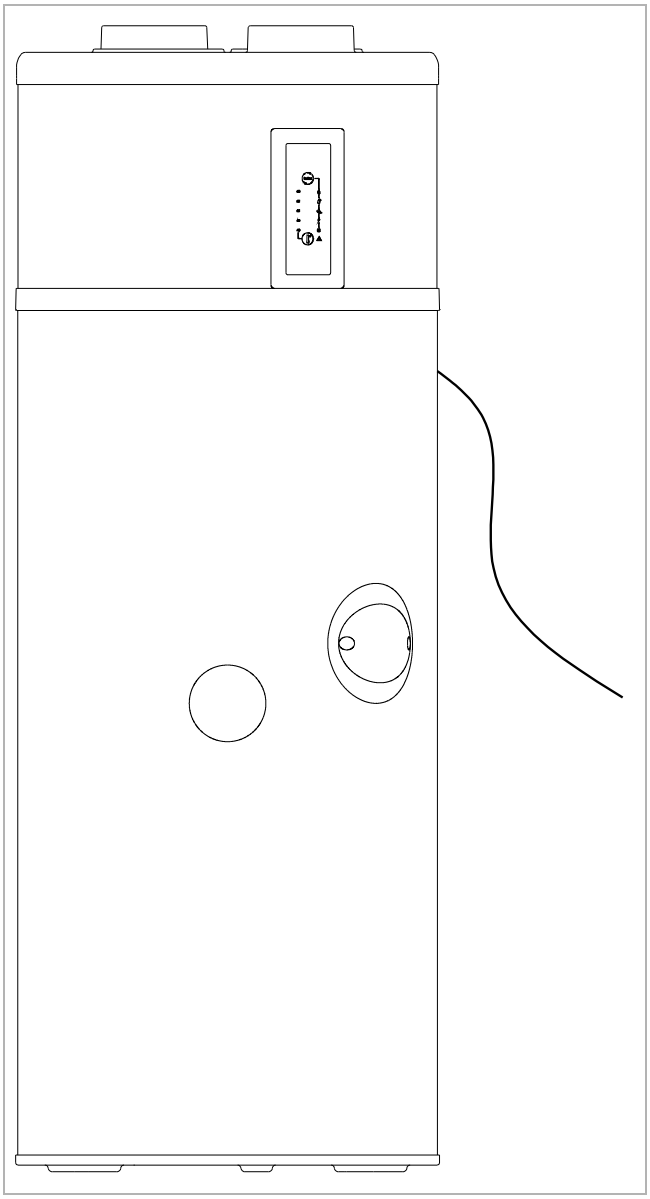
**Low-load function**

**NOTE**

The low-load function must have a floating design. Otherwise, there is a risk that the electrical components may be destroyed. Failure to observe these instructions will void any warranty claims.

For access to the electrical connections:

- Remove the cover of the device and remove the fixing screw on the bottom flange for this purpose.
- Remove the protective cover of the electronic board.



## 9. Commissioning

**NOTE**

High risk of damage: Fill the cylinder before commissioning and connection to the mains.

**NOTE**

Before commissioning, check the entire water circuit for leaks.

- Leave the device switched off.
- Open the top domestic hot water tapping point of the system.
- Open the cold water inlet on the safety group.
- Fill the cylinder until the water runs from the top tapping point free from bubbles.
- Close the domestic hot water tapping point.

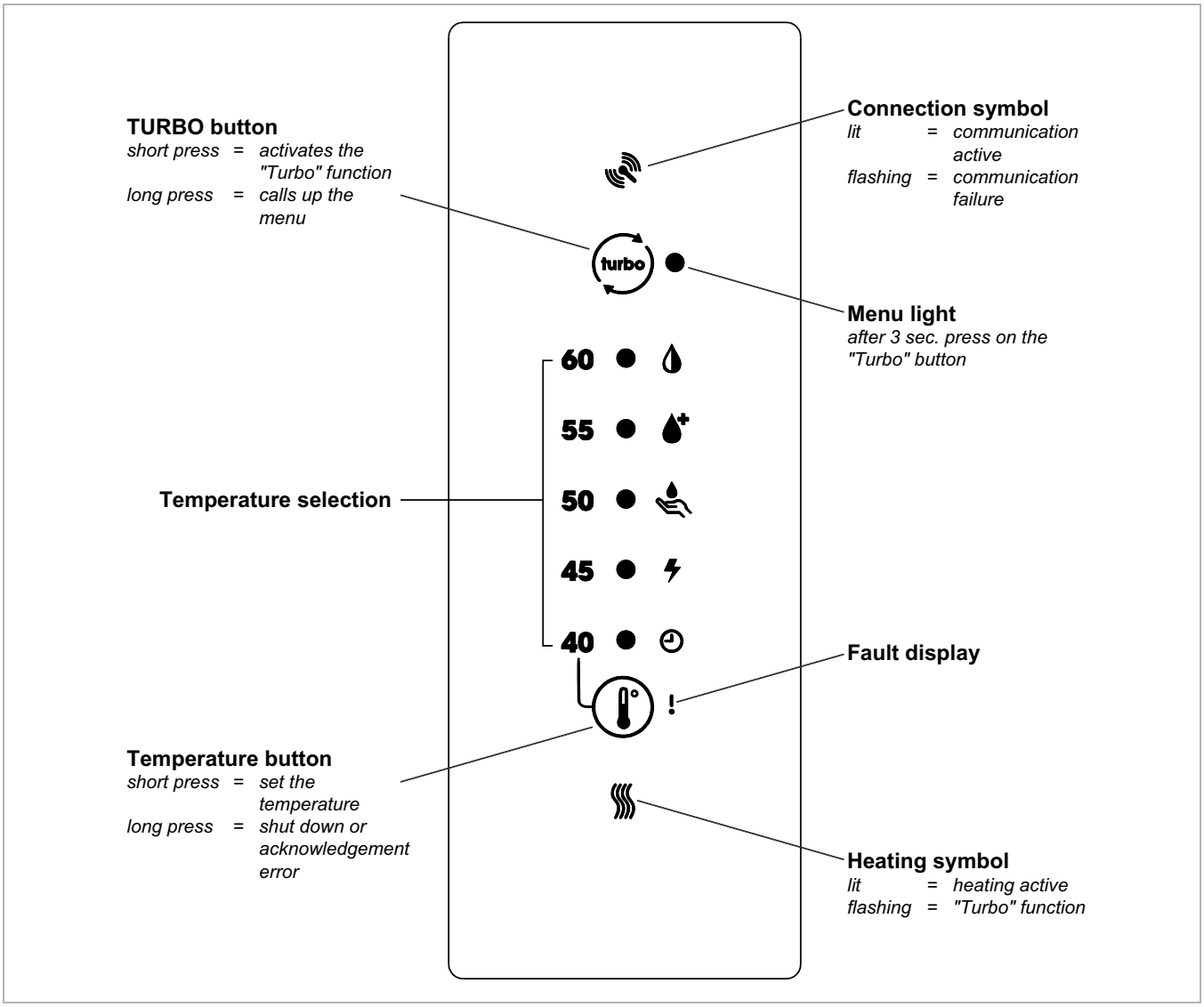
In the permissible range between +5 °C and +45 °C intake air temperature, the device is primarily in heat pump operation.

The domestic hot water temperature supplied by the heat pump can be controlled up to 60 °C.

For a high domestic hot water consumption, the domestic hot water heat pump has a so-called "Comfort" function . With this function, the heat output is increased if only 1/3 of the remaining cylinder volume is above temperatures >38 °C.

If a large quantity of domestic hot water is required for a short time, the domestic hot water heat pump has a "Turbo" function (can be activated by the user), which heats up the water quickly to the desired temperature using the supplementary electric heating (e.g. to 50 °C). This function is deactivated again as soon as the setpoint is reached (e.g. 50 °C).

## 10. Operation




### 10.1. Operation/standby

Press briefly to switch on the device.

A long press switches the device to standby mode.

The product continues to maintain frost protection in standby mode.

**Setting the temperature**

Pressing the button briefly and repeatedly adjusts the temperature.

**NOTE**

For optimal use of the heat pump, we recommend ensuring that the setpoint selected for the water temperature is not too high if the requirement is not high. The water temperature is set to 55 °C as standard.

After a few seconds without being used, the display switches off (active mode) with the exception of the display light for heating.

Simply pressing one of the buttons or activates the display again for reading the current setpoint.

### 10.2. Activating the "Turbo" function

Pressing the button activates the Turbo function, the heating symbol flashes.

**NOTE**

The **"Turbo"** function activates the heat pump and the electric heating element at the same time. This speeds up the heat-up process in a heating cycle.

The heating symbol flashes to indicate the activation of the **"Turbo"** function.

### 10.3. Menu

Pressing and holding the button activates the menu.

Pressing the button briefly switches between the following functions:

– **"Smart"** function (manages the heating depending on the estimated domestic hot water consumption)

– **"Comfort"** function (use of the supplementary heating during periods of high water consumption)

– **"Protect"** function (activation of a weekly cycle for combating legionella)

– **"Electric"** function (for operation with supplementary electric heating only)

– **"Low load times"** function (for operation only in the event of a signal at low load times)

Pressing the button briefly activates (LED on) or deactivates (LED off) the selected function.

**"Smart" function**

With the **"Smart"** function, it is possible to only maintain part of the cylinder at the temperature if the device detects a lower hot water consumption.

**⚠ ATTENTION!**

We recommend only activating this function once you have familiarised yourself with the demand and the actual hot water consumption.

**"Comfort" function**

The **"Comfort"** function enables the supplementary electric heating to be operated at the same time as the heat pump. This is designed to prevent the water temperature from falling below a minimum comfort temperature of 38 °C.

The supplementary electric heating is active until the water temperature rises to max. 43 °C in this case. It then switches off and the heat pump ends the complete heating of the domestic water.

When the **"Low load times"** function is activated, the **"Comfort"** function is deactivated during "peak load times" (external contact open).

**"Protect" function**

During the anti-legionella heat-up, the water is heated to a temperature of >60 °C by the heat pump.

If the setpoint for the domestic hot water is already set to 60 °C, no cycle for combating legionella is initiated, as this takes place permanently.

If a cycle is interrupted by a period where operation is forbidden (utility company blocking signal or another external contact), it is started again in the next release period.

**"Electric" function**

If the **"Electric"** function is activated, the device only uses the electric heating element for heating the water.

This means that emergency operation is necessary if the heat pump can not be used (e.g. air lines still to be connected, dust-generating work close to the device etc.).

**"Low load times" function**

The water heater may only be operated if the external contact is closed.

If the contact is open, the product is switched off completely, except in the following cases:

- Frost protection
- "Turbo" function

# 11. Maintenance

## 11.1. General

To maintain the performance and improve the service life of the device, we recommend having annual inspection and maintenance work carried out by an authorised specialist.

**i NOTE**

Any form of intervention on the domestic hot water heat pump may only be carried out by qualified personnel.

**i NOTE**

The applicable local safety regulations must be adhered to. Observe country-specific building regulations.

**i NOTE**

Any intervention in the refrigeration circuit may only be carried out by qualified personnel with a refrigeration certificate in at least category 1.

**i NOTE**

Discharging refrigerant into the surrounding air is prohibited.

**i NOTE**

The refrigerant must be extracted before any work on the refrigeration circuit. Avoid ignition sources in the immediate vicinity during extraction. Do not use cleaning agents containing oil.

**i NOTE**

De-energize the domestic hot water heat pump before opening.

**i NOTE**

Before working on the heat pump, check that the fan is stopped.

**i NOTE**

The function of the electric additional heating element must be checked at regular intervals and any limescale deposits must be removed from the heating elements.

When emptying the cylinder, ensure that there is sufficient rear ventilation (e.g. cylinder cover, domestic hot water outlet) to avoid any vacuum in the cylinder.

The following materials and products may not be used:

- Brushes with steel bristles and steel sponges,
- scouring powder.
- any product based on sodium or potassium hypochlorite solution or other chlorine derivatives.

During maintenance work or when decommissioning the domestic hot water heat pump, observe the environmental protection regulations with regard to collecting, recycling and disposing of used materials and components.

**i NOTE**

The R290 refrigerant in the heat pump circuit poses no risk to the environment, but is flammable.

**i NOTE**

The R290 refrigerant is odourless and heavier than air.

**i NOTE**

The pipes of the refrigeration circuit must not be damaged.

**i NOTE**

Do not work with open flame or other ignition sources within the device.

**i NOTE**

In the event of a refrigerant leak, disconnect the plug, ventilate the room and contact after-sales service.

When carrying out interventions in the refrigeration circuit, proceed as follows:

- Secure the work area.
- Inform the affected persons of the risks associated with the work being carried out.
- Ensure that the risk of ignition is low.
- Ensure that there are no ignition sources or naked flames in an area of 3 m around the heat pump.
- Avoid working in enclosed, narrow spaces. The work area must be adequately ventilated.
- Check the work area before and during the work with a suitable leak detector.
- Keep a dry powder or $CO_2$ extinguisher close to the work area.

### 11.2. Water circuit and condensate drain

Check that the condensate drain is working correctly. Proceed as follows:

- Remove the hood (see procedure in the chapter "External control").
- Ensure that the outlet opening for the condensate is not blocked.
- Clean the condensate collection container (above the cylinder). Deposits from the intake air may collect here.
- Clean the drain hose.
- The efficiency of the pressure limiter must be checked regularly to remove any limescale deposits and to ensure that it is not blocked.
- Check the leak-tightness of the hydraulic connections on the domestic hot water heat pump.

### 11.3. Supply and exhaust air

Inspect and clean the evaporator and, if necessary, the supply and exhaust air ducts at least once a year.

If air filters are used, their soiling level must be checked regularly. Clean the filters and replace as required.

**i NOTE**

Risk of injury on sharp edged fan blades! The fan blades must be neither deformed nor damaged.

### 11.4. Electrical maintenance

During maintenance work, check the electronic components for damage, check that cables and terminals are securely connected, check all electrical components for soiling and clean if necessary.

## 12. Faults

### 12.1. Eliminating faults

**The heat pump is not working**

- The setpoint is below the water temperature in the cylinder.
- The power supply is interrupted.
- The temperature of the intake air or the ambient temperature is below 5 °C or above 45 °C.
- The device is blocked by a signal at peak load times.
- A fault is shown on the display (see chapter "Fault messages").

**No domestic hot water**

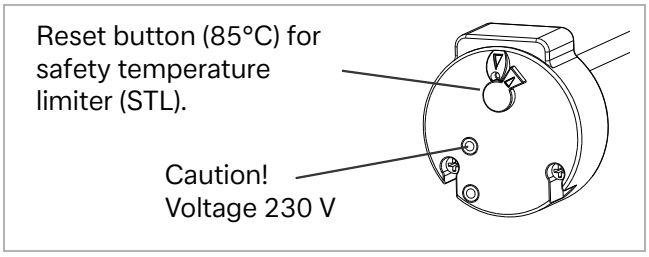
- The actual water consumption is above the saved volume.
- The external control (low load/peak load times) does restrict the function to an excessively short time frame.
- The programmed water temperature is too low.

**The condensate cannot flow away (there is water under the device)**

- The condensate drain is soiled or blocked. Clean if necessary. Proceed as follows:
  - Remove the hood (see procedure in the chapter "Low-load function").
  - Check the inlet from the condensate collection container to the condensate drain hose.
- The hose is kinked and is not routed downwards.
- Condensate hose does not feed into a collecting vessel or into a drain.
- Domestic hot water heat pump is not standing horizontally.

**The supplementary electric heating is not working**

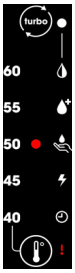
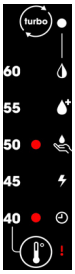
- The function is blocked by an external contact.
- The safety thermostat for the supplementary electric heating was triggered due to overtemperature (>85 °C). If this is the case, reset the thermostat.
  Before resetting, check the heating element for calcification: clean the heating element if required and replace if necessary.

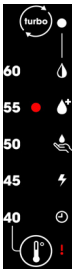
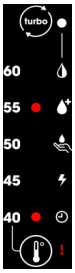



**i NOTE**

Do not change the setting of the limiting switch (thermostat).

### 12.2. Fault messages

| Display | Type of fault | Cause | Measures required | Temporary function / Wait for problem to be solved |
|---|---|---|---|---|
|  | Domestic hot water sensor of the cylinder faulty. | Domestic hot water sensor out of order.<br>Domestic hot water sensor not connected to the board.<br>Sensor line damaged | Replacement of the domestic hot water sensor. | Heat pump off (or working at half power in **"Smart"** function) |
|  | Room temperature sensor faulty. | Room temperature sensor out of order.<br>Room temperature sensor not connected to the board.<br>Sensor line damaged | Replacement of the room temperature sensor. | Heat pump is off.<br>Supplementary electric heating system heats up the water to 43 °C (min. 38 °C). |
|  | **"Smart"** sensor faulty (for the affected models). | Domestic hot water sensor out of order.<br>Domestic hot water sensor not connected to the board.<br>Sensor line damaged | Replacement of the domestic hot water sensor. | **"Smart"** function deactivated. |
|  | High pressure on the heat pump. | No water in the cylinder.<br>Water too hot (>75 °C).<br>Domestic hot water sensor pulled out of the cylinder.<br>Domestic hot water sensor faulty | Check whether the cylinder is filled correctly with water.<br>Replace the domestic hot water sensor.<br>Check whether the domestic hot water sensor is sitting correctly in the immersion sleeve. | Heat pump is off.<br>The reset takes place automatically.<br>Operation of the supplementary heating possible. |
|  | Overtemperature of the cylinder. | No water in the cylinder.<br>Water too hot (>75 °C).<br>Domestic hot water sensor pulled out of the cylinder.<br>Domestic hot water sensor faulty | Check whether the cylinder is filled correctly with water.<br>Replace the domestic hot water sensor.<br>Check whether the domestic hot water sensor is sitting correctly in the immersion sleeve. | Heat pump is off.<br>The reset takes place automatically.<br>Operation of the supplementary heating possible. |

| Display | Type of fault | Cause | Measures required | Temporary function / Wait for problem to be solved |
|---|---|---|---|---|
|  | Monitoring of the heating. | Insufficient refilling of the cylinder.<br>Heating element failure.<br>Domestic hot water sensor poorly positioned or faulty. | Check whether the cylinder is filled correctly with water and the air is discharged.<br>Check whether the domestic hot water sensor in the cylinder is sitting correctly in the immersion sleeve.<br>Measure the resistance value of the heating element. | Heat pump is off.<br>The reset takes place automatically.<br>Operation of the supplementary heating possible. |
|  | Compressor fault. | Faulty connection of the compressor.<br>Compressor faulty.<br>Problem with fill level. | Check the condition of the cables.<br>Check the fill level of the refrigerant. | Operation with supplementary electric heating. |
|  | Fault. | Lack of air flow.<br>Cylinder installed in an area with inadequate space. | Check that the air is guided correctly through the product.<br>Check that the minimum distances are complied with around the product.<br>Check the condition of any connected filters or air ducts.<br>Check that the evaporator is clean. | Operation with supplementary electric heating. |
|  | Too frequent defrosting. | Too frequent defrosting | Check that the air is guided correctly through the product.<br>Check that the minimum distances are complied with around the product.<br>Check the condition of any connected filters or air ducts.<br>Check that the evaporator is clean. | Heat pump is off.<br>Supplementary electric heating system heats up the water to 43 °C (min. 38 °C). |

If you cannot correct the fault, please contact a specialist technician or our after-sales service.

**NOTE**

Any undocumented work on the device represents a modification and results in all entitlements to regress and warranty claims being void. Every component replacement must be performed by specialist personnel using genuine spare parts from the manufacturer.

### 12.3. Change

Changes on the device are prohibited. Any component replacement must be carried out by a specialist with original spare parts from the manufacturer.

### 12.4. Decommissioning

**i NOTE**

The device must be decommissioned by a specialist technician.

**⚠ ATTENTION!**

The device must be de-energized before decommissioning and disassembly.

### 12.5. Disposal

During decommissioning of the domestic hot water heat pump, all environmental requirements regarding recovery, recycling and disposal of operating materials and components should be observed in compliance with EN 378.

These devices are free from asbestos and can be completely dismantled without concerns.



The device must not be disposed of as household waste, but must be taken to a local disposal point.

Please store removed domestic hot water heat pumps in a dry place throughout the entire disposal chain, as trace elements may otherwise enter the groundwater.

**Disposal of refrigerant**

**i NOTE**

The device contains the refrigerant R290 (propane).

**i NOTE**

The refrigerant must always be disposed of by a specialist.

**i NOTE**

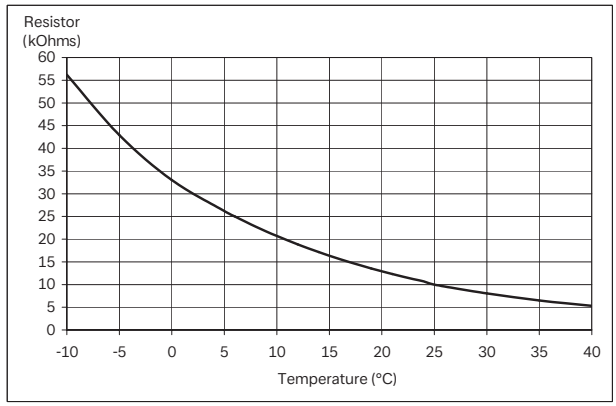
Observe the general safety regulations.

### 12.6. Drainage

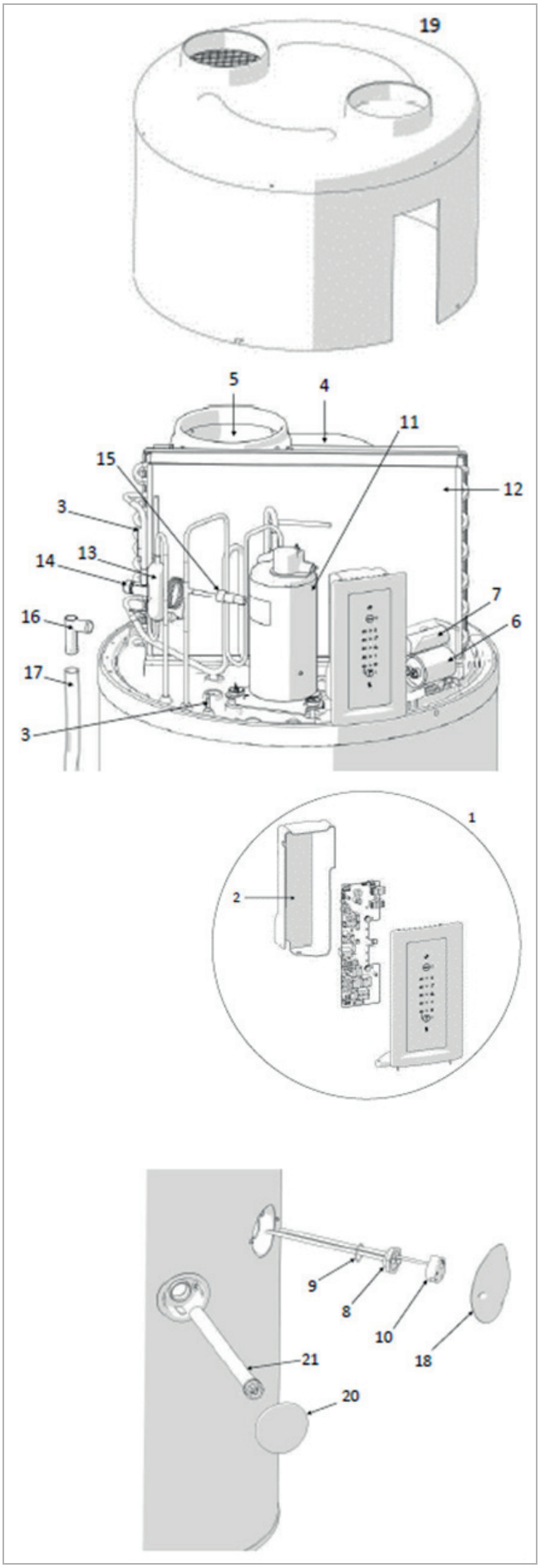
- Disconnect the device from the power supply.
- Shut off the cold water supply, open the domestic hot water and drainage taps. Make sure that air can flow through to ensure complete drainage of the cylinder.

### 12.7. NTC sensor characteristic curve

The 4 probes have the same curve with regard to the ohmic values.



## 12.8 Spare parts list




### 12.8.1 Control and displays

| No. | Article no. | Designation |
|---|---|---|
| 1 | 451906.41.01 | Display + PCB |
| 2 | 451906.41.02 | Electric cover |
| 3 | 451906.41.03 | Air sensor |

### 12.8.2 Electrical equipment

| No. | Article no. | Designation |
|---|---|---|
| 4 | 451906.41.04 | Air box with fan |
| 5 | 451906.41.05 | Fan Ø 190 |
| 6 | 451906.41.06 | Run capacitor 15 µF |
| 7 | 451906.41.07 | Run capacitor 1 µF |
| * | 451906.41.08 | Power cable |
| * | 451906.41.09 | Compressor cable |

* nicht sichtbar

### 12.8.3 Supplementary electric heater

| No. | Article no. | Designation |
|---|---|---|
| 8 | 451906.41.10 | Heating element 1200 W including seal |
| 9 | 451906.41.11 | Heating element seal |
| 10 | 451906.41.12 | Thermostat |

### 12.8.4 Refrigeration circuit components

| No. | Article no. | Designation |
|---|---|---|
| 11 | 451906.41.13 | Compressor kit |
| 12 | 451906.41.14 | Evaporator |
| 13 | 451906.41.15 | Drying filter |
| 14 | 451906.41.16 | Thermostatic expansion valve |
| 15 | 451906.41.17 | Pressure switch |

### 12.8.5 Covering

| No. | Article no. | Designation |
|---|---|---|
| 16 | 451906.41.18 | T-piece for condensate drain |
| 17 | 451906.41.19 | Condensate drain hose, length 1.8 m |
| 18 | 451906.41.20 | Heating element cover plate |
| 19 | 451906.41.21 | Top cover |
| 20 | 451906.41.22 | Anode cover plate |
| 21 | 451906.41.23 | Sacrificial anode Ø 33 mm, length 400 mm |
| 22* | 451906.41.24 | Lower cylinder flange cover |
| 23* | 451906.41.25 | Flange seal for flange no. 28 |

* not visible

# 13. Service

## Service and technical support

After-sales service, technical support and spare parts.

Assistance before and after installation of your equipment.

Phone: +49 9221 709 545
Fax: +49 9221 709 924545
Mon – Thu: 7:00 to 17:00
Fri: 7:00 to 15:00
E-mail: service@dimplex.de
Internet: www.dimplex.de
www.dimplex.de/garantieverlaengerung
www.dimplex.de/serviceauftrag

Request after-sales service on the internet:
www.dimplex.de/dimplex-service

For order processing, the type, the serial number, the date of manufacture (FD) and, if specified, the customer service index (KI) for the device are required. This information is listed on the type plate of the device.

## Contact

Glen Dimplex Deutschland GmbH
Am Goldenen Feld 18
95326 Kulmbach
Germany
Phone: +49 9221 709 101
Fax: +49 9221 709 339
E-mail: info@dimplex.de
Internet: www.dimplex.de

Austrian branch
Glen Dimplex Austria GmbH
Hauptstraße 71
5302 Henndorf am Wallersee, Austria
Phone: +43 6214 203 30
E-mail: info@dimplex.at
Internet: www.dimplex.at

# 14. Technical data

## 14.1. Power heat pump

| | | |
|---|---|---|
| Nominal volume | l | 250 |
| Maximum power (HP* + supplementary heater) | W | 1900 |
| Air temperature range | °C | 5 to 35 °C |
| Hot water temperature with heat pump | °C | 40 to 60°C |
| Power consumption of the heat pump, max. | W | 700 |
| Sound pressure level at 1 m** | dB(A) | 37 |
| Sound power level | dB(A) | 56 |
| Refrigerant | - / kg | R 290 / 0.150 |
| GWP value ($CO_2$ equivalent) | kg | 0.45 kg $CO_2$ |
| Air-technical connection type | - | Indoor air |

## 14.2. Standard data EN 16147

| | | |
|---|---|---|
| Withdrawal cycle | - | l |
| COP* | - | 3.2 |
| Power consumption on standby | W | 32 |
| Reference domestic hot water temperature | °C | 53.8 |
| Heat-up time | - | 08:00 |
| Energy efficiency class | - | A+ |
| Seasonal energy efficiency | % | 133 |
| V40td | l | 321 |
| $Q_{elec}$ | kWh | 3,59 |

## 14.3. Dimensions and connections

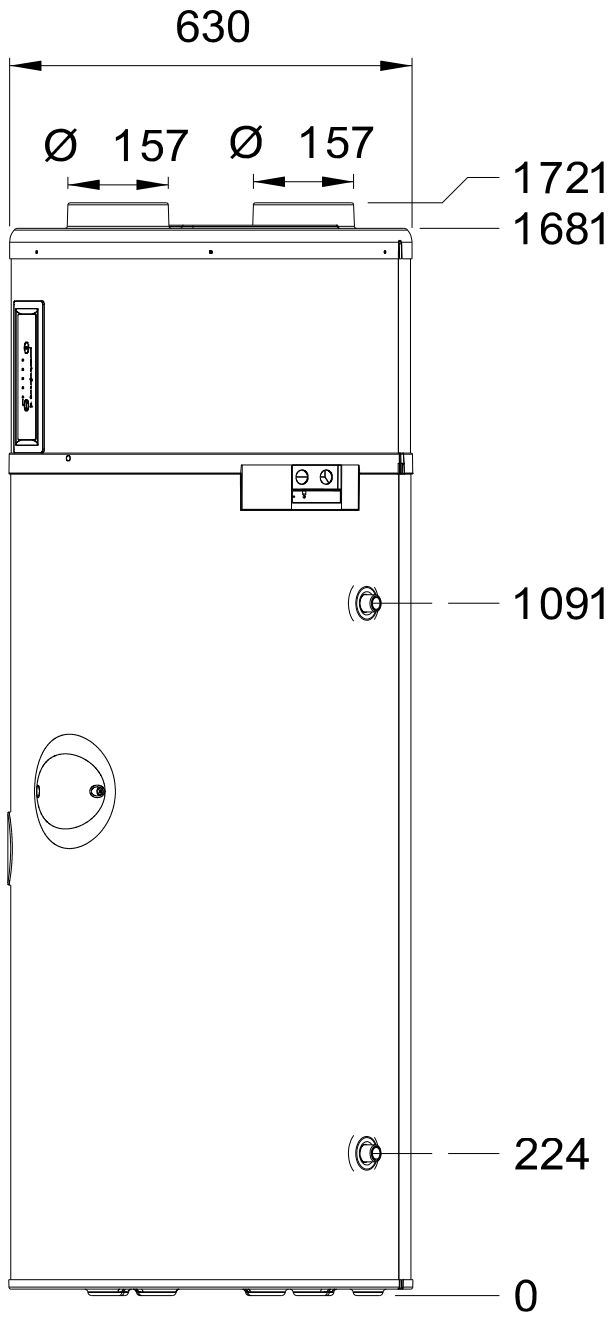
| | | |
|---|---|---|
| Dimensions | mm | 630 x 1721 |
| Weight (empty) | kg | 82 |
| CW and DHW connection diameter | Inch | 3/4 |
| Power supply | V/Hz/A | 230 V/50 Hz/8 A |
| Degree of protection | - | IPX1 |
| Circuit breaker (curve D) | A | 13 A |

## 14.4. Cylinder

| | | |
|---|---|---|
| Materials and protection | - | Enamelled steel with sacrificial anode |
| Operating pressure, max. | MPa | 0.6 (6 bar) |
| Condensate throughput, max. | l/h | 0.3 |
| Power integrated supplementary electric heating system (Safety = 85 °C) | W | 1200 |
| Temperature with supplem. electric heating system, max. | °C | 70 |

* DHW = domestic hot water
* CW = cold water
HP = heat pump
COP = coefficient of performance
** Sound pressure tested in a low-reflection room
*** When equipped with wireless option

## 14.5. Dimensions



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