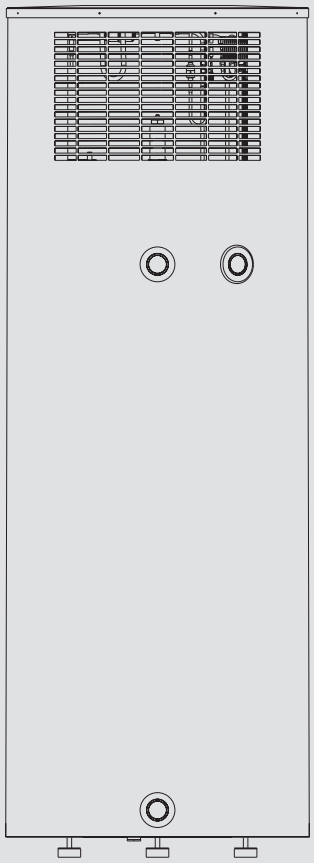
OPERATING AND INSTALLATION MANUAL

DHW HEAT PUMP

» ACCELERA 300



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These instructions describe the operation and installation of the Accelera 300 heat pump water heater. In the following, this heat pump water heater is described as "appliance".

Please read
Read these instructions carefully and retain them for future reference. If the appliance is passed on to a third party please hand these instructions to the new user.

This manual includes important information regarding the safe and efficient handling of the appliance. The manual is part of the appliance and should be retained in the immediate vicinity and should always be accessible.

The steps described must only be carried out by the specified contractors. The respective contractor must read these instructions prior to commencing any work. It is imperative for safe working that all safety instructions and actions described are complied with. In addition, all local and national accident prevention and general safety instructions apply.

Should safety instructions be ignored, the appliance may not operate correctly or material losses may occur. Serious injury or death may result. Never remove the appliance casing without first isolating the appliance from its power supply.

Illustrations in these instructions are designed to aid a general understanding and may deviate from the actual appliance version. No claims can be derived from such illustrations.

Limited liability:

We have collated all details and information in this manual in due consideration of applicable standards and regulations, the state of the art and our long-term know-how and experience.

Losses due to the following are excluded from our liability:

- Non-observance of these instructions
- Incorrect use
- Installation of the appliance by unqualified personnel
- Unauthorized modifications
- Technical modifications
- Use of unauthorized spare parts

Copyright:

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Should you have any question regarding the installation or operation of the appliance, please contact our customer service. Tel. (USA) 800-582-8423 or 413-247-3380

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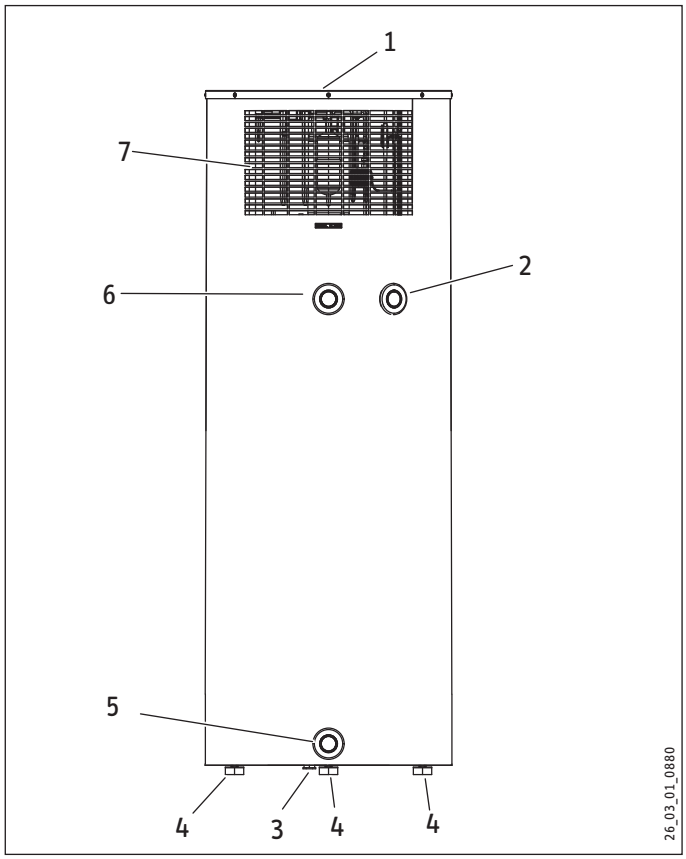
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1. Overview

Front of the appliance



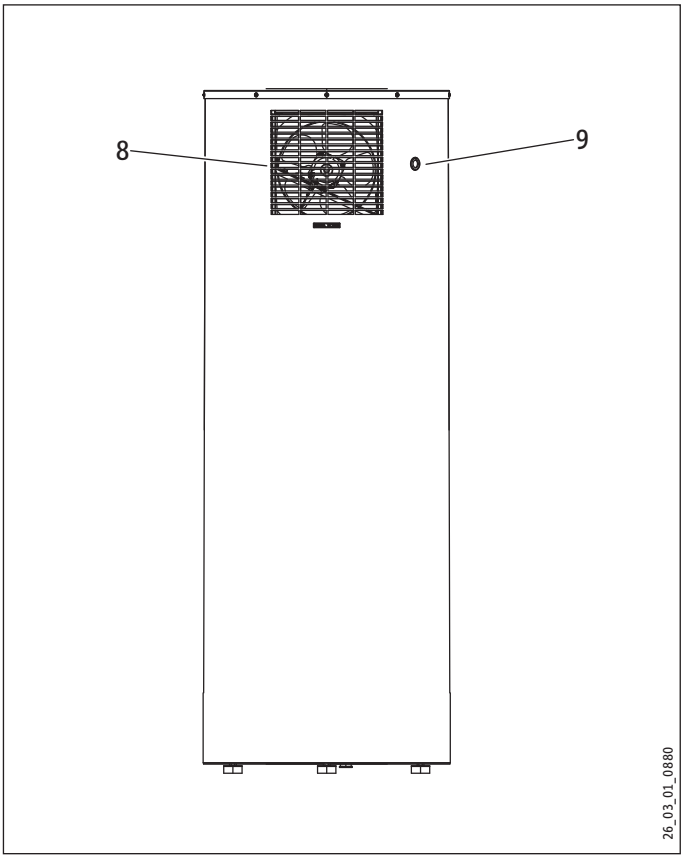
1 Appliance cover
2 Opening for PT valve
3 Condensate drain
4 Leveling feet
5 Cold water inlet
6 Hot water outlet
7 Air entry

The appliance extracts heat from the ambient air and utilizes this energy to heat hot water.

An 80 gallon water tank is part of the appliance. Foam insulation is applied to the outside of the water tank to prevent heat losses. The appliance casing is made from powder-coated sheet steel.

The internally enameled water tank is supported by three height-adjustable anti-vibration leveling feet.

Back of the appliance



8 Air discharge
9 Cable entry for the power cable

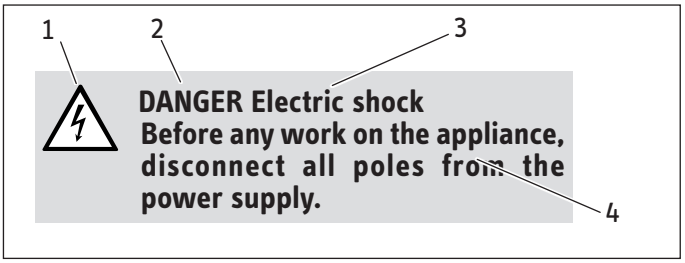
2. General information

The chapter **Operation** is intended for users and heating contractors.

The chapter **Installation** is intended for heating contractors.

2.1 Key to symbols

2.1.1 Layout of safety information



1 Symbol (see chapter "Symbols")
2 Keyword (see chapter "Keywords")
3 Designations (see chapter "Symbols")
4 Information text

2.1.2 Symbols

Symbol	Description
	Injury
	Electrocution
	Burns or scalding
	Other situations
	Fire
	Explosion
	Appliance disposal

2.1.3 Keywords

KEYWORD	
DANGER	The keyword DANGER indicates information that must be observed, otherwise serious injury or death will result.
WARNING	The keyword WARNING indicates information that must be observed, otherwise serious injury or death may result.
CAUTION	The keyword CAUTION indicates information that must be observed, otherwise relatively serious or light injuries may result.

2.1.4 Symbols in this documentation



Read the text next to this symbol carefully.

» Passages with the symbol "**»**" indicate that you have to do something. The action you need to take is described step by step.

- Passages with this symbol "**–**" indicate lists.

2.1.5 Units of measure in this documentation



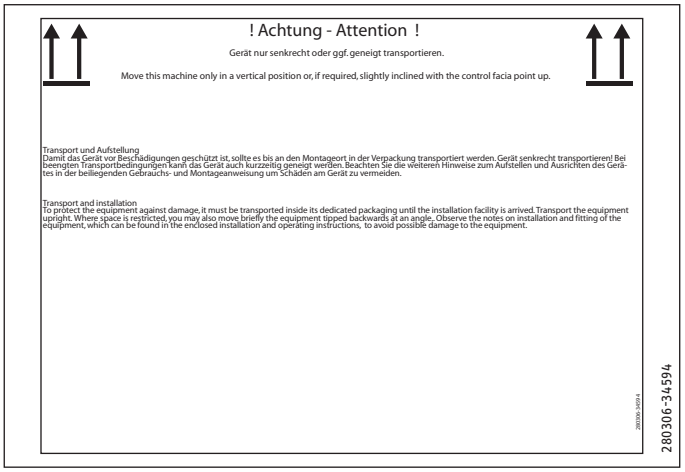
The dimensions in this document are given in inch (millimeters).

2.1.6 Information on the packaging

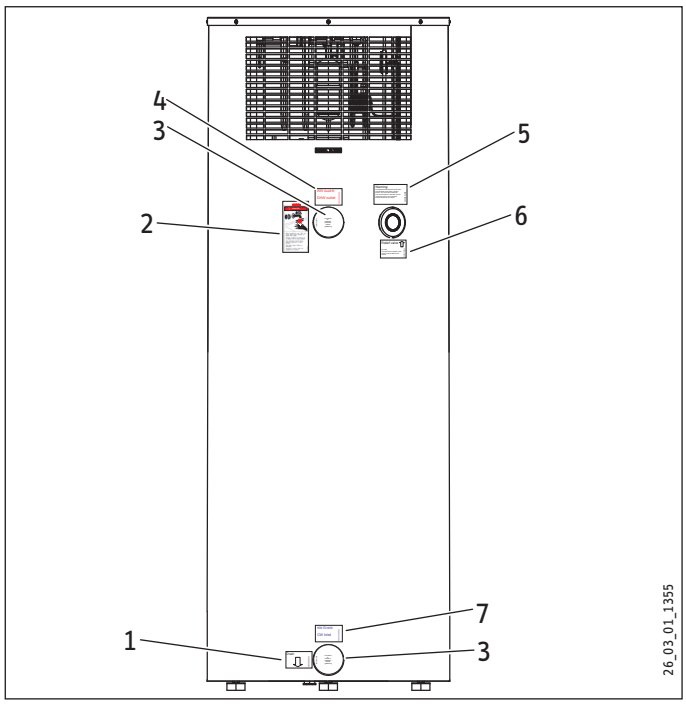
Information label "Top heavy"



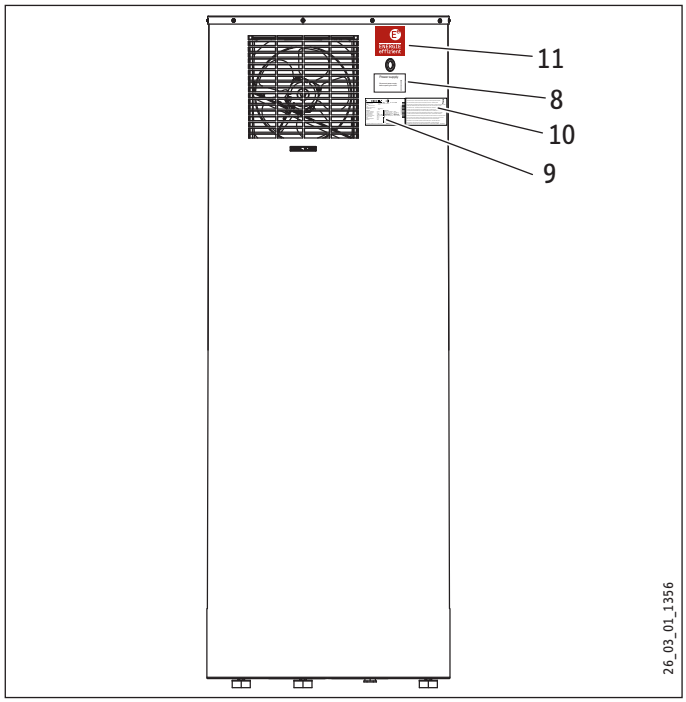
Information label "Vertical transport"



2.1.7 Information on the appliance



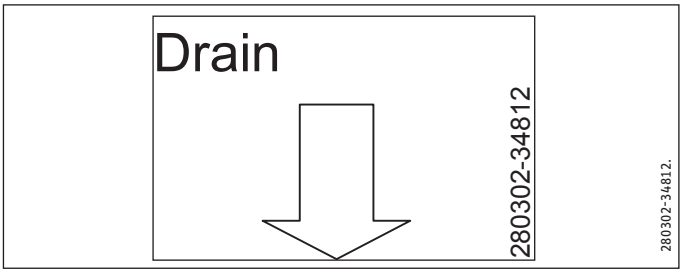
1 Information label "Condensate drain"
2 Information label "Risk of scalding"
3 Information label "Connection"
4 Information label "Hot water outlet"
5 Information label "Relief valve"
6 Information label "Relief valve installation location"
7 Information label "Cold water inlet"



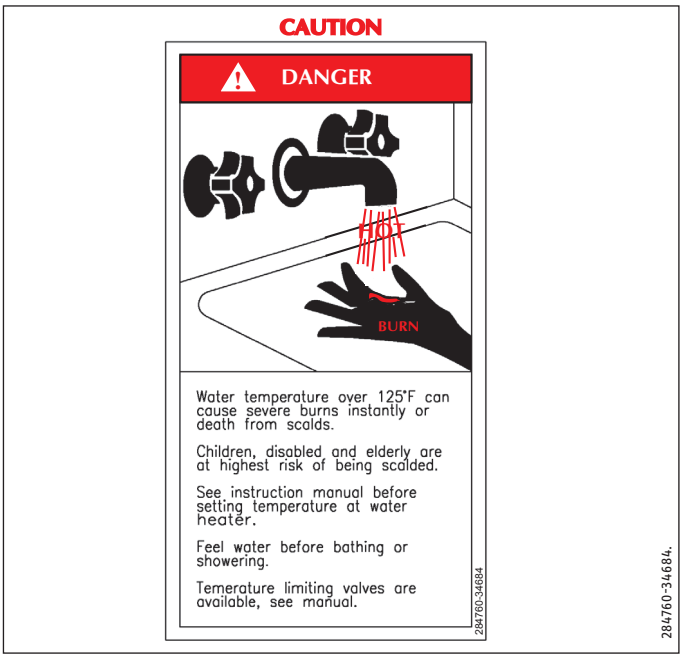
8 Information label "Power connection"
9 Type plate
10 Information label "Fluorated gases"
11 Information label "Energy efficiency"

1 Information label "Condensate drain"

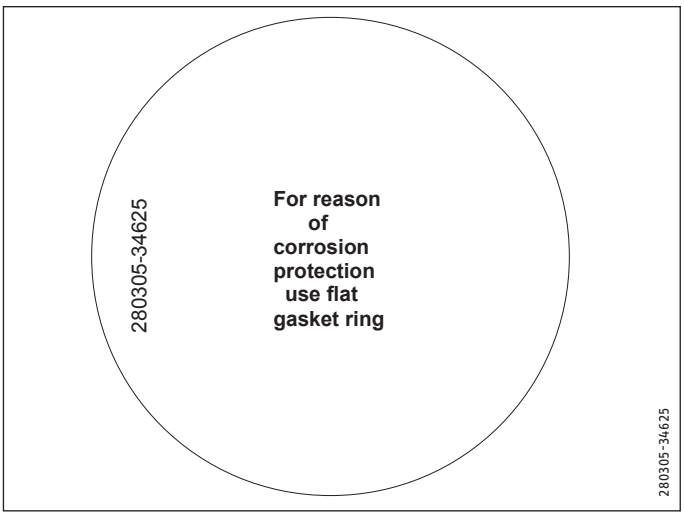
This label shows you the position where the appliance drain is located.



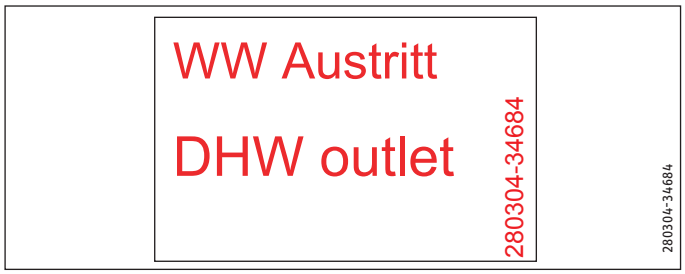
2 Information label "Risk of scalding"



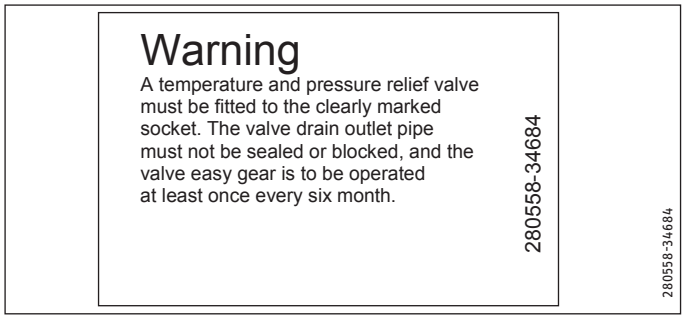
3 Information label "Connection"



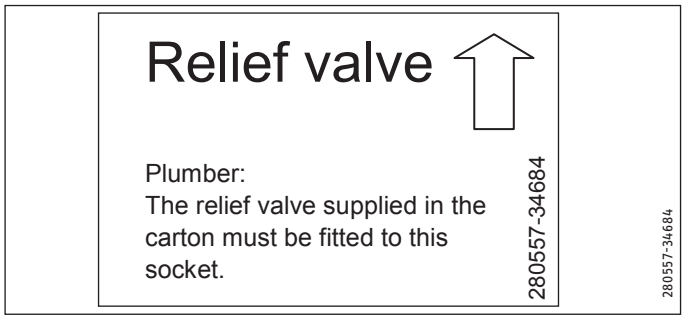
4 Information label "Hot water outlet"



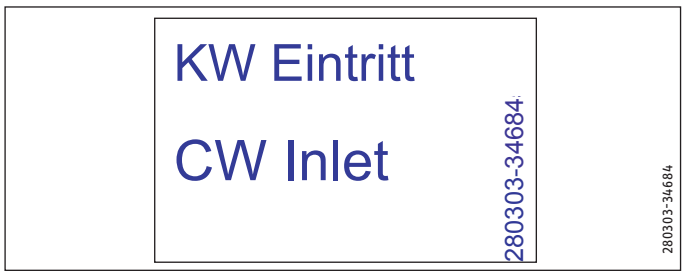
5 Information label "Relief valve"



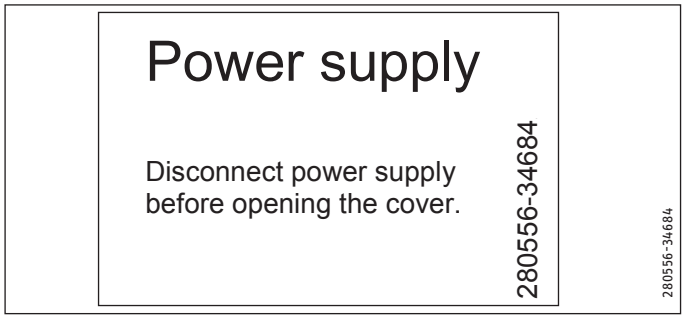
6 Information label "Relief valve installation location"



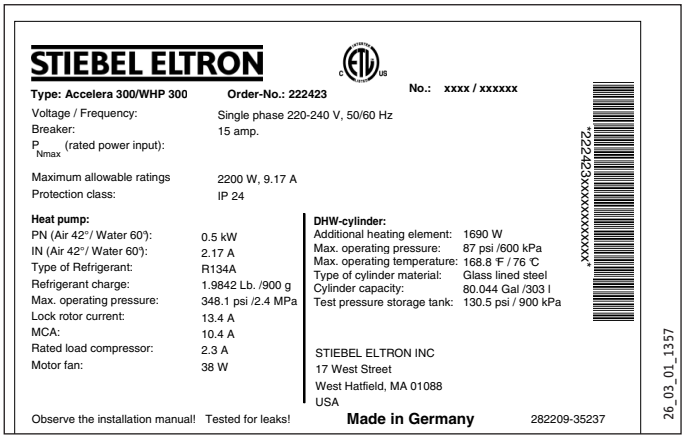
7 Information label "Cold water inlet"



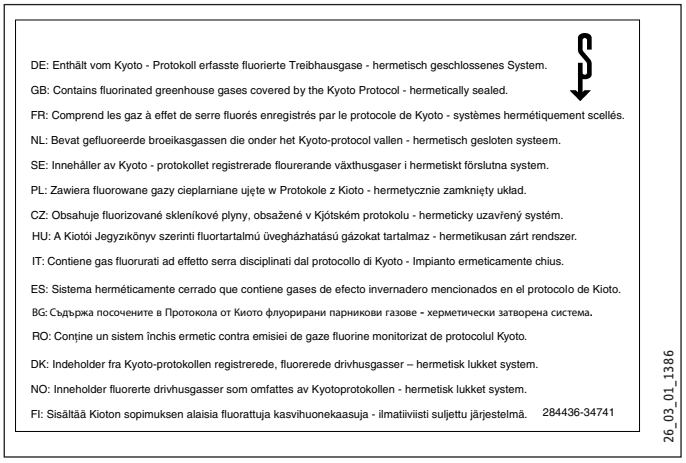
8 Information label "Power connection"



9 Type plate



10 Information label "Fluorated gases"



11 Information label "Energie efficiency"



Maintain the legibility of all information labels. Illegible safety information and symbols can result in dangerous situations.

3. Safety

This chapter provides an overview of all important actions required for a safe and trouble-free operation.

3.1 General safety instructions

Operate the appliance only when fully installed and with all safety equipment fitted.

Unsuitable tools or incorrect handling of the appliance can result in damage to the appliance and to water or refrigerant leaking from the appliance.



DANGER Scalding

The water is heated inside the water tank to 140 °F (60 °C). There is a risk of scalding at outlet temperatures above 109 °F (43 °C).

» Ensure that outflowing water does not directly contact your body.



CAUTION Injury

Where children or persons with limited physical, sensory or mental capabilities are allowed to control this appliance, ensure that this will only happen under supervision or after appropriate instruction by a person responsible for their safety.

» Children should be supervised to ensure that they never play with the appliance.



Never place any objects on top of the appliance.

Objects placed on top of the appliance can increase the noise level developed by the appliance through vibrations.



Never cover the appliance.

The appliance draws in air. Covering the inlet slots reduces the air intake. This reduces the efficiency of the appliance and can even lead to one of the safety facilities interrupting the appliance operation.

3.2 Intended use

This appliance produces hot water automatically.

The appliance can be installed and operated in the open as well as in enclosed spaces. The temperature of the air that is drawn in during operation must not exceed 43 °F (6 °C).

Any other use beyond that described shall be deemed inappropriate. Observation of these instructions is also part of the correct use of this appliance.

Any changes or modifications to this appliance void all warranty rights.

3.3 Incorrect use

The following are not permitted:

- Heating media other than potable water
- Installation through unqualified personnel
- Use of greasy extract air



This appliance must not be operated at ambient temperatures in excess of 107 °F (42 °C) or below 43 °F (6 °C).
If outside air is directly drawn in ensure, that the appliance is isolated from its power supply when the air temperature falls below 43 °F (6 °C).

3.4 Personnel qualification



DANGER Injury

Incorrect handling can result in severe injuries and material losses. Inadequately qualified personnel cannot assess the impending danger.
Have the installation, commissioning, maintenance and repair steps carried out only by the qualified individuals specified in the respective chapters.

In the remainder of this manual, such qualified individuals will be described as the "contractor".

3.5 Safety equipment

Wear safety shoes/boots during the transportation and positioning of the appliance. Dry, this appliance weighs 130 kg. Safety shoes/boots reduce the risk of contusions.

3.6 Particular risks

3.6.1 Electric current



WARNING Electric shock

Contacting parts that carry live power is associated with a direct risk to life. Damaging the insulation or individual components can result in a risk to life.

- **» If you detect damaged insulation, immediately switch off the power supply and arrange for the necessary repair.**
- **» Have all electrical work carried out by a qualified electrician.**

3.6.2 Hot surfaces



CAUTION Burning

Contact with hot components can result in burning.

- **» When working near hot components, wear protective clothing and gloves.**
- **» The pipework connected to the hot water outlet of the appliance can reach temperatures in excess of 140 °F (60 °C).**

3.6.3 Refrigerant

The appliance is filled with refrigerant at the factory.



WARNING Freezer burn

Should the appliance leak refrigerant, avoid contact with the refrigerant or breathing in any released vapors. Vent the room concerned.

In normal appliance operation, the refrigerant is contained in a sealed circuit, hence no risk arises from the refrigerant.

4. Appliance description

This appliance is an automatic hot water generator with approx. 80 gallon capacity. The hot water temperature is permanently set to 140 °F (60 °C).

After opening a hot water faucet, the hot water is pushed out of the appliance by the incoming cold water.

The hot water display sensor captures the hot water temperature inside the upper third of the tank (approx. 27 gallon).

The appliance operates with recirculating air and consequently requires no outside air supply. The appliance extracts heat from the ambient air. This heat is used to heat the water contained inside the tank; simultaneously electrical energy is used. The demand for electrical energy and the heat-up time depend on the temperature of the air drawn in.

When installing the appliance inside, the room where it is installed will be cooled down during the operation by 1 to 3 Kelvin.

The appliance also extracts moisture from the air that creates condensate, which must be drained off. For this purpose, a condensate drain with strainer plug is integrated in the bottom of the appliance. This is where you can connect a hose.

To protect the steel tank against corrosion, the interior is coated with a special enamel and is furthermore equipped with a sacrificial anode.

Heat pump function:

A sealed circuit inside the appliance contains a CFC-free refrigerant (see "Specification/data table"); this does not deplete ozone and is non-flammable. It evaporates at low temperatures.

In the evaporator, where heat is extracted from the outside air, the refrigerant changes from its liquid into its gaseous state. A compressor draws the process medium in and compresses it. The increase in pressure raises the refrigerant temperature.

This process requires electrical energy. The energy (motor heat) is not lost, but reaches the condenser downstream together with the compressed refrigerant. Here, the process medium transfers heat to the water tank. An expansion valve then reduces the still prevalent pressure and the circular process starts again.

4.1 Function description

4.1.1 Heat pump operation

In heat pump mode, the heat pump unit located in the upper section of the appliance extracts heating energy from the ambient air.

This is the standard operating mode, which can be used within the limits of scope of the appliance (see chapter "Specification/data table").

If the appliance was separated from the power supply during operation, the compressor will only restart of the pressure inside the refrigerant circuit has been balanced. Pressure balance can only be created after three minutes.

4.1.2 Booster heater

Primarily, the water inside the tank is heated by the heat pump.

When there is a higher hot water demand or when the appliance was switched OFF for a longer period and you require hot water quickly, you can accelerate the heat-up process by means of the integral booster heater. For reasons of saving energy, the booster heater only heats the top third of the tank (approx. 27 gallons).

A thermostat switches the booster heater on, if the water temperature inside the tank falls below 113 °F (45 °C). A thermostat switches the booster heater off, if the water temperature inside the tank exceeds 140 °F (60 °C).

4.1.3 Defrosting

The lower limit of use of the appliance is permanently set to 43 °F (6 °C). It is possible that at this limit, the evaporator will be coated in hoarfrost. This is subject to the air temperature and humidity level, particularly at low hot water temperatures.

The compressor will be switched off as soon as the evaporation temperature falls below 19.4 °F (-7 °C) for any length of time. When the temperature at the evaporator fins rises above 37.4 °F (3 °C), the compressor starts again, and the hot water heating continues. The fan continues to run during defrosting.

5. Operation

You do not have to make any adjustments. The appliance is therefore not equipped with any controls. The hot water temperature is permanently set to 140 °F (60 °C).

Should you wish to operate with different settings, contact your local contractor.

WARNING Scalding

The water is heated inside the water tank to 140 °F (60 °C). There is a risk of scalding at outlet temperatures in excess of 109 °F (43 °C). Ensure that outflowing water does not directly contact your body.

5.1 Commissioning by a contractor

The appliance is commissioned after the installation by a contractor has been completed.

5.2 Starting and stopping

The appliance is not equipped with any ON/OFF switch. If a power plug was fitted during installation, you can disconnect the appliance from the power supply by pulling that plug. Alternatively, you can terminate the appliance operation by tripping the MCB. Observe that this MCB may protect other appliances too, which would then also be switched off.

5.3 Emergency stop

In case of emergency, carry out the following steps:

» Isolate the power supply by tripping the MCB or by pulling the power plug that may have been fitted during installation.

» Close the cold water inlet.

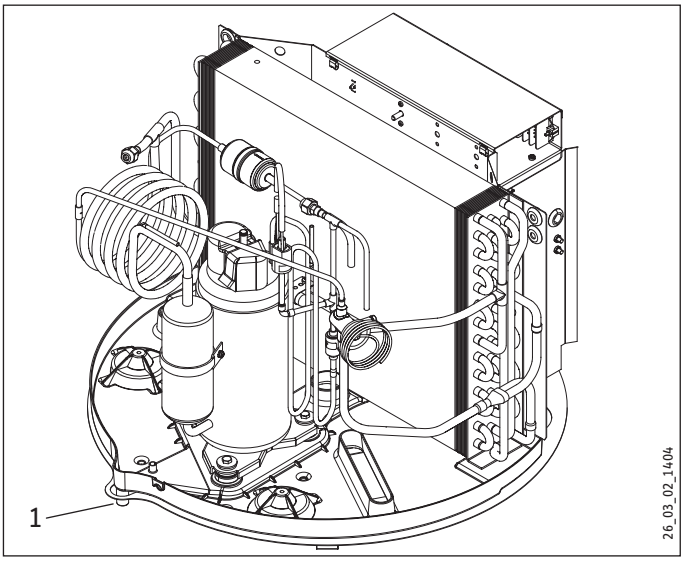
6. Maintenance and care

A damp cloth is sufficient for cleaning the appliance. Never use abrasive or corrosive cleaning agents. Only clean the appliance exterior. Never open the appliance. Never spray the appliance with water.

» Check at least monthly that the condensate drain in the bottom of the appliance is not blocked by any objects that may lie in front of the drain.

» Clean the strainer in the condensate drain at least twice annually or subject to requirement. Sand and dust can result in sludge building up inside the strainer.

» At least monthly, carry out a visual inspection of the condensate pan drain (in the top of the appliance; see the following diagram). For this, look through the air intake grille at the front of the appliance. If required, notify your local contractor who will remove any contamination or blockage.



1 Condensate pan drain

At high temperatures water separates out lime. This is deposited on the inside of the tank. With increasing limescale build-up, the amount of hot water inside the tank reduces.

» Have a contractor descale the booster heater from time to time. This extends the service life of the booster heater.

A heating contractor who knows the local water quality will tell you when the next maintenance appointment is due.

» Have your contractor check the safety assembly regularly.

» Have your contractor check the sacrificial anode regularly.

7. What to do if ...

7.1 ... the appliance does not deliver hot water

» Check whether the appliance is supplied with power, if the supply is made via a power plug.

» Check in your fuse box whether the MCB as tripped.

» Check whether the MCB used meets the requirements in chapter "Specification/data table".

If the MCB has tripped, reset it or replace it. Notify your local contractor if the MCB trips again.

» Ensure that the air intake and air discharge to/from the appliance is unobstructed.

Excessively high ambient temperature, excessively high temperature of the air drawn in (> 107.6 °F (42 °C)) or a fault in the refrigerant circuit can result in the compressor being overloaded. The thermal protective motor switch or the high limit pressure limiter can both switch the compressor off.

The high limit pressure limiter must only be reset by your contractor after they have removed the cause of the relevant fault.

After a short cooling down period, the thermal protective motor switch will restart the compressor automatically.

Notify your local contractor if the appliance does not restart automatically.

7.2 ... the safety valve of the cold water supply line is dripping

These units are under water mains pressure. Expansion water drips from the safety valve during heat-up. This is completely normal. Notify your local contractor if water still drips out after heat-up has been completed.

7.3 ... the condensate drain drips

This is quite normal and always happens when the surface temperature of the evaporator is lower than the dew point temperature of the ambient air.

7.4 ... the power consumption is too high

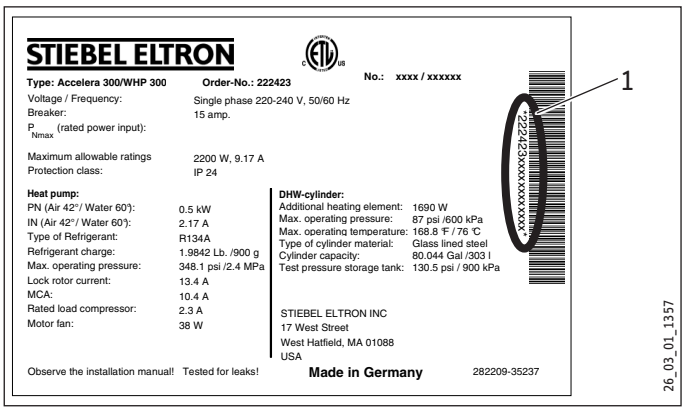
Please consult a qualified contractor.

7.5 ... the room temperature drops excessively

The appliance operation reduces the ambient air by 1 to 3 Kelvin. Notify your local contractor if the ambient temperature drops by more than 5 Kelvin.

7.6 ... other faults occur

Notify your local contractor. Inform your contractor of your appliance number to enable them to provide better and more rapid assistance. You will find the appliance number on the type plate next to the barcode.



1 Appliance number

8. Safety

Only qualified contractors should carry out installation, commissioning, maintenance and repair of the appliance.

8.1 General safety instructions

Perfect function and safe operation can only be assured if original accessories and spare parts intended for this appliance are used.



DANGER Electric shock

Isolate the appliance from the power supply prior to its installation.



WARNING Injury

If the pipes inside the appliance are damaged, leaking refrigerant can result in severe physical freezer burns. A leaking refrigerant circuit will expel refrigerant in gaseous form. Ensure that you never inhale refrigerant. Vent the room thoroughly.

» During the appliance installation, wear safety goggles and gloves.



WARNING Injury

Moving parts represent a risk of injury.

» Before opening the appliance, ensure that the fan, which may still be running, has come to a complete standstill.

8.2 Incorrect use

The following are not permitted:

- Installation of the appliance on non-load bearing substrates
- Installation of the appliance where it is at risk from frost
- Installation in rooms where the appliance is at risk from explosions as a result of dust, gases or vapors
- Ignoring safety clearances and safety zones
- Incorrect power connection
- The operation of the appliance with an empty tank
- The operation of the appliance with an open casing
- Heating liquids other than potable water
- Filling in any other medium than the refrigerant specified in the data table

8.3 Qualification



WARNING Injury
Incorrect handling can result in severe injuries and material losses. Inadequately qualified personnel cannot assess the impending danger.
Have only personnel mentioned in the appropriate sections of this manual carry out specific measures.

In the remainder of this manual, such qualified individuals will be described as the "contractor".

All steps up to the commissioning of this appliance must only be carried out by qualified contractors. Contractors are responsible for adherence to all currently applicable regulations during installation and commissioning.

8.3.1 Contractor

Contractors are specially trained in their field of activity. Contractors are capable of carrying out work on such systems on the basis of their training, knowledge and experience, as well as their knowledge of applicable standards and regulations. They are able on their own to recognize and prevent possible dangers. Contractors must comply with legal safety regulations designed to prevent accidents.

8.3.2 Electrician

An electrician is a contractor who meets the above requirements with regard to electrical installations.

8.3.3 Heating contractor

A heating contractor is a contractor who meets the above requirements with regard to water-related installations.

8.3.4 Customer service

A service engineer is a contractor who was specially trained by us with regard to this appliance.

8.4 Instructions, standards and regulations



Observe all applicable national and regional regulations and instructions.

Observe the regulations of your local energy and water supply utilities.

The following standards were taken into account:

UL 499, UL 1995, UL 94-5 VA, UL 174

IEC 60335-1-2-40, IEC 61000-3-2; 1995

IEC 61000-3-3, IEC 55014-1 IEC 55014-2

EMC Directive 89/336/EEC

EN 255 T3

Observe the appliance type plate and the chapter "Specification".

8.5 Water installation

The following materials may be used:

- Cold water line: steel, copper or plastic pipework.
- Hot water line: copper or plastic pipework.

» Ensure that no contamination reaches the appliance through the pipework.

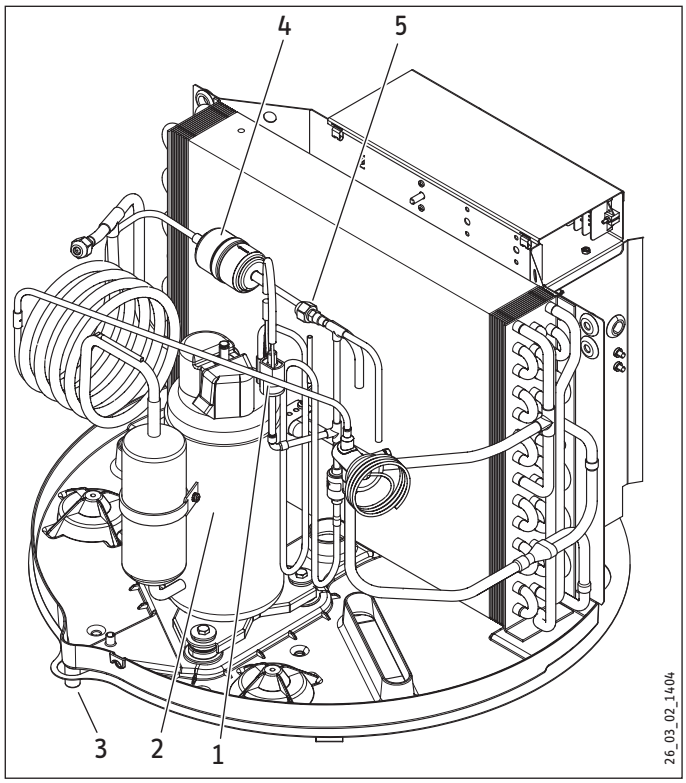
8.6 Electrical installation

Protect the appliance electrically with a 16 A fuse/MCB.

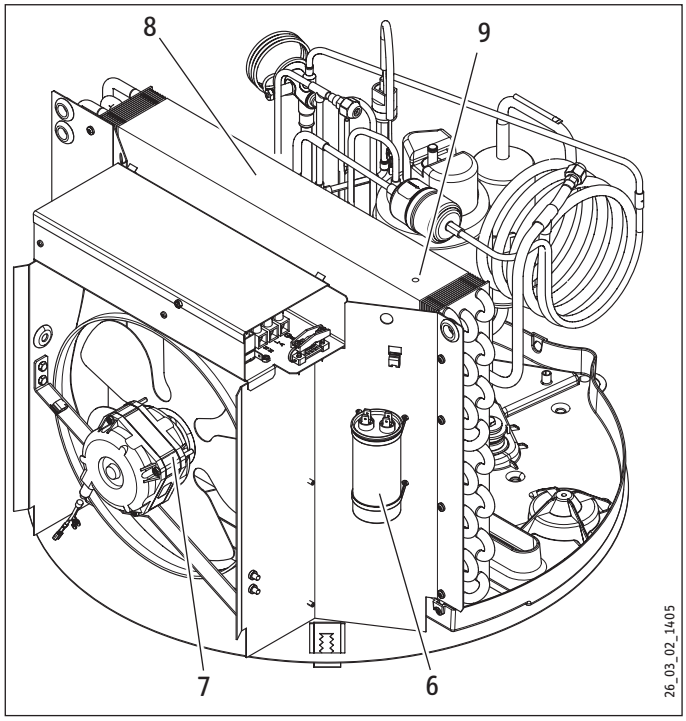
Where the appliance is permanently connected to the power supply, it must be able to be separated from the mains power supply by an additional isolator that disconnects all poles with at least (0.12 ") 3 mm contact separation. For this purpose, use contactors, circuit breakers, fuses, etc. on site.

In case of a fault, the safety equipment interrupts the relevant power circuit.

9. Appliance description



1 High limit safety cut-out
2 Compressor
3 Condensate drain
4 Filter dryer
5 Service valve, high pressure



6 Capacitor
7 Fan
8 Evaporator
9 Defrost sensor

The hot water temperature is preset at the factory.
Where customers require a lower hot water temperature, the thermostat settings of the heat pump and the booster heater can be reduced.

A sacrificial anode is inserted centrally from the top into the hot water tank of the appliance.

9.1 Standard delivery

- Accelera 300 heat pump water heater
- Two adaptors from G 1 to ¾-14 NPTF
- Two gaskets 30x20x3
- Two gaskets 30.0x20.0x4.0 EPDM
- Adaptor from G ¾ to ¾-14 NPTF

9.2 Special accessories

Description	Part number
Sacrificial anode rod	278235
Segmented anode	143498

10. Installation



CAUTION Injury

Incorrect installation can result in severe injuries and material losses.
Prior to installation ensure you have adequate space for the work to be carried out.
Handle components with sharp edges carefully.



Risk of damage to the casing.
The sheet steel casing of the appliance is not designed to withstand heavy forces.
Handle and install the appliance with care.

10.1 Installation location



DANGER Explosion

Never install the appliance in rooms where it is at risk from explosions as a result of dust, gases or vapors.



WARNING Injury

There is a risk of the appliance breaking through the floor if the substrate has insufficient load-bearing capacity. The room where the appliance is to be installed must have a load-bearing floor. The wet weight of the appliance is approx. 430 kg.
If the floor offers inadequate load-bearing capacity, there is a risk of the appliance breaking through the floor, resulting in a risk to life.



Risk of damage through frost.
Install the appliance only in an area free from the risk of frost. When the appliance is not in use and there is a risk of frost, the water inside the water tank can freeze and damage the tank.

- Never install the appliance in areas where the air temperature regularly drops below 43 °F (6 °C) or rises above 107 °F (42 °C).
- To prevent nuisance through operating noise, never install the appliance in the vicinity of bedrooms. Prevent noise emissions towards a neighbor.
- Allow adequate space around the appliance for installation, maintenance and cleaning tasks.

With internal installations, also observe the following:

- The available floor area in the installation room must be at least 6 m². The room volume must not be less than 13 m³.
- The appliance must not be restricted by walls and ceilings. The required minimum clearances are specified in chapter "Positioning the appliance/ positioning conditions".
- Observe that the room temperature will drop by 1 to 3 Kelvin as a result of the appliance operation.
- When installing the appliance in a furnace room, ensure that the furnace operation will not be impaired.
- To keep line runs as short as possible, we recommend that the appliance is installed near the kitchen or bathroom.

10.2 Shipping inspection

» Upon receipt, check your delivery for completeness and possible transport damage.

If transport damage is visible, proceed as follows:

- Do not accept the delivery or only with reservations.
- Note down the extent of the damage on the shipping documents or on the delivery note of the carrier.
- Initiate a complaint.



Immediately give notice of any damage.
Give notice of all damage as soon as it has been identified. Claims can only be accepted within the applicable claim period.

10.3 Handling

CAUTION Injury through heavy loads

Dry, this appliance weighs 130 kg. Use suitable aids and sufficient personnel when handling this appliance.

Risk of damage through incorrect handling. Incorrect handling can result in substantial material losses.
Observe the information on the packaging.
Remove the packaging just before the installation.

Risk of damage through overturning.
The appliance has a high centre of gravity and a low overturning moment. Protect the appliance against overturning.
Only position the appliance on a level substrate.

To protect the appliance against damage, it should be transported vertically inside its packaging. Where space is restricted, you can also tilt the appliance briefly to move it.

10.4 Storage

Where it is necessary to store the appliance prior to installation for a longer period, observe the following:

- If possible, store the appliance in a dry and dust-free ambience.
- Prevent the appliance from coming into contact with aggressive materials.
- Prevent the appliance from being exposed to shocks or vibrations.
- In case of prolonged storage, check the condition of the appliance and its packaging regularly.

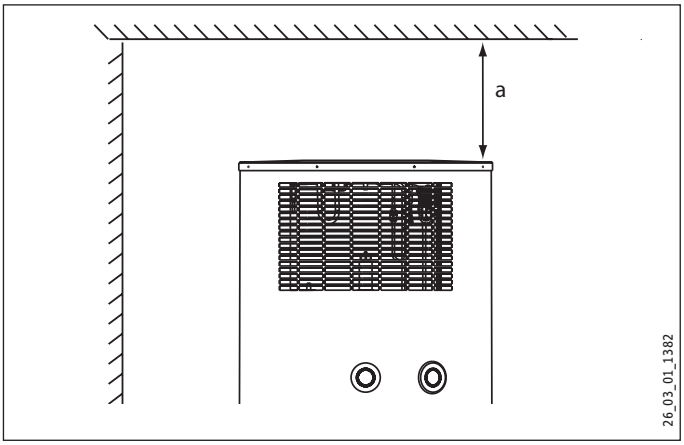
10.5 Positioning the appliance

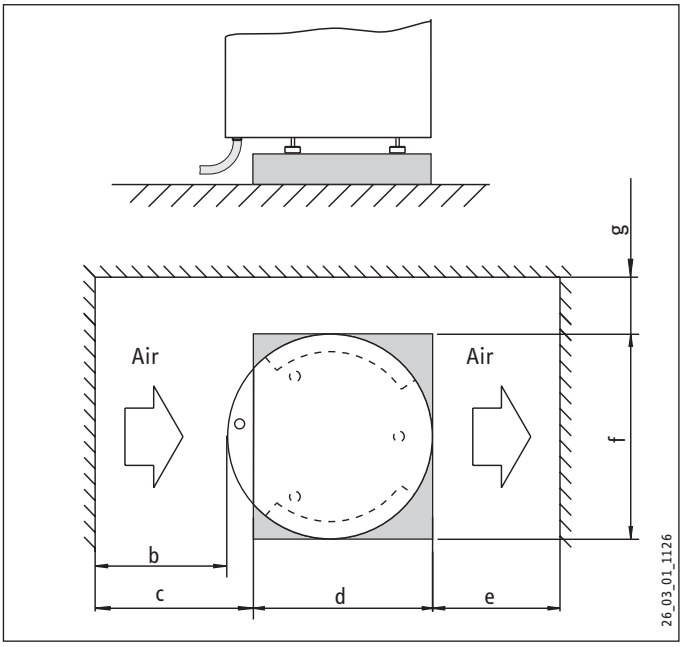
» Position the appliance with its wooden pallet at the final installation location.

Install the appliance so that there is an adequate clearance adjacent to the air grilles (see the following diagrams).

10.5.1 Installation conditions

It is important for the appliance maintenance that adequate space remains available above the appliance.





Dimensions and spaces		
a	inch (mm)	min. 15.75 (400)
b	inch (mm)	min. 15.75 (400)
c	inch (mm)	min. 19.09 (485)
d	inch (mm)	23.03 (585)
e	inch (mm)	min. 15.75 (400)
f	inch (mm)	26.38 (670)
g	inch (mm)	min. 7.87 (200)

» Level the appliance horizontally by adjusting the feet.

10.6 Unpacking the appliance

Ensure that the casing material in the lower section will not be damaged.

Advice - The longer you keep the packaging foil wrapped around the appliance, the longer it will be protected against damage.

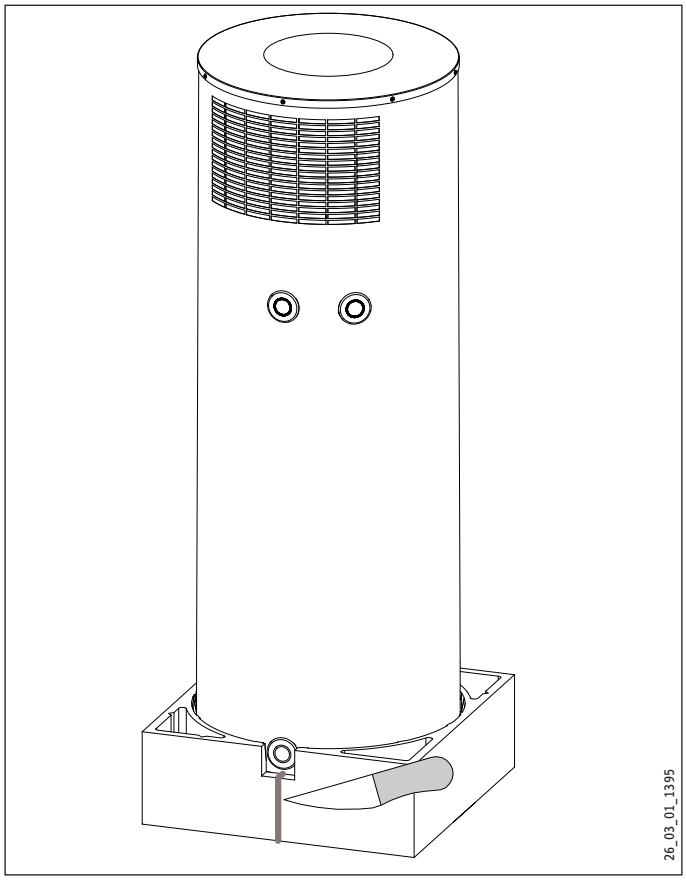
» Remove the packaging straps.

» Push the packaging foil far enough upwards that the wooden pallet is freely accessible.

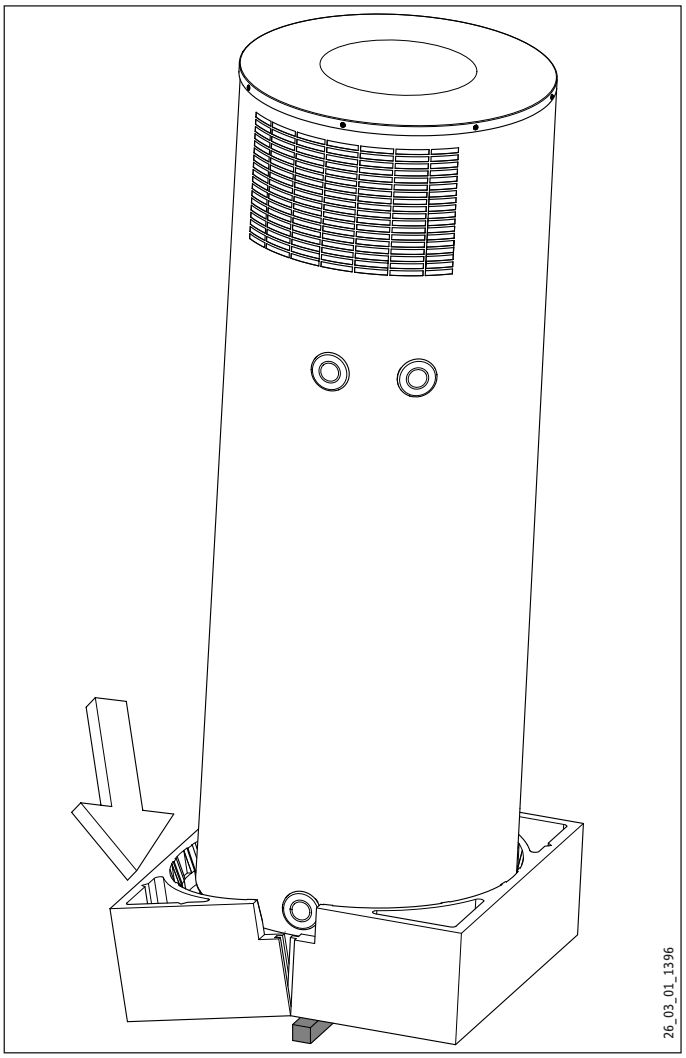
» Remove the appliance carefully with the polystyrene® packaging from the pallet.

DANGER Injury from overturning
The appliance has a high centre of gravity and a low overturning moment. Ensure that the appliance does not overturn when you remove it from its pallet.

» Slide the packaging foil far enough upwards to be able to remove the first polystyrene® profiles from the sides. These polystyrene® profiles on the sides are used as installation aids in the following steps.



» Separate the lower packaging section at the dividing line. For this, make an incision of approx. 1.18 " (30 mm) into both sides of the dividing line.



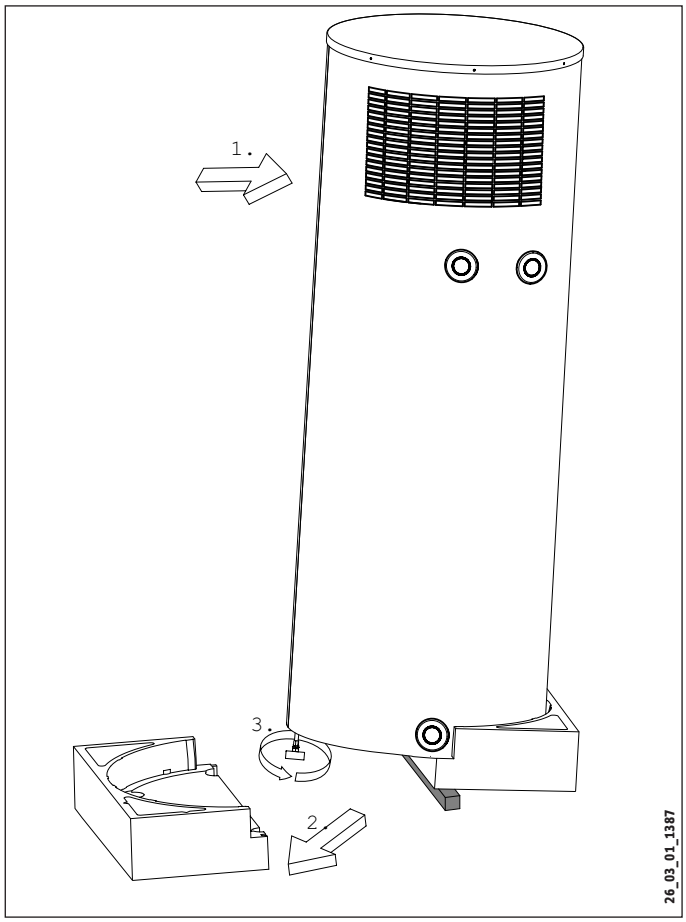
» Slightly tilt the appliance.

DANGER Injury from overturning
Secure the appliance against overturning by getting a second person to support the appliance.

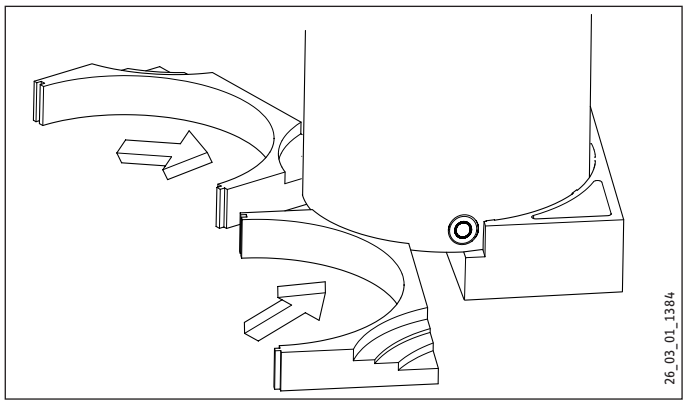
» Push a wooden batten to support the appliance underneath the lower part of the packaging.

» Break out the free semi-shell of the lower section of the packaging.

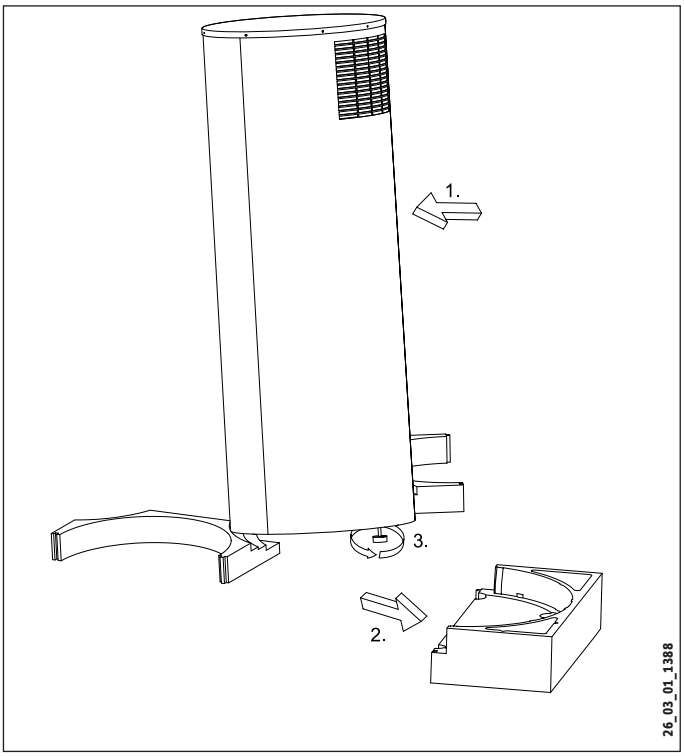
INSTALLATION



» Keep the appliances slightly tilted.
» Wind out the free leveling foot, but not by more than 1.18 " (30 mm).
» Turn the locking nut on the thread of the leveling foot towards the bottom cover. When the locking nut is tight against the bottom cover, it stabilizes the leveling foot.

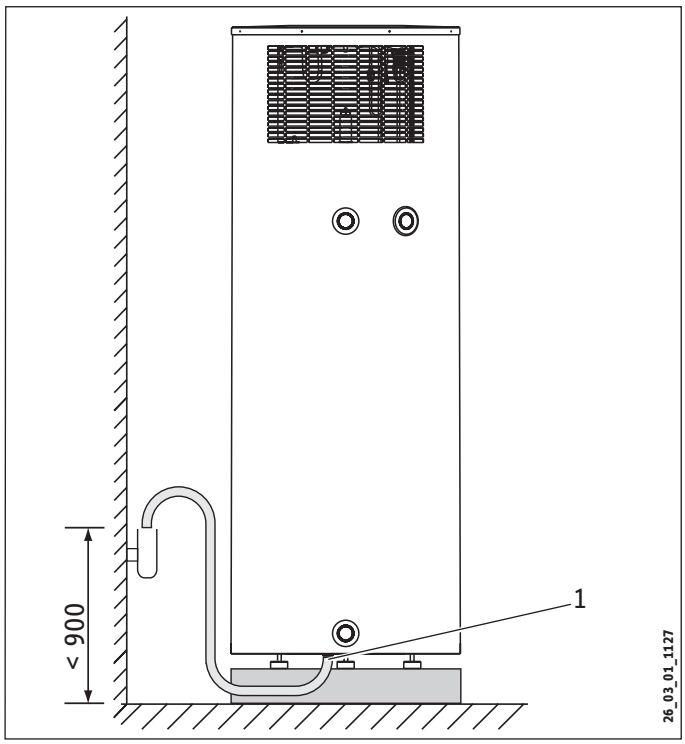


» Push two polystyrene® installation aids with the step-shaped corner underneath the appliance. The appliance is subsequently set and tilted onto this profile. Ensure that you do not set the appliance down in the area of the joint edge of the sheet steel jacket, but at least 5.9 " (150 mm) along.



» Tilt the appliance that has been set down on the polystyrene® installation aids.
» Remove the remaining floor semi-shell.
» In the tilted state of the appliance, wind out the second and third leveling foot, but not by more than 1.18 " (30 mm).
» In both cases, tighten the locking nut against the bottom cover.
» Position the appliance on the three leveling feet.
» Level the appliance vertically by adjusting the three leveling feet.
» Remove any packaging that remains on the appliance.

10.6.1 Condensate drain



1 Condensate drain

The condensate drain is located in the floor of the appliance. This is where you can connect a drain hose.

When installing the unit externally, the condensate can drain off freely.

For internal installation, the condensate can be routed into a drain in the floor or into a wall drain connection located at a higher point. If the condensate is to be drained via a wall outlet, position the appliance on a plinth. Install a corresponding drain hose.

If required, install a condensate pump.

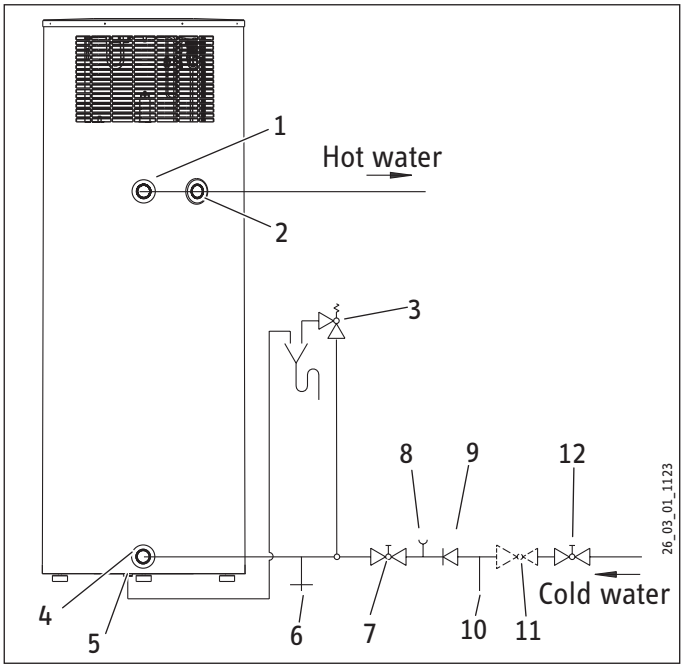
To ensure the condensate drains correctly, never kink the hose.

10.7 Water connection

The water connection must be carried out by a qualified heating contractor.

The cold water connection must comply with DIN 1988 [or local regulations].

» Prior to installing the appliance, flush the line thoroughly.



1 Hot water connection G 1 (with adaptor to 3/4 NPTF)
2 Connection for P&T valve R ¾
3 Safety valve (on-site provision)
4 Cold water connection G 1 (with adaptor to 3/4 NPTF)
5 Condensate drain
6 Drain valve (available on site)
7 Straight-through shut-off valve (available on site)
8 Test connector for pressure gauge (available on site, option)
9 Non-return valve (available on site)
10 Test valve connection (available on site)
11 Pressure reducing valve (available on site, option)
12 Straight-through shut-off valve (available on site)

» Remove the protective caps from the connectors.
» With a sharp knife, cut a hole into the protective caps and invert them over the pipe to be connected.
» Connect the pipes.
» After connecting the pipes, connect the protective caps so that the sheet steel casing of the appliance grips into the outer groove of the protective cap.

Risk of damage through corrosion
To protect against the risk of corrosion, make the connection with flat gaskets. The use of hemp on connections is not acceptable.

» Insulate the hot water line against heat loss in accordance with the regulations pertaining to the installation location.
» Install a drain valve at the lowest point of the cold water supply.

Install a pressure reducing valve when the water pressure exceeds 87 psi (0.6 MPa, 6 bar).

Accurately maintain the order of fittings on the cold water side.

10.7.1 Safety valve (on-site provision)

This appliance is a sealed hot water generator. Therefore, a pressure relief valve must be installed as a safety valve.

When installing the safety valve, observe the following:
- The diameter of the connecting line must not be smaller than the safety valve diameter.
- Size the drain line so that water can drain off completely, even if the safety valve is fully open.
- The drain outlet must not be able to be closed and must always remain open to atmosphere.
- The safety valve must open at a pressure of 87 psi (0.6 MPa).

10.7.2 P&T valve (on-site provision)

WARNING Risk of injury through excessive pressure and temperatures.

Install safety equipment that meets the applicable regulations for the installation locations. In any case install a "Pressure and Temperature Relief valve (P&T relief)" that complies with the requirements of the ANSI Z21.22 ("Requirements for Relief Valves and Automatic Gas Shut-off Appliances for Hot Water Supply Systems").
The P&T valve must respond at a pressure of 101.5 psi (0.7 MPa). Fit the P&T valve into the opening on the circumference of the appliance indicated.
Ensure that any expelled water cannot come into contact with 'live' parts and will not run onto sensitive surfaces. Ensure that the P&T valve outlet remains free at all times.

10.8 Power supply

The electrical connection must be carried out by a qualified electrician.

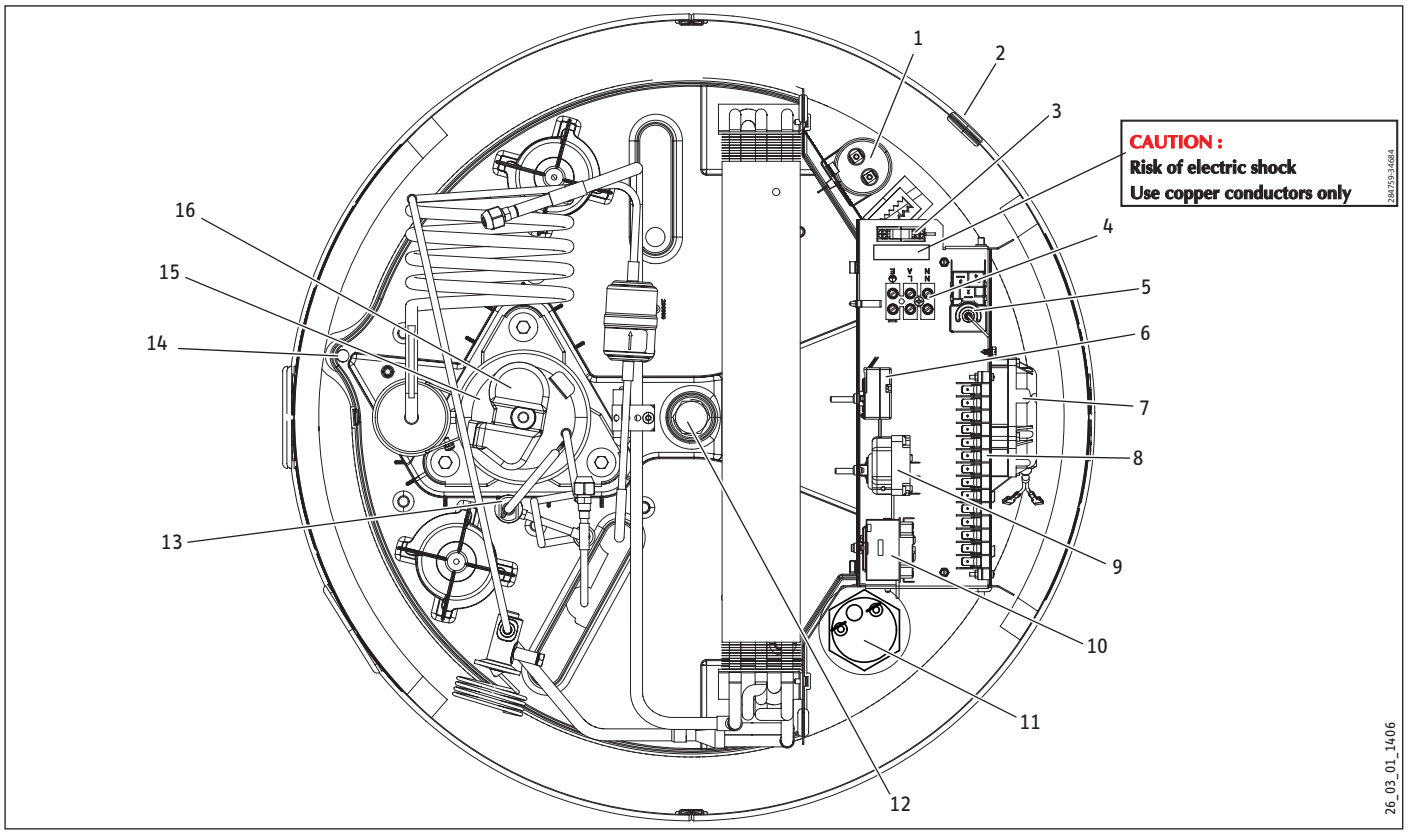
Observe the requirements of the local energy supply utility.

DANGER Electric shock
Contacting 'live' components results in a risk to life.
» Disconnect the appliance from the power supply before carrying out work on the control panel.
» Ensure that no one can reconnect the power whilst you are working.

If you make a permanent connection between the appliance and the power supply, then the appliance must be able to be separated from the power supply by a facility that disconnects all poles with at least 0.12 " (3 mm) contact separation. For this, install contactors, circuit breakers or fuses.

» Undo the screws from the appliance cover. For this, turn the eight screws anti-clockwise.
» Remove the screws and remove the cover.

INSTALLATION



1 Capacitor
2 Cable entry into the appliance casing
3 Strain relief
4 Mains terminal
5 Frost monitor
6 Heat pump control thermostat
7 Fan motor
8 Heat pump terminal
9 Thermostat, booster heater
10 High limit safety cut-out, booster heater
11 Booster heater
12 Sacrificial anode
13 Safety pressure limiter
14 Condensate pan drain
15 Compressor
16 Compressor motor protection (Klixon)

» Pull the power cable through the cable entry into the appliance interior.
» Route the power cable through the strain relief.
» Connect the power cable to the mains terminal in accordance with the wiring diagram (see chapter "Specification").

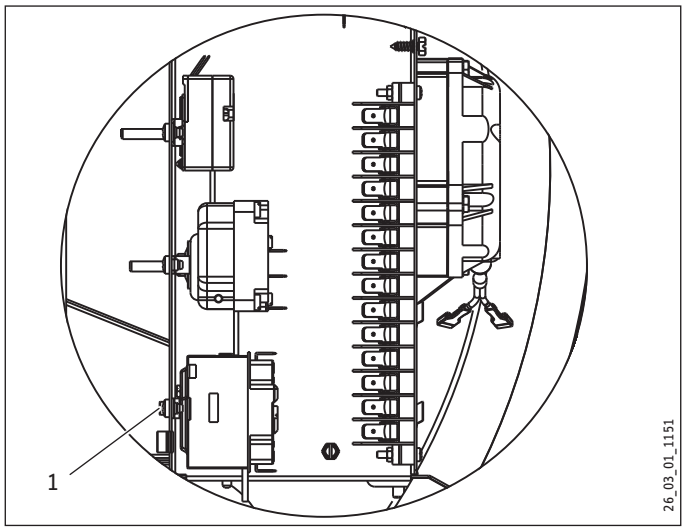
WARNING Electric shock
Risk of injury through inadequate earthing.
» Ensure that the appliance is correctly earthed in accordance with the requirements at the place of installation.

The earth conductor of the power cable must be connected to the terminal marked ⏚.

10.8.1 High limit safety cut-out

At ambient temperatures below 14 °F (-10 °C), for example during shipping or in storage, the high limit safety cut-out may trip.

Press the reset button of the high limit safety cut-out to reset it. To do this, first remove the appliance cover.



1 Reset key for high limit safety cut-out

» Position the appliance cover and secure it with the screws.

11. Commissioning

11.1 Commissioning

Only approved contractors may commission this appliance and instruct the user in its use.

» Fill and vent the appliance. For this, open the cold water supply and one hot water draw-off point.
» Thoroughly flush the appliance.
» Check the safety assembly. Inform the user that water may drip from the safety valve whilst water is being heated up.
» Connect power by resetting the MCB.

This appliance must not be operated at ambient temperatures below 43 °F (6 °C) or above 107 °F (42 °C).

11.2 Shutting down

The appliance can only be switched off by disconnecting the power supply.

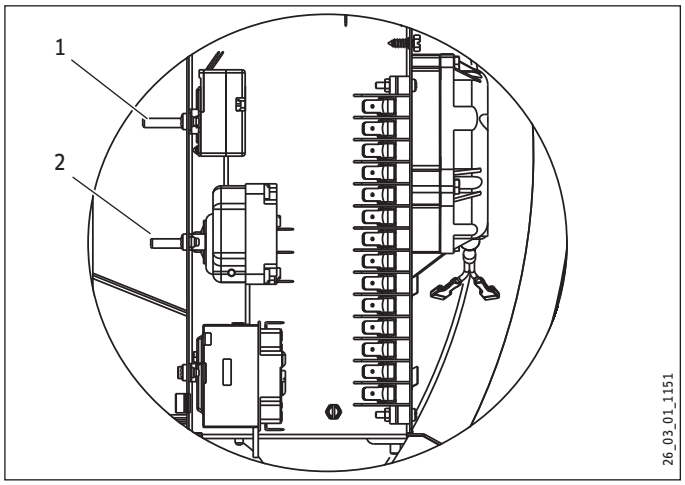
11.3 Recommissioning

Once the appliance has been switched off following an interruption to its power supply, no special recommissioning measures are required after the power supply has been restored.

12. Settings

12.1 Adjusting the water temperature

The water temperature must only be adjusted by a contractor as this requires that the cover is removed from the appliance.



1 Thermostat, heat pump operation
2 Thermostat of the booster heater

The temperature is reduced by turning anti-clockwise.

Adjust both thermostats to the same setting. Energy consumption will rise if the temperature is set lower at the heat pump thermostat than at the booster heater thermostat.

Ensure that both thermostats are adjusted to the same setting.

Energy consumption will rise if the temperature is set lower at the heat pump thermostat than at the booster heater thermostat.

13. Appliance handover

» Explain the functions to the user. Draw special attention to the safety information.
» Hand these operating instructions to the user.

14. Troubleshooting

WARNING Electric shock

Always disconnect the power supply before working on the appliance.

14.1 Safety equipment of the appliance

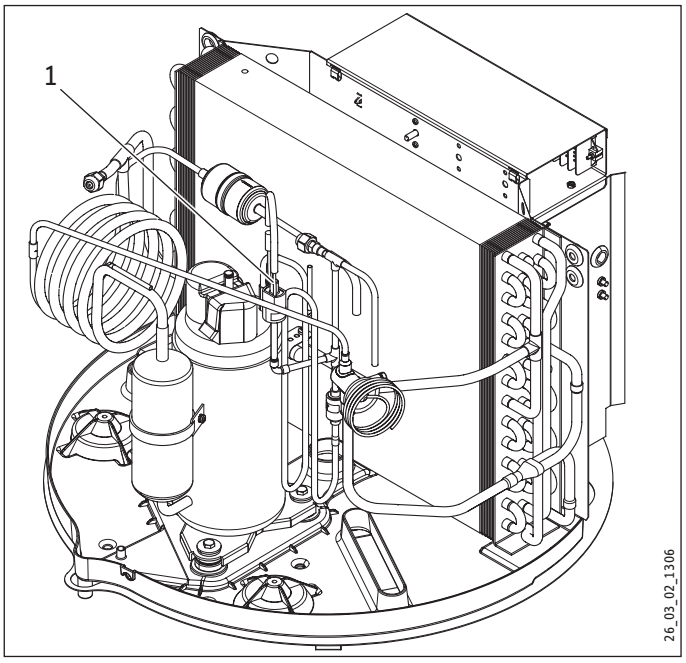
If faults develop, the safety equipment of the appliance will interrupt the appropriate power circuits.

14.1.1 High limit safety cut-out

The high limit safety cut-out protects the appliance against overheating. The booster heater is switched off when the temperature of the water inside the tank exceeds 203 °F (95 °C).

After removing the source of the fault, press the reset button on the high limit safety cut-out. To do this, first remove the appliance cover. See chapter "Installation/ Electrical connection/High limit safety cut-out".

14.1.2 Safety pressure limiter



1 Reset button of the safety pressure limiter

The safety high pressure limiter shuts down the compressor, if the pressure inside the refrigerant circuit exceeds the permissible maximum value. The safety pressure limiter may also respond, if the appliance is operated above its permissible limit, i.e. above an air temperature of 107 °F (42 °C).

The safety pressure limiter also responds if the heat pump thermostat fails.

» After the cause of the fault has been removed, reset the safety pressure limiter by pressing the reset button.

14.1.3 Protective motor switch

The protective motor switch will shut down the compressor if it is overloaded because of excessive thermal load. Remove the cause. After a short cool-down phase, the protective motor switch will restart the compressor automatically.

14.1.4 Safety valve (on-site provision)

This valve opens when the water pressure exceeds the preset value of 87 psi (0.6 MPa), thereby relieving the pressure. The safety valve is set so that no water is expelled when the heating is switched off. If it continues to drip excessively, either the valve seat has become contaminated or the water pressure is too high.

14.2 Troubleshooting

14.2.1 Excessive power consumption

» Lower the start temperature of the booster heater.

14.2.2 The room temperature falls excessively

One possible cause is an inadequate air flow over the evaporator.

» Check whether the fan is contaminated.
» Check whether the evaporator is contaminated.
» Ensure that the intake and discharge flow are not restricted.

15. Maintenance and cleaning

Only qualified contractors must carry out maintenance work in accordance with these instructions.



WARNING Electric shock

Maintenance work, such as checking the electrical safety, must only be carried out by an electrician. Always disconnect the power supply before working on the appliance.

15.1 Cleaning the evaporator



WARNING Injury

The evaporator has many sharp-edged fins. When cleaning the evaporator, proceed with caution and wear protective clothing, in particular safety gloves.

Maintaining the full output of the appliance at all times requires an occasional professional cleaning of the evaporator.

» Undo the screws that connect the appliance cover with the side panel and remove the cover.
» Carefully clean the evaporator fins. Only use water and a soft brush. Never use acidic or alkaline cleaning agents.

15.2 Draining the tank



WARNING Scalding

Hot water can be expelled when draining the tank.

» Close the shut-off valve in the cold water line.
» Fully open the hot faucets of all draw-off points.

The tank is drained via the cold water supply. Some residual water will remain in the bottom of the tank.

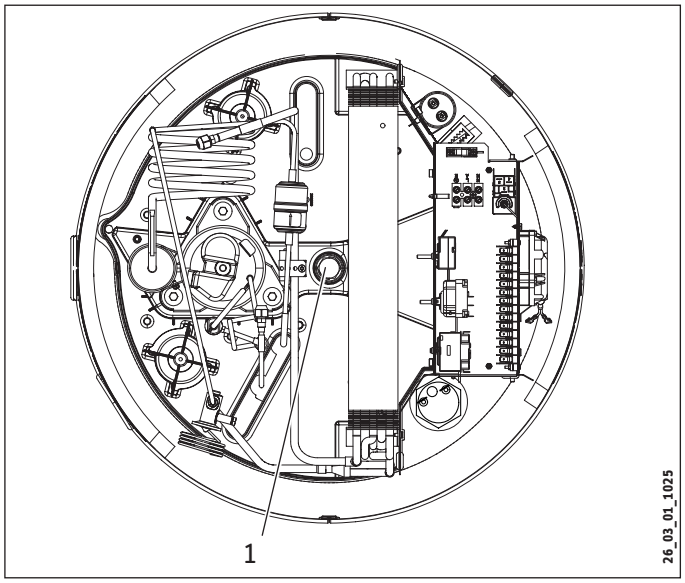
» Open the drain valve (see chapter "Water connection").

If no drain valve was installed, undo the fitting on the cold water supply of the appliance.

15.3 Sacrificial anode

A sacrificial anode is inserted centrally from the top into the hot water tank of the appliance. The sacrificial anode fitted at the factory (anode rod) is approx. 1.26 m long.

The timing of the anode inspection is subject to the local water quality and is determined by your local contractor. We recommend that the anode is checked no later than 12 months after commissioning.



1 Sacrificial anode

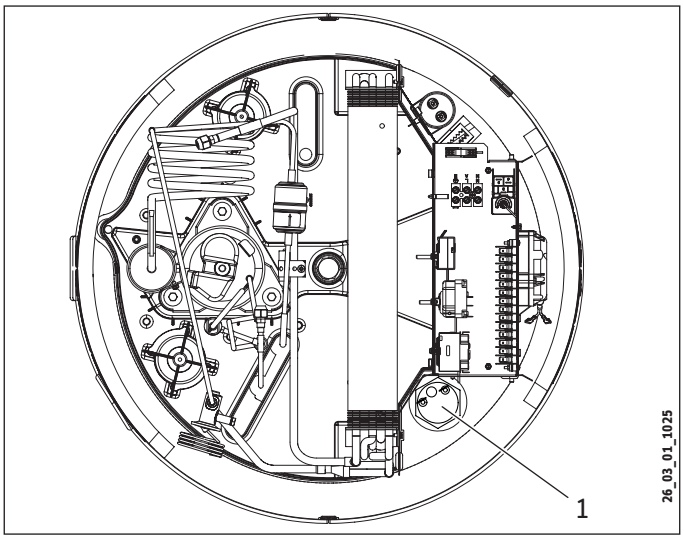
If the anode is used up, you will need to replace it. Should it prove impossible to install an anode rod (length approx. 1.26 m), install a segmented anode (see chapter "Appliance description/Special accessories").

During the anode installation ensure a perfect metal-conducting connection between the anode and the tank.

15.4 Descaling

» Close the shut-off valve in the cold water supply to the tank.

» Draw water from the tank to relieve the pressure inside the appliance.



1 Booster heater flange

» Unscrew the booster heater flange.

» Immerse scaled sections of the heater rod into a descaling liquid (for example citric acid), until the limescale has dissolved from the heater rod.

» Flush the descaling liquid off and allow the immersion heater to dry.

15.5 Checking valves

15.5.1 Safety valve (on-site provision)

For reasons of safety, it is necessary to check the safety valve for perfect function from time to time.

» Crack open the safety valve until a full jet of water is discharged.

» Close the safety valve when the check is complete.

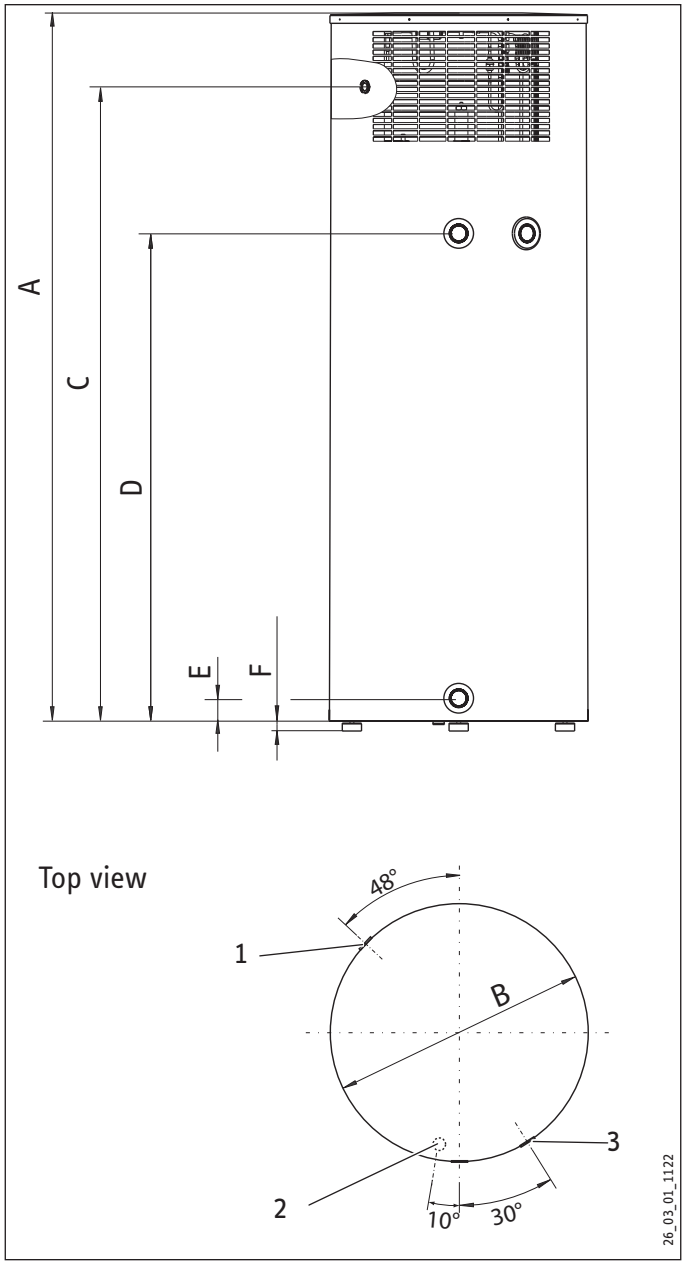
How quickly limescale builds up depends on the local water quality and the hot water temperature. As your local contractors are familiar with your local water quality, let them determine the timing of the next service.

15.5.2 Pressure reducing valve (on-site provision)

» Check the on site pressure relief valve for perfect function. If required, replace the valve.

16. Specification

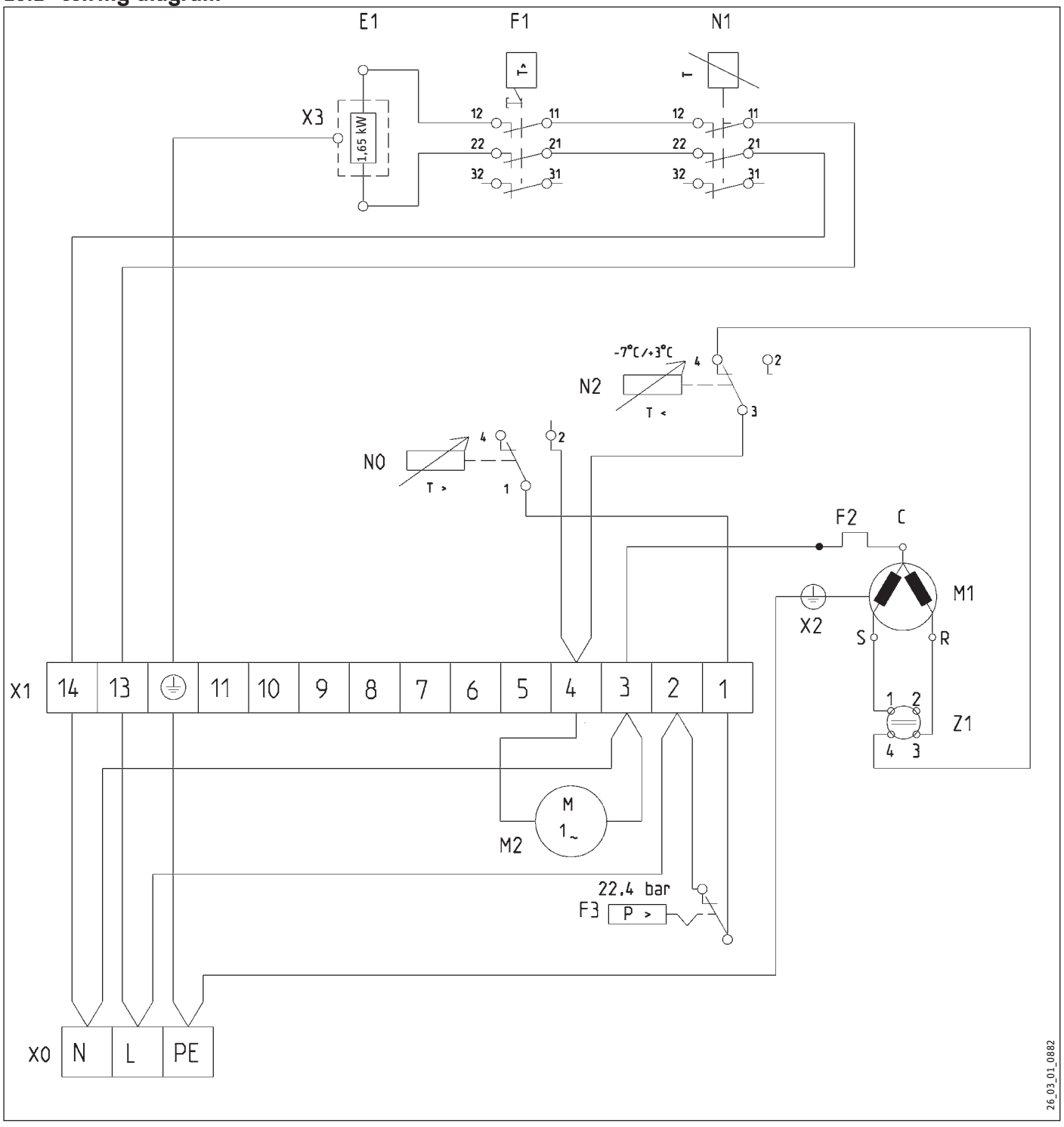
16.1 Connection and other dimensions



1 Power cable entry
2 Condensate drain in the appliance floor
3 Connection for P&T safety valve

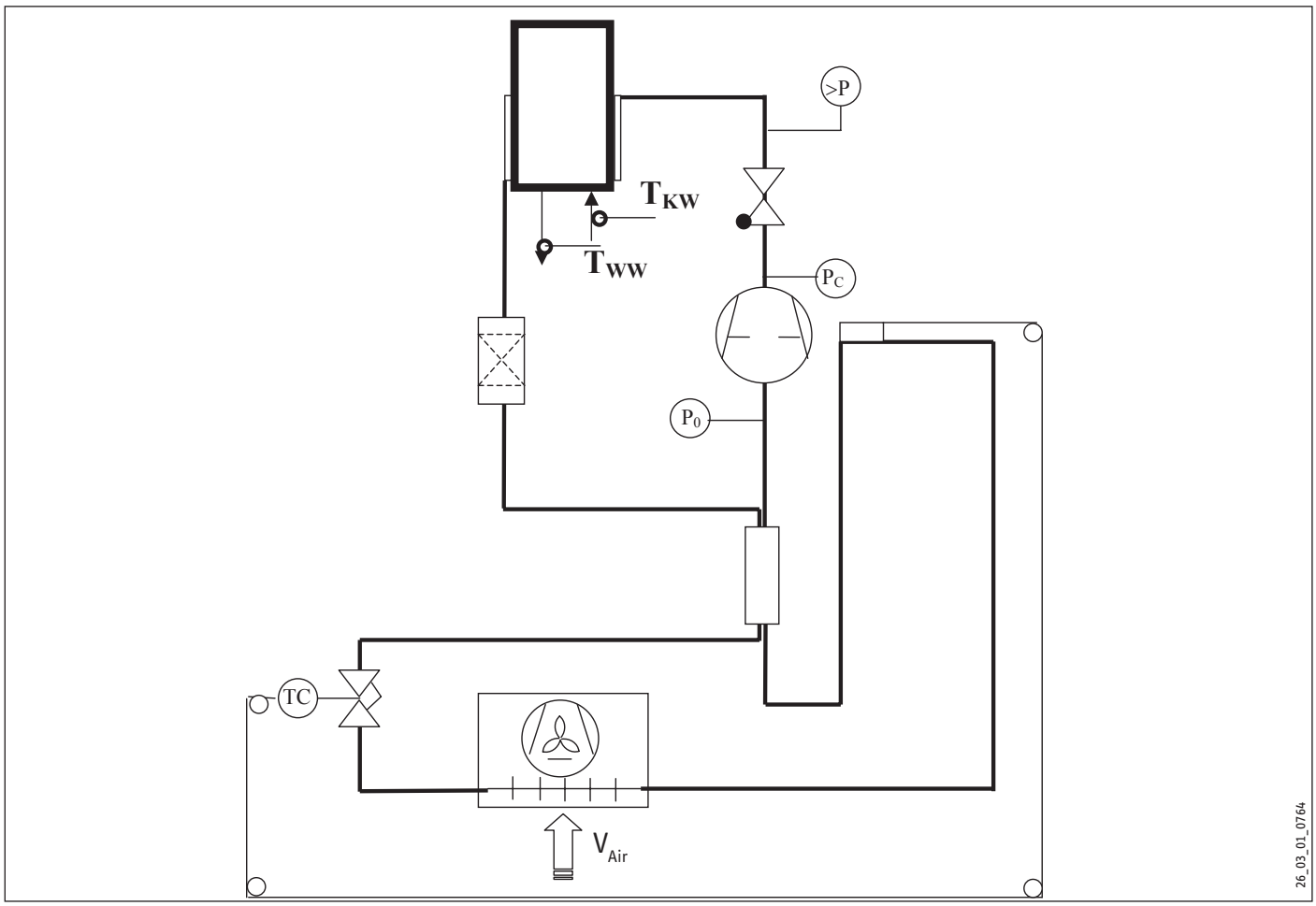
Dimensions		
A (height of the appliance excl. leveling feet)	inch (mm)	72.44 (1840)
B (appliance diameter)	inch (mm)	25.98 (660)
C (height of the cable entry from the appliance floor)	inch (mm)	64.57 (1640)
D (height of the hot water connection from the appliance floor)	inch (mm)	49.8 (1265)
E (height of the cold water connection from the appliance floor)	inch (mm)	2.28 (58)
F (height of the leveling feet, adjustable)	inch (mm)	0.87-2.36 (22-60)

16.2 Wiring diagram



E1 Booster heater
F1 High limit safety cut-out, booster heater
F2 Compressor motor protection (Klixon)
F3 Safety pressure limiter (high pressure)
M1 Compressor
M2 Fan
N0 Heat pump control thermostat
N1 Thermostat - booster heater
N2 Frost monitor
X0 Mains terminal
X1 Heat pump terminal
X2 Earthing, compressor
X3 Earthing, booster heater
Z1 Capacitor

16.3 Refrigerant diagram



16.4 Data table

Model		Heat pump water heater
Type		Accelera 300
Part number		222423
Version		With passive defrosting and booster heater
Operating details		
Lower application limit for heat pump operation (air temperature)	°F (°C)	42.8 (6)
Upper application limit for heat pump operation (air temperature)	°F (°C)	107.6 (42)
Hot water temperature, heat pump	°F (°C)	140 (60)
Hot water temperature, booster heater	°F (°C)	140 (60)
Air flow rate	m^3/h	550
Tank capacity	Gal / l	80.044 / 303
Refrigerant		R 134a
Refrigerant / filling weight	g	900
Appliance height (minimum)	inch (mm)	73.43 (1865)
Appliance height (maximum)	inch (mm)	74.92 (1903)
Appliance diameter	inch (mm)	25.98 (660)
Height when tilted	inch (mm)	78.35 (1990)
Dimension when tilted incl. packaging	inch (mm)	86.61 (2200)
Weight (dry tank)	kg	130
Weight (wet)	kg	432
Water connection with adaptor		R 3/4 NPT
Condensate drain		G 3/4
Condenser		Rollbond safety heat exchanger
Permissible operating pressure, water side	Psi / MPa	87 / 0.6
Permissible positive pressure, refrigerant side	Psi / MPa	348.1 / 2.4
Sound power level	dB(A)	64.2
Electrical details		
Power connection, voltage / frequency	V/Hz	1/N/PE ~ 240/60
Protection		IP 24
Maximum power consumption (Tamb = 42 °C, Twater = 60 °C, 240 V)	kW	2.2
Electrical fuse protection	A	16
Rated power consumption, heat pump	A	2.5
Rated power consumption HP (in accordance with DIN 8947, at 15 °C air temperature, 70% relative humidity and 45 °C water temperature)	kW	0.5
Power consumption, booster heater	kW	1 690

SPECIFICATION

Model		Heat pump water heater
Heating output HP (at 15 °C air temperature, 70% relative humidity, water heat-up from 15 °C to 60 °C, in accordance with EN 255 T3, 240 V / 60 Hz)	kW	approx. 1.7
COP (t) (at 15 °C air temperature, 70% relative humidity, water heat-up from 15 °C to 60 °C, in accordance with EN 255 T3, 240 V / 60 Hz)		3.18

Warranty information

The warranty terms issued by the German companies that form the Stiebel Eltron Group do not apply to appliances purchased outside Germany. In countries, where subsidiaries of the Stiebel Eltron Group exist, warranties can only be issued by those subsidiaries. Such warranties will only apply if the subsidiary has issued its own warranty terms. No other warranty will be issued.

For appliances purchased in countries, where there is no subsidiary of the Stiebel Eltron Group, no warranties are issued by Stiebel Eltron. This will not affect warranties issued by any importers.

Environment and recycling

Please help us protect the environment. Dispose of the appliance and its packaging in accordance with national regulations.

KYOTO | R134a

This device is filled with refrigerant R134a.

Refrigerant R134a is a CFC greenhouse gas mentioned in the Kyoto protocol with a global greenhouse potential (GWP) = 1300.

Never release refrigerant R134a to atmosphere.

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