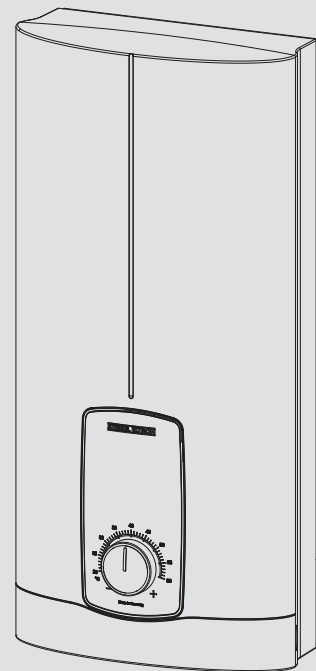


## OPERATION AND INSTALLATION

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Comfort instantaneous water heater with electronic closed-loop control

- » DHB ST Trend 50 AU
- » DHB ST Trend 60 AU



**STIEBEL ELTRON**

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### SOFTWARE COPYRIGHT

### ENVIRONMENT AND RECYCLING

### WARRANTY

# SPECIAL INFORMATION

- The appliance may be used by children aged 3 and older and persons with reduced physical, sensory or mental capabilities or a lack of experience and know-how, provided that they are supervised or they have been instructed on how to use the appliance safely and have understood the potential risks. Children must never play with the appliance. Cleaning and user maintenance must not be carried out by children without supervision.
- If using preheated water, the tap can reach a temperature of up to 50 °C (DHB ST Trend 50 AU) / 70 °C (DHB ST Trend 60 AU) during operation. There is a risk of scalding at outlet temperatures in excess of 43 °C.
- DHB ST Trend 50 AU: The appliance is suitable for supplying a shower (shower operation). When using preheated water, it must be ensured that the inlet temperature does not exceed 50 °C.
- DHB ST Trend 60 AU: The appliance is suitable for supplying a shower (shower operation). If the appliance is also or exclusively used for shower operation, the qualified contractor must adjust the temperature setting range to 43 °C using the internal anti-scalding protection on the appliance. When using preheated water, ensure that the inlet temperature does not exceed 55 °C.
- DHB ST Trend 60 AU: In Australia, the use of a temperature controller is required to meet the requirements of AS 3498 when showers, bathtubs or washbasins are supplied with water. The maximum temperature of 50 °C must not be exceeded.
- Ensure the appliance can be separated from the power supply by an isolator that disconnects all poles with at least 3 mm contact separation.
- The specified voltage must match the power supply.
- The appliance must be connected to the earth conductor.
- The appliance must be permanently connected to fixed wiring.
- Secure the appliance as described in chapter "Installation / Installation".
- Observe the maximum permissible pressure (see chapter "Installation / Specification / Data table").
- The specific water resistivity of the mains water supply must not be undershot (see chapter "Installation / Specification / Data table").
- Drain the appliance as described in chapter "Installation / Maintenance / Draining the appliance".

# OPERATION

## 1. General information

The chapters "Special information" and "Operation" are intended for appliance users and qualified contractors.

The chapter "Installation" is intended for qualified contractors.



### Notice

Read these instructions carefully before using the appliance and retain them for future reference. Pass on these instructions to a new user if required.

### 1.1 Safety instructions

#### 1.1.1 Structure of safety instructions



#### SIGNAL WORD Type of risk

Here, possible consequences are listed that may result from failure to observe the safety instructions.

► Steps to prevent the risk are listed.

#### 1.1.2 Symbols, type of risk

Symbol	Type of risk
	Injury
	Electrocution
	Burns (burns, scalding)

#### 1.1.3 Signal words

SIGNAL WORD	Meaning
DANGER	Failure to observe this information will result in serious injury or death.
WARNING	Failure to observe this information may result in serious injury or death.
CAUTION	Failure to observe this information may result in non-serious or minor injury.

### 1.2 Other symbols in this documentation



#### Notice

General information is identified by the adjacent symbol.

► Read these texts carefully.

Symbol	Meaning
	Property damage (appliance damage, consequential losses and environmental pollution)
	Appliance disposal

► This symbol indicates that you have to do something. The action you need to take is described step by step.

### 1.3 Units of measurement



#### Notice

All measurements are given in mm unless stated otherwise.

## 2. Safety

### 2.1 Intended use

This appliance is suitable for heating domestic hot water or for reheating preheated water. The appliance can supply one or more draw-off points.

Water will not be reheated if the maximum inlet temperature for reheating is exceeded.

The appliance is intended for domestic use. It can be used safely by untrained persons. The appliance can also be used in non-domestic environments, e.g. in small businesses, as long as it is used in the same way.

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

### 2.2 General safety instructions



#### CAUTION Burns

If using preheated water, the tap can reach a temperature of up to 50 °C (DHB ST Trend 50 AU) / 70 °C (DHB ST Trend 60 AU) during operation.

There is a risk of scalding at outlet temperatures in excess of 43 °C.



#### CAUTION Burns

If children or persons with limited physical, sensory or mental capabilities use the appliance, a permanent and unchangeable temperature limit is necessary. Ask a qualified contractor to set the internal anti-scalding protection.

# Appliance description



**CAUTION Burns**  
 If operating with preheated water, e.g. if using a solar thermal system, observe the following information:  
 The DHW temperature may exceed the set temperature or a set temperature limit.  
 ► In this case, limit the temperature with an upstream central thermostatic valve.



**WARNING Injury**  
 The appliance may be used by children aged 3 and older and persons with reduced physical, sensory or mental capabilities or a lack of experience and know-how, provided that they are supervised or they have been instructed on how to use the appliance safely and have understood the potential risks. Children must never play with the appliance. Cleaning and user maintenance must not be carried out by children without supervision.



**WARNING**  
 For continued safety of this appliance it must be installed, operated and maintained in accordance with the manufacturer's instructions.



**WARNING**  
 This appliance may deliver water at high temperature. Refer to the plumbing code of Australia (PCA), local requirements and installation instructions to determine if additional delivery temperature control is required.



**Property damage**  
 The user should protect the appliance and its tap against frost.

## 2.3 Test mark

See type plate on the appliance.

## 3. Appliance description

The appliance switches on automatically as soon as you open the hot water valve on the tap. When you close the tap, the appliance switches off again automatically.

The appliance heats water as it flows through it. The set temperature is adjustable. Upwards of a certain flow rate, the control unit selects the required heating output, subject to the temperature selected and the cold water temperature.

The electronically controlled instantaneous water heater with automatic output matching maintains a consistent outlet temperature. It does so irrespective of the inlet temperature, up to the maximum output of the appliance.

If the appliance is operated with preheated water and the inlet temperature exceeds the set temperature, the water is not heated further.

## Heating system

The bare wire heating system is enclosed within a pressure-tested plastic jacket. The heating system with its stainless steel heater spiral is suitable for hard and soft water areas and is largely insusceptible to scale build-up. The heating system ensures rapid and efficient DHW provision.



**Notice**  
 The appliance is equipped with an air detector that largely prevents damage to the heating system. If, during operation, air is drawn into the appliance, the appliance shuts down heating output for one minute to protect the heating system.

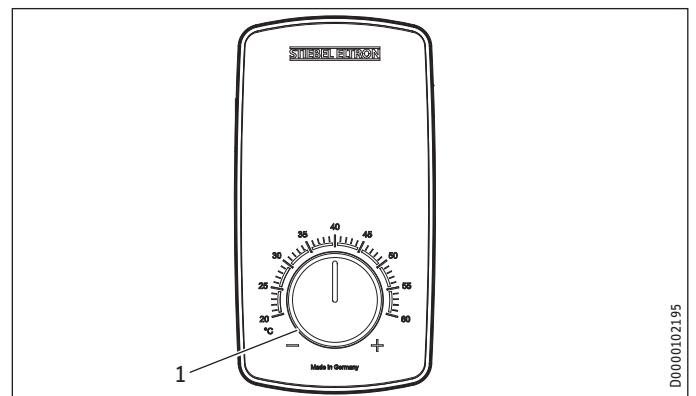
## Following an interruption of the water supply



**Property damage**  
 To ensure that the bare wire heating system is not damaged following an interruption to the water supply, the appliance must be recommissioned by taking the following steps.  
 ► Disconnect the appliance from the power supply by removing the fuses/tripping the MCBs.  
 ► Open and close all connected draw-off valves several times for at least one minute until all air has been purged from the pipework and the appliance.  
 ► Switch on the power supply again.

## 4. Settings

### 4.1 Selecting the set temperature



- 1 Temperature selector for selecting the set temperature:
- 20 - 50 °C in increments of 1 °C for DHB ST Trend 50 AU
  - 20 - 60 °C in increments of 1 °C for DHB ST Trend 60 AU



**Notice**  
 If the outlet temperature is not high enough when the draw-off valve is fully open and the temperature selector is set to maximum, then more water is flowing through the appliance than can be heated by the heating system (appliance working at maximum output).  
 ► Reduce the water volume until the preferred temperature delivery is achieved.

### 4.2 Recommended settings

Your instantaneous water heater offers maximum precision and maximum convenience in DHW provision. Should you nonetheless operate the appliance with a thermostatic valve, we recommend that you:

#### DHB ST Trend 50 AU

- ▶ Set the temperature at the instantaneous water heater to the maximum temperature. Then set the required set temperature on the thermostatic valve.

#### DHB ST Trend 60 AU

- ▶ Adjust the temperature on the instantaneous water heater to over 50 °C. Then set the required set temperature on the thermostatic valve.

#### Saving energy

The following recommended settings will result in the lowest energy consumption:

- 38 °C for hand washbasins, showers, bath
- 50 °C (DHB ST Trend 50 AU) / 55 °C (DHB ST Trend 60 AU) for kitchen sinks

#### Temperature limit via internal anti-scalding protection (qualified contractor)

If required, the qualified contractor can set a permanent temperature limit, for example in nurseries, hospitals, etc.

Limiting it in this way prevents water from flowing out of the appliance at temperatures which could cause injury.



#### CAUTION Burns

If operating with preheated water, e.g. if using a solar thermal system, the internal anti-scalding protection can be overridden.

- ▶ In this case, limit the temperature with an upstream central thermostatic valve.

#### Recommended setting for operation with a thermostatic valve and preheated water

- ▶ Set the temperature at the instantaneous water heater to the maximum temperature.

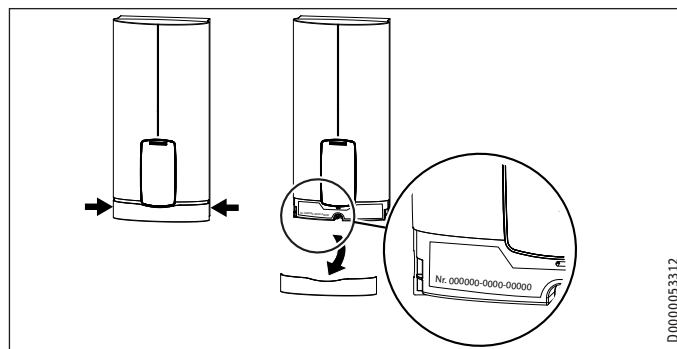
## 5. Cleaning, care and maintenance

- ▶ Never use abrasive or corrosive cleaning agents. A damp cloth is sufficient for cleaning the unit.
- ▶ Check the taps regularly. Limescale deposits at the tap outlets can be removed using commercially available descaling agents.

## 6. Troubleshooting

Problem	Cause	Remedy
The appliance will not start despite the DHW valve being fully open.	There is no power.	Check the fuses / MCBs in your fuse box / distribution board.
	The aerator in the tap or the shower head is scaled up or dirty.	Clean and/or descale the aerator or shower head.
	The water supply has been interrupted.	Vent the appliance and the cold water supply line.
When hot water is being drawn off, cold water flows for a short period.	The air sensor is detecting air in the water. It briefly switches off the heating output.	The appliance restarts automatically after 1 minute.
The preferred temperature cannot be set.	Internal anti-scalding protection is activated.	The internal anti-scalding protection can only be adjusted by qualified contractors.

If you cannot remedy the fault, contact your qualified contractor. To facilitate and speed up your enquiry, please provide the serial number from the type plate (000000-0000-000000).



# INSTALLATION

## 7. Safety

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

### 7.1 General safety instructions

We guarantee trouble-free function and operational reliability only if original accessories and spare parts intended for the appliance are used.



**Property damage**

Observe the maximum inlet temperature. Higher temperatures may damage the appliance. You can limit the maximum inlet temperature by installing a central thermostatic valve.



**WARNING Electrocutation**

This appliance contains capacitors which are discharged when disconnected from the power supply. The capacitor discharge voltage may briefly exceed > 60 V DC.

### 7.2 Shower operation

#### DHB ST Trend 50 AU



**CAUTION Burns**

The appliance is suitable for supplying a shower (shower operation). When using preheated water, it must be ensured that the inlet temperature does not exceed 50 °C.

#### DHB ST Trend 60 AU



**CAUTION Burns**

- The appliance is suitable for supplying a shower (shower operation). If the appliance is also or exclusively used for shower operation, the qualified contractor must adjust the temperature setting range to 43 °C using the internal anti-scalding protection on the appliance. When using preheated water, ensure that the inlet temperature does not exceed 55 °C.
- In Australia, the use of a temperature controller is required to meet the requirements of AS 3498 when showers, bathtubs or washbasins are supplied with water. The maximum temperature of 50 °C must not be exceeded.

### 7.3 Instructions, standards and regulations



**Notice**

Observe all applicable national and regional regulations and instructions.



**Note**

The installation of this appliance shall conform to the Plumbing Code of Australia (PCA), and the New Zealand Building Code.



**Note**

The DHB ST Trend 50 AU delivers water not exceeding 50 °C in accordance with AS 3498.

- The IP 24 / IP 25 protection rating can only be ensured with a correctly fitted cable grommet.
- The electrical resistivity of the water must not fall below that stated on the type plate. In a linked water network, take into consideration the lowest electrical resistivity of the water. Your water supply utility will advise you of the electrical resistivity or conductivity of the water in your area.

#### DHB ST Trend 50 AU: Test for delivery temperature performance

The appliance is to be tested according to AS 3498 as a 50 °C-limited water heater. The option 1 illustrated in figure A.1 of the Appendix A applies to the appliance.

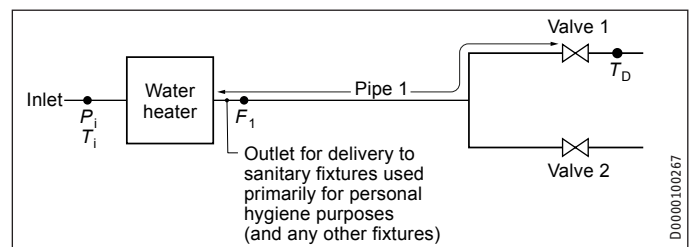


Figure A.1 - Option 1 - Simple water heater

Key	
--●--	Measurement location
Pipe 1	Pipework to sanitary fixtures used primarily for personal hygiene purposes
$F_1$	Flow rate to sanitary fixtures used primarily for personal hygiene purposes
$P_i$	Inlet pressure
$T_i$	Inlet temperature
$T_D$	Delivery temperature (represents water temperature at the outlet from sanitary fixtures used primarily for personal hygiene purposes)
Valves 1 and 2	Valves to control water flow for the purposes of testing

#### Size, configuration and minimum length of pipes

Minimum pipe length 750 mm with diameter 20 mm.

### 8. Appliance description

#### 8.1 Standard delivery

The following are delivered with the appliance:

- Wall mounting bracket
- Installation template
- 2 plugs
- 2 extensions
- 2 caps
- 2 tees
- 8 flat gaskets
- Strainer
- Plastic profile washer
- Plastic connection pieces / installation aid
- Cover and back panel guides
- Jumper for internal anti-scalding protection
- Jumper for output changeover

### 9. Preparation

#### 9.1 Installation site



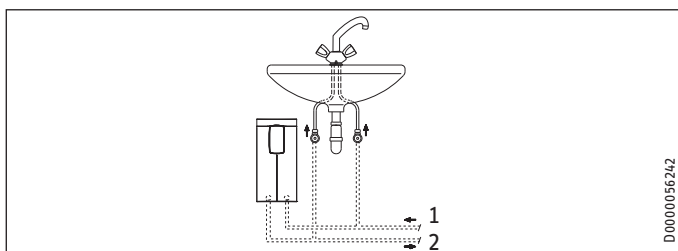
##### Property damage

Install the appliance in a room that is free from the risk of frost.

- ▶ Always install the appliance vertically and near the draw-off point. For horizontal installation, see chapter "Installation alternatives / Horizontal installation of the appliance".

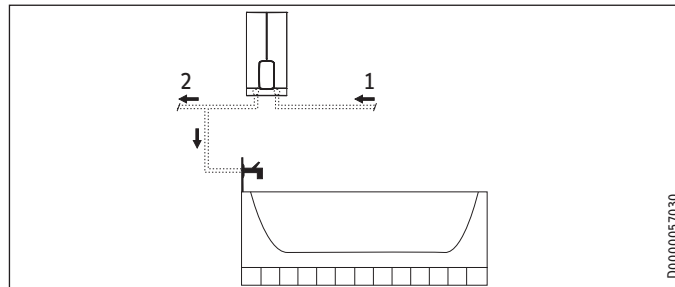
The appliance is suitable for undersink and oversink installation.

#### Undersink installation



- 1 Cold water inlet
- 2 DHW outlet

#### Oversink installation



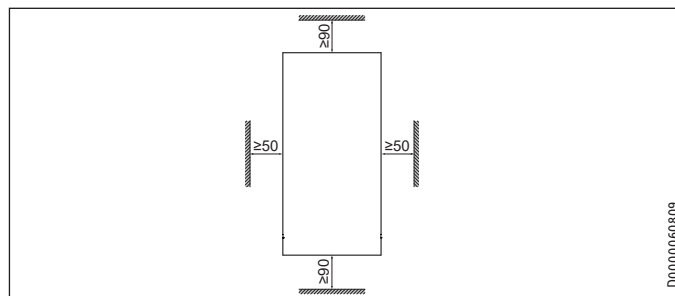
- 1 Cold water inlet
- 2 DHW outlet



##### Notice

▶ Mount the appliance on the wall. The wall must have sufficient load bearing capacity.

#### 9.2 Minimum clearances



- ▶ Maintain the minimum clearances to ensure trouble-free operation of the appliance and facilitate maintenance work.

#### 9.3 Water installation

- ▶ Flush the water line thoroughly.

##### Taps

Use appropriate pressure taps. Open vented taps are not permissible.



##### Notice

Never use the 3-way ball shut-off valve in the cold water inlet to reduce the flow rate. The 3-way ball shut-off valve is intended only to shut off the cold water inlet.

##### Permissible water line materials

- Cold water supply line:  
Pipes made from galvanised steel, stainless steel, copper or plastic
- DHW outlet line:  
Pipes made from stainless steel, copper or plastic



##### Property damage

If plastic pipework systems are used, take into account the maximum inlet temperature and the maximum permissible pressure.

# INSTALLATION

## Installation

### Flow rate

- ▶ Ensure that the flow rate for switching on the appliance is achieved.
- ▶ If the required flow rate is not achieved when the draw-off valve is fully open, increase the water line pressure.

## 10. Installation

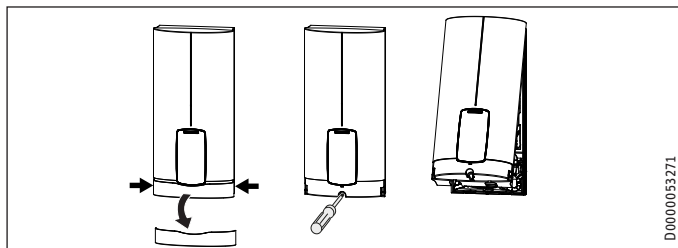
Factory settings	DHB ST Trend 50 AU	DHB ST Trend 60 AU
Internal anti-scalding protection	°C Tmax (= 50 °C)	Tmax (= 60 °C)
Connected load	kW 18	18
Adjustable connected load	x	x

Standard installation	DHB ST Trend 50 AU	DHB ST Trend 60 AU
Electrical connection from below on unfinished walls	x	x
Water connection, installation on finished walls	x	x

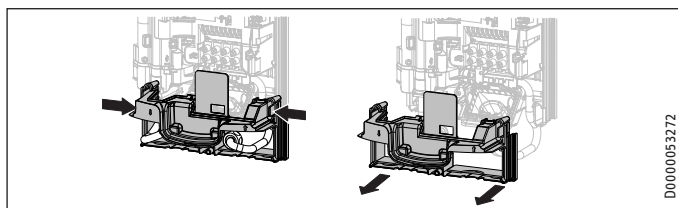
For further installation options, see chapter "Alternative installation methods".

### 10.1 Standard installation

#### Opening the appliance

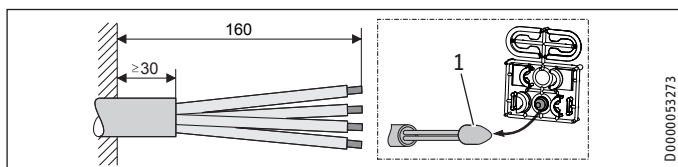


- ▶ Open the appliance by holding the fascia at the side and pulling forwards away from the appliance cover. Undo the screw. Pivot open the appliance cover.



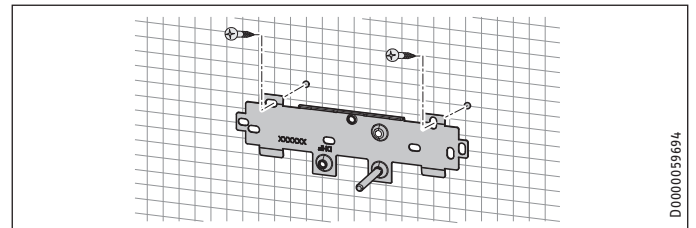
- ▶ Remove the back panel by pressing the two locking tabs and pulling the lower back panel section forwards.

#### Preparing the power cable on unfinished walls, for connection from below



- 1 Cable entry installation aid
- ▶ Prepare the power cable.

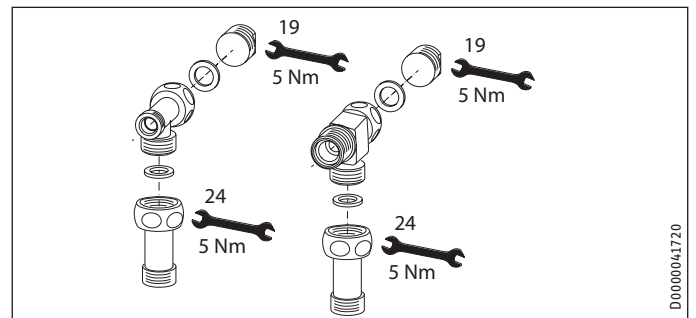
#### Fitting the wall mounting bracket



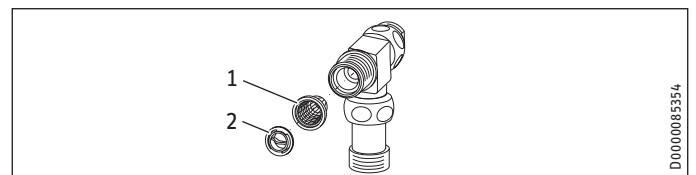
- ▶ Mark out the holes for drilling using the installation template. If the appliance is to be installed on finished walls, also mark out the fixing hole in the lower section of the template.
- ▶ Drill the holes and secure the wall mounting bracket at 2 points using suitable fixing materials (screws and rawl plugs are not part of the standard delivery).
- ▶ Fit the wall mounting bracket.

#### Preparing the water connection

- !** **Material losses**  
Carry out all water connection and installation work in accordance with regulations.



- ▶ Remove the caps from the tees.
- ▶ Fit the plugs and the extensions with gaskets.



- 1 Strainer
  - 2 Plastic profile washer
- ▶ Fit the strainer and the plastic profile washer in the tee for the cold water inlet.

- !** **Material losses**  
The strainer must be fitted for the appliance to function.
- ▶ When replacing the appliance, check that the strainer is present.

# INSTALLATION

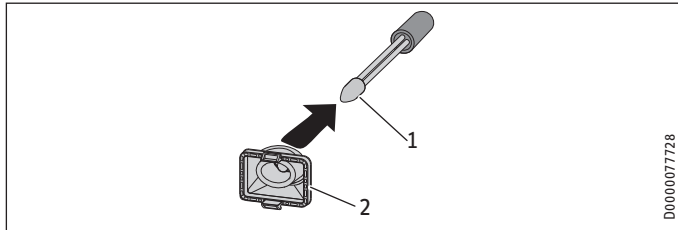
## Installation

### Installing the appliance



#### Note

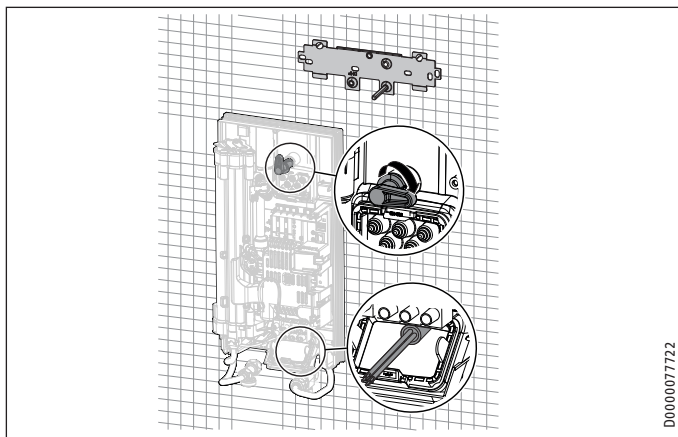
If you are installing the appliance with flexible pipe connections, also secure the bottom of the back panel with a screw.



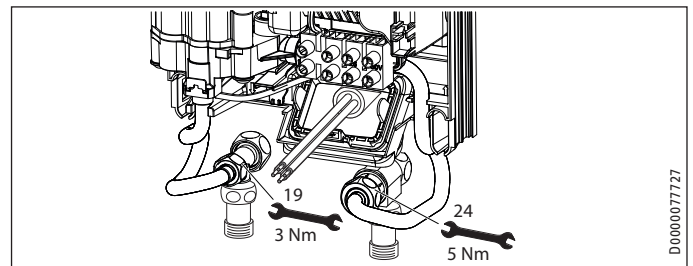
- 1 Cable entry installation aid
- 2 Cable grommet

Use the installation aid for easier wiring access through the cable grommet (see plastic parts set supplied).

- ▶ Remove the cable grommet from the back panel.
- ▶ Pull the cable grommet over the cable sheath of the power cable. For large cable cross-sections, enlarge the hole in the cable grommet if necessary.



- ▶ Remove the transport protection plugs from the appliance pipe connections.
- ▶ Bend the power cable 45° upwards.
- ▶ Route the power cable and cable grommet through the back panel from the rear.
- ▶ Install the appliance on the threaded studs of the wall mounting bracket.
- ▶ Press the back panel firmly into place, aligning it correctly.
- ▶ Lock the fixing toggle by turning it 90° clockwise.
- ▶ Pull the cable grommets into the back panel, until both locking tabs engage.



- ▶ Screw the pre-assembled parts with flat gaskets to the cold water and DHW pipes of the appliance.
- ▶ Fit the cold water inlet pipe and the DHW outlet pipe from the pipework with flat gaskets to the extensions from the appliance.

### Making the electrical connection



#### WARNING Electrocutation

Carry out all electrical connection and installation work in accordance with relevant regulations.



#### WARNING Electrocutation

The connection to the power supply must be in the form of a permanent connection in conjunction with the removable cable grommet. Ensure the appliance can be separated from the power supply by an isolator that disconnects all poles with at least 3 mm contact separation.



#### WARNING Electrocutation

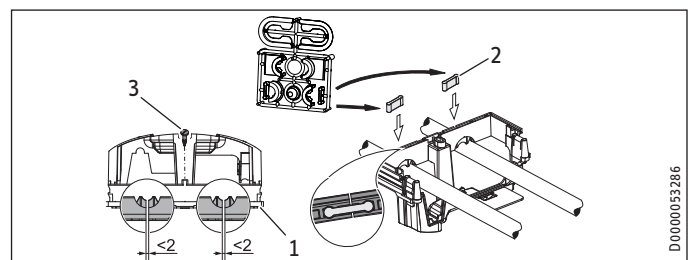
Ensure that the appliance is connected to the earth conductor.



#### Property damage

Observe the type plate. The specified rated voltage must match the power supply.

- ▶ Connect the power cable to the mains terminal.



- 1 Lower back panel section
- 2 Connection piece in the standard delivery
- 3 Screw

If using threaded fittings on finished walls, the lower back panel section can also be installed after fitting the taps/valves. To do this, carry out the following steps:

- ▶ Cut open the lower section of the back panel.
- ▶ Fit the lower section of the back panel by bending it out at the sides and guiding it over the pipes.
- ▶ Insert the connection pieces into the lower section of the back panel from behind.
- ▶ Click the lower section of the back panel into place.
- ▶ Secure the lower back panel section with a screw.

# INSTALLATION

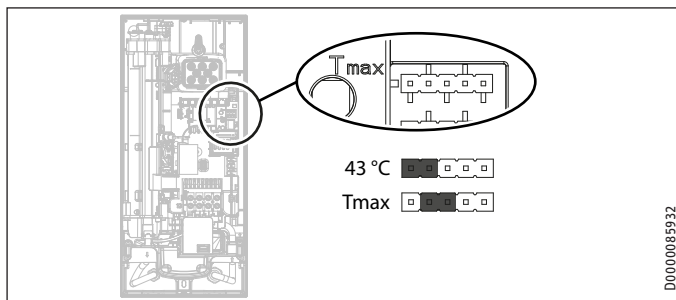
## Commissioning

**! Material losses**  
The cover plate of the lower back panel section must not bend when installed.

### 11. Commissioning

#### 11.1 Preparation

##### Internal anti-scalding protection via jumper slot



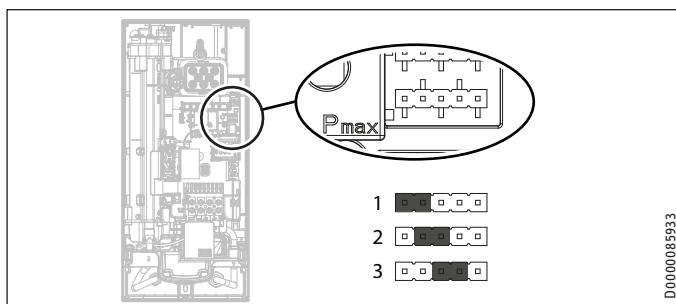
Jumper position	Description
43 °C	
Tmax (factory setting)	50 °C for DHB ST Trend 50 AU 60 °C for DHB ST Trend 60 AU
No jumper	Limited to 43 °C

- ▶ Install the anti-scalding protection setting jumper in the required position on the upper pin strip (Tmax).

**CAUTION Burns**  
If operating with preheated water, e.g. if using a solar thermal system, the internal anti-scalding protection can be overridden.  
▶ In this case, limit the temperature with an upstream central thermostatic valve.

##### Changing the connected load via jumper slot

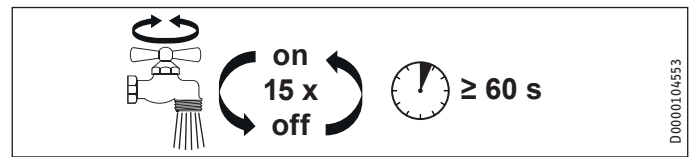
If you select a connected load other than the factory setting, you will need to reposition the jumper.



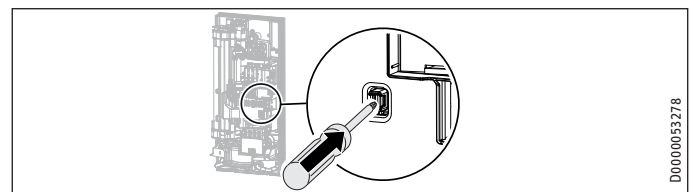
Jumper position	Connected load
1 (factory setting)	18 kW
2	21 kW
3	24 kW
No jumper	18 kW

- ▶ Install the jumper in the required position on the lower pin strip (Pmax).

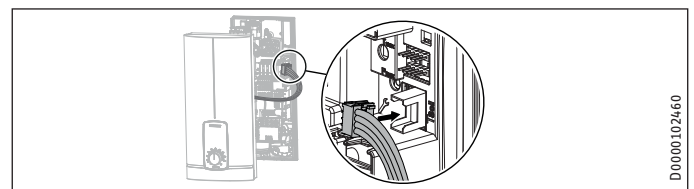
#### 11.2 Initial start-up



- ▶ Open and close all connected draw-off valves several times for at least one minute until all air has been purged from the pipework and the appliance.
- ▶ Carry out a tightness check.



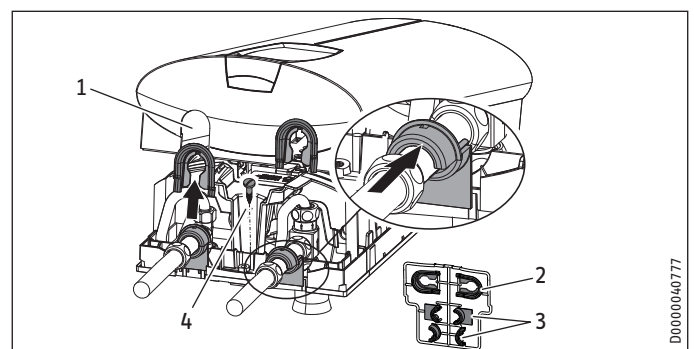
- ▶ Activate the safety switch by firmly pressing the reset button (the appliance is delivered with the safety switch disabled).



- ▶ Connect the programming unit connecting cable to the PCB.

**Notice**  
For undersink installation, the appliance cover should be turned the other way up for easier operation; see chapter "Installation alternatives / Rotated appliance cover".

#### Fit the appliance cover



- 1 Pipe knock-out
- 2 Cover guides
- 3 Back panel guides
- 4 Fixing screw (not part of the standard delivery)

- ▶ Cleanly cut or break out the knock-out openings in the appliance cover. If necessary, use a file.

**! Material losses**  
If you cut open the wrong knock-out in the appliance cover by mistake, you must use a new appliance cover.

## INSTALLATION

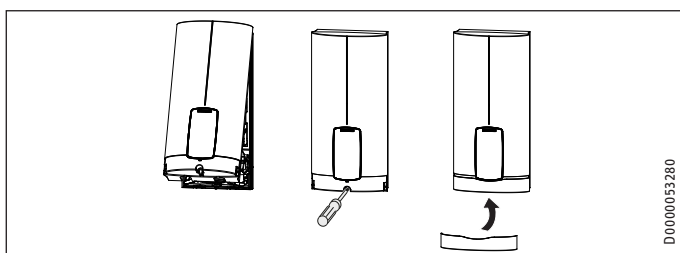
# Shutting down the system



### Note

You can compensate for a slight connection pipe offset using the tabs on the cover guides. If the connection pipes are offset, do not fit any back panel guides.

- ▶ When installing connection pipes without offset, break off the tabs on the cover guide pieces.
- ▶ Click the cover guides into place in the openings.
- ▶ Position the back panel guides on the extensions. Push them together. Then push the guide pieces against the back panel as far they will go.



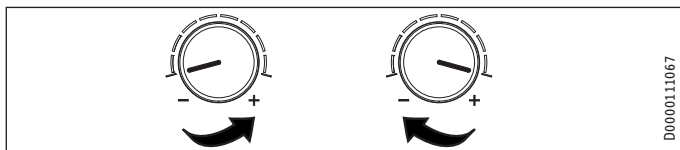
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- ▶ Hook the appliance cover at the top rear into the back panel. Pivot the appliance cover downwards. Check that the appliance cover is securely seated both top and bottom.
- ▶ Tick the selected connected load and rated voltage on the appliance cover type plate (on both sides). Use a ballpoint pen to do this.
- ▶ Secure the appliance cover with the screw.
- ▶ Fit the fascia to the appliance cover.
- ▶ Remove the protective film from the user interface.



D0000053281

- ▶ Switch on the power supply.
- ▶ Ensure that the programming unit is functioning correctly.



D0000111067

- ▶ Turn the temperature selector to its left-hand and right-hand end-stop.

### 11.2.1 Appliance handover

- ▶ Explain the appliance function to users and familiarise them with how it works.
- ▶ Make users aware of potential dangers, especially the risk of scalding.
- ▶ Hand over the instructions.

## 11.3 Recommissioning



### Property damage

To ensure that the bare wire heating system is not damaged following an interruption to the water supply, the appliance must be recommissioned by taking the following steps.

- ▶ Disconnect the appliance from the power supply by removing the fuses/tripping the MCBs.
- ▶ Open and close all connected draw-off valves several times for at least one minute until all air has been purged from the pipework and the appliance.
- ▶ Switch on the power supply again.

## 12. Shutting down the system

- ▶ Isolate all poles of the appliance from the power supply.
- ▶ Drain the appliance (see chapter "Maintenance / Draining the appliance").

## 13. Installation alternatives

### Overview of installation alternatives

Electrical connection	IP rating
On unfinished walls, connected from above	IP 25
On unfinished walls, connected from below, short power cable	IP 25
Installation on finished walls	IP 24

Water connection	IP rating
Installation on unfinished walls	IP 25

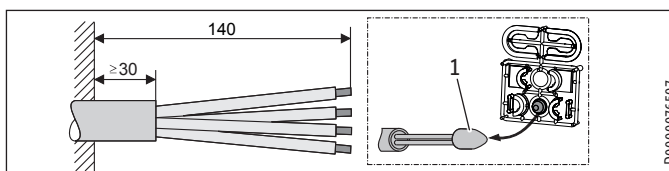
Other	IP rating
Installation with offset tiles	IP 25
Rotated appliance cover	IP 25
Horizontal installation of the appliance	IP 24



### WARNING Electrocutation

Before any work on the appliance, disconnect all poles from the power supply.

### 13.1 Electrical connection from above on unfinished walls



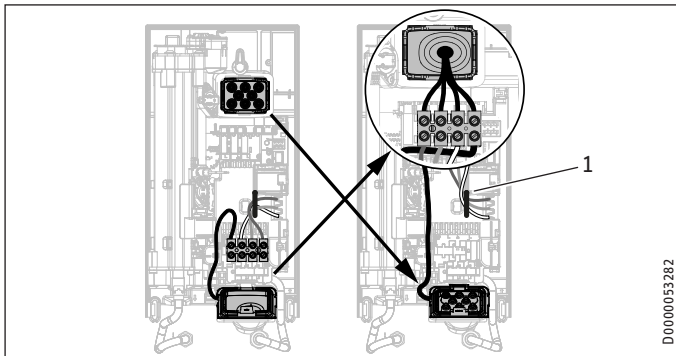
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- 1 Cable entry installation aid

- ▶ Prepare the power cable.

# INSTALLATION

## Installation alternatives



### 1 Cable routing

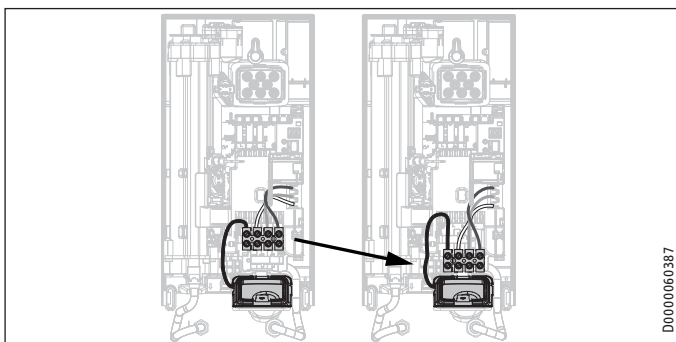
- ▶ Reposition the mains terminal from the bottom to the top. To do this, undo the fixing screw. Turn the mains terminal with connecting cables 180° clockwise. Route the cable around the cable guide when doing so. Secure the mains terminal in place.
- ▶ Replace the cable grommets.
- ▶ Install the cable grommet from the top at the bottom.
- ▶ Pull the cable grommet over the cable sheath of the power cable.
- ▶ Install the appliance on the threaded studs of the wall mounting bracket.
- ▶ Push the back panel firmly against the wall. Lock the fixing toggle by turning it 90° clockwise.
- ▶ Pull the cable grommets into the back panel until both locking tabs engage.
- ▶ Connect the power cable to the mains terminal.



#### WARNING Electrocutation

The connecting wires must not protrude beyond the level of the mains terminal.

### 13.2 Electrical connection on unfinished walls from below with short power cable



- ▶ Reposition the mains terminal further downwards. To do this, undo the fixing screw. Secure the mains terminal in place.

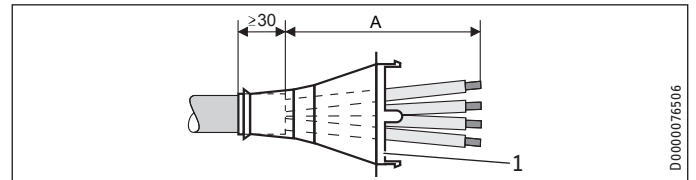
### 13.3 Electrical connection on finished walls



#### Notice

This type of connection changes the IP rating of the appliance.

- ▶ Change the type plate. Cross out "IP 25" and mark the box "IP 24". Use a ballpoint pen to do this.



#### 1 Cable grommet

Electrical connection on finished walls	Dimension A
Positioned in lower section of appliance	160
Positioned in upper section of appliance	110

- ▶ Prepare the power cable. Fit the cable grommet.

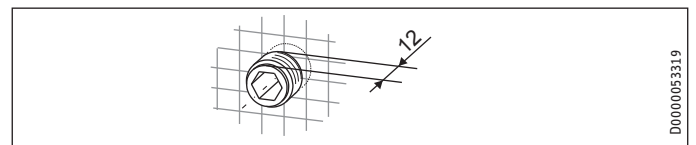


#### Property damage

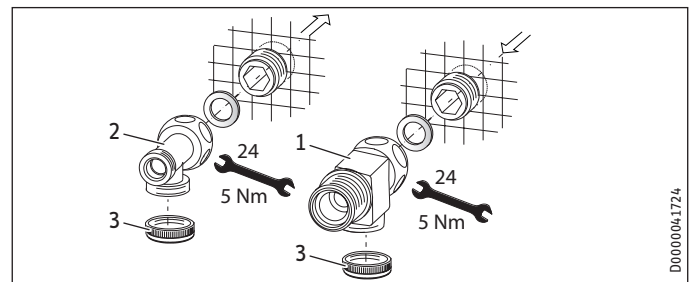
If you break out the wrong knock-out in the back panel/appliance cover by mistake, you must use a new back panel/appliance cover.

- ▶ Cleanly cut and break out the required cable entries from the back panel and appliance cover (for the positions, see chapter "Specification / Dimensions and connections"). Deburr any sharp edges with a file.
- ▶ Route the power cable through the cable grommet.
- ▶ Connect the power cable to the mains terminal.

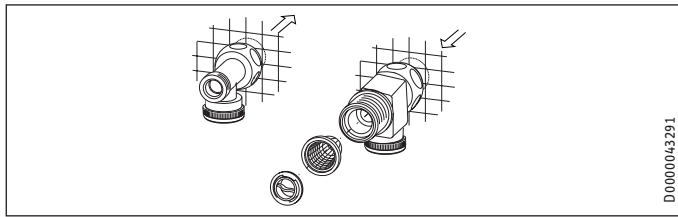
### 13.4 Water installation on unfinished walls



- ▶ Seal and screw in the twin connectors (not included in standard delivery).



- 1 Tee for cold water
- 2 Tee for domestic hot water
- 3 Cap
- ▶ Fit the water connections.

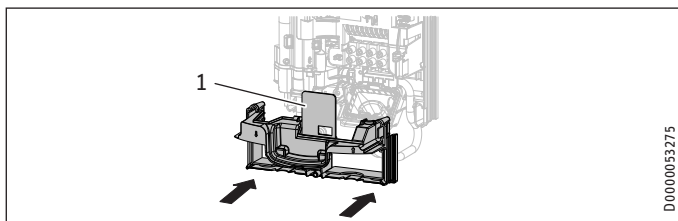


- ▶ Fit the strainer and the plastic profile washer in the tee for the cold water inlet.

**! Material losses**  
The strainer must be fitted for the appliance to function.

- ▶ When replacing the appliance, check that the strainer is present.

- ▶ Screw the connection pipes from the appliance to the tee.
- ▶ Open the shut-off valve in the cold water inlet line.



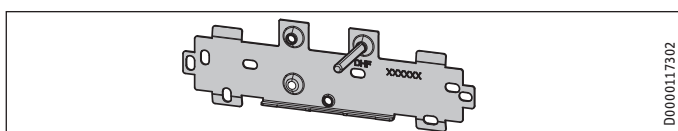
- 1 Diffuser on lower back panel
- ▶ Fit the lower back panel section into the back panel. Check that both locking tabs are engaged.
  - ▶ Align the mounted appliance by undoing the fixing toggle, aligning the power supply and back panel, and then re-tightening the fixing toggle. If the back panel does not sit flush against the wall, you can secure the appliance at the bottom with an additional screw.

**! Material losses**  
The cover plate of the lower back panel section must not bend when installed.

### 13.5 Wall mounting bracket when replacing an appliance

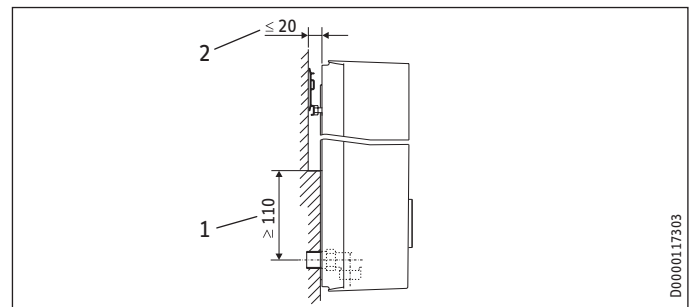
An existing STIEBEL ELTRON wall mounting bracket may be used when replacing appliances (except the DHF instantaneous water heater), as long as the fixing screw is in the lower right position.

#### Replacing a DHF instantaneous water heater



- ▶ Reposition the fixing screw on the wall mounting bracket (the fixing screw has a self-tapping thread).
- ▶ Rotate the wall mounting bracket 180° and mount it on the wall (the DHF logo is then turned towards you).

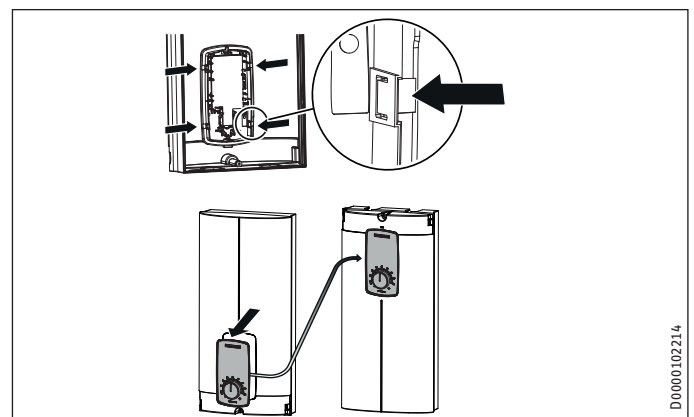
### 13.6 Installation with offset tiles



- 1 Minimum contact area of the appliance
  - 2 Maximum tile offset
- ▶ Adjust the wall clearance. Lock the back panel in place using the fixing toggle (turn 90° clockwise).

### 13.7 Rotated appliance cover

The appliance cover should be turned the other way up for undersink installation.



- ▶ Remove the programming unit from the appliance cover by pressing the locking tabs and removing the programming unit.
- ▶ Turn the appliance cover (not the appliance) the other way up and refit the programming unit. Push the programming unit home in parallel until all locking tabs engage. When engaging the locking tabs, apply counter pressure by pushing against the appliance cover from the inside.



#### WARNING Electrocutation

All 4 locking tabs on the programming unit must click into place. The locking tabs must be complete and undamaged. If the programming unit is not inserted correctly, user protection against contact with live components cannot be ensured.

- ▶ Insert the connecting cable plug of the programming unit into the PCB (see chapter "Commissioning / Initial start-up").
- ▶ Hook the appliance cover in at the bottom. Pivot the appliance cover up to the back panel.
- ▶ Secure the appliance cover.
- ▶ Fit the cover onto the appliance cover.

### 13.8 Horizontal installation of the appliance



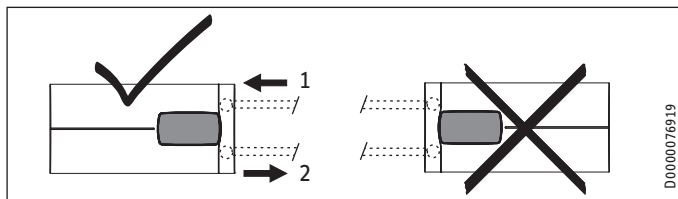
#### Notice

For the horizontal installation alternative, please note the following points:

- Installation is only permissible with direct wall mounting. The universal mounting frame cannot be used.
- The installation versions "Installation with offset tiles" and "Rotated appliance cover" are not permissible.
- This type of connection changes the IP rating of the appliance. Cross out "IP 25" on the type plate and mark the box "IP 24". Use a ballpoint pen to do this.

#### Horizontal installation

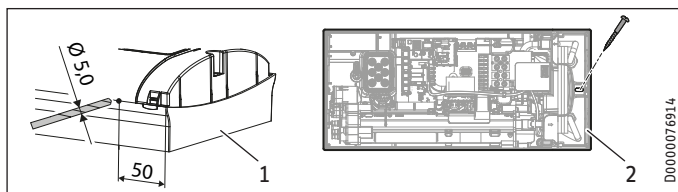
The appliance can also be mounted horizontally on the wall (turned 90° to the left, with the water connections on the right). The installation, water and electrical connections are described in chapters "Standard installation" and "Installation alternatives".



- 1 Cold water inlet
- 2 DHW outlet

#### Preparation

The appliance cover must be provided with a condensate drain opening of min. Ø 5.0 mm to max. Ø 6.0 mm at the marked position.



- 1 Appliance cover with opening for condensate drain
- 2 Back panel with additional fixing screw

- ▶ Drill a hole from the outside through the dismantled appliance cover at the marked point. Alternatively, you can punch a hole in the appliance cover from the inside at the marked point. In this case, you must then enlarge the hole to the required diameter from the outside. Deburr any sharp edges with a file.
- ▶ Secure the appliance back panel with an additional screw.



#### Property damage

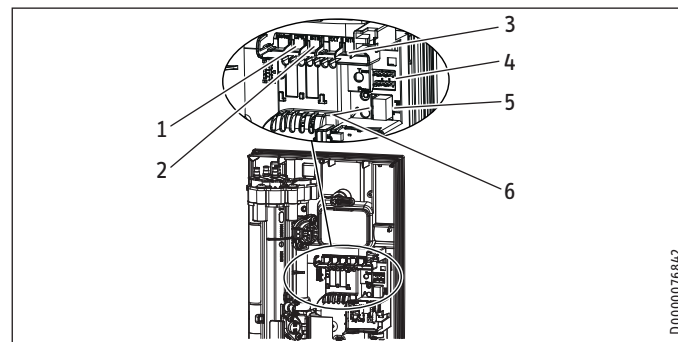
An appliance cover with an existing condensate drain opening must no longer be used for vertical installation of the appliance.

### 13.9 Operation with preheated water

You can limit the maximum inlet temperature by installing a central thermostatic valve.

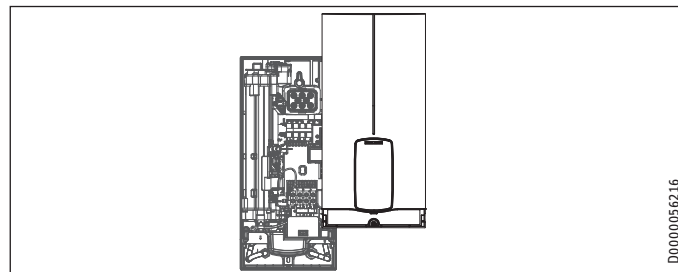
## 14. Service information

#### Overview of connections



- 1 Flow sensor
- 2 High limit safety cut-out, automatic reset
- 3 NTC sensor
- 4 Pin strips for connected load and anti-scalding protection
- 5 Programming unit plug-in position
- 6 Diagnostic traffic light

#### Appliance cover retainer



# INSTALLATION

## Troubleshooting

### 15. Troubleshooting



#### WARNING Electrocutation

To test the appliance, it must be connected to the power supply.



#### Notice

When testing the appliance using the diagnostic traffic light, water must be flowing.

#### Signals of the diagnostic traffic light (LED)

●○○	red	Lights up in the event of a fault
○○●	yellow	Lights up in heating mode/flashes when output limit reached
○○●	green	Flashing: Appliance connected to power supply

Diagnostic traffic light (draw-off mode)	Fault	Cause	Remedy
No LED lights up	Appliance does not heat up	One or more mains power supply phases are missing PCB faulty	Check the fuses in the distribution board Replace the function module
Green flashing, yellow off, red off	No DHW	Appliance starting flow rate not reached; shower head/aerator scaled up Appliance starting flow rate not reached; strainer in cold water inlet dirty Flow meter not plugged in Flow meter faulty or dirty PCB faulty	Descal/replace the shower head/aerator Clean the strainer Check plug-in connection; correct if necessary Replacing the flow meter Replace the function module
Green flashing, yellow on, red off	No DHW; outlet temperature does not match set value	Tap faulty Outlet sensor faulty Heating system faulty PCB faulty	Replace tap Replacing the outlet sensor Replace the function module Replace the function module
Green flashing, yellow flashing, red off	No DHW; outlet temperature does not match set value	Appliance at its output limit Appliance at its output limit Heating system faulty	Reduce flow rate Check jumper position for connected load Replace the function module

Diagnostic traffic light (draw-off mode)	Fault	Cause	Remedy
Green flashing, yellow off, red on	No DHW; outlet temperature does not match set value	One or more mains power supply phases are missing Air detection has responded Safety switch not activated during "Commissioning" Safety switch was triggered by high limit safety cut-out	Check the fuses in the distribution board Continue drawing water for >1 min Activate the safety switch by firmly pressing the reset button Check high limit safety cut-out (plug-in connection, connecting cable); activate safety switch
		Safety switch responds again after high limit safety cut-out has been checked; high limit safety cut-out faulty	Replace high limit safety cut-out; activate safety switch and draw off water at the maximum set value for >1 min
		Safety switch responds again; PCB faulty	Replace the function module
		Short circuit in outlet sensor	Check outlet sensor; replace if necessary
		PCB faulty	Replace the function module

### 16. Maintenance



#### WARNING Electrocutation

Before any work on the appliance, disconnect all poles from the power supply.

This appliance contains capacitors which are discharged when disconnected from the power supply. The capacitor discharge voltage may briefly exceed > 60 V DC.

#### Draining the appliance

The appliance can be drained for maintenance work.



#### WARNING Burns

Hot water may escape when you drain the appliance.

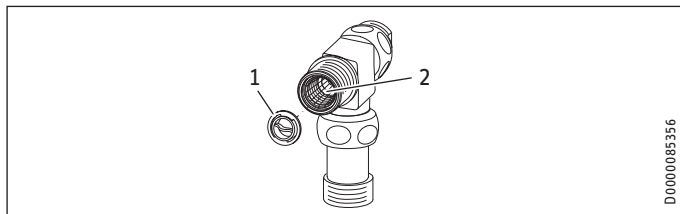
- ▶ Close the shut-off valve in the cold water inlet line.
- ▶ Open all draw-off valves.
- ▶ Undo the pipe connections from the appliance.
- ▶ Store the dismantled appliance free from the risk of frost, as water residues remaining inside the appliance can freeze and cause damage.

# INSTALLATION

## Specification

### Cleaning the strainer

If dirty, clean the strainer in the threaded cold water fitting. Close the shut-off valve in the cold water inlet line before removing, cleaning and refitting the strainer.

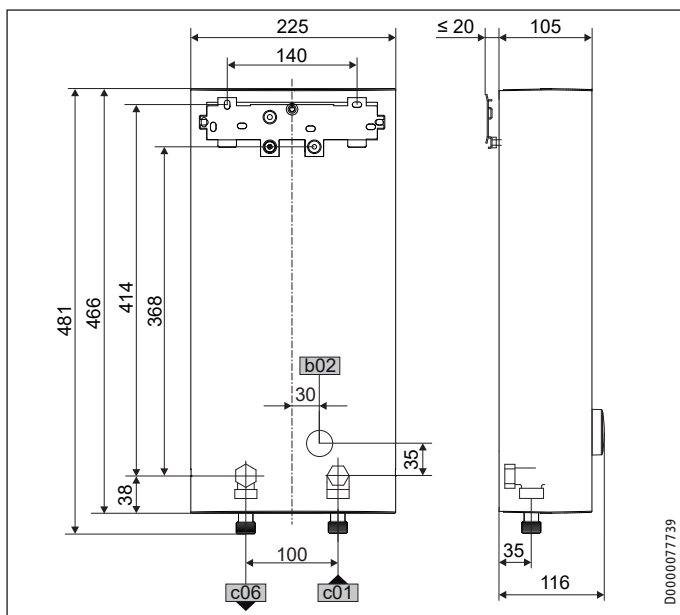


- 1 Plastic profile washer
- 2 Strainer

- ▶ Remove the plastic profile washer.
- ▶ Remove the strainer and clean the components.
- ▶ Fit the strainer and the plastic profile washer.

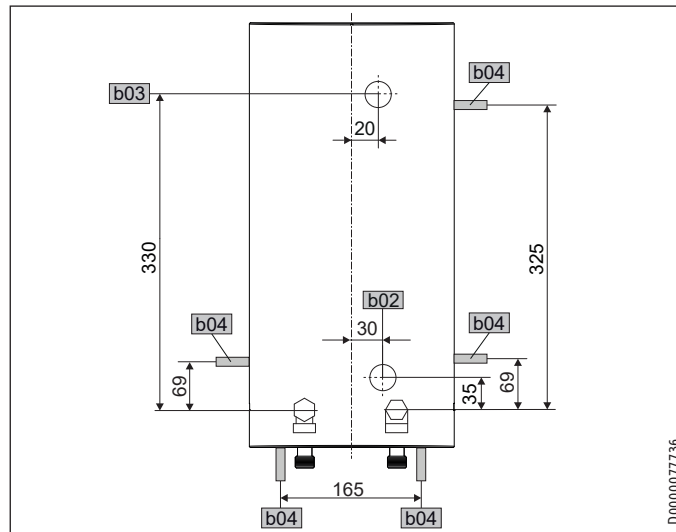
## 17. Specification

### 17.1 Dimensions and connections



		DHB ST Trend AU
b02	Entry electrical cables I	On unfinished walls
c01	Cold water inlet	Male thread G 1/2 A
c06	DHW outlet	Male thread G 1/2 A

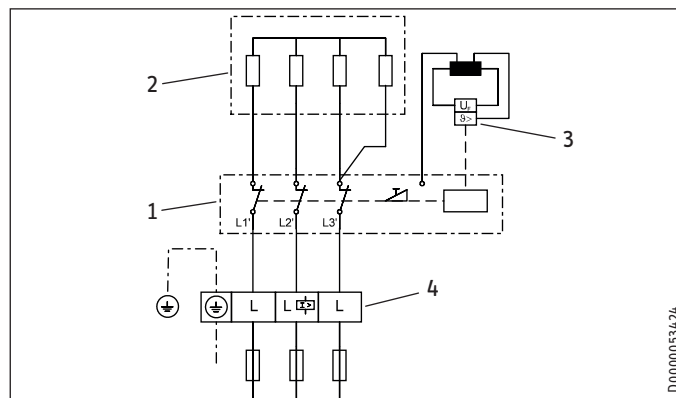
### Alternative connection options



		DHB ST Trend AU
b02	Entry electrical cables I	On unfinished walls
b03	Entry electrical cables II	On unfinished walls
b04	Entry electrical cables III	On finished walls

### 17.2 Wiring diagram

3/PE ~ 380-415 V



- 1 Power PCB with integral safety switch
- 2 Bare wire heating system
- 3 High limit safety cut-out
- 4 Mains terminal

# INSTALLATION

## Specification

### 17.3 DHW output

The DHW output is subject to the connected power supply, the appliance's connected load and the cold water inlet temperature. The rated voltage and rated output can be found on the type plate.

Connected load in kW			38 °C DHW output in L/min			
Rated voltage			Cold water inlet temperature			
380 V	400 V	415 V	5 °C	10 °C	15 °C	20 °C
16.2			7.0	8.3	10.1	12.9
19.0			8.2	9.7	11.8	15.1
21.7			9.4	11.1	13.5	17.2
	18.0		7.8	9.2	11.2	14.3
	21.0		9.1	10.7	13.0	16.7
	24.0		10.4	12.2	14.9	19.0
		19.4	8.4	9.9	12.0	15.4
		22.6	9.8	11.5	14.0	17.9
		25.8	11.2	13.2	16.0	20.5

Connected load in kW			50 °C DHW output in L/min			
Rated voltage			Cold water inlet temperature			
380 V	400 V	415 V	5 °C	10 °C	15 °C	20 °C
16.2			5.1	5.8	6.6	7.7
19.0			6.0	6.8	7.8	9.0
21.7			6.9	7.8	8.9	10.3
	18.0		5.7	6.4	7.3	8.6
	21.0		6.7	7.5	8.6	10.0
	24.0		7.6	8.6	9.8	11.4
		19.4	6.2	6.9	7.9	9.2
		22.6	7.2	8.1	9.2	10.8
		25.8	8.2	9.2	10.5	12.3

### 17.4 Application areas / conversion table

Electrical resistivity and electrical conductivity

Standard specification at 15 °C		20 °C		25 °C	
Resistivity $\rho \geq$	Conductivity $\sigma \leq$	Resistivity $\rho \geq$	Conductivity $\sigma \leq$	Resistivity $\rho \geq$	Conductivity $\sigma \leq$
$\Omega \text{ cm}$	mS/m	$\Omega \text{ cm}$	mS/m	$\Omega \text{ cm}$	mS/m
900	111	800	125	735	136
	$\mu\text{S/cm}$		$\mu\text{S/cm}$		$\mu\text{S/cm}$
	1111		1250		1361

### 17.5 Pressure drop

#### Taps

Tap pressure drop at a flow rate of 10 L/min		
Mono lever mixer tap, approx.	MPa	0.04 - 0.08
Thermostatic valve, approx.	MPa	0.03 - 0.05
Shower head, approx.	MPa	0.03 - 0.15

#### Sizing the pipework

When calculating the size of the pipework, an appliance pressure drop of 0.1 MPa is recommended.

### 17.6 Fault conditions

In the event of a fault, loads up to 80 °C at a pressure of 1.0 MPa can occur very briefly in the installation.

# INSTALLATION Specification

## 17.7 Data table

		DHB ST Trend 50 AU			DHB ST Trend 60 AU		
		208578			208579		
<b>Electrical data</b>							
Rated voltage	V	380	400	415	380	400	415
Rated output	kW	16.2/19/21.7	18/21/24	19.4/22.6/25.8	16.2/19/21.7	18/21/24	19.4/22.6/25.8
Rated current	A	27.6/29.5/33.3	29/31/35	30.1/32.2/36.3	27.6/29.5/33.3	29/31/35	30.1/32.2/36.3
Fuse protection	A	32/32/35	32/32/35	32/32/40	32/32/35	32/32/35	32/32/40
Frequency	Hz	50/60	50/60	50/-	50/60	50/60	50/-
Phases				3/PE			3/PE
Resistivity $\rho_{15} \geq$	$\Omega$ cm			900			900
Conductivity $\sigma_{15} \leq$	$\mu$ S/cm			1111			1111
Max. mains impedance at 50 Hz	$\Omega$	0.247	0.235	0.226	0.247	0.235	0.226
<b>Versions</b>							
Heating system, heat generator				Bare wire			Bare wire
Insulating block				Plastic			Plastic
Adjustable connected load				x			x
Temperature setting	$^{\circ}$ C			20-60			20-60
Protection class				1			1
Cover and back panel				Plastic			Plastic
IP rating				IP 25			IP 25
Colour				white			white
<b>Connections</b>							
Water connection				G 1/2			G 1/2
<b>Application limits</b>							
Max. permissible pressure	MPa			1			1
Max. inlet temperature for reheating	$^{\circ}$ C			50			55
<b>Values</b>							
Max. permissible inlet temperature	$^{\circ}$ C			50			70
Max. inlet temperature (e.g. pasteurisation)	$^{\circ}$ C			-			70
On	l/min			>2.5			>2.5
Flow rate limit at	l/min			9.0			9.0
Flow rate at 28 K	l/min			9.9/11.5/13.2 at 415V			9.9/11.5/13.2 at 415V
Flow rate at 50 K	l/min			5.6/6.5/7.4 at 415V			5.6/6.5/7.4 at 415V
Pressure drop for flow rate at 50 K (with flow limiter)	MPa			0.12/0.15/0.19			0.12/0.15/0.19
<b>Hydraulic data</b>							
Nominal capacity	l			0.4			0.4
<b>Dimensions</b>							
Height	mm			466			466
Width	mm			225			225
Depth	mm			116			116
<b>Weights</b>							
Weight	kg			2.90			2.90



### Notice

The appliance conforms to IEC 61000-3-12.

## Information on the appliance software

Stiebel Eltron appliances may contain software of external suppliers (third party suppliers) which may be partly also be subject to an Open Source license. Some Open Source licenses are subject to the obligation to state the software, its authors as well as the licenses that apply to the software and to additionally provide the software as a source code or to offer to provide the source code. Stiebel Eltron therefore provides further information regarding third supplier software that it uses under the link <https://www.stiebel-eltron.com/en/info/Licenses.html> and also offers the source code there, if applicable. The software is provided only for compliance with the obligations under the Open Source licenses.

## Environment and recycling

► Dispose of the appliances and materials after use in accordance with national regulations.



► If a crossed-out waste bin is pictured on the appliance, take the appliance to your local waste and recycling centre or nearest retail take-back point for reuse and recycling.



This document is made of recyclable paper.

► Dispose of the document at the end of the appliance's life cycle in accordance with national regulations.

# WARRANTY

## Who gives the warranty

1. The warranty is given by Stiebel Eltron (Aust) Pty Ltd (A.B.N. 82 066 271 083) of 294 Salmon Street, Port Melbourne, Victoria, 3207 ("we", "us" or "our").

## The warranty

2. This warranty applies to the Stiebel Eltron Water Heaters - WaterMark Approved (the "unit") listed within this operating and installation guide manufactured after 1 May 2015.
3. Subject to the warranty exclusions we will repair or replace, at our absolute discretion, a faulty component in your unit free of charge if it fails to operate in accordance with its specifications during the warranty period.
4. If we repair or replace a faulty component to your unit under this warranty, the warranty period is not extended from the time of the repair or replacement.
5. The warranty period commences on the date of completion of the installation of the unit. Where the date of completion of installation is not known, then the warranty period will commence 2 months after the date of manufacture.
6. The warranty period for a unit used for domestic purposes is shown in the table below. Domestic purposes means that the unit is used in a domestic dwelling.

Component	Warranty period
All components	7 years from the date of completion of the installation of the unit.

7. The warranty period for a unit used for commercial purposes is shown in the table below. Commercial purposes means that the unit is used for a non-domestic purpose and includes but not limited to being used in a motel, hotel, mining camp or nursing home.

Component	Warranty period
All components	1 year from the date of completion of the installation of the unit.

## Your entitlement to make a warranty claim

8. You are entitled to make a warranty claim if:
  - 8.1. you own the unit or if you have the owner's consent to represent the owner of the unit;
  - 8.2. you contact us within a reasonable time of discovering the problem with the unit;

## How you make a warranty claim

9. To make a warranty claim you must provide us with the following information:
  - 9.1. The model number of the unit;
  - 9.2. A description of the problem with the unit;
  - 9.3. The name, address and contact details (such as phone number and e-mail address) of the owner;
  - 9.4. The address where the unit is installed and the location (e.g. in laundry);
  - 9.5. The serial number of the unit;
  - 9.6. The date of purchase of the unit and the name of the seller of the unit;
  - 9.7. The date of installation of the unit;
  - 9.8. A copy of the certificate of compliance when the unit was installed.
10. The contact details for you to make your warranty claim are:

Name: Stiebel Eltron (Aust) Pty Ltd  
Address: 294 Salmon Street, Port Melbourne, Victoria, 3207  
Telephone: 1800 153 351  
(8.00 am to 5.00 pm AEST Monday to Friday)  
Contact person: Customer Service Representative  
E-mail: service@stiebel-eltron.com.au

11. We will arrange a suitable time with you to inspect and test the unit.

## Warranty exclusions

12. We may reject your warranty claim if:
  - 12.1. The unit was not installed by registered and qualified tradespeople.
  - 12.2. The unit was not installed and commissioned:
    - (a) in Australia;
    - (b) in accordance with the Operating and Installation Guide; and
    - (c) in accordance with the relevant statutory and local requirements of the State or Territory in which the unit is installed.
  - 12.3. The unit has not been operated or maintained in accordance with the Operating and Installation Guide.
  - 12.4. The unit does not bear its original Serial Number for Rating Label.
  - 12.5. The unit was damaged by any or any combination of the following:
    - (a) normal fair wear and tear;
    - (b) connection to an incorrect water supply;
    - (c) connection to water from a bore, dam or swimming pool;
    - (d) connection to an incorrect power supply;
    - (e) connection to faulty equipment, such as damaged valves;
    - (f) foreign matter in the water supply, such as sludge or sediment;
    - (g) corrosive elements in the water supply;
    - (h) accidental damage;
    - (i) act of God, including damage by flood, storm, fire, lightning strike and the like;
    - (j) excessive water pressure, negative water pressure (partial vacuum) or water pressure pulsation;
    - (k) ingress of vermin.
  - 12.6. The unit was damaged before it was installed e.g. it was damaged in transit.
  - 12.7. An unauthorised person has modified, serviced, repaired or attempted to repair the unit without our consent.
  - 12.8. Non genuine parts other than those manufactured or approved by us have been used on the unit.
13. We may charge you:
  - 13.1. for any additional transport costs if the unit is installed more than 30 kilometres from our closest authorised service technician.
  - 13.2. for the extra time it takes our authorised service technician to access the unit for inspection and testing if it is not sited in accordance with the Operating and Installation Guide and not readily accessible for inspection.
  - 13.3. for any extra costs of our authorised service technician to make the unit safe for inspection.
14. You must ensure that access to the unit by our authorised service technician is safe and free from obstruction.
15. Our authorised service technician may refuse to inspect and test the unit until you provide safe and free access to it, at your cost.
16. If we reject your warranty claim in accordance with clause 12, we may charge you for our authorised service technician's labour costs to inspect and test the unit.
17. In order to properly test the unit we may remove it to another location for testing.

## Australian Consumer Law

18. Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.
19. The Stiebel Eltron warranty for the unit is in addition to any rights and remedies you may have under the Australian Consumer Law.

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## NOTES

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## NOTES

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Comfort through Technology

**STIEBEL ELTRON GmbH & Co. KG**

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info@stiebel-eltron.com | www.stiebel-eltron.com

**STIEBEL ELTRON Australia Pty. Ltd.**

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