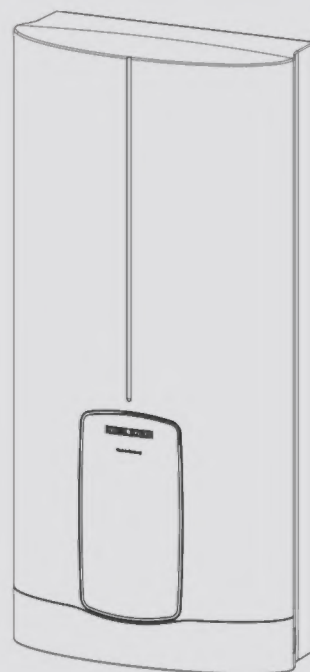


BEDIENUNG UND INSTALLATION OPERATION AND INSTALLATION OBSLUHA A INSTALACE ЭКСПЛУАТАЦИЯ И УСТАНОВКА 操作與安裝

Elektronisch gesteuerter Komfort-Durchlauferhitzer | Electronically controlled comfort instantaneous water heater | Elektronicky řízený komfortní průtokový ohřívač vody | Проточный водонагреватель повышенной комфортности с электронным управлением | 電子調節的舒適型即熱式熱水器

- » HDB-E 11/13 Trend
- » HDB-E 18 Trend 25A
- » HDB-E 18/21/24 Trend
- » HDB-E 27 Trend



STIEBEL ELTRON

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GUARANTEE

ENVIRONMENT AND RECYCLING



Step-by-step guide

Video on installing the appliance



SPECIAL INFORMATION

OPERATION

- 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.
- During operation, the tap can reach temperatures up to 70 °C. There is a risk of scalding at outlet temperatures in excess of 43 °C.
- The appliance is suitable for supplying a shower (shower operation).
- 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 application limits (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".

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

The appliance is intended for heating domestic hot water and can supply one or more draw-off points.

This appliance is not approved for reheating preheated water.

Preheated water must not flow through the appliance continuously, e.g. when integrated in a DHW circulation line.

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

During operation, the tap can reach temperatures up to 70 °C.
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 your qualified contractor to adjust the maximum temperature.



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.



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 temperature is adjustable inside the appliance. 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.

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 Setting the temperature

The DHW outlet temperature is set at the factory to 55 °C (relative to a rated voltage of 400 V, see chapter "Installation / Commissioning / Preparations"). Your qualified contractor can set a lower temperature inside the appliance.



Notice

If the outlet temperature is not high enough when the draw-off valve is fully open, 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 at the tap.

4.2 Recommended settings

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

- ▶ Ask your qualified contractor to set the temperature to 55 °C inside the appliance. Then set the required set temperature on the thermostatic valve.

Saving energy

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

- 35 °C for hand washbasins
- 55 °C for kitchen sinks

Temperature limits (qualified contractors)

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.

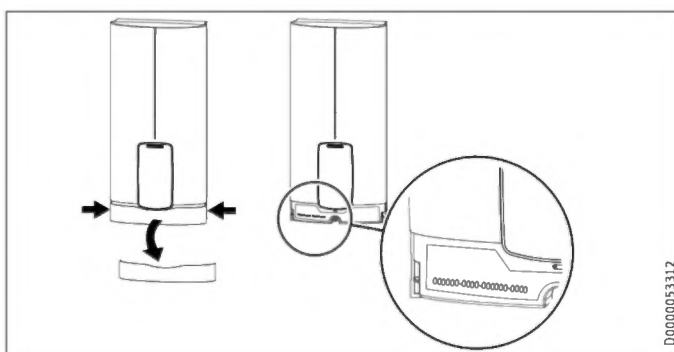
5. Cleaning, care and maintenance

- ▶ 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 temperature is not achieved.	The temperature set inside the appliance is too low.	Ask your qualified contractor to readjust the temperature.
	The appliance has reached its output limit.	Reduce the flow rate.

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 (000000-0000-000000-0000).



INSTALLATION



Step-by-step guide

Preparing for 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.



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 Instructions, standards and regulations



Notice

Observe all applicable national and regional regulations and instructions.

- 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.

8. Appliance description

8.1 Standard delivery

The following are delivered with the appliance:

- Wall mounting bracket
- Installation template
- 2 twin nipples
- 3-way ball shut-off valve for cold water
- Tee for domestic hot water
- Flat gaskets
- Strainer
- Plastic profile washer

- Plastic connection pieces / installation aid
- Cover and back panel guides
- Jumper for temperature setting
- Jumper for changing the output (only for appliances with adjustable output)

8.2 Accessories

Taps

- MEKD mono lever kitchen pressure tap
- MEBD mono lever bath pressure tap

Water plugs G 1/2 A

If you use taps other than the recommended pressure taps on finished walls, please use the plugs.

Installation set, surface-mounted

- Solder fitting – copper pipe for soldered connection Ø 12 mm
- Press fitting – copper pipe
- Press fitting – plastic pipe (suitable for Viega: Sanfix-Plus or Sanfix-Fosta)

Universal mounting frame

- Mounting frame with electrical connections

Pipe assembly for undersink appliances

You will need the undersink installation set if you make the water connections (G 3/8 A) at the top of the appliance.

Pipe assembly for offset installation

Use this pipe assembly if you intend to offset the appliance by up to 90 mm downwards from the water connection.

Pipe assembly for replacing a gas water heater

You will need this pipe assembly set if the existing installation has gas water heater connections (cold water connection on the left-hand side, DHW connection on the right-hand side).

Pipe assembly for DHB water plug-in couplings

Use the water plug-in couplings if the existing installation contains water plug-in connections from a DHB water heater.

Load shedding relay (LR 1-A)

The load shedding relay for installation in the distribution board provides priority control for the instantaneous water heater when other appliances, such as electric storage heaters, are being operated simultaneously.

INSTALLATION

Preparation

9. Preparation

9.1 Installation site



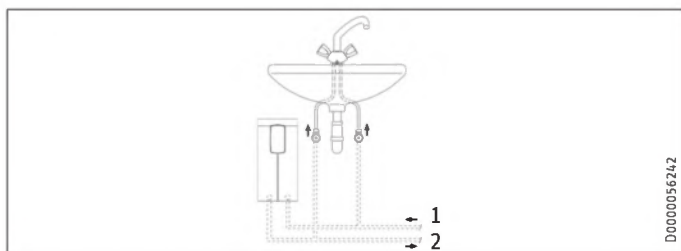
Property damage

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".

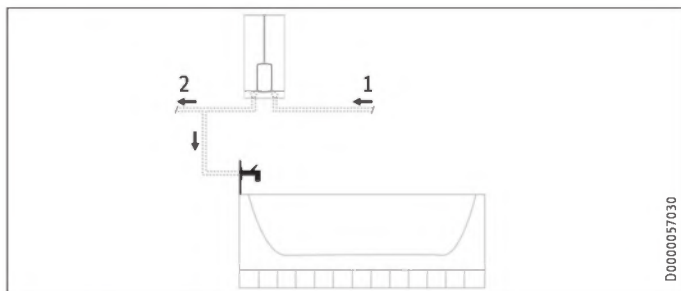
The appliance is suitable for undersink and oversink installation.

Undersink installation



- 1 Cold water inlet
- 2 DHW outlet

Oversink installation



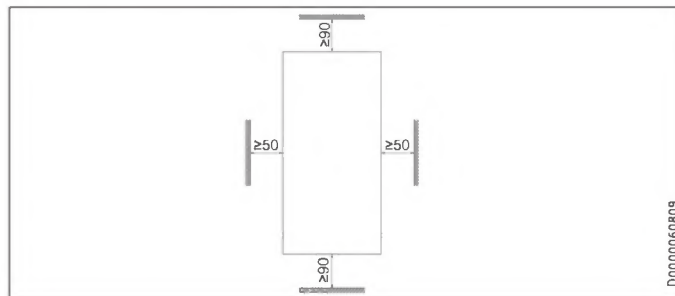
- 1 Cold water inlet
- 2 DHW outlet



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 pipe systems are used, take into account their maximum permissible water temperature and maximum permissible pressure.

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. If the flow rate is still not achieved, remove the flow limiter (see chapter "Installation / Installation / Removing the flow limiter").

10. Installation

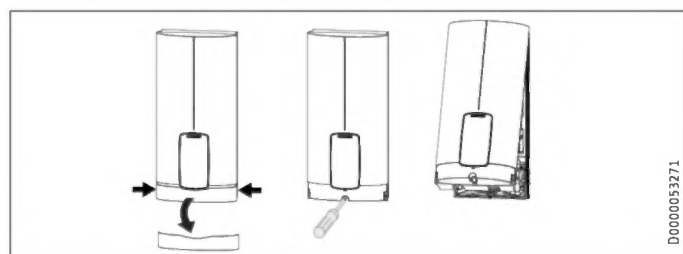
Factory settings		HDB-E 11/13 Trend	HDB-E 18 Trend 25A	HDB-E 18/21/24 Trend	HDB-E 27 Trend
Temperature	°C	55	55	55	55
Connected load	kW	13.5	18	21	27
Adjustable connected load		x	-	x	-

Standard installation		HDB-E 11/13 Trend	HDB-E 18 Trend 25A	HDB-E 18/21/24 Trend	HDB-E 27 Trend
Electrical connection from below, flush-mounted		x	x	x	x
Water connection, flush-mounted		x	x	x	x

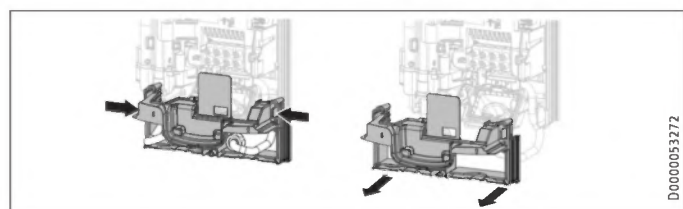
For further installation options, see chapter "Alternative installation methods".

10.1 Standard installation

Opening the appliance

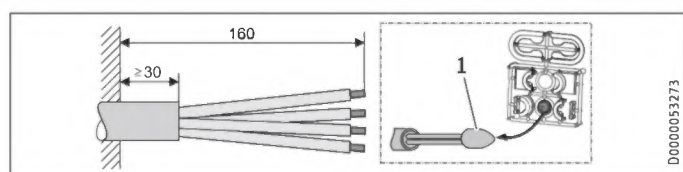


- Open the appliance by holding the fascia at the side and pulling forwards away from the appliance cover. Undo the screw. Pivot open the appliance cover.



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

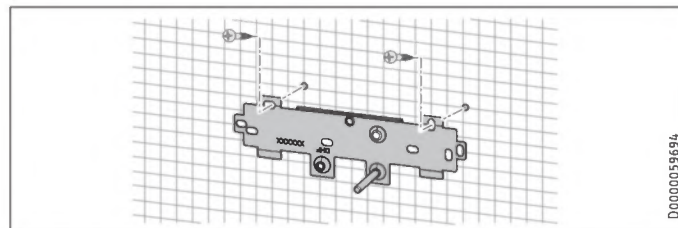
Preparing the power cable on unfinished walls, for connection from below



- 1 Cable entry installation aid

- Prepare the power cable.

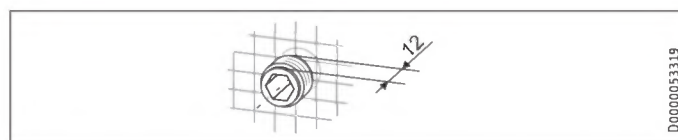
Fitting the wall mounting bracket



- 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.

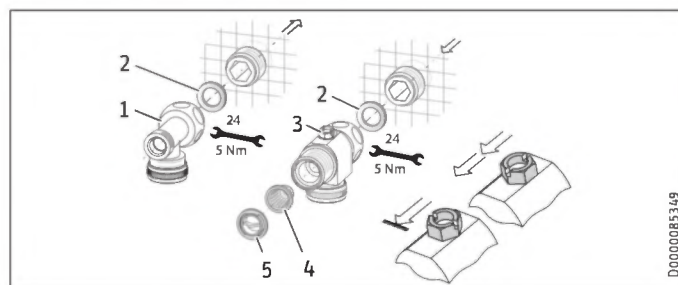
Installing the twin nipples

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



- Seal and insert the twin nipples.

Making the water connection



- 1 DHW with tee
- 2 Gasket
- 3 Cold water with 3-way ball shut-off valve
- 4 Strainer
- 5 Plastic profile washer

- Secure the tee and 3-way ball shut-off valve, each with a flat gasket, to the twin nipple.

- ! Property damage**
The strainer must be fitted for the appliance to function.
► When replacing an appliance, check whether the strainer is installed.

INSTALLATION

Installation

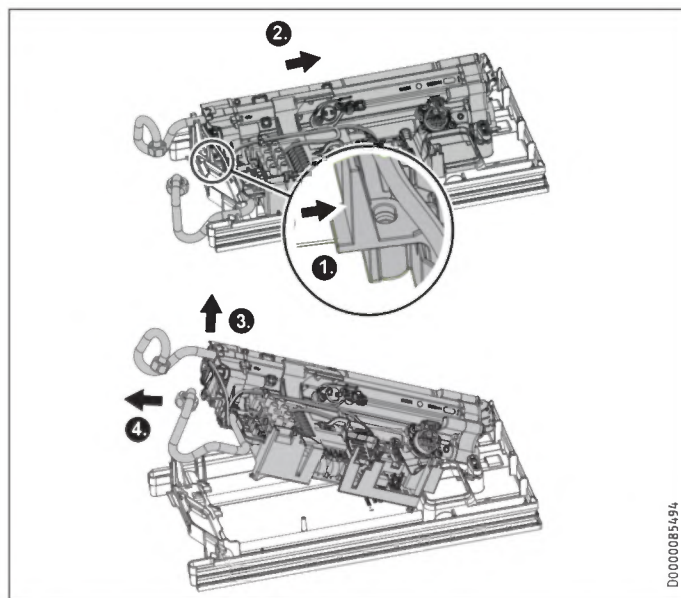
Removing the flow limiter



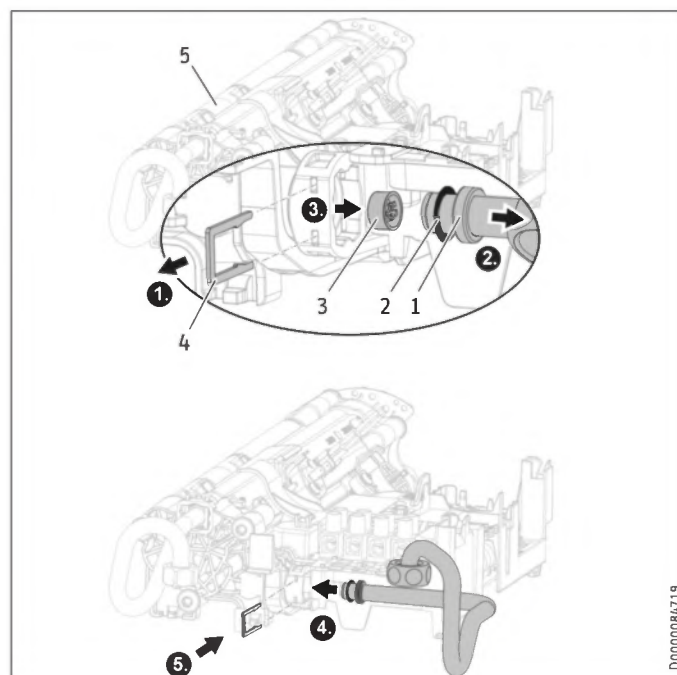
Notice

If you are using a thermostatic valve, you must not remove the flow limiter.

If the flow rate is too low, remove the flow limiter. To do this, remove the function module from the appliance back panel.



- Release the locking tab.
- Push the function module on the back panel gently backwards.
- Remove the function module from the appliance back panel by pulling it slightly forwards and lifting it off.



- 1 Cold water pipe bend with recess for spring clip
- 2 O-ring
- 3 Flow limiter
- 4 Spring clip
- 5 Heater

- Remove the cold water pipe bend and the O-ring.
- Remove the flow limiter from the cold water inlet of the heater using a pointed object or suitable pliers.
- Fit the cold water pipe bend with the O-ring.



Property damage

The O-ring must be fitted to prevent the appliance from leaking.

- As part of installation, check that the O-ring is in place.

- Secure the cold water pipe bend with the spring clip.



Property damage

Ensure that the spring clip is located behind the recess in the pipe bend and that it is securely holding the pipe bend in place.

- Fit the function module on the appliance back panel in reverse order until it clicks into place.

INSTALLATION

Installation

Installing the appliance

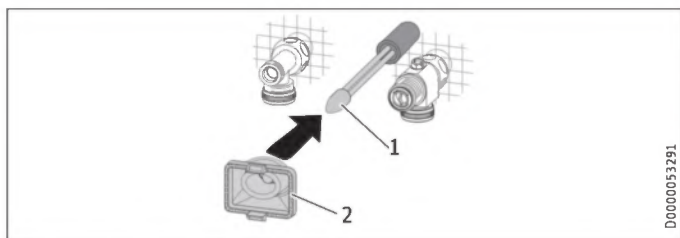


Step-by-step guide
Installation



Notice

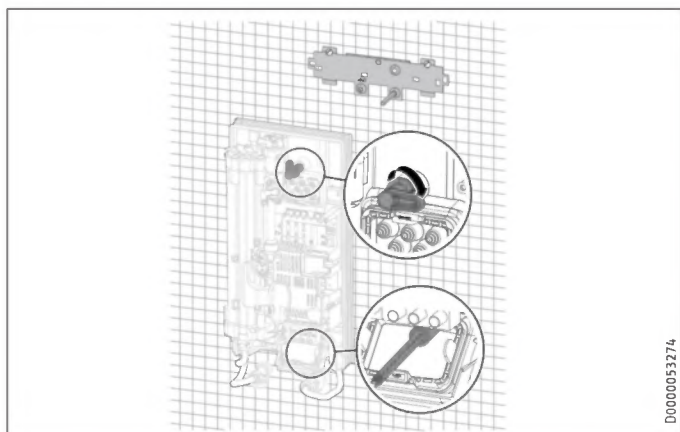
If you are installing the appliance with flexible pipe connections, also secure the back panel with a screw.



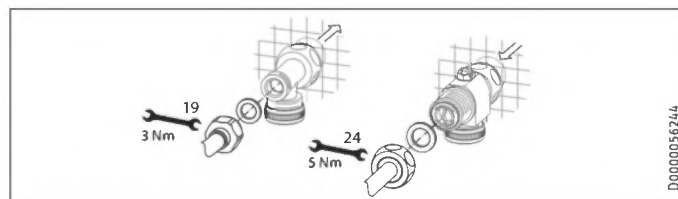
- 1 Cable entry installation aid
- 2 Cable grommet

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.



- Fit the pipe connections with flat gaskets onto the water connections.
- Open the 3-way ball shut-off valve or the shut-off valve in the cold water supply line.

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.

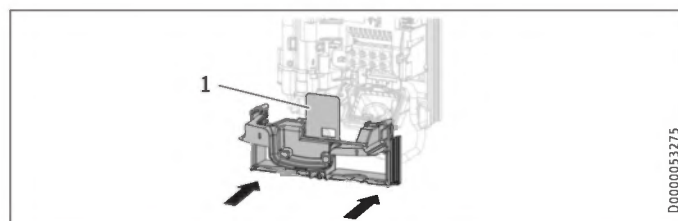


Property damage

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

- Connect the power cable to the mains terminal.

Fitting the lower back panel section



- 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.



Property damage

The cover plate of the lower back panel section must not bend when installed.

11. Commissioning

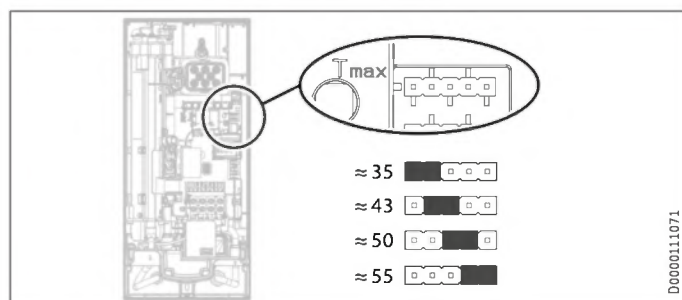


Step-by-step guide
Commissioning



11.1 Preparation

Adjusting the temperature via jumper slot



- ▶ Install the jumper in the required position (= approximate temperature in °C) on the "Tmax" pin strip.

Jumper position	Description
≈ 35	For hand washbasins
≈ 43	For example in nurseries, hospitals, etc.
≈ 50	
≈ 55 (Factory setting)	For kitchen sink
No jumper	Limit approx. 43 °C



Notice

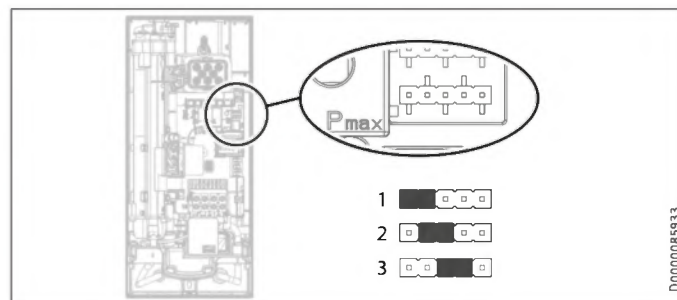
Ensure that the set temperature is available at a rated voltage of 400 V. If the rated voltage is lower, the outlet temperature is reduced. The table below shows the effect on the outlet temperature subject to the applied rated voltage and the set temperature.

Jumper position	Outlet temperature at 400 V*	Outlet temperature at 380 V*
≈ 35	35,0 °C	33,0 °C
≈ 43	43,0 °C	40,0 °C
≈ 50	50,0 °C	46,0 °C
≈ 55	55,0 °C	50,5 °C

* Cold water inlet temperature: 15 °C

Changing the connected load via the jumper slot; only for appliances with selectable connected load

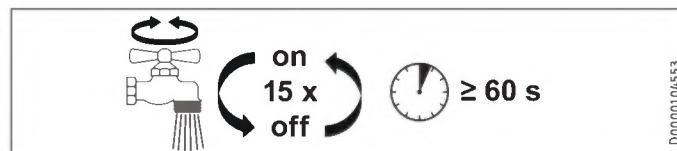
If you select a connected load other than the factory setting for appliances with selectable connected load, you will need to reposition the jumper.



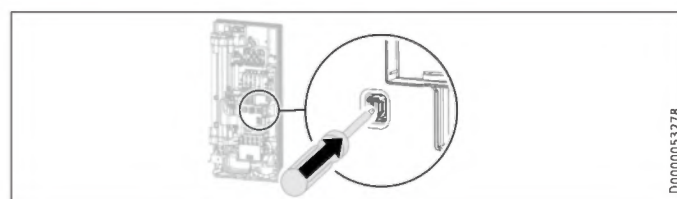
- ▶ Install the jumper in the required position on the "Pmax" pin strip.

Jumper position	Connected Load	
	HDB-E 11/13 Trend	HDB-E 18/21/24 Trend
1	11 kW	18 kW
2 (Factory setting)	13.5 kW	21 kW
3	11 kW	24 kW
No jumper	11 kW	18 kW

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.

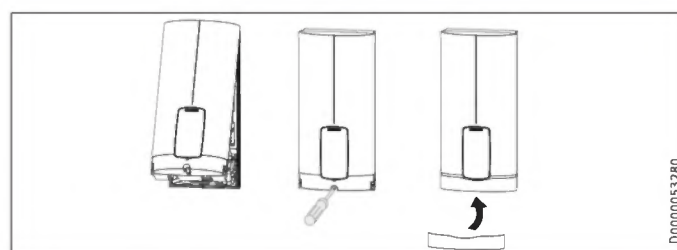


- ▶ Activate the safety switch by firmly pressing the reset button (the appliance is delivered with the safety switch disabled).



Notice

For undersink installation, the appliance cover can be turned the other way up; see chapter "Installation alternatives / Rotated appliance cover".



- ▶ 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.

Shutting down the system

- ▶ 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 front panel.



- ▶ Switch on the power supply.

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

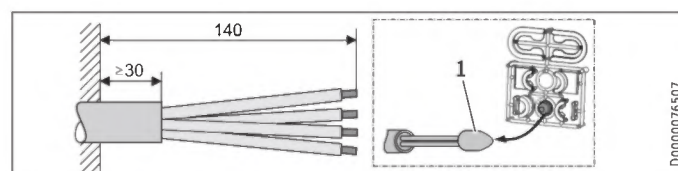
Electrical connection	IP rating
On unfinished walls, connected from above	IP 25
On unfinished walls, connected from below, short power cable	IP 25
Surface-mounted	IP 24
Water connection	IP rating
Surface-mounted	IP 24
Other	IP rating
Installation with offset tiles	IP 25
Rotated appliance cover	IP 25
Horizontal installation of the appliance	IP 24



WARNING Electrocutation

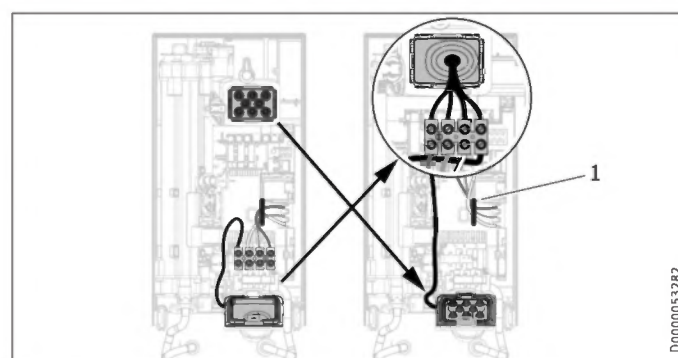
Before any work on the appliance, disconnect all poles from the power supply.

13.1 Electrical connection from above on unfinished walls



- 1 Cable entry installation aid

- ▶ Prepare the power cable.



- 1 Cable routing

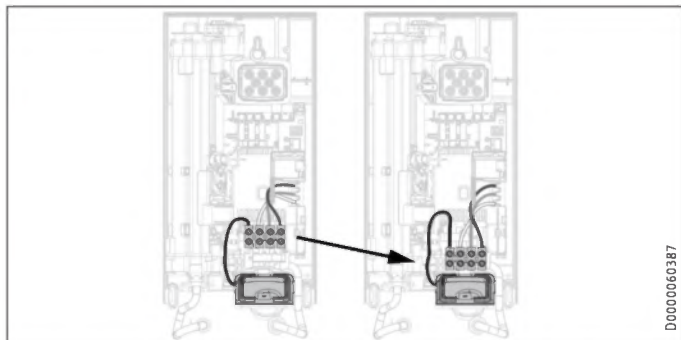
- ▶ Reposition the mains terminal from the bottom to the top. To do this, undo the fixing screw. Turn the mains terminal with connecting cables 180° clockwise. Route the cable around the cable guide when doing so. Secure the mains terminal in place.
- ▶ Replace the cable grommets.
- ▶ Install the cable 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.

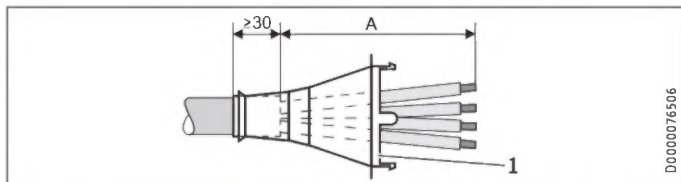
13.3 Electrical connection, surface-mounted



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, surface-mounted	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 Connecting a load shedding relay

Install a load shedding relay in the distribution board in conjunction with other electric appliances, e.g. electric storage heaters. The relay responds when the instantaneous water heater starts.



Property damage

Connect the phase that switches the load shedding relay to the indicated terminal of the mains terminal in the appliance (see chapter "Specification / Wiring diagram").

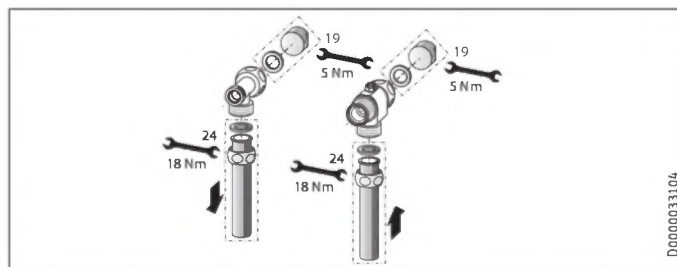
13.5 Water installation, surface-mounted



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.

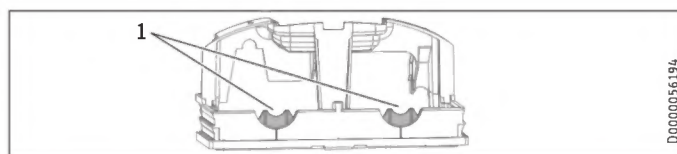


- Fit water plugs with gaskets to seal the concealed connections. All taps obtained as accessories are supplied with plugs and gaskets in the standard delivery. For pressure taps other than those recommended by us, plugs and gaskets can be ordered as accessories.
- Fit a suitable pressure tap.
- Push the lower back panel section under the connection pipes of the tap and push it into the back panel.
- Secure the connection pipes to the tee and the 3-way ball shut-off valve.



Notice

You can break off the pipe fitting tabs on the lower back panel section if required.



1 Tab

13.6 Water installation on finished walls with solder/press fittings



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.

You can connect copper or plastic pipes with the accessories "solder fitting" or "press fitting".

With "solder fitting" with threaded fitting for 12 mm copper pipes, proceed as follows:

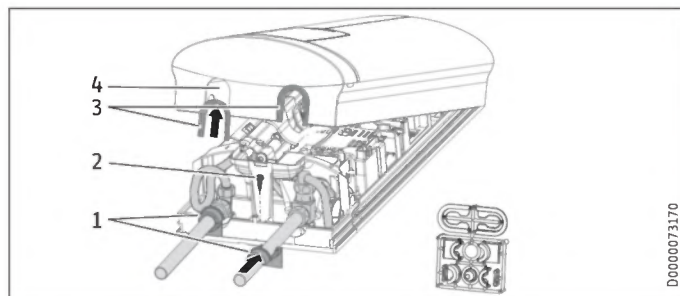
- Push the union nuts over the connection pipes.
- Solder the inserts to the copper pipes.
- Push the lower back panel section under the connection pipes of the tap and push it into the back panel.
- Secure the connection pipes to the tee and the 3-way ball shut-off valve.



Notice

Observe the tap manufacturer's instructions.

13.7 Fitting appliance cover for water installation on finished walls



- 1 Back panel guides
 - 2 Screw
 - 3 Cover guides with sealing lips on the pipe side
 - 4 Pipe knock-out
- Cleanly saw and break out the pipe knock-outs in the appliance cover. If necessary, use a file.
 - Click the cover guides into place in the knock-outs.

Only if using the "solder fitting" accessory and with precise adherence to all installation dimensions:

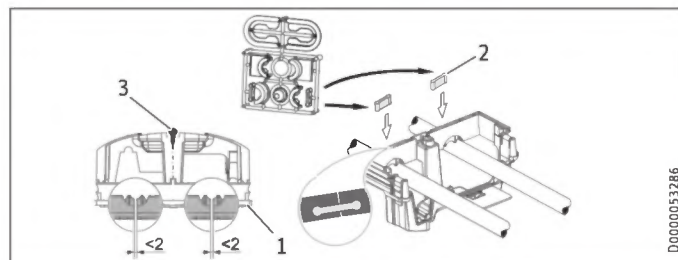
- Break the sealing lips out of the cover guides.
- Position the back panel guides on the pipes. Push them together. Then push the guides against the back panel as far they will go.
- Secure the lower back panel section with a screw.



Notice

You can use the cover guides with sealing lips to compensate for a slight offset of the connection pipes and/or if using the "press fitting" accessory. In this case, the back panel guides are not fitted.

13.8 Lower back panel section installation with threaded fittings on finished walls



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

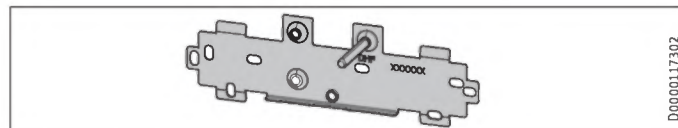
If using threaded fittings on finished walls, the lower back panel section can also be installed after fitting the taps. To do this, carry out the following steps:

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

13.9 Wall mounting bracket when replacing an appliance

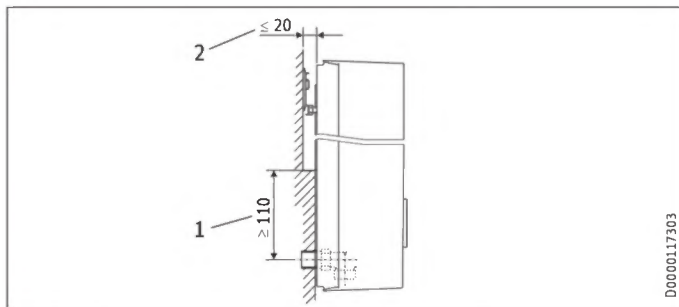
An existing STIEBEL ELTRON wall mounting bracket may be used when replacing appliances (except the DHF instantaneous water heater), as long as the fixing screw is in the lower right position.

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).

13.10 Installation with offset tiles



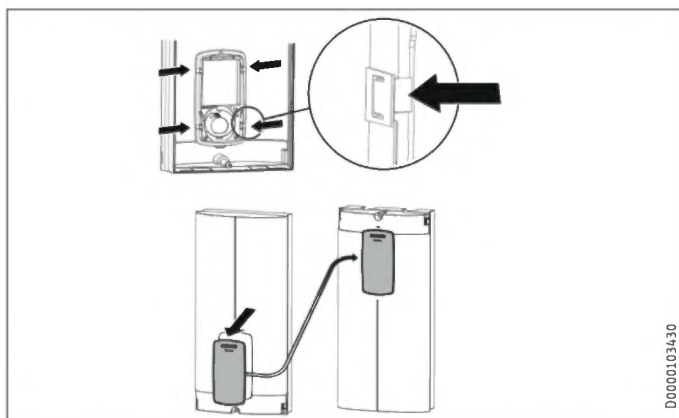
D0000117303

- 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).

13.11 Rotated appliance cover

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



D0000103430

- ▶ Remove the front panel from the appliance cover by pressing the locking tabs and taking out the front panel.
- ▶ Turn the appliance cover (not the appliance) the other way up and refit the front panel. Keeping it parallel, push the front panel in 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 front panel must click into place. The locking tabs must be complete and undamaged. If the front panel is not inserted correctly, user protection against contact with live components cannot be ensured.

- ▶ 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.

13.12 Horizontal installation of the appliance



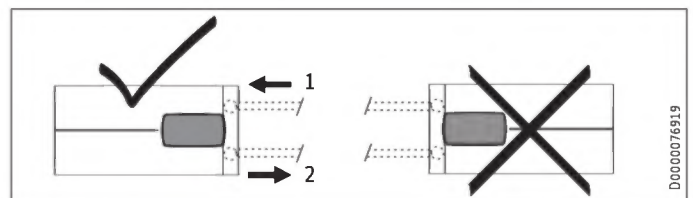
Notice

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".

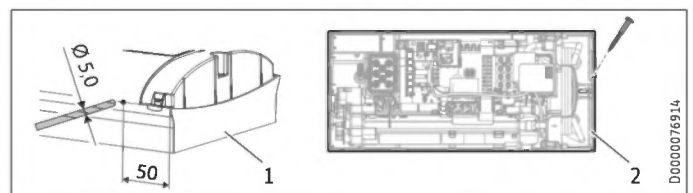


D0000076919

- 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.



D0000076914

- 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.

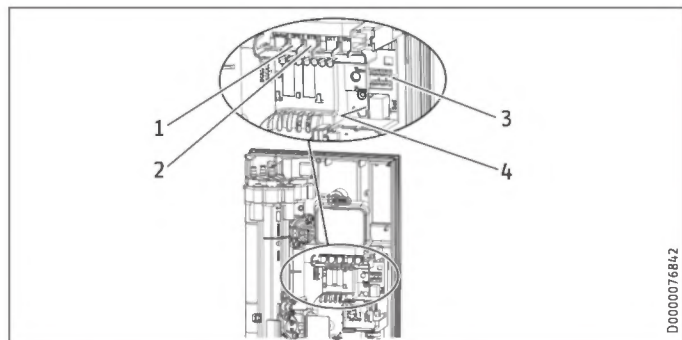


Property damage

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

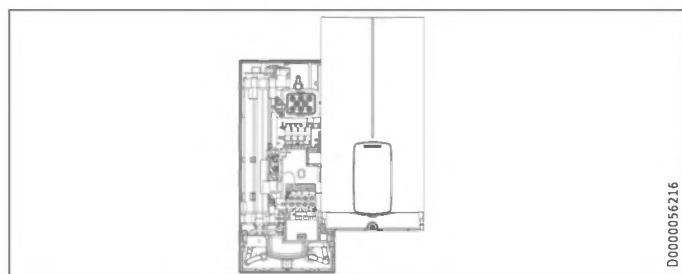
14. Service information

Overview of connections



- 1 Flow sensor
- 2 High limit safety cut-out, automatic reset
- 3 Pin strips for connected load and temperature
- 4 Diagnostic traffic light

Appliance cover retainer



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	Descalc/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 Heating system faulty PCB faulty	Replace tap 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; install flow limiter Check jumper position for connected load Replace the function module
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 Safety switch responds again after high limit safety cut-out has been checked; high limit safety cut-out faulty Safety switch responds again; PCB faulty PCB faulty	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 Replace high limit safety cut-out; activate safety switch and draw off water at the maximum set value for >1 min Replace the function module 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.

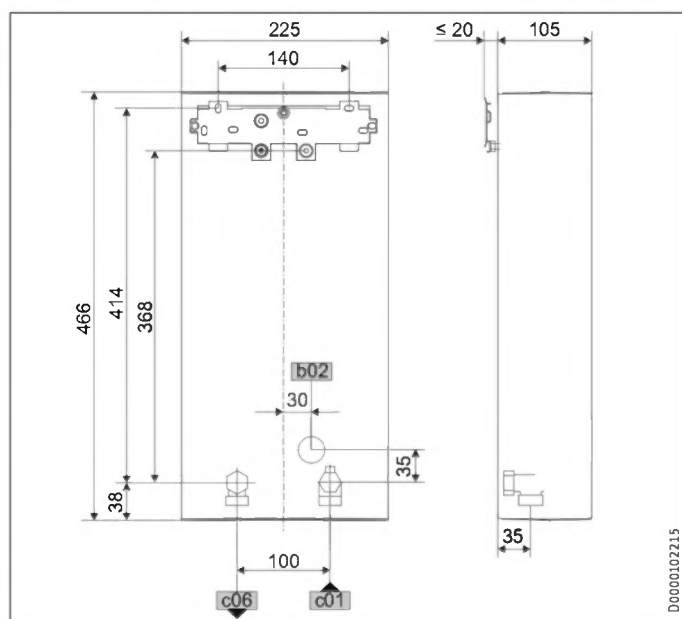
- ▶ Close the 3-way ball shut-off valve or the shut-off valve in the cold water supply line.
- ▶ Open all draw-off valves.
- ▶ Undo the pipe connections from the appliance.
- ▶ Store the dismantled appliance free from the risk of frost, as water residues remaining inside the appliance can freeze and cause damage.

Clean the strainer

If the strainer in the threaded cold water fitting is dirty, clean it. Close the 3-way ball shut-off valve or the shut-off valve in the cold water supply line before removing, cleaning and refitting the strainer.

17. Specification

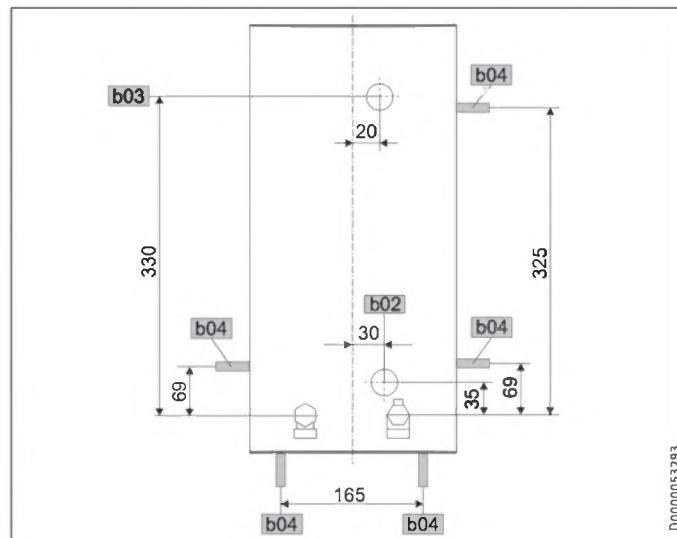
17.1 Dimensions and connections



D0000102215

		HDB-E Trend
b02	Entry electrical cables I	Flush-mounted
c01	Cold water inlet	Male thread G 1/2
c06	DHW outlet	Male thread G 1/2

Alternative connection options

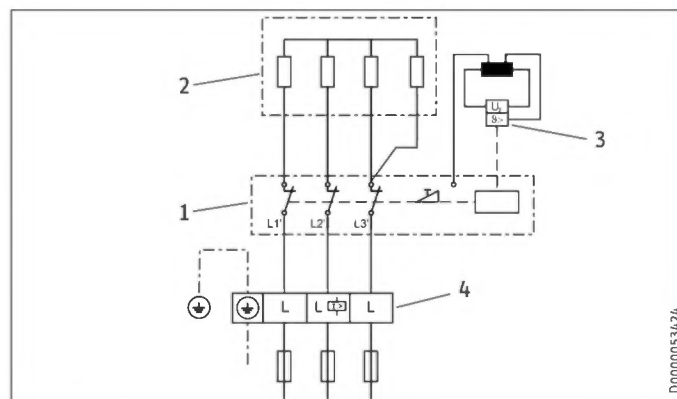


D0000053293

		HDB-E Trend
b02	Entry electrical cables I	Flush-mounted
b03	Entry electrical cables II	Flush-mounted
b04	Entry electrical cables III	Surface-mounted

17.2 Wiring diagram

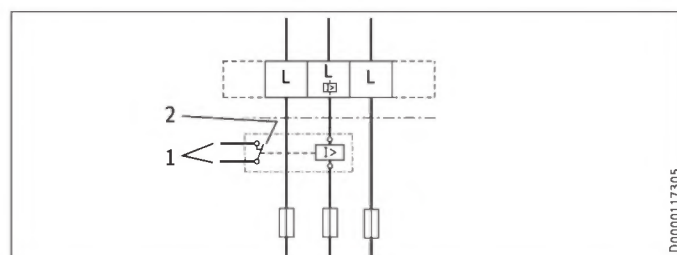
3/PE ~ 380-400 V



D0000053424

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

Priority control with load shedding relay LR 1-A



D0000117305

- 1 Control cable to the contactor of the second appliance (e.g. electric storage heater)
- 2 Control contact drops out when switching the instantaneous water heater on

INSTALLATION Specification



Material losses

If the appliance is replaced, also replace the load shedding relay and contactor of the 2nd appliance.

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	5 °C	10 °C	15 °C	20 °C
HDB-E 11/13 Trend					
9.9		4.3	5.1	6.1	7.9
12.2		5.3	6.2	7.6	9.7
	11.0	4.8	5.6	6.8	8.7
	13.5	5.8	6.9	8.4	10.7

HDB-E 18 Trend 25A					
16.2		7.0	8.3	10.1	12.9
	18.0	7.8	9.2	11.2	14.3

HDB-E 18/21/24 Trend					
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

HDB-E 27 Trend					
24.4		10.6	12.4	15.2	19.4
	27.0	11.7	13.8	16.8	21.4

Connected load in kW		50 °C DHW output in L/min			
Rated voltage		Cold water inlet temperature			
380 V	400 V	5 °C	10 °C	15 °C	20 °C
HDB-E 11/13 Trend					
9.9		3.1	3.5	4.0	4.7
12.2		3.9	4.4	5.0	5.8
	11.0	3.5	3.9	4.5	5.2
	13.5	4.3	4.8	5.5	6.4

HDB-E 18 Trend 25A					
16.2		5.1	5.8	6.6	7.7
	18.0	5.7	6.4	7.3	8.6

17.7 Energy consumption data

Product datasheet: Conventional water heaters to regulation (EU) no. 812/2013 | 814/2013 / (S.I. 2019 No. 539 / Schedule 2)

	HDB-E 11/13 Trend	HDB-E 18 Trend 25A	HDB-E 18/21/24 Trend	HDB-E 27 Trend
	204208	207040	204209	204210
Manufacturer	STIEBEL ELTRON	STIEBEL ELTRON	STIEBEL ELTRON	STIEBEL ELTRON
Load profile	S	S	S	S
Energy efficiency class (A+ -> F)	A	A	A	A
Energy conversion efficiency	%	39	38	38
Annual power consumption	kWh	475	480	481
Default temperature setting	°C	55	55	55
Sound power level	dB(A)	15	15	15
Special information on measuring efficiency	Measured with integral flow limiter, at maximum output and maximum set value	Measured with integral flow limiter and at maximum set value	Measured with integral flow limiter, at maximum output and maximum set value	Measured with integral flow limiter and at maximum set value
Daily power consumption	kWh	2.182	2.200	2.215

Connected load in kW		50 °C DHW output in L/min			
Rated voltage		Cold water inlet temperature			
380 V	400 V	5 °C	10 °C	15 °C	20 °C
HDB-E 18/21/24 Trend					
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
HDB-E 27 Trend					
24.4		7.7	8.7	10.0	11.6
	27.0	8.6	9.6	11.0	12.9

17.4 Application areas / conversion table

Electrical resistivity and electrical conductivity

Standard specification at 15 °C			20 °C			25 °C		
Resis- tivity $\rho \geq$	Conductivity $\sigma \leq$		Resis- tivity $\rho \geq$	Conductivity $\sigma \leq$		Resis- tivity $\rho \geq$	Conductivity $\sigma \leq$	
$\Omega \text{ cm}$	mS/m	$\mu\text{S/cm}$	$\Omega \text{ cm}$	mS/m	$\mu\text{S/cm}$	$\Omega \text{ cm}$	mS/m	$\mu\text{S/cm}$
900	111	1111	800	125	1250	735	136	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 briefly in the installation.

INSTALLATION Specification

17.8 Data table

		HDB-E 11/13 Trend		HDB-E 18 Trend 25A		HDB-E 18/21/24 Trend		HDB-E 27 Trend	
		204208		207040		204209		204210	
Electrical data									
Rated voltage	V	380	400	380	400	380	400	380	400
Rated output	kW	9.9/12.2	11/13.5	16.2	18	16.2/19/21.7	18/21/24	24.4	27
Rated current	A	16.6/18.5	17.5/19.5	24.7	26	27.6/29.5/33.3	29/31/35	37.1	39
Fuse protection	A	20	20	25	25	32/32/35	32/32/35	40	40
Frequency	Hz	50/60	50/60	50/60	50/60	50/60	50/60	50/-	50/-
Phases		3/PE		3/PE		3/PE		3/PE	
Resistivity $\rho_{15} \geq$	Ω cm	900		900		900		900	
Conductivity $\sigma_{15} \leq$	$\mu S/cm$	1111		1111		1111		1111	
Max. mains impedance at 50 Hz	Ω	0.456	0.434	0.329	0.313	0.247	0.235	0.220	0.209
Versions									
Heating system, heat generator		Bare wire		Bare wire		Bare wire		Bare wire	
Insulating block		Plastic		Plastic		Plastic		Plastic	
Adjustable connected load		X		-		X		-	
Temperature setting	$^{\circ}C$	35, 43, 50, 55*		35, 43, 50, 55*		35, 43, 50, 55*		35, 43, 50, 55*	
Protection class		1		1		1		1	
Cover and back panel		Plastic		Plastic		Plastic		Plastic	
IP rating		IP 25		IP 25		IP 25		IP 25	
Colour		white		white		white		white	
Connections									
Water connection		G 1/2		G 1/2		G 1/2		G 1/2	
Application limits									
Max. permissible pressure	MPa	1		1		1		1	
Max. inlet temperature for brief pasteurisation	$^{\circ}C$	70		70		70		70	
Starting flow rate	l/min	>2.5		>2.5		>2.5		>2.5	
Values									
Flow rate limit at	l/min	4.0		8.0		8.0		9.0	
Flow rate at 28 K	l/min	5.6/6.9 (400 V)		9.2 (400 V)		9.2/10.7/12.3 (400 V)		13.8 (400 V)	
Flow rate at 50 K	l/min	3.2/3.9 (400 V)		5.2 (400 V)		5.2/6.0/6.9 (400 V)		7.7 (400 V)	
Pressure drop for flow rate at 50 K (without flow limiter)	MPa	0.03/0.04		0.06		0.06/0.08/0.1		0.13	
Pressure drop for flow rate at 50 K (with flow limiter)	MPa	0.08/0.2		0.1		0.1/0.13/0.17		0.2	
Hydraulic data									
Nominal capacity	l	0.4		0.4		0.4		0.4	
Dimensions									
Height	mm	466		466		466		466	
Width	mm	225		225		225		225	
Depth	mm	105		105		105		105	
Weights									
Weight	kg	2.80		2.90		2.90		2.90	

* The temperatures are relative to a rated voltage of 400 V.



Notice

The appliance conforms to IEC 61000-3-12.

Information on the appliance software

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Guarantee

The guarantee conditions of our German companies do not apply to appliances acquired outside of Germany. In countries where our subsidiaries sell our products a guarantee can only be issued by those subsidiaries. Such guarantee is only granted if the subsidiary has issued its own terms of guarantee. No other guarantee will be granted.

We shall not provide any guarantee for appliances acquired in countries where we have no subsidiary to sell our products. This will not affect warranties issued by any importers.

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.

Comfort through Technology

STIEBEL ELTRON GmbH & Co. KG

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