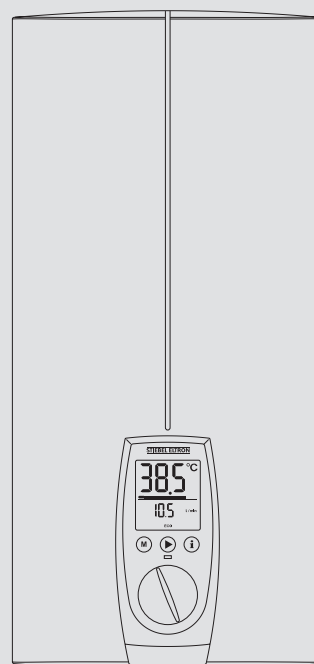


GEBRAUCHS- UND MONTAGEANLEITUNG
OPERATING AND INSTALLATION INSTRUCTIONS
INSTRUCTIONS D'UTILISATION ET DE MONTAGE
GEBRUIKS- EN MONTAGEAANWIJZING
INSTRUKCJA OBSŁUGI I MONTAŻU
NÁVOD K POUŽÍVÁNÍ A MONTÁŽI
ИНСТРУКЦИЯ ЗА ЕКСПЛОАТАЦИЯ И МОНТАЖ
ИНСТРУКЦИЯ ПО МОНТАЖУ И ЭКСПЛУАТАЦИИ

Vollelektronisch geregelter durchlauferhitzer | Instantaneous water heater with full electronic control | Chauffe-eau instantané à régulation entièrement électronique | Volledig elektronisch regelde elektrische doorstomer | Caikowicie elektronicznie regulowany przepływowy ogrzewacz wody | Plně elektronicky regulovaný průtokový ohříváč | Изцяло електронно регулиран проточен бойлер | Проточный водонагреватель с электронным управлением

- » DHE 18 SLi 25 A
- » DHE 18/21/24 SLi
- » DHE 27 SLi



STIEBEL ELTRON

OPERATION

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GUARANTEE

ENVIRONMENT AND RECYCLING

OPERATION

1. General information

The chapter "Operation" is intended for appliance users and qualified contractors.

The chapter "Installation" is intended for qualified contractors.



Note

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

1.1 Safety instructions

1.1.1 Structure of safety instructions

KEYWORD 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 or scalding

1.1.3 Keywords

KEYWORD	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.

OPERATION

Safety

1.2 Other symbols in this documentation



Note

Notes are bordered by horizontal lines above and below the text. General information is identified by the symbol shown on the left.

- ▶ Read these texts carefully.

Symbol	
	Material damage (appliance, consequential and environmental damage)
	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



Note

Unless specified otherwise, all dimensions are given in mm.

2. Safety

2.1 Intended use

This appliance is designed for domestic use. It can be safely operated by untrained personnel. The appliance can also be used in a non-domestic environment, e.g. in a small business, 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 instructions for any accessories used is also part of the correct use of this appliance.

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

2.2 General safety instructions



CAUTION Burns

During operation, the tap can reach temperatures in excess of 60 °C.

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



WARNING Injury

The appliance may be used by children aged 8 and up and persons with reduced physical, sensory or mental capabilities or a lack of experience provided that they are supervised or they have been instructed on how to use the appliance safely and have understood the resulting risks. Children must never play with the appliance. Children must never clean appliance or perform user maintenance unless they are supervised.

Where children or persons with limited physical, sensory or mental abilities are allowed to use this appliance, we recommend a permanent temperature limit. The limit can be set by you or a contractor:

- Childproofing adjustable by the user
- Anti-scalding protection adjustable by the contractor



Material damage

Protect the appliance and its tap against frost.

2.3 CE designation

The CE designation shows that the appliance meets all essential requirements according to the:

- Low Voltage Directive
 - Electromagnetic Compatibility Directive
- The maximum permissible mains impedance is indicated in chapter "Specification".

2.4 Test symbols

See type plate on the appliance.

Country-specific approvals and certifications: Germany

A general test certificate [Germany] as verification of suitability regarding noise emissions has been issued for this appliance, based on the State Building Regulations [Germany].



3. Appliance description

This appliance with full electronic control and output matching keeps the outlet temperature constant. The water is heated by the electronic control unit with motorised valve to precisely the selected temperature. This occurs regardless of the inlet temperature.

DHW temperature

The DHW outlet temperature can be variably adjusted. The selected temperature is displayed.

Heating system

The bare wire heating system has a pressure-tested copper casing. The heating system is suitable for hard and soft water areas; it has low susceptibility to scale build-up. This system ensures rapid and efficient DHW availability.



Note

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 heater shuts down automatically for one minute, thereby protecting the heating system.

Display backlighting

The display features two-tone backlighting (green / amber).

Efficiency display

Green ECO backlighting indicates that the appliance is operating in a particularly economical way

- when the output is less than 80 %
- when the maximum output is less than 80 % while the inlet temperature is higher than 35 °C
- when the maximum output is less than 80 % while the ECO function is switched on

Under all other operating conditions, the backlighting is amber.

Economy monitor

The appliance has an economy monitor. This is activated by pressing the appropriate key. It displays:

- Energy savings*
- Water savings*
- CO₂ savings*
- Energy consumption
- Water consumption

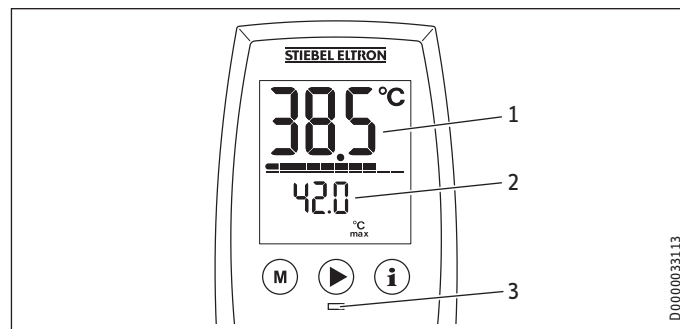
* Compared to hydraulic instantaneous water heaters. Calculation for a 3-person household with individual DHW requirements and usable energy requirements subject to VDI 2067. Electricity and water costs can be programmed individually.

4. Settings and displays

You can adjust the appliance via the user interface.

Warning indicators in the case of excess temperature

If the inlet temperature is higher than the preferred temperature, e.g. if water has been preheated by solar energy, then the temperature display flashes and the second display indicates the inlet temperature. No further heating of the water occurs.



- 1 Temperature display flashes
- 2 Inlet temperature display
- 3 Scalding risk LED; red LED when the temperature setting > 43 °C

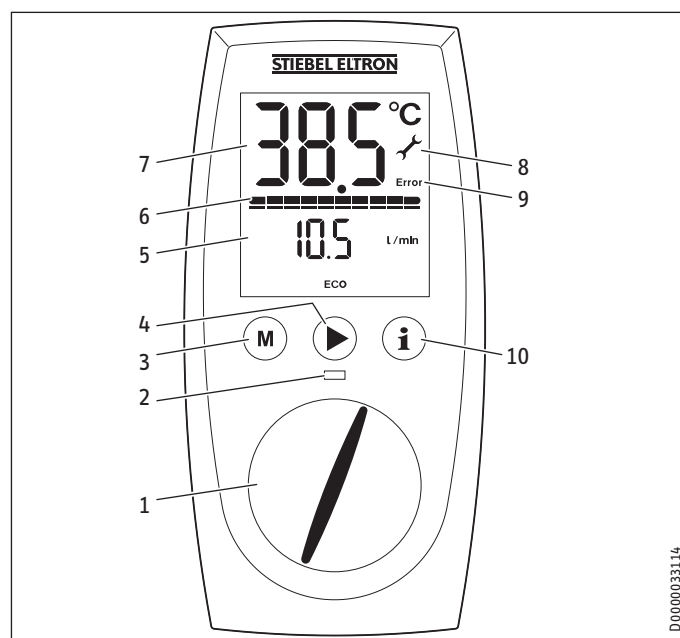
Recommended setting for operation with a thermostatic valve

Set the temperature at the appliance to 60 °C.

Following an interruption of the water supply

See chapter "Restarting"

4.1 User interface on the appliance



- 1 Temperature selector
- 2 Scalding risk LED
- 3 Memory key
- 4 Menu key, e.g. ECO
- 5 Additional value display
- 6 Heating output display
- 7 Temperature display
- 8 Error indicator
- 9 Inlet temperature display
- 10 ECO indicator

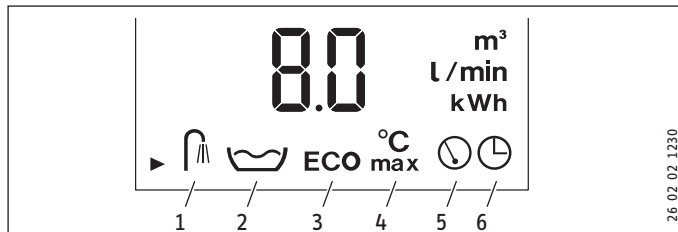
OPERATION

Settings and displays

- 7 Temperature display
- 8 Service symbol
- 9 Fault symbol
- 10 Economy monitor

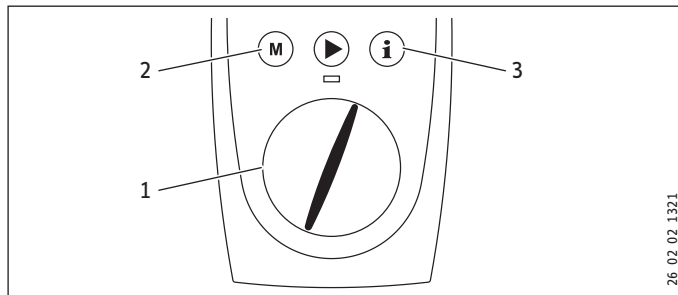
When the appliance is delivered the backlighting is set so that the screen is illuminated automatically as soon as you operate the selector or a key, or the appliance heats. If the selector or a key is not pressed or the appliance does not heat for 30 seconds, the backlighting switches off. You can also set the illumination to be on constantly.

Symbols



- 1 Shower programs for good health
- 2 Automatic water volume control
- 3 ECO
- 4 Childproof setting
- 5 Additional value display
- 6 Time

4.2 Temperature setting



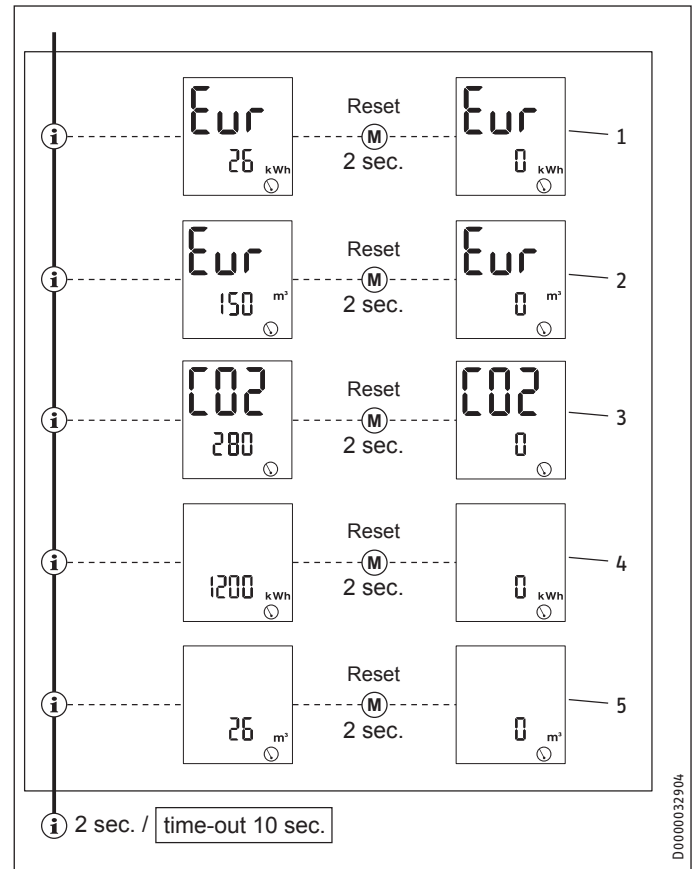
- 1 Temperature setting 20 - 60 °C in steps of 0.5 °C, OFF = heating system is switched off
- 2 Programmed temperature selection
- 3 Economy monitor selection

You can store a preferred temperature with memory key M.

- ▶ Select the preferred temperature.
- ▶ Press the M key for 2 seconds. The temperature display flashes once to confirm.

4.3 Economy monitor selection

Example menu structure with currency in euros (Eur)



1 Energy saving

The energy saving in euros (Eur) in comparison to hydraulic instantaneous water heaters is calculated and displayed.

2 Water saving

The water saving in euros (Eur) in comparison to hydraulic instantaneous water heaters is calculated and displayed.

3 CO2 emissions

The CO2 saving in kg in comparison to hydraulic instantaneous water heaters is calculated and displayed.

4 Amount of energy

The amount of energy consumed in kWh is displayed.

5 Water consumption

The amount of water consumed in m³ is displayed.

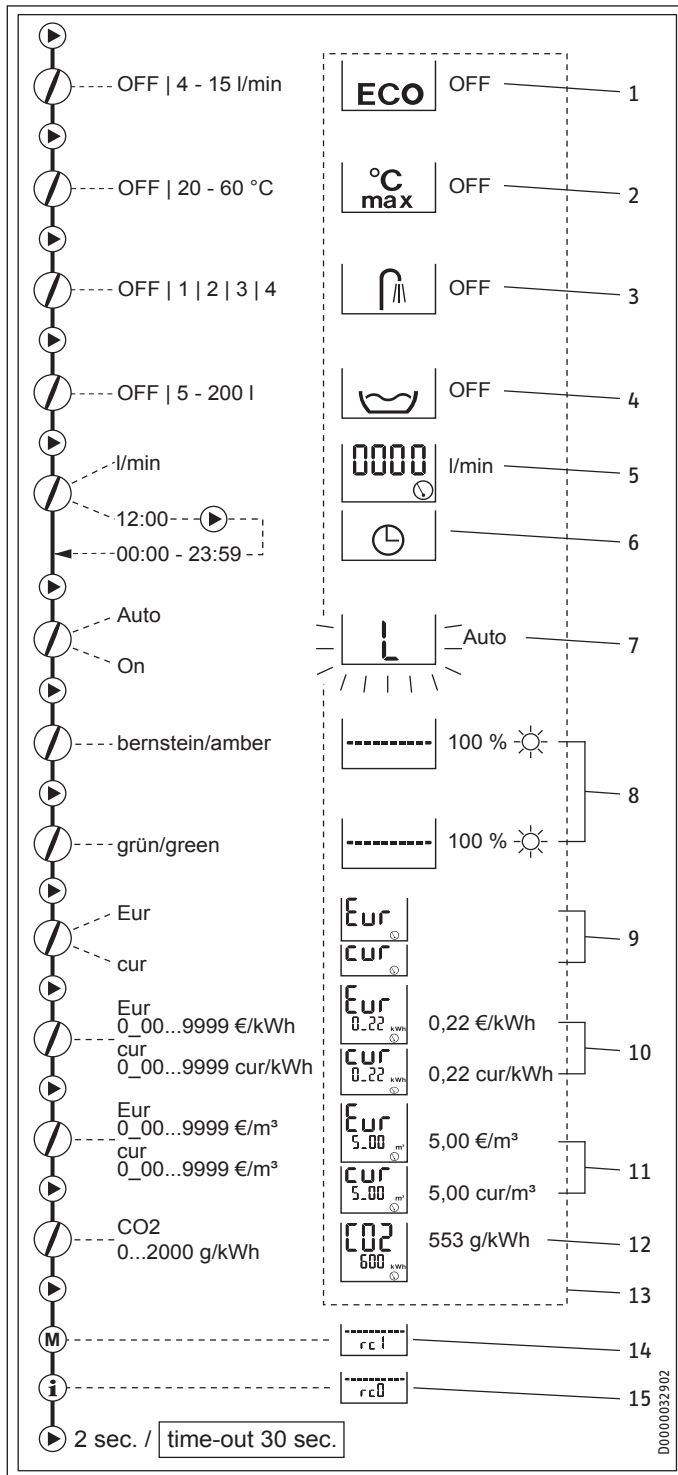
OPERATION

Settings and displays

4.4 Appliance settings

Key to symbols	
	Press once START-menu
	Press once Change menu
	Hold for 2 seconds END
	Change settings / scanning

Menu structure



1 ECO water and energy saving function

The ECO function enables you to limit the flow rate to a maximum value.

ECO on = symbol on user interface
ECO off = no symbol on user interface

2 Childproofing

Childproofing allows you as a user to limit the adjustable temperature at the appliance to a maximum value. Your contractor can activate the appliance's anti-scalding protection (see chapter "Service mode").

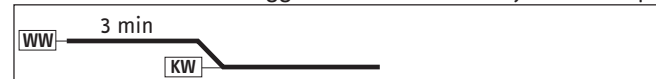
3 Shower programs for good health

The shower program for good health lets you choose from 4 different shower programs.

WW = domestic hot water, KW = cold water

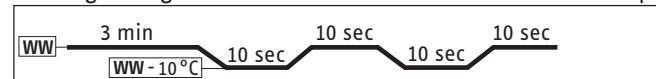
A Cold prevention

To strengthen the body, we recommend you finish off with a cold shower; this will trigger a reflex in the body to warm up.



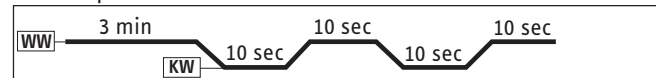
B Winter pick-me-up

An invigorating end to a winter shower with a final warm-up.



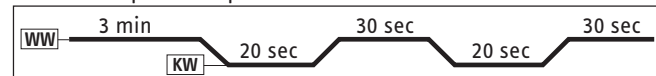
C Summer fitness program

The quick contrast shower to increase fitness with a final warm-up.



D Circulation program

Shower your arms and legs with cold water to boost circulation. Spray from the hands and feet towards the body. You can then repeat this process with warm water.



4 Automatic water volume control

The automatic water volume control allows you to limit the volume of water at a high flow rate. When the selected volume of water is reached, the control automatically reduces the flow rate. The preferred water temperature is maintained. The automatic water volume control must be enabled on each occasion prior to filling the bath. Example of filling a bath with 80 litres: When the bath has been filled with 80 litres, the control automatically reduces the flow rate to 4 l/min.

5 Flow rate

You have the option of displaying the flow rate or the time.

6 Setting the time

You have the option of displaying the time or the flow rate. You can set a time from 00:00 h to 23:59 h. You will need to set the time again following a power interruption.

OPERATION

Cleaning, care and maintenance

7 Adjusting the backlighting

You are able to adjust the display backlighting. If you select "Auto" the illumination will flash during the setting process.

- The backlighting switches on whenever the appliance heats and with any operation of the user interface.
- If there is no operation for 30 seconds the backlighting switches off.
- If you select "On" the backlighting will remain on constantly.

8 Adjusting the green/amber brightness

You can adjust the brightness of both backlighting colours individually.

9 Selecting the currency

Here you can select the currency you wish to display for the energy and water saving:

Eur = €

cur = any other currency

10 Setting the electricity tariff

Here you can enter your particular electricity tariff in Eur/kWh or cur/kWh in order to calculate the energy saving.

11 Setting the water tariff

Here you can enter your particular water tariff in €/m³ or cur/m³ in order to calculate the water saving.

12 Setting the CO₂ emissions value

The factory default for the CO₂ emissions calculation is 553 g CO₂/kWh (source: "Reducing energy consumption and CO₂ emissions through electrical domestic hot water supply", 2011). You can also set your own CO₂ emissions value if required.

13 Resetting to factory defaults

- ▶ Press keys M and i simultaneously for 2 seconds.

The default settings can be found in the dashed box in the diagram.

14 Parameter

This parameter is not relevant to this version of the appliance. It is not possible to adjust any settings.

15 Parameter

This parameter is not relevant to this version of the appliance. It is not possible to adjust any settings.

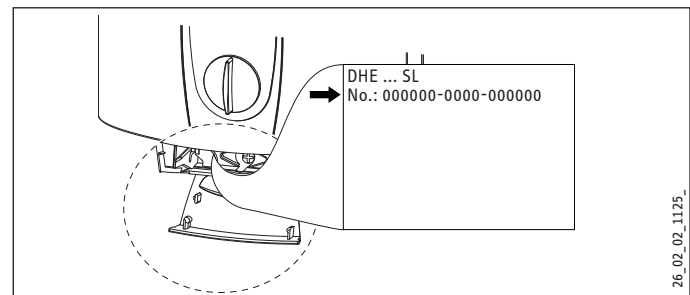
5. Cleaning, care and maintenance

- ▶ Never use abrasive or corrosive cleaning agents. A damp cloth is sufficient for cleaning the appliance.
- ▶ Check the taps/valves regularly. You can remove limescale deposits at the tap outlets using commercially available descaling agents.

6. Troubleshooting

Fault	Cause	Remedy
The appliance will not start in spite of a fully open DHW valve.	There is no mains voltage.	Check the fuse/MCB in your fuse box/distribution panel.
	The aerator in the tap or shower head is scaled up or contaminated.	Clean and/or descale the aerator or shower head.
Cold water flows briefly while hot water is being drawn.	The water supply has been interrupted.	Vent the appliance and the cold water inlet line (see chapter "Commissioning/ Restarting").
	The air sensor detects air in the water and briefly switches the heater off.	The appliance restarts automatically after 1 minute.
Temperatures > 43 °C.	Dynamic anti-scalding protection is activated.	Dynamic anti-scalding protection automatically ceases 2 minutes after draw-off has ended.

If you cannot remedy the fault, notify your heating 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 the original accessories and spare parts intended for the appliance are used.



Material damage

Observe the maximum inlet temperature. The appliance can be damaged by higher temperatures. You can limit the maximum inlet temperature by installing a central thermostatic valve (see chapter "Appliance description / Accessories").

7.2 Instructions, standards and regulations



Note

Observe all applicable national and local instructions and regulations, e.g. DIN 1988 / DIN EN 806 in Germany.

- The protection rating IP 25 (hoseproof) can only be ensured with a correctly fitted cable grommet.
- The specific electrical resistance of the water must not fall below that stated on the type plate. In a linked water network, observe the lowest electrical water resistance (see chapter "Specification / Application areas"). Your water supply utility will advise you of the specific electrical water resistance or conductivity.

8. Appliance description

8.1 Standard delivery

Delivered with the appliance:

- Mounting bracket
- Installation template
- 2 twin connectors
- Cross-piece
- Tee
- Flat gaskets
- Strainer
- Plastic profile washer
- Plastic connection pieces / installation aid
- Cover and back panel guides

8.2 Accessories

Remote controls

- FFB 1 SL - Wireless remote control
Control from two locations

- FFB 2 SL - Wireless remote control
Wireless remote control unit as extension of the FFB 1 SL
- FB 1 SL - Hardwired remote control
Control only with remote control unit, suitable for self-supporting installation

Taps/valves

- MEKD - kitchen pressure tap
- MEBD - bath pressure tap

Plug G ½ A

The plugs are required if you use pressure taps for finished walls other than the ones recommended in the accessories.

Installation set for finished walls

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

Universal mounting frame

Mounting frame with electrical connections.

Pipe assembly for undersink appliances

This assembly for undersink installation is required if you need to have the water connections (G ¾ A) above the appliance.

Pipe assembly for offset installation

This pipe assembly with pipe bends is required if you need to have the appliance vertically offset against the water connection by approx. 90 mm downwards.

Pipe assembly for replacing a gas water heater

This pipe assembly is required if the installation has existing gas water heater connections (cold water connection on the left and DHW connection on the right).

Pipe assembly DHB water plug-in couplings

2 water plug-in couplings allow the appliance to be connected to the available water plug-in connections of a DHB.

Load shedding relay (LR 1-A)

The load shedding relay which needs to be installed in the distribution board provides priority control for the instantaneous water heater when operating, for example, electric storage heaters simultaneously.

ZTA ¾ - central thermostatic valve

Thermostatic valve for central premixing, for example for an instantaneous water heater with a solar thermal system.

INSTALLATION

Preparations

9. Preparations

- ▶ Flush the water line thoroughly.

Taps/valves

- ▶ Use suitable taps (see chapter "Appliance description / Accessories"). Open taps are not permitted.

A safety valve is not required.



Note

Never use the cross-piece to reduce the flow rate. It is intended to shut off the appliance.

Permissible water pipe materials

- Cold water inlet pipe:
Galvanised steel pipe, stainless steel pipe, copper pipe or plastic pipe
- DHW outlet pipe:
Stainless steel pipe, copper pipe or plastic pipe



Material damage

If plastic pipework systems are used, take into account the maximum inlet temperature and the maximum pressure (see chapter "Specification / Data table").

Flow rate

- ▶ Ensure that the flow rate (see chapter "Specification / Data table", On) for switching on the appliance is achieved.
- ▶ Increase the mains water pressure if the required flow rate is not achieved with the draw-off valve fully opened.

Flexible water connection lines

- ▶ If the appliance is installed with flexible water connection lines, ensure that the pipe bends do not become twisted. Pipe bends have a bayonet fitting and are installed inside the appliance.
- ▶ Secure the back panel at the bottom with an additional screw.

9.1 Installation site



Material damage

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

- ▶ Always install the appliance vertically near the draw-off point.

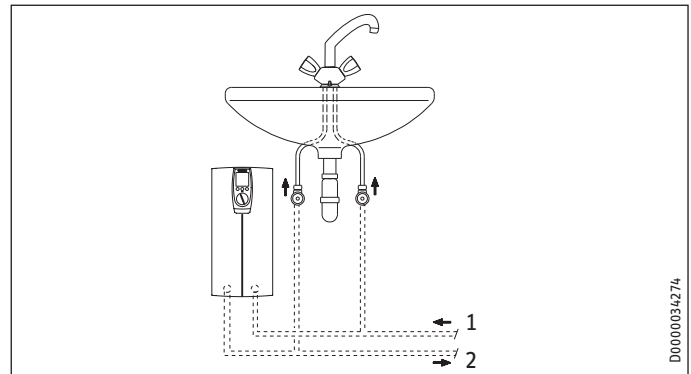
The appliance is suitable for undersink and oversink installations.



Note

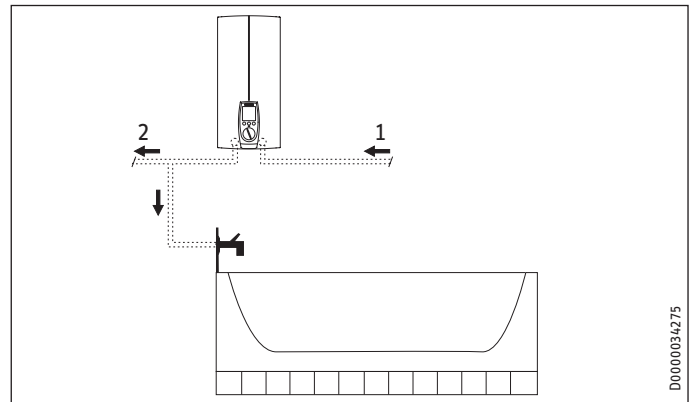
The appliance must be fitted to a wall with sufficient load-bearing capacity.

Undersink installation



- 1 Cold water inlet
- 2 DHW outlet

Oversink installation



- 1 Cold water inlet
- 2 DHW outlet

9.2 Factory settings

The appliances are prepared in the delivered condition:

- Power supply from below, installation on unfinished walls
- Water connection, installation on unfinished walls
- For the appliance with connected load changeover, the average connected load is preset.

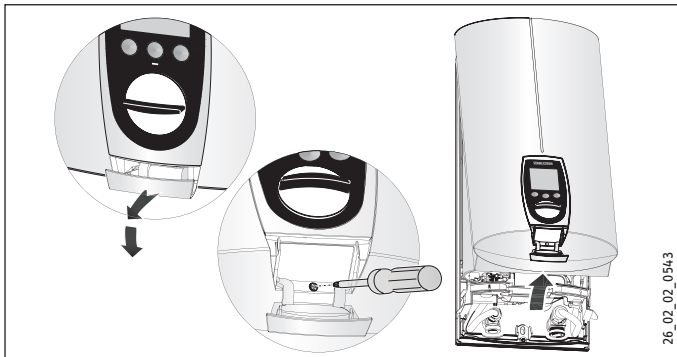
INSTALLATION

Installation

10. Installation

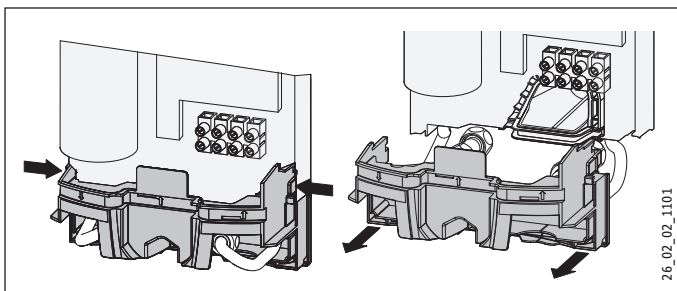
This chapter describes installation in accordance with the factory settings.

For further installation options, see chapter "Installation alternatives".



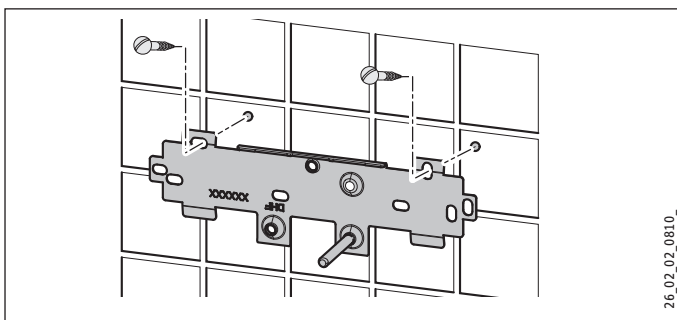
26_02_02_0543

- ▶ Open the appliance.



26_02_02_1101

- ▶ Remove the back panel by pressing the two locking hooks and pulling the lower part of the back panel towards the front.



26_02_02_0810

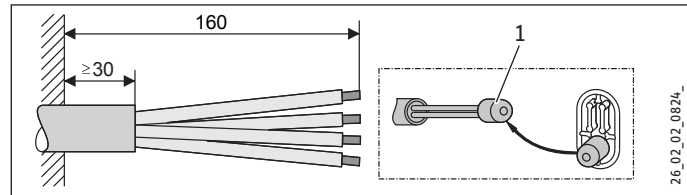
- ▶ Mark out the holes for drilling with the installation template. If the appliance is to be installed with water connections for finished walls, also mark out the fixing hole in the lower part of the template.
- ▶ Drill the holes and secure the mounting bracket with 2 screws and 2 rawl plugs (screws and rawl plugs are not part of the standard delivery).



Note

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

- ▶ Fit the mounting bracket.



26_02_02_0824

- 1 Installation aid

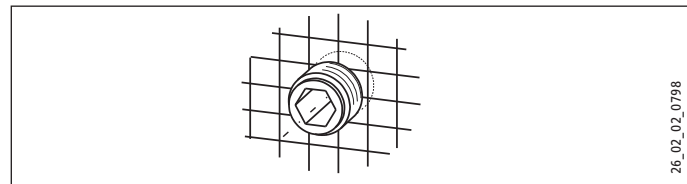
- ▶ Prepare the power cable.

Making the water connection



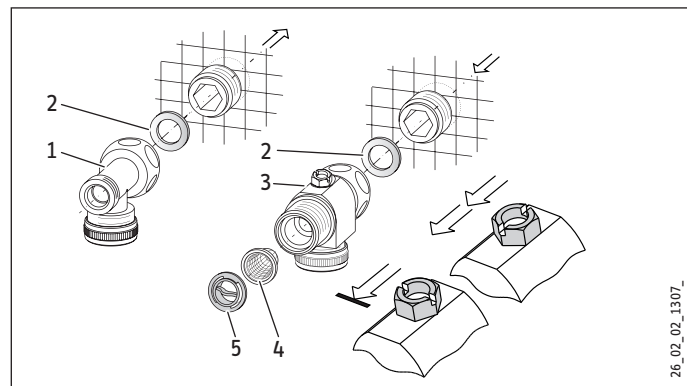
Material damage

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



26_02_02_0798

- ▶ Seal and insert the twin connectors.



26_02_02_1307

- 1 DHW with tee
- 2 Gasket
- 3 Cold water with cross-piece
- 4 Strainer
- 5 Profile washer

- ▶ Fit the water connections.



Material damage

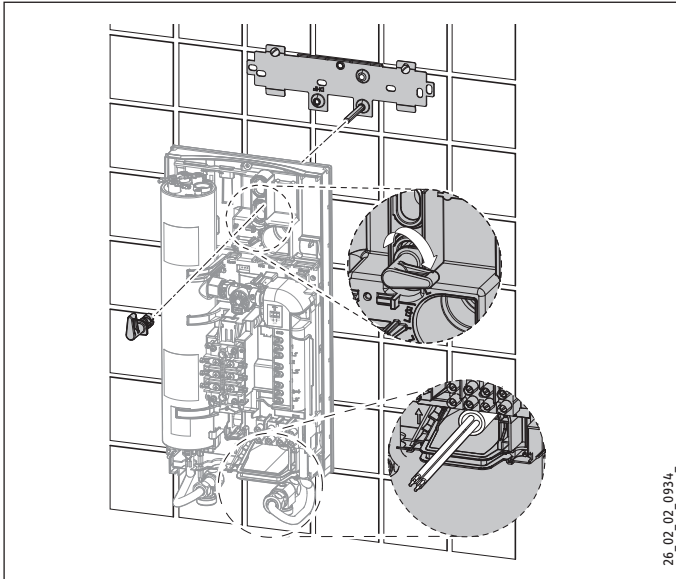
The strainer must be fitted for the appliance to function.

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

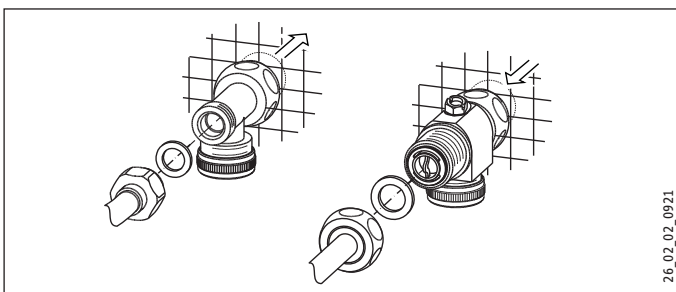
INSTALLATION

Installation

Installing the appliance



- ▶ For easy installation, push the cable grommet of the upper electrical connection into the back panel from behind.
- ▶ Remove the transport plugs from the water connections.
- ▶ Remove the fixing toggle from the upper part of the back panel.
- ▶ Route the power cable from behind through the cable grommet until it rests against the cable sheath. Align the power cable.
In the case of a cross-section > 6 mm², enlarge the hole in the cable grommet.
- ▶ Push the appliance over the threaded stud of the mounting bracket, so that it breaks through the soft seal. If necessary, use a screwdriver.
- ▶ Push the fixing toggle onto the threaded stud of the mounting bracket.
- ▶ Press the back panel firmly into place and lock the fixing toggle by turning it clockwise through 90°.



- ▶ Fit the pipes with flat gaskets onto the twin connectors.

Connecting the power supply



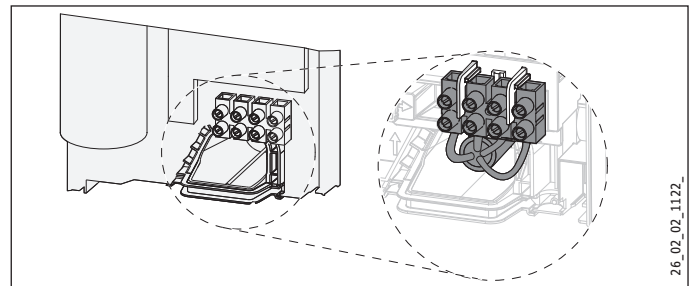
WARNING Electrocutation
Carry out all electrical connection and installation work in accordance with relevant regulations.



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



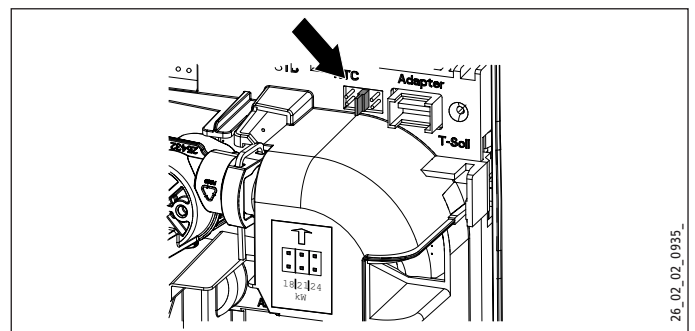
WARNING Electrocutation
Ensure that the appliance is earthed.



- ▶ Connect the power cable to the mains terminal (see chapter "Specification / Wiring diagram"). The specified voltage must match the mains voltage.

Connected load options

You can choose from 3 connected load stages. The middle load is preset. If you wish to select a different load, please follow the steps below.

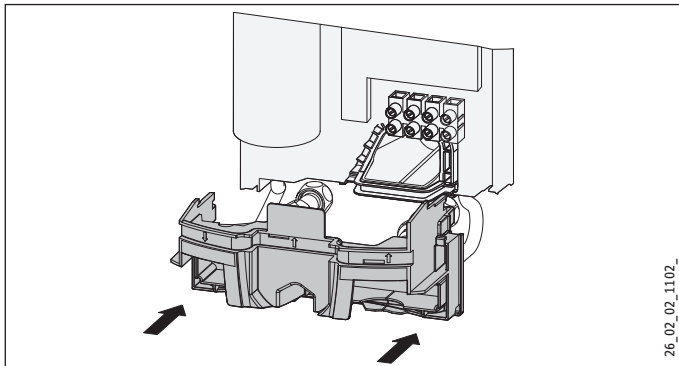


- ▶ Select the connected load you require (see chapter "Specification / Data table").
- ▶ Replug the coding card in accordance with the selected connected load.
- ▶ Change the type plate. Tick the selected connected load. Please use a ballpoint pen to do this.

INSTALLATION

Installation

10.1 Completing the installation

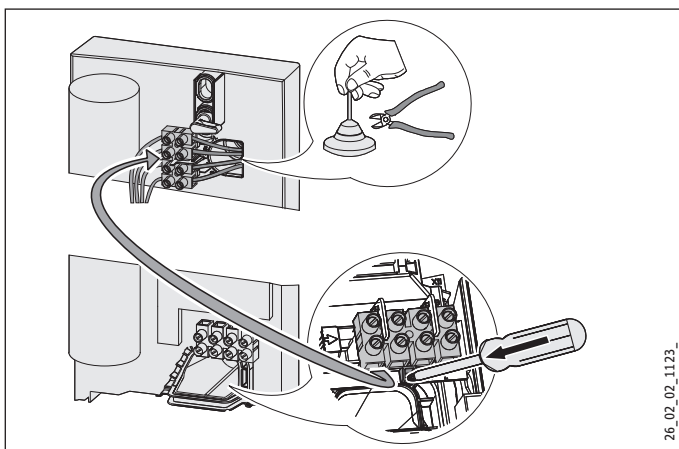


- ▶ Fit the lower part of the back panel. Ensure that it clicks into place.
- ▶ Align the mounted appliance by loosening the fixing toggle, aligning the power supply and back panel, and then re-tightening the fixing toggle. If the back panel of the appliance is not flush, the appliance can be secured at the bottom with an additional screw.

10.2 Alternative installation methods

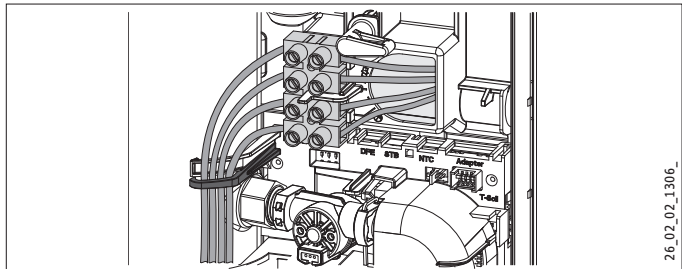
- Power supply from above for unfinished walls
- Power supply for finished walls
- Large cross-section for power supply from below
- Connecting a load shedding relay
- Water installation for finished walls
- Water installation for finished walls with solder / compression fitting
- Water installation for finished walls, fitting the appliance cover
- Installation of lower part of back panel with threaded fitting for finished walls
- Use of existing mounting bracket when replacing an appliance
- Installation with offset tiles
- Turned appliance cover
- Operation with preheated water

Power supply from above for unfinished walls



- ▶ Cut off the cable grommet for the power cable.

- ▶ Push down the locking hook that secures the mains terminal, then remove the mains terminal.
- ▶ Reposition the mains terminal in the appliance from the bottom to the top and secure the mains terminal by sliding it under the locking hook.



- ▶ Route the control wires below the wire guide.

Power cable for finished walls

- ▶ Cut or break out the required entries in the back panel and appliance cover cleanly (for positions, see chapter "Specification / Dimensions and connections"). If necessary, use a file.
- ▶ Route the power cable through the cable grommet and connect it to the mains terminal.



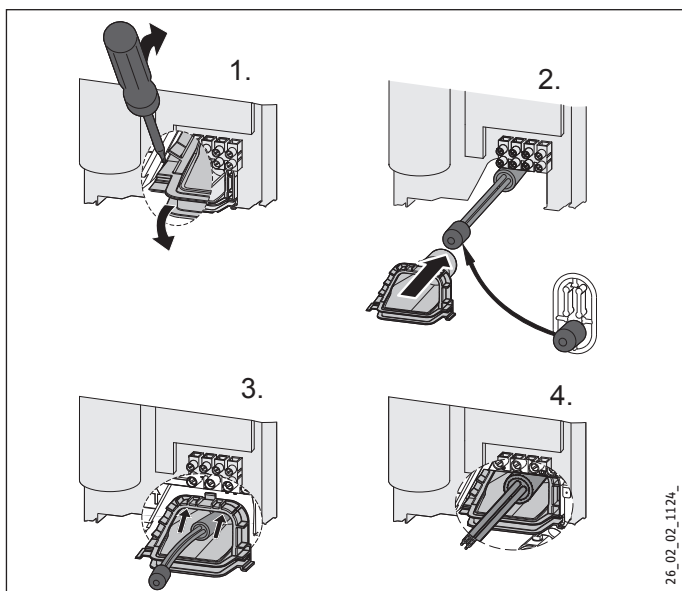
Note

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

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

Large cross-section for power supply from below

If cables with a large cross-section are used, the cable grommet can be fitted after the appliance has been installed.



- ▶ Before installing the appliance, use a screwdriver to push the cable grommet out.
- ▶ Push the cable grommet over the power cable. For this, use the installation aid. In the case of a cross-section $> 6 \text{ mm}^2$, enlarge the hole in the cable grommet.
- ▶ Push the cable grommet into the back panel.

INSTALLATION

Installation

Connecting a load shedding relay

Install the 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. The load shedding relay is available as an accessory.

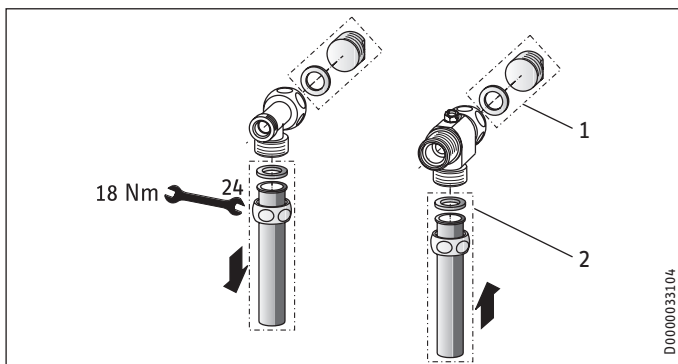


Material damage

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").

Water installation for finished walls

Suitable pressure-tested taps can be ordered as accessories.



- 1 Water plug
 - 2 Pressure tap for finished walls
- ▶ Fit the water plugs with gaskets to seal the connection below the plaster. With pressure taps listed in the accessories, the plugs and gaskets are part of the standard delivery.
 - ▶ Install the tap.
 - ▶ Place the lower part of the back panel under the connection pipes of the tap and push the lower part of the back panel into place.
 - ▶ Secure the connection pipes to the appliance.

Water installation for finished walls with solder / compression fitting

You can connect copper or plastic pipes with solder fitting or compression fitting accessories.

The solder fitting with threaded fitting is suitable for 12 mm copper pipes.

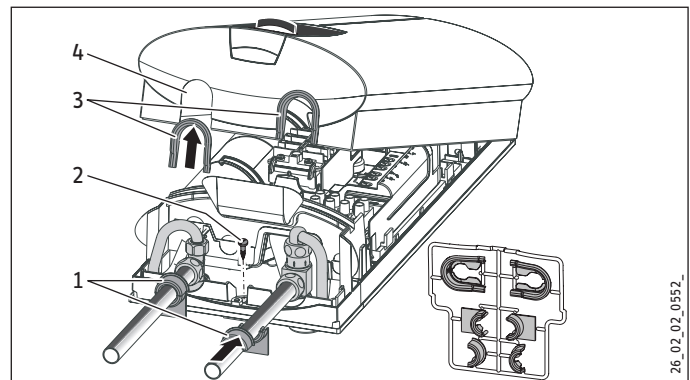
- ▶ Push the union nuts over the connection pipes.
- ▶ Solder the inserts to the copper pipes.
- ▶ Push the lower part of the back panel under the connection pipes of the tap and click the lower part of the back panel into place.
- ▶ Secure the connection pipes to the appliance.



Note

Observe the tap manufacturer's instructions.

Water installation for finished walls, fitting the appliance cover



- 1 Back panel guides
- 2 Screw
- 3 Cover guides
- 4 Knock-out

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



Note

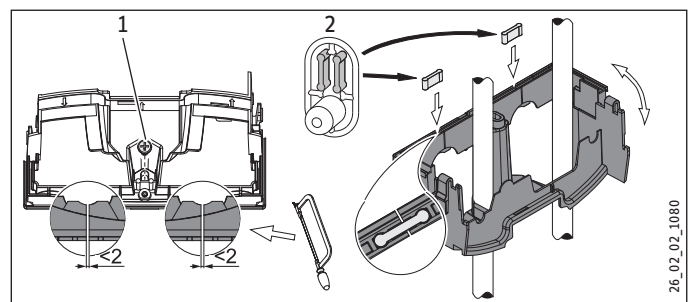
If the tap connection pipes are slightly offset, the appliance can be sealed using the tabs on the cover guides.

- ▶ If the tap connection pipes are offset, do not fit any back panel guides.

- ▶ If installing tap connection pipes which are not offset, break off the tabs on the cover guides.
- ▶ Click the cover guides into place in the knock-outs.
- ▶ Position the back panel guides on the pipes and push them together. Then push the guides until they are resting against the back panel.
- ▶ Secure the back panel at the bottom with a screw.

Installation of lower part of back panel with threaded fitting for finished walls

You can install the lower part of the back panel after fitting the taps.



- 1 Screw
- 2 Connection pieces from the pack

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

INSTALLATION

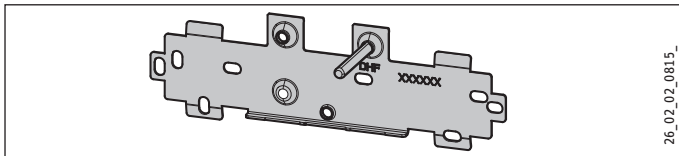
Installation

Mounting bracket for appliance replacement

An existing Stiebel Eltron mounting bracket may be used when replacing appliances (except instantaneous water heater DHF).

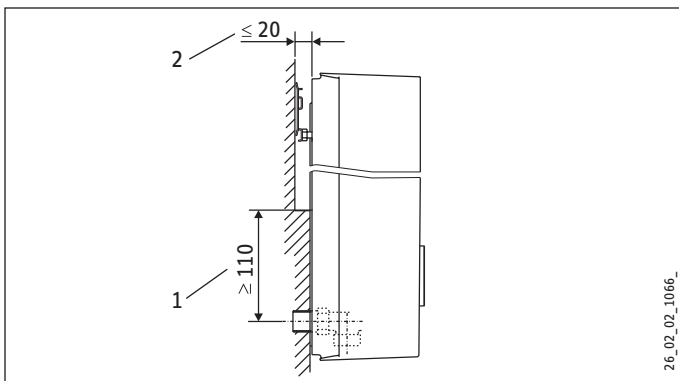
- ▶ Break through the back panel of the appliance for the threaded stud on the pre-installed mounting bracket.

DHF replacement



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

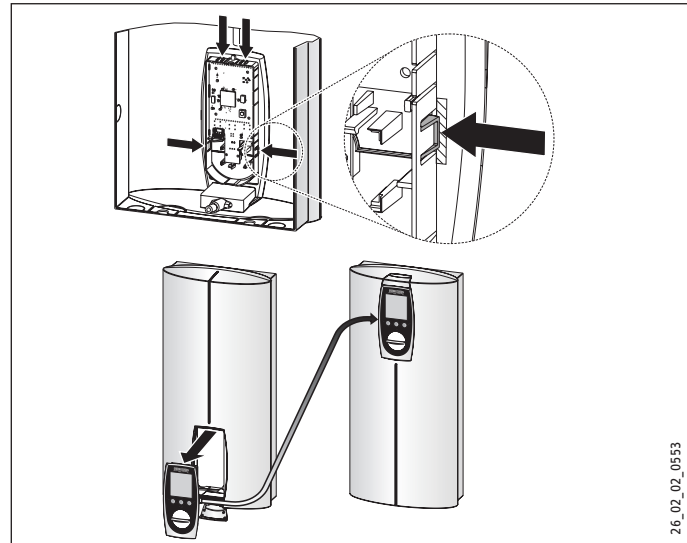
Installation with offset tiles



- 1 Minimum contact area of the appliance
 - 2 Maximum tile offset
- ▶ Adjust the wall clearance and lock the back panel with the fixing toggle by turning it clockwise through 90°.

Turned appliance cover

The appliance cover can be turned for undersink installation.



- ▶ Remove the programming unit from the appliance cover by pressing the locking hooks and taking out the programming unit.
- ▶ Turn the appliance cover (not the appliance) and refit the programming unit, ensuring that all locking hooks click into place. When clicking the locking hooks into place, make sure you press against the inner side of the appliance cover (shaded area).
- ▶ Plug the set value transducer cable into the PCB (see chapter "Commissioning").
- ▶ Hook the appliance cover back in at the bottom and pivot it up onto the back panel.
- ▶ Ensure the all-round seal of the back panel sits tightly by pushing the cover gently forwards and back.
- ▶ Secure the appliance cover.

Operation with preheated water

By installing a central thermostatic valve you will limit the maximum inlet temperature (see chapter "Appliance description / Accessories").

INSTALLATION

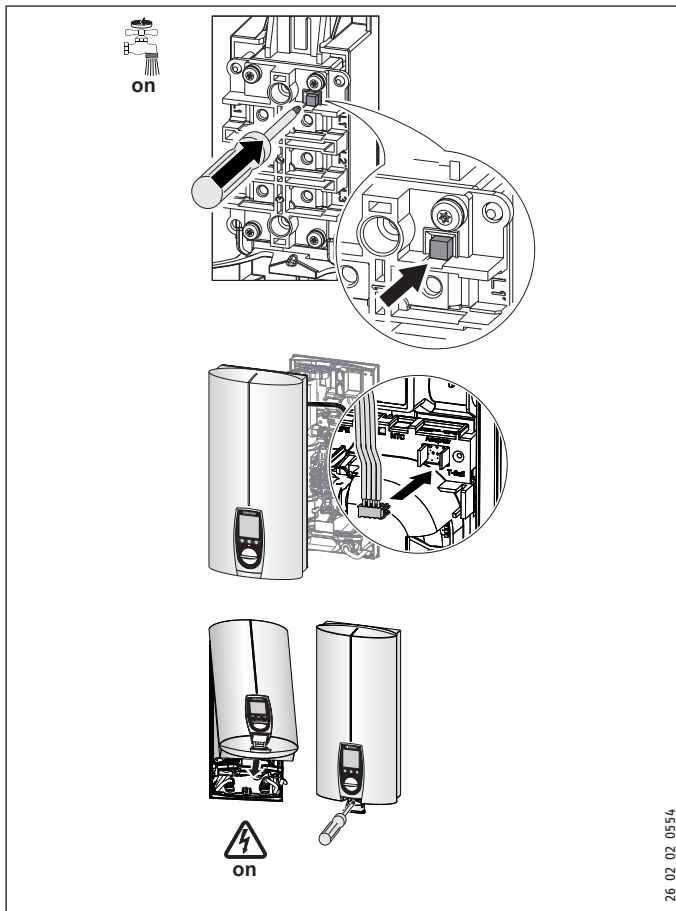
Commissioning

11. Commissioning

WARNING Electrocutation
Commissioning may only be carried out by an authorised contractor in accordance with safety regulations.

11.1 Commissioning

- ▶ Open the cross-piece.



- ▶ Open and close all connected draw-off valves several times, until all air has been vented from the pipework and the appliance.
- ▶ Carry out a tightness check.
- ▶ Activate the safety switch (AE 3) by firmly pressing in the reset button (the appliance is delivered with the safety switch deactivated).
- ▶ Push the set value transducer cable plug onto the PCB.
- ▶ Fit the appliance cap and secure it with a screw.
- ▶ Switch the mains power ON.
- ▶ Check the function of the appliance.
- ▶ Remove the protective foil from the user interface.

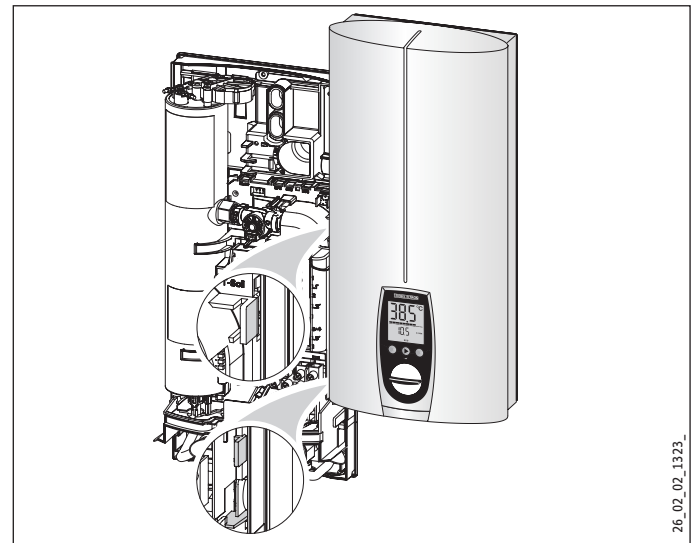
Appliance handover

- ▶ Explain the appliance function to users and familiarise them with its operation.
- ▶ Make the user aware of potential dangers, especially the risk of scalding.
- ▶ Hand over these instructions.

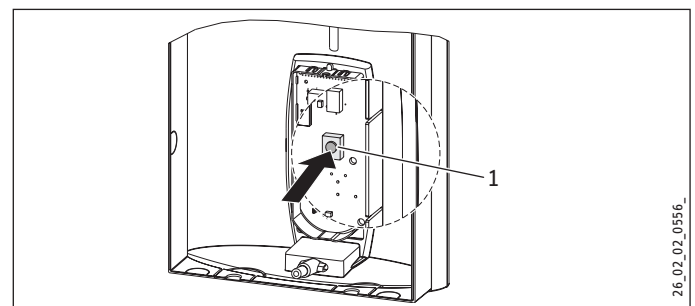
11.2 Recommissioning

- Material damage**
- Following an interruption of the water supply the appliance must be recommissioned by carrying out the following steps, in order to prevent the destruction of the bare wire heating system.
- ▶ Disconnect the appliance from the power supply by removing the fuses/tripping the MCBs.
 - ▶ Open the tap for one minute until the appliance and its upstream cold water inlet line are free of air.
 - ▶ Switch the mains power back ON again.

12. Service mode



- ▶ Open the appliance cover and hook it on the side of the back panel.



- 1 Service button for activating and deactivating service mode

Key to symbols

	Press once	START
	Press once	END
	Change settings / scanning	

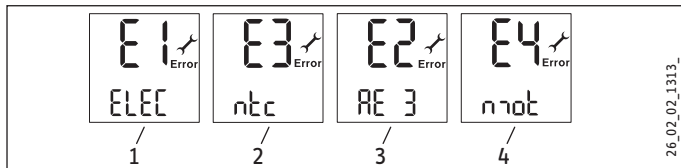
In service mode you are able to call up and/or change the set temperature using the M key (60 °C).

INSTALLATION

Shutting down

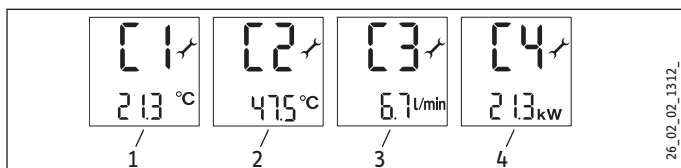
Scanning the error menu

The error menu only appears if the appliance has a fault.



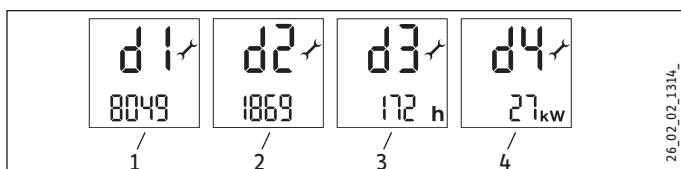
- 1 Electronic assembly symbol
 - ▶ Replace the electronic assembly.
- 2 Safety circuit symbol
 - ▶ Check the AE 3 connection; replace the AE 3 if required.
- 3 Outlet sensor symbol
 - ▶ Check the outlet sensor connection; replace the outlet sensor if required.
- 4 Motorised valve symbol
 - ▶ Check the motorised valve connection; replace the motorised valve if required.

Scanning the control menu



- 1 Inlet temperature symbol, shows the current inlet temperature (shows 1.0 °C if the sensor is faulty).
- 2 Outlet temperature symbol, shows the current outlet temperature (shows 65.0 °C if the sensor is faulty).
- 3 Flow rate symbol, shows the current flow rate.
- 4 Power consumption symbol, shows the current power consumption.

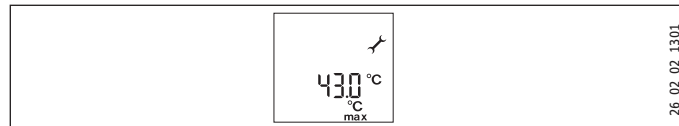
Scanning the appliance data menu



- 1 Service code symbol, information for service engineers.
- 2 Symbol for power supply runtime, accumulated runtime in days.
- 3 Heating hours symbol, accumulated heating time in hours.
- 4 Maximum output symbol
The value shown may diverge by several kW from the rated output if mains voltages other than 400 V prevail.

Setting the anti-scalding protection

Use the anti-scalding protection in places such as nurseries and hospitals. If anti-scalding protection is selected, the childproofing adjustment will be limited (see chapter "Appliance settings").



Setting range: 21 - 60 °C

Recommended setting 43 °C



Note

The anti-scalding protection setting can only be modified by your contractor. Simultaneously pressing the M + i key will not change the setting.

13. Shutting down

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

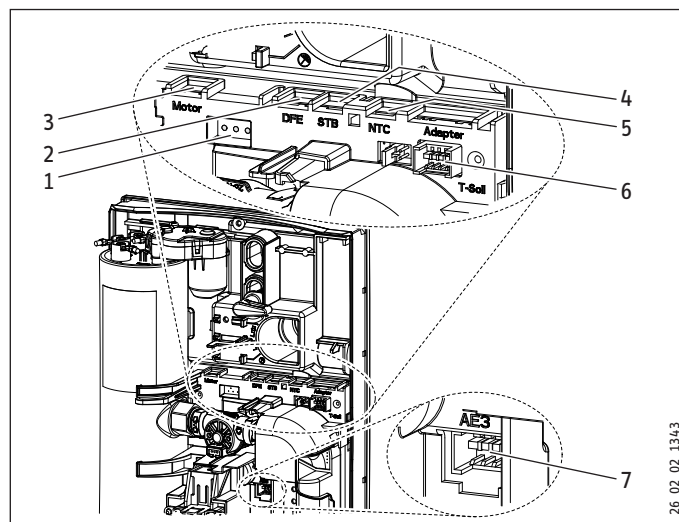
14. Troubleshooting



WARNING Electrocutation

In order to check the appliance, it must be supplied with power.

Plug-in connections on the PCB






- 1 Diagnostic traffic light (3 LEDs)
- 2 Flow rate sensor DFE
- 3 Motorised valve
- 4 High limit safety cut-out STB
- 5 Outlet sensor NTC
- 6 Set temperature transducer
- 7 Safety switch AE 3; plug-in connection secured with locking tab.

INSTALLATION

Troubleshooting

Possible indications of diagnostic traffic light (LED)

	Red	Illuminates in case of faults
	Yellow	Illuminates in heating mode
	Green	Flashing: appliance is supplied with mains power

Fault	Cause	Diagnostic traffic light	Remedy
The appliance does not heat up / the set temperature is not reached.	There is no mains voltage.	No LED illuminates	Check the MCB/fuse in your fuse box.
	The safety switch (AE 3) has responded.	No LED illuminates	Remove the cause of the fault. Protect the system against overheating by opening a draw-off valve downstream of the appliance for one minute. This cools down the heating system. Activate the safety switch by pressing the pushbutton on the safety switch (see also chapter "Commissioning").
	The PCB is faulty.	No LED illuminates	Check the PCB and replace if necessary.
	A phase has failed.	Flashing green LED, yellow LED on	Check the MCB/fuse in your fuse box.
	The inlet temperature is > 55 °C.	Flashing green LED, red LED illuminates	Limit the inlet temperature.
	The flow rate sensor (DFE) is faulty or not attached.	Flashing green LED, yellow LED off	Check the connection of the flow rate sensor and replace if necessary.
	The heater is faulty.	Flashing green LED, yellow LED on	Check the heater and replace if necessary.
	The inlet sensor is faulty.	Flashing green LED, red LED illuminates	Replace the PCB.
	The outlet sensor is faulty.	Flashing green LED, red LED illuminates	Check the connection of the outlet sensor and replace if necessary.
	A fault in the safety PCB.	Flashing green LED, red LED only during draw-off	Connect the connecting cable from the safety switch and check the safety switch.
	A loose or faulty connecting cable to the set value transducer.	Green LED flashes	Connect the connecting cable from the set value transducer and check the connecting cable.
	The set value transducer is faulty.	Green LED flashes	Check the set value transducer and replace it if required.
	Temperature limiting is activated.	Green LED flashes	Disable temperature limiting.
The display on the appliance is completely off.	A loose connecting cable to the set value transducer.	Green LED flashes	Connect the connecting cable at the set value transducer and check the connecting cable.
	The programming PCB is faulty.	Green LED flashes	Check the programming unit and replace if necessary.
The flow rate is too low.	The shower head / aerators are scaled up.		Descale or if necessary replace the shower head / aerators.
	The strainer is contaminated.		Clean the strainer.
The set value cannot be adjusted higher than 43 °C.	Temperature limiting is activated.	Green LED flashes	Disable temperature limiting.
Cold water flows briefly during draw-off.	The flow rate (< 2 l/min) is too low.		The appliance restarts automatically when a flow rate of > 2.5 l/min has been detected.
	The air sensor detects the presence of air in the water and briefly switches the heater off.		The appliance restarts after one minute.

INSTALLATION

Maintenance

15. Maintenance

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

Draining the appliance

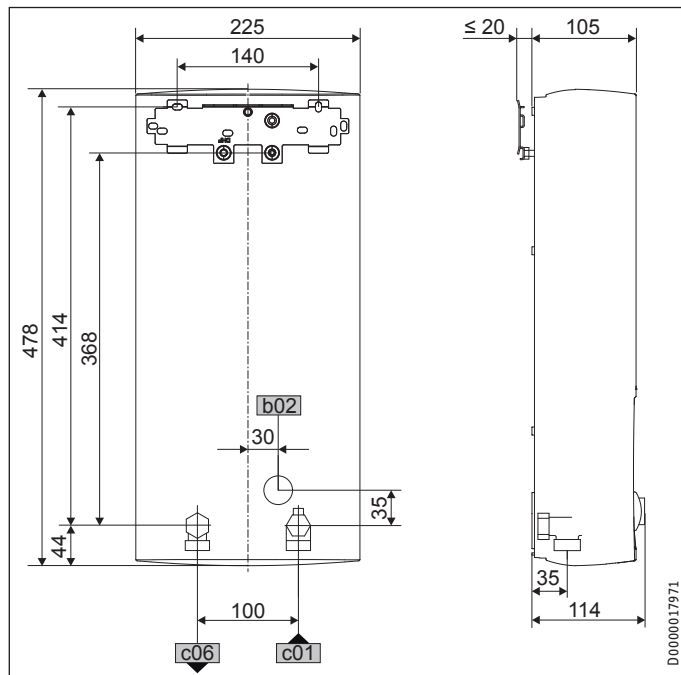
You can drain the appliance for maintenance work or to protect it from frost.

CAUTION Scalding
Hot water may escape when draining the appliance.

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

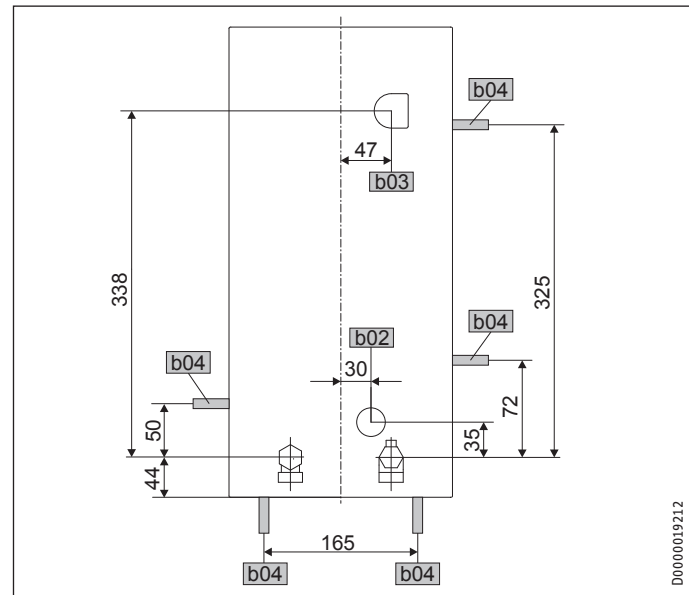
16. Specification

16.1 Dimensions and connections



b02	Entry electrical cables I		
c01	Cold water inlet	Male thread	G 1/2 A
c06	DHW outlet	Male thread	G 1/2 A

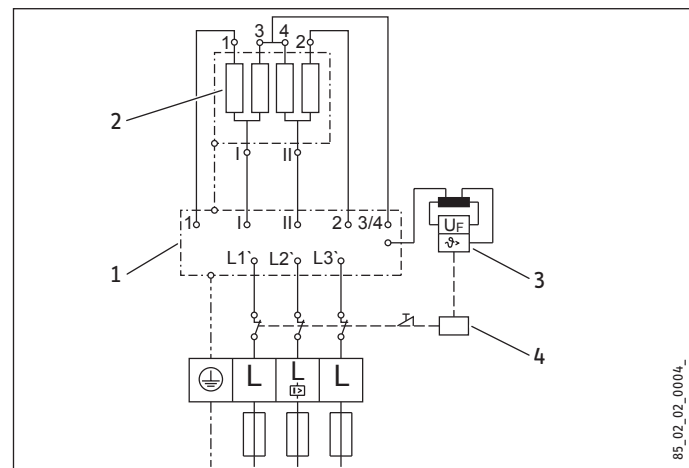
Alternative connection options



b02	Entry electrical cables I		
b03	Entry electrical cables II		
b04	Entry electrical cables III		

16.2 Wiring diagram

3/PE ~ 400 V

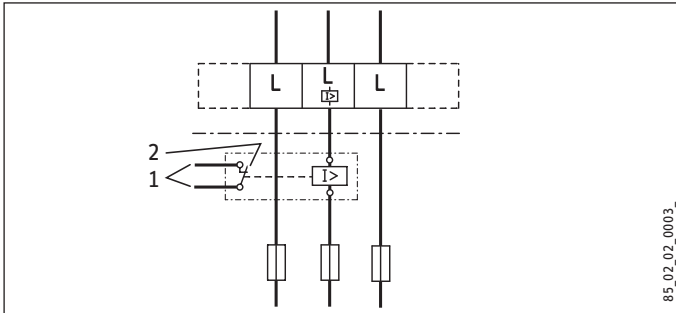


- 1 Power PCB
- 2 Bare wire heating system
- 3 High limit safety cut-out
- 4 Safety switch

Priority control with load shedding relay (LR 1-A)

See also chapter "Appliance description / Accessories".

INSTALLATION Specification

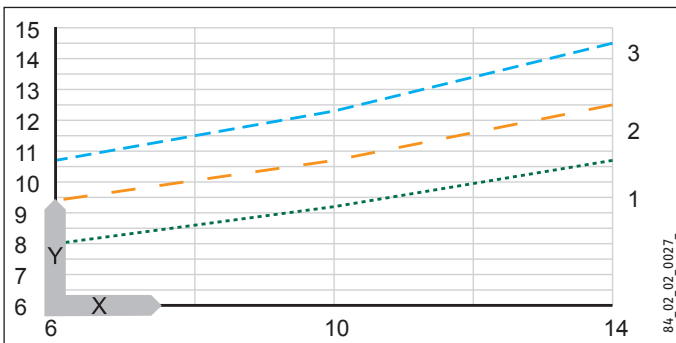


- 1 Control cable to the contactor of the second appliance (e.g. electric storage heater).
- 2 Control contact opens when switching the instantaneous water heater on.

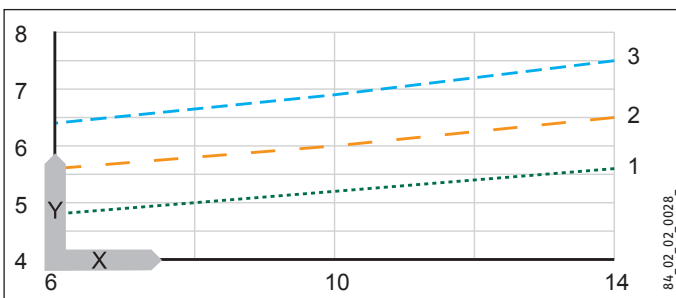
16.3 Mixed water volume / outlet volume

The values are relative to a rated voltage of 400 V. The mixed water volume and outlet volume are subject to the available supply pressure and the available mains voltage.

Available temperature approx. 38 °C in the shower, for hand washing, filling the bath etc.



Outlet temperature approx. 60 °C for the kitchen sink and when using thermostatic valves.



- X Cold water inlet temperature in °C
- Y Mixed water volume / outlet volume in l/min
- 1 18 kW
- 2 21 kW
- 3 24 kW

16.4 Application areas

Specific electrical resistance and specific electrical conductivity

		Standard specification at 15 °C	at 20 °C	at 25 °C
Resistance	Ω cm	≥ 900	≥ 800	≥ 735
Conductivity	mS/m	≤ 111	≤ 125	≤ 136
Conductivity	µs/cm	≤ 1100	≤ 1250	≤ 1360

16.5 Pressure drop

Taps/valves

Pressure drop at taps at flow rate of 10 l/min		
Mono-lever mixer tap, approx.	MPa	0.04 - 0.08
Thermostatic valve, approx.	MPa	0.03 - 0.05
Hand shower, approx.	MPa	0.03 - 0.15

Sizing the pipework

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

16.6 Fault conditions

In case of faults, loads up to a maximum of 80 °C at a pressure of 1.0 MPa can occur temporarily in the installation.

INSTALLATION Specification

16.7 Data table

		DHE 18 SLi 25 A			DHE 18/21/24 SLi			DHE 27 SLi		
		227492			227493			227494		
Electrical data										
Rated voltage	V	380	400	415	380	400	415	380	400	415
Rated output	kW	16.2	18	19.4	16.2/19/21.7	18/21/24	19.4/22.6/25.8	24.4	27	29.1
Rated current	A	24.7	26	27	27.6/31.4/33.3	29/33/35	30.1/34.3/36.3	37.1	39	40.5
Fuse/MCB rating	A	25	25	32	32/32/35	32/32/35	32/35/40	40	40	40
Phases		3/PE			3/PE			3/PE		
Frequency	Hz	50/60			50/60			50/-		
Max. mains impedance at 380 V / 50 Hz	Ohm	0.3			0.33			0.2		
Max. mains impedance at 380 V / 60 Hz	Ohm	0.36			0.4					
Max. mains impedance at 400 V / 50 Hz	Ohm	0.28			0.31			0.19		
Max. mains impedance at 400 V / 60 Hz	Ohm	0.34			0.38					
Max. mains impedance at 415 V / 50 Hz	Ohm	0.27			0.3			0.18		
Conductivity at 15 °C	mS/m	111			111			111		
Specific resistance (≤25 °C)	Ohm cm	900			900			900		
Specific resistance (≤55 °C)	Ohm cm	900			900			900		
Connections										
Water connection		G 1/2 A			G 1/2 A			G 1/2 A		
Application limits										
Max. permissible pressure	MPa	1			1			1		
Max. inlet temperature for reheating	°C	55			55			55		
Values										
Max. permissible inlet temperature	°C	65			65			65		
On	l/min	> 2.5			> 2.5			> 2.5		
Flow rate for pressure drop	l/min	5.2			5.2/6.0/6.9			7.7		
Pressure drop at flow rate	MPa	0.04			0.04/0.06/0.08			0.1		
DHW delivery	l/min	9.2			9.2 / 10.7 / 12.3			13.8		
Delta T if presented	K	28			28			28		
Hydraulic data										
Nominal capacity	l	0.4			0.4			0.4		
Versions										
Connected load options		-			X			-		
Temperature setting	°C	20-60			20-60			20-60		
Safety category		1			1			1		
Insulating block		Plastic			Plastic			Plastic		
Heating system		Bare wire			Bare wire			Bare wire		
Cap and back panel		Plastic			Plastic			Plastic		
Colour		White			White			White		
IP rating		IP25			IP25			IP25		
Dimensions										
Height/width/depth	mm	478	225	105	478	225	105	478	225	105
Weights										
Weight	kg	4.5			4.5			4.5		

Warranty

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

We shall not provide any warranty 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

We would ask you to help protect the environment. After use, dispose of the various materials in accordance with national regulations.

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