

BEDIENUNG UND INSTALLATION  
OPERATION AND INSTALLATION  
UTILISATION ET INSTALLATION  
BEDIENING EN INSTALLATIE  
OBŚLUHA A INSTALACE  
OBŚŁUGA I INSTALACJA

الاستعمال والتركيب

Vollelektronisch geregelter Komfort-Durchlauferhitzer | Fully electronically controlled comfort instantaneous water heater | Chauffe-eau instantané confort à régulation entièrement électronique | Volledig elektronisch geregelde comfort-doorstomer | Plně elektronicky regulovaný komfortní průtokový ohříváč | Całkowicie elektronicznie regulowany komfortowy przepływowy ogrzewacz wody | سخان الماء الفوري المريح الذي يتم ضبطه إلكترونيًا بالكامل

- » DHE 18/21/24
- » DHE 27

**STIEBEL ELTRON**

---

# CONTENTS

---

## SPECIAL INFORMATION

### OPERATION

<b>1. General information</b>	<b>59</b>
1.1 Safety instructions	59
1.2 Other symbols in this documentation	60
1.3 Units of measurement	60
<b>2. Safety</b>	<b>61</b>
2.1 Intended use	61
2.2 General safety instructions	61
2.3 Test symbols	62
2.4 EU Declaration of Conformity	62
<b>3. Appliance description</b>	<b>62</b>
<b>4. Settings and displays</b>	<b>63</b>
4.1 User interface	63
4.2 Display symbols	64
4.3 Selecting the set temperature	64
4.4 Temperature limit via internal anti-scalding protection (qualified contractor)	65
4.5 Temperature limit Tmax (user)	65
4.6 Assigning temperature memory buttons	65
4.7 Inlet temperature information	65
4.8 Info menu	65
4.9 Settings in the parameter menu	66
4.10 Recommended settings	70

<b>5. Cleaning, care and maintenance</b>	<b>70</b>
<b>6. Troubleshooting</b>	<b>71</b>

### INSTALLATION

<b>7. Safety</b>	<b>72</b>
7.1 General safety instructions	72
7.2 Shower operation	72
7.3 Instructions, standards and regulations	72
<b>8. Appliance description</b>	<b>73</b>
8.1 Standard delivery	73
8.2 Accessories	73
<b>9. Preparation</b>	<b>74</b>
9.1 Installation site	74
9.2 Minimum clearances	75
9.3 Water installation	75
<b>10. Installation</b>	<b>76</b>
10.1 Standard installation	76
<b>11. Commissioning</b>	<b>81</b>
11.1 Preparation	81
11.2 Initial start-up	82
11.3 Recommissioning	84
<b>12. Appliance shutdown</b>	<b>84</b>
<b>13. Installation alternatives</b>	<b>84</b>
13.1 Electrical connection from above on unfinished walls	85

# CONTENTS

13.2	Electrical connection on unfinished walls from below with short power cable _____	86	17.5	Pressure drop _____	101
13.3	Electrical connection on finished walls _____	86	17.6	Fault conditions _____	101
13.4	Connecting a load shedding relay _____	87	17.7	Energy consumption data _____	101
13.5	Water installation on finished walls _____	87	17.8	Data table _____	102
13.6	Water installation on finished walls with solder/press fittings _____	88			
13.7	Fitting appliance cover for water installation on finished walls _____	88			
13.8	Lower back panel section installation with threaded fittings on finished walls _____	89			
13.9	Wall mounting bracket when replacing an appliance _____	90			
13.10	Installation with offset tiles _____	90			
13.11	Rotated appliance cover _____	91			
13.12	Operation with preheated water _____	91			
13.13	Horizontal installation of the appliance _____	92			
<b>14.</b>	<b>Service information _____</b>	<b>93</b>			
<b>15.</b>	<b>Troubleshooting _____</b>	<b>94</b>			
15.1	Fault code display _____	96			
<b>16.</b>	<b>Maintenance _____</b>	<b>97</b>			
<b>17.</b>	<b>Specification _____</b>	<b>98</b>			
17.1	Dimensions and connections _____	98			
17.2	Wiring diagram _____	99			
17.3	DHW output _____	100			
17.4	Application areas / conversion table _____	100			

## GUARANTEE

## ENVIRONMENT AND RECYCLING

# SPECIAL INFORMATION

- The appliance may be used by children over 3 years of age and persons with reduced physical, sensory or mental capabilities or a lack of experience and expertise, 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). If the appliance is also or exclusively used for shower operation, the qualified contractor must adjust the temperature setting range to 55 °C or less using the internal anti-scalding protection on the appliance. When using preheated water, ensure that the inlet temperature does not exceed 55 °C.
- 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.

### General information

---

- The appliance must be permanently connected to fixed wiring.
- Secure the appliance as described in chapter "Installation / Installation".
- Observe the maximum permissible pressure (see chapter "Installation / Specification / Data table").
- The specific water resistivity of the mains water supply must not be undershot (see chapter "Installation / Specification / Data table").
- Drain the appliance as described in chapter "Installation / Maintenance / Draining the appliance".

## OPERATION

### 1. General information

The chapters "Special information" and "Operation" are intended for both 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 these 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.

## OPERATION

### General information

#### 1.1.2 Symbols, type of risk

Symbol	Type of risk
	Injury
	Electrocution
	Burns (burns, 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.

#### 1.2 Other symbols in this documentation



##### Note

General information is identified by the adjacent symbol.

► Read these texts carefully.

Symbol	Meaning
	Material losses (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



##### Note

All measurements are given in mm unless otherwise stated.

## 2. Safety

### 2.1 Intended use

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

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

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

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

### 2.2 General safety instructions



#### CAUTION Burns

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, set a temperature limit. Once set, check the temperature limit is working correctly.

If a permanent and unchangeable temperature limit is required, have the internal anti-scalding protection set by a qualified contractor.



#### CAUTION Burns

If operating with preheated water, e.g. if using a solar thermal system, observe the following information:

- The DHW temperature may exceed the set temperature or a set temperature limit.
  - The dynamic anti-scalding protection between the appliance and a wireless remote control may not be effective.
- In such cases, limit the temperature with an up-stream central thermostatic valve (e.g. ZTA 3/4).

### Appliance description

---



#### **WARNING Injury**

The appliance may be used by children over 3 years of age and persons with reduced physical, sensory or mental capabilities or a lack of experience and expertise, 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.



#### **Material losses**

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

---

### 2.3 Test symbols

See type plate on the appliance.

### 2.4 EU Declaration of Conformity



#### **Note**

DHE: STIEBEL ELTRON hereby declares that the radio equipment type complies with Directive 2014/53/EU. The full text of the EU Declaration of Conformity can be found at the following internet address:  
[www.stiebel-eltron.de/downloads](http://www.stiebel-eltron.de/downloads)

## 3. Appliance description

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

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

The instantaneous water heater with full electronic control and automatic output matching maintains a consistent outlet temperature. The fully electronic control unit with motorised valve ensures the water is accurately heated to the selected temperature. This occurs regardless of the inlet temperature.

If the appliance is operated with preheated water and the inlet temperature exceeds the selected temperature, the inlet temperature is indicated on the second display line and flashes. The water is not heated further.

You can store different set temperatures and call them up quickly. In the ECO function, the integral motorised valve limits the flow rate to 3 preset levels. The appliance has setting options for a temperature limit (Tmax function, user) and internal anti-scalding protection (qualified contractor). The backlight switches on automatically as soon as water starts to flow through the appliance or you make a change on the user interface. The backlight switches off automatically after water stops flowing or if no action is performed.

## OPERATION

# Settings and displays

### 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.

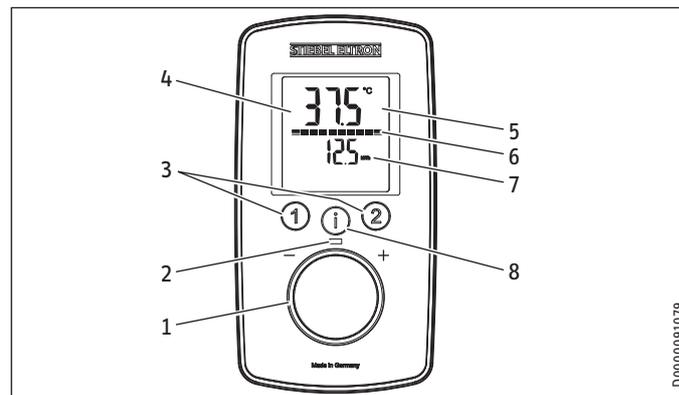


#### Note

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 appliance shuts down heating output for one minute to protect the heating system.

## 4. Settings and displays

### 4.1 User interface



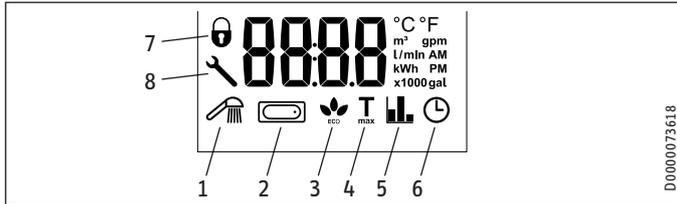
- 1 Selector
- 2 ON LED
- 3 Temperature memory keys
- 4 Backlit display
- 5 Main display | info display | parameter display
- 6 Segment display [10 - 100 %]
- 7 Second display line
- 8 "i" button to call up information and select menus

## OPERATION

# Settings and displays

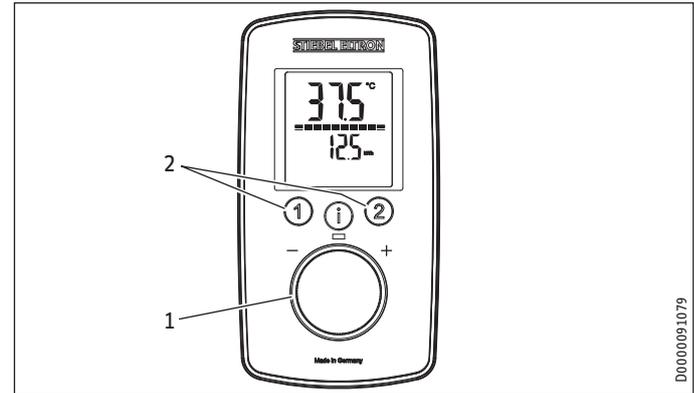
### 4.2 Display symbols

The symbols are shown on the display when activated.



- 1 Wellness showers
- 2 Automatic water volume control
- 3 ECO display
- 4 Tmax, displayed when temperature limit is enabled
- 5 Consumption indicator
- 6 Time
- 7 Operating lock [ON / OFF]
- 8 Spanner symbol, appears in the event of a fault

### 4.3 Selecting the set temperature



- 1 Set temperature settings: OFF, 20 - 60 °C
- 2 To call up/assign preferred temperatures

#### Settings

Setting	Step	Setting	Step
20 °C ... 60 °C	0.5 °C	68 °F ... 140 °F	1 °F

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

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

## Settings and displays

When supplying a shower, the appliance temperature setting range must be adjusted by the qualified contractor to 55 °C or less.

If the anti-scalding protection function is enabled and the temperature limit is reached, "Tmax" flashes.

### 4.5 Temperature limit Tmax (user)

You can adjust the temperature limit individually. If the temperature limit is enabled, "Tmax" is shown on the display.

#### 4.5.1 Activating/deactivating the temperature limit Tmax

See chapter "Settings in the parameter menu".

### 4.6 Assigning temperature memory buttons

Memory buttons "1" and "2" can each be assigned a preferred temperature.

- ▶ Select the preferred temperature.
- ▶ To save the preferred temperature, press and hold button "1" or "2" for more than 3 seconds. The selected temperature flashes once to confirm.

### 4.7 Inlet temperature information

If the appliance is operated with preheated water and the inlet temperature exceeds the selected set temperature, the inlet temperature is indicated on the second display line and flashes. The water is not heated further.

## 4.8 Info menu

The appliance has an additional display where consumption values can be shown.

### 4.8.1 Calling up the info menu

- ▶ Briefly press "i" until "i 1" appears, then continue to press "i" to see further menus.
- ▶ Exit the menu item by pressing "i" and holding for more than 5 seconds. Alternatively: The system exits the menu item automatically 30 seconds after the setting has been completed.

Menu	Description	Explanations	Screen   display
I 1	Flow rate	The current flow rate is shown.	Flow rate in l/min or gpm
I 2	Time	The current time is shown.	Time
I 3	Energy consumption	The amount of energy consumed is shown.	Value in kWh
I 4	Water consumption	The amount of water consumed is shown.	Value in m <sup>3</sup> or gal



#### Note

The consumption values are calculated starting from the last reset.

## 4.9 Settings in the parameter menu

### 4.9.1 Activating the parameter menu

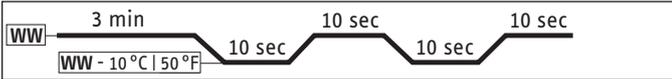
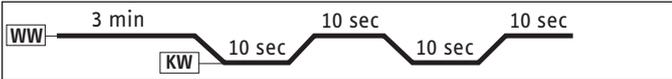
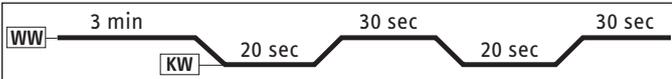
- ▶ Briefly press and hold "i" for more than 5 seconds until "P 1" appears, then continue by briefly pressing "i".
- ▶ In the selected parameter menu, turn the temperature selector to the required display / setting.

### 4.9.2 Parameter menu

Menu	Description	Selectable display   setting	Explanations	Symbol   display
P 1	ECO water and energy saving function	OFF   ECO1   ECO2   ECO3	The ECO function enables you to limit the flow rate to a maximum value. Flow rate limit: 8 l/min with "ECO1"   7 l/min with "ECO2"   6 l/min with "ECO3"   No flow rate limit with "OFF".	         
P 2	Temperature limit Tmax	OFF   20.0   20.5 ... °C or 68   69 ... °F	The temperature limit allows you as a user to restrict the adjustable set temperature at the appliance to a maximum value. Check that the upper temperature limit has been correctly applied. Your qualified contractor can set an additional temperature limit for anti-scalding protection. This temperature then dictates the upper limit of the setting range for the temperature limit function.	

## OPERATION

### Settings and displays

Menu	Description	Selectable display   setting	Explanations	Symbol   display
P 3	Wellness showers	OFF   Pro1   Pro2   Pro3   Pro4	<p>The Wellness shower program lets you choose from 4 different alternating shower programs.</p> <p>WW = domestic hot water, KW = cold water, min = minutes, sec = seconds</p> <p>- 1 Cold prevention To strengthen the body, we recommend finishing off with a cold shower; this will trigger a reflex in the body to warm up.</p>  <p>- 2 Winter refreshment An invigorating end to a winter shower with a final warm-up.</p>  <p>- 3 Summer fitness program A quick contrast shower to increase fitness with a final warm-up.</p>  <p>- 4 Circulation boost 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 hot water.</p> 	🏠

## OPERATION

### Settings and displays

Menu	Description	Selectable display   setting	Explanations	Symbol   display
P 4	Automatic water volume control – set the volume in the selected unit	OFF   5   10   ... 200   or 2 ... 52 gal	With the automatic water volume control, you can preselect a volume of water, e.g. for filling a bathtub. When the preselected water volume is reached, the automatic control reduces the flow rate. The automatic water volume control must be enabled on each occasion prior to filling the bath. Example, filling a bath with 80 litres (21 gallons): When the bath has been filled with 80 litres (21 gallons), the control automatically reduces the flow rate to 4 l/min (1 gpm).	
P 5	Temperature unit	C   F	Select the temperature unit for all settings.	°C   °F
P 6	Volume unit	L   GAL	Select the volume unit for all settings.	l   gal
P 7	Time format	24h   12h	Select time format.	
P 8	Time setting	--:--	You can set the time using the 12 or 24 hour clock: - 12 hours from 00:00 - 11:59 = AM   11:59 - 00:00 = PM - 24 hours from 00:00 to 23:59 After a power cut, the time needs to be set again.	AM   PM (only for 12h)
P 9	Operating lock	ON   OFF	You can set the operating lock to "ON" or "OFF". To disable the set operating lock: ▶ Press and hold "i" for more than 12 seconds.	 (only when ON)
P 10	Reset to factory settings	Reset (rSEt)	You can restore the appliance to its factory settings. "rSEt" is shown on the display. ▶ Press "1" and "2" simultaneously and hold for longer than 5 seconds. The display switches to "On" to confirm the reset. ▶ To confirm "On", press and hold "i" for more than 5 seconds.	
P 11	Resetting the consumption values	Reset (rSEt    )	You can reset the consumption values. "rSEt" is shown on the display. ▶ Press "1" and "2" simultaneously and hold for longer than 5 seconds. The display switches to "On" to confirm the reset. ▶ To confirm "On", press and hold "i" for more than 5 seconds.	

## OPERATION

### Settings and displays

Menu	Description	Selectable display   setting	Explanations	Symbol   display
P 12	Backlighting	Auto   On	You can adjust the display backlight. <ul style="list-style-type: none"><li>- If "Auto" is selected, the backlight is switched on during heating operation and each time an action is performed. If no action is performed for 30 seconds, the backlight is switched off again.</li><li>- If you select "On", the backlight will remain on constantly.</li></ul>	
P 13	Reduce backlighting	100 %   20 % (  )	You can select 2 levels of brightness for the backlight.	
P 14	Wireless module		After installation of a wireless module (with or without paired wireless remote control) in the appliance, menu item P 14 is enabled and "rc" appears on the programming unit display. You can pair one or more wireless remote controls; to do so, follow the pairing procedure on the appliance and the wireless remote control. Pressing "1" on the appliance for longer than 5 seconds starts the pairing process, which is shown on the programming unit of the appliance by a progress bar on the display and the operating LED flashing. Start the pairing process on the wireless remote control as described in the relevant operating instructions. After successful pairing, the operating LED on the appliance flashes briefly. An unsuccessful pairing attempt is automatically terminated after 30 seconds. Pressing "2" on the appliance for longer than 5 seconds unpairs all connected wireless remote controls. During unpairing, "rc0" appears on the display of the programming unit for 5 seconds, then "rc" again.	

#### 4.9.3 Deactivating the parameter menu

- ▶ Exit the menu item by pressing "i" and holding for more than 5 seconds. Alternatively: The system exits the menu item automatically 30 seconds after the setting has been completed.

### 4.10 Recommended settings

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

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

#### Saving energy

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

- 38 °C for hand washbasins, showers, bath
- 55 °C for kitchen sinks

#### Internal anti-scalding protection (qualified contractors)

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

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

- ▶ Set the temperature at the appliance to the maximum temperature.

### Following an interruption to the water supply

---



#### Material losses

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 the tap for one minute until the appliance and its upstream cold water inlet line are free of air.
  - ▶ Switch on the power supply again.
- 

## 5. Cleaning, care and maintenance

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

# OPERATION

## Troubleshooting

### 6. Troubleshooting

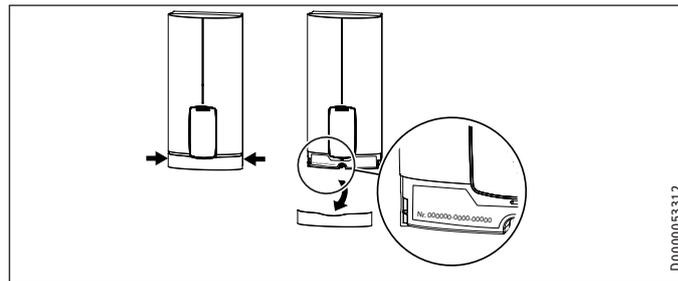
Problem	Cause	Remedy
The appliance will not start despite the DHW valve being fully open.	There is no power.	Check the fuses / MCBs in your fuse box / distribution board.
	The aerator in the tap or the shower head is scaled up or dirty.	Clean and/or descale the aerator or shower head.
	The water supply has been interrupted.	Vent the appliance and the cold water inlet 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 required temperature cannot be set.	The high limit safety cut-out and/or internal anti-scalding protection are enabled.	Deactivate the temperature limit. The internal anti-scalding protection can only be adjusted by qualified contractors.
The flow rate is too low.	ECO function is enabled.	Select a different ECO level or disable the ECO function.
No settings can be made on the programming unit.	The operating lock is enabled.	To deactivate the operating lock, press the "i" button for more than 12 seconds.



#### Note

Programming unit displays and selected settings are retained following a power failure.

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).



D0000053312

ENGLISH

# 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.



#### Material losses

Observe the maximum inlet temperature. Higher temperatures may damage the appliance. You can limit the maximum inlet temperature by installing a central thermostatic valve (see chapter "Appliance description / Accessories").



#### WARNING Electrocutation

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

### 7.2 Shower operation



#### CAUTION Burns

► When supplying a shower, set the internal anti-scalding protection to 55 °C or less; see chapter "Commissioning / Preparations".



#### CAUTION Burns

If operating with preheated water, e.g. if using a solar thermal system, observe the following information:

- The DHW temperature may exceed the set temperature or a set temperature limit.
  - The dynamic anti-scalding protection between the appliance and a wireless remote control may not be effective.
- In such cases, limit the temperature with an upstream central thermostatic valve (e.g. ZTA 3/4).

### 7.3 Instructions, standards and regulations



#### Note

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.

# Appliance description

- 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 internal anti-scalding protection
- Jumper for output changeover (only with DHE 18/21/24)

### 8.2 Accessories

#### Wireless remote control

- FFB 4 Set EU

#### Fittings

- 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 for finished walls

- 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.

## INSTALLATION

### Preparation

#### 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.

#### Central thermostatic valve (ZTA 3/4)

Use the thermostatic valve for central premixing, for example when operating an instantaneous water heater with preheated water. For use in shower operation, the valve must be set to a maximum of 55 °C.

## 9. Preparation

### 9.1 Installation site



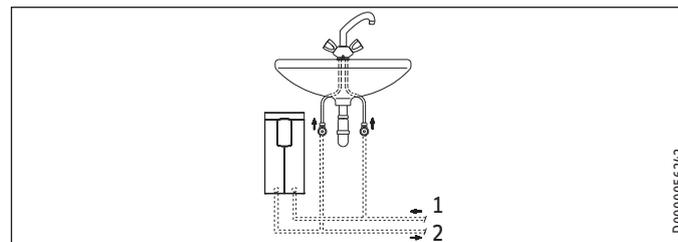
#### Material losses

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

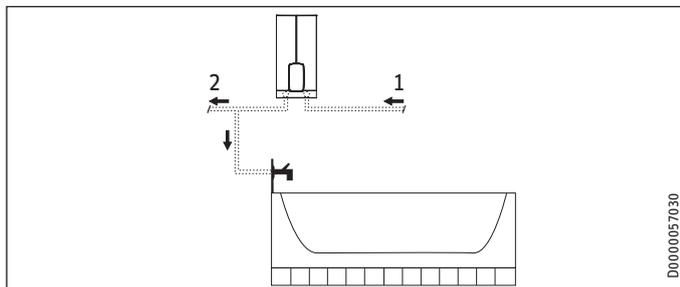


- 1 Cold water inlet
- 2 DHW outlet

# INSTALLATION

## Preparation

### Oversink installation



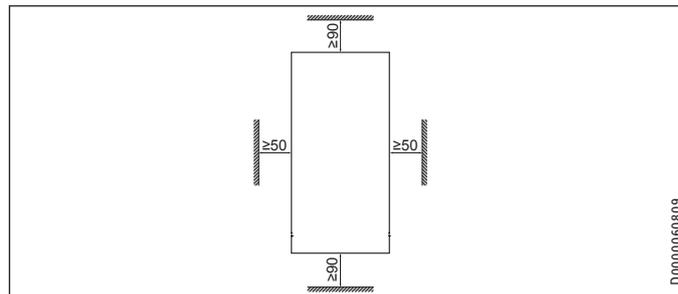
- 1 Cold water inlet
- 2 DHW outlet



#### Note

- ▶ 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.

#### Fittings

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



#### Note

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.

# INSTALLATION

## Installation

### Permissible water line materials

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



### Material losses

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

## 10. Installation

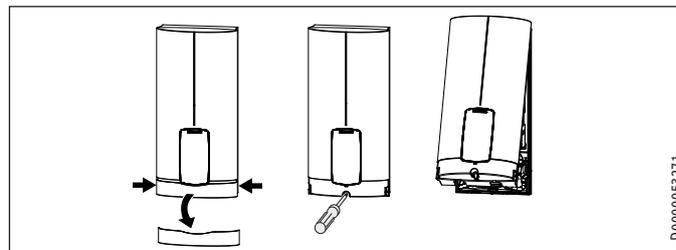
Factory settings		DHE 18/21/24	DHE 27
Internal anti-scalding protection	°C	60	60
Connected load	kW	21	27
Adjustable connected load		x	-

Standard installation	DHE 18/21/24	DHE 27
Electrical connection from below on unfinished walls	x	x
Water connection on unfinished walls	x	x

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

### 10.1 Standard installation

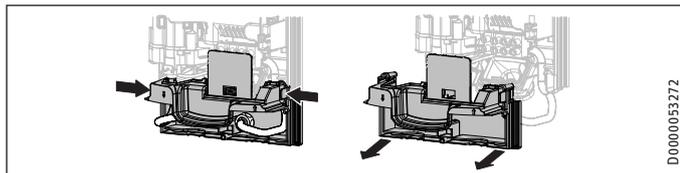
#### Opening the appliance



# INSTALLATION

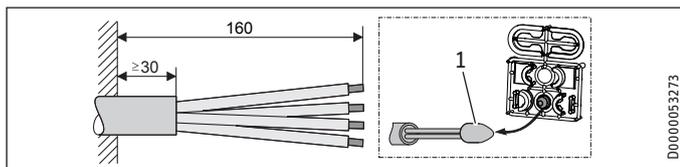
## Installation

- ▶ 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.



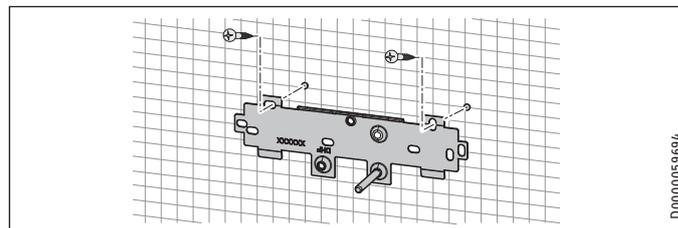
- ▶ Remove the back panel by pressing the two locking tabs and pulling the lower back panel section forwards.

### 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

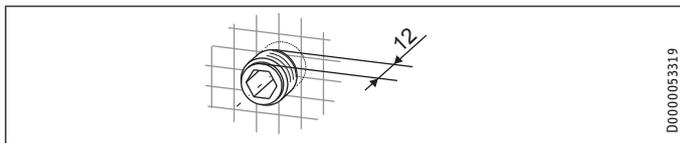


#### Material losses

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

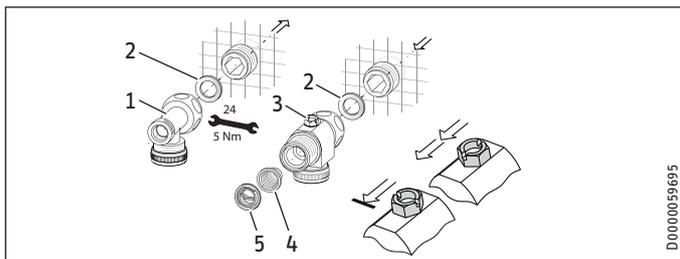
# INSTALLATION

## Installation



- ▶ 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 nipples.



### Material losses

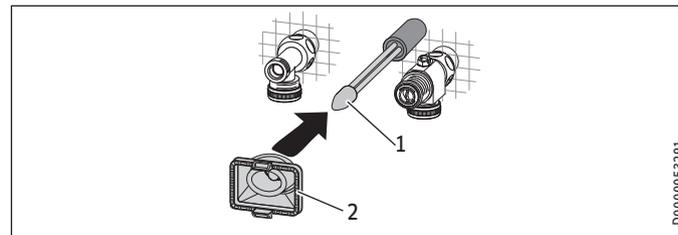
- The strainer must be fitted for the appliance to function.
- ▶ When replacing an appliance, check whether the strainer is installed.

### Installing the appliance



### Note

- 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

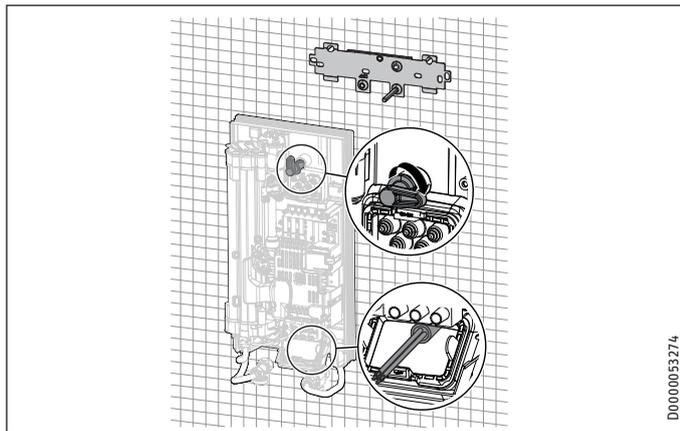
Use the installation aid for easier wiring access through the cable grommet (see plastic parts set supplied).

- ▶ Remove the cable grommet from the back panel.

# INSTALLATION

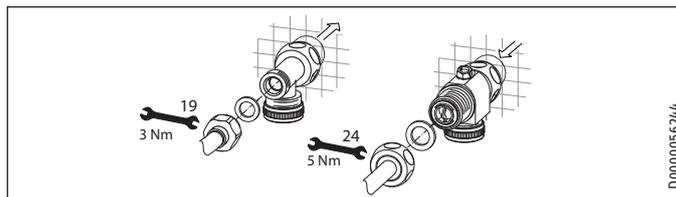
## Installation

- ▶ 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 inlet line.

# INSTALLATION

## Installation

### 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 earthed.

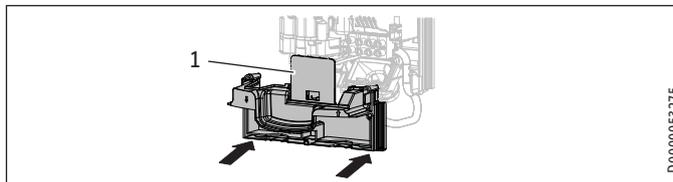


#### Material losses

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



D0000053275

#### 1 Diffuser on lower back panel

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



#### Material losses

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

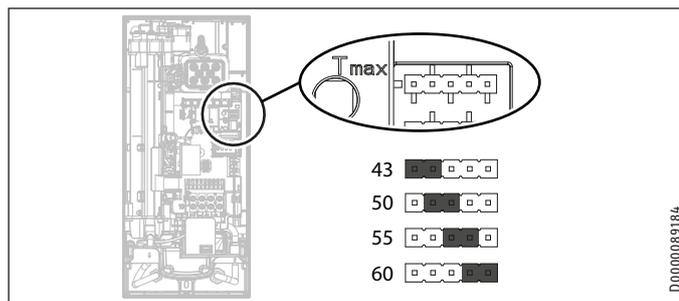
# INSTALLATION

## Commissioning

### 11. Commissioning

#### 11.1 Preparation

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



- Install the anti-scalding protection setting jumper in the required position (= temperature in °C) on the pin strip.

Jumper position	Description
43	For example in nurseries, hospitals, etc.
50	
55	Max. for shower operation
60	Factory setting
No jumper	Limited to 43 °C



#### CAUTION Burns

If operating with preheated water, e.g. if using a solar thermal system, the internal anti-scalding protection and the temperature limit Tmax, which can be set by the user, may be exceeded.

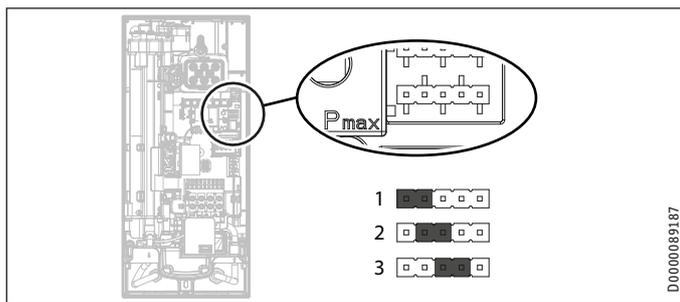
- In this case, limit the temperature with an upstream central thermostatic valve (e.g. ZTA 3/4).

# INSTALLATION

## Commissioning

### Changing the connected load via jumper slot; only with DHE 18/21/24

If you select a connected load other than the 21 kW factory setting for appliances with selectable connected load, you will need to reposition the jumper.



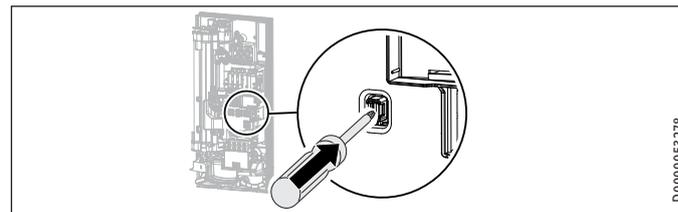
- Install the jumper in the required position on the pin strip.

Jumper position	Connected Load
1	18 kW
2	21 kW
3	24 kW
No jumper	18 kW

### 11.2 Initial start-up



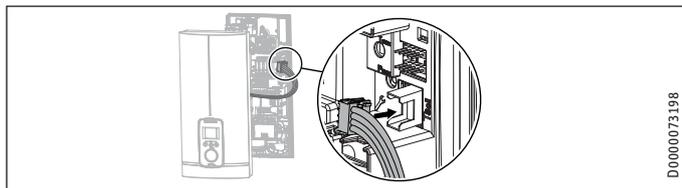
- Open and close all connected draw-off valves several times, until all air has been purged from the pipework and the appliance.
- Carry out a tightness check.



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

# INSTALLATION

## Commissioning



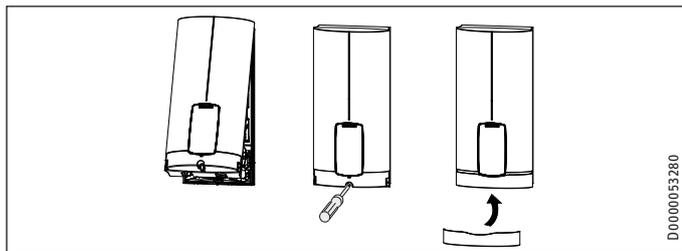
D0000073198

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



### Note

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



D0000053280

- ▶ Hook the appliance cover at the top rear into the back panel. Pivot the appliance cover downwards. Check that the appliance cover is securely seated both top and bottom.

- ▶ Tick the selected connected load and rated voltage on the appliance cover type plate (on both sides). Use a ballpoint pen to do this.
- ▶ Secure the appliance cover with the screw.
- ▶ Fit the fascia to the appliance cover.
- ▶ Remove the protective film from the user interface.



D0000053281

- ▶ Switch on the power supply.

### 11.2.1 Appliance handover

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

ENGLISH

## Appliance shutdown

### 11.3 Recommissioning



#### Material losses

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 the tap for at least one minute until the appliance and its upstream cold water inlet line are free of air.
- ▶ Switch on the power supply again.

### 12. Appliance shutdown

- ▶ 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
Finished walls	IP 24
Water connection	IP rating
Finished walls	IP 24
Other	IP rating
Installation with offset tiles	IP 25
Rotated appliance cover	IP 25
Horizontal installation of the appliance	IP 24



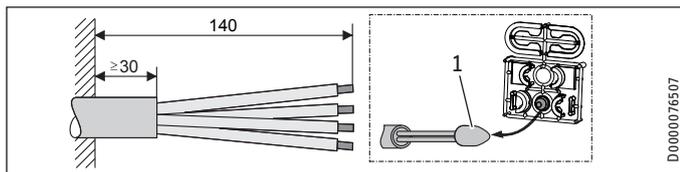
#### WARNING Electrocutation

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

## INSTALLATION

### Installation alternatives

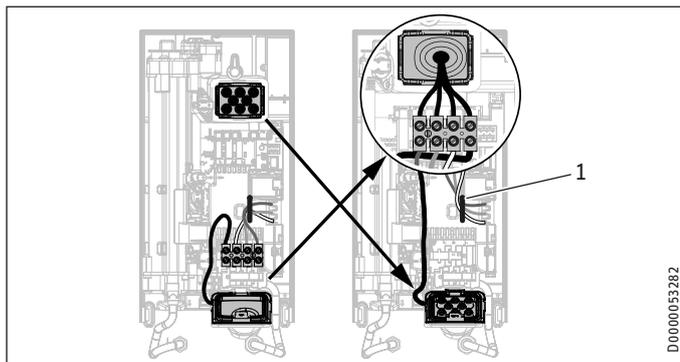
#### 13.1 Electrical connection from above on unfinished walls



D0000076507

##### 1 Cable entry installation aid

- ▶ Prepare the power cable.



D0000053282

##### 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.

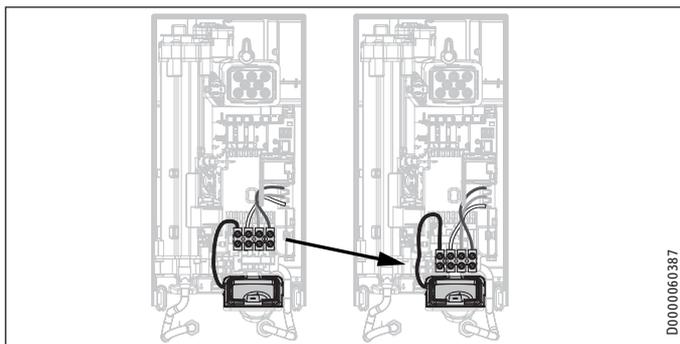


#### **WARNING** Electrocutation

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

## Installation alternatives

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



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

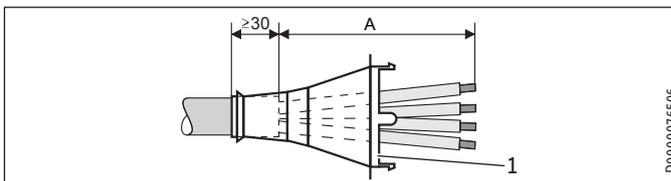
### 13.3 Electrical connection on finished walls



#### Note

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

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



#### 1 Cable grommet

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

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



#### Material losses

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.



#### Material losses

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").

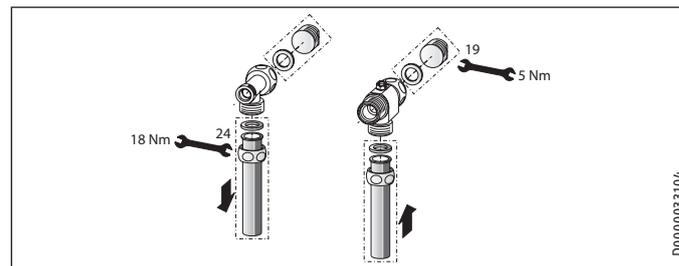
### 13.5 Water installation on finished walls



#### Note

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.



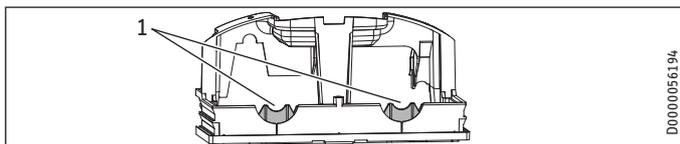
- ▶ Fit water plugs with gaskets to seal the concealed connections. All taps obtained as accessories are supplied with plugs and gaskets in the standard delivery. For pressure taps other than those recommended by us, plugs and gaskets can be ordered as accessories.
- ▶ Fit a suitable pressure tap.
- ▶ 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.



#### Note

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

## Installation alternatives



D0000056194

1 Tab

### 13.6 Water installation on finished walls with solder/press fittings



#### Note

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:

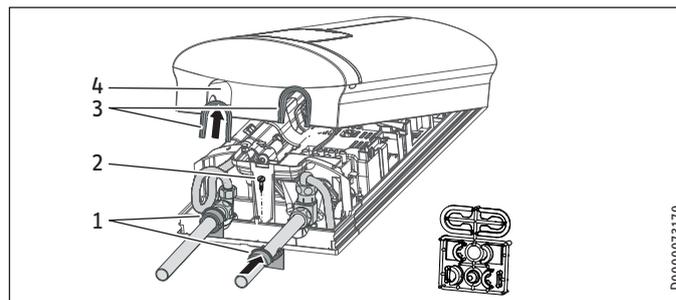
- ▶ Push the union nuts over the connection pipes.
- ▶ Solder the inserts to the copper pipes.
- ▶ Push the lower back panel section under the connection pipes of the tap and push it into the back panel.
- ▶ Secure the connection pipes to the tee and the 3-way ball shut-off valve.



#### Note

Observe the tap manufacturer's instructions.

### 13.7 Fitting appliance cover for water installation on finished walls



D0000073170

- 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.

## INSTALLATION

### Installation alternatives

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

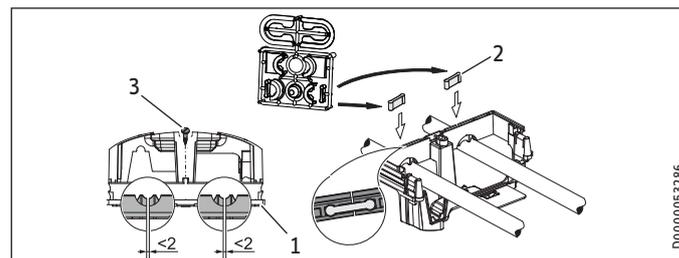
- ▶ Break the sealing lips out of the cover guides.
- ▶ Position the back panel guides on the pipes. Push them together. Then push the guides against the back panel as far they will go.
- ▶ Secure the lower back panel section with a screw.



#### Note

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.

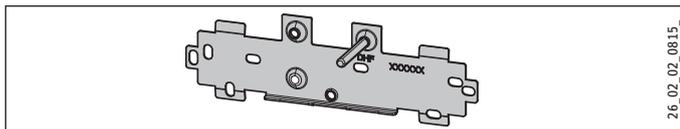
D0000053286

ENGLISH

#### 13.9 Wall mounting bracket when replacing an appliance

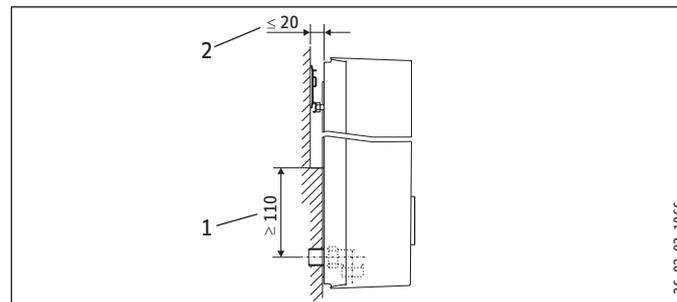
An existing STIEBEL ELTRON wall mounting bracket may be used when replacing appliances (except the DHF instantaneous water heater), as long as the fixing screw is in the lower right position.

##### 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).

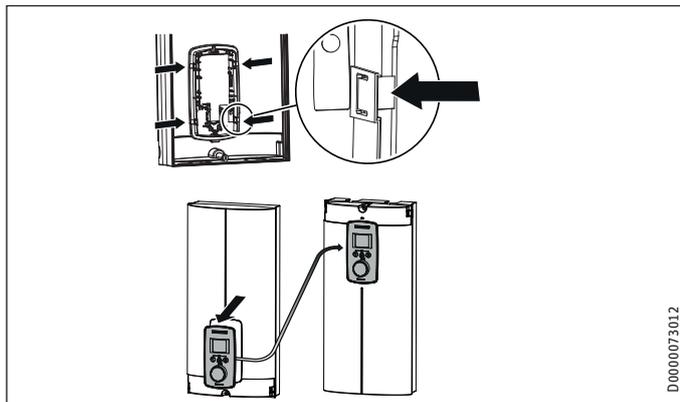
#### 13.10 Installation with offset tiles



- 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 should be turned the other way up for undersink installation.



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



#### WARNING Electrocutation

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

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

### 13.12 Operation with preheated water

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

### 13.13 Horizontal installation of the appliance



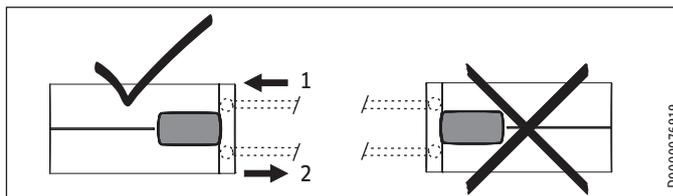
#### Note

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

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

#### Horizontal installation

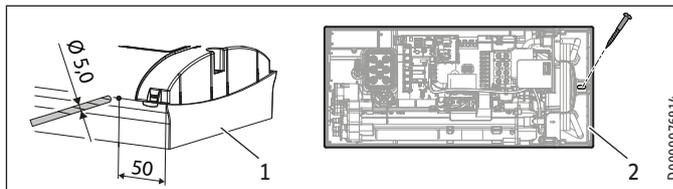
The appliance can also be mounted horizontally on the wall (turned 90° to the left, with the water connections on the right). The installation, water and electrical connections are described in chapters "Standard installation" and "Installation alternatives".



- 1 Cold water inlet
- 2 DHW outlet

#### Preparation

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



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

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

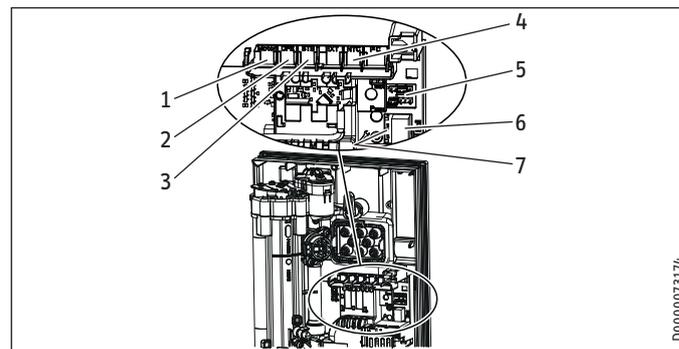


#### Material losses

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

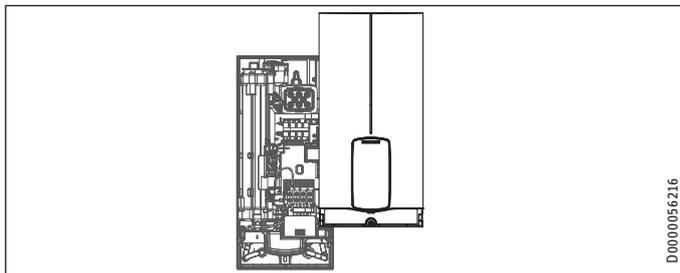


- 1 Motorised valve
- 2 Flow sensor
- 3 High limit safety cut-out, automatic reset
- 4 NTC sensor
- 5 Pin strips for connected load and anti-scalding protection
- 6 Programming unit plug-in position
- 7 Diagnostic traffic lights

# INSTALLATION

## Troubleshooting

### Appliance cover retainer



## 15. Troubleshooting



### WARNING Electrocutation

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



### Note

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

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

	Red	Lights up in the event of a fault
	Yellow	Illuminates in heating mode/flashes when output limit reached
	Green	Flashing: Appliance connected to power supply

# INSTALLATION

## Troubleshooting

Diagnostic traffic lights (draw-off mode)	Fault	Cause	Remedy
No LED illuminates	Appliance does not heat up	One or more 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	Descale/replace the shower head/aerator
		Appliance starting flow rate not reached; strainer in cold water inlet dirty	Clean strainer
		Flow meter not plugged in	Check plug-in connection; correct if necessary
		Flow meter faulty or dirty	Replace flow meter
Green flashing, yellow on, red off	No display	PCB faulty	Replace the function module
		Loose connecting cable between PCB and programming unit	Check plug-in connections; correct if necessary
		Faulty connecting cable between PCB and programming unit	Check connecting cable; replace if necessary
		Programming unit faulty	Replace programming unit
Green flashing, yellow on, red off	No DHW; outlet temperature does not match set value	PCB faulty	Replace the function module
		Tap faulty	Replace tap
		Outlet sensor faulty	Replace outlet sensor
		Heating system faulty	Replace the function module
Green flashes, yellow flashes, red off	No DHW; outlet temperature does not match set value	PCB faulty	Replace the function module
		Motorised valve faulty	Replace motorised valve
Green flashing, yellow off, red on	No DHW	One or more power supply phases are missing	Check the fuses in the distribution board
		Air detection has responded	Continue draw-off for >1 min

# INSTALLATION

## Troubleshooting

### 15.1 Fault code display

If there is an appliance fault, the spanner flashes on the display.

- ▶ To call up the fault code display, press the "i" button for more than 5 seconds.

Diagnostic traffic lights (draw-off mode)	Display shown	Fault	Cause	Remedy
Green flashing, yellow off, red on	Spanner flashes (fault code display E1 and spanner)	No DHW	Safety switch not activated during "Commissioning"	Activate the safety switch by firmly pressing the reset button
			Safety switch was triggered by high limit safety cut-out	Check high limit safety cut-out (plug-in connection, connecting cable); activate safety switch
			Safety switch responds again after high limit safety cut-out has been checked; high limit safety cut-out faulty	Replace high limit safety cut-out; activate safety switch and draw-off with maximum set value >1 min
Green flashing, yellow off, red on	Spanner flashes (fault code display E2 and spanner)	No DHW	Safety switch responds again; PCB faulty	Replace the function module
			PCB faulty (lead break or short circuit in inlet sensor)	Replace the function module
Green flashing, yellow off, red on	Spanner flashes (fault code display E3 and spanner)	No DHW	Short circuit in outlet sensor	Check outlet sensor; replace if necessary

### 16. Maintenance



#### **WARNING Electrocution**

**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.**

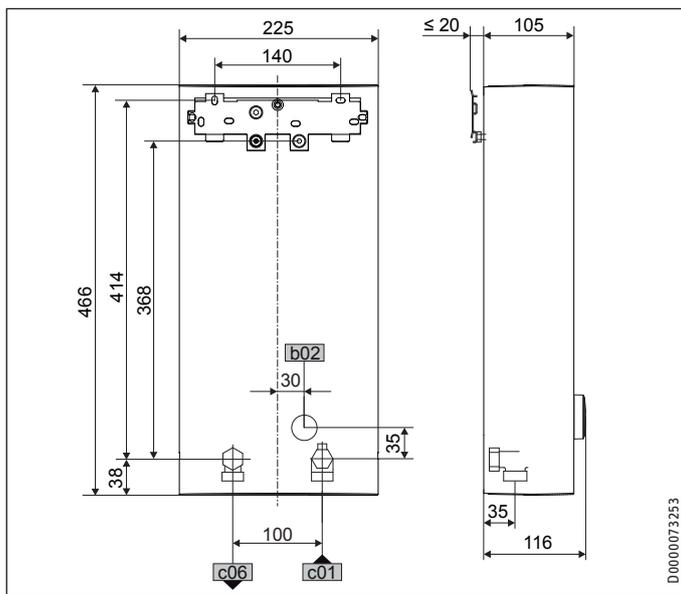
- ▶ Close the 3-way ball shut-off valve or the shut-off valve in the cold water inlet line.
- ▶ Open all draw-off valves.
- ▶ Undo the pipe connections from the appliance.
- ▶ Store the dismantled appliance free from the risk of frost, as water residues remaining inside the appliance can freeze and cause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

#### **Clean 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 inlet line before removing, cleaning and refitting the strainer.

## 17. Specification

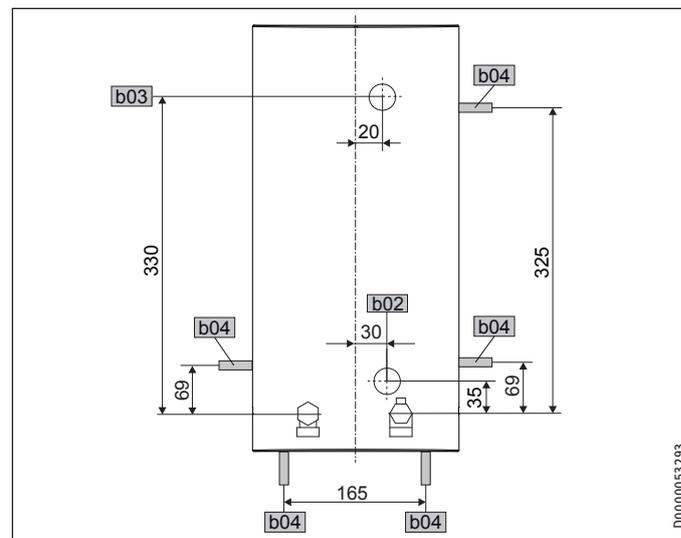
### 17.1 Dimensions and connections



D00000732653

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

### Alternative connection options



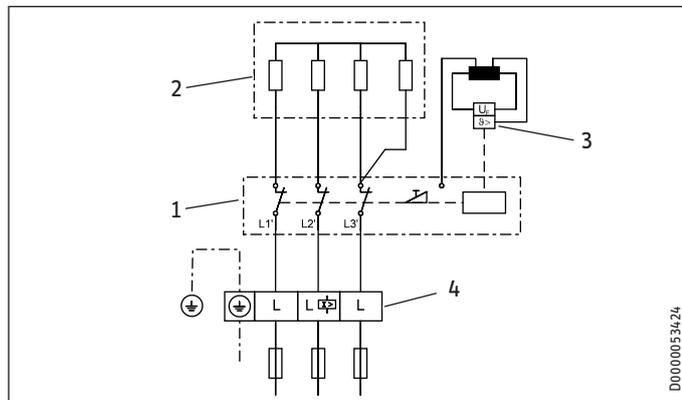
D0000053293

		DHE
b02	Entry for electrical cables I	Unfinished walls
b03	Entry for electrical cables II	Unfinished walls
b04	Entry electrical cables III	Finished walls

# INSTALLATION Specification

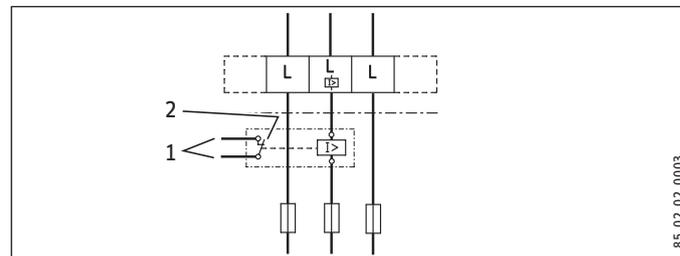
## 17.2 Wiring diagram

3/PE ~ 380-415 V



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

## Priority control with LR 1-A



- 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.

ENGLISH

# INSTALLATION Specification

## 17.3 DHW output

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

Connected load in kW			38 °C DHW output in L/min.			
Rated voltage			Cold water inlet temperature			
380 V	400 V	415 V	5 °C	10 °C	15 °C	20 °C

DHE 18/21/24						
16.2			7.0	8.3	10.1	12.9
19.0			8.2	9.7	11.8	15.1
21.7			9.4	11.1	13.5	17.2
	18.0		7.8	9.2	11.2	14.3
	21.0		9.1	10.7	13.0	16.7
	24.0		10.4	12.2	14.9	19.0
		19.4	8.4	9.9	12.0	15.4
		22.6	9.8	11.5	14.0	17.9
		25.8	11.2	13.2	16.0	20.5

DHE 27						
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	415 V	5 °C	10 °C	15 °C	20 °C

DHE 18/21/24						
16.2			5.1	5.8	6.6	7.7
19.0			6.0	6.8	7.8	9.0
21.7			6.9	7.8	8.9	10.3
	18.0		5.7	6.4	7.3	8.6
	21.0		6.7	7.5	8.6	10.0
	24.0		7.6	8.6	9.8	11.4
		19.4	6.2	6.9	7.9	9.2
		22.6	7.2	8.1	9.2	10.8
		25.8	8.2	9.2	10.5	12.3

DHE 27						
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 $\sigma \leq$	
	$\Omega\text{cm}$	$\mu\text{S}/\text{cm}$		$\Omega\text{cm}$	$\mu\text{S}/\text{cm}$		$\Omega\text{cm}$	$\mu\text{S}/\text{cm}$
900	111	1111	800	125	1250	735	136	1361

# INSTALLATION

## Specification

### 17.5 Pressure drop

#### Fittings

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.

### 17.7 Energy consumption data

Product datasheet: Conventional water heaters to regulation (EU) no. 812/2013 | 814/2013

		DHE 18/21/24	DHE 27
		202656	202657
Manufacturer		STIEBEL ELTRON	STIEBEL ELTRON
Load profile		S	S
Energy efficiency class		A	A
Energy conversion efficiency	%	39	39
Annual power consumption	kWh	476	475
Default temperature setting	°C	60	60
Sound power level	dB(A)	15	15
Special information on measuring efficiency		Measured at ECO level with highest flow rate, maximum output and maximum set value.	Measured at ECO level with highest flow rate and maximum set value
Daily power consumption	kWh	2,184	2,177

### 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

		DHE 18/21/24			DHE 27	
		202656			202657	
<b>Electrical data</b>						
Rated voltage	V	380	400	415	380	400
Rated output	kW	16.2/19/21.7	18/21/24	19.4/22.6/25.8	24.4	27
Rated current	A	27.6/29.5/33.3	29/31/35	30.1/32.2/36.3	37.1	39
Fuse protection	A	32/32/35	32/32/35	32/32/40	40	40
Frequency	Hz	50/60	50/60	50/-	50/-	50/-
Phases				3/PE		3/PE
Resistivity $\rho_{15} \geq$	$\Omega$ cm			900		900
Conductivity $\sigma_{15} \leq$	$\mu S/cm$			1111		1111
Max. mains impedance at 50 Hz	$\Omega$	0.248	0.236	0.227	0.221	0.210
<b>Connections</b>						
Water connection				G 1/2 A		G 1/2 A
<b>Application limits</b>						
Max. permissible pressure	MPa			1		1
Max. inlet temperature for reheating	$^{\circ}C$			55		55
<b>Values</b>						
Max. inlet temperature (e.g. pasteurisation)	$^{\circ}C$			70		70
On	l/min			>2.5		>2.5
Flow rate at 28 K	l/min		9.2/10.7/12.3 at 400 V			13.8 at 400 V
Flow rate at 50 K	l/min		5.2/6.0/6.9 at 400 V			7.7 at 400 V
Pressure drop for flow rate at 50 K (without flow limiter)	MPa			0.06/0.08/0.1		0.13
<b>Hydraulic data</b>						
Nominal capacity	l			0.4		0.4

# INSTALLATION Specification

Versions		DHE 18/21/24	DHE 27
Adjustable connected load		X	-
Temperature settings	°C	Off, 20-60	Off, 20-60
Protection class		1	1
Insulating block		Plastic	Plastic
Heating system heat generator		Bare wire	Bare wire
Cover and back panel		Plastic	Plastic
Colour		White	White
IP rating		IP 25	IP 25
<b>Dimensions</b>			
Height	mm	466	466
Width	mm	225	225
Depth	mm	116	116
<b>Weights</b>			
Weight	kg	3.1	3.1



## Note

The appliance conforms to IEC 61000-3-12.

## **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**

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

## Deutschland

STIEBEL ELTRON GmbH & Co. KG  
Dr.-Stiebel-Straße 33 | 37603 Holzminden  
Tel. 05531 702-0 | Fax 05531 702-480  
info@stiebel-eltron.de  
www.stiebel-eltron.de

## Verkauf Kundendienst Ersatzteilverkauf

Tel. 05531 702-110 | Fax 05531 702-95108 | info-center@stiebel-eltron.de  
Tel. 05531 702-111 | Fax 05531 702-95890 | kundendienst@stiebel-eltron.de  
Tel. 05531 702-120 | Fax 05531 702-95335 | ersatzteile@stiebel-eltron.de

## Australia

STIEBEL ELTRON Australia Pty. Ltd.  
294 Salmon Street | Port Melbourne  
VIC 3207  
Tel. 03 9645-1833 | Fax 03 9644-5091  
info@stiebel-eltron.com.au  
www.stiebel-eltron.com.au

## Austria

STIEBEL ELTRON Ges.m.b.H.  
Gewerbegebiet Neubau-Nord  
Margaritenstraße 4 A | 4063 Hörsching  
Tel. 07221 74600-0 | Fax 07221 74600-42  
info@stiebel-eltron.at  
www.stiebel-eltron.at

## Belgium

STIEBEL ELTRON bvba/sprl  
't Hofveld 6 - D1 | 1702 Groot-Bijgaarden  
Tel. 02 42322-22 | Fax 02 42322-12  
info@stiebel-eltron.be  
www.stiebel-eltron.be

## China

STIEBEL ELTRON (Tianjin) Electric  
Appliance Co., Ltd.  
Plant C3, XEDA International Industry City  
Xiqing Economic Development Area  
300085 Tianjin  
Tel. 022 8396 2077 | Fax 022 8396 2075  
info@stiebel-eltron.cn  
www.stiebel-eltron.cn

## Czech Republic

STIEBEL ELTRON spol. s r.o.  
Dopraváků 749/3 | 184 00 Praha 8  
Tel. 251116-111 | Fax 235512-122  
info@stiebel-eltron.cz  
www.stiebel-eltron.cz

## Finland

STIEBEL ELTRON OY  
Kapinakuja 1 | 04600 Mäntsälä  
Tel. 020 720-9988  
info@stiebel-eltron.fi  
www.stiebel-eltron.fi

## France

STIEBEL ELTRON SAS  
7-9, rue des Selliers  
B.P 85107 | 57073 Metz-Cédex 3  
Tel. 0387 7438-88 | Fax 0387 7468-26  
info@stiebel-eltron.fr  
www.stiebel-eltron.fr

## Hungary

STIEBEL ELTRON Kft.  
Gyár u. 2 | 2040 Budaörs  
Tel. 01 250-6055 | Fax 01 368-8097  
info@stiebel-eltron.hu  
www.stiebel-eltron.hu

## Japan

NIHON STIEBEL Co. Ltd.  
Kowa Kawasaki Nishiguchi Building 8F  
66-2 Horikawa-Cho  
Saiwai-Ku | 212-0013 Kawasaki  
Tel. 044 540-3200 | Fax 044 540-3210  
info@nihonstiebel.co.jp  
www.nihonstiebel.co.jp

## Netherlands

STIEBEL ELTRON Nederland B.V.  
Daviottenweg 36 |  
5222 BH 's-Hertogenbosch  
Tel. 073 623-0000 | Fax 073 623-1141  
info@stiebel-eltron.nl  
www.stiebel-eltron.nl

## Poland

STIEBEL ELTRON Polska Sp. z O.O.  
ul. Działkowa 2 | 02-234 Warszawa  
Tel. 022 60920-30 | Fax 022 60920-29  
biuro@stiebel-eltron.pl  
www.stiebel-eltron.pl

## Russia

STIEBEL ELTRON LLC RUSSIA  
Urzhumskaya street 4,  
building 2 | 129343 Moscow  
Tel. 0495 7753889 | Fax 0495 7753887  
info@stiebel-eltron.ru  
www.stiebel-eltron.ru

## Slovakia

STIEBEL ELTRON Slovakia, s.r.o.  
Hlavná 1 | 058 01 Poprad  
Tel. 052 7127-125 | Fax 052 7127-148  
info@stiebel-eltron.sk  
www.stiebel-eltron.sk

## Switzerland

STIEBEL ELTRON AG  
Industrie West  
Gass 8 | 5242 Lupfig  
Tel. 056 4640-500 | Fax 056 4640-501  
info@stiebel-eltron.ch  
www.stiebel-eltron.ch

## Thailand

STIEBEL ELTRON Asia Ltd.  
469 Moo 2 Tambol Klong-jik  
Amphur Bangpa-In | 13160 Ayutthaya  
Tel. 035 220088 | Fax 035 221188  
info@stiebel-eltronasia.com  
www.stiebel-eltronasia.com

## United Kingdom and Ireland

STIEBEL ELTRON UK Ltd.  
Unit 12 Stadium Court  
Stadium Road | CH62 3RP Bromborough  
Tel. 0151 346-2300 | Fax 0151 334-2913  
info@stiebel-eltron.co.uk  
www.stiebel-eltron.co.uk

## United States of America

STIEBEL ELTRON, Inc.  
17 West Street | 01088 West Hatfield MA  
Tel. 0413 247-3380 | Fax 0413 247-3369  
info@stiebel-eltron-usa.com  
www.stiebel-eltron-usa.com



Irrtum und technische Änderungen vorbehalten! | Subject to errors and technical changes! | Sous réserve d'erreurs et de modifications techniques! | Onder voorbehoud van vergissingen en technische wijzigingen! | Salvo error o modificación técnica! | Excepto erro ou alteração técnica! | Zastrzeżone zmiany techniczne i ewentualne błędy! | Омьяа техника мѣняюся и выхрзены! | A muszaki változtatások és tévedések jogát fenntartjuk! | Отсутствуют ошибконые гарантии. Возможны технические изменения. | Chyby a technické zmeny sú vyhradené! | Stand 9535

# STIEBEL ELTRON