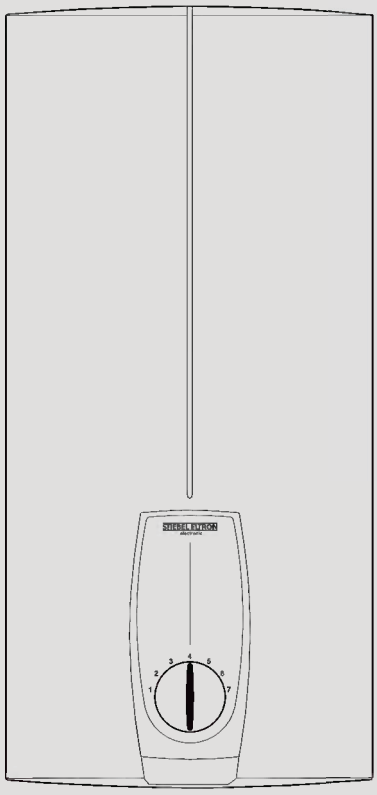
BEDIENUNG UND INSTALLATION
OPERATING AND INSTALLATION
UTILISATION ET INSTALLATION
GEBRUIK EN INSTALLATIE
OPERACIÓN E INSTALACIÓN
OBSŁUGA I INSTALACJA
OBSLUHA A INSTALACE
ИНСТРУКЦИЯ ПО ЭКСПЛУАТАЦИИ И УСТАНОВКЕ
COMANDĂ ŞI MONTARE/ASAMBLARE/INSTALARE

ELEKTRONISCH GESTEUERTER DURCHLAUFERHITZER | ELECTRONICALLY CONTROLLED INSTANTANEOUS WATER HEATER | CHAUFFE-EAU INSTANTANÉ À GESTION ÉLECTRONIQUE | ELEKTRONISCH GESTUURDE ELEKTRISCHE DOORSTROMER | CALENTADOR INSTANTÁNEO CON CONTROLADO ELECTRÓNICA | ELEKTRONICZNIE STEROWANY PRZEPŁYWOWY OGRZEWACZ WODY | ELEKTRONICKY ŘÍZENÝ PRŮTOKOVÝ OHŘÍVAČ | ПРОТОЧНЫЕ ВОДОНАГРЕВАТЕЛИ С ЭЛЕКТРОННЫМ УПРАВЛЕНИЕМ | ÎNCĂLZITOR INSTANT CONTROLAT ELECTRONIC

- » DHB-E 11 SLi electronic
- » DHB-E 13 SL electronic
- » DHB-E 18 SLi 25 A electronic
- » DHB-E 18/21/24 SLi electronic
- » DHB-E 27 SLi electronic



STIEBEL ELTRON

1. General information

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

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

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

1.1 Key

In this documentation you will come across symbols and highlights that are defined as follows:

1.1.1 Symbols in this documentation

Risk of injury
Information regarding possible risks of injury for installer or users and potential equipment damage.

Danger of electrocution

Risk of scalding

Risk of damage
Information regarding potentially dangerous situations that might occur during the appliance installation or operation, the consequences of which may be damage to the appliance, environmental pollution or material loss.

Please read carefully
Read this section carefully.

» Passages with this symbol "**»**" indicate action you need to take, which is described step by step.

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

1.1.2 Symbols on the appliance

Disposal
Appliances with this marking are unsuitable for general waste disposal and should therefore be disposed of separately.

2. Safety

2.1 Correct use

This appliance is a pressure device for the heating of cold water to DIN 1988 that can supply one or several draw-off points.

Any other use beyond that described shall be deemed inappropriate. Observation of these instructions is also part of the correct use of the appliance. Any changes or conversions to the appliance void any warranty.

2.2 Safety instructions

Observe the following safety information and instructions.

Only heating contractors should install and commission the appliance.

The contractor is responsible for adherence to all currently applicable regulations during installation and commissioning.

Operate this appliance only if it is fully installed and all safety equipment is fitted.

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

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

Children should be supervised to ensure that they do not play with the appliance.

Risk of damage
Do not operate the appliance following an interruption to the water supply. This can destroy the bare wire heating system. Run water for at least a minute before restarting the appliance (see chapter "What to do if...").

2.3 CE designation

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

- Electromagnetic Compatibility Directive (Council Directive 2004/108/EC)
- Low Voltage Directive (Council Directive 2006/95/EC)

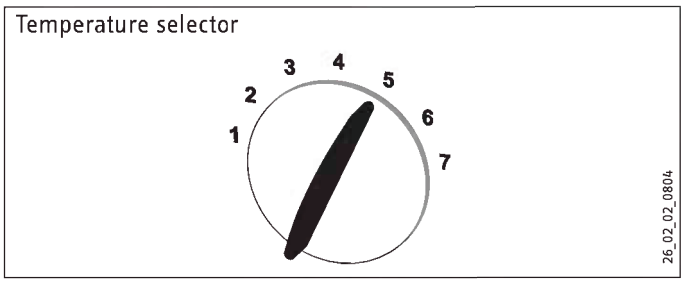
3. Appliance description

The appliance heats water as it flows through it. The DHW outlet temperature can be infinitely adjusted with the temperature selector. From a certain flow rate, the control unit regulates the correct heating output, subject to the temperature selection and the cold water temperature.

The appliance is equipped with an air detector that largely prevents damage to the heating system. If air is drawn in during operation, the appliance shuts down for one minute, thereby protecting the heating system.

4. Operation

4.1 Temperature selector



1 approx. 30 °C
7 approx. 60 °C

The selector lets you freely choose the required temperature.

Should the outlet temperature fail to reach the required level with the draw-off valve fully open and the temperature selector set to maximum (temperature selector turned fully clockwise), then more water flows through the appliance than can be heated by the heating element.

» Reduce the flow rate with the draw-off valve.

4.2 Draw-off capacities

Subject to season, varying maximum mixed water or draw-off capacities result from different cold water temperatures. Further information can be found in the chapter "Specification".

4.3 Thermostatic valve

We recommend adjusting the appliance to the maximum temperature setting "7" (temperature selector turned fully clockwise).

4.4 Temperature limit/Anti-scalding protection

The maximum outlet temperature for the appliance can be limited to 43 °C. Refer in this case to your local heating contractor.

5. Cleaning, care and maintenance

» Never use abrasive or corrosive cleaning agents. A damp cloth is sufficient for cleaning the appliance.

Maintenance work, such as checking the electrical safety, must only be carried out by a heating contractor.

6. What to do if ..?

6.1 ...the water supply is interrupted?

Risk of damage
After an interruption to the water supply, take the following steps prior to returning the appliance into use.

» Remove fuses or trip the appropriate MCBs.

» Open a draw-off valve downstream of the appliance long enough to vent all air from the appliance and its upstream cold water supply line.

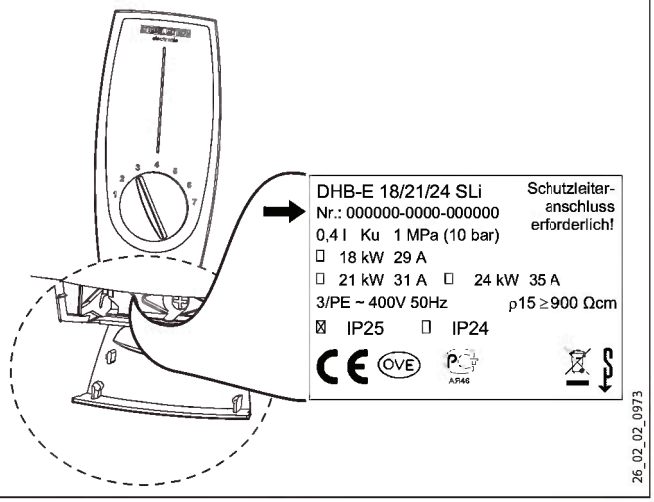
» Replace the fuses upstream or reset the relevant MCBs.

6.2 ...faults occur on the appliance?

Fault	Cause	Remedy
The appliance will not start in spite of a fully open DHW valve.	There is no voltage.	» Check the fuse/MCB in your fuse box/distribution panel.
	Starting volume is not achieved. The perlator in the tap or shower head is scaled up or dirty.	» Clean and/or descale the perlator or the shower head.
	The heating system is faulty.	» Contact your heating contractor.
Cold water flows briefly while hot water is being drawn.	The air sensor detects air in the water and briefly switches the heater off.	The appliance restarts automatically after one minute.

If you cannot remedy the fault, contact your heating contractor. For better and faster help, provide him with the serial number from the type plate (no. 000000-0000-000000):

Type plate example



7. Safety

7.1 General safety instructions

All required steps to complete commissioning must be carried out by a heating contractor. During this process, these installation instructions must be observed.

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

7.2 Instructions, standards and regulations

Risk of damage
Observe the type plate. The stated voltage must match the mains voltage.

Danger of electrocution
All electrical connection and installation work must be conducted in accordance with VDE regulations (DIN VDE 0100) [or local regulations], the rules of your local power supply utility and relevant national and local regulations.

Danger of electrocution
Connection to the power supply is only possible as a fixed connection. The appliance must be able to be separated from the mains power supply by an isolator that disconnects all poles with at least 3 mm contact separation.

Risk of damage
Observe all national and local instructions and regulations relating to water connection, e.g. the DIN 1988 in Germany.

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

7.3 Water installation

7.3.1 Cold water line

We approve steel or copper pipes or plastic pipework.

7.3.2 DHW line

We approve copper or plastic pipework.

Risk of damage
If plastic pipework is used, observe the most extreme operating and fault conditions that can occur in the appliance.

Plastic pipe manufacturer.
Observe the plastic pipe manufacturer's instructions.

- A safety valve in the hot water pipe is not permissible.
- Never operate with pre-heated water.
- Never operate with valves intended for open vented appliances.

7.4 Risk of frost

The installation of the appliance must be carried out in a room free from the risk of frost.

» 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.

8. Appliance description

The bare wire heating system is suitable for hard and soft water areas. The heater has low susceptibility to scale build-up.

The outlet temperature can be infinitely adjusted. The electronic control unit enables automatic matching of the electrical output corresponding to the selected temperature subject to the actual throughput.

8.1 Standard delivery

- Mounting bracket
- Installation template
- Twin nipple
- Cross-piece
- Tee
- Flat packing
- Sieve
- Flow limiter
- Plastic profile washer
- Plastic cap
- Flexible plastic couplings
- Cap and back panel guides

8.2 Installation

The following conditions have been prepared for the appliance at the factory:

- Power supply from "below", installation on unfinished walls
- Water connection, installation on unfinished walls

The appliance must be fitted vertically, over or undersink, to a solid wall.

8.3 Temperature limiting/anti-scalding protection

The maximum temperature can be limited to 43 °C via the user interface on the appliance cap. The following steps are necessary for this procedure:

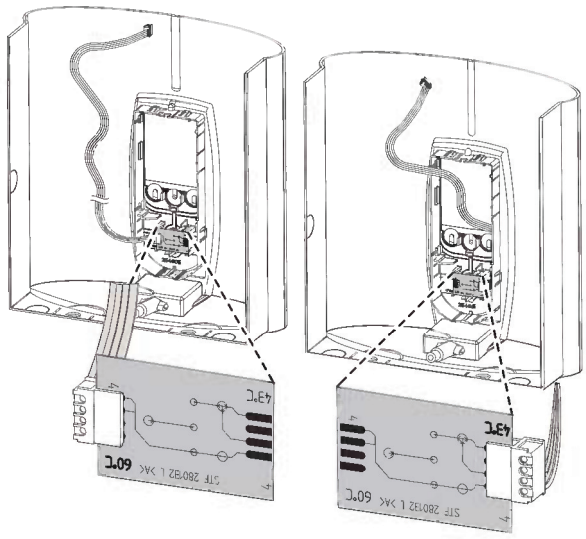
» Remove the appliance cap.

» Remove the electronic PCB from the user interface on the appliance cap. Be careful of the snap-on hooks.

» Move the plug from left to right (position "43 °C").

» Refit the user interface, ensuring the snap-on hooks click into place. Observe the positions of the pushbutton and shaft.

Setting the temperature limit / anti-scalding protection



8.4 Installation versions

The following installation versions are possible/permissible:

- Power supply for unfinished walls - from above
- Power supply for finished walls
- Water installation for finished walls
- Installation with repositioned appliance cap
- Installation for offset tiles
- Installation of a load shedding relay

8.5 Special accessories

8.5.1 Twin-lever taps (mains pressure)

- **WKMD - Kitchen taps**, part number 222437
- **WBMD - Bathroom taps**, part number 222438

8.5.2 Installation accessories

- **Undersink installation pipe assembly**, part number 070565, Connections: Finished walls, G 3/8", above.
- **2 pce. G ½" water plug set**, part number 074326. These plugs are required for third party pressure valves.

8.5.3 Installation sets for installation on finished walls

- **Solder fitting - copper pipe**, part number 074019, comprising: 2 x G ½" water plugs and 2 x union nuts ½" with insert for solder fitting Ø 12 mm.
- **Compression fitting - copper pipe**, part number 222380, comprising: 2 x G ½" water plugs and 2 x compression fittings ½" x 15 mm, plus gaskets.
- **Compression fitting - plastic pipe**, part number 222381, comprising: 2 x G ½" water plugs and 2 x compression fittings ½" x 16 mm (Viega: Sanfix-Plus, or Sanfix-Fosta), plus gaskets.

8.5.4 Universal mounting frame

Part number 220291, comprising: Mounting frame with electric wiring. This set creates a gap of 30 mm between the back panel of the appliance and the installation wall. This enables the power supply to be freely routed over unfinished walls behind the appliance. This increases the appliance depth by 30 mm. This set reduces the protection to IP 24 (splashproof).

8.5.5 Offset installation pipe assembly
Part number 220290, comprising: Universal mounting frame (for technical description see part number 220291) and pipe bends for the vertical offset of the appliance against the water connection by 90 mm downwards.

8.5.6 Pipe assembly, replacement of a gas fired water heater
Part number 220510, comprising: Universal mounting frame (for technical description see part number 220291) and pipe bends for installation with existing gas fired water heater connections (cold water connection on the left; DHW connection on the right).

8.5.7 DHB replacement pipe assembly
Part number 159876, comprising: 2 x water plug-in couplings. These allow the appliance to be connected to the available water plug-in connections of a DHB.

8.5.8 Load shedding relay LR 1-A
Part number 001786. The load shedding relay enables operation with, for example, electric storage heaters. The instantaneous water heater is operated via the load shedding relay prior to any other appliance.

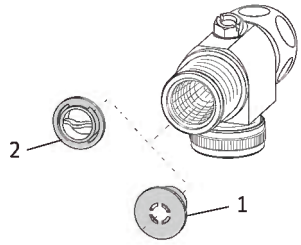
9. Installation

9.1 Installation information

9.1.1 Flow pressure
If the flow rate required for the appliance to switch on is not achieved even with the tap fully open, remove the flow limiter. Replace it with the plastic profile washer supplied. If required the pressure in the water installation can also be raised.

Thermostatic valves.
For the thermostatic valve to function correctly, the flow limiter for this valve must not be replaced with the plastic profile washer.

Installing flow limiter or plastic profile washer



1 Flow limiter
2 Plastic profile washer

9.1.2 Flexible water connection lines
If the appliance is connected with flexible water connection lines, ensure that the bayonet fittings of the pipe bends do not become twisted inside the appliance.

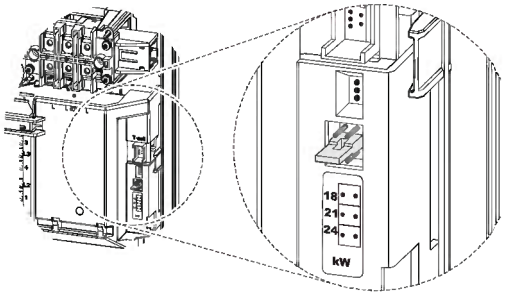
9.1.3 Appliance with changeover connected load
The appliance DHB-E 18/21/24 SLi is set to 21 kW when delivered. If the appliance is installed with a different output, take the following steps:

» Re-plug the coding card according to the selected output; for selectable output and fuse protection of the appliance see "Specification".

» Mark the selected output on the type plate using a permanent marker.

» Install the flow limiter with a rating corresponding to that of the appliance. The colour of the flow limiter is given in the table "Specification".

Coding card for output changeover



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9.2 Installation

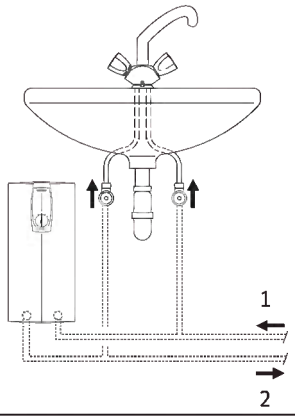
9.3 Installation location

The appliance is exclusively designed for installation on a solid wall. Ensure that the wall has a sufficient load-bearing capacity.

Always install the appliance vertically (over or undersink) in a room free from the risk of frost.

9.3.1 Undersink

Undersink installation



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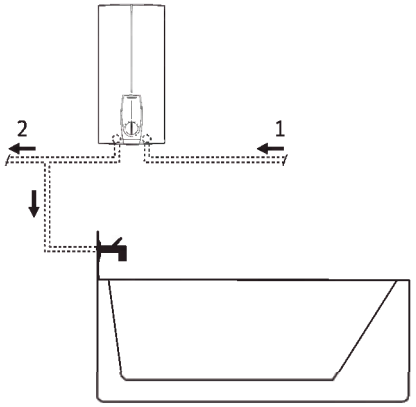
1 Cold water inlet
2 DHW outlet

9.3.2 Oversink

Oversink installation



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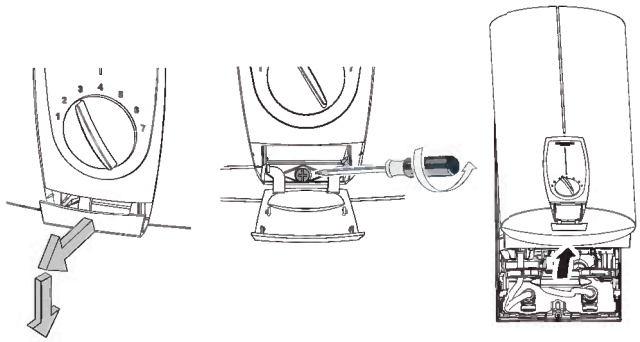
1 Cold water inlet
2 DHW outlet

9.4 Installation

9.4.1 Opening the appliance

opening appliance



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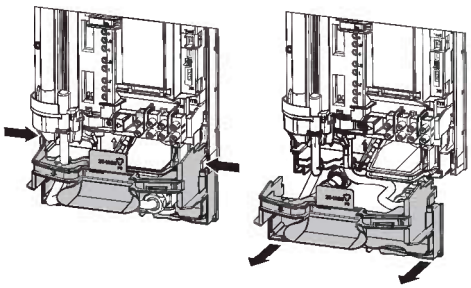
To maintain contact protection in the delivered condition, some models have a strip of card inserted in the user interface. Remove this strip before installing the appliance.

9.4.2 Removing the back panel

Removing lower part of back panel



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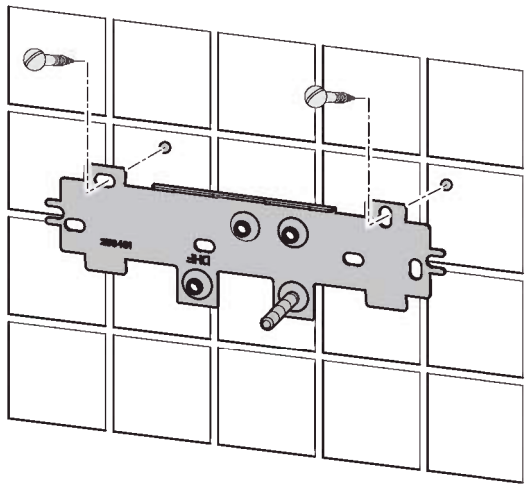
» Press the two locking hooks on the r.h. and l.h. side and remove the lower part towards the front.

9.4.3 Fitting the mounting bracket

» Mark out the holes for drilling using the installation template. If the appliance is to be installed with water connections for finished walls, the fixing hole in the lower part of the template must also be marked out.

» Drill the holes and secure the mounting bracket with two screws and two rawl plugs. The screws and rawl plugs are not part of the standard delivery.

Securing the mounting bracket



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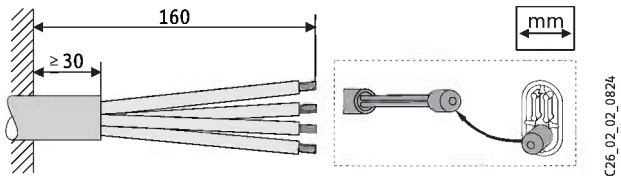
9.4.4 Fitting the power cable

Installing the power cable



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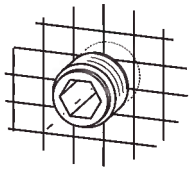
» Prepare the power cable.

» Use the plastic cap as an installation aid.

9.4.5 Inserting the twin nipples

Sealing in and inserting twin nipples



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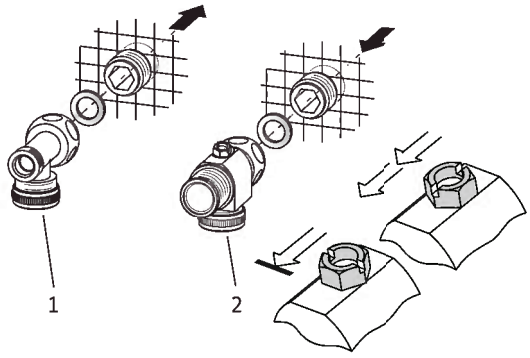
9.4.6 Preparing the water connection

» Secure the tee and cross-piece to the twin nipples with flat packing.

» Thoroughly flush the cold water supply line.

Three-way shut-off valve
Never use the three-way shut-off valve to reduce the flow rate; it is only designed to shut off a circuit.

Water connection



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1 Tee
2 Cross-piece

9.4.7 Fitting the sieve

» Fit the sieve provided in the cold water inlet of the appliance.

Sieve
The sieve must always be fitted for the function of the appliance to be guaranteed. If an appliance is being replaced during installation, ensure that a sieve is available.

Fitting the sieve

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9.4.8 Installing the DMB flow limiter

» Position the flow limiter provided in the cold water inlet of the appliance.

A second flow limiter is provided with the DHB-E 18/21/24 SLi. Install the flow limiter with an output corresponding to that of the appliance. The colour of the flow limiter is given in the table "Specification".

Installing the flow limiter

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9.4.9 Mounting the appliance

The cable grommet pointing towards the wall may hinder the mounting of the appliance close to the wall. To prevent such problems, it is advisable to briefly press the cable grommet

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from behind into the back panel, to reduce the stiffness or the grommet.

» Remove the fixing toggle from the upper part of the back panel (diagram "Mounting the appliance").

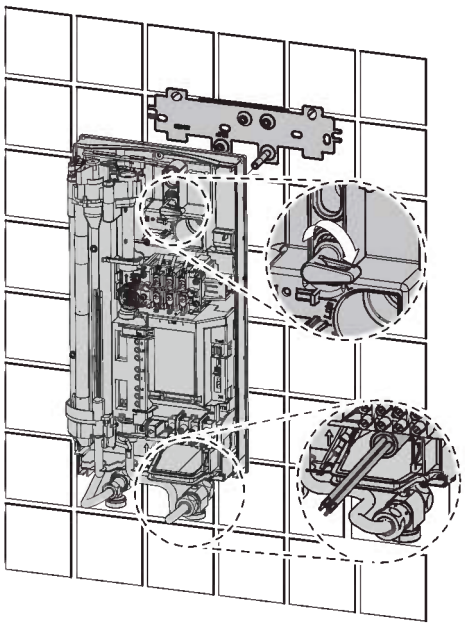
» Route the power cable from behind through the cable grommet until it rests against the cable sheath. Align the power cable. If the cross-section of the power cable is greater than 6 mm, enlarge the hole in the cable grommet (see also "Power supply for larger cross-sections").

» Push the appliance over the stud of the mounting bracket, so that it breaks through the soft seal. If necessary pierce the soft seal with a screwdriver.

» Put the fixing toggle onto the stud of the mounting bracket that penetrates the back panel.

» Press the back panel firmly into place and lock the fixing toggle by turning it through 90°.

Mounting the appliance



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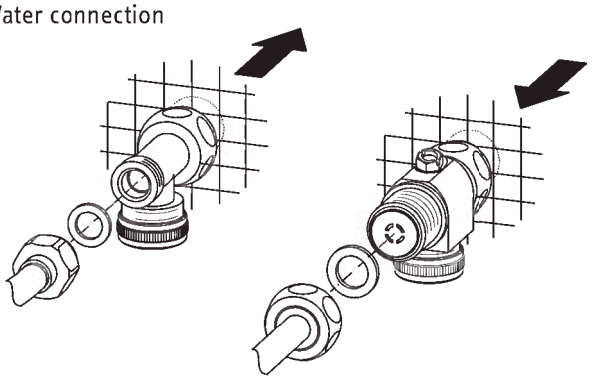
9.4.10 Finalising the water connection

Water connection



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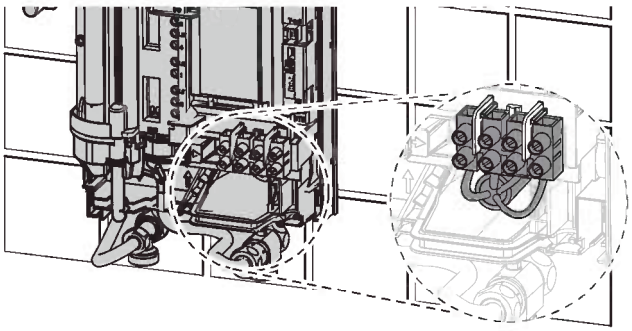
9.4.11 Connecting the power supply

» Connect the power cable to the mains terminal (see chapter "Wiring diagram").

Earth connection
Ensure that the appliance is connected to earth.

Power connection



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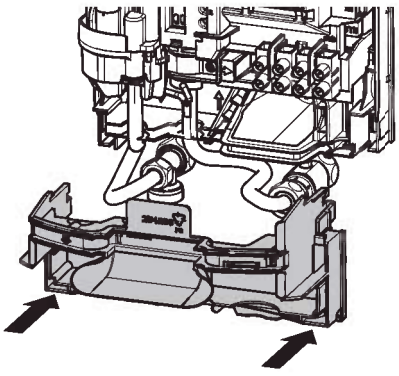
9.4.12 Fitting the lower back panel

Installing and securing lower part of back panel



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9.4.13 Completing the installation process

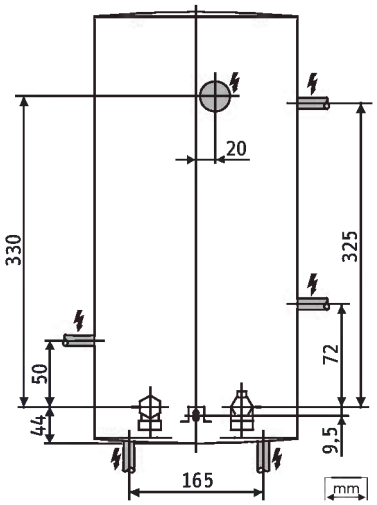
» Align the mounted appliance by loosening the fixing toggle, aligning the power supply and back panel, and then retightening the fixing toggle. If the back panel of the appliance is not flush against the wall, the appliance can be fixed with a screw in the lower part.

9.5 Installation versions

9.5.1 Power supply from above for unfinished walls

The following diagram shows the dimensions for the power supply from above.

Dimensions for power connection from above for finished walls (AP)



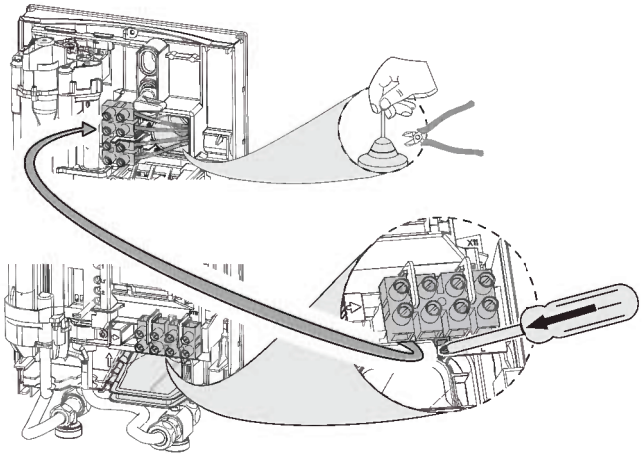
To connect the power supply, take the following steps:

» Open out the cable grommet to match the cross-section of the power cable.

» Push down and remove the locking hook that secures the mains terminal.

» Move the mains terminal in the appliance from the bottom to the top and click into place.

Power supply from above



9.5.2 Power supply for finished walls

The appliance can also be connected if the power supply has been routed over finished walls. This applies to the connection from below and above. Take the following steps:

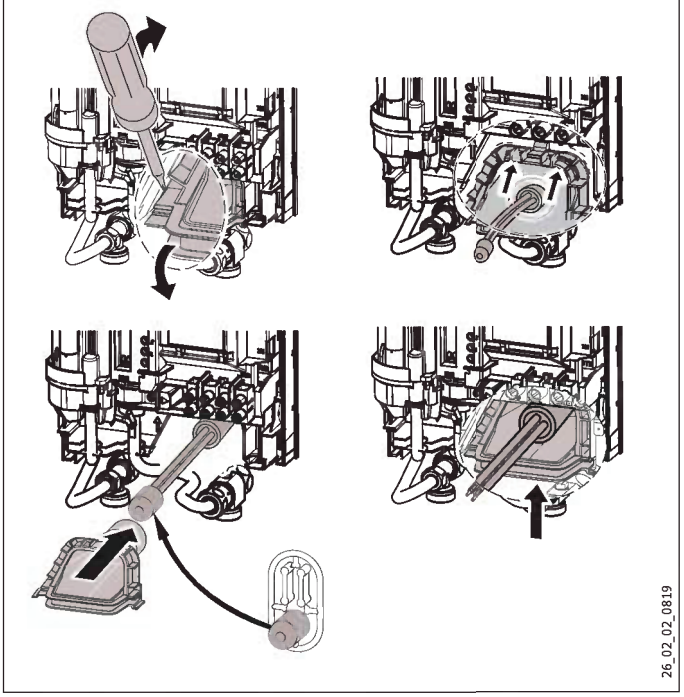
» Cut or break knock-outs in the back panel and appliance cap. Possible knock-out points can be seen in the diagram "Dimensions for power supply".

Changing the type of protection
If the appliance has been connected with a power supply on finished walls, the type of protection on the type plate must be changed from IP 25 to IP 24. Use a permanent marker for that.

» Cross out "IP 25" and mark the box "IP 24".

9.5.3 Power supply for large cross-sections

Removing and installing the cable grommet



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

» Before installing the appliance, use a screwdriver to push the cable grommet out.

» Push the appliance over the stud of the mounting bracket, so that it breaks through the soft seal.

» Push the fixing toggle onto the stud of the mounting bracket that penetrates the back panel.

» Press the back panel firmly into place and lock the fixing toggle by turning it through 90°.

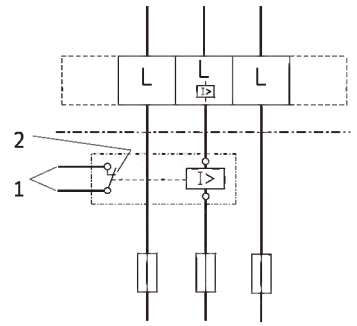
» Push the cable grommet over the power cable. For this, use the installation aid. For a power cable of 10 or 16 mm², the hole in the cable grommet must be enlarged. Click the cable grommet into place in the back panel.

9.5.4 Connecting a load shedding relay

Install the load shedding relay 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 from Stiebel Eltron as a special accessory.

Phase connection
Connect the phase that switches the load shedding relay to the indicated terminal of the mains terminal in the appliance.

Priority control with LR 1-A



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.

9.5.5 Water installation for finished walls

Suitable pressure taps WKMD or WBMD for installation on finished walls are available as special accessories.

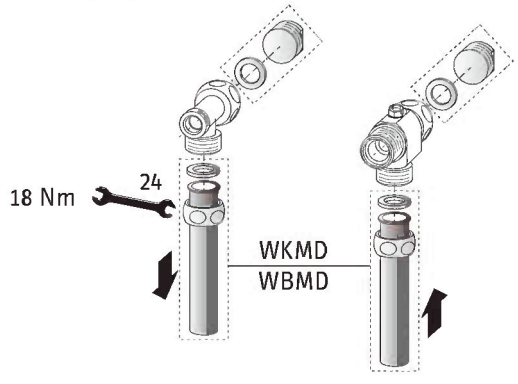
» Fit the water plugs with gaskets to seal the connection (below the plaster). With Stiebel Eltron pressure taps, plugs and gaskets are part of the standard delivery. For third party pressure taps, plugs and gaskets can be ordered as special accessories.

» Install the tap.

» Push the lower part of the back panel under the connection pipes of the pressure tap and click it into place in the back panel.

» Secure the connection pipes to the appliance.

Connecting taps for finished walls



9.5.6 Water installation for finished walls with solder/ compression fitting

With the special accessories "solder fitting" or "compression fitting" (see "Special accessories"), copper or plastic pipes can be connected in installations for finished walls.

With special accessory "solder fitting", a threaded connection with on-site 12 mm copper pipes is possible. For this the following steps are required:

» 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 and click it into place in the back panel.

» Secure the connection pipes to the appliance.

Valve installation information.
Observe the valve manufacturer's installation instructions.

9.5.7 Water installation for finished walls, fitting the appliance cap

The following steps are necessary to complete the appliance cap installation.

» Cleanly break out the knock-out in the appliance cap. If necessary, use a file.

» Break the tabs out of the cap guides.

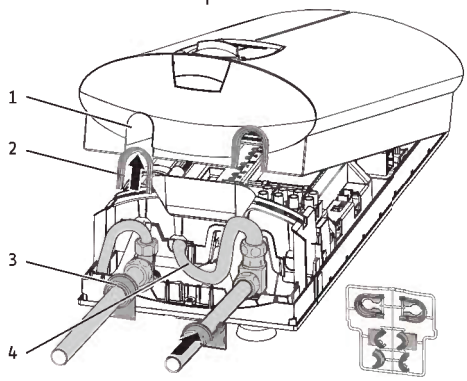
Installation information if tap pipes are slightly offset.
The appliance can be sealed by fitting the cap guides with tabs if the tap pipes are slightly offset. The back panel guides are not required in this case.

» Click the cap guides provided into place in the knock-outs.

» Position the back panel guides on the pipes and push them together. Then push the guides until they meet the back panel.

» Secure the back panel at the bottom with a screw. This is also relevant if flexible water supply systems are used.

Installation information for taps for finished walls



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

9.5.8 Split lower part of back panel

With threaded connections for finished walls, the lower part of the back panel can also be installed after fitting the taps:

» Saw out the centre section of the lower part of the back panel.

» Insert the pipes from the separate pack from behind into the centre section.

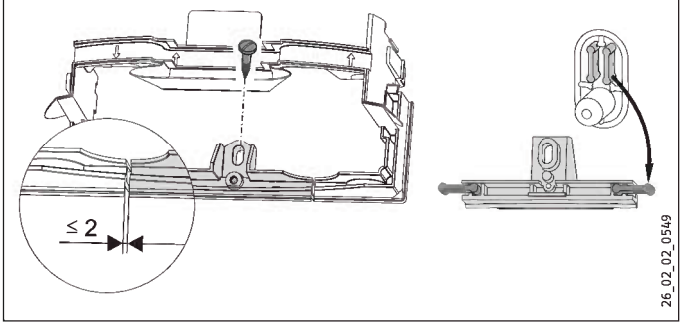
» Route the centre section under the pipes and push it upwards.

» Fasten the lower part of the back panel to the centre section.

» Click the lower part of the back panel into place in the back panel. The lower part must be secured with an additional screw.

» Secure the connecting pipes of the valve to the appliance.

Installation with split lower part



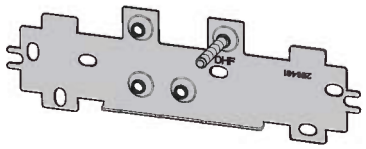
9.5.9 Installation in case of appliance replacement

An existing mounting bracket can be used when replacing Stiebel Eltron appliances (except "DHF"). For this, open a suitable knock-out in the back panel for the stud of the existing mounting bracket.

If the appliance is being installed in place of a DHF, move the stud on the mounting bracket as shown in the diagram "Mounting bracket for DHF appliance replacement". The stud cuts its own groove. Then turn the mounting bracket through 180° to be mounted on the wall. The logo "DHF" is then turned towards the reader.

If replacing a third party appliance, suitable holes for rawl plugs can be used.

Mounting bracket for DHF appliance replacement



9.5.10 Undersink installation with turned appliance cap

The appliance cap can be positioned on the back panel turned through 180°. This particularly advantageous for undersink installation. For this take the following steps:

» Remove the user interface from the appliance cap by pressing the locking hooks.

» Turn the appliance cap and click the user interface into place, ensuring that all locking hooks click into place. To install the user interface more easily, press against the inner side of the appliance cap (in the shaded area, see diagram "Appliance cap for undersink installation").

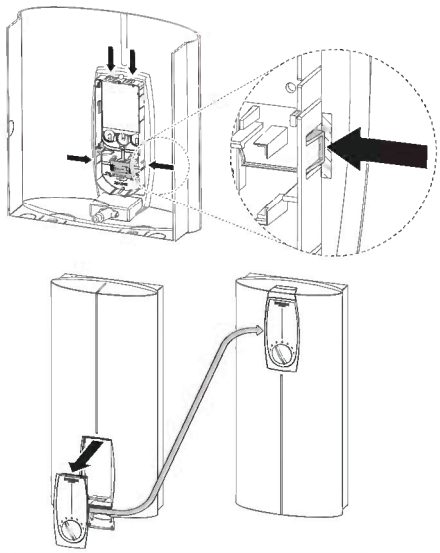
User interface with faulty locking hooks.
Never install a user interface with a faulty locking hook. Otherwise the safety of the appliance cannot be guaranteed.

» Plug the set value transducer cable into the "set temperature" PCB; see "Commissioning".

» Hook the appliance cap 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 cap gently forwards and back.

» Close the appliance with the screw in the cap.

Appliance cap for undersink installation



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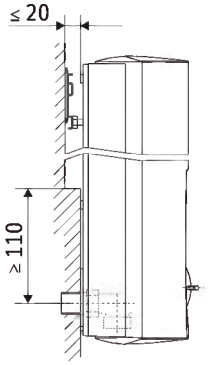
9.5.11 Installation for offset tiles

This appliance can be installed where tiles are offset. See diagram for maximum tile offset and minimum contact area of the appliance. Adjust the wall clearance and lock the back panel with the fixing toggle by turning it clockwise through 90°.

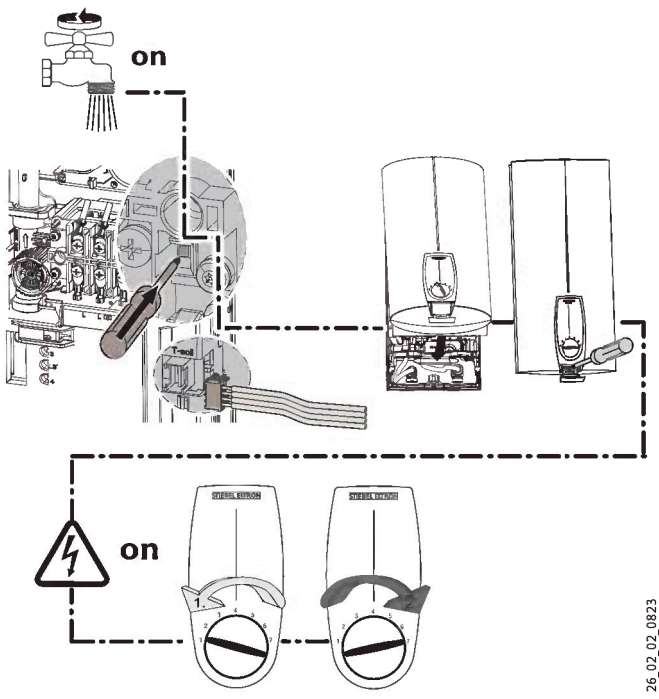
Installation dimensions for offset tiles



10. Commissioning

Danger of electrocution
Commissioning must only be carried out by an authorised contractor in accordance with safety regulations.

Commissioning



» Open and close all connected draw-off valves several times, until all air has been vented from the pipework and the appliance.

» Activate the safety pressure limiter by pressing the reset button. The appliance is supplied with the safety pressure limiter deactivated.

» Push the temperature selector plug into the "set temperature" PCB. Ensure that the gasket pocket on the lower part of the back panel is not bent and that it seals the lower part of the user interface while the appliance cap is being installed.

» Fit the appliance cap and secure with a screw.

» Switch the mains power ON.

» Calibrate the temperature by turning the temperature selector as far as possible clockwise and then anti-clockwise.

» Check the appliance function.

» Remove the protective foil from the user interface.

11. Appliance handover

» Explain the appliance function to the user and familiarise him/her with its operation.

» Make the user aware of potential dangers, especially the risk of scalding.

» Hand over these instructions to the user for safe-keeping.

12. Troubleshooting

Danger of electrocution
To test the appliance, it must be supplied with power.

12.1 Display options LED diagnostic "traffic lights"

Display options		
	red	illuminates in case of faults
	yellow	illuminates when the appliance is heating water
	green	flashing: The appliance is supplied with power

12.2 Fault table

Fault / LED diagnostic "traffic light" display*	Ursache	Behebung
The appliance does not start.	The shower head / perlators are scaled up.	Descale or if necessary replace the shower head / perlators.
Inadequate flow rate.	The sieve in the appliance is dirty.	Clean the sieve.
Set temperature is not achieved.	One phase down.	Check the MCB/fuse in your fuse box.
Heating does not switch on.	The air sensor detects the presence of air in the water and briefly switches the heater off.	The appliance restarts after one minute.
 No hot water and no "traffic light" display.	The MCB/fuse has responded/blown.	Check the MCB/fuse in your fuse box.
	Safety pressure limiter AP 3 has tripped.	Remove the cause of the fault (e.g. faulty pressure washer).
		Protect the system against overheating by opening a draw-off valve downstream of the appliance for 1 minute. This depressurises and cools down the heating system.
		Activate the safety pressure limiter by pressing the pushbutton on the safety pressure limiter (see also chapter "Commissioning").
	The PCB is faulty.	Check the PCB and replace if necessary.
 No hot water at flow rate of > 3 l/min. "Traffic light" display: Green flashing or constantly on	The PCB is faulty.	Check the PCB and replace if necessary.
	DFE flow sensor is not plugged in.	Push the flow sensor plug back on.
	DFE flow sensor is faulty.	Check the flow sensor and replace if necessary.
 No hot water at flow rate of > 3 l/min. "Traffic light" display: Yellow constantly on; green flashing	The high limit safety cut-out has tripped or its lead is broken.	Check the high limit safety cut-out and replace if necessary.
	The heating system is faulty.	Measure the resistance of the heating system and replace if necessary.
	The PCB is faulty.	Check the PCB and replace if necessary.
 No hot water "Traffic light" display: Red constantly on; green flashing	The cold water inlet temperature exceeds 35 °C.	Reduce the cold water inlet temperature to the appliance.
	The cold water sensor is faulty.	Check the PCB and replace if necessary.

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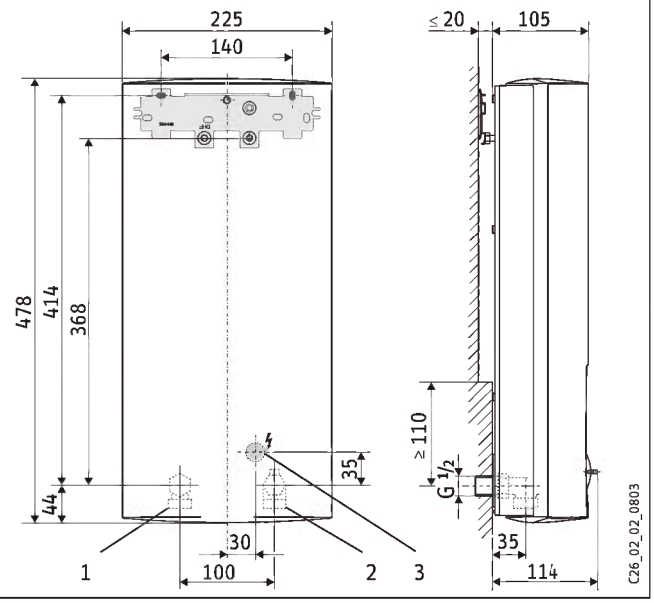
13. Specification

13.1 Dimensioned drawing

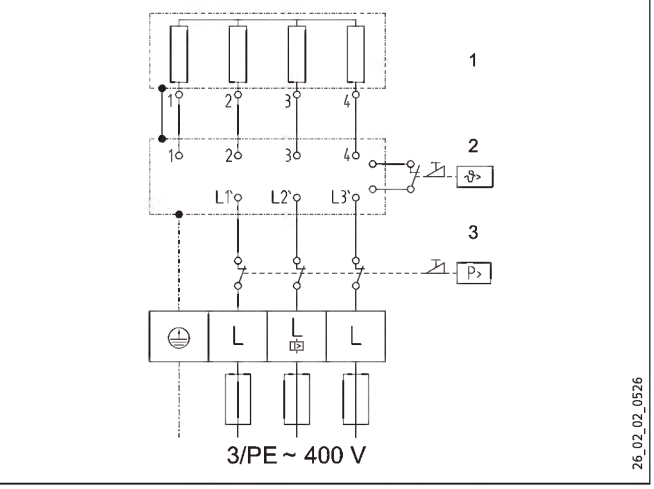
Dimensioned drawing



1 DHW threaded fitting
2 Cold water threaded fitting (three-way shut-off valve)
3 Power cable from below

13.2 Wiring diagram

Wiring diagram



1 = Heater
2 = High limit safety cut-out
3 = Safety pressure limiter

13.2.1 Mixed water volume

See the following table for the mixed water volume. The equation symbols have the following meanings:

ϑ_1 = Cold water inlet temperature

ϑ_2 = Mixed water temperature

ϑ_3 = Outlet temperature

Available temperature:

– in the shower, for hand washing, filling the bath etc. (~ 38 °C).
– for the kitchen sink and when using thermostatic valves (~ 60 °C).

ϑ_2 = 38 °C (mixed water temperature)

kW	11	13.5	18	21	24	27
ϑ_1	l/min					
6 °C	5.0	6.1	8.0	9.4	10.7	12.1
10 °C	5.7	6.9	9.2	10.7	12.3	13.8
14 °C	6.6	8.1	10.7	12.5	14.5	16.1

ϑ_3 = 60 °C (outlet temperature)

kW	11	13.5	18	21	24	27
ϑ_1	l/min					
6 °C	2.9	3.6	4.8	5.6	6.4	7.2
10 °C	3.2	3.9	5.2	6.0	6.9	7.7
14 °C	3.4	4.3	5.6	6.5	7.5	8.4

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

13.3 Locally applicable approvals and certifications

13.3.1 Germany:

STIEBEL ELTRON
DIN 4109
PA-IX 6816/I
MPA NRW.

A general test certificate [Germany] as verification of suitability regarding noise emissions has been applied for in connection with the instantaneous water heater series DHB-E ... SLi / SL electronic based on the State Building Regulations [Germany].

13.4 Application range

Application ranges				
Details as		Specific electrical resistance and specific electrical conductivity		
		Std. details **at 15 °C**	at 20 °C	at 25 °C
Resistance	Ωcm	≥ 900	≥ 800	≥ 735
Conductivity	mS/m	≤ 111	≤ 125	≤ 136
Conductivity	µS/cm	≤ 1110	≤ 1250	≤ 1360

13.5 Extreme operating and fault conditions

Operating temperatures can reach up to 60 °C. In case of faults, loads up to max. 95 °C at a pressure of 1.2 MPa can occur temporarily in the installation.

13.6 Specification

Model		Electronically controlled instantaneous water heater						
Type		DHB-E 11 SLi electronic	DHB-E 13 SL electronic	DHB-E 18 SLi 25 A electronic	DHB-E 18/21/24 SLi electronic			DHB-E 27 SLi electronic
Part no.		227485	227481	227486	227487			227488
Operating details								
Rated output		11	13.5	18	18	21	24	27
Rated current	A	16	19.5	26	29	31	35	39
Fuse protection	A	16	20	25	32	32	35	40
Selectable output		no	no	no	yes	yes	yes	no
Power connection		3/PE ~ 400 V - 50 Hz						
Nominal capacity	l	0.4						
Type		sealed unvented						
Rated operating pressure	MPa	1						
Temperature setting range	°C	~ 30 - 60						
Pressure drop with flow limiter	MPa / l/min	0.07 / 3.1	0.11 / 3.9	0.08 / 5.2	0.08 / 5.2	0.10 / 6.0	0.13 / 6.9	0.16 / 7.7
Pressure drop without flow limiter	MPa / l/min	0.02 / 3.1	0.03 / 3.9	0.06 / 5.2	0.06 / 5.2	0.08 / 6.0	0.10 / 6.9	0.12 / 7.7
Flow limiter	l/min	4.0	4.0	7.5	7.5	7.5	8.5	8.5
	colour	pink	pink	blue	blue	blue	green	green
Cold water inlet temperature	°C	≤ 25						
Test symbols		see type plate						
Approvals/certifications		see chapter "Locally applicable approvals/certifications"						
Protection class to EN 60335		1						
Protection level to EN 60529		IP 25, hoseproof (IP 24 power supply for finished walls)						
Bare wire heating system		900 Ωcm (see chapter "Application range")						
Applications		water with low limescale levels and those with limescale content						
Flow rate "ON"	l/min	≥ 3.0						
Dimensions and weights								
Dimensions H x W x D	mm	478 x 225 x 114						
Weight	kg	~ 3.6						
Water connection		G ½" (male thread))						

* Pressure drop values also apply to minimum flow pressure to DIN 44851/ flow rate for heating from 10 °C to 60 °C (Δϑ 50 K). With reference to DIN 1988 part 3, table 4, a pressure drop of 0.1 MPa is recommended for sizing the pipework.

Guarantee

For guarantees please refer to the respective terms and conditions of supply for your country.

The installation, electrical connection and first operation of this appliance should be carried out by a qualified installer.

The company does not accept liability for failure of any goods supplied which have not been installed and operated in accordance with the manufacturer's instructions.

Environment and recycling

Please help us to protect the environment by disposing of the packaging in accordance with the national regulations for waste processing.