



Installation and technical manual

Instant water heater

CDE 18–27 VarioSelect



THESE INSTRUCTIONS SHOULD BE READ CAREFULLY AND RETAINED FOR FUTURE REFERENCE.

BE SURE TO OBSERVE ALL LABELS AND WARNINGS ON THE APPLIANCE

Article No.: 911 360 600

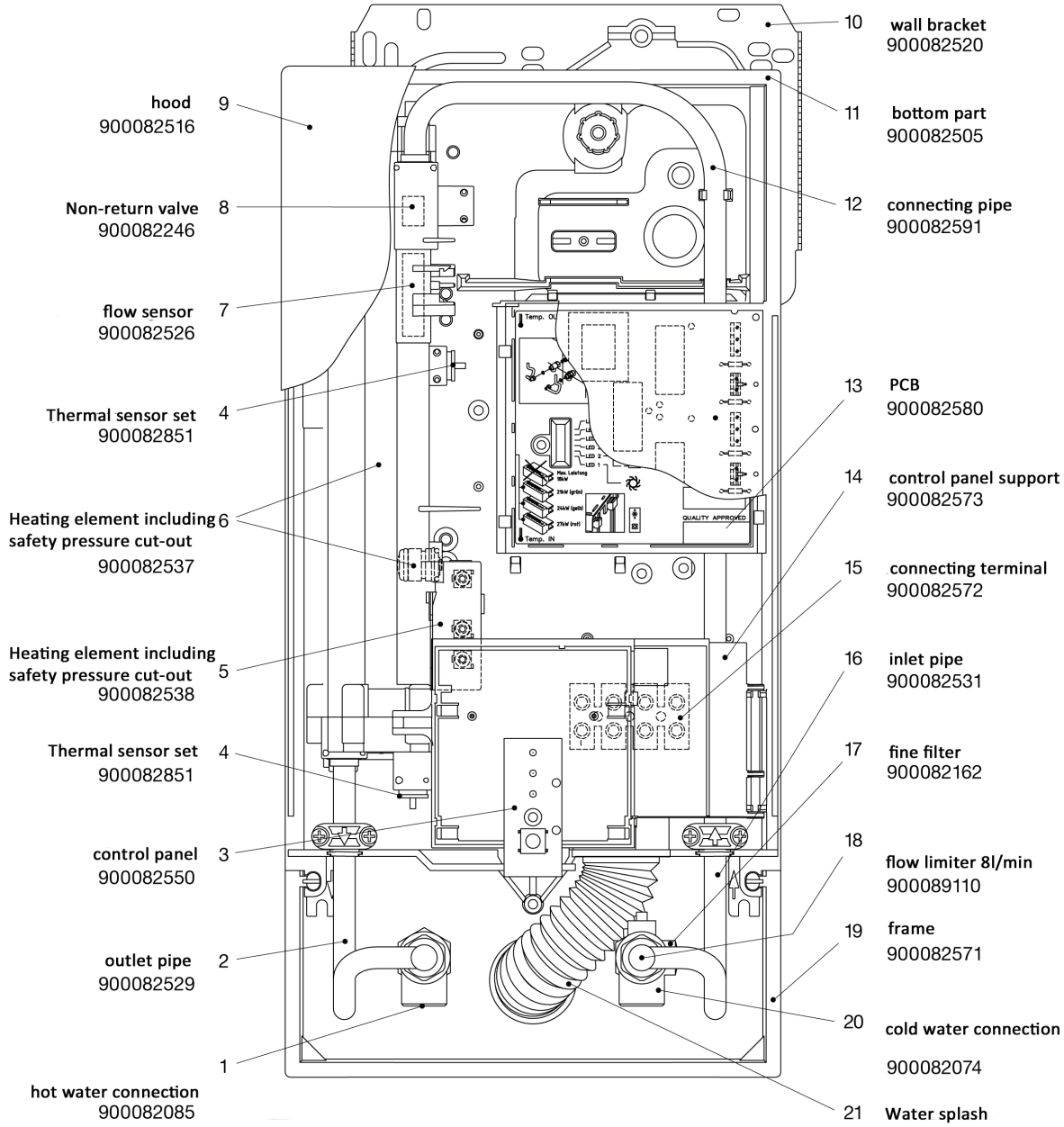
Edition: 07/15

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1. Overview

Specify when ordering spare parts device type and serial number



23 Screw-in nipples 1/2" 900082110

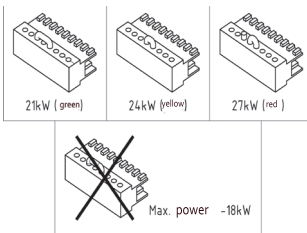


22 Grommet 900082180

24

900082518

2





2. Safety instructions





Please read these instructions carefully before installing or using the appliance! Keep the instructions handy with the appliance for future use!

Instruction manuals are intended for the specialist who is responsible for the installation of the appliance. Operation manuals are for the end user. The latest version of the instructions can be found online at

<http://www.technotherm.com/Instantaneous-Water-Heater-varioselect.html>

- Do not use the appliance until it has been correctly installed and unless it is in perfect working order.
- Do not remove the front cover under any circumstances before switching off the mains electrical supply to the unit.
- Never make technical modifications, either to the appliance itself or the electrical leads and water pipes.
- The appliance must be earthed at all times.
- Pay attention to the fact that water temperatures in excess of approx. 43 °C are perceived as hot, especially by children, and may cause a feeling of burning. Please note that the fittings and taps may be very hot when the appliance has been in use for some time.
- The appliance is only suitable for domestic use and similar applications inside closed rooms, and must only be used to heat incoming water from the mains supply.
- The appliance must never be exposed to frost.
- The values stated on the rating plate must be observed.
- In case of malfunction, disconnect the fuses immediately. In case of leaks, cut off the mains water supply instantly. Repairs must only be carried out by the customer service department or an authorised professional.
- This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

3. Technical specifications

Typ	CDE 18 .. 27 Vario Select				
Energy efficiency class	A *)				
Rated capacity / rated current	18 kW (26 A)	21 kW (30 A)	24 kW (35 A)	27kW (39A)	
Chosen capacity / current	3/PE 380..415V AC			3/PE 400V	
Min. required cable size 1)	4.0 mm ²		6.0 mm ² 2)		
Hot water (l/min) ¹⁾	max. at $\Delta t = 28$ K max. at $\Delta t = 38$ K	9,2 ³⁾ 6,8	10,7 ³⁾ 7,9	12,2 ³⁾ 9,0 ³⁾	13,8 ³⁾ 10,2 ³⁾
Rated volume	0,4 l				
Type	Pressure type 1,0 MPa (10 bar)				
Heating system	Bare wire heating system				
Required spec. water resistance @ 15 °C Spec. electrical conductivity	$\geq 1300 \Omega\text{cm}$ $\leq 76 \text{ mS/m}$				
Inlet temperature	0 – 30 °C				
Flow rate to switch on – max. flow rate ⁴⁾	2,5 – 8,0 l/min				
Pressure loss	0,2 bar bei 2,5 l/min 1,3 bar bei 9,0 l/min ⁵⁾				
Temperature choice	35 °C / 38 °C / 42 °C / 48 °C / 55 °C				
Water connection	G 1/2"				
Weight (when filled with water)	3,65 kg				
VDE class of protection	I				
Type of protection / safety	   IP25 				

*) The declaration complies with the requirements of the EU regulation No 812/2013 being binding as of September 2015

1) Maximum applicable cable size is 10mm²

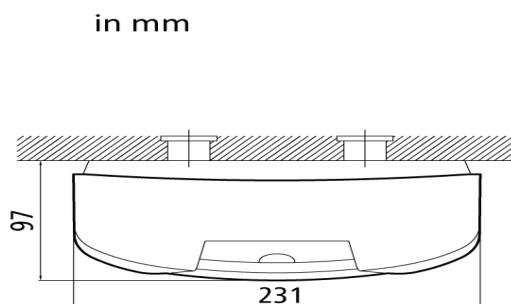
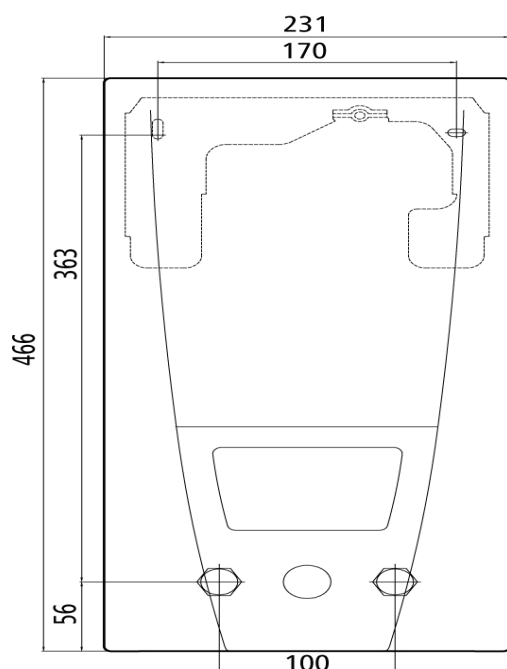
2) then replacing a 21 kW / 380 V appliance the cable size of 4 mm² can be adopted.

3) Mixed water

4) Flow rate limited to achieve optimum temperature rise

5) Without flow regulator

4. Dimensions



5. Installation

- The following regulations must be observed: VDE 0100
- EN 806-2
- Installation must comply with all statutory regulations, as well as those of the local electricity and water supply companies.
- The rating plate and technical specifications
- Only intact and appropriate tools must be used

Installation site

- Appliance must only be installed in frost-free rooms. Never expose appliance to frost.
- The Appliance must be wall mounted and has to be installed with water connectors downward.
- The appliance complies with protection type IP25 and may therefore be installed in protection zone 1 according to VDE 0100 part 701.
- In order to avoid thermal losses, the distance between the instantaneous water heater and the tapping point should be as small as possible.
- For maintenance work, a shut-off valve should be installed in the supply line. The appliance must be accessible for maintenance work.
- Plastic pipes may only be used if they conform to DIN 16893, Series 2. The hot water pipes must be thermally insulated.
- The specific resistance of the water must be at least 1100 Ω cm at 15 °C. The specific resistance can be asked for with your water distribution company.

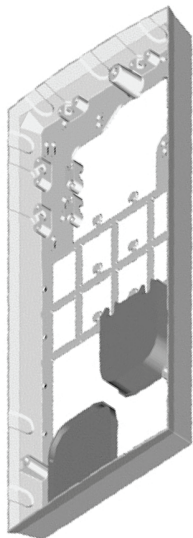
5. Installation

Mounting accessories

For installations under difficult conditions, these mounting accessories are available:

Mountik kit RDX

RDX

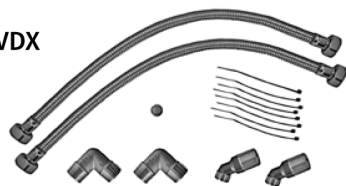


The instant water heater can be installed by means of this mounting kit in the below situations. The power supply cable is coming out of the wall at any place from behind the unit, but the wall has unusual surface conditions, making it difficult for installing the water heater. The power supply cable is coming from elsewhere and has to be connected to the back of the unit.

Extension kit VDX

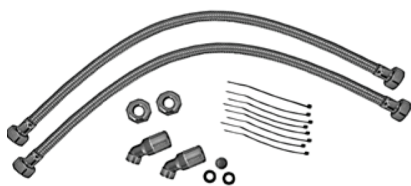
RDX is necessary!

VDX



The instant water heater can be installed by means of this extension kit if the water pipes are coming displaced or exchanged out of the wall or if they are coming edge-wise on the wall to the unit. The power supply could come out of the wall at any place under the unit or the wiring could be installed surface-mounted.

UDX



Extension kit UDX

RDX is necessary!

The instant water heater can be installed by means of this extension kit if the water-connections are expiring above the unit. The power supply could come out of the wall at any place under the unit or the wiring could be installed surface-mounted.

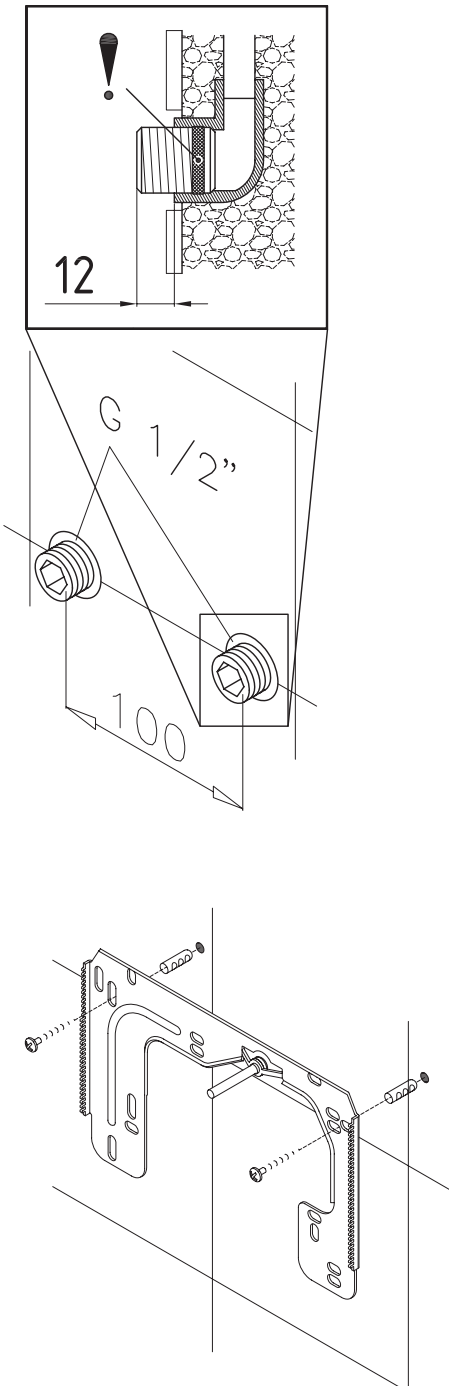
5. Installation

Installing the wall bracket

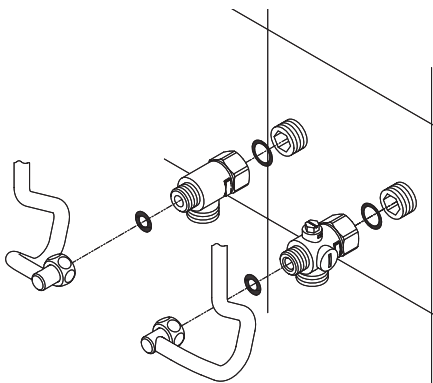
Note: If you install this instantaneous water heater in exchange for a conventional instantaneous water heater, there is generally no need to drill holes for the wall bracket, in this case step 2 would not be necessary.

Thoroughly rinse the water supply pipes before installation to remove soiling from the pipes.

1. Using a 12 mm hexagon socket screw key, screw the screw-in nipples into the wall connections. The seals must be fully screwed into the thread. After tightening, the double nipples must protrude by at least 12 mm.
2. Hold the included mounting template on the wall and align it so that the holes in the template fit over the connections. Mark the drill holes according to the template and drill them using a 6 mm drill. Insert the included dowels.
3. Screw in the wall bracket. Offset tiling or uneven surfaces can be compensated by up to 30 mm with the aid of the spacers supplied. The spacers are fitted between the wall and the wall bracket.



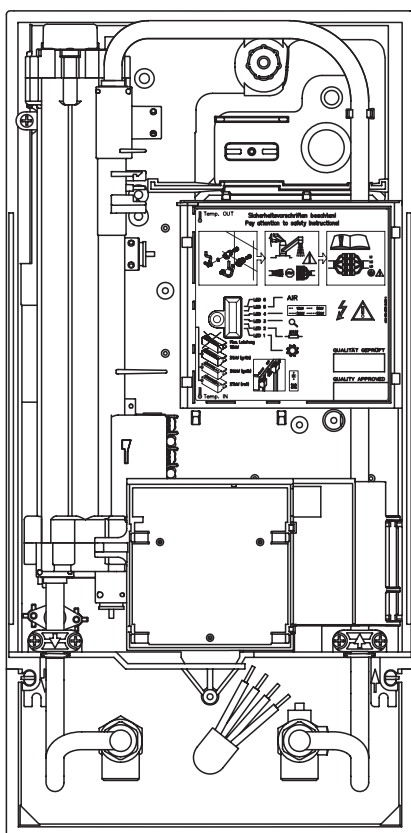
5. Installation



Installing connection pieces

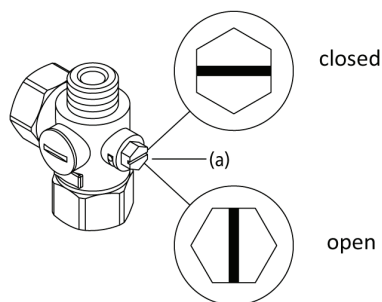
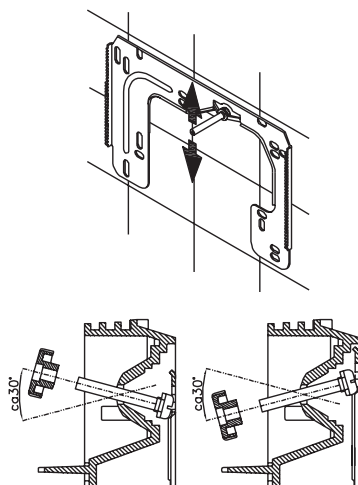
Note: Fasten the screw nuts with caution, to avoid damage to the valves or the piping system.

1. As shown in the illustration, screw the cold water connection piece with the union nut and the 1/2" seal onto the cold water connection.
2. Screw the hot water connection piece with the union nut and the 1/2" seal onto the hot water connection.

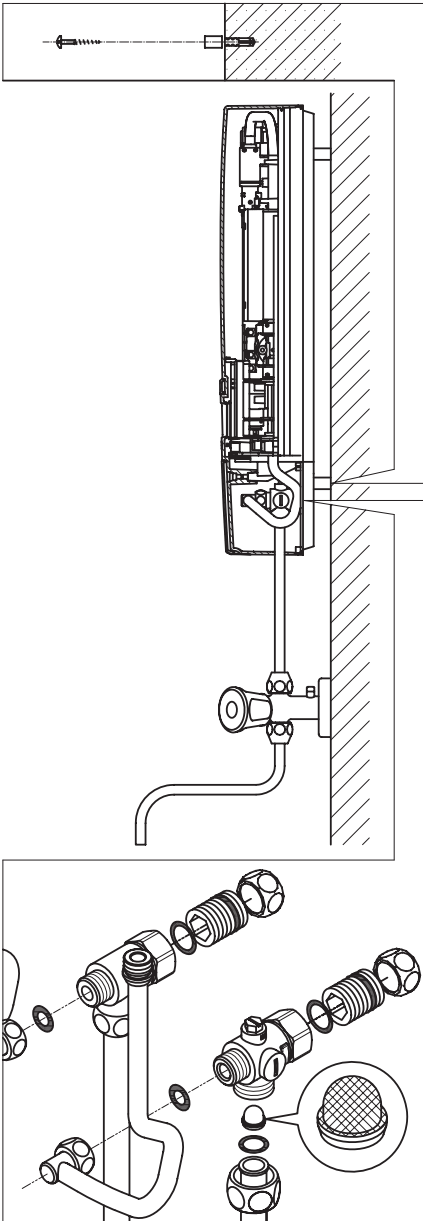


Installing the appliance

1. To open the appliance hood, take off the faceplate and unscrew the main hood screw.
2. When replacing an appliance, the electrical power supply cable may be connected in the upper part. Only in such case, follow the instructions "Electrical connection from above".
3. Place the appliance on the heater bracket so that the threaded rod of the wall bracket fits in the provided hole of the appliance. If necessary, slight corrections are possible by carefully bending the threaded rod of the wall bracket. However, it must be possible to screw on the water connection pipes of the appliance without applying force.
4. Screw the two 3/8" union nuts of the appliance's water connection pipes, each with the 3/8" seal, onto the fittings.
5. Screw the plastic knurled nut onto the threaded rod of the wall bracket.



6. Direct connection



Note: Fasten the screw nuts with caution, to avoid damage to the valves or the piping system.

For direct connection, the two 1/2" screw-in nipples and the 1/2" seals must be screwed into the 1/2" union nuts of the hot-water and cold water connectors. The two 1/2" caps of the side outlets of the hot water and cold-water connectors must be removed and screwed onto the open end of the screw-in nipples. The hot water and cold-water connectors must then be screwed into the 3/8" union nut of the appliance and delivery pipe, together with the 3/8" seals.

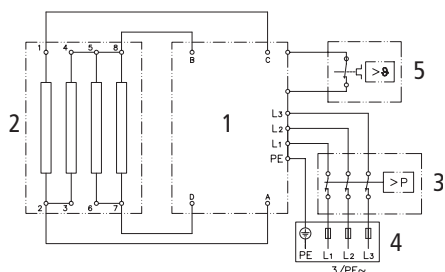
For direct connection, it is advisable to mount the appliance at a distance as illustrated alongside, using the spacer sleeves supplied. It should therefore be noted that the two fixing holes near the lower pipe connections are also used.

The flared end of the pipes must be screwed into the 1/2" side outlets of the hot-water and cold-water connectors with 1/2" union nuts and 1/2" seals. The holes required for the pipes must then be broken out of the housing with the aid of a blunt implement.

In case of direct connection please note: Put the strainer into the cold water connection!

7. Electrical connection

Wiring diagram



1. Electronic circuitry
2. Heating element
3. Safety pressure cut-out
4. Terminal strip
5. Safety thermal cut-out

Only by a specialist! Please observe:

- The installation must comply with current IEC and national local regulations or any particular regulations, specified by the local electricity supply company
- The rating plate and technical specifications
- The unit must be earthed!

Structural prerequisites

- The appliance must be installed via a permanent connection. Heater must be earthed!
- The electric wiring should not be injured. After mounting, the wiring must not be directly accessible.
- An all-pole disconnecting device (e.g. via fuses) with a contact opening width of at least 3 mm per pole should be provided at the installation end.
- To protect the appliance, a fuse element must be fitted with a tripping current commensurate with the nominal current of the appliance.

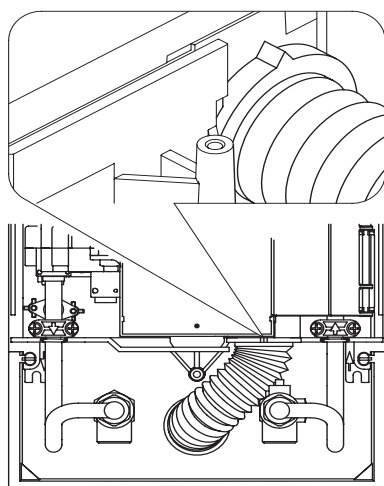
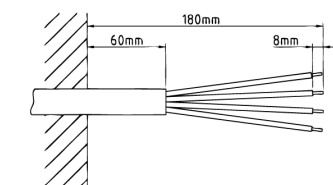
(0, 1 or 2) is shown on the display, then release the keys. Operating mode 1 must be selected first, thus to check the correct operation of the load shedding relay at low appliance output (35 degree setpoint and low water flow rate). Mode 2 must be selected if the load shedding relay flickers



Electrical connection from below

Note: If necessary, the connecting terminal can be displaced to the upper part of the appliance. If you want to do so, please follow the instructions in the next chapter. Check that the power supply is switched off prior to electrical connection!

1. Dismantle approximately 6 cm off the connecting cable above the wall outlet. With the smaller opening ahead, slide the water splash protection sleeve over the connecting cable so that the sleeve is flush with the wall. This prevents any leaking water from coming into contact with the electrical leads. It must not become damaged! The protection sleeve must be used!
2. Open the control panel rightwards.
3. Strip the cables and plug them in the connecting terminals according to the wiring diagram. The appliance must be earthed.
4. Pull the protective sleeve over the connecting cables until the sleeve fits perfectly in the recess of the intermediate panel. Adjust the water splash protection sleeve as illustrated. Reinsert the control panel and lock it on the heating element.
5. Place the hood on the appliance and screw in the fastening screw. After that you can reinsert the faceplate.

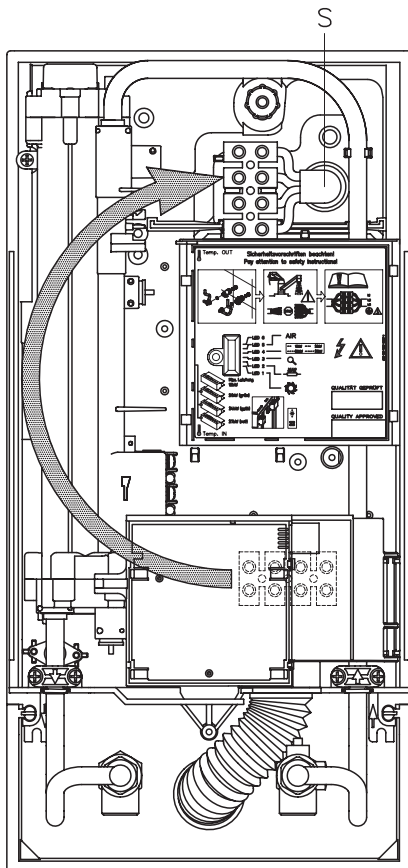


7. Elektroanschluss

Electrical installation from above



Check that the power supply is switched off prior to electrical connection



1. Open the prepared breaking point (S) in the upper part of the appliance by pressing with a blunt implement (e.g. screwdriver).
2. Slit the grommet to match the cable size. The opening in the grommet should be slightly smaller than the cross-section of the cable in order to ensure optimum protection against water. Fit the grommet into the opening. The protection grommet must be used!
3. Dismantle the cable roughly 6 cm above the point where it emerges from the wall. Hold the prepared appliance so that you can route the cable into the grommet with the other hand.
4. Place the appliance on the heater bracket so that the threaded rod of the wall bracket fits in the provided hole of the appliance
5. Unscrew the fastening screw of the connecting terminal. Displace the connecting terminal to the upper foot. Affix the connecting terminal again.
6. Strip the cables and plug them in the connecting terminals according to the wiring diagram. The appliance must be earthed.
7. Place the hood on the appliance and screw in the fastening screw. After that you can reinsert the faceplate.

8. Initial operation

Abb. 1: connect plug

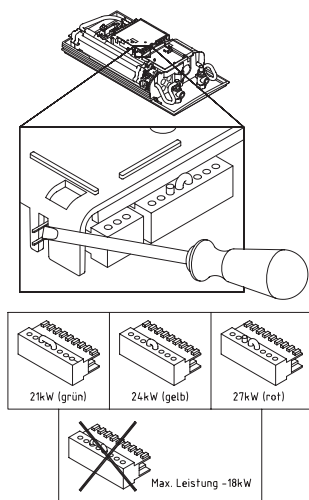


Abb. 2

LED 4 flashes on the electronic cover



Abb. 3.1

3 LEDs flashes for approx. 0,5 seconds

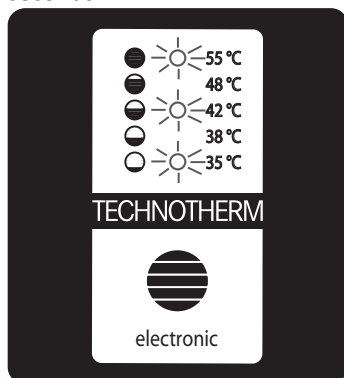
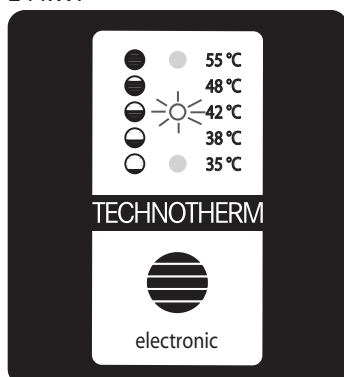


Abb. 3.2

3-time flashing for example, 24 kW:



Before making the electrical connection, fill the mains and the appliance with water by carefully opening and closing the hot water tap in order to vent completely. After every draining (e.g. after work on the plumbing system or following repairs to the appliance), the heater must be revented in this way before starting it up again.

If the water heater cannot be put into operation, the temperature cut-out or the pressure cut-out may have tripped during transport. If necessary, reset the cut-out.

Selection of power rating

Only by authorised specialist, otherwise lapse of guarantee!

Upon first connection of the appliance to the supply voltage, select the maximum power rating. Only after having set the power rating, the heater provides its standard operation mode.

The maximum allowable power rating at installation site depends on the local situation. It is imperative to observe all data shown in the table "Technical specifications", in particular the required cable size and fuse protection for the electrical connection. Moreover, the electrical installation must comply with the statutory regulations of the respective country and those of the local electricity supply company (Germany: DIN VDE 0100).

1. Switch on the power supply to the appliance. The digital display on the appliance must light up.
2. When switching on the supply voltage for the first time, the value "21" flashes in the display. If not, please follow the below note "Reinstallation".
3. Select the maximum allowable power rating depending on the local situation via the up and down arrow keys (18 kW, 21 kW, 24 kW or 27 kW).

27 kW = red

24 kW = yellow

21 kW = green

18 kW = all three LEDs

4. Press key to confirm the setting. The appliance starts operating.
5. Mark the set power rating on the rating plate.
6. After having set the maximum allowable power rating, the heating element will be activated after approx. 30 sec of continuous water flow.
7. Open the hot water tap. Check the function of the appliance.
8. Explain the user how the instantaneous water heater works and hand over the operating instructions.
Fill in the guarantee registration card and send it to the TECHNOTHERM Customer Service.

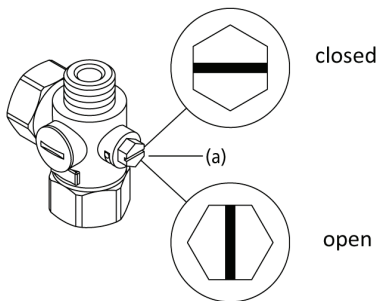
Reinstallation

In case the appliance will be commissioned again under different installation conditions than during its initial operation, it may be necessary to adapt the maximum power rating.

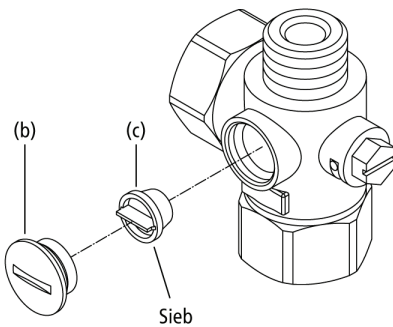
A temporary short circuit of the two pins, e.g. with a screwdriver acc. to EN 60900 (see figure), will reset all heater parameters to works setting and lock the heating. Value "21" flashes in the display until the maximum power rating has been selected. This condition will maintain when activating and deactivating the supply voltage.

9. Maintenance work

Maintenance work must only be conducted by an authorised professional. Cleaning and replacing the filter strainer. The cold water connection of this instantaneous water heater is equipped with an integrated shut-off valve and a strainer. Soiling of the strainer may reduce the warm water output. Clean or replace the strainer as follows:



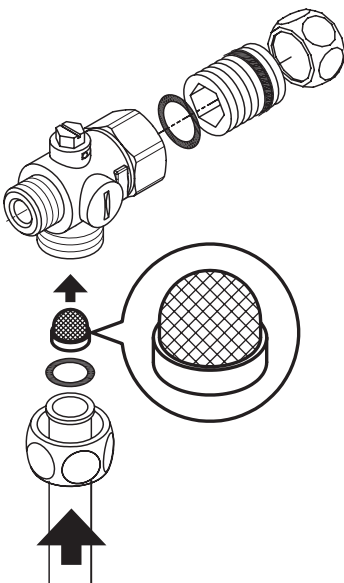
1. De-energize the instantaneous water heater (e.g. via deactivating the fuses) and prevent inadvertent reactivation of them.
2. To open the hood, take off the small face plate, loose the screw behind this cover and detach the hood.
3. Close the shut-off valve (a) in the cold water connection piece (position “closed”).
4. Unscrew the screw plug (b) from the cold water connection piece and take out the strainer (c).
5. The strainer can now be cleaned or re placed.
6. After fitting of the clean strainer tighten the screw plug.
7. Slowly reopen the shut-off valve in the cold water connection piece (position “open”).
8. Vent the unit by carefully opening and closing the affiliated warm water tap valve several times until air no longer emerges from the pipe.
9. Fit the hood of the unit. Then switch on the voltage again (e.g. via activating the fuses).



Cleaning and replacing the filter strainer if direct connected

The cold water connection of this instantaneous water heater is equipped with a strainer. Soiling of the strainer may reduce the warm water output. Clean or replace the strainer as follows:

1. De-energize the instantaneous water heater (e.g. via deactivating the fuses) and prevent inadvertent reactivation of them.
2. Close the shut-off valve in the mains water supply of the instantaneous water heater.
3. To open the hood, take off the small face plate, loose the screw behind this cover and detach the hood.
4. Unscrew mains water inlet from connection piece and take out the strainer.
5. The strainer can now be cleaned or replaced.
6. After refitting the clean strainer reconnect the mains water inlet to the connection piece.
7. Slowly reopen the shut-off valve in the mains water supply.
8. Vent the unit by carefully opening and closing the affiliated warm water tap valve several times until air no longer emerges from the pipe.
9. Fit the hood of the unit. Then switch on the voltage again (e.g. via activating the fuses).



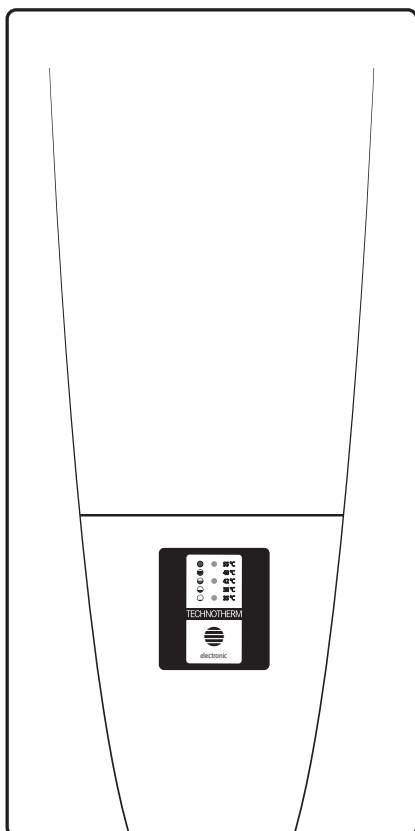
10. Environment and recycling



Your product was manufactured from high-quality, reusable materials and components. Please respect in case of discarding that electrical devices should be disposed of separately from household waste at the end of their service life. Therefore, please take this device to a municipal collection point that accepts electronic scrap on a free of charge basis. Disposing it correctly will support environmental protection and will prevent any potential negative effects on human beings and the environment that could arise from inappropriate handling of these devices at the end of their service life. Please contact your local authority for further details of your nearest designated collection point or recycling site. Business customers: If you wish to discard electronic equipment, please contact your dealer or supplier for further information.



11. Device description



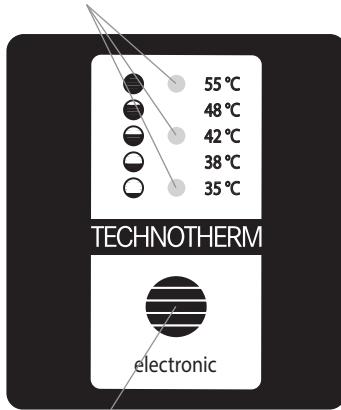
The water heater CDE 18-27 Varioselect is a microprocessor controlled, pressure-resistant water heater for decentralized water supply to one or more points. Once open the hot water tap on the faucet, the water heater automatically switches on. When closing the valve, the device switches off automatically. The electronics adjusts the power to the respective inlet temperature and the flow rate to reach the preset outlet temperature to the power limit. By pressing the control key, the outlet temperature can be changed.

Of course it is also possible to determine the outlet temperature by mixing at the valve of cold water with hot water (55 ° C) from the water heater. Energy and water saving, however, the adjustment of the respective useful temperature at water heater to mix on the valve without cold water.

The outlet temperature may then be increased by reducing the amount of hot water at the faucet.

12. Usage

Three colored LEDs



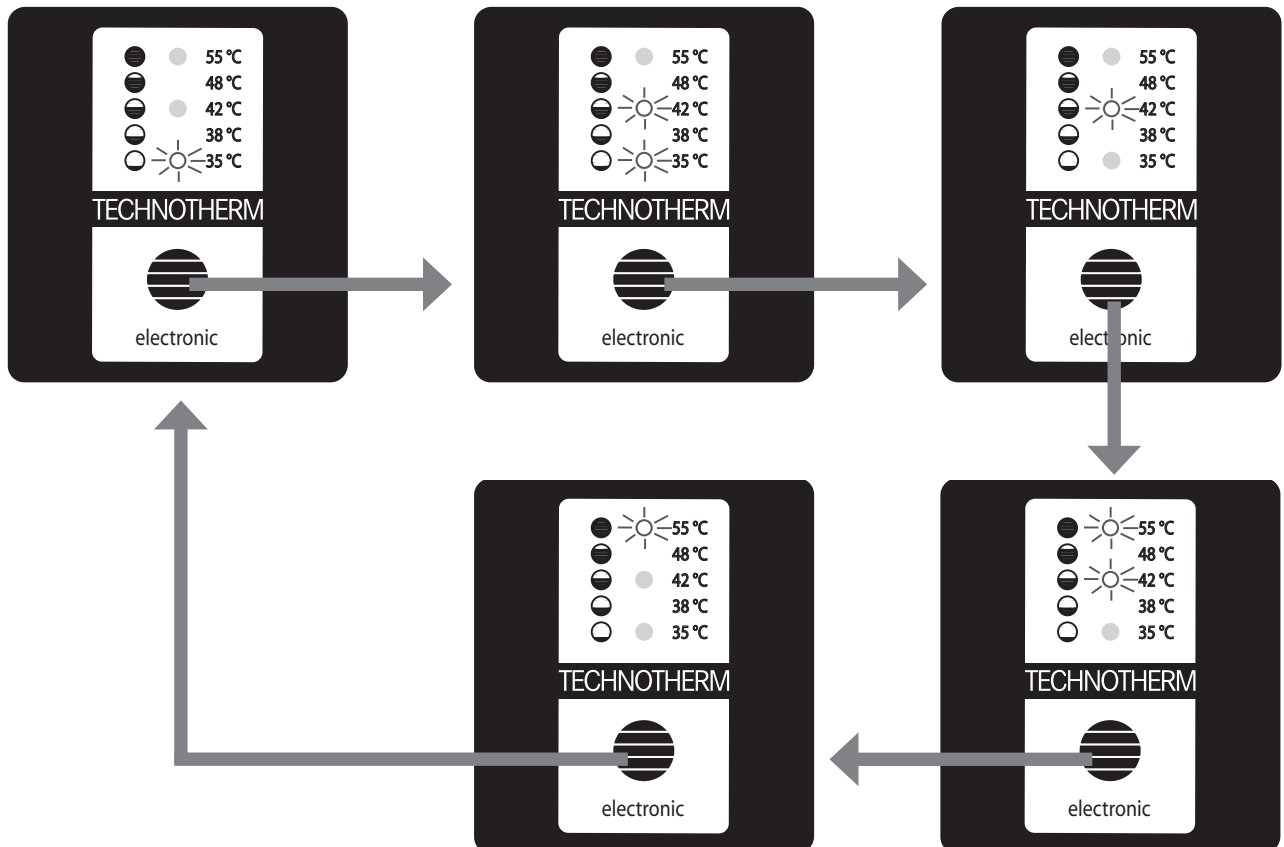
Set the temperature

By pressing the temperature selection button, the flow temperature is changed to the respective next stage. The substance may have the following five temperature levels: 35 °C - 38 °C - 42 °C - 48 °C - 55 °C.

The LEDs indicate which target temperature is set:

- If only one LED flashes, then the temperature value is set next to the light.
- If two LEDs are lit, then the temperature value is between the illuminating LEDs set. After 55 °C when a new key is pressed the set temperature is again 35 °C.

Of course it is also possible to determine the outlet temperature by mixing at the valve of cold water with hot water (55 °C) from the water heater.



12. Usage

Venting after maintenance work

The appliance must be vented before using it for the first time. Each time the appliance is emptied (e.g. after work on the plumbing system, if there is a risk of frost or following repair work), the appliance must be revented before it is used again.

1. Disconnect the instantaneous water heater from the mains (e.g. via deactivating the fuses).
2. Unscrew the jet regulator on the outlet fitting and open the cold water tap valve to rinse out the water pipe and avoid contaminating the appliance or the jet regulator.
3. Open and close the hot water tap until no more air emerges from the pipe and all air has been eliminated from the water heater.
4. Only then should you reconnect the power supply again (e.g. via activating the fuses) to the instantaneous water heater and screw the jet regulator back in.
5. The appliance activates the heater after approx. 10 seconds of continuous water flow.

Cleaning and care

- Plastic surfaces and fittings should only be wiped with a damp cloth. Do not use abrasive or chlorine-based cleaning agents or solvents.
- For a good water supply, the outlet fittings (special tap aerators and shower heads) should be unscrewed and cleaned at regular intervals. Every three years, the electrical and plumbing components should be inspected by an authorised professional in order to ensure proper functioning and operational safety at all times.


13. Self-help and customer service




Repairs must only be carried out by authorised professionals. If a fault in your appliance cannot be rectified with the aid of this table, please contact the service organisation of your importer or the Central Customer Service Department. Please have the details of the typeplate at hand!

Lucht LHZ Elektroheizung GmbH
 Obere Hauptstr. 61
 09232 Hartmannsdorf
 Germany
 Telefon: +49 (0) 3722 63370
 Telefax: +49 (0) 3722 633720
 E-Mail: info@technotherm.de

Problem	Cause	Solution
Water stays cold, display does not light up	Master fuse tripped	Renew or activate fuse
	Safety pressure cut-out tripped	Contact customer service
Water stays cold, display does light up	Safety thermal cut-out tripped	Contact customer service
Flow rate of hot water too weak	Outlet fitting dirty or calcified	Clean shower head, jet regulator or sieves
	Fine filter dirty or calcified	Clean fine filter
Selected temperature is not reached	Excessive water flow (winter?)	Reduce water flow rate at the outlet
	Elected power too small	Control the set power: 1. Check power selector plug 2. Carry out a reset, note blink code
Selected temperature is perceived as too cold	Set temperature too low	Increase set temperature by keypress
Selected temperature is perceived as too hot	Set temperature too high	Decrease set temperature by keypress





24 Months Warranty

sale date

Lucht LHZ Elektroheizung GmbH & Co. KG
 Obere Hauptstr. 61
 09232 Hartmannsdorf
 Fon: 03722 63370
 Fax: 03722 633720
 E-mail: info@technotherm.de
 web: www.technotherm.de

Stamp and signature of the seller

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We are pleased to offer a 24 month guarantee on your recent purchase of TECHNO THERM device. A tow year guarantee is applicable to the electronics. The period of guarantee commences with the day of delivery. If within the guarantee period the device is defective due to faulty components we undertake to repair the device free of charge.

The guarantee shall not apply to damages caused by natural wear and tear, intentional misuse, non-observance of the operational instructions, connection to incorrect supply voltage, damages caused by corrosion or rust or use of aggressive cleaning agents or calcified.

The purchaser shall not be entitled to any rights and/or remedies under this guarantee if the device has been repaired, or attempted to be repaired, without written authorisation from us or if a part or parts not supplied by us have been used in a repair.

Any claims for compensation of damages beyond the scope of this guarantee are excluded.

The period of guarantee shall not be renewed or extended by repair or substitute radiator.

The guarantee shall not be transferrable without approval.

All guarantee claims must be accompanied by a relevant test certificate which is supplied with every TECHNO THERM devices.

The guarantee and warranty limitations require that the device and all accessories be properly installed otherwise the manufacturer's does not accept the guarantee. Warranty claim is made only upon presentation of proof of purchase (invoice, purchase receipt, warranty certificate, etc.). Modifications of the device lead to an extinction of the manufacturer's guarantee obligation.



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