



Instantaneous Electric Water Heater

DBN



Online Warranty Registration



Please read these instructions and warranty information carefully before use and keep them handy for future reference.



USER MANUAL



請即進行保用登記！

有關保用條款細則，請看本說明書最後一頁。

Please register your warranty information now!

For Warranty Terms & Conditions,

please refer to the last page of this user manual.

Safety Instructions

Notice:

Please read these instructions carefully before installing or using the appliance!

Keep the instructions handy with the appliance for future use!

- 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 3 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.
- If the appliance is factory equipped with a power supply cable, it must be replaced with an original spare cable from the manufacturer in case of damaged by an authorized technician in order to avoid any hazards.
- In accordance with VDE 0700, a circuit breaker with a contact opening gap of at least 3 mm for each pole must be provided on the mains side of the connecting box for appliances with a fixed connection.
- The wall bracket must be secured with the supplied screws and dowels. The appliance must be secured to the wall bracket. The appliance may only be operated if it has been properly mounted on the wall bracket.

Safety Instructions

- The prescribed nominal pressure stated on the rating plate may not be exceeded at any time.
- The required water resistance may not fall below the value stated on the rating plate at any time.
- To observe additionally for pressureless installation:
 - The water outlet behind the devices must not be blocked, and the water flow must not be restricted.
 - The water outlet facilities, such as shower head, jet control and other outlet unit, must be decalcified regularly. Deposits must be removed in regular intervals.
- Only the fittings recommended by the manufacturer may be used.
- If the appliance is exclusively connected to a single shower, only the shower heads recommended by the manufacturer may be used. No other fittings or appliances which decrease the water flow to the shower may be installed.

安全注意事項

注意

在安裝或使用本設備之前，請仔細閱讀這些說明！

請妥善保存本說明書，以備將來使用！

- 除非已正確安裝本設備，且本設備處於正常工作狀態，否則請不要使用本設備。
- 在任何情況下，切勿在關閉設備的主電源之前取下面蓋。
- 切勿對本設備、電線或水管進行技術改造。
- 本設備必須永久接地。
- 當水溫超過43°C時，會被視為高溫，可能會令人體尤其是兒童引起灼痛。請注意，使用本設備一段時間後，配件和水龍頭可能會很熱。
- 本設備僅適合在家居或類似的密閉環境中使用，並且只能用於加熱來自主供水的進水。
- 切勿將本設備暴露在霜凍下。
- 必須遵守銘牌上規定的數值。
- 萬一發生故障，請立即斷開保險絲；萬一發生洩漏，請立即切斷主供水；並只能由客戶服務中心或授權的專業人員進行維修。
- 3歲以上的兒童以及肢體、感官或精神能力較弱或缺乏經驗和知識的人員可以使用本設備，前提是他們必須受到安全使用本設備的監督或指導並了解當中可能發生的危險。兒童不得玩耍本設備，且不得在沒有監督的情況下進行清潔和用戶維護本設備。
- 如果設備出廠時配備了電源線，在損壞的情況下，必須由被授權的技術人員用製造商提供的備用電纜替換，以免發生危險。
- 根據VDE 0700，對於具有固定連接的設備，必須在接線盒的電源側上提供一個斷路器，該斷路器每個極的接觸開口間隙至少為3 mm。
- 使用裝掛配件時，必須使用隨附的螺絲和銷釘進行固定。本設備必須固定在裝掛配件上，僅在將其正確地安裝在裝掛配件後才能進行操作。
- 任何時候都不得超過銘牌上標明的額定壓力。
- 所需的耐水性在任何時候都不得低於銘牌上標明的數值。
- 如選擇無壓力安裝，要注意以下情況：
 - 不得堵塞本設備後面的出水口，並且不得限制水流。
 - 必須定期對花灑頭、射流調節器和其他排水裝置等出水設備進行脫鈣處理，且必須定期清除沉積物。
 - 僅可使用製造商推薦的配件。
 - 如果本設備僅連接到一個花灑頭，則只能使用製造商推薦的花灑頭。不得安裝其他會減少淋浴水流的配件或設備。

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Operation Instructions

1. Description of the Appliance

Note: Carefully read the enclosed safety instructions through in full before the appliance is installed, put into service and used and follow them in the further steps and during use!



The E-basic instant water heater DBN is an electronically controlled pressure-resistant instantaneous water heater for an efficient water supply to one or more tap outlets.

As soon as you open the hot water tap, the instantaneous water heater switches on automatically. When the tap is closed, the appliance automatically switches off.

Its electronic control regulates the power consumption depending on the selected outlet temperature, the respective inlet temperature and the flow rate, thus reaching the set temperature exactly to the degree and keeping it constant in case of water pressure fluctuations.

The factory set outlet temperature is 50 °C. This factory setting can be adjusted in the appliance to be in a range of approx 30 °C and 60 °C by a specialist only.

Note: The hot water temperature may not exceed 55 °C if the instant water heater is connected to a shower.

In case of a low feed temperature and a high flow rate at the same time, it could happen that the preset outlet temperature is not reached which is due to the fact that the appliance exceeded its capacity. The outlet temperature can be raised by reducing the water flow at the tap.

It is possible to use the instantaneous water heater in combination with an external load shedding relay for electronically controlled instantaneous water heaters (refer to installing instructions).

2. 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 return used electronic devices to the recycling system. 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 equipment, please contact your dealer or supplier for further information.

3. How To Use



Venting After Maintenance Work

This instantaneous water heater features an automatic air bubble protection to prevent it from inadvertently running dry. Nevertheless, 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 re-vented 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 re-connect 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 Maintenance

- 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 (e.g. jet regulators 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.

4. Troubleshooting and Service



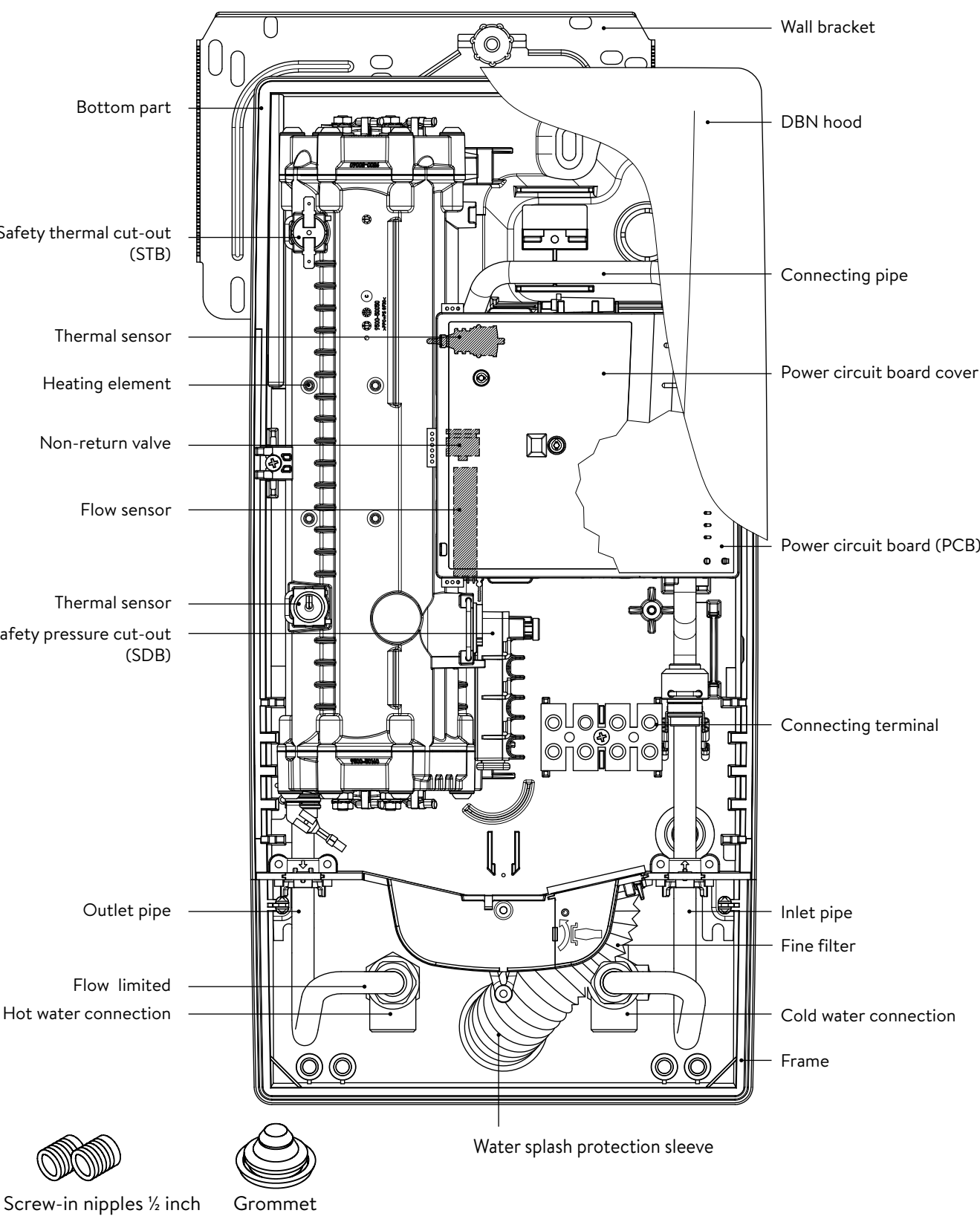
Repairs must only be carried out by authorised professionals. If a fault in your appliance cannot be rectified with the aid of this table, please contact German Pool Customer Service & Repair Centre. Please have the details of the typeplate at hand.

This instantaneous water heater was manufactured conscientiously and checked several times before delivery. Should malfunctions nevertheless occur, it is usually only due to a bagatelle. First attempt to switch the house fuses off and on again in order to reset the electronics. Next, try to remedy the problem with reference to the following table. In doing so, you will avoid unnecessary expense of customer service assistance.




| DSN | | |
|-------------------------------------|---------------------------------------|---------------------------------------------------------------|
| Problem | Cause | Solution |
| Water stays cold | Master fuse tripped | Renew or activate fuse |
| | Safety pressure cut-out tripped | Contact customer service |
| | 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 | Let clean fine filter by customer service |
| Selected temperature is not reached | Cold water has been added via the tap | Tap hot water only; set temperature, check outlet temperature |
| Water perceived to be too cold | Set temperature too low | Increase set temperature by a specialist |
| Water perceived to be too hot | Set temperature too high | Decrease set temperature by a specialist |

1. Overview

Installation Instructions



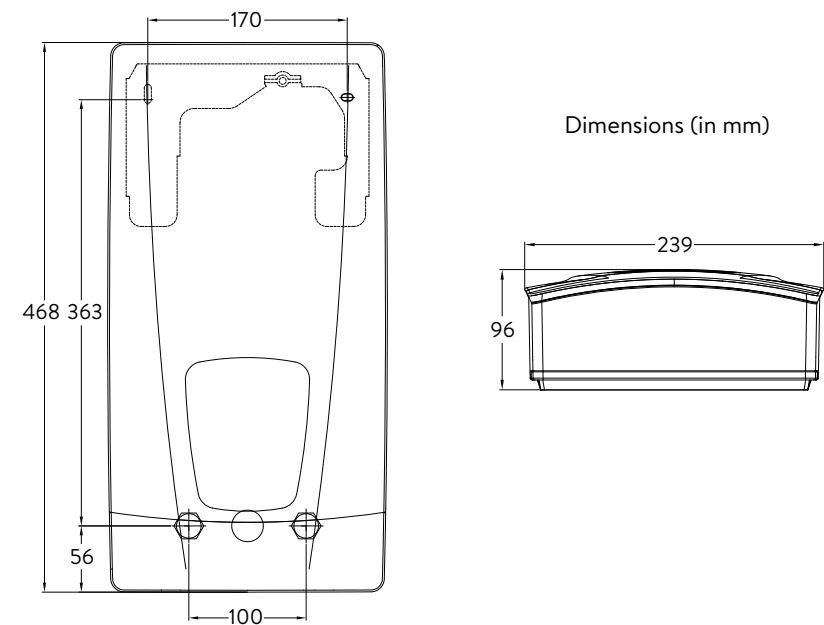
2. Technical Specifications

| Model | DBN18 | DBN21 | DBN24 |
|------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|-----------------------------------------|
| Energy efficiency class | A *) | | |
| Rated capacity / rated current# | 18kW / 26 A | 21kW / 30 A | 24kW / 35 A |
| Electrical connection | 3~ / PE 380..415 V AC | | |
| Min. required cable size ¹⁾ ^ | 4.0 mm ² | 4.0 mm ² | 6.0 mm ² |
| Hot water (l/min) ²⁾ max. at Δt = 28 K max. at Δt = 38 K | 9.2 ²⁾ 6.8 | 10.7 ²⁾ 7.9 | 12.3 ²⁾ 9.0 ²⁾ |
| Rated volume | 0.4 l | | |
| Rated pressure | 1.0 MPa (10 bar) | | |
| Connecting type | pressure-resistant / pressureless | | |
| Heating system | Bare wire heating system IES® | | |
| @ 15 °C: Required spec. water resistance Spec. electrical conductivity | ≥ 1300 Ωcm ≤ 77 mS/m | | |
| Inlet temperature | ≤ 30 °C | | |
| Flow rate to switch on – max. flow rate | 1.5 l/min – 7.0 ³⁾ | 1.5 l/min – 8.0 ³⁾ | 1.5 l/min – 8.0 ³⁾ |
| Pressure loss | 0.08 bar at 1.5 l/min 1.3 bar at 9.0 l/min ⁴⁾ | | |
| Temperature range | 30 – 60 °C | | |
| Water connection | G 1/2 inch | | |
| Weight (when filled with water) | 4.2 kg | | |
| VDE class of protection | I | | |
| Type of protection / safety |    IP25 CE | | |

*) The declaration complies with the EU regulation No 812/2013.
Rated capacity is provided based on Germany standard, ie. 400V, 18kW/√3/400=26A
^ Actual wiring size based on EMSD Code Of Practice For Electricity (wiring) Regulation's Appendix A6(1)
1) Maximum applicable cable size is 10 mm² at electrical connection from above.
2) Mixed water.
3) Flow rate limited to achieve optimum temperature rise.
4) Without flow regulator.

- All information in this manual is for reference only. If there are any errors or omissions, the specifications produced by the factory shall prevail. Specification is subjected to change without prior notice.
- If there is any inconsistency or ambiguity between the English version and the Chinese version of this manual, the English version shall prevail.
- Refer to www.germanpool.com for the most up-to-date version of the Operating Instructions.

3. Dimensions



4. Installation



Based on Germany’s guidelines a general test certificate concerning the evidence of applicability of noise behaviour is granted.

The following regulations must be observed:

- e.g. VDE 0100
- EN 806
- 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 or alternative transversely with water connections left.
- The appliance complies with protection type IP25 and may therefore be installed in protection zone 1 according to VDE 0100 part 701 (IEC 60364-7).
- In order to avoid thermal losses, the distance between the instantaneous water heater and the tap connection should be as small as possible.
- The appliance must be accessible for maintenance work.
- Plastic pipes may only be used if they conform to DIN 16893, Series 2.
- The specific resistance of the water must be at least 1300 Ω cm at 15 °C. The specific resistance can be asked for with your water distribution company.

4. Installation

Mounting Accessories

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

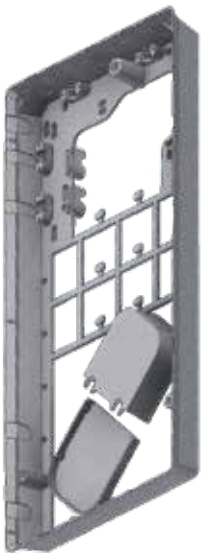
Mounting Frame Kit RDX 3

(Art. no. 36100)

The instant water heater can be installed by means of this mounting kit when the power supply cable is coming out of the wall at any place from behind the unit, or the wall has unusual surface conditions, making it difficult for installing the water heater.

When using the RDX the protection class changes from IP25 to IP24.

RDX 3

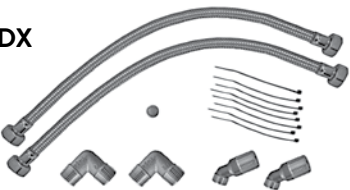


Extension Kit VDX

(Art. no. 34120) – RDX is necessary! –

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.

VDX

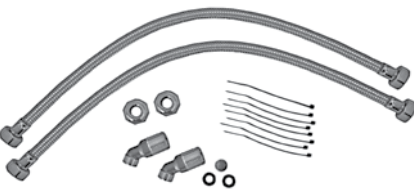


Extension Kit UDX

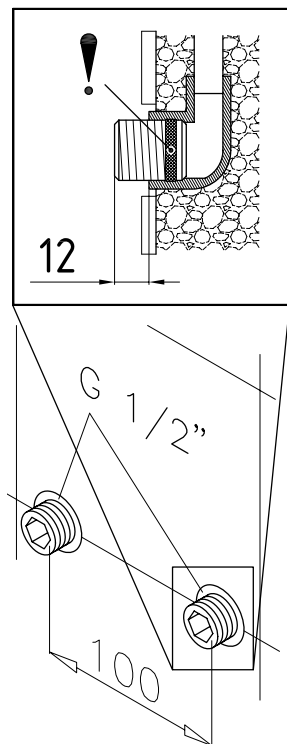
(Art. no. 34110) – RDX is necessary! –

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.

UDX



4. Installation

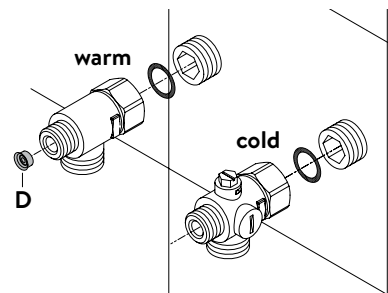
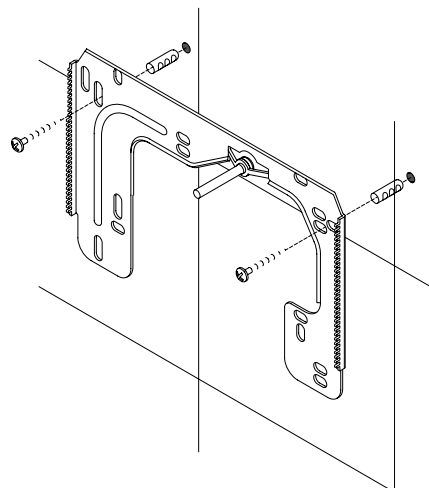


Installing the Wall Bracket

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 12 – 14 mm.
2. Hold the included mounting template on the wall and align it so that the holes in the template fit over the double nipples. Mark the drill holes according to the template and drill them using a 6 mm drill. Insert the included dowels.
3. Pull down the faceplate and unscrew the main hood screw to open the appliance.
4. Loosen the knurled nut to remove the wall bracket and screw the wall bracket to the wall. 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.

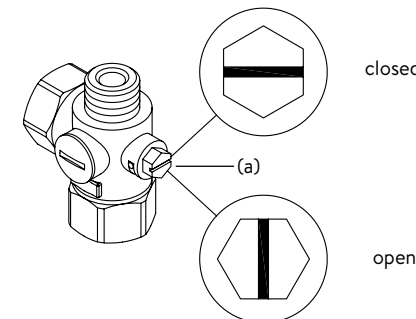
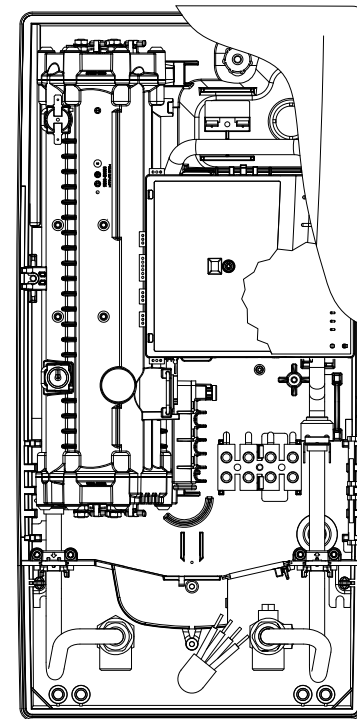


Installing Connection Pieces

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

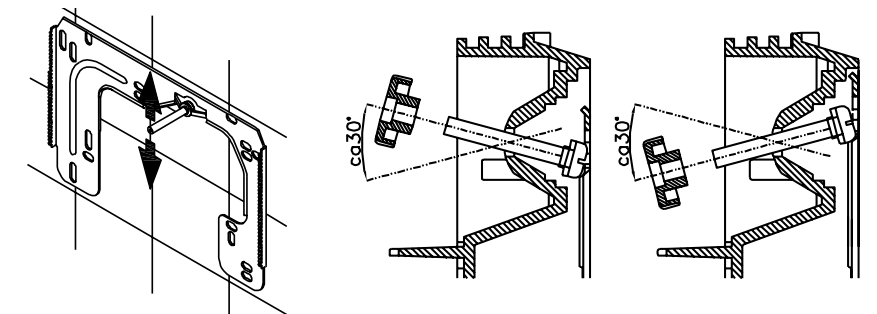
1. As shown in the illustration, screw the cold water connection piece with the union nut and the 1/2 inch seal onto the cold water connection.
2. Screw the hot water connection piece with the union nut and the 1/2 inch seal onto the hot water connection.
3. Put the water flow reducer "D" into the hot water connection piece. The O-ring must be visible.

4. Installation



Installing the Appliance

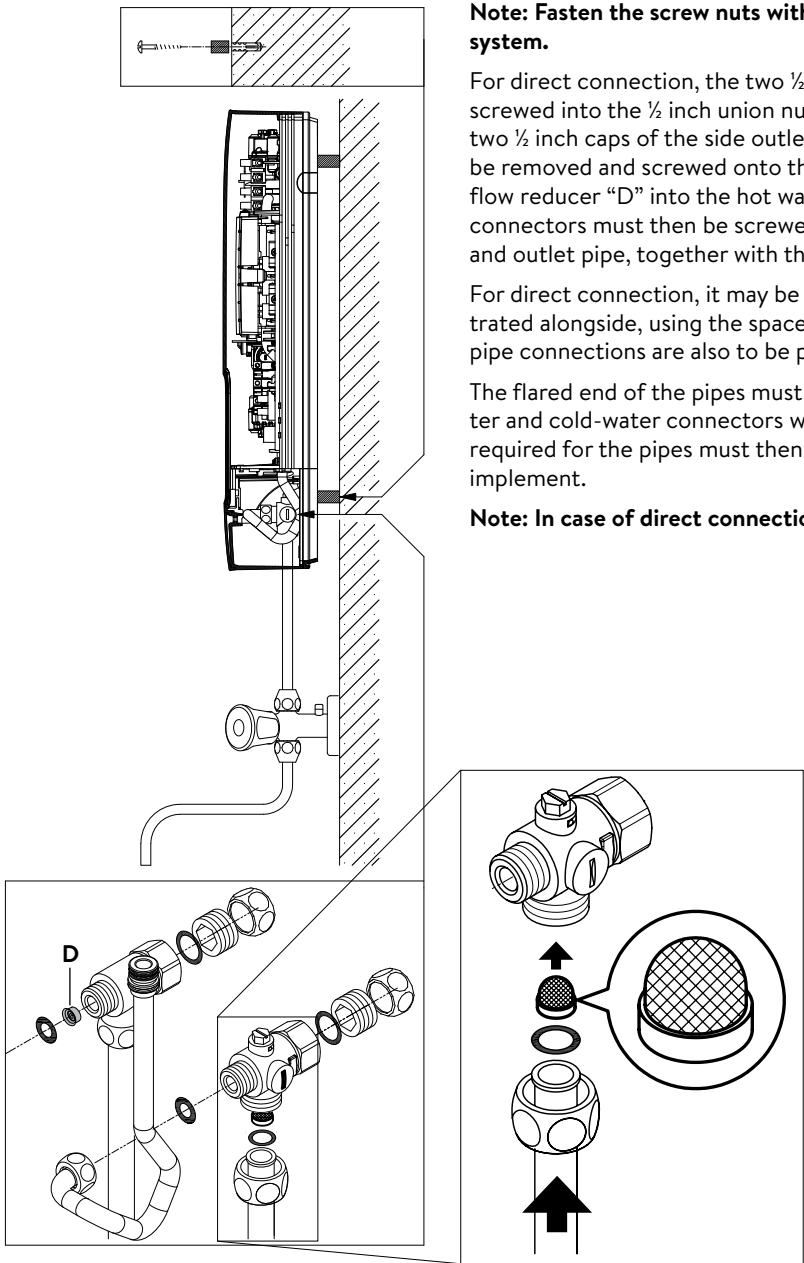
- The electrical power supply cable may be connected in the upper part or is surface mounted. Only in such case, first follow the steps one through three according to the description "Electrical connection from above" in chapter "Electrical connection".
1. Place the appliance on the heater bracket so that the threaded rod of the wall bracket fits in the corresponding 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.
 2. Screw the plastic knurled nut onto the threaded rod of the wall bracket.
 3. Screw the two 3/8 inch union nuts of the appliance's water connection pipes, each with the 3/8 inch seal, onto the fittings.
 4. Open the water supply line to the unit and slowly open (position "open") the shut-off valve (a) in the cold water connection piece. Check all connections for leaks.
 5. Next, open and close the hot water tapping valve several times until no more air emerges from the line and all air has been eliminated from the instantaneous water heater.



Attention: Inspection Panel Opening

If DBN is to be installed in a sealed space (eg. under the ceiling with decorative paneling), must leave a 600x600 mm inspection panel for future maintenance and repair.

5. Direct Connection



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

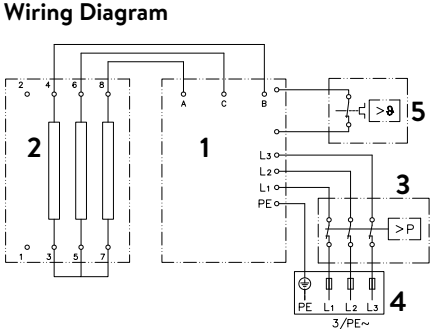
For direct connection, the two 1/2 inch screw-in nipples and the 1/2 inch seals must be screwed into the 1/2 inch union nuts of the hot-water and cold-water connectors. The two 1/2 inch caps of the side outlets of the hot-water and cold-water connectors must be removed and screwed onto the open end of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

For direct connection, it may be advisable to mount the appliance at a distance as illustrated alongside, using the spacer sleeves supplied. The two fixing holes near the lower pipe connections are also to be professionally fixed with 6 mm dowels and screws.

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

Note: In case of direct connection, put the strainer into the cold water connection!

6. Electrical Connection



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

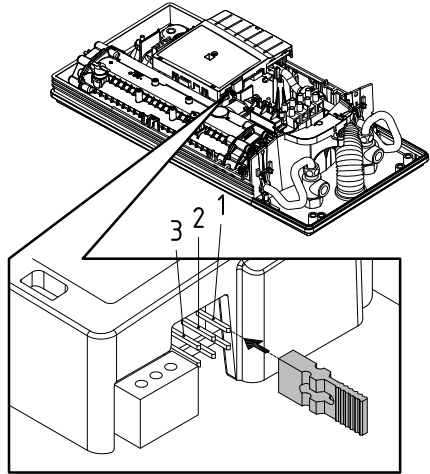
Note: Installation work must only be conducted by an authorised professional.

Please observe:

- e.g. VDE 0100
- 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 appliance 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 direct 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 with trigger characteristic C must be fitted with a tripping current commensurate with the nominal current of the appliance.

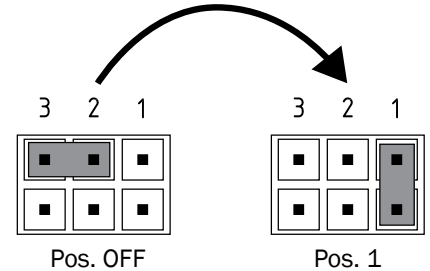


Load Shedding Relay

If further three-phase appliances are connected, a load shedding relay designed for electronic instantaneous water heaters (Art no. 82250) can be connected to phase conductor L2.

To avoid possible jitter of the load shedding relay caused by low power consumption (low temperature set point and low water flow rate) the "Load-shedding-mode" can be activated as followed:

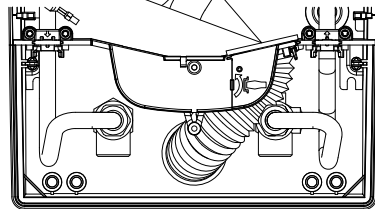
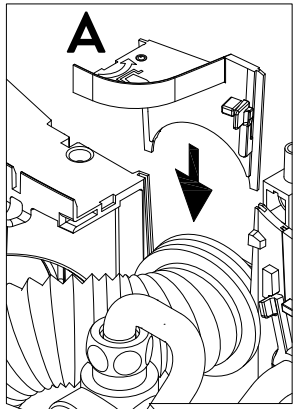
- Disconnect the appliance from the power supply (e.g. by switching of the fuses)
- Take the jumper off the power electronics and change to position "1" (see picture).
- Put the appliance into operation again



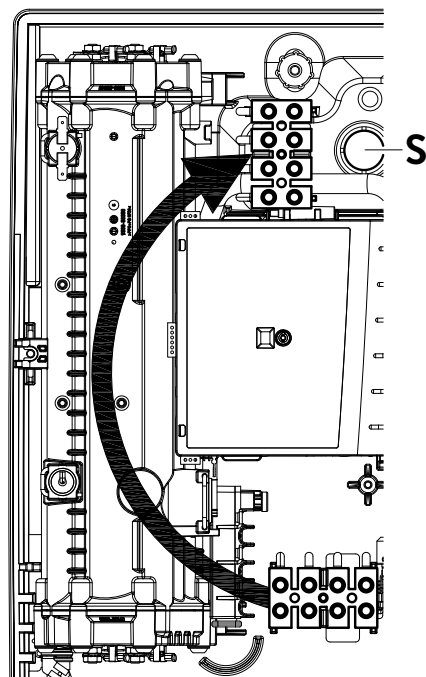
6. Electrical Connection



WARNING!



WARNING!

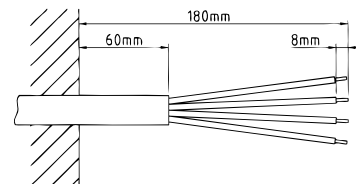


Electrical Connection From Below

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.

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

1. Dismantle approximately 6cm off the connecting cable above the wall outlet. With the smaller opening ahead, slide the water 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. Strip the cables and plug them in the connecting terminals according to the wiring diagram. **The appliance must be earthed.**
3. 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 and fix it with the sleeve fixing (A).
4. Place the hood on the appliance and screw in the fastening screw. After that you can slide on the faceplate from the bottom to the top.



Electrical Connection from Above

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

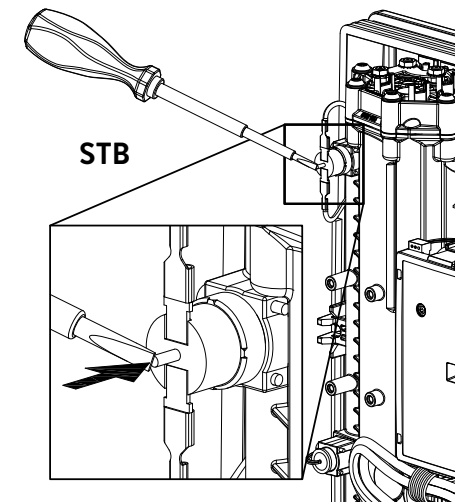
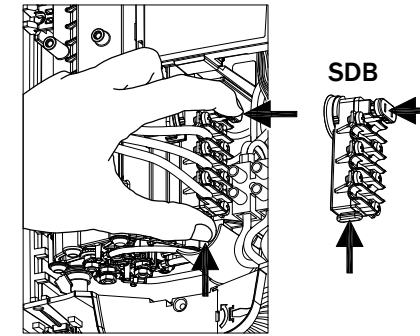
1. Open the prepared breaking point (S) in the upper part of the appliance by pressing with a blunt implement (e.g. screwdriver). For surface-mounted connection cable additional open the breakout at the right side of the bottom part.
2. Slit the grommet of the accessory set to match the cable size. The 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. Strip the connection cable so that the sheath extends through the grommet into the appliance. Hold the prepared appliance so that you can route the cable into the grommet with the other hand.
4. Place the appliance on the wall bracket so that the threaded rod of the wall bracket fits in the corresponding hole of the appliance and fix it with the knurled nut.
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 individual wires of the connecting cable 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 slide on the faceplate from the bottom up to the stop.

Note: To ensure IP25 protection class, please don't remove the bottom water splash protection sleeve.

7. Initial Operation



WARNING!



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.

To ensure a maximum flow, remove any existing aerator from the faucet. Flush the warm and cold water pipes each at least for one minute.

After every draining (e.g. after work on the plumbing system or following repairs to the appliance), the heater must be re-vented 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, check that the power supply is switched off and reset the cut-out.

1. Switch on the power supply to the appliance.
2. Open the hot water tap. Check the function of the appliance. The heating element will be activated after approx. 10 – 30 sec of continuous water flow.
3. Explain the user how the instantaneous water heater works and hand over the operating instructions.
4. Fill in the guarantee registration card and send it to the German Pool Customer Service Centre or use the online registration (see also page <2>).

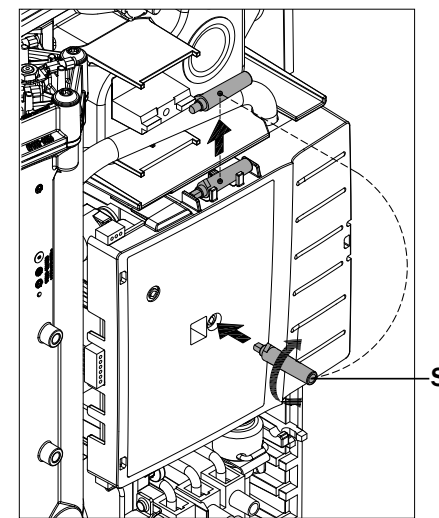
Modification of Factory Preset Outlet Temperature

The factory set hot water outlet temperature is 50 °C.

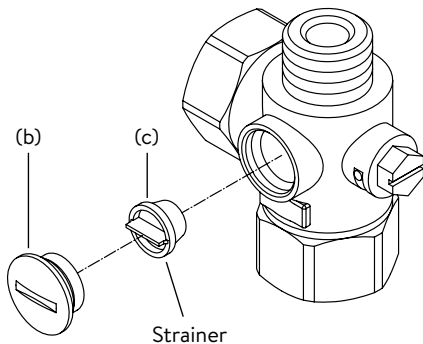
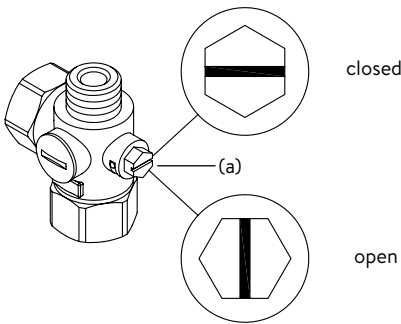
By turning the adjustment potentiometer with the auxiliary tool "S", this presetting can be changed between two stops in the range of approx. 30 °C to 60 °C.

The hot water outlet temperature will be increased by clockwise rotation and decreased by counterclockwise rotation.

Note: The hot water temperature may not exceed 55 °C if the instant water heater is connected to a shower.



8. Maintenance Work



Note: 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 appliance, 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).
Note: Residual water can leak
5. The strainer can now be cleaned or replaced.
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”). Check all connections for leaks.
8. Vent the appliance 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 appliance. Then switch on the power 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 appliance, 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.
Note: Residual water can leak
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. Check all connections for leaks.
8. Vent the appliance 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 appliance. Then switch on the power again (e.g. via activating the fuses).

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安裝說明

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1. 熱水器簡介

操作說明

提示：在安裝、初次啟動和使用本設備前，請仔細閱讀安全說明，並在後續步驟和使用過程中嚴格遵循！



DBN即熱式熱水器是一種電子控制的抗壓即熱式熱水器，可將熱水供應至一個或多個水龍頭出水位。

打開熱水水龍頭時，本即熱式熱水器隨即自動啟動。關上水龍頭時，本熱水器即自動關閉。

其電子控制系統會視乎選定出水溫度、相應入水位的水溫和流量自動調控耗電量，從而精準達到設定的出水溫度，並在水壓波動的情況下保持恆定。

出廠時的預設出水溫度為50° C，此出廠設定可經由專業技師更改為約30° C至60° C。

注意：若將此即熱式熱水器連接到花灑頭，則熱水溫度有機會不能超過55° C。

若入水溫度低且水流量高，則會因熱水器的效能已超越上限而無法達到預設的出水溫度。降低水龍頭的水流量即可提高出水溫度。

本即熱式熱水器可與電子式即熱式熱水器專用的外接減載繼電器搭配使用（請參閱安裝指示）。

2. 環保及循環再造

本產品由高質量、可重複使用的材料和組件製成。請注意在使用壽命結束時，如果要丟棄電子設備，應將其與生活垃圾分開處理。因此，請將本設備帶到市政收集點，將用過的電子設備進行回收。正確處理該設備將有助於保護環境，並避免在使用壽命到期時因對這些設備的不當處理而導致對人類和環境造成任何潛在的負面影響。請與您當地的當局聯繫，以獲取離您最近回收站的更多詳細信息。

商業客戶：如果您希望丟棄本設備，請聯繫您的經銷商或供應商以獲取更多信息。

3. 使用指示



保養工作後的排氣程序

熱水器備有自動氣泡保護功能以防止非故意乾燒情況。唯初次啟用前，必須先排氣。但每次熱水器因水喉工程、有結霜可能、或維修而需排出儲水，必需將熱水器內空氣排出，方能再次使用。

1. 關掉熱水器電源總掣（例如關掉保險絲）。
2. 拆下出水位的射流調節器，開啟冷水龍頭清洗水管，以免污染熱水器及射流調節器。
3. 開啟再關閉熱水龍頭，直至水管內不再排出空氣，及熱水器內空氣已完全排出。
4. 然後重新接駁電源（例如保險絲），裝回射流調節器。
5. 約10秒的不停水流將啟動熱水器。

清潔與保養

- 塑料表面及配件只可用濕布擦拭。請勿使用腐蝕性或含氯元素之清潔劑或溶劑。
- 為確保良好供水，應定期擰開並清洗出水口配件（特別是射流調節器及花灑噴頭）。每隔三年，電氣和水管組件應由授權專業人士檢查，以確保安全正常運作。

4. 檢查要點



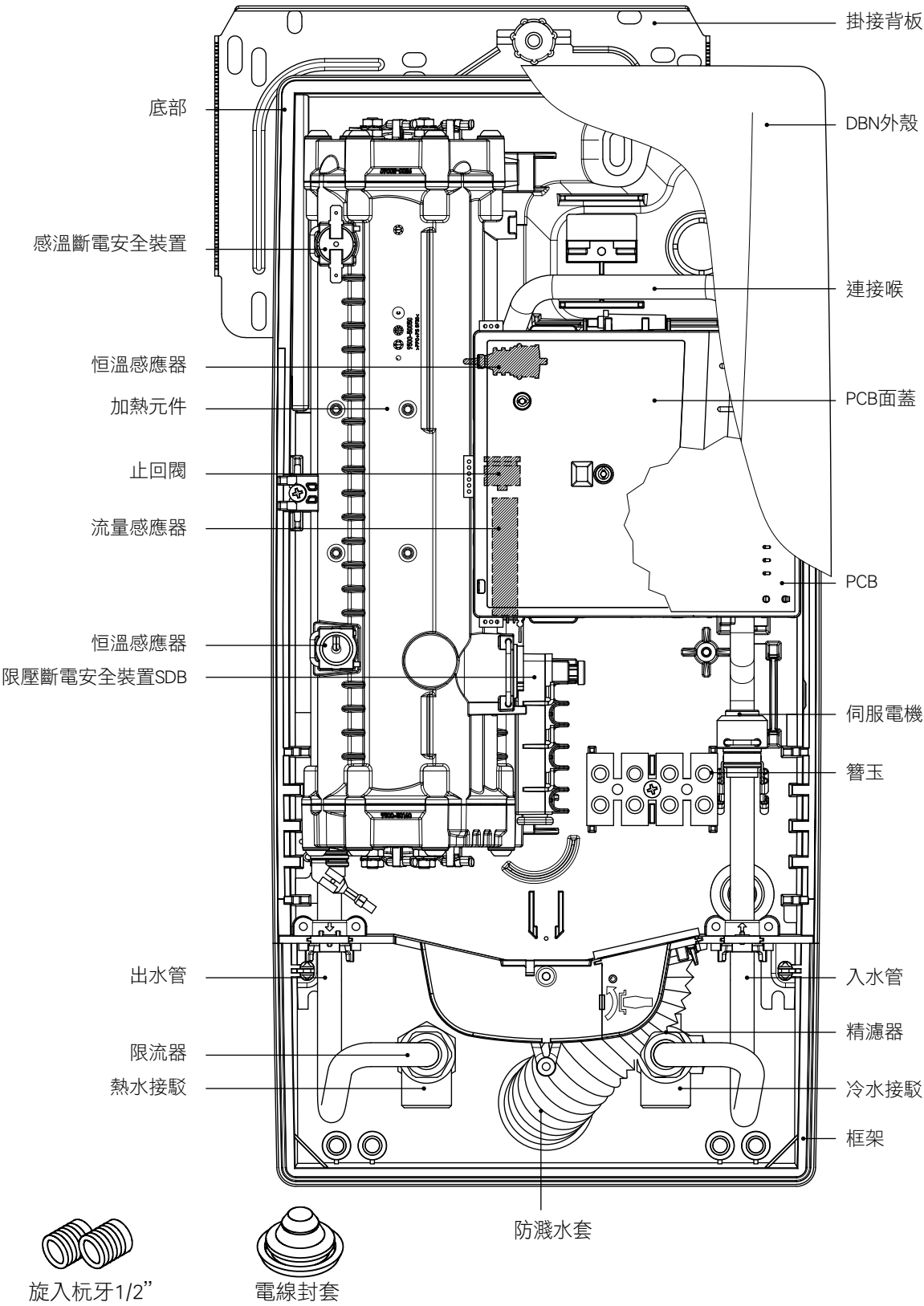
警告

只有經認可的專業人員方可進行維修。
若按照以上表格所列方法無法排除熱水器故障，請聯繫德國寶客戶服務及維修中心。請記錄銘牌詳細資訊。

本熱水器出廠前經多次反覆測試，如有故障，一般由小問題引致。首先可嘗試重新開關電源以重設電子設定。其次可參考以下列表措施解決問題，這樣可節省不必要的維修費用。

| DBN | | |
|----------|------------|-------------------|
| 問題 | 原因 | 解決方案 |
| 出水為冷水 | 總保險絲跳閘 | 更換或接通保險絲 |
| | 限壓斷電安全裝置跳閘 | 聯繫客服中心 |
| | 感溫斷電安全裝置跳閘 | 聯繫客服中心 |
| 熱水流速過低 | 出水口配件變髒或鈣化 | 清潔花灑頭、射流調節器或過濾網 |
| | 精濾器變髒或鈣化 | 請專業人員清潔精濾器 |
| 不能達致所選溫度 | 通過水龍頭添加了冷水 | 僅使用熱水；設定溫度，檢查出水溫度 |
| 所選溫度感覺太冷 | 預設溫度太低 | 請專業人員調高溫度 |
| 所選溫度感覺太熱 | 預設溫度太高 | 請專業人員調低溫度 |

1. 概觀圖



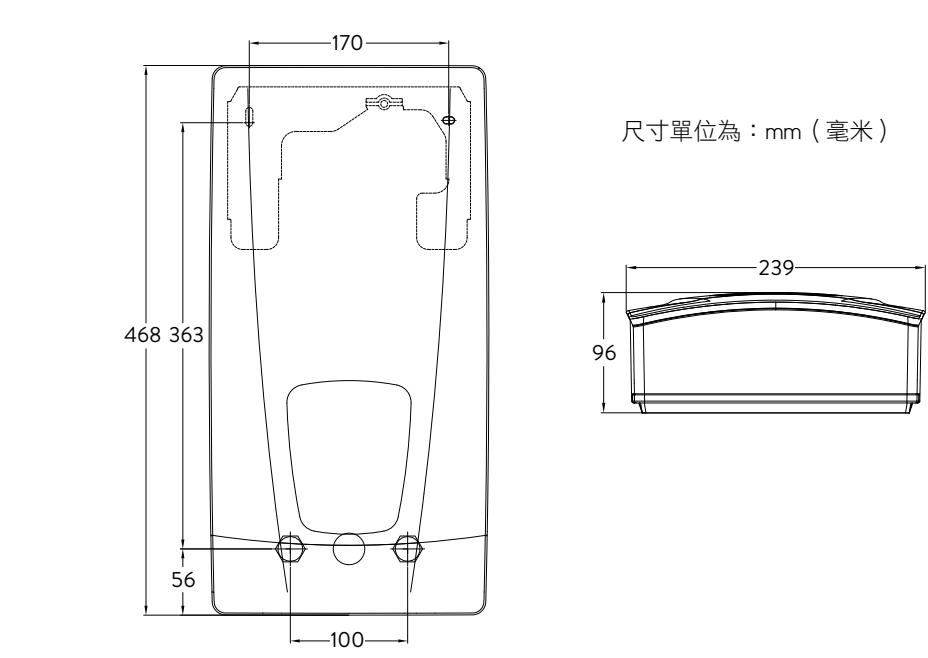
2. 規格

| 型號 | DBN18 | DBN21 | DBN24 |
|---------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|-----------------------------------------|
| 歐盟能源效益標 | A ^{*)} | | |
| 功率 [#] | 18 kW / 26 A | 21 kW / 30 A | 24 kW / 35 A |
| 電氣連接 | 3~ / PE 380..415 V AC | | |
| 所需最小電線尺寸 ¹⁾ ^ | 4.0 mm² | 4.0 mm² | 6.0 mm² |
| 熱水（公升/分鐘） 最大值 Δt = 28 K 最大值 Δt = 38 K | 9.2 ²⁾ 6.8 | 10.7 ²⁾ 7.9 | 12.3 ²⁾ 9.0 ²⁾ |
| 額定容量 | 0.4 l | | |
| 額定壓力 | 1.0 MPa (10 bar) | | |
| 連接類型 | 耐壓 / 無壓 | | |
| 加熱系統 | 裸線加熱系統IES® | | |
| 水溫為15°C時的比電阻導電性 | ≥ 1300 Ωcm ≤ 77 mS/m | | |
| 入水溫度 | ≤ 30 °C | | |
| 啟動流速 - 最高流速 | 1.5 l/min – 7.0 ³⁾ | 1.5 l/min – 8.0 ³⁾ | 1.5 l/min – 8.0 ³⁾ |
| 壓力損耗 | 0.08 bar at 1.5 l/min 1.3 bar at 9.0 l/min ⁴⁾ | | |
| 溫度選擇 | 30 – 60 °C | | |
| 水管接頭 | G ½ inch | | |
| 重量（裝滿水後） | 4.2 kg | | |
| VDE防護等級 | I | | |
| 防護 / 安全類型 |    IP25 CE | | |

*) 符合歐盟法規No.812/2013的要求。
#額定電流以德國標準計算，例如：18kW/√3/400=26A
^電線尺寸根據機電工程署的電力（線路）規例工作守則表A6(1)
1)從熱水器頂部接駁電源，最大電線尺寸10平方毫米。
2)混合熱水。
3)限流目的為達到最佳溫度上升效果。
4)不設限流器。

- 所有資料僅供參考，如有錯漏以廠方生產的規格為準。產品規格及設計如有變更，恕不另行通知。
- 中英文版本如有出入，一概以英文版為準。
- 本產品使用說明書以www.germanpool.com網上版為最新版本。

3. 尺寸



4. 安裝



根據德國準則，頒發了有關
噪音行為適用性證據的通用
測試證書。

安裝時必需遵照下列守則：

- e.g. VDE 0100
- EN 806
- 當地有關之電線安裝條例、安全標準、電力供應商或水務署之安全條例。
- 銘牌上的產品規格。
- 必須使用完好和適當的工具。

安裝地點

- 必須安裝於全年都不結霜之房間內。切勿讓熱水器暴露於霜雪中。
- 此熱水器只可作掛牆式安裝，出入水接駁喉位向下；如橫向安裝，水管接駁喉必須置放於左邊。
- 根據VDE 0100 part 701 (IEC 60364-7)，熱水器的防護等級為IP25，熱水器必須安裝於保護區1內。
- 為避免失溫，應將熱水器安裝於最接近出水位置。
- 該設備必須安裝於易於維修保養的位置。
- 如選用膠喉，該膠喉必須符合DIN 16893 Series 2規格。
- 來水於15°C時，水電阻最少應為1,100 Ω cm。有關詳情可向水務署查詢。
- 切勿將熱水器安裝在金屬表面附近，以確保無線連接穩定及最佳化無線接收範圍。

4. 安裝

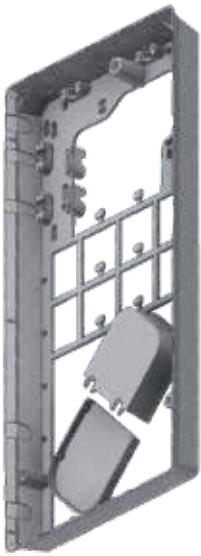
裝掛配件

若所選熱水器安裝地點難以安裝，可選配下列裝掛

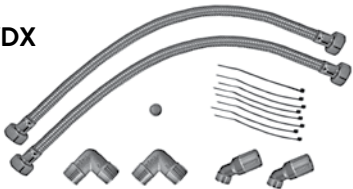
配件：
裝掛套裝 RDX3
(序號：36100)

在下列情況，可以用此裝掛套裝來安裝熱水器。當安裝牆壁表面不平均，而電源線出線位又正在這表面之上，令熱水器難以安裝。
使用RDX時，保護等級從IP25更改為IP24。

RDX3



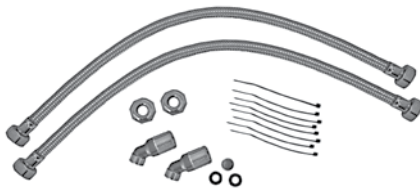
VDX



擴展套件 VDX
(序號：34120) - 必須與RDX同時使用

在下列情況，此擴展套件可以用來安裝熱水器。當水管冷熱水位倒置、水管出牆位置需要改動、或熱水器位置貼近牆壁邊緣時使用。電源線可從熱水器的下方出牆或以明線安裝。

UDX



擴展套件 UDX
(序號：34110) - 必須選用RDX

在下列情況，可以用此擴展套件來安裝熱水器。當水管在熱水器之上方連接。電源線從熱水器的下方出牆或以明線安裝。

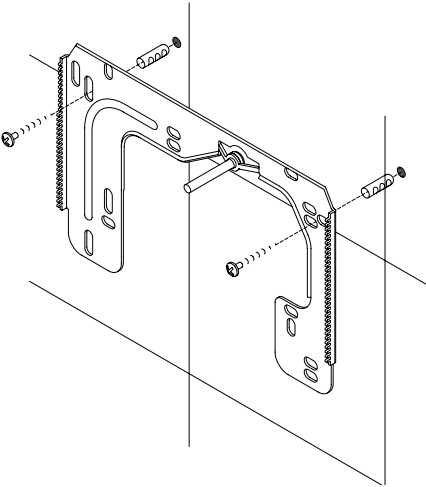
4. 安裝

安裝牆上掛碼

注意：如果此即熱式熱水器用以更換傳統形式即熱式熱水器，一般無需於牆上再另外鑽孔安裝。在此情況下，無需理會步驟2。

安裝前先徹底清洗供水喉管，去除管內任何污垢。

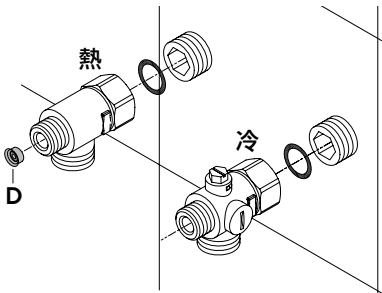
1. 用12毫米六角匙將杭牙旋入牆上接駁位置，密封墊必須完全旋入螺齒內。旋妥杭牙後，杭牙應外露12-14毫米。
2. 將附上的模板放在牆上適當位置以配合杭牙位置。根據模板位置記下鑽孔位置，用6毫米鑽咀鑽孔，放入固定銷旋入掛碼。
3. 請拉下面板並擰下主蓋螺絲以打開設備。
4. 鬆開牆上掛碼的滾花螺母，卸下牆上掛碼，然後將掛碼擰在牆上。借助隨附的墊片，最多可補償30毫米的傾斜瓷磚或不平整的表面。將墊片安裝在牆壁和牆上掛碼之間。



安裝接駁配件

注意：旋緊螺母時應小心避免損壞閥或喉管。

1. 如圖所示將緊固螺母及1/2”密封圈連接上冷水進水配件。
2. 將緊固螺母1/2”密封圈連接上熱水出水配件。
3. 將水流限制器”D”放入熱水出水配件。O型圈必須可見。

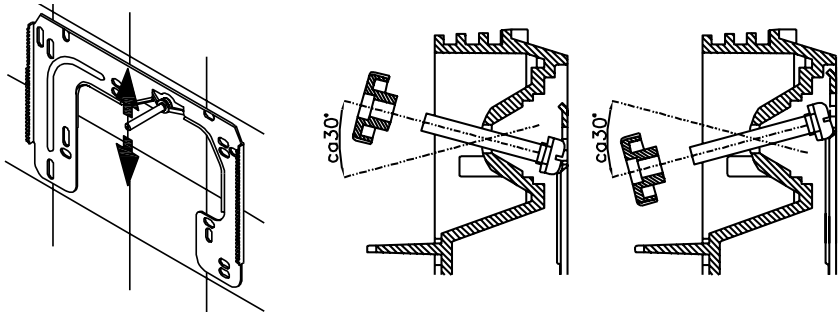
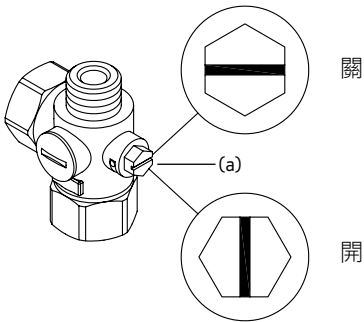


4. 安裝

安裝熱水器

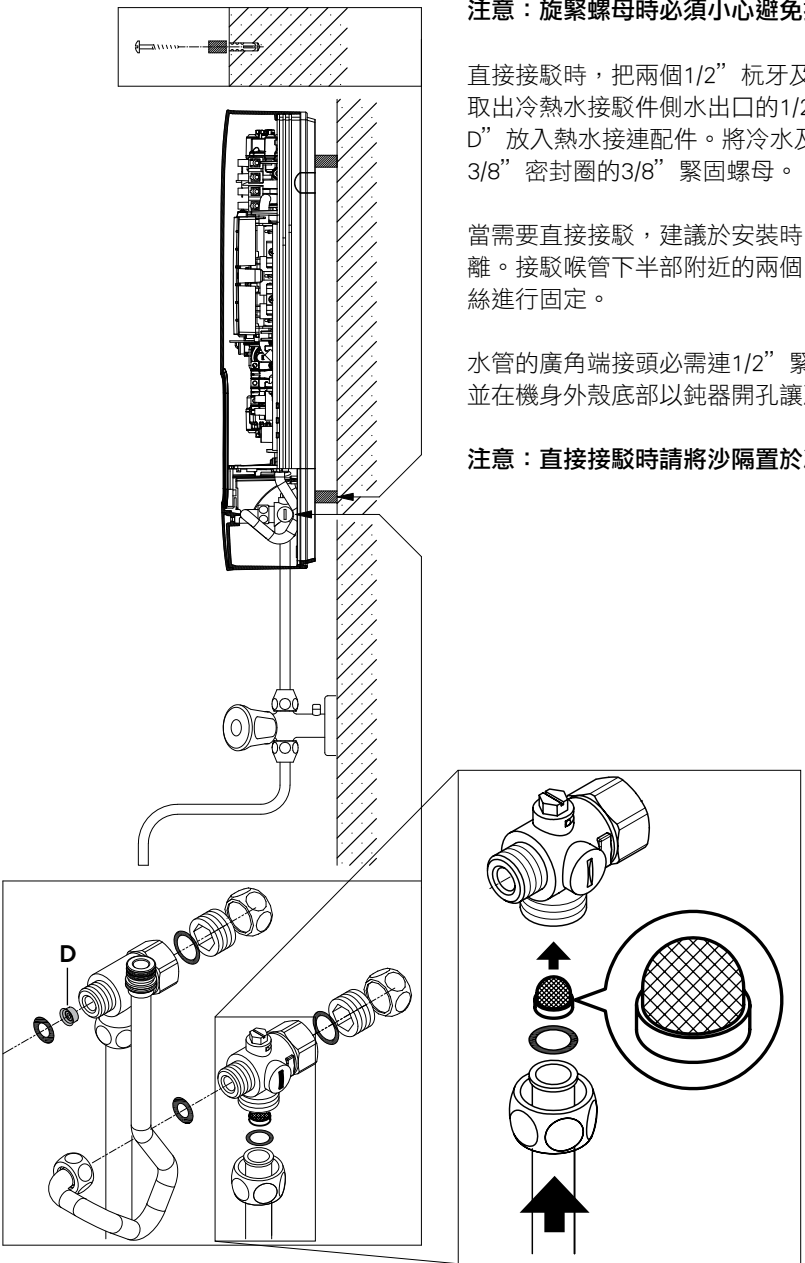
電源電纜可以連接在熱水器上部或以明線安裝。僅在這種情況下，首先按照「電線接駁」章節中的「從機頂接駁電線」部分的指示執行步驟1至3。

- 1. 將熱水器掛在掛接背板上，如有需要可小心將略為螺紋棒彎曲。注意，彎曲螺紋棒後旋上進出水配件時應無需使用蠻力。
- 2. 將塑膠滾花螺母旋入牆上掛碼螺紋棒上。
- 3. 將兩個3/8” 緊固螺母及3/8” 密封圈旋入進水管連接配件內。
- 4. 打開連接熱水器的冷水供水喉，慢慢旋開冷水連接配件的閘掣(a)（位置：開），查看有否滲漏。
- 5. 接著連續來回打開及關閉熱水龍頭數次，直至水龍頭再沒有空氣排出，及熱水器內的空氣已完全排出。



注意：預留生口位
如熱水器安裝在隱閉位置（例如石膏板假天花），必須預留600x600毫米生口位以便日後保養和維修之用。

5. 直接接駁



注意：旋緊螺母時必須小心避免損壞閘或喉管。

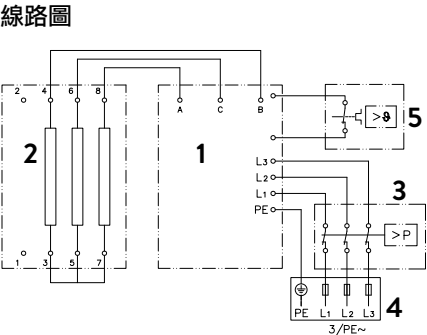
直接接駁時，把兩個1/2” 杭牙及1/2” 密封圈旋入冷熱水接駁件的1/2” 緊固螺母內。取出冷熱水接駁件側水出口的1/2” 密封帽，然後旋入杭牙外露的一端。將減水閥 “D” 放入熱水接連配件。將冷水及熱水的接連配件旋入熱水器入水位及送水管已加上3/8” 密封圈的3/8” 緊固螺母。

當需要直接接駁，建議於安裝時，使用跟機的間隔套讓熱水器跟牆壁保持一個合理距離。接駁喉管下半部附近的兩個固定孔，也應由專業技術人員以6毫米的固定銷和螺絲進行固定。

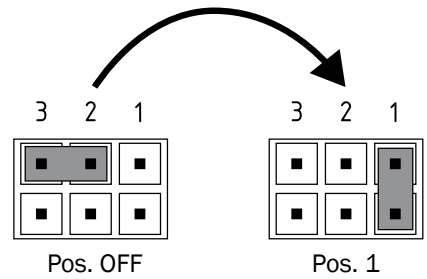
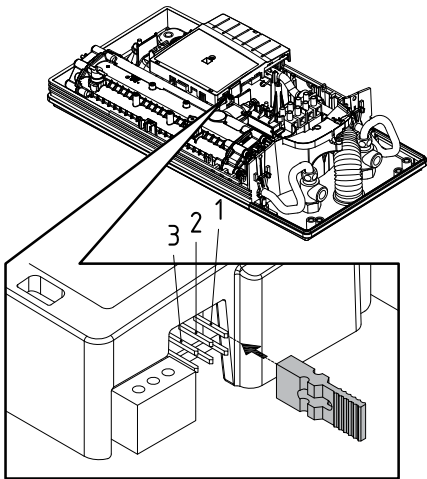
水管的廣角端接頭必需連1/2” 緊固螺母及1/2” 密封圈旋入冷熱喉的1/2” 接連配件。並在機身外殼底部以鈍器開孔讓冷熱水喉穿過。

注意：直接接駁時請將沙隔置於冷水入水接駁位！

6. 電線接駁



- 1. 電子電路板
- 2. 加熱元件
- 3. 限壓斷電安全裝置
- 4. 簪玉
- 5. 感溫斷電安全裝置



注意：必須由獲取認可資格之專業技師負責!

- 請注意：
- e.g. VDE 0100
 - 必須按現行之IEC標準、當地的電線安全標準及法規、及根據任何當地電力供應商之標準或法規安裝。
 - 參照銘牌上註明的技術規格。
 - 熱水器必須接駁地線！

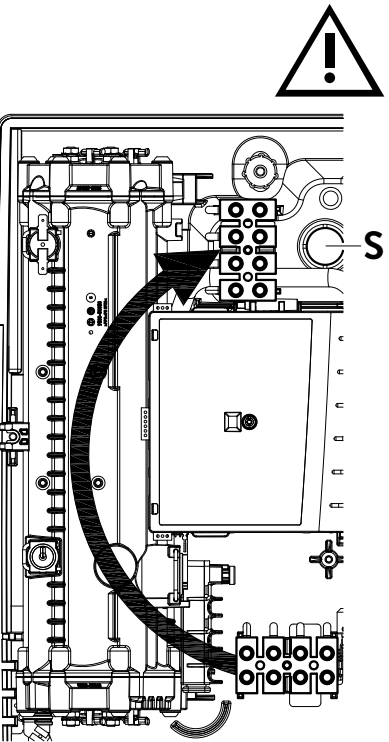
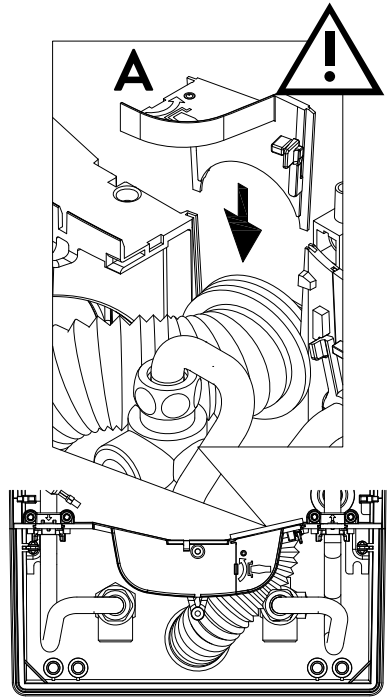
結構要求

- 熱水器必須穩固永久接駁安裝。熱水器必須接駁地線！
- 電線不應損壞，安裝後電線不應可以直接觸摸得到。
- 電源開關應為全極式開關（經保險絲），兩極之間應保持最少3毫米距離。
- 為保護熱水器，必須安裝符合熱水器標稱電流、並具過載電流功能及開關設定特性為C類的保險絲。

減載繼電器

- 如會同時接駁其他三相電器，可以將用專為電子即熱式熱水器設計的減載繼電器接駁至導電器L2。
- 為避免減載繼電器於低功耗（低溫設定或低水流）時抖動，可以啟動減載繼電模式：
- 斷開熱水器電源（例如關掉保險絲）。
 - 從電子控制板取下配線，並將其轉到位置“1”（參見圖片）。（見圖）。
 - 再次運行熱水器。

6. 電線接駁

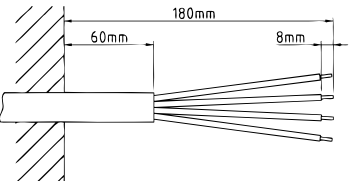


從機底接駁電線

注意：如有需要，可將簪玉移至熱水器上半部，如需這樣做，請參照下一部份指示。

注意：接駁電線前，必須先確定電源已關上！

1. 從牆壁插座位拉出約6厘米電線，套入防水套管，使套管與牆身齊平，確保如有漏水也不會沾濕電線，以保護電線完好。必須使用防水套管！
2. 剝去電線外皮並依著電路圖表將其接到簪玉上。此熱水器必須連接地線。
3. 將防水套管拉上，並調整接駁電線的形狀，使其在沒有壓力的情況下套入中間層板的凹位，並用套管固定件(A)進行固定。
4. 將外殼裝回熱水器上，然後擰緊螺絲。之後，您可以將面板從下滑上裝好。



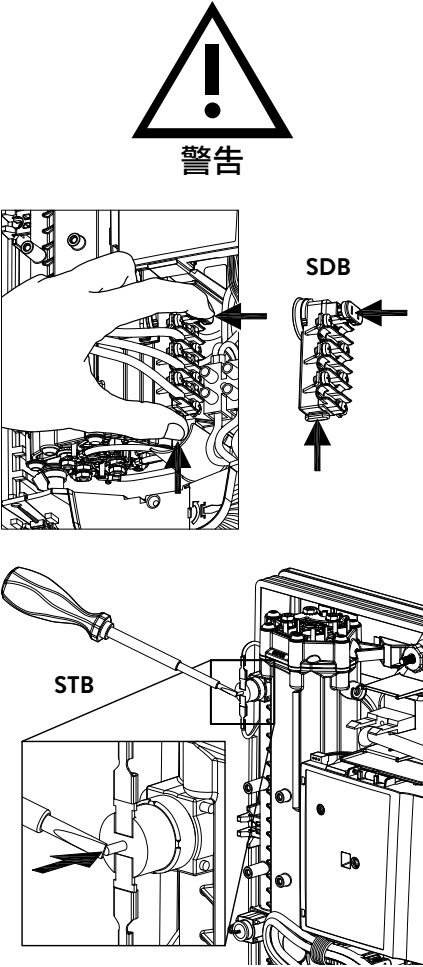
從機頂接駁電線

注意：接駁電線前，必須先確定電源已關上！

1. 用鈍器（例如螺絲批）按壓打開熱水器膠板上部的預設孔位(S)。如果採用明線安裝，則須同時打開熱水器右下方的預設孔位。
2. 剝開配件套裝的電線固定環至符合電線粗度。介開的面積應略為比電線窄少許，以確保最佳的防水性能。將電線固定環安裝到開口中。必須使用電線保護固定環！
3. 剝開電線，讓電線保護套穿過電線固定環延伸到設備中。握住熱水器，以便您可以另一隻手將電線佈線到固定環中。
4. 將熱水器掛在背碼上，讓背碼的螺紋柱套入熱水器相應的孔內。
5. 旋鬆簪玉的螺絲，將簪玉移往上腳口，再接駁簪玉。
6. 剝開電線，按照線路圖接駁至簪玉。此熱水器必須接駁地線。
7. 將外殼裝回熱水器上，然後擰緊螺絲。之後，將面板從下滑上裝好。

注意：為確保達到IP25防護等級，請不要卸下底部的防水膠管。

7. 初次啟動



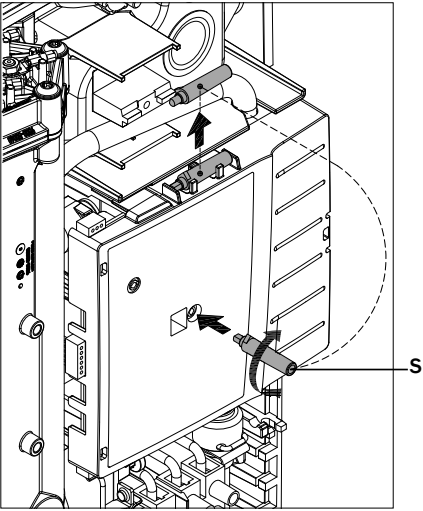
注意： 接駁電源前，先讓水注入喉管及熱水器內，然後慢慢開關熱水水龍頭數次，以將熱水器內的空氣完全排出。

為了確保最大流量，請拆除水龍頭上任何現有的加壓器。分別沖洗熱水和冷水管至少1分鐘。

每次徹底排水之後(例如因為維修或水喉工程後)，必須先以此方法將熱水器內的空氣完全排出，方可再啟動熱水器。

若熱水器無法運行，有機會是運輸過程中感溫斷電安全裝置或限壓斷電安全裝置跳閘。如有必要，請檢查電源是否已關閉並重置安全裝置開關。

1. 開啟熱水器電源。
2. 開啟熱水龍頭。測試熱水器性能。加熱元件將在持續水流約10-30秒後啟動。
3. 將使用說明書交給客戶，並向客戶解釋熱水器怎樣操作。
4. 初步操作妥當後，請填妥及寄回保用證。



出廠預設出水溫度的修改

出廠時熱水出水溫度預設為50°C。
此出廠設置可以通過使用輔助工具“S”旋轉調壓器來修改，其範圍大約為 30°C到 60°C。

順時針旋轉可以升高熱水出水溫度，而逆時針旋轉則可降低熱水出水溫度。

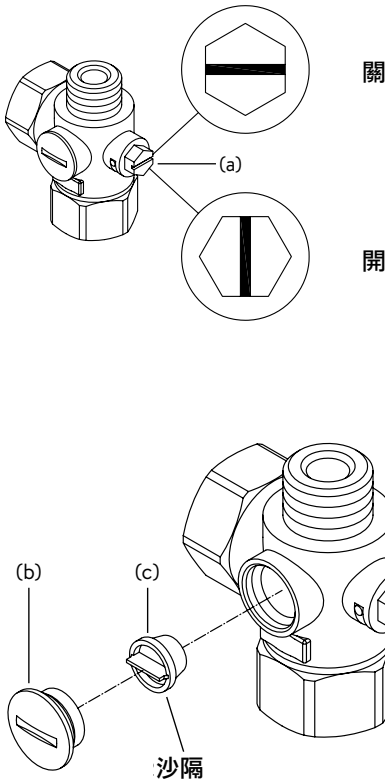
注意：若將此即熱式熱水器連接到花灑頭，則熱水溫度有機會不超過55°C。

8. 保養

注意：必須由獲取認可資格的专业技師負責!

清洗及更換沙隔

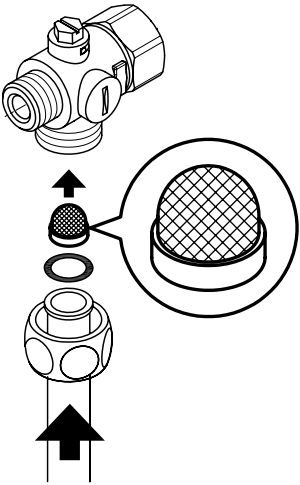
熱水器的冷水入水接駁位配備有綜合式的閘制及沙隔，沙隔藏有污垢會減低熱水出水量，必須定時清理或更換。步驟如下：



1. 先關掉電源（例如關掉保險絲）以防止電源意外接通。
2. 打開熱水器蓋掩，先把蓋掩取下，旋出蓋掩下面的螺絲，然後卸下外殼。
3. 關掉冷水接駁件的閘制(a)（狀態：「關」）。
4. 從冷水喉旋出螺絲塞子(b)，然後取出沙隔(c)。
- 注意：殘留的水可能會漏出。
5. 沙隔可以清洗或更換。
6. 清洗或更換沙隔。
7. 放回沙隔後，旋緊螺絲塞子。
8. 慢慢打開冷水接駁件的閘制（狀態：「開」）。確保沒有洩漏。
9. 慢慢開關相應的溫水龍頭數次直至熱水器內的空氣完全排出。
10. 將外殼裝回熱水器，然後再接通電源（例如打開保險絲）。

直接接駁時清潔並更換沙隔

熱水器的冷水入水接駁位配備有綜合式的閘制及沙隔，沙隔藏有污垢會減低熱水出水量，必須定時清理或更換。步驟如下：



1. 先關掉電源（例如關掉保險絲）以防止電源意外接通。
2. 關掉向熱水器的主供水閘制。
3. 打開熱水器外殼，先把小蓋掩取下，旋出蓋掩下面的螺絲，然後卸下外殼。
4. 從冷水喉旋出螺絲塞子，然後取出沙隔。
- 注意：殘留的水可能會漏出。
5. 清洗或更換沙隔。
6. 放回沙隔後，重新接駁上主供水組件。
7. 慢慢打開主供水閘制。確保沒有洩漏。
8. 慢慢開關相應的溫水龍頭數次直至熱水器內的空氣完全排出。
9. 將外殼裝回熱水器，然後再接通電源（例如打開保險絲）。

NOTE

[illegible]

NOTE

[illegible]

[illegible]

產品規格及設計如有變更，恕不另行通知。中英文版本如有出入，一概以英文版為準。本產品使用說明書以 www.germanpool.com 網上版為最新版本。
Specifications are subject to change without prior notice. If there is any inconsistency or ambiguity between the English version and the Chinese version, the English version shall prevail. Refer to www.germanpool.com for the most up-to-date version of the manual.



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2008



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