



Zip

# Instantaneous Hot Water



Electronically controlled instantaneous water heater

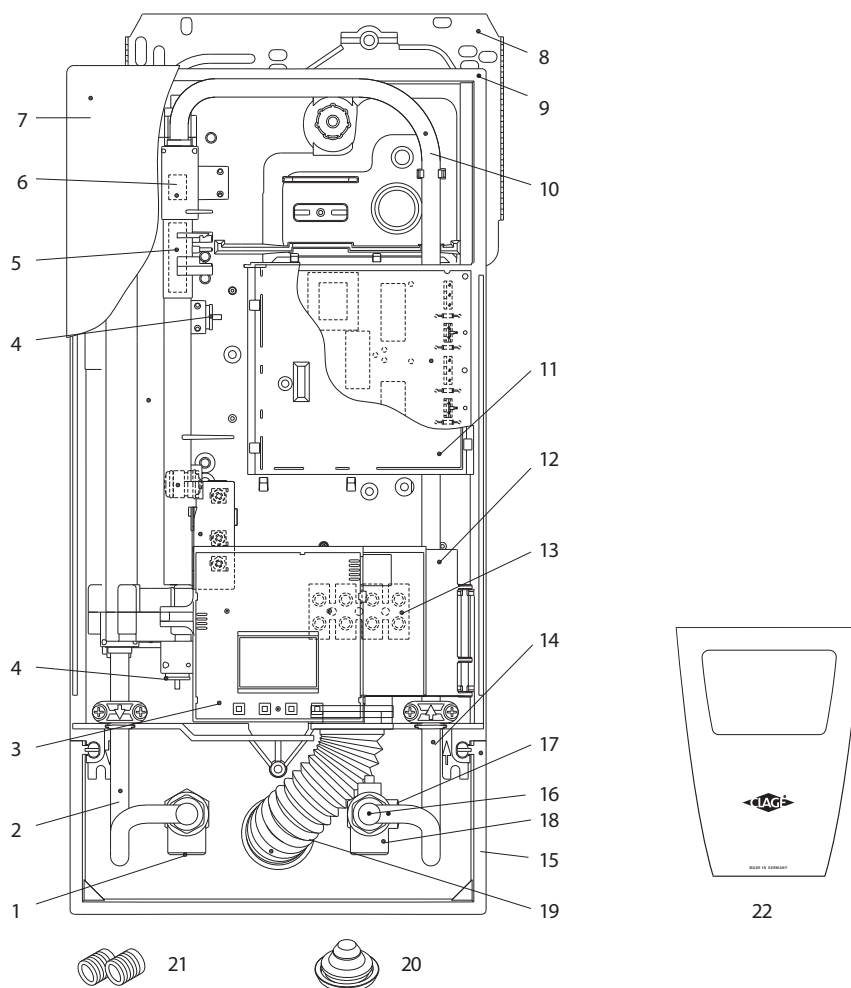
DEX: 27930 - 50 °C and 27931 - 60 °C models

Installation instructions

For 50 °C models, the appliance delivers water not exceeding 50 °C in accordance with AS3498.

## 1. Overview

When ordering spare parts, please always specify the appliance model and serial number.



Pos.	Part.-No.	Description
1	<b>801097</b>	<b>Hot water connection</b>
2		Outlet pipe
3	<b>801107</b>	<b>DEX control panel</b>
4	<b>801098</b>	<b>DSX / DEX thermal sensor set 2.1</b>
5	<b>801100</b>	<b>Flow sensor</b>
6	<b>801101</b>	<b>Non-return valve</b>
7		DEX hood
8		Wall bracket
9		Bottom part
10		DBX / DEX connecting pipe
11	<b>801102</b>	<b>PCB cover 2.1</b>
12		Control panel support
13		Connecting terminal
14		Inlet pipe

Pos.	Part.-No.	Description
15		Frame
16	<b>801108</b>	<b>Flow limiter 8 l/min</b>
17	<b>801104</b>	<b>Fine filter</b>
18	<b>801105</b>	<b>Cold water connection</b>
19		Water splash protection sleeve
20		Grommet
21		Screw-in nipples 1/2"
22	<b>801109</b>	<b>Faceplate</b>
not shown:		
23	<b>801106</b>	<b>Set of small spare parts</b>
24		Operating foil

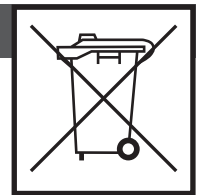
Parts in **Bold Type** are available as **Spare Parts**.  
Other parts are available on request.

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## 2. Environment and recycling

This symbol on the products and / or accompanying documents means that used electrical and electronic products should not be mixed with general household waste. For proper treatment, recovery and recycling, please take these products to designated collection points. Alternatively, in some countries you may be able to return your products to your local retailer upon the purchase of an equivalent new product. Disposing of this product correctly will help to save valuable resources and prevent any potential negative effects on human health and the environment which could otherwise arise from inappropriate waste handling. Please contact your local authority for further details of your nearest designated collection point. Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation. If you are a business user and you wish to discard electrical and electronic equipment, please contact your dealer or supplier for further information. This symbol is only valid in the European Union.



### 3. Safety instructions

Installation, initial operation and maintenance of this appliance must only be conducted by an authorised professional, who will then be responsible for adherence to applicable standards and installation regulations. We assume no liability for any damages caused by failure to observe these instructions.

- Do not use the appliance until it has been correctly installed and unless it is in perfect working order.
- The appliance is suitable but not limited to domestic use and similar applications inside closed, frost-free rooms, and must only be used to heat potable water from mains supply.
- The appliance must never be exposed to frost.
- The appliance must be earthed at all times.
- The minimal specific water resistance must not fall below the value stated on the label.
- The maximum water pressure must not exceed the value on the label.
- Before commissioning for the first time and each time the appliance is emptied (e.g. due to work on the plumbing system, if there is a risk of freezing or in case of maintenance), the appliance must be vented correctly in accordance with the instructions in this manual.
- 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.
- 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.
- Water inlet temperature must not exceed 70 °C.
- In case of malfunction, disconnect the fuses immediately. In case of leaks, cut off the cold water supply instantly. Repairs must only be carried out by the customer service department or an authorised professional.
- This appliance must not be used by any person (including children) with limited physical, sensorial or mental abilities or failing experience and/or knowledge unless they are supervised by a person responsible for their safety or received instructions about how to use the appliance. Children should be supervised in order to make sure that they do not play with the appliance.



## 4. Technical specifications

Model	DEX ELECTRONIC MPS®			
Part no.	27930 - 50 °C models 27931 - 60 °C models			
Rated capacity / rated current	18 kW..27 kW (26 A..39 A)			
Chosen capacity / current	18 kW (26 A)	21 kW (30 A)	24 kW (35 A)	27 kW (39 A)
Electrical connection	3/PE 380..415 V AC			3/PE 400 V AC
Min. required cable size	See note 1)			
Hot water (l/min) max. at $\Delta t = 28$ K max. at $\Delta t = 38$ K	9,2 <sup>2)</sup> 6,8	10,7 <sup>2)</sup> 7,9	12,3 <sup>2)</sup> 9,0 <sup>2)</sup>	13,8 <sup>2)</sup> 10,2 <sup>2)</sup>
Rated volume	0,4 l			
Type	Pressure type 1 MPa (10 bar)			
Heating system	Bare wire heating system IES®			
Required spec. water resistance @ 15 °C	$\geq 1100 \Omega \text{cm}$			
Spec. electrical conductivity	$\leq 90 \text{ mS/m}$			
Inlet temperature	$\leq 70$ °C			
Flow rate to switch on – max. flow rate	2,5 – 8,0 l/min <sup>3)</sup>			
Pressure loss	20 kPa at 2,5 l/min    130 kPa at 9,0 l/min <sup>4)</sup>			
Temperature choice	20 °C – 50 °C (50 °C models) 20 °C – 60 °C (60 °C models)			
Water connection	G ½"			
Weight (when filled with water)	3,70 kg			
VDE class of protection	I			
Noise level test certificate	PA-IX 6762/I			
Type of protection / safety				

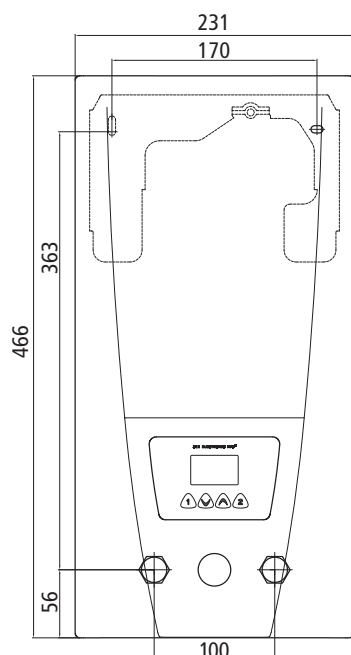
1) The cross sectional area of the connection cable must be in accordance with the power rating of the appliance and the specific requirements of AS/NZS 3000.

2) Mixed water

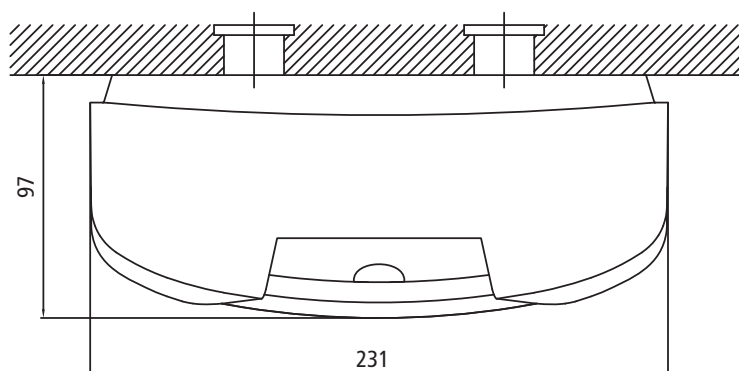
3) Flow rate limited to achieve optimum temperature rise

4) Without flow regulator

## 5. Dimensions



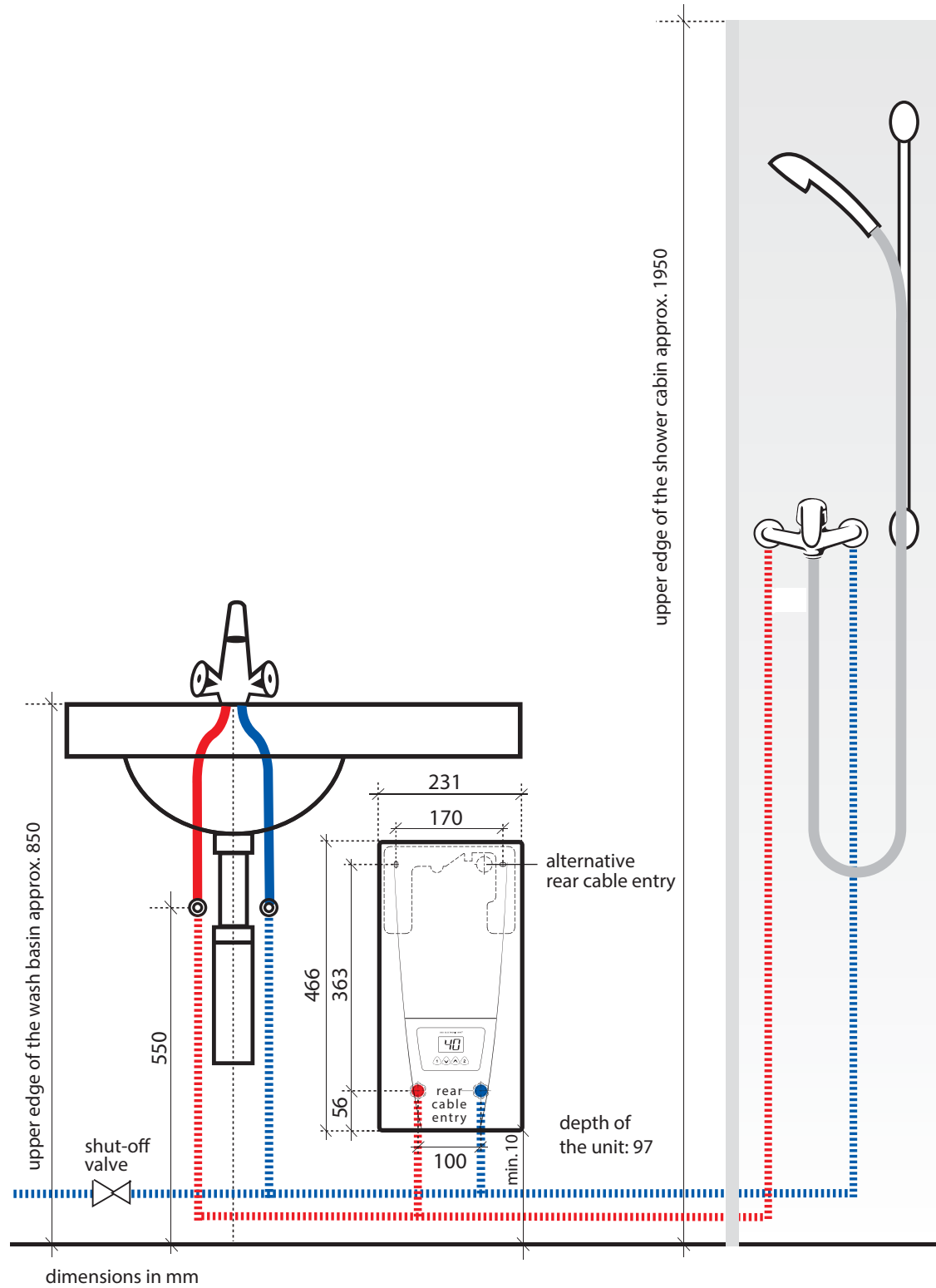
Dimensions in mm



## 6. Typical installations



## 6. Typical installations



## 7. Installation

The following regulations must be observed:

- Installation must comply with all statutory regulations, AS/NZS 3000, AS/NZS 3500, as well as those of the local electricity and water supply companies.
- The specifications on the rating plate.
- Technical specifications.
- These instructions must be read and fully understood before commencing the installation. If in doubt, or in need of further guidance please ring Zip on 1800 638 633.
- Zip Instantaneous Hot Water heaters must be installed by a competent person familiar with electric instantaneous water heaters.
- Zip Instantaneous Hot Water heaters must be installed according to the specification on the rating plate and the technical specifications.
- The appliance must be permanently connected to the electrical supply through an isolation switch as per AS/NZS 3000.
- To protect the appliance, a circuit breaker must be fitted with a rating suitable for the nominal current of the appliance.
- The cross sectional area of the connection cable must be in accordance with the power rating of the appliance and the specific requirements of AS/NZS 3000.
- Take care to protect the wiring from damage during installation and ensure that the wiring is not directly accessible after installation.
- Check that the power supply is switched off prior to electrical connection.
- **This appliance must be earthed.**
- **For 50 °C models**, the appliance delivers water not exceeding 50 °C in accordance with AS3498.
- **For 60 °C models**, the appliance may be able to be used with a Thermostatic Mixing valve or where serving a fixture that does not require temperature limitation such as a commercial Kitchen sink or Cleaners sink. Refer to AS/NZS 3500.4.

### Installation site

- Appliance must only be installed in frost-free rooms. Never expose appliance to frost.
- The Appliance is designed for wall mounted installation and has to be installed with water connectors downwards.
- The appliance complies with protection class IP25.
- To avoid thermal losses and dead legs, the distance between the instantaneous water heater and the furthest outlet should be kept as short as possible (<6 meters). In addition all hot water pipe work should be insulated in accordance with AS/NZS 3500.
- For maintenance work, a shut-off valve should be installed in the supply line. The appliance must be accessible for maintenance work.
- The hot water pipes must be thermally insulated.
- The specific resistance of the water must be at least 1100 Ωcm at 15 °C. The specific resistance can be asked for with your water supply company.

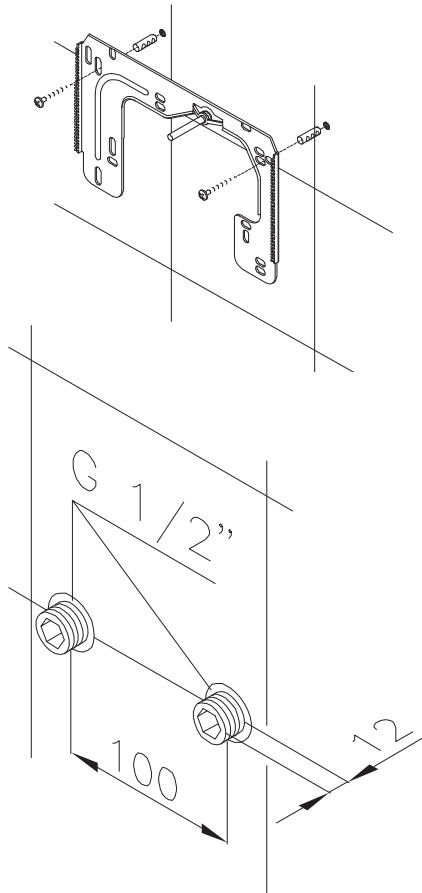


## 7. Installation

### Installing the wall bracket (Fig 1)

1. Thoroughly flush the water supply pipes before installation to remove any water borne debris.
2. If required, using a 12mm hexagon key, screw the screw in nipples into the wall connections. After tightening the double nipples must protrude by 12mm.
3. Hold the mounting template on the wall and align it so that the holes in the template fit over the connections. Use the template to locate the drilling positions and drill them with a 6mm bit, ensuring that there are no hidden cables or pipe-work. Attach the wall bracket using the fixings and screws supplied.
4. Offset tiling or uneven surfaces can be compensated for by up to 30mm with the aid of the spacers supplied. The spacers are fitted between the wall and the wall bracket.

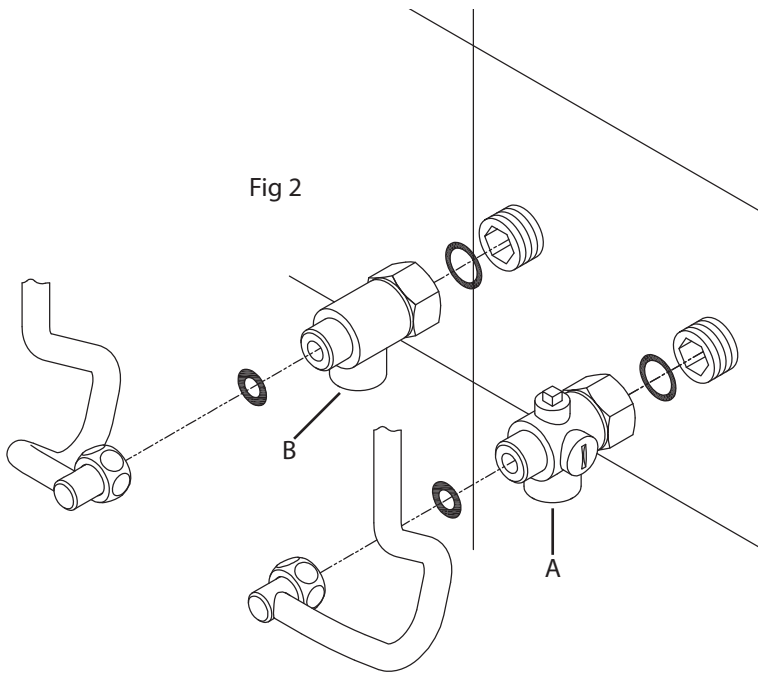
Fig 1



### Installing the connection pipes (Fig 2)

1. Screw the cold water connection piece (A) with the union nut and the 1/2" seal onto the cold water connection.
2. Screw the hot water connection piece (B) with the union nut and the 1/2" seal onto the hot water connection..

Fig 2



## 7. Installation

### Installing the appliance

1. Remove the appliance cover by first removing the fascia panel then unscrewing the fixing screw.
2. If the power supply cable is to be connected in the upper part of the appliance follow instructions for “Electrical Connection From Above” on page 13.
3. Place the appliance on the wall bracket with the threaded stud through the fixing hole in the back plate. If necessary the threaded stud can be carefully bent through a maximum of approximately 30° to allow it to align with the fixing hole (see Fig 4). However, it must be ensured that the water connection pipes can be connected to the appliance without applying force.
4. Screw the two 1/2" union nuts on the appliance's water connection pipes, each fitted with a 1/2" seal, onto the fittings.
5. Screw the plastic knurled retaining nut onto the threaded stud of the wall bracket.
6. Open the water supply to the appliance and slowly open the shut-off valve (see Fig 5) in the cold water connection piece to position 1. Check all connections for leaks.
7. Ensure that all air is eliminated from the water heater by opening and closing the hot water tap until no more air emerges.

Fig 3 (3-phase model shown)

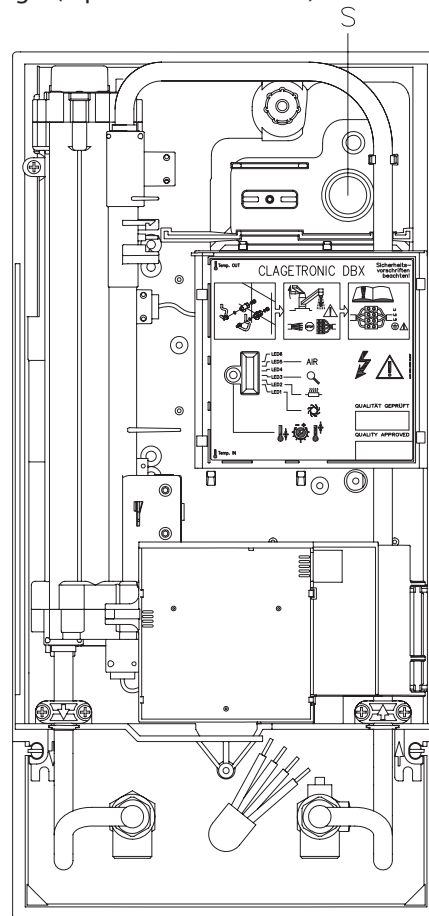


Fig 5

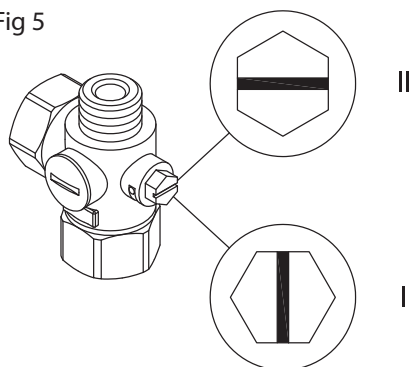
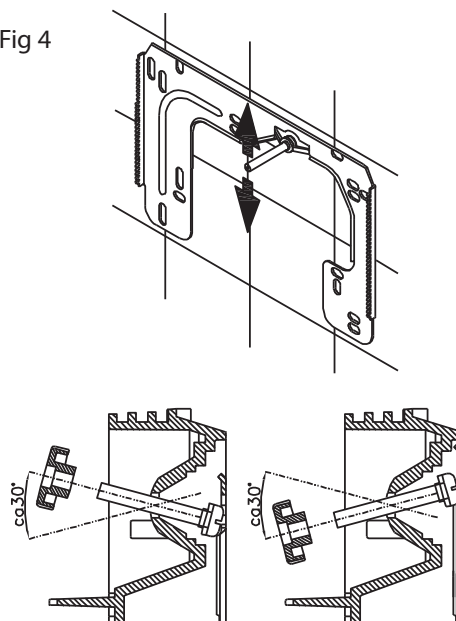


Fig 4



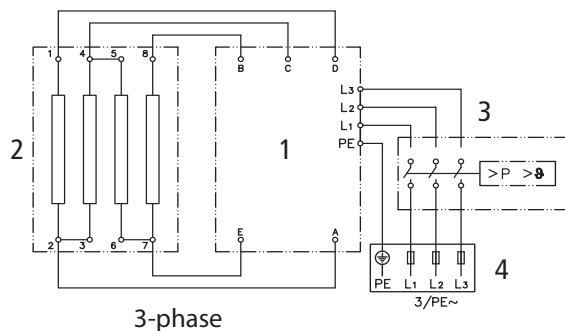
## 7. Installation

### Surface mounted installation

1. If required for surface mounting, the two ½" screw-in nipples and the ½" seals must be screwed into the ½" union nuts of the hot water and cold water connectors. The two ½" caps of the side outlets of the hot water and cold water connectors must be removed and screwed into the open end of the screw-in nipples. The hot water and cold water connectors must then be screwed into the 1/2" union nut of the appliance and delivery pipe, together with the 1/2" seals.
2. When surface mounting, it is advisable to install the appliance at a distance from the wall as illustrated in Fig 6 using the spacer sleeves supplied. In this case the two fixing holes near the lower pipe connections should also be used.
3. The flared end of the pipes must be screwed into the ½" side outlets of the hot water and cold water connectors with ½" union nuts and ½" seals. The holes required for the pipes must then be broken out of the housing using a blunt implement.
4. Ensure the line strainer is inserted into the cold water connection.

### Electrical connection

Prior to commencing electrical connection take time to re-read the 'Installation Requirements' listed on page 8 and ensure that all requirements pertaining to electrical installation are observed.



#### Wiring Diagram

1. Circuit board
2. Heating element
3. Safety thermal cut-out
4. Terminal block

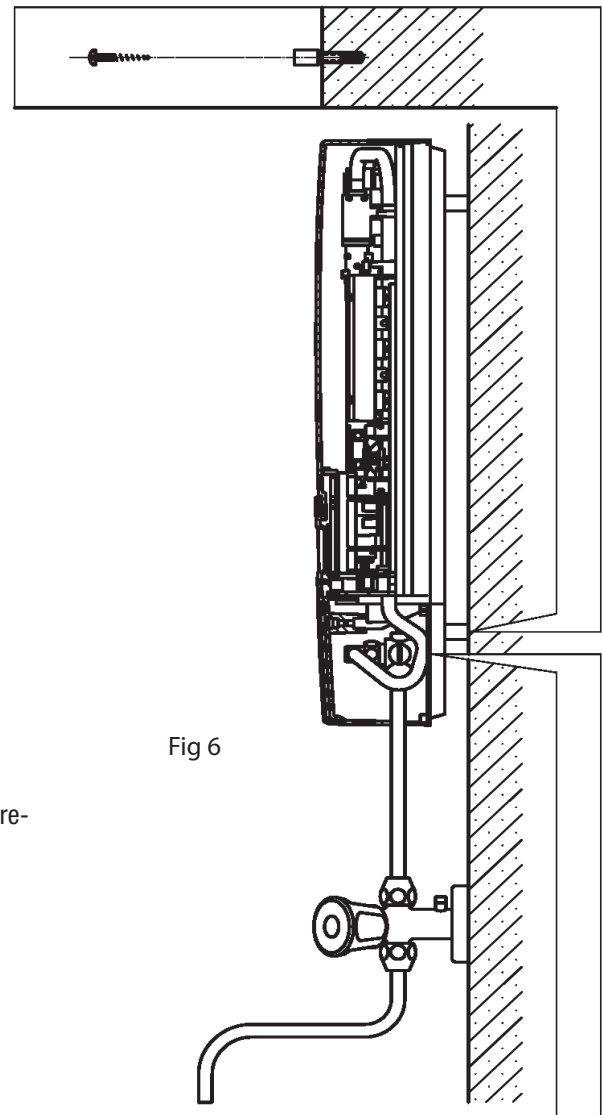
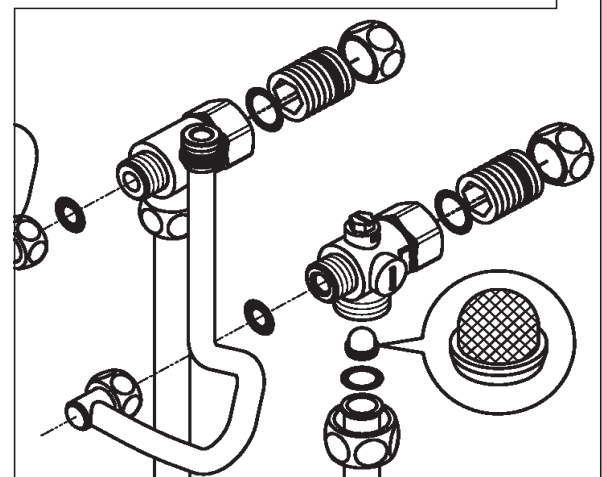


Fig 6



## 7. Installation

### Electrical connection from below

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

1. Remove inner and outer insulation from the connecting cable to the lengths shown in Fig 7.
2. With the smaller opening foremost, slide the water splash protection sleeve over the connecting cable until the sleeve is flush with the wall. This prevents any water leaks from coming into contact with the electrical leads. The protection sleeve must be used and free from damage.
3. Open the control panel to the right.
4. Fit the connecting cables into the terminal block according to the wiring diagrams on page 11. Ensure all connections are fully tightened and secure.
5. **The appliance must be earthed.**
6. Pull the protection sleeve over the connecting cables until it fits in the recess of the intermediate panel.
7. Close the control panel.
8. Re-fit the appliance cover and secure with the fixing screw before re-fitting the fascia panel.

**Note:** If required, the terminal block can be re-positioned in the upper part of the appliance. In this case the instructions in the following section should be followed.

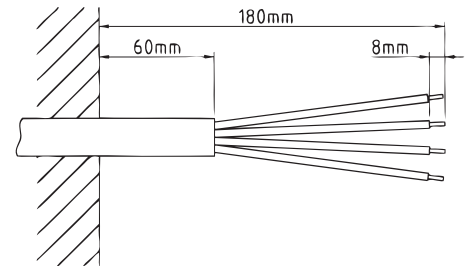


Fig 7

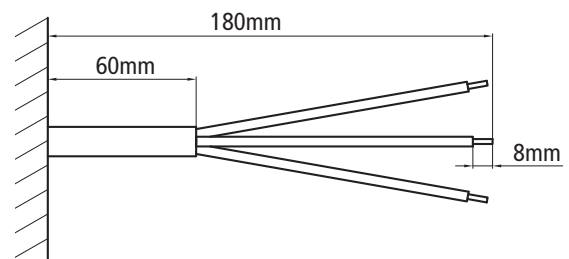
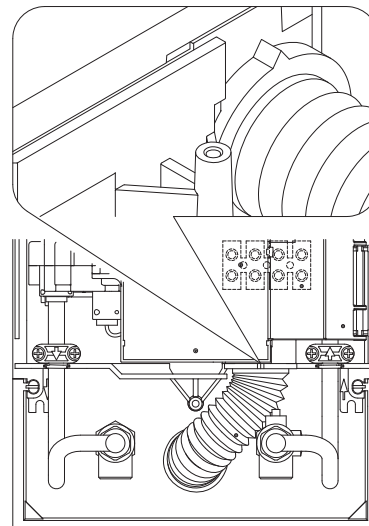


Fig 8  
(3-phase model shown)



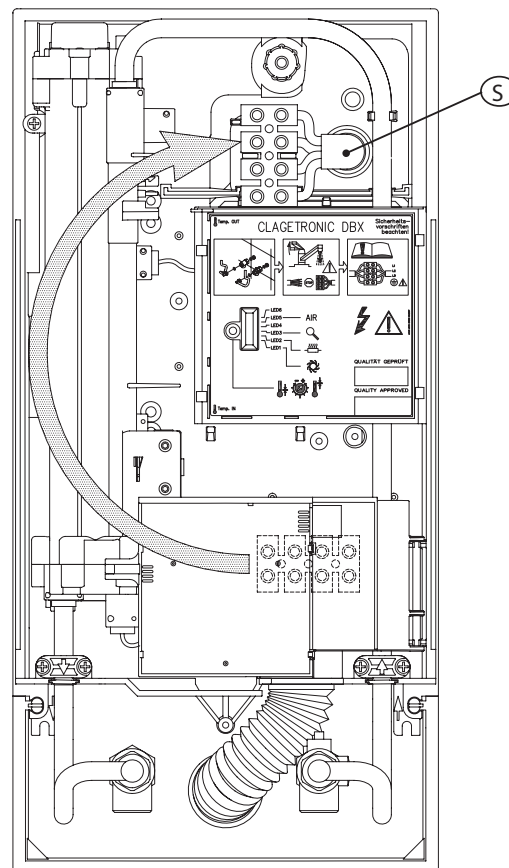
## 7. Installation

### Electrical connection 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 instrument (e.g. Screwdriver). See Fig 9.
2. Open the cable grommet to slightly smaller than the cable size to ensure optimum protection against water ingress. Fit the grommet into the cable opening. N.B. The cable grommet must be used.
3. Strip the cable 6cm above the point where it emerges from the wall. Support the appliance while the cable is routed through the grommet.
4. Unscrew the terminal block fixing screw. Reposition the terminal block on the upper mounting and secure with the fixing screw.
5. Fit the connecting cables into the terminal block according to the wiring diagram on page 11. Ensure all connections are fully tightened and secure.
6. **The appliance must be earthed.**
7. Re-fit the appliance cover and secure with the fixing screw before re-fitting the fascia panel.

Fig 9  
(3-phase model shown)



## 8. Commissioning

Before switching on the power supply, ensure the appliance is completely filled with water by carefully opening and closing the hot water tap until all air has been eliminated from the water heater and no more air emerges.

Every time the appliance is drained (e.g. after work on the plumbing system or following repairs to the appliance), the heater must be re-vented in this way before reconnecting the power supply.

The maximum power rating of the appliance can be selected from 18, 21, 24 or 27kW at the time of installation. The maximum power rating should only be selected with reference to the technical data on page 5, after ensuring that correct cable sizing and fuse protection is in place and with regard to local site conditions and AS/NZS 3000 electrical regulations.

### **This must only be done by a qualified tradesperson.**

1. Switch on the power supply to the appliance. The digital display will light up.
2. When switching on power for the first time “21” will flash on the display. If not, please refer to the section below “Reinstallation”.
3. Use the arrow up and down function keys (▲, ▼) to select the required maximum power rating. N.B. DEX at 27kW for connection only to 3/PE 400V AC supply.
4. Press function key 1 to confirm the selection after which the appliance will start to operate.
5. Mark the set power rating on the product rating plate.
6. After selecting the maximum power rating, the heating element will activate after approximately 30 seconds of water flow.
7. Open the hot water tap and check the appliance is functioning correctly.
8. Explain operation of the appliance to the end user and leave the operating instructions for their reference.
9. Complete the product registration card and return it to Zip Heaters or register the product on line.



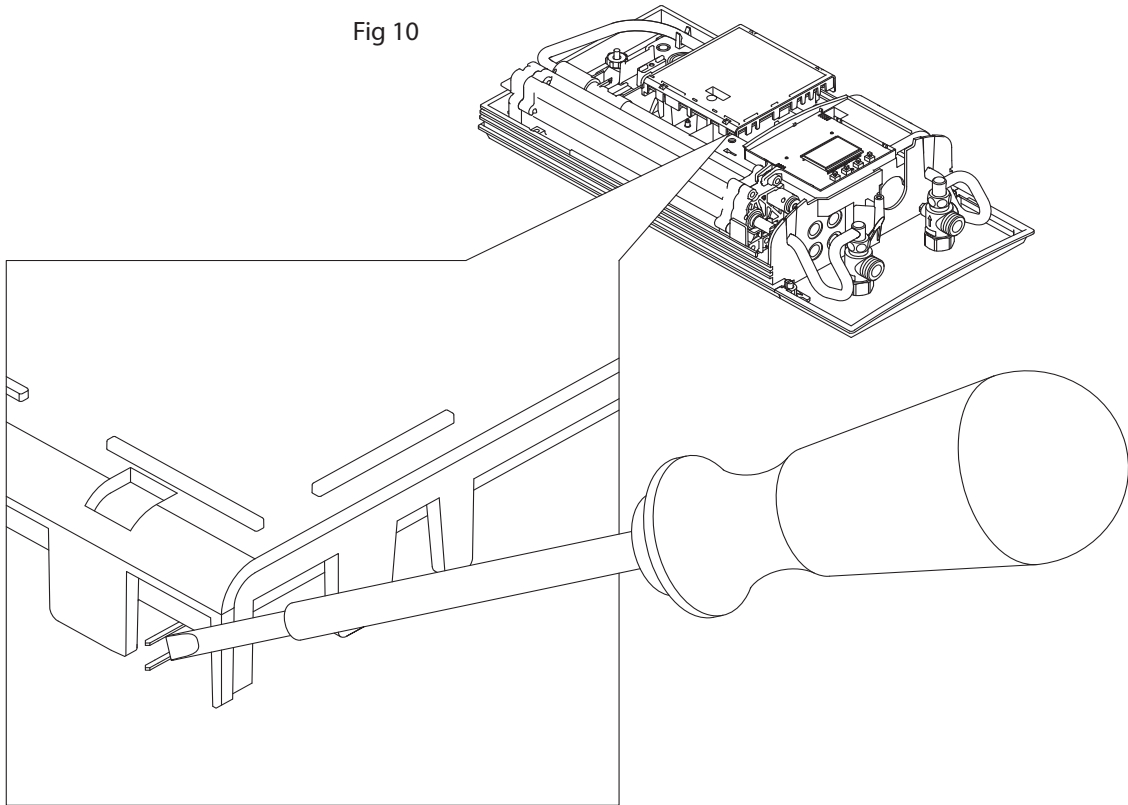
## 9. Reinstallation

If the appliance is to be re-commissioned under different installation conditions it may be necessary to alter the maximum power rating.

This must only be done by a qualified tradesperson.

To re-set the maximum power rating use a screwdriver to short circuit the two pins as shown in Fig 10. Value '21' will flash in the display panel until the maximum power rating has been selected.

Fig 10



## 10. Maintenance

N.B. Maintenance work must only be carried out by a qualified tradesperson familiar with instantaneous water heaters.

Plastic surfaces and sanitary fittings should only be wiped with a damp cloth.

Never use abrasive or chloric cleaning agents or solvents.

Outlet fittings (tap nozzles and shower heads) should be unscrewed and cleaned at regular intervals.

The electrical and plumbing components should be inspected regularly by a competent person to ensure proper functioning and operational safety. Water quality should be considered when determining the frequency of inspection.

### Cleaning and replacing the filter strainer

The cold water connection of the appliance is fitted with an integral shut-off valve and filter strainer. Soiling of the strainer may reduce hot water output from the unit.

The strainer should be cleaned or replaced as follows:

1. Isolate the electrical supply to the unit.
2. Remove the appliance cover and close the shut-off valve (see Fig 12) in the cold water connection piece to position II.
3. Unscrew the screw plug (A) from the cold water connection piece and take out the strainer (B) (see Fig 13).
4. The strainer can now be cleaned or replaced.
5. After re-fitting the strainer tighten the screw plug.
6. Slowly open the shut-off valve in the cold water connection piece to position 1.
7. Vent the unit by carefully opening and closing the hot water tap several times until all air has been eliminated from the water heater and no more air emerges.
8. Re-fit the appliance cover and restore power to the unit.

Fig 12

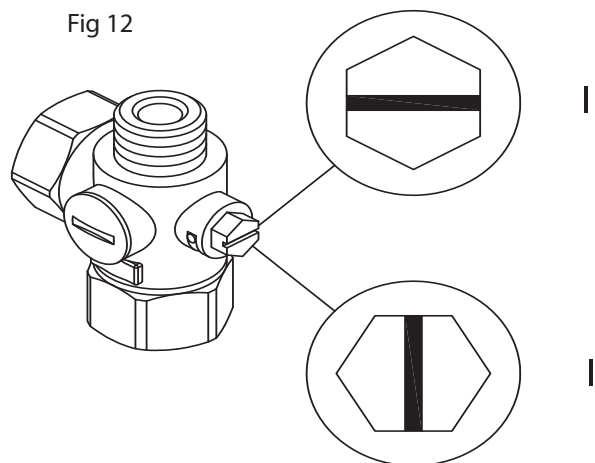
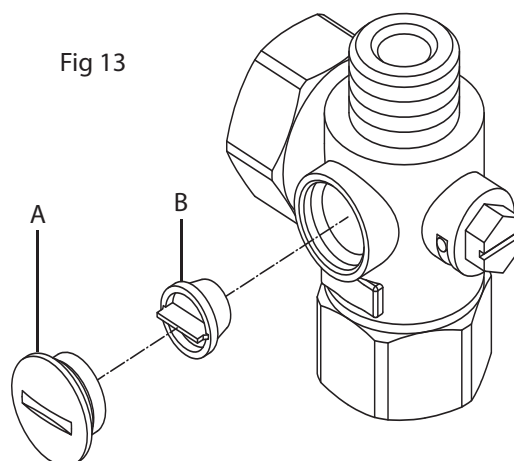
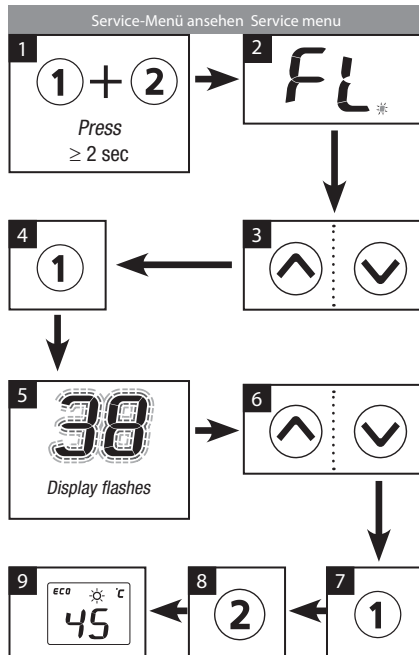


Fig 13





## 11. Service menu



Menu item order of "Service menu":

	FL	Flow
	PO	Power
	t1	Temp in
	t2	Temp out
⬆	CA	Control value
	PL	Power limit
	Er	Diagnostics
⬇	LL	Lock level
	rv	Software version
	ch	Radio channel
	rs	Received strength
	11C	Signal

The service menu offers an overview of system parameters and is used for diagnostics.

Press key ① and key ② simultaneously for at least 2 seconds to call up the service menu, the display confirms by "FL" and by a flashing point. Using the arrow keys ⬆ and ⬇, you can switch between the individual menus.

Press key ① to see the value of the currently selected menu. The value flashes in the display. (The values of some menus can be switched over by using the arrow keys ⬆ and ⬇.) You will get back to the drop-down-menu when pressing key ① again. With key ② you will get back to the standard display (nominal value). After two minutes without any key stroke the system automatically switches back to the standard display.

Individual menu items as follows:

"FL": Flow

Indication of current flow rate given in l/min.

"Po": Power

Indication of current power consumption (kW).

"t1": Temp in

Indication of inlet temperature (°C).

"t2": Temp out

Indication of outlet temperature (°C).

"CA": Control value

Indication of calibration value of the control system. Regular range: 40 – 60.

"PL": Power limit

Informs about the current maximum power rating (kW) of the appliance.

"Er": Diagnostics

Indication of the last ten diagnostic messages.

The error code is indicated by the first displayed value after pressing key ① (refer to "Abstract for Trouble-Shooting & Diagnostics" in the hood). By using the arrow keys ⬆ and ⬇ the last 10 error codes are displayed chronologically. Thereby the display indicates in turns the error numbers from "0" to "9" and the corresponding error. The last error will be recorded at position "0" and the former ones each shifted 1 position backwards.

"LL": Lock level

The operating mode of the appliance can be restricted.

Setting Options:


"0" no restriction (factory setting)

"1" factory reset via key (countdown) not possible, parameters can be seen, but not be modified in setup menu

"2" same as "1", additionally the setup menu cannot be opened

## 11. Service menu

Menu item order of "Service menu":



<b>FL</b>	<i>Flow</i>
<b>PO</b>	<i>Power</i>
<b>t1</b>	<i>Temp in</i>
<b>t2</b>	<i>Temp out</i>
<b>CR</b>	<i>Control value</i>
<b>PL</b>	<i>Power limit</i>
<b>Er</b>	<i>Diagnostics</i>
<b>LL</b>	<i>Lock level</i>
<b>nr</b>	<i>Software version</i>
<b>Ch</b>	<i>Radio channel</i>
<b>rS</b>	<i>Received strength</i>
<b>IIC</b>	<i>Signal</i>

"3" same as "2" additionally nominal value memory 1 and 2 not changeable

"4" same as "3", additionally nominal value not changeable

Note: When the setting "1", "2", "3" or "4" was chosen, the system parameters can no longer be modified in the service menu.

In order to modify these system parameters, it is necessary to remove the jumper on the power electronics, as specified in the chapter "Deactivation of the lock level". (Page 13)

"nr": Software version

Information about installed software version.

"Ch": Radio channel

Information about the current radio channel of the water heater and its remote control.

"rS": Received strength

Information about the current signal quality of the remote control as percentage. Depending on the distance between remote control and water heater the value varies between 10 % and 100 %.

"IIC": Signal

Information about the quality of the radio contact when a diagnostic display is connected.



This image shows a full-page view of a notebook or document template. At the very top, there is a solid dark gray horizontal bar. Centered within this bar is the word "Notes" in a white, bold, sans-serif font. Below this header, the rest of the page is filled with light blue horizontal ruling lines, creating a series of uniform rows for writing. The lines are evenly spaced and extend across the entire width of the page.

## Head Office

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**Zip**<sup>®</sup>



...the innovative hot water solution.

## Quick reference guide

