

3-PHASE ELECTRIC INSTANTANEOUS WATER HEATER

HF-318, HF-327

2850318-S50, 2850327-S50



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1. PREFIX

This manual contains important information about the installation, operating and maintenance of the Bromic Instantaneous Electric Hot Water Heaters. Please pay close attention to the important safety information shown throughout this instruction manual. Any safety information will be accompanied by the following safety alert symbols:

 DANGER,  WARNING,  IMPORTANT

- READ THIS MANUAL CAREFULLY before installing or servicing this product.
- Improper installation, operation, or maintenance can result in death, severe injury, or property damage.
- This appliance is intended for 3 phase 415 Volt power supply only.
- **Installation MUST be carried out by a licensed and authorised technician in accordance with local electrical and plumbing codes.**



IMPORTANT

60°C - limited water heaters:

Model: 2850318; 2850321; 2850324; 2850327

This appliance may deliver water at high temperature. Refer to the plumbing code of Australia (PCA), local requirements and installation instructions to determine if additional delivery temperature control is required.

50°C - limited water heaters:

Model: 2850318-S50; 2850321-S50; 2850324-S50; 2850327-S50

THIS APPLIANCE DELIVERS WATER NOT EXCEEDING 50°C IN ACCORDANCE WITH AS 3498.

2. IMPORTANT NOTES AND WARNINGS



IMPORTANT

- Read all instructions before installing or using this appliance.
- Installation must be performed by a qualified technician in compliance with AS/NZS 3500.4 Plumbing and drainage: Heated water service and Clause G12 of the NZ Building Code as well as all other current national and local regulations.
- Retain this manual for future reference.
- Use this appliance only as described in this manual. Any other use not recommended by the manufacturer may cause fire, electric shock, injury or death.
- Improper installation, adjustment or alteration and failure to follow the warnings and instructions in this manual could result in severe personal injury, death or property damage.
- **The manufacturer is not responsible for any damage that could happen from improper use. The manufacturer emphasises that this appliance should be used in a responsible manner and that all procedures, warnings, and safety instructions contained in this booklet be followed strictly.**
- **Improper use includes the use of this appliance to heat any liquid other than main/potable water within the resistivity range specified in this manual (Section 3) and the product data label.**
- Check the appliance for damage. Do not operate a damaged unit.
- Check for damage to the appliance regularly. If damage to the appliance is suspected, immediately disconnect the appliance at the isolation point and discontinue use. Contact the supplier or qualified person to repair. Do not open equipment.
- **This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge.**
- Keep packaging material out of reach of children.
- **The appliance should be installed in such a location that children cannot access the equipment.**
- Do not attempt to alter the appliance in any manner.
- **Water with a temperature higher than 40°C has the potential to cause serious burns, especially for children.**
- **For 60°C - limited water heaters: Model: 2850318; 2850321; 2850324; 2850327**
This appliance may deliver water at high temperature. Refer to the plumbing code of Australia (PCA), local requirements and installation instructions to determine if additional delivery temperature control is required.
- **For 50°C - limited water heaters: Model: 2850318-S50; 2850321-S50; 2850324-S50; 2850327-S50**
THIS APPLIANCE DELIVERS WATER NOT EXCEEDING 50°C IN ACCORDANCE WITH AS 3498.
- **A water hammer arrestor must be fitted to the outlet of the unit if the water supply pressure is above 500kPa and/or the pipe length on the hot water outlet line is less than 5m (in total).**
- Do not perform maintenance until the appliance has been effectively isolated from all 3 power supply phases and water has been shut-off.
- Do not operate the appliance with panels, covers or guards removed.
- If the appliance has not been used, or will not be used for a long period of time, disconnect power supply.
- Heater installation, electrical and hydraulic/plumbing work must be performed by qualified technicians.
- Appliance is not to be installed in locations where freezing can occur.
- Install the appliance vertically and near the draw point. Mounting configuration must be according to the heater's model. Installation and use of the heater in opposite/incorrect configuration will cause permanent damage to the appliance.
- **Do not connect the heater to the electric mains until the appliance has an active water connection and has been effectively vented as per Section 5.1 and the connections have been leak tested as required.**
- Do not operate the appliance when air may be present in the appliance or connecting pipes.
- **For model: 2850318; 2850321; 2850324; 2850327, the water supply temperature to the appliance shall not exceed 60°C. For model: 2850318-S50; 2850321-S50; 2850324-S50; 2850327-S50, the water supply temperature to the appliance shall not exceed 50°C.**
- The outlet piping material connected to this appliance shall not be plastic. Refer to national and local plumbing code for further details

3. PRODUCT OVERVIEW

The Bromic Instantaneous series is a closed instantaneous water heater.

3.1 60°C LIMITED RANGE DETAILS

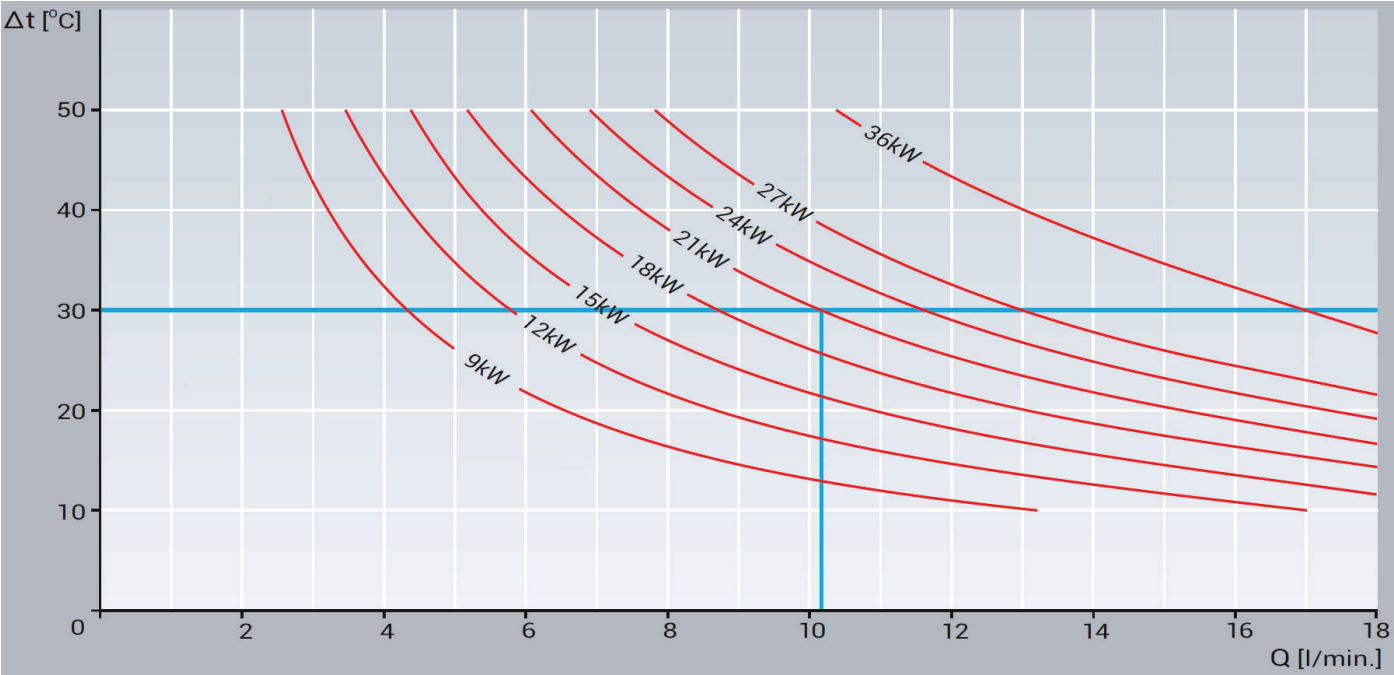
HF	18 kW	21 kW	24 kW	27 kW
Part number	2850318	2850321	2850324	2850327
Type	Instantaneous	Instantaneous	Instantaneous	Instantaneous
Voltage, V	415V	415V	415V	415V
Rated Power, kW	18	21	24	27
Rated Current, A (3 phase)	25.1	29.2	33.4	37.6
Hot Water Delivery, L/min (at $\Delta T=30^{\circ}\text{C}$)	8.7	10.1	11.6	13.0
Activation Flow Rate, L/min	2.5	2.5	2.5	2.5
Max Inlet Pressure Rating, kPa	1000	1000	1000	1000
Temperature Range, °C	30 – 60	30 – 60	30 – 60	30 – 60
Dimensions, mm	440 x 245 x 126	440 x 245 x 126	440 x 245 x 126	440 x 245 x 126
Weight, kg	4	4	4	4
IP Rating	IP24	IP24	IP24	IP24
Water Connections	G1/2" Female	G1/2" Female	G1/2" Female	G1/2" Female
Element Type	Bare Element	Bare Element	Bare Element	Bare Element
Min Water resistivity, $\Omega\cdot\text{cm}$ (at 15°C)	1100	1100	1100	1100

3.2 50°C LIMITED RANGE DETAILS

HF	18 kW	21 kW	24 kW	27 kW
Part number	2850318-S50	2850321-S50	2850324-S50	2850327-S50
Type	Instantaneous	Instantaneous	Instantaneous	Instantaneous
Voltage, V	415V	415V	415V	415V
Rated Power, kW	18	21	24	27
Rated Current, A (3 phase)	25.1	29.2	33.4	37.6
Hot Water Delivery, L/min (at $\Delta T=30^{\circ}\text{C}$)	8.7	10.1	11.6	13.0
Activation Flow Rate, L/min	2.5	2.5	2.5	2.5
Max Inlet Pressure Rating, kPa	1000	1000	1000	1000
Temperature Range, °C	30 – 50	30 – 50	30 – 50	30 – 50
Dimensions, mm	440 x 245 x 126	440 x 245 x 126	440 x 245 x 126	440 x 245 x 126
Weight, kg	4	4	4	4
IP Rating	IP24	IP24	IP24	IP24
Water Connections	G1/2" Female	G1/2" Female	G1/2" Female	G1/2" Female
Element Type	Bare Element	Bare Element	Bare Element	Bare Element
Min Water resistivity, $\Omega\cdot\text{cm}$ (at 15°C)	1100	1100	1100	1100

3.3 MAXIMUM FLOW TEMPERATURES

Table: maximum flow/temperatures



4. INSTALLATION



WARNING

- Installation must be performed by a qualified technician in compliance with AS/NZS 3500.4 Plumbing and drainage: Heated water service and Clause G12 of the NZ Building Code as well as all other current national and local regulations.
- The heater should always be vented before initial start-up. Venting (see Section 5.1) needs to be completed whenever air has been introduced to the appliance or piping.
- The appliance should be mounted in a way that it can be easily accessed.
- **Do not connect the heater to the electric mains until the heater is vented and all water connections are tight and full.**
- **Heater must be connected to main/potable water supply only.**
- The specific electrical resistance of the water must not fall below what was specified on product data label (and Section 3 of the manual). The electrical water resistance and conductivity information can be obtained from local water supply utility company.
- This appliance is not to be used as a potable/drinking water supply.
- This appliance is only suitable for indoor installation.
- Ensure the circuit breaker and the isolation switch are suitably sized for the appliance.
- Ensure the electrical wiring installation conforms with all the requirements stipulated in AS/NZ3000.
- **The appearance of different models are near identical, care needs to be taken to ensure the correct unit has been installed.**
- **Check the received unit (power rating) matches the unit ordered.**
- **Upon power up ensure the LCD displays a power rating that matches the unit ordered.**
- **Do not tamper with any labels on or in the unit.**
- **Do not operate the unit if any labels have been tampered with.**

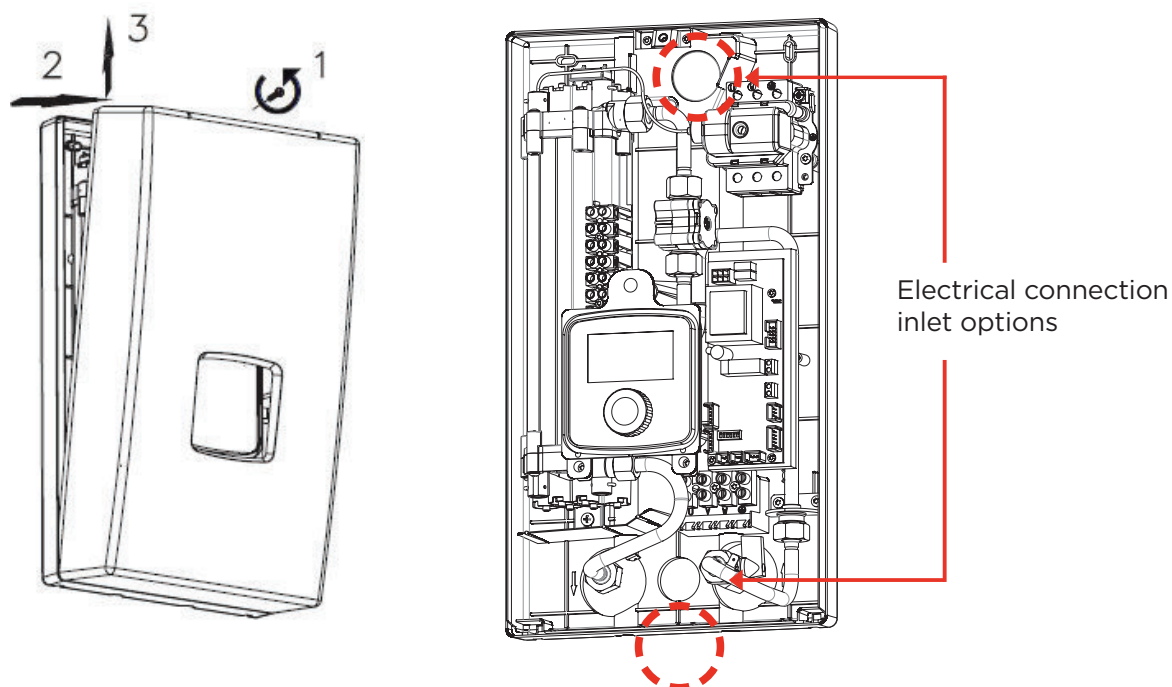
4.1 HEATER MOUNTING AND WATER CONNECTION



IMPORTANT

- Do not use vented taps.
- Ensure that the water pipe materials are compatible for the installation, taking into account inlet and outlet temperatures.
- **Minimum flow rate for the appliance to operate is 2.5L/min.**
- **Take note of the maximum flow/temperatures when connecting the appliance to multiple outlets, refer to Section 3.**
- **Install the appliance vertically and near the draw point. The water connections must be located at the bottom.**
- **A water hammer arrestor must be fitted to the outlet of the unit if the water supply pressure is above 500kPa and/or the pipe length on the hot water outlet line is less than 5m (in total).**
 - **The water hammer arrestor must be suitable for potable water, rated for a minimum 90°C and have a maximum operation pressure of at least 1500 kPa.**

- Reheating pre-heated water allows the heater to interact with other devices. The inlet water temperature can be up to 40°C. This solution allows the heater to interact with another heat source and preheat water with the use of, for example, a solid fuel boiler in cooperation with a hot water tank.



- I. Check the received unit (power rating) matches the unit ordered.
- II. Apply the template on the location that the appliance will be located. (template can be found in the box).
- III. Mark the points for drilling holes – mounting screws, water inlet/outlet and power supply.
- IV. Bring the water and power supply through the marked points.
- V. Remove the front cover of the heater. (see diagram)
 1. Remove the screw located at the top of unit.
 2. Pull the cover away from the top.
 3. Lift the cover.
- VI. Route the power supply wires through the correct access hole. There are two (2) options as above.
 - a. Bottom of the heater, between the hot and cold water connections
 - b. Top of the heater, located next to cover retainer screw hole. If this is the preferred hole, this needs to be cut out.
- VII. Install the heater using the mounting holes provided.
- VIII. Remove the plugs from the cold and hot water connections.
- IX. Connect the unit to the water supply
 - a. RHS, Cold water inlet ⇒ Cold water from water supply.
 - b. LHS, Hot water outlet ⇒ Hot water to taps and showers.
- X. After installing the water connections, open water supply and hot water tap. Wait until the water starts running at a constant and even flow from the tap.
- XI. Check connections for leaks.

! IMPORTANT

Appliance installation clearance.

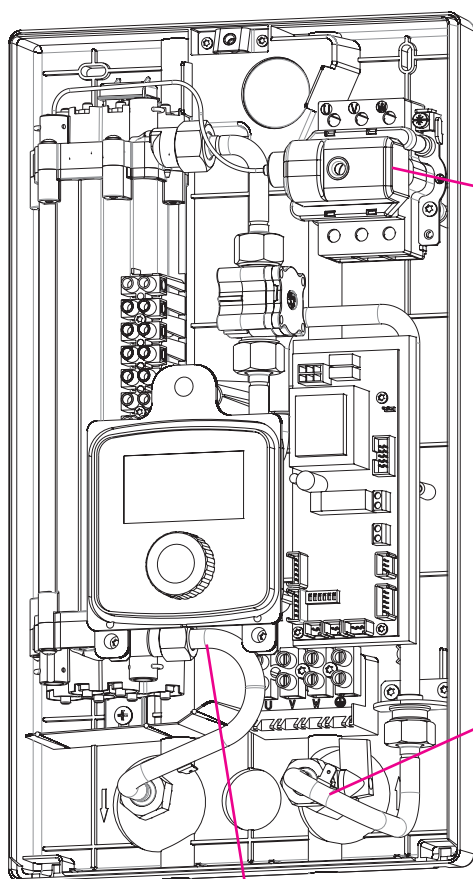


4.2 ELECTRICAL CONNECTION



WARNING

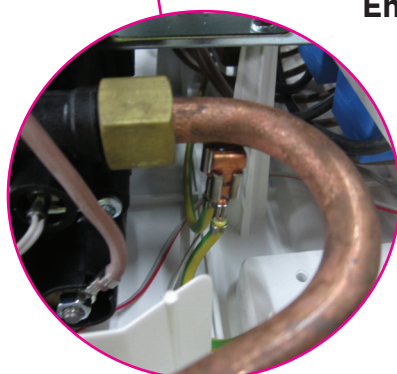
- Ensure the electrical wiring installation conforms with the requirement stipulated in AS/NZS 3000.
- The appliance must be permanently connected to fixed wiring.
- **The appliance must be earthed.**
- Electric installation **MUST** be equipped with residual current protective devices and other devices that ensure disconnection of power (all poles are disconnected by at least 3mm separation)
- Means for disconnection must be incorporated in the fixed wiring in accordance with wiring rules and all relevant rules and regulations.
- Make sure that there is no access to live parts through the appliance access holes.
- Do not connect the heater to the electric mains until the heater is vented and all water connections are tight and cover is on.
- Do not upgrade the circuit breaker without considering the sizing and power rating of the heater's supply cable



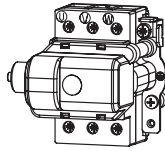
MUST connect to EARTH



Ensure the earth tab is securely connected



Make sure that the safety cutoff switch, as indicated below (WTC3) is at working position. Use a multimeter to check the status of the safety cut-off switch..



- I. Connect the power supply cables to the heater.
- II. Ensure the safety cut-off reset is in “contact” status using a multimeter.
- III. Replace the front cover of the heater, ensuring it is correctly installed with no openings.
- IV. Confirm there is no access to live parts.
- V. Verify that the power label on the cover and base are correct.
- VI. Power on the unit, ensuring that external stickers and the LCD display a power rating that matches the unit ordered.

5. OPERATION



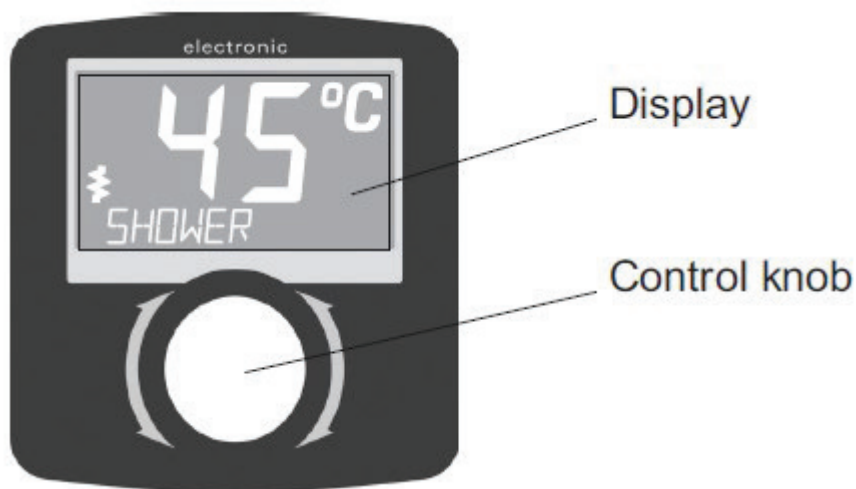
IMPORTANT!

- **In case of a water supply failure (lack of water in system), the tap and power supply must be shut off immediately. The heater should be vented again after water supply is back to normal.**
- **The heater should always be vented before initial start-up. Vent the heater each time after the water has been emptied from the heater or pipes. See ‘Venting’ section 5.1.**
- Check for damage to the appliance regularly. If damage to the appliance is suspected, discontinue use immediately and contact the supplier or qualified person to repair.
- **Water with a temperature higher than 40°C has the potential to cause serious burns.**
- **This appliance may deliver water at high temperature. Refer to the plumbing code of Australia (PCA), local requirements and installation instructions to determine if additional delivery temperature control is required.**
- Do not operate the appliance when air may be present in the appliance or connecting piping.
- **Do not tamper with any labels on or in the unit.**
- **Do not operate the unit if any labels have been tampered with.**

5.1 VENTING

- I. Isolate the power supply to the heater.
- II. Open the hot water tap. Wait until the water starts running at a constant and even flow from the tap.
- III. Turn on the power supply to the heater.

5.2 HF MODEL OPERATION



- The heater switches on automatically when the flow rate is over 2.5L/min.
- The temperature control system adjusts the power according to the water flow rate, required temperature and supply water temperature.
- The LCD backlight and  icon indicates that the heater is actively heating water.
- If there is insufficient power for a given condition – the display will show a flashing  icon.
- The LCD backlight will turn on while pushing or turning the setting knob.
- The LCD backlight will automatically turn off when the heater is not in operation or if more than 50 seconds have passed since the last adjustment.
- There are three (3) pre-set temperature memory – ‘ECO’, ‘SINK’ and ‘BATH’. The pre-set temperature can be adjusted. **See Section 5.2.1 Temperature Adjustment.**
- If the unit is controlled by a master appliance through the ‘NA’ connection, the display will show ‘NA BLOCK’.
- If a fault occurs, the display will show  icon and error message.
See ‘Troubleshooting’ section 8.

5.2.1 TEMPERATURE ADJUSTMENT

- Turn the knob to the right (CW) to increase the set temperature or to the left (CCW) to decrease (manual mode) OR;
- Push the knob to use the values that are stored in the pre-set temperatures. Pushing the knob allows you to switch between ‘ECO’, ‘SINK’ and ‘BATH’.
- The stored value in each pre-set can be adjusted as below;
 - Select the pre-set that is required to be changed, e.g ‘BATH’.
 - Push the knob and hold for about 3 seconds until the value starts to flash.
 - Turn the knob to adjust the temperature.
 - Push the knob to save the temperature. (Note: Save the new value within 10 seconds, otherwise it will be lost).

5.2.2 CONFIGURATION AND PARAMETER VIEW

- I. Adjust the temperature value to the minimum in manual mode.
- II. Push and hold the knob for about 5 seconds until the display shows '>SET TEMP'.
 - a. Push the knob again, the display will flash at 30°C.
 - b. Set the desired operating temperature by turning the knob.
 - c. Press the knob once the desired temperature is displayed. The '>SET TEMP' will be displayed without flashing.

IMPORTANT: If these steps are omitted the appliance will target an outlet temperature of 30°C.

- III. Turn the knob to view other parameters and their value.
- IV. To change a parameter push the knob – the value will flash.
- V. Turn the knob to adjust the parameter/setting.
- VI. Push the knob to confirm the changes.
- VII. Access the sub-menu by viewing 'POWER SET' then push the knob.
 - a. Turn knob to view; 'PW...', 'MSP...', 'FACTORY SET' and 'RESET'
 - b. To proceed with 'FACTORY SET' and 'RESET', push and hold the knob for 5 seconds until '- -' is displayed.
 - c. Push knob to exit sub-menu.
- VIII. Push the knob while on '>EXIT' parameter to save the changes.

Parameters and Configuration settings are listed below:

Data	Description
>SET TEMP	Set temperature (min-max), °C
>T INLET	Inlet temperature value, °C – view only
>T OUTLET	Outlet temperature value, °C – view only
>FLOW	Flow rate, L/min – view only
>FULL POW	Percentage of max power currently used, % – view only
>T-h	Work time, hrs – view only
>BRIGH MIN	Minimum brightness/stand-by mode (0 – BRIGH MAX)
>BRIGH MAX	Maximum brightness/active mode (BRIGH MIN – 25)
>ENGLISH	Select language (POLSKI, FRANCAIS, ENGLISH, DEUTCH, РУССКИЙ)
>TEMP LIMIT	Max temperature limit (min-max), °C
>HE TEST	For manufacturer use only
>POWER SET	Configured power value, kW – view only. (Push knob to access sub-menu)
PW...*	Software version (*accessible through sub-menu)
MSP...*	PCB board version (*accessible through sub-menu)
FACTORY SET*	Restore factory settings (*accessible through sub-menu)
RESET*	Reset controller (*accessible through sub-menu)
>EXIT	Save new parameters and exit menu

5.2.2 CONFIGURATION AND PARAMETER VIEW (CONTINUED)

Notes:

- After setting '>TEMP LIMIT', any pre-set above the limit will be adjusted to the new value.
- If you try to adjust the set temperature above the limit, a  icon will show.
- Parameter view mode will automatically exit without saving changes after 5 minutes of inactivity.

6. USER CARE



IMPORTANT!

- **Check for damage to the appliance regularly. If damage to the appliance is suspected, discontinue use immediately and contact the supplier or qualified person to repair.**
- Do not use any abrasive or corrosive cleaning agents.
- Check the tap regularly. Limescale deposits at outlets can be removed with descaling agents.
- Clean the outside of the appliance with a clean dry cloth.

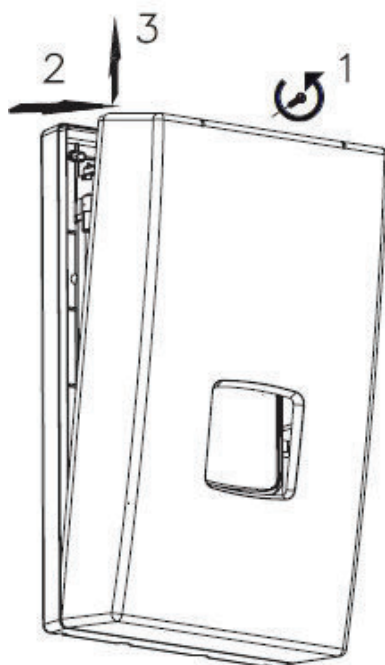
7. MAINTENANCE



WARNING!

- **All maintenance must be performed by a qualified and licensed technician.**
- **Do not tamper with any labels on or in the unit.**
- **Do not operate the unit if any labels have been tampered with.**

7.1 OPENING THE APPLIANCE



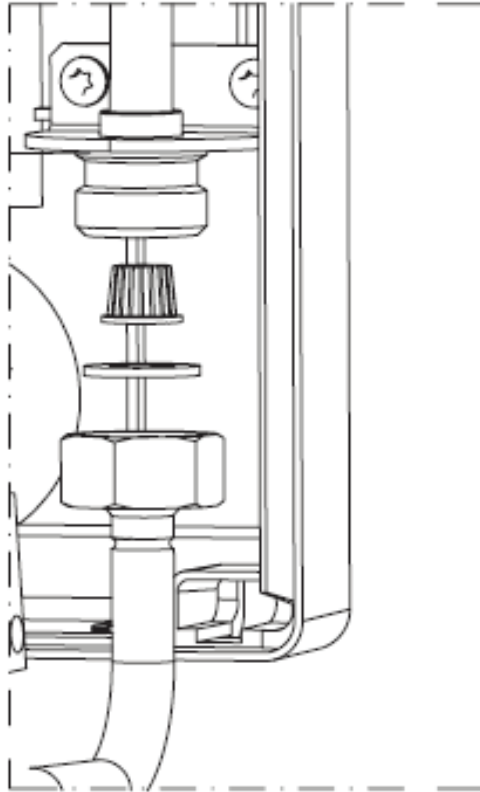
1. Remove the screw located at the top of the unit.
2. Pull the cover away from the top.
3. Lift the cover.

7.2 FILTER CLEANING



IMPORTANT!

- Failure to install the filter on the water supply pipe may cause damage to the heater.



- I. Isolate the power from the appliance and shut-off the cold water supply.
- II. Remove the front cover.
- III. Undo the inlet fitting on the cold water side.
- IV. Remove the filter from the inlet fitting.
- V. Clean the filter.
- VI. Reinstall the filter and gasket to the inlet fitting.
- VII. Open the cold water supply to the heater.
- VIII. Vent the water system – **see 'Venting' section 5.1.**
- IX. Check connections for leaks.
- X. Turn on the power supply to the heater.

8. TROUBLESHOOTING



IMPORTANT!

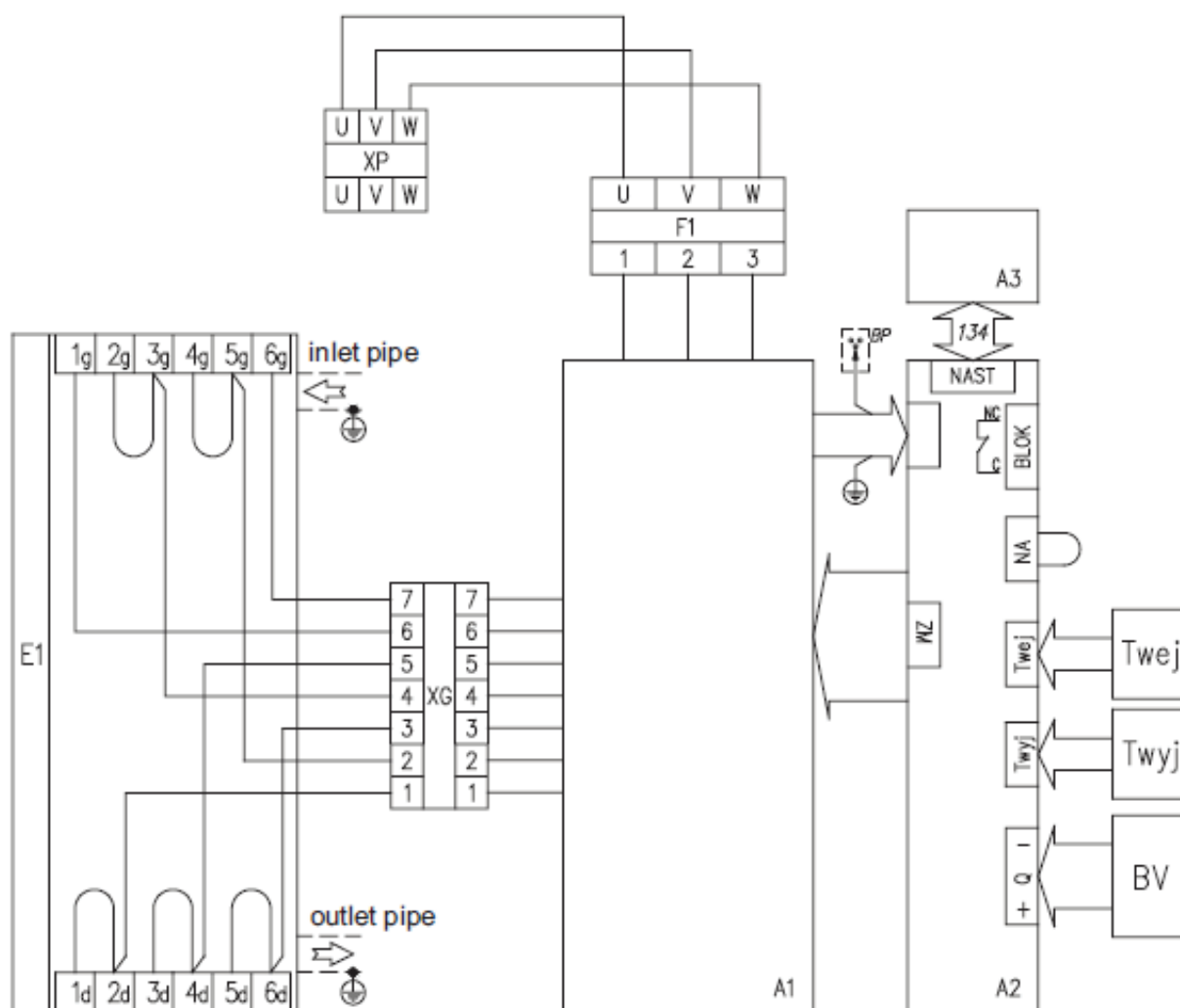
- **Repairs on the unit must be carried out by qualified and licensed technicians only. Contact the manufacturer or an approved service agent for any repairs needed.**
- Refer to the error codes shown for each model.
- Ensure there is water supply available to the unit
- Ensure there is power supplied to the unit

8.1 HF MODEL ERROR CODES

Error Code	Symptom	Possible Cause(s)	Solution
	The heater does not heat water and display does not work.	Power failure	Check power supply
		Safety cut-out is active/faulty	Reset/Replace
ER > T INLET	No inlet temperature displayed	Faulty connection	Check connection
		Faulty sensor	Replace
ER > T OUTLET	No outlet temperature displayed	Faulty connection	Check connection
		Faulty sensor	Replace
ER > T MAX*	The heater does not heat water and display works.	Temperature has exceeded maximum value	Check flow sensor Disable temperature limiting
ER > AIR 1* or ER > AIR 2*		Air bubbles in heating box (equipment detection)	Purge water through the heater to remove air bubbles Check water supply

*The heater will stop heating. The heater will not operate again until the fault is resolved.

9. WIRING DIAGRAM ON BOX



E1 = Heating box

F1 = Safety cut-out & Supply/Earth connection

XG = Terminal for heating box

BV = Flow sensor

A1 = Power board

A2 = MSP board

A3 = Control panel

Twej = Inlet temperature sensor

Twyj = Outlet temperature sensor

NA = Control appliance by master device

BLOK = Control a slave appliance

XP = Disconnection Device (external and not supplied with the equipment)

BP = Air sensor

10. WARRANTY

Please visit our webpage for warranty details

<https://www.bromicplumbing.com/resources-hub/warranty-information/>

Read all instructions before installing or using this appliance.

This Limited Warranty provides that those products listed below are warranted against defects in workmanship or materials for the respective periods noted:

- Bromic 3 Phase Electric Water Heaters – Residential Installation - 5 years
- Bromic 3 Phase Electric Water Heaters – Commercial Installation - 2 years

The Limited Warranty period applies from the date of purchase. Claims made pursuant to the terms of this Limited Warranty must be made within a reasonable period of the discovery of any defect.

The Bromic Group's liability in all events is limited (to the extent applicable laws allow) to the purchase price paid for the product or to the repair or replacement of the product (or the defective part or parts of the product) provided that:

- The defects have arisen solely from faulty materials or workmanship
- Before using the product the buyer has determined its suitability for the purpose to which it will be put
- The hose assembly has not had any exposure to heat, corrosive atmosphere or corrosive agents

The Bromic Group will not be liable for any indirect or consequential damages or economic loss of any other kind including, without limitation, product losses.

All Bromic Electric Water Heaters must be installed in accordance with Bromic installation instructions and installation will also need to conform with any applicable local, state or national standards. Installation which is not in conformance with those instructions and standards will void the warranty.

This guarantee is expressly in lieu of all other guarantees, warranties, conditions, liabilities or representations in regard to the quality, merchantability or fitness for purpose of the products covered by this Limited Warranty, other than those warranties, conditions, liabilities or representations which are, by reason of any Commonwealth, state or territory legislation, unable to be excluded. However, The Bromic Group's liability pursuant to such statutory rights shall be limited as provided by the terms of this Limited Warranty (to the extent that applicable law allows).

Upon installation please fill in the following information

Data	Notes
Type of unit installed (kW)	
Address (Install Location)	
Install Date	
Unit Serial Number	
Install Plumber (Name and number)	
Number of Outlets	
Type of outlets	
Application (residential or commercial)	
Maintenance/Warranty Log	



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