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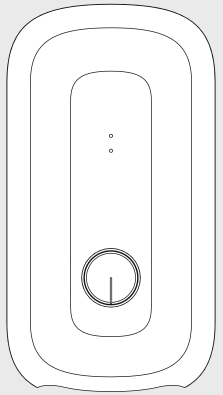
MODELS:
REI-H380NP-B-W
REI-H380DP-B-W
REI-H380NP-B-B
REI-H380DP-B-B



Electric Instant Water Heater

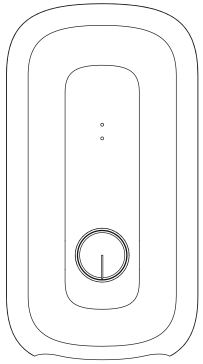
Instructions for use, installation, and connection

Rinnai

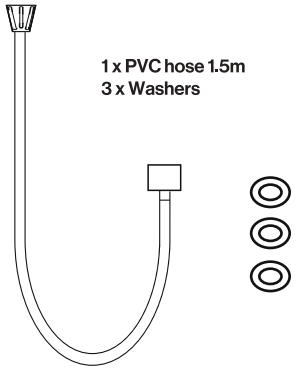
PART CONTENTS CHECKLIST

MODEL: Shower bracket accessories

1 x Rinnai Heater Unit



6 x Wall plug & Screw sets

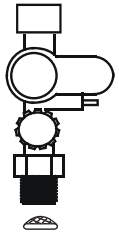


1 x PVC hose 1.5m
3 x Washers

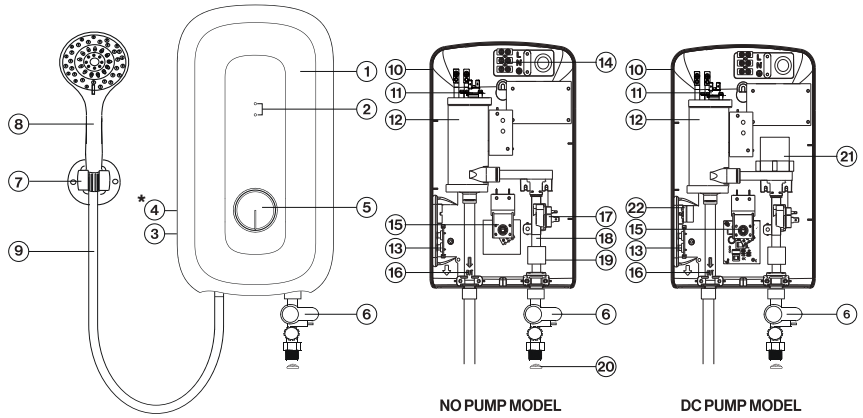
1 x Handshower Head

1 x Shower Bracket

1 x Stop Valve
1 x Mesh Filter



PARTS DESCRIPTION



⚠ CAUTION

Please read the enclosed instructions completely before connecting, operating and installing this product.

(*) For Pump Model Only

1. Front Cover
2. LED Indicators
3. RCD Test & Reset Button
4. Pump Control Knob
5. Temperature Control Knob
6. Stop Valve
7. Shower Bracket
8. Handshower
9. PVC Hose
10. Heater Base
11. Thermostat
12. Heater Tank
13. PCB Board (Test&Reset)
14. Terminal Block
15. PCB Board
16. Water Outlet Connection
17. TRIAC
18. Water Inlet Connection
19. Reed Switch Assy
20. Mesh Filter
21. DC Pump
22. Pump Knob

IMPORTANT SAFETY INFORMATION

This installation shall comply with GP/ST/No.6/2016, Guideline for the Design, Installation, Inspection, Testing, Operation and Maintenance of water heater systems by energy Commission.

1.1 Products manufactured by us are safe provided they are installed, used and maintained in good working order in accordance with our instructions and recommendations. Always refer to this manual if you have any doubt.

1.2 The appliance must be earthed. Improper grounding could cause electric shock.

1.3 If any of the following conditions occur, immediately switch off the mains and contact the sales agent for repair. Never attempt to repair the unit yourself.

1.3.1 If the heater begins to make an odd noise, smell or smoke.

1.3.2 RCD and heater lamp does not light up.

1.3.3 Water temperature can not be controlled.

1.3.4 If the heater shows signs of a distinct change in performance.

1.3.5 If found water leakage from inside.

1.4 For pump model, it is highly recommended to connect the water inlet connection to tank storage supply otherwise it may cause damage to the pump motor.

1.5 The appliance is not intended for use by person (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision responsible for their safety.
Children should be supervised to ensure that they do not play with the appliance.
User is advised to test and adjust the water temperature before showering.

1.6 In time of lightning/thunder, switch "off" the electric supply to the shower unit in advance to protect the shower unit against possible damage.

1.7 Metallic/chrome hose and conductive control valve shall not be used. (Malaysia only)

Note: When removing the unit from package, small amount of water may be found inside. This is normal as the unit is tested during manufacturing process.

CAUTION!

2.1 Installation must be carried out by a qualified personnel and in compliance to the local authority regulations.

2.2 This heater must be permanently connected to the direct main current supply. The use of a plug and socket is not recommended.

2.3 For the correct size of wire conductor corresponding to different electrical loading, please refer to Table 1.

2.4 This heater operates at a minimum water flow rate of 2.0ltr/min and maximum working pressure of 6 bars. For direct connection to the water tank, the heater must have a minimum distance of 1.0m below the water tank.

2.5 This heater will not function if there is insufficient water flow (min 2.0ltr/min) to trigger the flow switch.

2.6 The built-in RCD will automatically cut off the power supply in case there is a current leakage of at least 15mA.

2.7 The thermostat will automatically cut off the power supply if it has sensed an abnormal rise in water outlet temperature.

2.8 This appliance is not to be used for portable water supply.

2.9 Appliance intended to be permanently connected to the water mains and not connected by a hose-set.

2.10 Metallic/chromes hose and conductive control valve shall not be used.

2.11 Plug, socket and undersized cable shall not be used.

HEATER UNIT INSTALLATION

HEATER UNIT INSTALLATION DIAGRAM

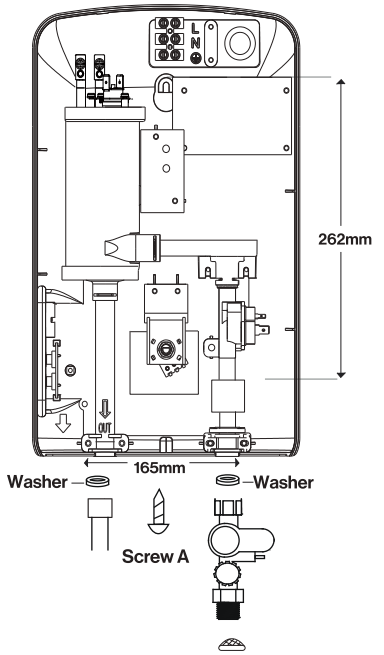


Fig. 1

1. Select a suitable position in the bathroom. (Fig. 1)
2. Pull out the Temperature Control Knob and then remove the screw (A) at the bottom of the unit.
3. Remove the Front Cover from the bottom and then lift up the front cover.
4. Mark 3 Screw points of the Heater Base on the wall. The Heater position should be 1.5m above the bathroom floor.
5. Use 6mm diameter drill and make the wall plug holes in depth of 34mm.
6. Insert the wall plugs and mount the Heater firmly in position with the screws provided.

ACCESSORIES INSTALLATION

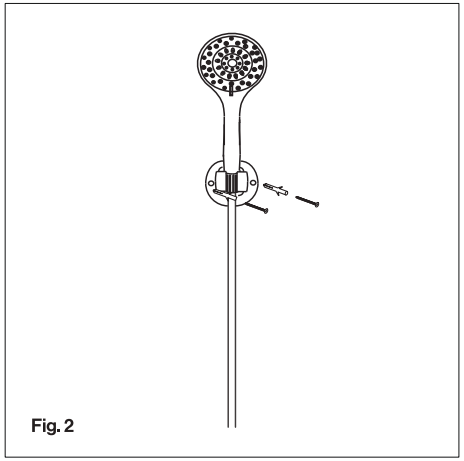


Fig. 2

1. Make the 2 screws points of the bracket holder beside the heater. It is recommended the top of the portion is in level with the top of the water heater. (Fig. 2)
2. Use 6mm diameter drill and make the wall plug holes (5 holes) to 34mm depth.
3. Insert the wall plugs and mount the heater firmly in position with the 3 screws provided.

PLUMBING PROCEDURE

CAUTION !

This Electric Instant Water Heater is a single point system and the " Water Outlet " can only be fitted to the PVC Hose and Handshower set provided. NO CONTROL VALVE OR FITTING CAN BE FITTED TO THE WATER OUTLET.

1. Connect the Stop Valve to the Water Inlet with washer. Use correct tools to tighten the connection and be careful not to overtighten and damage the plastic nut.
2. Connect the incoming water piping to the Stop Valve (1/2 "BSP"). Make sure to put the Mesh Filter between Stop Valve and incoming water piping.
3. If in any case, the Stop Valve is not used or omitted, make sure to put the Mesh Filter between the heater unit inlet pipe and incoming water pipe.

IMPORTANT :

For Pump Model, it must never be connected to a Direct Main Water Supply, otherwise it will cause damage to the pump motor. It is recommended to connect the water supply from storage tank only.

4. Turn on the water mains to drain out all plumbing dirts, at the same time fill up the heater tanks. THE HEATER TANK MUST BE FILLED UP WITH WATER BEFORE TURNING ON THE ELECTRICITY SUPPLY TO PREVENT ANY DRY BURNT DAMAGE TO THE HEATING ELEMENT.
5. Connect the PVC Hose and Handshower to the outlet of Heater, be sure to put in the Washer.
6. Hook the Handshower to the Sliding Rail Shower Holder and adjust to your ideal position.
7. Check if any water leakage.
8. Do not use white tape during piping installation.

WARNING !

- THE WATER INLET AND OUTLET MUST BE INSTALLED CORRECTLY, OTHERWISE IT MAY CAUSE A DAMAGE TO THE HEATING ELEMENT.
- DO NOT APPLY PLUMBING CEMENT ON CONNECTION. WHENEVER NECESSARY, USE ONLY THREAD OR SEALING TAPE.

ELECTRICAL INSTALLATION

1. Only fixed and permanent connection is allowed, plug and socket shall not be used. In the case where direct connection cannot be made to the water heater, only correctly sized approved connector and connection shall be used.
2. For connection within the shower cubicle and below the ceiling, the connection box shall be IPX5.
3. An approved, correctly sized (MS IEC 60335-1:2013) copper flexible cable with maximum 1.5m length, shall be used to connect the water heater to the connection box.
4. Minimum cable size must not less than 4.0mm2.

ELECTRICAL INSTALLATION

WARNING !

1. This appliance must be earthed.
   Improper grounding could cause electrical shock.
2. Remember to SWITCH OFF the mains before carrying out and electrical work.
3. Refer to TABLE 1 for the correct cable size.
4. Use double insulation cable of over 2.5mm^2. (Fig. 3)
5. Lead the power cable from MCB to a " ON/OFF " double pole Linked Switch having a contact separation of at least 3mm in all poles outside the bathroom, then lead a cable to the terminal block inside the Heater Unit. (Fig. 4)

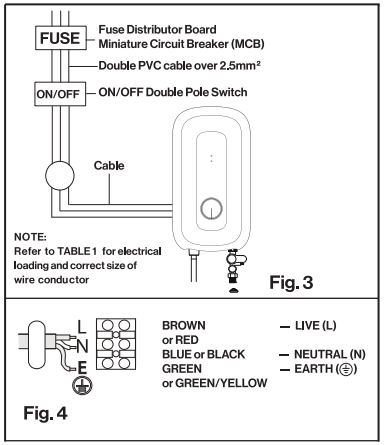


Fig. 3

Fig. 4

PROCEDURE:

1. Insert the wall embedded cable through Side Entry 'B' by cutting a hole at the source cord rubber holder and lead the cable to Cable Bracket 'C'. (Fig. 5)
2. Connect the cable to Terminal Block and fully tighten them as follow
   BROWN or RED — LIVE (L)
   BLUE or BLACK — NEUTRAL (N)
   GREEN or GREEN/YELLOW — EARTH (⏚)
3. While putting back the Front Cover, please take note of the procedure shown below:
   To ensure the correct position, turn the Temperature VR Knob insert to OFF position as shown in Fig A. (at the Heater Base)
   To install the Front Cover, turn the Temperature Control Knob to OFF position to align with the VR Knob Insert as shown in Fig B. (at the Front Cover)
4. Fix the Temperature Control Knob and screw (A).

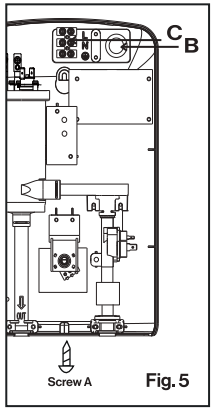


Fig. 5

Method of Alignment When Fixing Front Cover

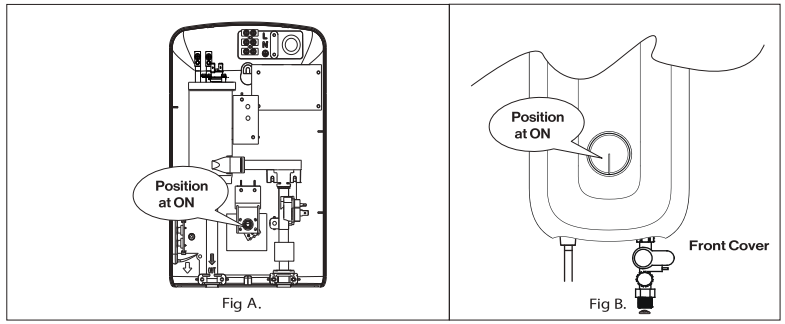


TABLE 1 - ELECTRICAL LOADING TABLE

Voltage (AC)		Power (kW)	Current (A)	Minimum Conductor Size (csa) mm²	Conduit Cable	Flexible Cable	On/Off Switch (A)	Fuse/ MCB (A)
240~ 50/60Hz		2.5	10.4	2.5	7 / 0.67 mm	50 / 0.25 mm	20	20
		3.3	13.8	2.5	7 / 0.67 mm	50 / 0.25 mm	20	20
		3.6	15.0	2.5	7 / 0.67 mm	50 / 0.25 mm	20	20
		4.0	16.7	2.5	7 / 0.67 mm	56 / 0.25 mm	20	20
		5.0	20.8	4.0	7 / 0.85 mm	56 / 0.30 mm	32	32
	Malaysia Model	3.8	15.8	4.0	7 / 0.85 mm	56 / 0.30 mm	20	20
230~ 50/60Hz		2.4	10.4	2.5	7 / 0.67 mm	50 / 0.25 mm	20	20
		3.0	13.0	2.5	7 / 0.67 mm	50 / 0.25 mm	20	20
		4.0	17.4	2.5	7 / 0.67 mm	56 / 0.25 mm	20	20
		5.0	21.8	4.0	7 / 0.85 mm	56 / 0.30 mm	32	32
	Singapore Model	3.3	14.4	2.5	7 / 0.67 mm	50 / 0.25 mm	20	20
220~ 50/60Hz		2.4	10.9	2.5	7 / 0.67 mm	50 / 0.25 mm	20	20
		3.5	15.9	2.5	7 / 0.67 mm	56 / 0.25 mm	20	20
		4.5	20.5	2.5	7 / 0.67 mm	56 / 0.25 mm	32	32
		5.5	25.0	4.0	7 / 0.85 mm	56 / 0.30 mm	32	32
		6.0	27.3	4.0	7 / 0.85 mm	56 / 0.30 mm	32	32

TEST RUN

1. Turn on the water supply and Stop Valve, the water will flow through the Handshower.
2. Switch on the electrical supply.
3. Turn the Temperature Control to ' ON' , the Red Indicator (HEATER) will light on, hot water will flow out within few seconds. The more Temperature Control Knob being turned clockwise direction, the hotter water inflow in order to get the desired showering temperature.
4. The shower might not be hot enough even at the ' MAX' position if incoming water supply from the mains is too cold or the pressure of water is too high. In this case, you may adjust the Stop Valve to reduce the water inflow in order to get the desired showering temperature.
5. Check the Built-in RCD as following:
   - Press the " TEST " Button, the Built-in RCD should trip and cut off the power supply, all LED Indicator should light off except BLUE LED remain on.
   - Press the "RESET " Button, the Heater Unit should resume normal function, the Green LED Indicator should light on.

   If procedure stated above prevailed, the RCD is functioning normal condition.
6. The height and direction of Shower Holder are adjustable. Adjustment can be done by pressing the holder knob and sliding the Shower Holder simultaneously to desired position.
7. Move the Handshower to desired angle. A ratched mechanism in the Shower Holder will hold the Handshower in selected position. (Fig. 6)
8. Switch OFF the electricity supply after shower.
9. For Pump Models:
   Turn on the Pump Control Knob to test on Pump's functionality (located at side). If the shower is not hot enough, you may adjust the pump speed until the desired shower temperature is obtained. (Fig.6)

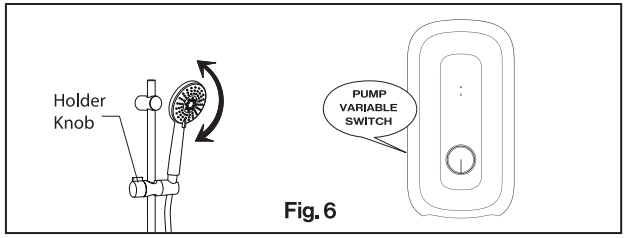
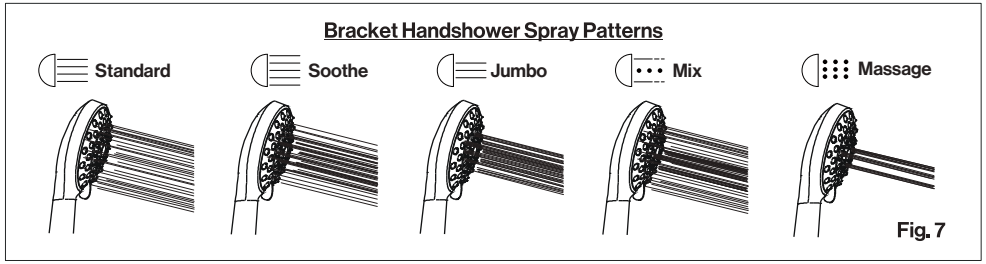


Fig. 6

HANDSHOWER SPRAY

This Innovative adjustable Handshower has different spray patterns. (Fig. 7)
The patterns are described as following:



Clean the Handshower Head holes by using the soft brush from time to time.
(Recommended once a week)
Note: Take care not to damage the holes of the Handshower Head during cleaning.

MAINTENANCE

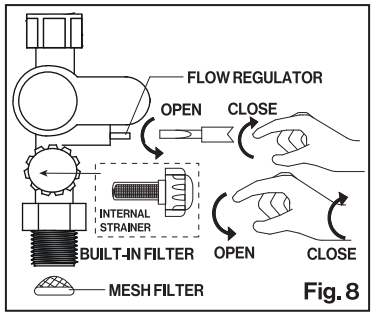
Read the section ' SAFETY INFORMATION ' first.

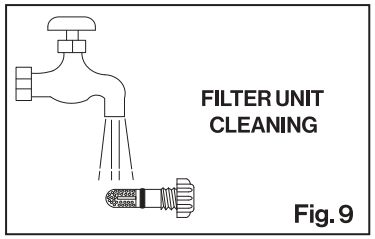
1. TEST THE 'RCD' REGULARLY
   It is highly recommended to test the built-in RCD in the water heater and at the main switch board at least once a month.
   Turn on the electricity and water supply, both Red (HEATER) and Green (RCD) Indicators will light up if the Temperature Control Knob is at 'ON' position. Press the RCD Test Button, both HEATER and RCD Indicator should go off. Press the Reset Button to resume the electricity supply.

   WARNING !

   If the ⏻ Indicator does not change from RED to BLUE when you press the RCD Test Button, switch OFF the mains supply and contact your sales agent for repair. Special skill is required for repair. NEVER TRY TO REPAIR THE UNIT BY YOURSELF.
2. CLEANING PRECAUTIONS!
   Do not use thinner, alcohol, petrol or any other organic solutions to clean the set. Use only damped cloth with mild detergent.
3. CLEAN THE FILTER REGULARLY (Fig. 8 & Fig. 9)
   Clean the Mesh Filter regularly to prevent blockage. Remove the Built-In Filter by turning its cap anticlockwise. Whenever is needed, flush the internal strainer with water to remove any trapped sediments.
   Whenever fixing back the Built-In Filter, beware of the alignment of internal Strainer.
   Use the protruded guideline within Stop Valve to position the Internal Strainer.

MAINTENANCE





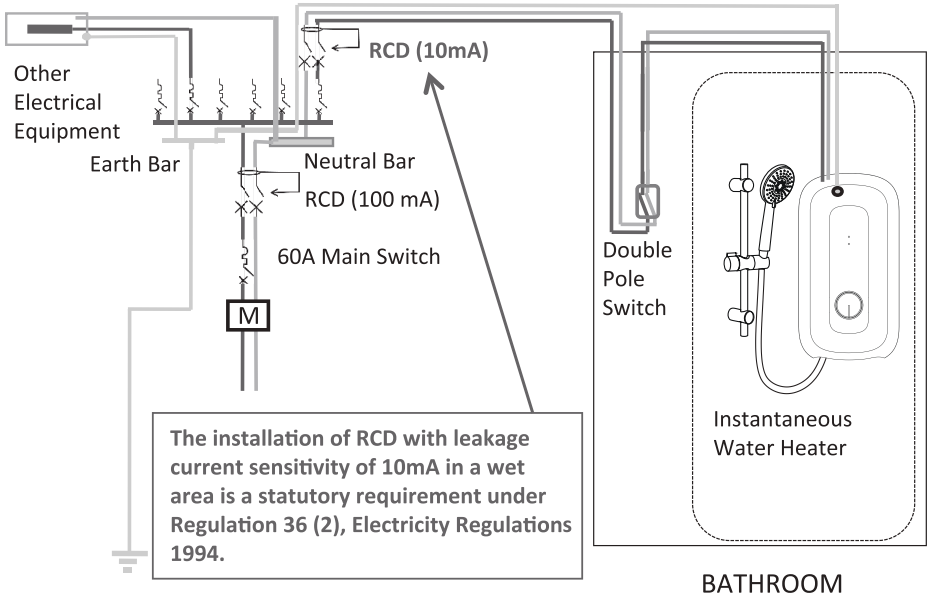
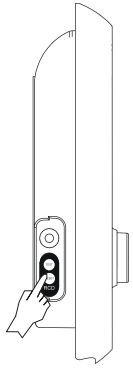


Figure 7: The installation of RCD for instantaneous water heater with leakage current sensitivity of 10mA in a wet area.

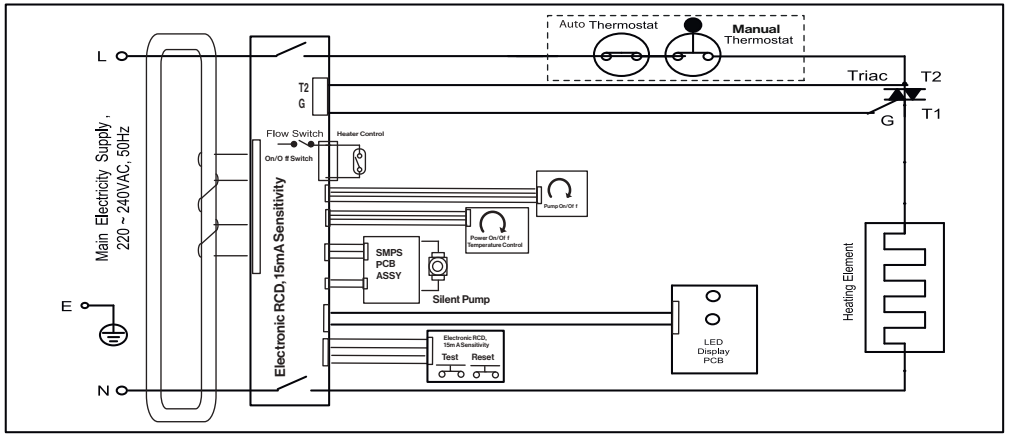


Main switch board

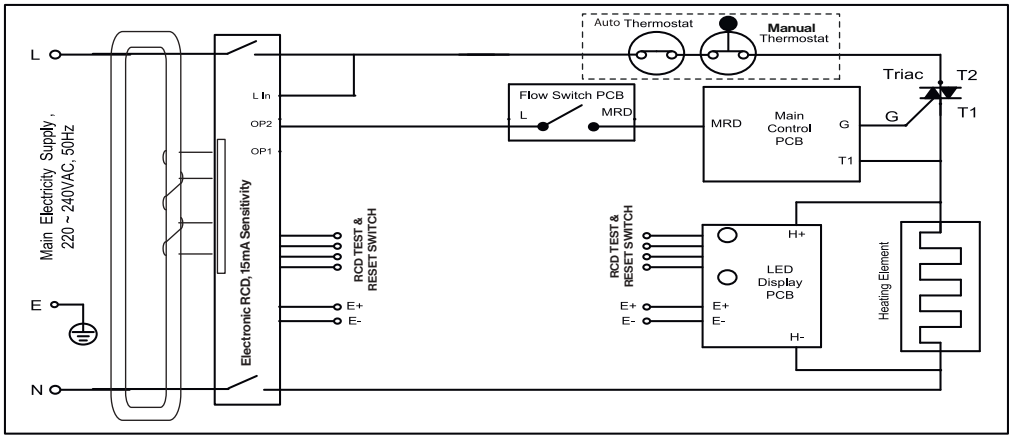
Troubleshooting Guide

Symptom	Possible Cause	Remedy
1. The unit does not operate.	A. No electric current flow through the unit.	A. Check the connection of the wire if it's fitted to the correct terminals.
	B. The circuit breaker or fuses are cut off.	B. The circuit breaker has drop down to "OFF" position. Push it to "ON" position.
	C. There is not sufficient water pressure.	C. Improve water pressure.
2. Water is not heated as desired.	Water pressure/ flow rate into the unit is too high.	Decrease the water supply by adjusting the inlet water valve and 3 in 1 stop valve.
3. The water temperature remain unstable.	The water pressure remain unstable.	Adjust the water pressure.
4. The water does not flow well while the water from the other taps is strong.	A. The filter is obstructed by sediments.	A. Clean the filter.
	B. The shower head is clogged.	A. Clean the shower head.
5. Shower cycles from hot to cold.	A. Shower head is blocked.	A. Remove and clean.
	B. Water pressure is below the minimum pressure required for the unit operation.	B. Make sure that the main supply and/or the 3 in 1 stop valve is fully opened.
	C. Temperature is set too high.	C. Turn the temperature control knob counter clockwise until a cooler temperature is achieved.
	D. The thermostat is faulty or damaged.	D. Contact customer service.

WIRING DIAGRAM - DPDT (DC PUMP MODEL)



WIRING DIAGRAM - DPDT (NO PUMP MODEL)



ELECTRICAL SPECIFICATION

TYPE	ELECTRICAL POWER CONTROL
ELECTRICAL LOADING	3.8kW 240V a.c. 50/60Hz
Min. WATER FLOW RATE	2 Litre / min
Min. INLET WATER PRESSURE	0.2 Bar (20kPa)
Max. INLET WATER PRESSURE	6 Bar (0.6MPa)
WATER CONNECTION	1/2" BSP SINGLE POINT SYSTEM
DIMENSIONS	213 X 105 X 248 (mm)
NET WEIGHT	1.4kg (No Pump 1.7kg (DC Pump)
GROSS WEIGHT	2.2kg (No Pump 2.5kg (DC Pump)

Note: The specification, actual product's cosmetic design and accessories parts shown are correct at the time of printing and may be subjected to change without prior notice.