

# Centon

Specialist in Water Heater



## *Forza* *series* Instant Water Heater

### **Multipoint Model**

An ISO 9001 and ISO 14001 Certified Manufacturer

**Multipoint Model (MY)**  
Double Heating Elements Fuzzy Logic  
Right Inlet Copper Tank

**Pages**

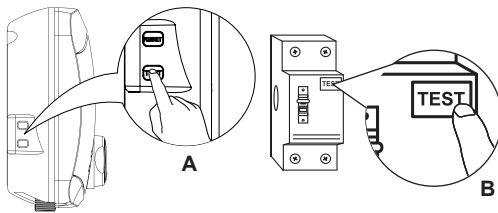
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## IMPORTANT SAFETY INFORMATION

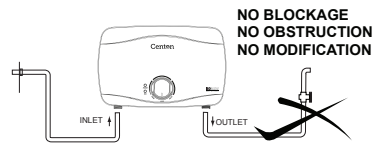
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### WARNING

- 1) Check the RCD in this heater (refer A) & the RCD at the main switch board (refer B) of the premise at least once a month.

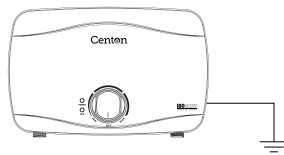


- 4) The outlet point of this heater, hose and handshower act as a vent. They must not be blocked, obstructed or modified in any way. Fittings or any taps not recommended by manufacturer must not be connected. The use of unapproved accessories may not only affect its performance and safety but also invalidate its guarantee.



*\* Applicable for singlepoint model only*

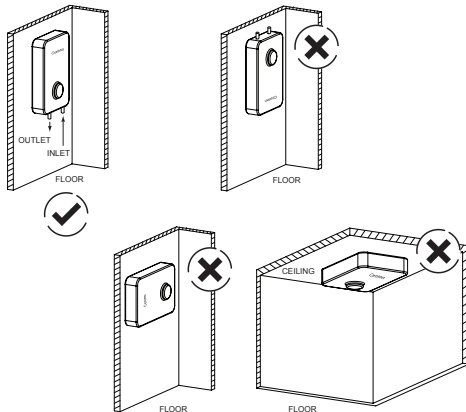
- 2) This product must be earthed.



- 5) There are no user serviceable component beneath the cover of this appliance. Only a competent tradesperson should remove the cover.

- 6) Children should be supervised to ensure that they do not play with the appliance.

- 3) The shower unit must be installed according to the diagram shown below with inlet / outlet facing downwards & the brand logo facing frontwards (not downwards / upwards). Failure to follow will result in serious damage to the water heater & warranty will be voided.



- 7) Plug, socket, & undersize cable shall not be used.

- 8) Metallic, chrome hose, & conductive control valve shall not be used.

- 9) The water inlet of this appliance shall not be connected to inlet water obtained from any other water heating system.

- 10) This 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 or instruction concerning use of the appliance by a person responsible for their safety.

## IMPORTANT SAFETY INFORMATION

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### **WARNING**

11) To account for future maintenance / servicing, please make sure that this product is installed with:

- a. safe access that is free from obstacles for technicians to reach the location where the product is installed and to do their tasks, and
- b. flexible piping connection (as opposed to fixed / permanent piping connection) so that this product can be detached / removed from its installed location without damaging the piping connection.

Failure to follow may result in additional removal works needed during maintenance / servicing (such as clearance of a pathway to access the location where this product installed, or cutting of fixed piping connection to dismantle this product), hence additional service charges may applied.

**CENTON and its technicians will also not be liable to reimburse back any damages or replacement cost for such removal works.**

## SAFEGUARDING THE ENVIRONMENT



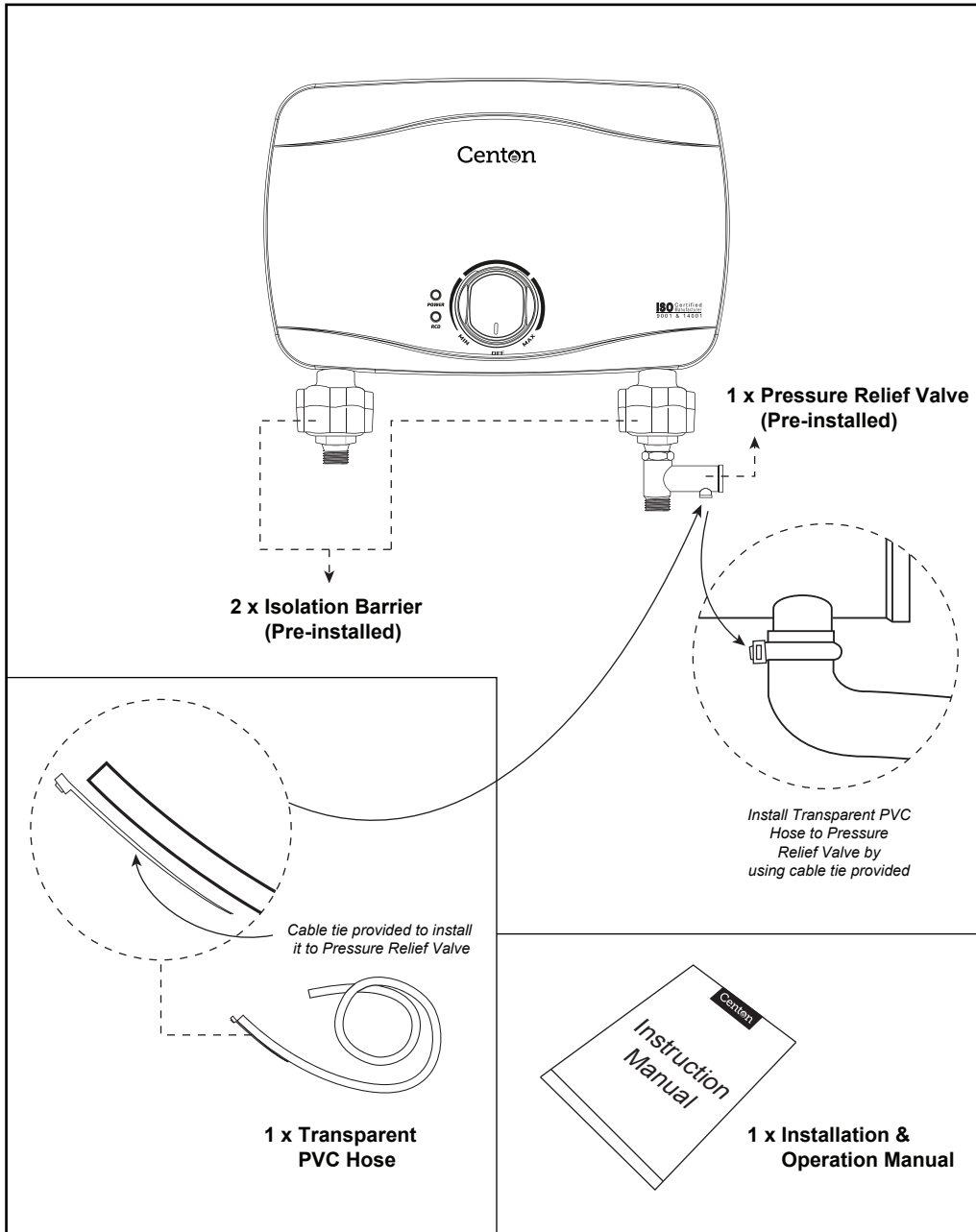
This product may not be treated as household waste. Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment. Disposal must be carried out in accordance with your local environmental regulations for waste disposal.

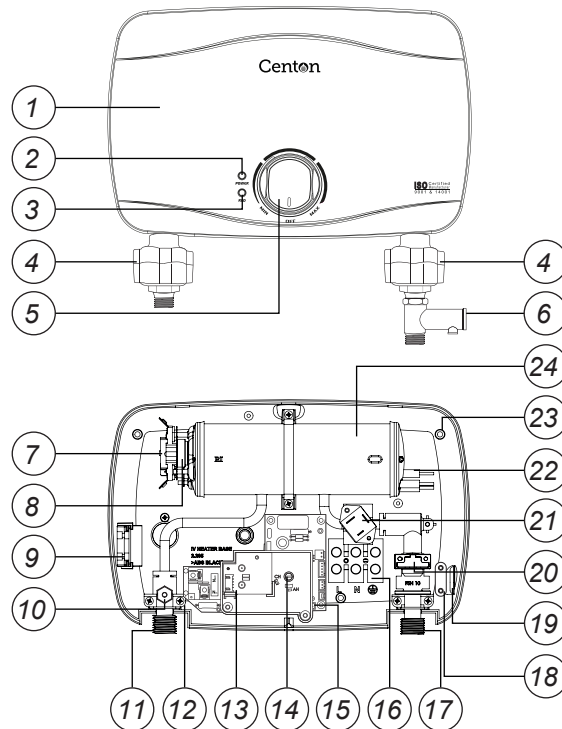
### **Malaysia**

Government has launched e-Waste program (commonly known as electrical and electronic waste) to enhance the public awareness towards the responsible e-Waste disposal.

Please refer to link below to check compliance collection at your place: <http://www.doe.gov.my/household-ewaste/>

**Heater & Shower Accessories**





**MODEL : FORZA FR255EMP FUZZY LOGIC (RIGHT INLET - COPPER TANK - MULTIPOINT)**

- |  |                             |
|--|-----------------------------|
| 1. Heater Cover  | 11. Heater Inlet            |
| 2. Power Indicator   | 12. Heater Base             |
| 3. RCD Indicator   | 13. Indicator PCB           |
| 4. Isolation Barrier   | 14. Electronic Control Unit |
| 5. Temperature Control Knob  | 15. Built-in RCD            |
| 6. Pressure Relief Valve   | 16. Terminal Block          |
| 7. Auto Reset Thermostat<br>(not applicable for single heating<br>element model)                                     | 17. Heater Inlet            |
| 8. Manual Reset Thermal Cut Out/<br>Double Function Manual Reset<br>Thermostat (for single heating<br>element model) | 18. Cable Clamp             |
| 9. TEST & RESET Assembly   | 19. Cable Entry             |
| 10. Thermistor   | 20. Flow Switch Assembly    |
|  | 21. Triac                   |
|  | 22. Heating Element         |
|  | 23. Mounting Holes (3 nos)  |
|  | 24. Heater Tank Assembly    |



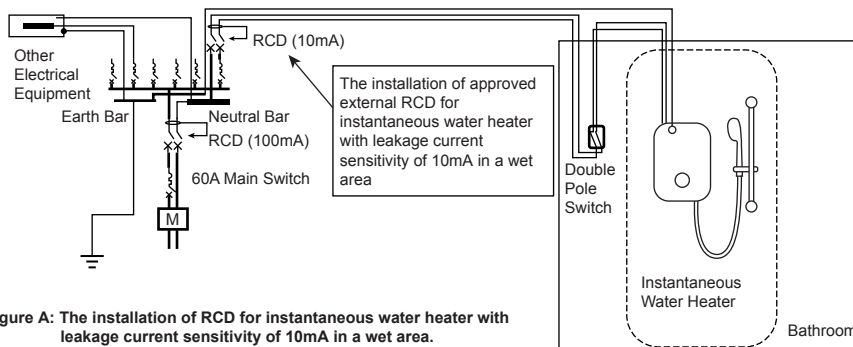
**WARNING THIS APPLIANCE MUST BE EARTHED**

**Note: An approved type of Residual Current Device (RCD) of 10mA sensitivity should be installed in conjunction with the heater.**

- 1) Installation must be carried out by a qualified electrician.
- 2) The shower heater unit must be connected to its own independent electrical circuit.
- 3) Lead the power cable from the indoor fuse distributor board or Miniature Circuit Breaker (MCB) to an 'ON/OFF' Double-Pole switch outside the bathroom.
- 4) The water heater must be permanently connected to the electricity supply through a double-pole linked switch having a contact of separation of at least 3mm in all poles incorporated in fixed wiring.
- 5) This switch must be out of reach of a person using a shower.
- 6) Correct size of wire conductor corresponding to different electrical loading should be used. Minimum cable size must not be less than specified in Table A with accordance to the rated power.
- 7) For connection within the shower cubicle & below the ceiling, the connection box shall be IPX5 rated.
- 8) Only fixed & permanent connection is allowed, plug & socket shall not be used. In the case where a direct connection cannot be made to the water heater, only correctly sized approved connector & connection box shall be used.
- 9) An approved, correctly sized copper PVC insulated flexible cables with maximum 1.5m lengths shall be used to connect water heater to the connection box by referring cable size in the Table A as below.
- 10) The installation shall comply with GP/ST/No.6/2016, Guideline for the Design, Installation, Inspection, Testing, Operation & Maintenance of Water Heater Systems by Energy Commission. Refer to Figure A.

**Cable Sizes Table**

Voltage (V~)	Power (kW)	Amperes (A)	Recommended Conductor Size			Fuse / MCB (A)	ON/OFF Switch (A)
			mm <sup>2</sup>	Cable for Fixed Wiring	PVC Flexible Cables		
220~ 50/60Hz	3.5	16.0	4.0	7/0.85mm	56/0.30	20	20
	4.4	20.0	4.0	7/0.85mm	56/0.30	25	25
	4.5	20.5	4.0	7/0.85mm	56/0.30	25	25
	5.5	25.0	4.0	7/0.85mm	56/0.30	32	32
	6.0	27.3	4.0	7/0.85mm	56/0.30	32	32
	7.0	31.8	6.0	7/1.04mm	84/0.30	40	40
230~ 50/60Hz	3.3	14.3	4.0	7/0.85mm	56/0.30	20	20
	3.5	15.2	4.0	7/0.85mm	56/0.30	20	20
	4.5	19.6	4.0	7/0.85mm	56/0.30	25	25
	6.0	26.1	4.0	7/0.85mm	56/0.30	32	32
240~ 50/60Hz	3.6	15.0	4.0	7/0.85mm	56/0.30	20	20
	3.72	15.5	4.0	7/0.85mm	56/0.30	20	20
	3.8	15.9	4.0	7/0.85mm	56/0.30	20	20
	4.2	17.5	4.0	7/0.85mm	56/0.30	20	20
	4.8	20.0	4.0	7/0.85mm	56/0.30	25	25
	5.4	22.5	4.0	7/0.85mm	56/0.30	32	32
	5.5	23.0	4.0	7/0.85mm	56/0.30	32	32
	7.0	29.2	6.0	7/1.04mm	84/0.30	40	40



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

**PLUMBING**

1. Plumbing Installation must comply with Local Water Authority or Water Undertakers Bylaws and the Building Regulations.
2. The minimum maintained operating pressure for satisfactory operation - 0.28bar (4psi).
3. Maximum static pressure **plastic tank 3.79bar / copper tank 6bar.**
4. Instantaneous Electric showers are normally connected to the mains cold water supply can be taken from a cold water storage cistern provided there is a minimum to height of 1 meter (i.e. the vertical distance from the base of the cold cistern to the top of heater) Avoid long horizontal pipe runs & elbows, always use swept bends.
5. We recommended that an isolating valve is fitted into the water supply for servicing purposes.
6. **Inlet** : This unit is designed to be connected with a tap connector to a 15mm copper supply pipe. If the supply pressure is well above the minimum requirement 10mm copper can be used.  
**Outlet** : 1/2" BSP male, to accept hose connection.
7. **Do not install the unit in a position in which it may become frozen.**
8. Supply pipework MUST be flushed to clear debris before connecting the appliance (Bylaw 55)

**IMPORTANT**

- a) All plumbing works should be completed before proceeding to electrical wiring connections.
- b) This heater may be connected directly to the heater inlet with and approved pressure relief of 8.5bar.

**WATER**

1. The heater works at a minimum flow rate of 2.0 litre/min.

**SAFETY**

1. The built-in electronic Residual Current Device (RCD) would cut-off power supply to the heater in the event of current leakage of as low as 15mA (for RCD model only).
2. For model without built-in electronic RCD, an approved type of current operated RCD of 30mA sensitivity should be installed in conjunction with the heater.
3. The heater only operates when there is sufficient water flow to trigger the Flow Switch.
4. The Thermostat would automatically breaks off the power supply in abnormal rise in shower temperature.
5. Thermostat comes with Automatic Temperature Control System. When shower temperature rise in extremely abnormal condition (approximately 90°C), the power supply will cut-off in order to achieve the safety protection. **Contact the sales agent for inspection. Never attempt to repair the unit by yourself.**
6. Pressure Relief Valve in an optional safety device that prevents excessive built-up of water pressure in the heater tank.

**FUZZY LOGIC**

1. The heater will automatically adjust the power when the temperature is lower or higher than the preset temperature. Thus, the temperature can be maintained the same even if there are changes of water flow or the incoming water temperature.

**CAUTION!**

**DO NOT ATTEMPT TO REPAIR THE HEATER YOURSELF. SWITCH OFF THE ELECTRICAL SUPPLY & CONTACT THE SALES AGENT**



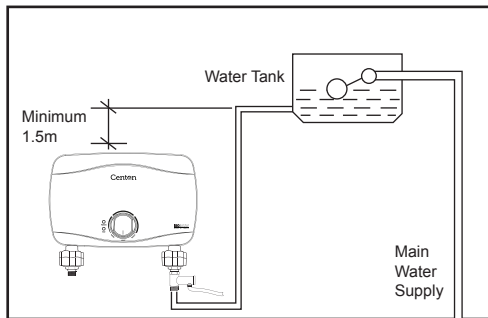


Diagram 2

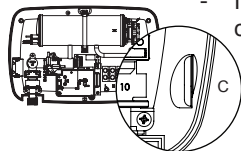
### WATER CONNECTION

- a) All plumbing works should be completed before proceeding to electrical wiring connections.
- b) The water to the heater **MUST** be fed from a cold gravity water storage tank.
- c) Note that a height of 1.5 meter from the top of heater to the bottom of house hold water tank is recommended.



### INSTALLATION

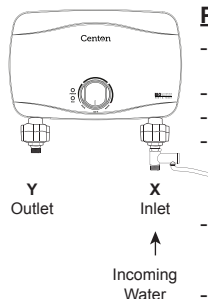
- Turn off the mains water.
- Remove screw 'A' on bottom of the heater.
- Remove heater cover.
- Mark the position of the 3 screws points. Note that a height of minimum is 1.5m from the top of heater to the bottom of house hold water tank (as in Diagram 2) is recommended.
- Drill the 3 holes with 5mm diameter drill bit.



### ELECTRICAL

- Switch OFF the mains electrical.
- Insert the cable through the Rubber Grommet at 'C' for side entry & connect the cable as follow:-

Red or Brown	.....	Live (L)
Black or Blue	.....	Neutral (N)
Green/Yellow or Yellow/Green	.....	Earth (≡)

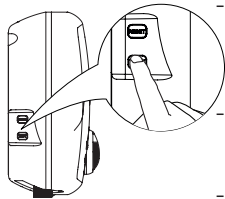


### PLUMBING

- Mount & secure the heater at the screw points with the 3 screws provided.
- Identify the water heater inlet by locating inlet sticker on bottom of heater.
- Connect the optional items; Stop Valve, External Filter or Pressure Relief Valve to the inlet, be sure to put in a rubber washer. **(do not apply excessive force to tighten the connector)**
- Turn ON the water mains to drains out all plumbing dirts & to fill up the heater tank. **(note : this step will prevent damage to the heating element)**
- Check for water leakage.

**NOTES:** Connect a PVC tube of diameter 8.0mm to the discharge pipe of the Pressure Relief Valve at one end and the other end downward to a drain or a place where can be discharged in event of excessive built-up of water pressure in the tank.

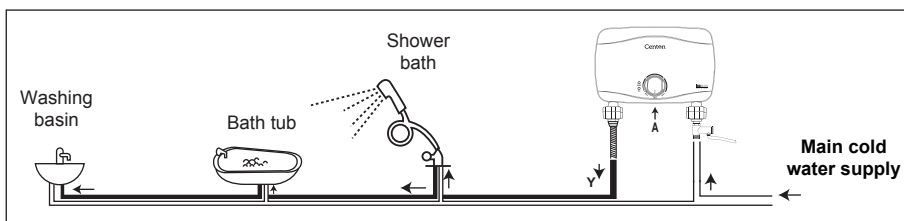
### TEST RUN HEATER



- To check if the heater is functioning properly, turn the electric water supply. Then turn the Temperature Control Knob of the heater ON, Power Indicator light will light up. The shower will be warm within a few seconds.
- Test the RCD by pressing Test Button. The RCD & Power Indicator light should go OFF. Press the Reset Button to switch ON the heater again. This step show the RCD is in good condition
- The heater is now ready to use.

### HEATER TEST RUN

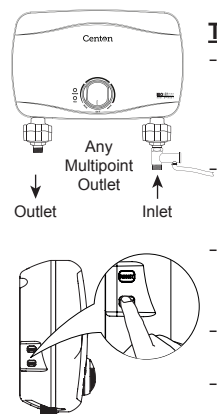
- Install the heater cover & secured screw 'A'.
- Connect the outlet 'Y' to the various usage points (refer to following installation).



Typical Multi Outlet Installation

Note : Connections to the Multipoint Hot Water system should be limited to 2 or at the most 3 outlet usage points & they should be near to each other, e.g. in the same bathroom but only **ONE OUTLET POINT IS TO BE USED AT ANY ONE TIME**. Extensive distance between the appliance & usage point(s) will result only in excessive heat loss but also slow reponse of obtaining the hot water at the point(s).

### TEST RUN MULTIPOINT CONNECTION



- To check if the heater is functioning properly;
  - > Turn ON water supply at any water outlet point.
  - > Turn ON the electric supply (make sure heater tank is filled with water)
- Turn ON the Temperature Control Knob & adjust the desire temperature. The Power Indicator light will light up. The water will be warm within a few second.
- **Test the RCD** by pressing the Test Button. The RCD & Power Indicator light should go OFF. Press the Reset Button to ON the heater again. This step show RCD is in good condition.
- The built-in water Flow Switch will cut-off the heater power if all the water outlet points have turned OFF.
- The heater is now ready to use.

**OPERATION**

**CAUTION! : ALWAYS ENSURE THAT HEATER TANK IS FILLED WITH WATER (especially after installation, servicing/repairs of water supply) BEFORE SWITCHING ON THE ELECTRICAL SUPPLY. THIS STEP TO PREVENT DAMAGE TO THE HEATING ELEMENT.**

1. Switch on the heater switch located outside the bathroom. The heater RCD Indicator light will turn ON.
2. Turn on the water supply at the Stop Valve (optional item).
3. Turn on the Temperature Control Knob. The Power Indicator light comes on and within second the shower is warm.
4. For warmer shower, turn the Temperature Control Knob clockwise from ON to MAX.

Note: Switch OFF the switch located outside the bathroom when the heater is not in use. The shower may not be enough even at MAX in areas where the water mains pressure is exceptional high & cold. This can be remedied by reducing the water inflow.

**MAINTENANCE**

It is a good practice to switch off the heater switch when the heater is not in use.

**DO NOT USE THINNER, ALCOHOL OR PETROL**

You may clean the Heater Cover with a damp cloth & mild detergent but do not use thinner, alcohol, petrol or any other organic solutions.

All Centon heaters are tested before leaving the factory. With proper care and usage, the heaters are durable, safe, and reliable. Use only accessories recommended by the manufacturer.

**WARNING**

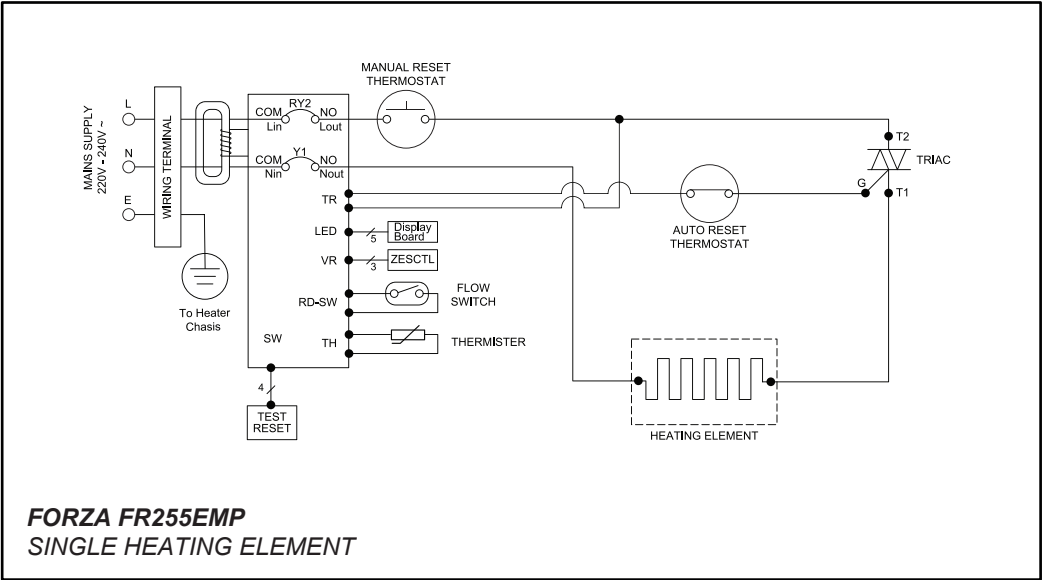
1. The appliance must be earthed.
2. Do not use plumbing cement on connection. If necessary, use only thread or sealant tape.
3. If the RCD does not trip to 'OFF' position each time the 'TEST' button is pressed, contact your sales agent for repair immediately.
4. If your water heater malfunctions, immediately switch off the mains. Then contact the sales agent for repair. Never attempt to repair the unit yourself.

**TROUBLE SHOOTING**

<b>MALFUNCTIONING PROBLEMS</b>	<b>CAUSE OF PROBLEMS</b>	<b>SOLUTION</b>
1) No shower coming out from heater	a) Dirt particles blocking inlet hole or incoming valve	a) Remove and clean incoming valve
2) No hot water	a) Electrical malfunctioning b) Thermal Cut-Out has operated c) Malfunctioning on Flow Switch Assembly	a,b,c) Turn off the main switch and have the unit checked by qualified electrician/agent
	d) Reduce in ambient water temperature	d) Reduce the water flow rate
3) Water too hot even at low temperature	a) Not enough water flowing through the unit	a) Refer to (1)
	b) Increase in ambient water temperature	b) Increase the water flow rate
4) Water suddenly goes cold	a) Interrupted of power supply	a) Check supply or other appliance. Consult qualified electrician/agent if necessary.
	b) Thermostat (Auto) Cut-Off	a) Turn off the Temperature Control Knob from 'ON' to 'OFF', to have a warm or cold water to reset back the thermostat
5) Water turn off, indicator light still on (power still on)	a) Flow Switch malfunction	a) Turn off the main switch immediately, and replace Flow Switch by qualified electrician
	b) Triac faulty	b) Replace triac

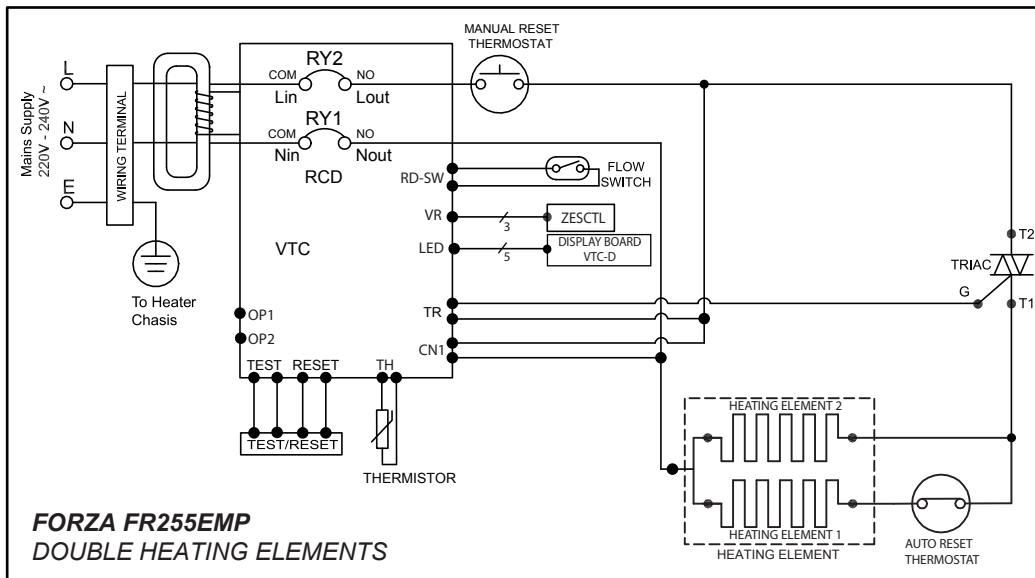
<b>Model Electrical Rating</b>	- Available from 5.5kW - 8.0kW, 220-240Vac, 50/60Hz
<b>Minimum Water Flow Rate</b>	- 2 liters/ min
<b>Minimum Water Inlet Pressure (close outlet)</b>	- 20kPa (0.2bar / 2.9psi)
<b>Maximum Water Inlet Pressure (close outlet)</b>	- 0.6MPa (6bar / 87psi)
<b>Shower Temperature Control</b>	- Fuzzy Logic
<b>Water Connection</b>	- 15mm dia. (1/2" BSP)
<b>Dimension</b>	- 308mm x 195mm x 98mm (H)
<b>Heater Weight</b>	- 1.98kgs

**Schematic Wiring Diagram**



<b>Model Electrical Rating</b>	- Available from 5.5kW - 8.0kW, 220-240Vac, 50/60Hz
<b>Minimum Water Flow Rate</b>	- 2 liters/ min
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<b>Shower Temperature Control</b>	- Fuzzy Logic
<b>Water Connection</b>	- 15mm dia. (1/2" BSP)
<b>Dimension</b>	- 308mm x 195mm x 98mm (H)
<b>Heater Weight</b>	- 2.10kgs

**Schematic Wiring Diagram**



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