



WALL MOUNTED BOILING WATER UNIT

OPERATING AND TROUBLE SHOOTING GUIDE

MODELS: CRN2.5, 3, 5, 7.5, 10, 15, 25, 30, 32

If ever in doubt, do not hesitate to contact CROWN Industries via info@crowindustries.com.au or call us directly on 03 9739 6966

EVERY CROWN INDUSTRIES BOILING WATER DISPENSER IS FULLY TESTED PRIOR TO PACKAGING AND DESPATCHING



HOW DOES THE UNIT PERFORM WHENEVER THE POWER TO THE UNIT IS SWITCHED-ON? (known as the Commissioning Process)

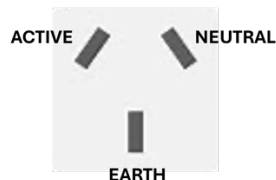
- The Amber light (*ready light*) and the Red Light (*power light*) will both light-up.
- The water valve will open and fill the tank until the water level hits the top water level probe.
- Once the tank is full, the ready light will go off; now the element will start heating the water.
- When the water has reached 94°C, the element will stop heating, and the ready light will light-up.
- The unit is now ready for standard use.

WHAT IS THE STANDARD OPERATING PERFORMANCE OF THE UNIT? (after fully commissioned)

- Once commissioned (*tank full with 94°C water*), the user should simply use the unit as required.
- As hot water is dispensed, the unit will be replenished with cold water at a 90ml squirt every 16 seconds, until the unit is full again
- Between squirts the heating element will be powered and will maintain the water at 94°C.
- The ready light will only light up when the water temperature is at 94°C (*regardless of the water level in the tank*).
- If the user fully dumps the water in the tank, it will take time (*depending on the size of the unit*), to fully refill the tank.
- The user can still dispense hot water from the unit as the unit is fully replenishing, however, the amount which can be dispensed will depend on how much is in the tank at the time of dispensing.
- NOTE:** *If the user operation requires that the unit be fully dumped on a regular basis, but the unit cannot keep up with the user's operational demand, then the chosen unit capacity is too small, and a larger capacity unit is required.*

BASIC ISSUES CHECKLIST

- Is the **power polarity to the unit** correct? Yes – GOOD. No – Fix immediately as the unit will not operate if polarity is incorrect. The following diagram (*as you look at a power point*) is correct.



- Is the system being **fed with cold water**? Yes – GOOD. If with warm/hot water – NOT GOOD. The water feed **MUST** be cold.
- Is there a **good flow of cold water** running to the unit? Yes – GOOD. No – FIX. (*A blocked water line or filter is often the cause of poor flow*).
- Is the **cold-water feed direct from a wall tap** or via another valve system which is shared with other appliances (*such as a dishwasher or an under-bench hot water system*). Direct – GOOD. Via another valve system – NOT GOOD and needs to be made direct.
- Is the unit **connected to a timer**? No - GOOD. Yes – REMOVE the timer as this will create issues with the operation of the unit and potentially lead to damage.

6. Is the **unit switched-off often**? Yes – NOT GOOD. The unit is designed to run hot continuously. Down-powering the unit on a regular basis will potentially damage the temperature control system. The unit is designed to stay switched-on and hot. It does not consume much power when left on and dormant, whilst not in use (*such as overnight or over a weekend*).
7. Is the **filtration system for the cold water a Reverse Osmosis system**? No – GOOD. Yes – NOT GOOD. Water produced by reverse osmosis has a comparatively low pH and has little or no alkalinity. This means that the water lacks its hardness to function like a buffer. Therefore, this type of water can be highly corrosive to the metals and will negatively affect your heating element, internal tank fittings and over time, your tank (*including rust*). Install an applicable filtration system (*relative to the water quality*) ensuring Reverse Osmosis water is not used in your unit.

DETAILED TROUBLE SHOOTING

ISSUE	MOST LIKELY CAUSE	ACTION
1. Leaking tap	<p>1a. Tap insert is worn or broken.</p> <p>1b. Build-up of sediment inside the tap.</p>	<p>1a. Replace tap insert.</p> <p>1b. Drain the unit, remove the tap insert, clean the silicone cup seat in the tap body and replace the tap insert.</p>
2. No water from the tap	<p>2a. No water in the unit.</p> <p>2b. Tap insert is worn or broken.</p> <p>2c. Build-up of sediment inside the tap outlet fitting.</p> <p>2d. Vent system is blocked or poorly installed.</p>	<p>2a. See Fault 3 – “No water in the tank”.</p> <p>2b. See Fault 1 – “Leaking tap”.</p> <p>2c. Drain the unit (<i>drain plug underneath</i>), remove the tap, clean the outlet fitting and replace the tap.</p> <p>2d. Disconnect the vent pipe at the vent fitting and allow the unit to breathe. If this fixes the problem, re-plumb the vent system. (<i>Vent pipe system runs to a tundish or into a sink or drainboard with no kinks, S bends, uphill travel or excessive vent pipe length</i>).</p>
3. No water in the tank	<p>3a. Water feed line to the unit is blocked, not turned on or the flow rate is too low.</p> <p>3b. Faulty unit water valve.</p> <p>3c. Stone filter in the unit water valve is blocked.</p> <p>3d. Flow rate restrictor in the water valve has perished.</p> <p>3e. Vent system is blocked or poorly installed.</p> <p>3f. Open circuit on the vent pipe cut-out switch</p>	<p>3a. Diagnose and rectify as required.</p> <p>3b. Replace the water valve.</p> <p>3c. Remove the water valve, clean-out the stone filter and refit.</p> <p>3d. Remove the water valve, replace the restrictor and refit.</p> <p>3e. Disconnect the vent pipe at the vent fitting and allow the unit to breathe. If this fixes the problem, re-plumb the vent system. (<i>Vent pipe system runs to a tundish or into a sink or drainboard with no kinks, S bends, uphill travel or excessive vent pipe length</i>).</p> <p>3f. Replace the vent pipe cut-out switch.</p>
4. Unit works intermittently	<p>4a. Faulty vent pipe cut-out switch.</p> <p>4b. Poor wiring contact somewhere in the unit circuit.</p>	<p>4a. Replace the vent pipe cut-out switch.</p> <p>4b. Test and track for connectivity issues and rectify as required.</p>

5. No power (red power light will not light-up)	5a. Unit is not plugged in (or hard wired). 5b. Residual Current Device (RCD) has tripped, is faulty or is the incorrect size. 5c. Faulty unit circuit board (PCB).	5a. Plug in (or hard wire). 5b. Reset RCD or replace with new or replace with the correct size. 5c. Replace unit circuit board (PCB).
6. Power light (red) does not light-up but the unit is working as it should	6a. Faulty or damaged power light.	6a. Replace the power light.
7. Ready light (amber) does not light-up but the unit is working as it should	7a. Faulty or damaged ready light.	7a. Replace the ready light.
8. Not heating (red power light is on)	8a. Faulty temperature sensor (thermistor). 8b. Faulty element or element cut-out switch. 8c. Poor spade connector contacts at the cut-out switch (on vent pipe). 8d. Faulty vent pipe cut-out switch. 8e. Vent pipe has not been correctly plumbed. 8f. Faulty water valve (continuously feeding cold water into the unit tank).	8a. Replace temperature sensor. 8b. Replace element or element cut-out switch (if the element or element cut-out switch is open circuit, the ready light will never light-up) 8c. Correct poor contacts. 8d. Replace the vent pipe cut-out switch. 8e. Have the vent pipe running to atmosphere (i.e. a tundish or into a sink or drainboard) with no kinks at all in the pipe-work. 8f. Replace the water valve.
9. Not heating (red power light not on)	9a. There is no power to the unit.	9a. Diagnose and fix to ensure power is getting to the unit.
10. RCD keeps tripping	10a. Residual Current Device (RCD) has tripped, is faulty or is the incorrect size. 10b. Faulty element.	10a. Reset RCD or replace with new or replace with the correct size. 10b. Replace the element.
11. Continuously boils	11a. Faulty temperature sensor (thermistor).	11a. Replace temperature sensor (and heat transfer paste).
12. Continuously overflows out the vent pipe system	12a. Faulty top water level sensor probe. 12b. Top water level sensor probe cap has been overtightened. 12c. Poor spade connector contacts at the top water level sensor probe.	12a. Replace top water level sensor probe 12b. Remove the cap and replace finger tight. 12c. Correct poor contacts.
13. Works Intermittently	13a. Faulty cut-out switch (on vent pipe). 13b. Poor spade connector contacts at the cut-out switch (on vent pipe).	13a. Replace cut-out switch. 13b. Correct poor contacts.
14. Wet tank insulation	14a. Condensation build-up between the outside of the tank and the insulation when the unit has been	14a. Leave the cover off and allow to dry or simply switch the unit back on.

	switched-off in a high humidity environment.	
15. Unit is full of water but will not heat	15a. Open circuit at the element or element cut-out switch.	15a. Isolate both components and test to ascertain which is faulty. Replace as required.
16. Ready light never lights-up and the unit will not heat	16a. Open circuit at the element or element cut-out switch.	16a. Isolate both components and test to ascertain which is faulty. Replace as required.
17. Unit cannot keep up with the demand	17a. Unit capacity is too small.	17a. Replace with a larger capacity unit.
18. Unit not working correctly since being "Tested and Tagged"	18a. Tester Megger Tested the unit (<i>going against the manufacturer's instructions</i>) and has caused damage to the unit circuit board (<i>PCB</i>).	18a. Replace unit circuit board (<i>PCB</i>).