



## **Installation Guide**

### **1. Important Notes:**

- 1.1 The Kwikboil is designed and manufactured to operate at a maximum incoming mains cold water pressure of 1000kPa. Should the water pressure exceed 1000kPa, an inline pressure reducing valve must be fitted.
- 1.2 Please ensure that the mains cold water supply is connected to the indicated water inlet connection if the Kwikboil (at the base of the solenoid valve) and that the unit vent connection always has a free flow of air into and out of the boiling water chamber.
- 1.3 The Kwikboil is a simple technologically advanced electronic automatic boiling water system and operates differently and more efficiently to other mechanical systems. Please familiarise yourself with the filling and operating modes of this electronic system as explained in part 4 of this guide.
- 1.4 The Kwikboil system facilitates a boiling water temperature adjustment for different altitude installations. A temperature trim pot is located in the electronic controller (PC Board) should a temperature adjustment be necessary, the procedure is detailed in part 5 of this guide.
- 1.5 The Kwikboil unit produces boiling water and care should be taken at all times when using it.

### **2. Water Quality**

Caution is suggested if the Boiling Water Unit is to be connected to a water supply with a high content of silica or calcium. Water supplies of this nature may be detrimental to the unit's operation and may cause the warranty to become void. For further information relating to the guidelines of water quality, contact your local service agent for advice.

### **3. Installation**

This Boiling Water Unit shall be installed by a qualified service person. The installation must comply with the local building regulations and the relevant wiring and plumbing regulations.

#### **3.1 Location**

This unit is designed for interior installation only and is not weather proof. If the unit is to be installed outside, it must be protected from the weather and from freezing.

#### **3.2 Operating the Unit**

To remove the jacket from all modules, remove the retaining screws on the sides and pull the jacket forward.

#### **3.3 Minimum Clearances**

All units require a minimum clearance of 50mm on all sides; however, we recommend you leave sufficient clearance for servicing.

#### **3.4 Mounting**

The Kwikboil, when installed is suspended from mounting screws located into keyhole slots at the back of the unit. Be sure that the mounting screws are securely inserted into the keyhole slots. The screws must be anchored in such a way, that they will hold the weight of the unit when filled with water.

### **3.5 Water Supply Connection**

Mains cold water supply must be piped and connected to the ½” BSP inlet fitting located on the left hand side underneath the unit. An accessible isolating valve must be installed near the unit.

The unit contains a strainer on the water inlet connection. To ensure continuing satisfactory operation, it is suggested that the inlet strainer be serviced every six months. Where poor water quality is present it is recommended to install an additional auxiliary filter.

For rear entry connection, we recommend that you use a braided flexible hose with a 90° elbow for ease of connection.

### **3.6 Vent/Overflow Connection**

Connect a 15mm (½”) pipe to the vent/overflow connection. (½” BSP). This pipe must have a continuous fall, not exceeding 3 metres in length, or contain no more than 4 bends.

During the normal operation of the Kwikboil the vent/overflow connection may discharge small quantities of steam and condensate, so it is essential that the drain pipe is attached to the vent/overflow connection. This drain pipe must discharge to waste at a point where no scald injury or inconvenience is caused.

Insure that he vent/overflow line remains open because the Kwikboil tank is not designed to be pressurised. It is recommended to install an air break in the vent/overflow drain line, no more than 300mm from the Kwikboil unit.

### **3.7 Drain Connection**

There is a drain screw located on the underside of the unit to completely drain the tank for servicing.

Before removing the drain screw, ensure the appliance has been switched off and the water is not hot enough to scald.

### **3.8 Tap Outlet**

To prevent damage during transportation, the tap is bubble wrapped and placed inside the carton.

The tap is fitted to the threaded tap outlet extension with an “o” ring seal fitted and fixing screw to secure in the vertical position.

### **3.9 Electrical Requirements**

All models

- 230 Volts AC, 50HZ, Single Phase

Element Rating

- 1800 Watts – 2.5 Litre
- 2000 Watts – 5 to 10 Litre
- 2400 Watts – 15 Litre
- 3000 Watts – 25 Litre

A flexible cord completed with a plug is supplied on all models. Do not loosen the cord grip or pull excess cord into the Kwikboil. If the supply cord of this unit is damaged, it must be replaced by a qualified service person.

## **4. Operation**

When the installation is complete, first turn on the water supply and then switch on the power, which will engage the solenoid valve and the unit will automatically begin to fill and the heating sequence will commence.

The water is heated in small quantities, so boiling water is available at all times.

The electronic control unit constantly controls the water levels and the water temperature.

### **4.1 Mode 1 Operation:**

To follow through the sequence of events in order, it is necessary that we consider the unit is switched on for the first time.

When the unit is switched on, the controller scans the Level Probe condition, and having established that, then executes a sequence of events particular to that mode.

- 4.1.1 The Controller scans the Level Probe to establish the Level Probe Condition. Both Probes (low and high) will be found to be in an open condition, i.e. no water present. This mode then places the unit in Mode 1 condition.
- 4.1.2 The Solenoid valve is then energized, allowing water to enter the tank.
- 4.1.3 Water continues to enter the tank until such time as the Low Level Probe becomes "closed", i.e. Water present, up to the end of the Low Level Probe.
- 4.1.4 The Solenoid valve is then de-energized, stopping the flow of water into the tank.
- 4.1.5 The Controller then steps into Mode 2 new line condition.

### **4.2 Mode 2 Operation:**

- 4.2.1 The Element is energized, allowing heating of the water to take place.
- 4.2.2 The continued heating results in the water reaching the set point, detected by the Thermistor.
- 4.2.3 The Solenoid valve is then energized, allowing ambient water to enter the tank thus reducing the water temperature by a maximum of 2°C and results in a swift away from the set point, again detected by the Thermistor.
- 4.2.4 When this occurs, the Solenoid valve is then de-energized, stopping the flow of water into the tank.
- 4.2.5 Steps 4.2.2 to 4.2.4 are repeated until such time as the High Level Probe becomes "closed", i.e. water is present.

### **4.3 Mode 3 Operation:**

- 4.3.1 The Element remains energized, allowing heating of water to take place, resulting in the water attaining set point, detected by the Thermistor.
- 4.3.2 The Element is then de-energized allowing cooling of water to take place.
- 4.3.3 Cooling continues to take place through heat loss via the tank insulation until set point minus 2°C is reached, detected by the Thermistor.
- 4.3.4 The Element is then energized, allowing heating of water to take place.
- 4.3.5 Steps 4.3.1 to 4.3.4 are repeated until such time as the water is drawn from the unit, at which time the controller then steps back into Mode 2.

## **5. Temperature Adjustment**

A Trim pot is located at the right rear of the control box. Access is provided by means of a 10mm diameter hole.

All Electronic controllers are factory set to deliver water at a temperature of approximately 97°C.

When is a temperature adjustment necessary?

- When you replace the Electronic Controller
- When you change the Thermistor or an Element and Thermistor

- For different altitudes

How do you adjust the temperature setting of the Electronic Controller?

- Drain water to the Low Level (Discharge from the tap)
- Rotate the Trim Pot Anti Clockwise to its Minimum Setting.
- Switch the unit on and allow it to operate automatically for five minutes.
- Using a 3mm wide screwdriver, rotate the Trim Pot Clockwise to its Maximum Setting. The unit will now boil continuously.
- Rotate the Trim Pot Anti Clockwise, Slowly; until such time that the solenoid valve opens, allowing the water to flow into the tank.
- Rotate the Trim Pot Anti Clockwise approximately 1/8 turn.