

# THERMflow

**Electric Combination Model**

Thermal Storage

Vented Mains Pressure System

## **INSTRUCTIONS**

**PLEASE LEAVE WITH HOUSEHOLDER**

**IMPORTANT** – Failure to install this system in accordance with these instructions will invalidate the manufacturer's warranty.



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## ELECTRIC TYPE, COMBINATION MODEL.

**THERMflow** is a thermal storage unit, which supplies mains pressure hot water at flow rates in accordance with the requirements of BS 6700.

### IMPORTANT

#### **Mains Cold Inlet Pressure and Flow Rates**

A minimum of 2.0 bar incoming pressure is recommended and a pressure reducing valve is required if the pressure is over 5.0 bar. We recommend an ideal incoming pressure of 3 Bar. The mains supply to the unit should be in a minimum of 22mm diameter. **We recommend fitting a Flow Restrictor of 15L/minute at the Hot Bath Tap..**

**Solid Fuel Boilers** - normal rules apply. An anti boil stat should be fitted 1/3 to 1/2 way up cylinder at 85°C, to power heating pump in an overheat situation.

#### **Double Immersion Types**

Both Immersions are fitted at the base of the cylinder, one for use with Off-peak / Tele-switching and the other for use as a user controlled boost. These have a Control Thermostat and also a High Limit Thermostat for safety reasons. **The Control Thermostat should be set at 75°C and the High Limit Stat at 90°C.**

### COMMISSIONING - Electric Type

Connect the mains to the non-return valve and turn the mains on. **ENSURE THE COPPER FLOAT IS AT ITS LOWEST LEVEL.** Allow the Thermal Store to fill slowly via the ball-valve and float (the Secondary System, which is in the form of a high efficiency coil contained inside the cylinder, will also fill).

#### **CHECK FOR LEAKS THROUGHOUT SYSTEM.**

Wire the Immersions to suit the installation requirements.

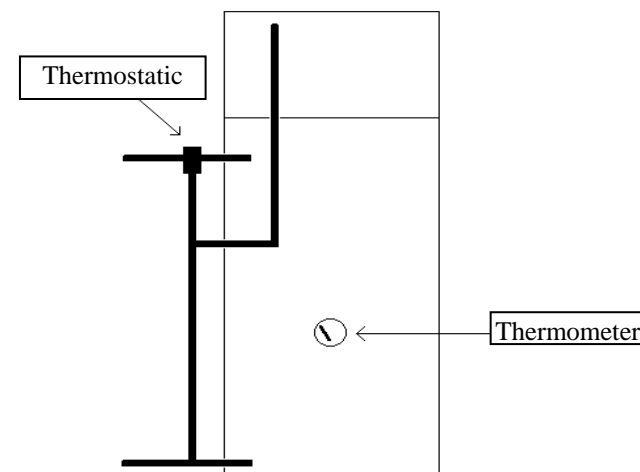
**Ensure the Immersion Control Thermostat is set to 75°C and the High Limit Thermostat is set to 90°C.** The performance of THERMflow will be improved the higher the store temperature. Allow power to the Immersion Heaters and heat the store to 80°C.

Check that the unit reaches and stabilises at around 75 - 80°C. Check the hot water at the taps is a suitable temperature for the householder. The temperature can be increased or decreased by adjusting the factory fitted mixing valve. THERMflow are maintenance free and require no annual service. Should any valve or fitting fail, contact McDonald Engineers for a replacement part.

## USER OPERATION.

The cylinder is designed to work best when the store temperature is at or approaching 80°C. The cylinder can provide hot water at lower store temperatures but available flow rates and volume will be reduced.

If white meter electricity is used to heat the cylinder, then the immersion heaters should be left plugged in and switched on at all times. They will only reheat the cylinder when either there is cheap rate electricity available or when the boost switch is operated. The thermostats in the immersion heaters will switch the immersion heaters off automatically, once the correct temperature has been reached.



### TROUBLESHOOTING:

#### **Symptom:**

The water at the tap is luke-warm or cold.

#### **Remedy:**

1. Check that the store is at or approaching 80°C. (The temperature is shown on the thermometer - B). If not, ensure that the Immersion heaters are switched on. The unit must be allowed sufficient time for the store to reach working temperature.
2. If the store is at or approaching 80°C, check that the Thermostatic mixing valve is turned to hot. The maximum temperature of water from this valve is 55°C.
3. If the valve is turned fully to hot, check that the flow rate at the tap does not exceed 20 Litres per minute. If the flow rate is above this, then turn the tap down slightly.

**The temperature of the water at the taps depends on the flow rate. This means that the faster the water flows, the cooler the water will be. Too high a flow rate will result in luke-warm water.**

If any problems arise not covered by this document please contact the installer.