

THERMflow

Boiler Cylinder 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.

MCDONALD ENGINEERS

HOT WATER SYSTEMS

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THERMflow is a primary water, thermal storage unit, which supplies mains pressure hot water at flow rates in accordance with the requirements of BS6700. Thermostatic mixer showers will give the optimum showering performance and all taps etc. should be checked to ensure they are suitable for mains pressure.

Ensure the Primary Feed and Expansion Tank is 500mm above the highest point of the primary pipe-work.

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 bar. The mains supply to the unit should be in a minimum of 22mm diameter. The Domestic Hot Supply should also be taken off in 22mm although 15mm spurs can be taken off to other terminal fittings. If the flow rate exceeds 20 Litres/minute at the taps, it should be restricted.

Suitable Boilers

THERMflow can be used with most boilers e.g. Gas, oil, solid fuel, electric and electric immersion heater. **SEALED SYSTEM BOILERS** require a System coil inside the THERMflow. If **SOLAR** panels are used a High Efficiency Coil is fitted and normal solar installation rules apply.

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.

FERNOX/Anti-freeze

The above should be added in the normal way. **THE CAPACITY OF THE THERMflow MUST BE TAKEN INTO ACCOUNT AS PART OF THE PRIMARY SYSTEM.**

COMMISSIONING - Boiler Type

The cylinder is to be fed from the Primary Feed and Expansion Tank. The Cold Feed is at the base of the cylinder and the Expansion is on the dome. The Boiler connections are located on the side of the unit, one at the top and one at the bottom (unless marked otherwise).

The Space Heating connections are on the side of the unit, both towards the base, connect these to the radiator circuit.

Connect the Cold Mains to the Primary Feed & Expansion Tank ball-valve and also to the THERMflow's non-return valve and turn the mains on. Allow the Primary System to fill slowly via the feed and expansion tank.

CHECK PIPEWORK AND SYSTEM FOR LEAKS THROUGHOUT.

All normal procedures for a Vented Primary System apply. Drain system, hot flush and re-fill. **Add Fernox etc. as normal taking into account the THERMflow volume which is part of the primary system.** Re-bleed radiators and high points of pipework.

CHECK FOR LEAKS THROUGHOUT SYSTEM.

Set the boiler pump to its highest speed setting. Set the boiler thermostat and also the cylinder thermostat to maximum. Fire the boiler on the Hot Water Only setting and wait until the boiler goes off. Turn the cylinder thermostat down slowly till it clicks off, then turn it down by about 2 degrees.

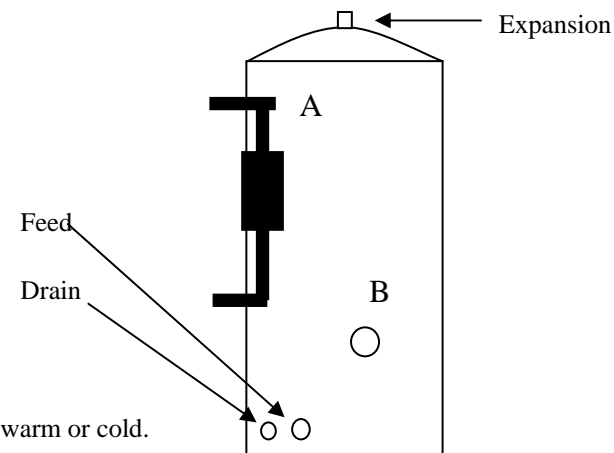
This should mean that the cylinder thermostat on the Thermal Store controls the system. This can be checked by running off some hot water, re-firing the boiler and checking that the cylinder thermostat is in control.

Check that 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.

Finally adjust the pumps to give maximum flow without excessive noise.

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.



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) . If not, ensure that the Boiler is firing. 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.