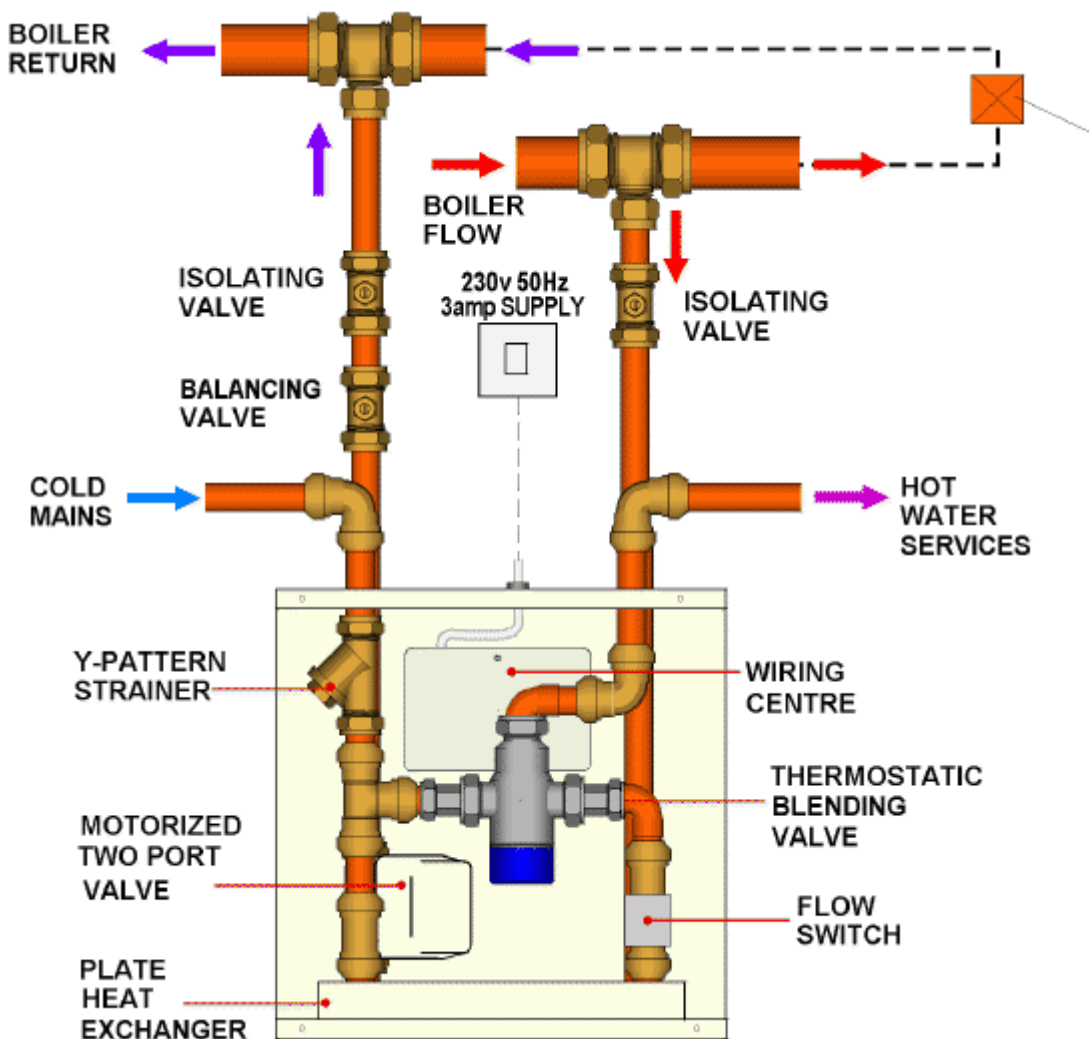




Boiler Fed Instantaneous Water Heater 100kW with central heating options

The DPS BoilerMaster is a self-contained, pre-plumbed and pre-wired, unit designed to provide mains pressure hot water from a boiler circuit, without the need for water storage. Ideal for use on district heating and central boiler applications.

Space Saving 350mm wide x 350mm high x 120mm deep
The smallest and most efficient conversion unit on the market



An Automatic By-Pass Valve is often recommended on systems.

One should also consider using Differential Pressure Regulating Valves on systems with many BoilerMasters to simplify balancing.

If you are in any confusion as how best to set up the boiler systems, please contact DPS for advice.

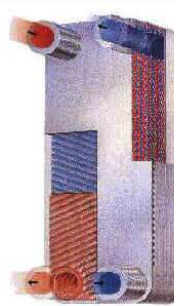
The BoilerMaster extracts heat from the boiler circuit and uses this to heat up mains cold water, as follows:

1. A flow switch within the BoilerMaster detects when there is a hot water outlet open, and opens a two port valve, allowing hot water from the boiler to flow through the heat exchanger, providing heat.
2. The plate heat exchanger within the BoilerMaster transfers heat from the hot water in the boiler circuit flow to mains water.

- When all hot water outlets are closed, the two port valve closes preventing any unnecessary drain upon boiler supply.

The Y-Pattern Strainer protects the Flow Switch from particles of grit in the cold mains water supply.

Numerous heat transfer plates within the heat exchanger keep the primary boiler water completely separate from the mains water, allowing each to operate independently at up to 5 bar pressure. The heat exchangers themselves are tested to 72 bar pressure.



The BoilerMaster can deliver hot water continuously at a rate determined by the input from the boiler, up to a maximum heat transfer rate in the region of 100kW, equivalent to over 30 litres per minute of domestic hot water, providing the boiler can supply the heat to all units operating at once.

It is important to understand that although a single BoilerMaster can easily supply two outlets simultaneously, it uses the energy generated by the boiler system to heat that water. If, for example, a block of flats are fitted with BoilerMasters, and 3 outlets are each supplying 18 litres per minute to bath taps then this will require a boiler output of 135kW (450,000 Btus/h). Careful consideration should be given to the maximum number of outlets that will be open at peak demand, to ensure the boiler is big enough to heat this water, and pipes size and water pressures are large enough to deliver this water. If a boiler large enough is not feasible, then some form of storage will be required to even out the demand.

Using centralised heat storage in conjunction with instantaneous water generation in flats overcomes the need for domestic hot water distribution to each flat, and as such may reduce Legionella risk.

The BoilerMaster is fully assembled, wired and tested to ensure all components are working and that all pipework is leak free. It comes in an attractive white metal casing, with three keyholes provided for easy wall mounting.

Variations on the BoilerMaster include the following options (larger casings may be required):

Option	Reason for Use
200kW Plate Heat Exchanger	Large properties requiring up to 4 hot outlets running at 18 litres per minute simultaneously.
Mains Pressure Reducing Valve	Overcomes pressure drops at high load periods, while allowing pre-setting of maximum flow.
AVTB Temperature Control Valve	Replaces the zone valve, flow switch, and thermostatic blending valve with a single valve. Offers certain advantages such as no wiring, a slightly quicker response than motorised valve, and legendary reliability.
Primary Differential Pressure Regulator	No site balancing required. Central boiler installations often suffer from lack of foresight regarding balancing, and end up with certain flats getting starved of heat, while other never have a problem. The differential pressure regulator limits the pressure available to each system overcoming these problems.
Separate Heating Zone	The addition of a motorised two port valve for central heating allows the BoilerMaster to deliver hot water and heating requirements. Requires wiring to time controls.
Primary Shunt Pump	Takes main load of central boiler pump increasing output. Central pump can be sized to meet boiler flow rates and match main distribution pipework. The shunt pump will overcome the pressure losses in the heat exchanger, or heating system if heating zone option is used.
Secondary Return Controls	Includes bronze pump, temperature control, connections for separate timer. Circulates hot water around pipework in each property, overcoming dead legs. This can be especially useful in stretched out properties, or care homes.