Water Boosting Pumps
Systems, Pressure and Pump Types Explained

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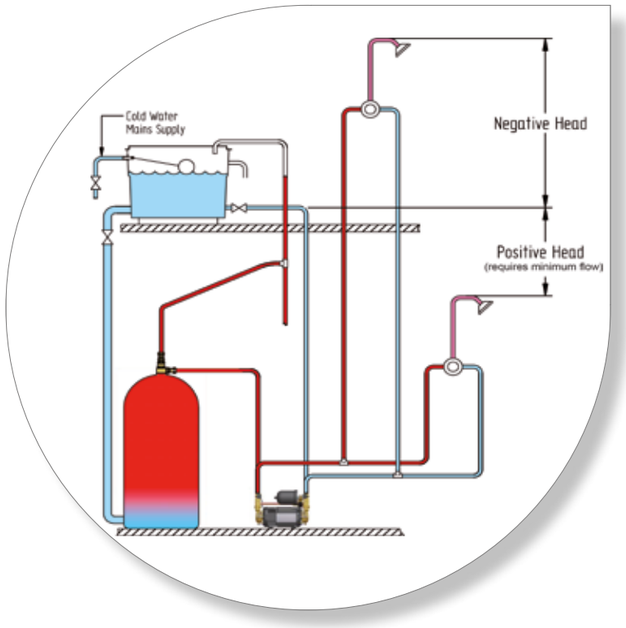


Negative Head Systems

A negative head system exists when there is insufficient pressure or head of water under gravity to provide a flow / pressure at the outlet. Typically a negative head condition exists where the flow from the outlet is less than 1 litre/min.

Positive Head Systems

A positive head system exists when sufficient pressure is available under gravity to provide a flow at the outlet. Typically a positive head condition exists where the flow from the outlet is more than 1 litre/min.

Pressures

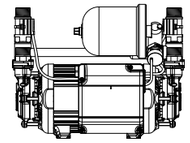
Pumps are rated in 'bar ' which is the measure of pressure, 1 bar pressure being equal to 10 metres static head of water. Generally the higher the bar rating the higher the performance. However it is important to match the correct size of pump with the application to ensure optimum performance.

The following can be used as a general guide for applications:

- 1.0 bar pressure = Low boost
- 1.5 – 3.0 bar pressure = Medium boost
- 3.0 bar pressure + = High boost

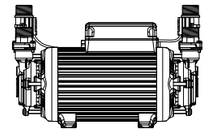
Universal Pumps

Universal pumps operate in positive or negative head conditions and do not require a gravity flow to start, incorporating both a pressure and flow switch. The pump automatically starts when the pressure switch detects a drop in pressure when an outlet is opened. The flow switch keeps the pump running as long as there is sufficient a flow of water. When the flow stops, the pump continues to run for 3 seconds allowing the system to re-pressurise.



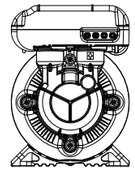
Standard Pumps

Standard pumps operate under positive head conditions only. A standard pump is operated by a flow switch, automatically starting when a gravity flow of water greater than 0.6-0.8 ltrs/min through the outlet is detected. The pump will automatically stop when the outlet is closed and the flow ceases.



Peripheral Pumps

In a peripheral pump water is circulated and gains pressure around the periphery of the pump head. Peripheral pumps are compact and system friendly as they tolerate high hot water temperatures and air within the system to a greater extent than an equivalent centrifugal pump. They are ideal for applications where higher pressures with nominal flows are required.

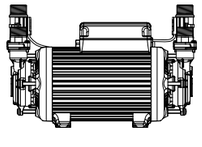


Centrifugal Pumps

A centrifugal pump draws water into the centre of the impeller where rotation throws the water out under force to generate pressure. Centrifugal pumps are designed to produce good flow at nominal pressure. Higher pressures are achieved by using multiple impellers within the same pump head, where the pressure generated by the first impeller is fed into a second impeller and so on, this is called staging. Larger Centrifugal pumps are therefore termed as multistage.

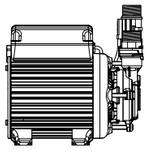
Twin pumps

Twin pumps are designed to boost both hot and cold water supplies equally.



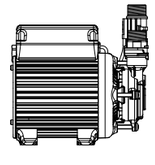
Single pumps

Single pumps are designed to boost single water supplies; hot, cold or pre- mixed.



Automatic Flow Switch

Designed to provide a constant water supply from a break tank, these units rely on gravity flow to activate. Features include fully automatic control with dry run protection.



Boostamatic Pressure Switch

Designed to provide a fully automated pressurised water supply.