

# Pressure Vessels



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## Overview

A feature of many private water supply pumping systems is a pressure vessel.

In a pressurised pumped system, a pump will increase the system pressure until a pressure switch / controller sends a signal to activate the pump. To avoid continuous switching when the call of water is low, for example, when filling a kettle, a pressure vessel holds a store of water that will provide a water flow at good pressure, without the pump switching in.

“Hunting” is where a pump rapidly switches in and out. This creates a hammer, or thudding sound which can be damaging to fittings or eventually, the pump. A pressure vessel installed on the pipe work after the pump prevents such problems.

A pressure vessel contains an internal butyl rubber membrane which has water on one side and compressed air on the other. When the system pressure reaches a pre set point the pump controller or pressure switch will send a signal to the pump turning it off.

The demand for water is met by the compressed air pushing against the membrane and pushing out the water. As the system pressure falls away, the pump will again switch on; the water cushion allowing for smooth operation of the system.

When properly sized, the vessel allows for high peak flows by allowing high peak flows above the normal operating parameters of the pump



Springhill carry a large stock of vessels and we are happy to provide help and expert advice on the sizing and other issues.