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Different pressures for different showers.

Equal Low pressure

Unequal pressure

High Pressure

There are basically 3 types of shower valves available and they have been designed to best suit the plumbing of the specific house concerned.

The first type is the **equal low pressure** shower. The best example of this is the *Topliss* shower mixer. The *Topliss* mixer was designed to take advantage of the low pressure systems that most houses had back in the 60's. The advantages of equal low pressure is that the hot water supply to the shower and the cold water supply to the shower both come from the header tank in the ceiling (the hot water supply obviously goes through the hot water cylinder first). This means that when someone is having a shower and someone in the kitchen turns

on the cold tap, the person in the shower won't get scalded because of a decrease in cold water pressure. The cold water pressure remains constant because it's coming from the header tank, whereas the cold water from the kitchen comes directly from the mains supply, so there is a disconnect there.

The second type is the **unequal pressure** shower. Unequal pressure means that the hot water pressure is low (coming from a low pressure hot water cylinder), but the cold water pressure is high (coming directly from the mains supply).

Old-style unequal pressure showers could be hard to get the temperature set right, because the cold water would often overpower the hot water and this would make it very tricky to get a good mix, and it would often be very touchy.

Newer style unequal pressure showers incorporate a *venturi* which is a technology which uses the high pressure cold water to draw the low pressure hot water through at a faster rate, which means that the shower has better pressure than it normally would have. The best example of a shower with a venturi is the *Methven* range.

The third type of shower is the **high pressure** shower. These showers take advantage of the relatively new technology which is the mains pressure hot water cylinder, or instantaneous gas water heaters. The mains pressure hot water cylinder means that your hot water is coming out of the tap at the same pressure as what the cold water comes out. This means that your shower will have excellent pressure no matter what sort of shower mixer you have. Anything will work! You just have to make sure you don't use too much hot water or you

may run out! This is where water restrictors come into use, which can be installed in most shower handsets, which will slow down the flow of water saving you power or gas.

“I don’t have a header tank! Does this mean I have mains pressure hot water?”

Not necessarily. The best way to find out if you have mains pressure hot water is to turn on two taps (one hot and one cold) side by side and see if they both run at a high pressure. If the hot is coming out at the same speed as the cold, then chances are you have a mains pressure hot water system. If the hot water is a lesser pressure, and you know you don’t have a header tank because you’ve checked in the ceiling and there’s nothing up there, then chances are you have a low pressure hot water system controlled by a pressure reducing valve.

“I have a pressure reducing valve under my hot water cylinder. Does this mean I have unequal pressure water to my shower?”

Not necessarily. The pressure reducing valve under the hot water cylinder reduces the incoming mains pressure water down to a pressure that the hot water cylinder can handle (between 3.7 and 7.6m of head). So if we were to take a pipe from just after the pressure reducing valve, but before the inlet to the bottom of the hot water cylinder, this would give us a low pressure cold water supply, which would be another way to give equal pressure to a shower mixer without the need for a header tank. This is quite a common way to plumb out a shower in New Zealand. It gives you all

the advantages of an equal low pressure shower (greater control of temperature adjustment) without the need for a header tank.