

What is a DRV?

The term DRV refers to a great little item that plays a major role in the correct working of a heating or chilled water system. Unfortunately, its name is often incorrectly used and it often becomes simply an expensive lock-shield valve.

When referring to a DRV, what is often meant is a commissioning station (CS). This can be a fixed orifice double regulating valve (FODRV) or a variable orifice double regulating valve (VODRV).

Many times, we see drawings produced by consultants that have reference to DRV's without any mention of CS, FODRV or VODRV. The installing contractor then fits a DRV as it is little cheaper. Unfortunately, it then means that commissioning has to be done either by non-intrusive means or by temperature drop.

These methods take longer to commission and the money saved is spent on extra commissioning costs. As non-intrusive and temperature drop commissioning is not as accurate as the normal intrusive method, the end result is less efficient and more prone to end user complaints.

The alternative, as often happens, is to check that all heat emitters (assuming a heating system) are getting hot and if so, just accept the system as is.

Many times I have heard arguments between consultant and contractor. The consultant argues that the contractor should have known what was required. The contractor argues that he was following the specification and drawings and is not paid to be a designer.

My opinion is that the consultant, as the designer, should make it completely clear what is required.

Possibly one problem is that the designer knows what he wants but the final detail comes from the draughtsman. The designer consultant sketches DRV meaning CS and the draughtsman, knowing no better, indicates DRV on the drawing. I am fully aware that the "checked by" box on the drawing usually has a designers initials, but detailed checking take time (and therefore money).

Even when commissioning stations are shown, they are sometimes incorrectly used. They are more expensive than a DRV, so the two types of valve should be selected as required.

Where a by-pass is installed, such as via a three way valve, the CS should be fitted on the pipe that is common to the main flow and the by-pass flow. A DRV can then be used on the by pass. The commissioning engineer will measure on the CS and flip the three port valve between full flow and by pass to set the two valves. Putting a CS instead of a DRV on the by-pass is simply wasting the extra cost of that item as it will never be used.

This only applies to items at the extremities of the systems, heater/cooler batteries etc. Where the by-pass is at the source, such as in the boiler room on a variable temperature circuit, the by-pass circuit needs only an isolating valve. Any DRV on the by-pass leg will almost always be left wide open, so the extra cost of a DRV would be simply wasting money.

Low flow and ultra low flow valves seem to be a mystery to most people. The manufacturers make them for very good reasons. Many designers and installers seem to not know that they exist.