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The Relevance of Traditional Commissioning Valves in Building Services

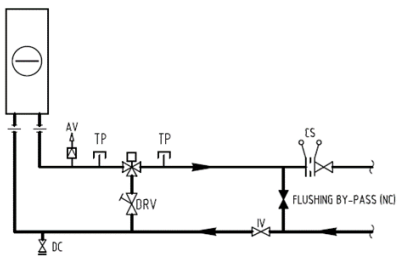
HVAC installations must be balanced to ensure the correct flow to all parts of the system, ultimately resulting in occupant comfort and energy/cost efficiency.

While in modern heating and cooling systems Pressure Independent Control Valves and Pressure Dependent ΔT Valves have largely replaced traditional Commissioning Valves, Differential Pressure Control Valves and Actuated Control Valves, there are still many applications for Commissioning Valves in HVAC.

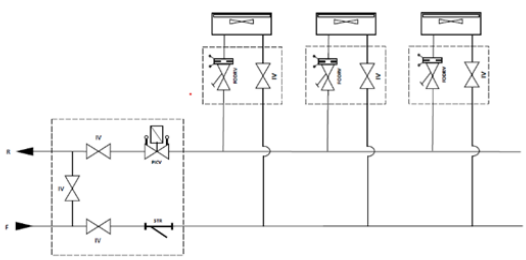
Applications

Balancing Valves are required when water needs to be proportionally balanced.

Within a traditional constant flow system or building extension. A typical terminal unit arrangement.



Within PICV-controlled zones. A PICV-controlled zone commissioning valve set installation.



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Author: Anke Taylor 9 April 2020

The conventional Commissioning Valve Set market in the UK is highly competitive with no clear market leader or product differentiation. However, there are trends and some product variations worth considering.

Venturi versus Fixed Orifice Double Regulating Valve (FODRV)

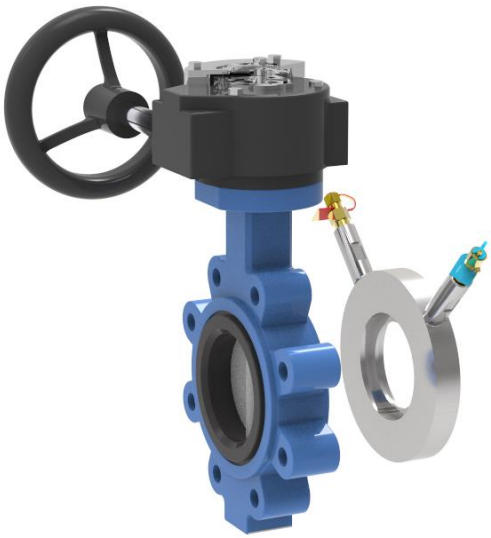
A venturi is a device for measuring flow either integrated into the commissioning valve or used independently. The benefits of the venturi include:

- A significant proportion of the pressure loss is recovered after flow has passed through it.
- High pressure and energy recovery make the venturi suitable in systems where only low differential pressures are available.
- Flow can be measured to within ± 3% across the entire range, compared to the normal ± 5%.
- The venturi measuring orifice accelerates water flow, increasing the measured signal, ensuring the significant pressure loss common in other valve systems is recovered as it passes through. Energy is therefore not needlessly expended in pressure recovery, which makes these valves highly efficient.
- Returns a higher and cleaner signal (typically 10 to 30 kPa, depending on flow rate) without the pressure loss, making for simpler and easier commissioning.
- No straight lengths of pipe are required either upstream or downstream of the measuring orifice (except immediately after a pump, which cause water turbulence). This can be a considerable advantage in a tight plant room and offers a more elegant method of commissioning for modern buildings.

Source: MBS Magazine

Globe-Style versus Butterfly & Orifice Plate Commissioning Sets

The Butterfly & Orifice Plate Commissioning Set is suitable for small spaces, when weight is a concern, when budget restrictions apply or for DN300+ line sizes, when the Globe-Style is not available. It can be delivered pre-set to site.



The Butterfly & Orifice Plate Commissioning Set is typically available up to DN800, and some suppliers can supply up to DN1400 on request. The weight of the Butterfly & Orifice Plate Commissioning Set is approximately 1/3 of the weight of a traditional globe style valve.

The Butterfly & Orifice Plate Commissioning Set is not only lighter and smaller and therefore easier to handle and install, it is also available in large sizes and provides an opportunity for significant cost savings.

To check out our product range of Commissioning Valves, please visit our product page

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