HEATING
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FLOW MASTER

FUTURE VALVE TECHNOLOGY

Differential Pressure Control Valves

New

Stabilises Differential Pressure in heating and chilled variable flow systems

- Maintains a consistent performance
- Use with variable speed pumps within HVAC systems
- Enhances efficiency
- Reduces energy consumption
- Simplifies the commissioning process
- Easily adjusted to meet future conditions

Hattersley

Quality reliability & service assured

To meet the growing use of variable speed pumps for HVAC applications, Hattersley has introduced a range of Differential Pressure Control Valves (DPCV) specifically aimed at optimising system performance.

Differential Pressure Control Valves
Features and Benefits

Extremely efficient, the DPCV is set to a maximum differential pressure limit, under dynamic balancing conditions, which ensures flow cannot exceed a desired rate. It therefore helps reduce energy consumption, the risk of noise and simplifies the commissioning process.

The EPM diaphragm, which separates the upper and lower chamber of the valve, in combination with the balanced piston is key to stabilising differential pressure within the system. The rubber-seated piston, controlled by the diaphragm, closes the valve on rising differential pressure and opens it on falling differential pressure. The valve will continue to move in this way until equilibrium of pressure is achieved. This ensures the maximum desired flow rates or differential pressures are not exceeded.

Installing a DPCV in a system to control differential pressure, can also help to minimise the risk of noise.

Installing a DPCV in a circuit ensures the system remains balanced, independent from any changes in other areas of the circuit, which greatly simplifies the balancing and commissioning procedure. It also maintains the control authority of the 2 port control valve.

Available in sizes from DN15 to DN50, in flow and return configurations, the DPCV operates at a temperature range of -10˚C to 100˚C and is PN16 rated. The pressure differential is set on installation, across a 20 to 80 kPa range, and can be easily adjusted on commissioning as required by the changing conditions.

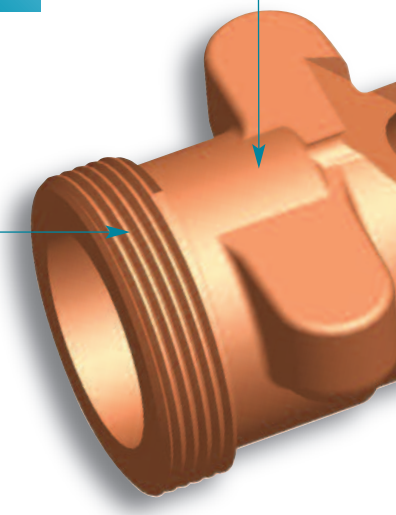
Hattersley offers other accessories which are highly recommended in order to achieve an optimum performance. See page 4 for details.

Diaphragm
Separates and balances the upper and lower chambers and therefore the differential pressure. The Diaphragm reacts quickly to fluctuation in pressure.

Lower Chamber*
The lower pressure, after the load, is transmitted to the lower chamber.

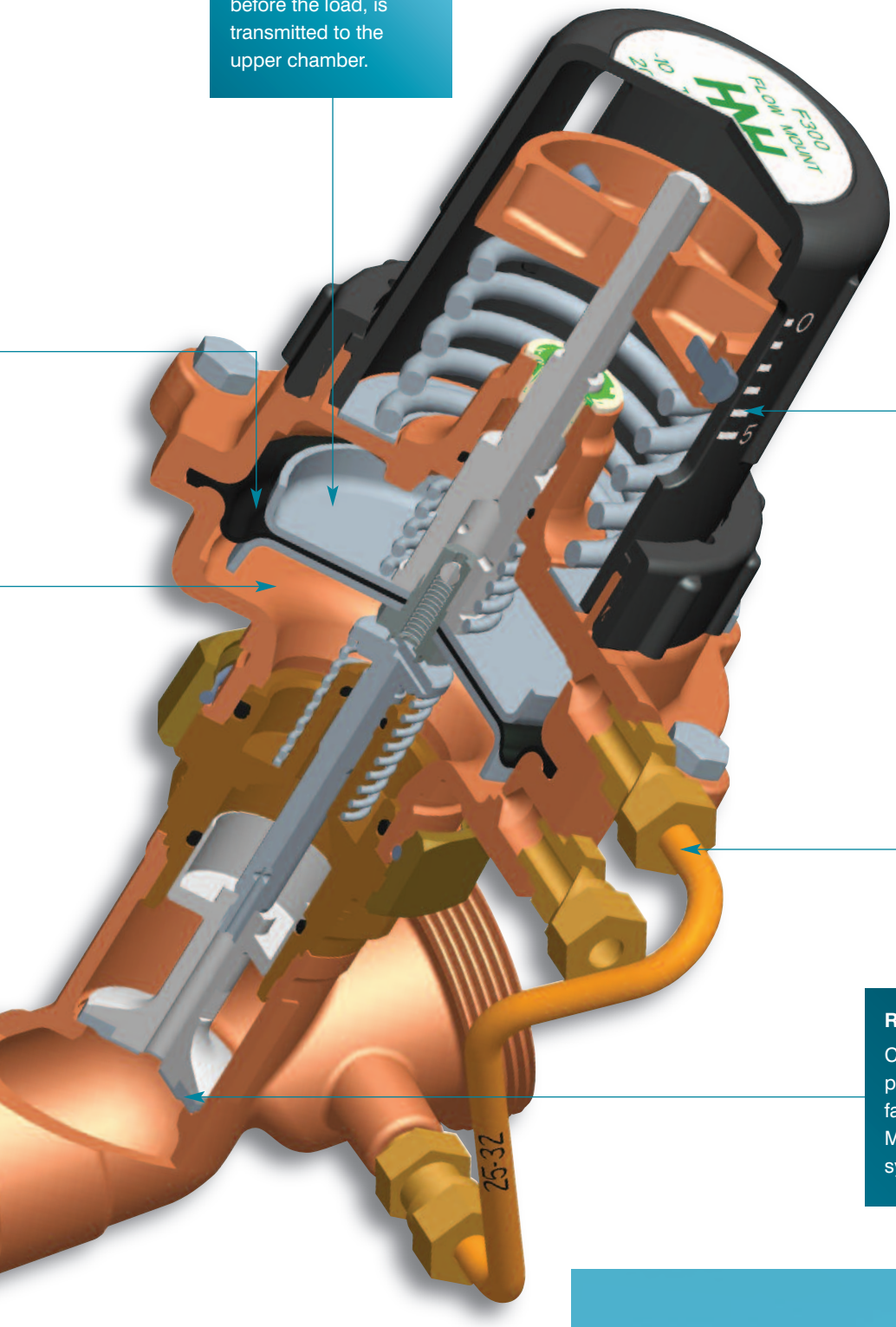
Body
PN16 rated. Compact design allows for installation in limited spaces.

Male Threaded Ends
Male and female adapters are available so that the DPCV can be placed in any standard pipe work. See page 4 for details. The valve is easily replaceable without disturbing the surrounding pipe work.



Upper Chamber*

The higher pressure, before the load, is transmitted to the upper chamber.



Adjuster

Easily sets differential pressure across a 20-80 kPa range, and can be adjusted to maintain desired flow rates or differential pressure, matching circuit conditions.

Integral Impulse Tube*

Pressure from before the load is linked to the upper chamber (flow mounted configuration only).

Rubber Seated Piston

Closes on rising differential pressure and opens on falling differential pressure. Maintains the desired system flow rate.

Impulse Tube

Alongside the DPCV, an impulse tube is supplied as standard. It is essential to the valve's performance as it taps pressure from the other side of the circuit and links it to the valve's chambers.

*Please see page 4 for typical installation layouts

F300 Flow | R300 Return

MATERIALS

Item	Description	Material
1	Body	Bronze BSEN1982 (CC491K)
2	Bonnet	Bronze BSEN1982 (CC491K)
3	Chamber	Bronze BSEN1982 (CC491K)
4	Adjuster	Nylon Grade PA6
INT	Stem / Piston	Stainless Steel BSEN10088 - 1: 2005
INT	Diaphragm	Rubber EPM
INT	O-Ring Seals	Rubber EPDM

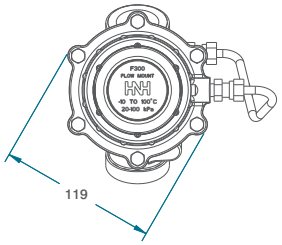
See diagrams for item numbers
INT denotes an internal component not visible on these drawings

DIMENSIONS AND WEIGHTS

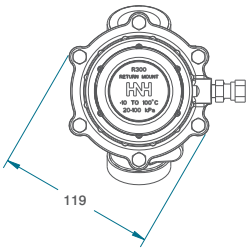
Size	A (mm)	B (mm)	End Connection	Weight (kg)
DN15	90	175	3/4" BSP Parallel Male	2.34
DN20	96	175	1" BSP Parallel Male	2.39
DN25	114	185	1 1/4" BSP Parallel Male	2.62
DN32	132.5	190	1 1/2" BSP Parallel Male	2.76
DN40	150.5	195	1 3/4" BSP Parallel Male	3.07
DN50	184	205	2 3/8" BSP Parallel Male	3.57

Male and female tailpieces are available - please contact Hattersley

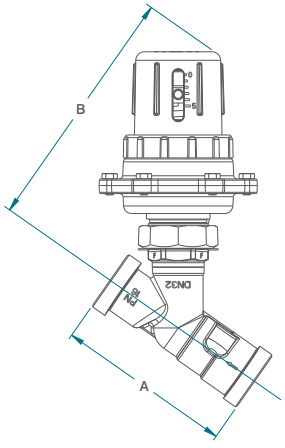
DIMENSIONAL DRAWINGS



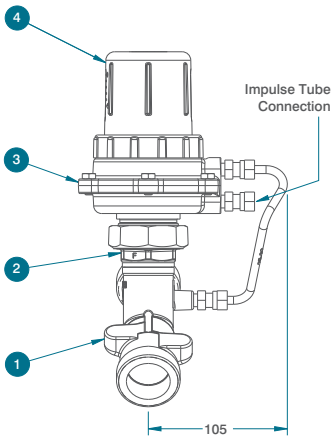
Flow Configuration
Top View



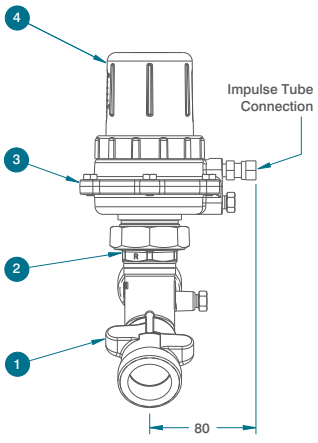
Return Configuration
Top View



Flow & Return Configuration
Side View

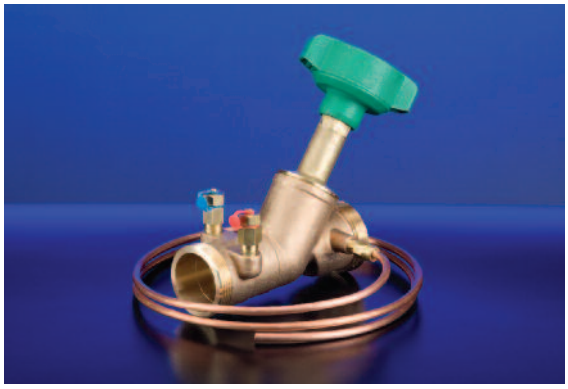


Flow Configuration
Front View



Return Configuration
Front View

DPCV Accessories



COMPANION VALVE

Hattersley highly recommends the use of a companion valve as a part of the circuit. As well as providing standard flow measuring and regulating features, the companion valve has an integral tapping point for an impulse tube to link the valve and the DPCV.

Additional impulse tubes are available on request.

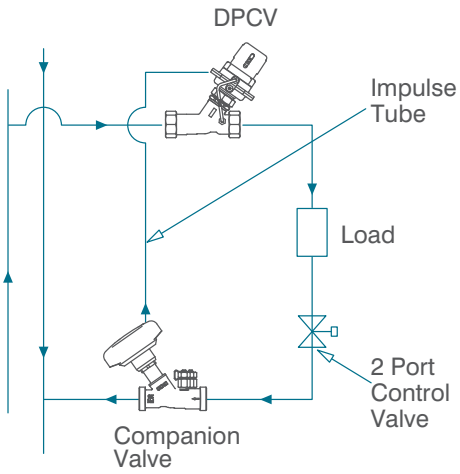
ISOLATING BALL VALVE

Installing a ball valve in the impulse tube allows isolation of the tube during flushing. This helps to ensure that the tube is kept free from debris.

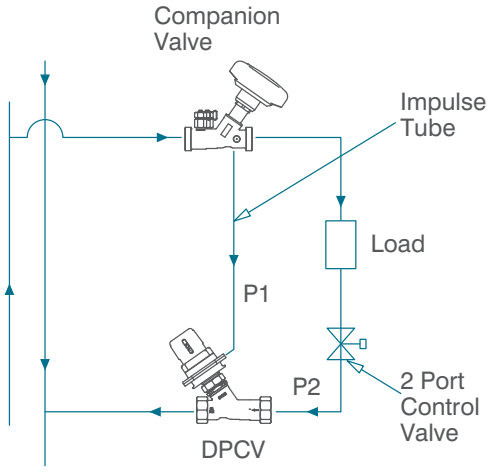
MALE & FEMALE TAILPIECES

Hattersley offers additional male and female BSP taper threaded couplings, giving the contractors a variety of options on installation and enabling a fast and easy connection to the pipe work.

TYPICAL INSTALLATION LAYOUTS



EXAMPLE FLOW CONFIGURATION (F300)



EXAMPLE RETURN CONFIGURATION (R300)

DPCV installed across flow and return pipework of a single terminal unit to maintain high 2-port control valve authority.

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FM311
ISO 9001

- Designed and manufactured under quality management systems in accordance with BS EN ISO 9001-2008

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