



# FlowCon EVS/EVC

Balanced temperature  
control valves

# FlowCon EVS and EVC

## Temperature Control and Automatic Balancing combined in a single unit for total flow control

**T**he FlowCon EVS/EVC valves are particularly designed to give the optimal indoor comfort. The valves will provide ON/OFF or analog temperature control and self balancing flow control for use with fan coil units in air-conditioning and cooling ceilings or as zone valve in heating systems.

The flow regulator is different within the two types, i.e. FlowCon EVS is regulated by a stainless steel cartridge and the FlowCon EVC by an adjustable composite cartridge.

The EVS-insert series is for ON/OFF or analog temperature control, designed for use in connection with the dynamic self balancing valves FlowCon AB or ABV1 as replacement of the composite cartridge. The EVC valve is also for ON/OFF or analog temperature control, but with its own unique valvehouse. The control signal for the actuator can be provided by for instance a thermostat.

For larger applications the 'sistermodel' FlowCon ABM can be used.

The ABM valve is suitable for applications in connection with building

automation systems where central control of the comfort in the building is required. This model combines an electrically actuated ball valve in series with an automatic flow limiting composite cartridge. For further information on the FlowCon ABM, pls. see technote.

### Features and Benefits

- **Automatic balancing**, the correct flow rate for each circuit is achieved automatically.
- **Dynamic balancing**, the correct flow rate is maintained as each valve compensates for pressure fluctuations in the system.
- **Actuator selection**, ON/OFF or analog, normally closed.
- **Easily accessible cartridge** for flow rate changing / adjustment or maintenance.
- **Pressure / temperature measurement plugs** for verifying operating pressure differential range or checking  $\Delta T$  across the coil.
- **Union end connection** for ease of installation and wide selection of end fittings.

*FlowCon EVC and FlowCon EVS (with ABV1 body) both with the 230V ON/OFF actuator applied.*



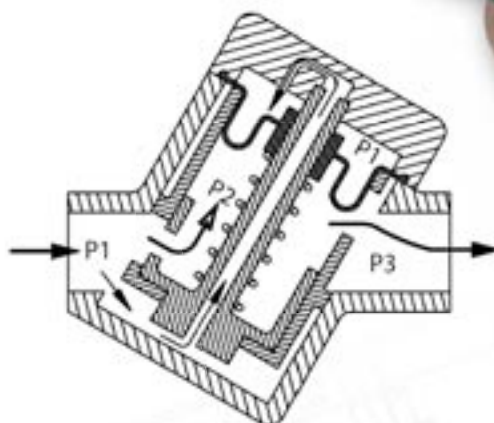


## Principle of Cartridge Operation - FlowCon EVC

The FlowCon EVC valve utilizes an adjustable composite cartridge. By means of a 6mm Allen wrench each cartridge can be adjusted to 8 different flow rates (for specific flowrates pls. see FlowCon technotes or the Cartridge Catalogue).

The construction of the FlowCon EVC is shown on the right. P1 and P3 are system pressures, P1-P3 is the total pressure drop across the valve. P2 is set by the diaphragm acting in reaction to P1 in the upper diaphragm chamber. Interacting with the spring, P1-P2 remains constant, keeping a constant  $\Delta P$  across the orifice areas. The result is a constant flow rate through the valve, independent of pressure fluctuations.

Below its pressure differential range, the valve acts as a fixed orifice. This allows a temperature control valve in the same circuit to operate with valve authority up to the set flow rate maximum.



*Each composite cartridge is easily adjusted to the desired flow rate.*

## Principle of Cartridge Operation - FlowCon EVS

The FlowCon EVS valve utilizes a factory pre-set stainless steel cartridge. Below its pressure differential range it acts as a fixed orifice.

Within operating pressure differential range, the effective open orifice area of the cartridge is automatically adjusted to the point where the specified flow rate will be delivered (as the pressure differential increases, the open area closes and as it decreases, the area opens).

When the pressure differential range is exceeded, the valve again becomes a fixed orifice device. This ensures that no part of the system is starved or shut down.



## Technical Data

For further information and part number selection pls. see FlowCon technotes on FlowCon EVS and FlowCon EVC.

		EVS			EVC			
		15/20/25			15	20	15	20
Cartridge Type		3/4" stainless steel			Y-type, composite		G-type, composite	
Pressure Differential	(kPa)	10-95	22-210	40-390	15-130		30-400	
	(psi)	1-14	2-32	4-57	2.2-18.9		4.35-58	
Flow Rate	(l/sec)	0.021-0.315	0.035-0.505	0.047-0.631	0.0081-0.2733		0.0117-0.4078	
	(GPM)	0.33-5.00	0.55-8.00	0.75-10.00	0.13-4.33		0.19-6.46	
Static Pressure	(kPa)	1600	1600	1600	1600		1600	
	(psi)	230	230	230	230		230	
Temperature Rating (media / ambient)	(°C)	-30 to +100 (-10 to +45)						
	(°F)	-22 to +212 (+14 to +113)						
Automatic Flow Control	(kPa)	10	22	40	15		30	
Max. Close Off Pressure	(kPa)	400						
	(psi)	58						
Valve	(Kv-value)	2.35			1.9	2.0	1.9	2.0
Actuator types	EV.0.1: Auxiliary position switch, ON/OFF, normally closed; 110/230V AC							
	EV.0.2: Analog 0-10V, normally closed; 24V AC							
	EV.0.3: ON/OFF, normally closed; 230V AC							
	EV.0.4: ON/OFF, normally closed; 24V AC							

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