Pressure independent control valves

VSX..PB/VSXT..PB

CE

Model	PN	connection	Dimension	Stroke [mm]	Suitable Controlli Actuator	Control Action	Min. flow [l/h]	Max. flow [l/h]	Max. differential pressure [kPa]
VSX03PB	25	G 1/2"	DN 10	2,5	MVR230C2 MVR24C2	On/Off, PWM	30	200	400
					MCA230L MCA24L	On/Off			
VSXT03PB		G 1/2"		5	MVT56S	Proportional	65	370	
VSX04PB		G 3/4"	DN 15	2,5	MVR230C2 MVR24C2	On/Off, PWM	30	200	
					MCA230L MCA24L	On/Off			
VSXT04PB		G 3/4"		5	MVT56S	Proportional	65	370	
VSX05PB		G 3/4"		2,5	MVR230C2 MVR24C2	On/Off, PWM	100	575	
					MCA230L MCA24L	On/Off			
VSX06PB		G 1"	DN 20	2,5	MVR230C2 MVR24C2	On/Off, PWM	100	575	
					MCA230L MCA24L	On/Off			
VSXT06PB		G 1"		5	MVT56S	Proportional	220	1330	
VSXT07PB		G 1"¼	DN 25	5,5	MVT56	Proportional	600	3609	
VSXT08PB		G 1"½	DN 32	5,5	MVT56	Proportional	550	4001	

APPLICATION AND USE

VSX..PB/VSXT..PB pressure independent balancing & control valves can be used in heating and cooling systems in applications with Fan Coil Units, Chilled Beams or other terminal units applications. VSX..PB/VSXT..PB valves provide modulating control with full authority regardless of any fluctuations in the differential pressure of the system.
VSX..PB/VSXT..PB valves combine an externally adjustable automatic balancing valve, differential pressure control valve and a full authority modulating control valve.
VSX..PB/VSXT..PB valves make it simple to achieve 100% control of the water flow in the building, while creating high comfort and energy seving at the same time. An additional benefit is that no balancing is required if further stages are added to the system, or if the dimensioned capacity is changed.
Energy saving is due to optimal control, lower flow and pump pressure. Maximized ΔT is due to faster response and increased system stability.

DESIGN

- Less time to define the necessary equipment for a hydraulic balanced system (only flow data are required);
- no need to calculate valve authority. Always 100%;
- flexibility if the system is modified after the installation.

INSTALLATION

- No further regulating valves required in the distribution pipework when VSX..PB/VSXT..PB is installed at terminals;
- total number of the valves minimized due to the 3-in-1 design;
- minimized commissioning time due to automatic balancing of the system;
- no minimum straight pipe lengths required before or after the valve.

OPERATION

- High comfort for the end-users due to high precision temperature control;
- longer life due to less movements of the actuator.

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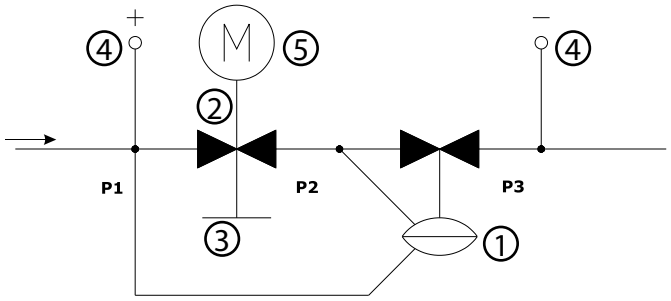
TECHNICAL CHARACTERISTICS

- The presetting function has no impact on the stroke; full stroke modulation at all times, regardless the present flow;
- the constant differential pressure across the modulating control component guarantees 100% authority;
- automatic balancing eliminates overflows, regardless of fluctuating pressure conditions in the system;
- thermal actuator MVR..C2 On/Off, normally closed;
- thermal actuator MCA..L On/Off, normally closed;
- electro mechanical actuator MVT56S 0-10V and 3 point control, normally closed when inverse action is enabled (DIP n. 1 ON);
- differential pressure operating range up to 400kPa;
- high flows with minimal required differential pressure due to advanced design of the valve;
- small dimensions due to compact housing;
- higher presetting precision due to stepless analogue scale.

MANUFACTURING CHARACTERISTICS

Valve housing and flow setting:	DZR Brass, CW602N
DP controller:	PPS 40% glass
Spring:	stainless steel
Diaphragm:	HNBR
O-rings:	EPDM
Pressure class:	PN25
Max differential pressure:	400kPa
Medium temperature range:	0° 120°C

The pipe system shall be properly ventilated to avoid risk of air pockets. Glycolic mixtures up to 50% are applicable (both ethylene and propylene).



The design of VSX..PB/VSXT..PB valve combines high performance with small size and compact construction. The main components of the valve are:

① Differential pressure control

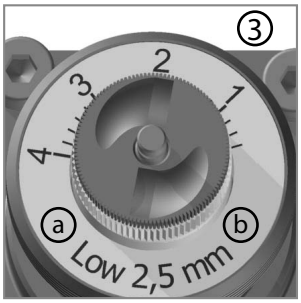
② Modulating control component

③ Presetting scale (not accessible when the actuator is mounted)

ⓐ Flow range (Low-High)

ⓑ Stroke (2,5 - 5 - 5,5mm)

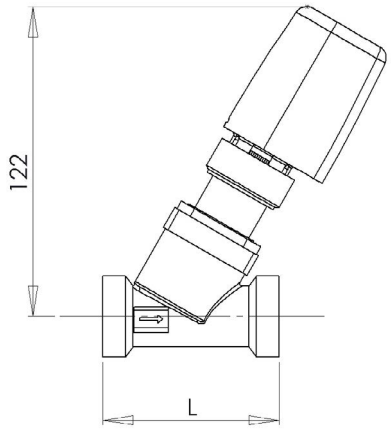
⑤ Actuator



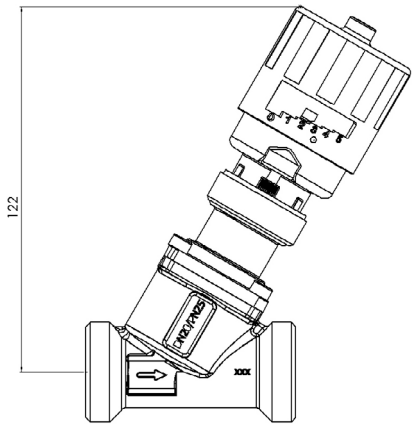
DIMENSIONS [mm]

CONNECTION	L [mm]	WEIGHT [kg]	CARTRIDGE TYPE	STROKE [mm]
G ½"	65	0,36	LOW	2,5
				5
G ¾"	65	0,38	LOW	2,5
				5
			HIGH	2,5
G 1"	70	0,40	HIGH	2,5
				5
G 1"¼	104	1,02	-	5,5
G 1"½	104	1,17	-	5,5

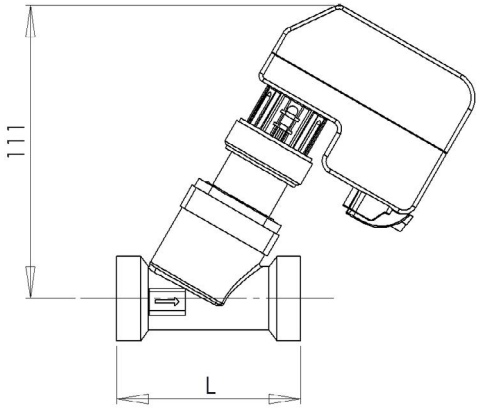
VSX..PB/VSXT..PB + MVR..C2



VSX..PB/VSXT..PB + MCA..L

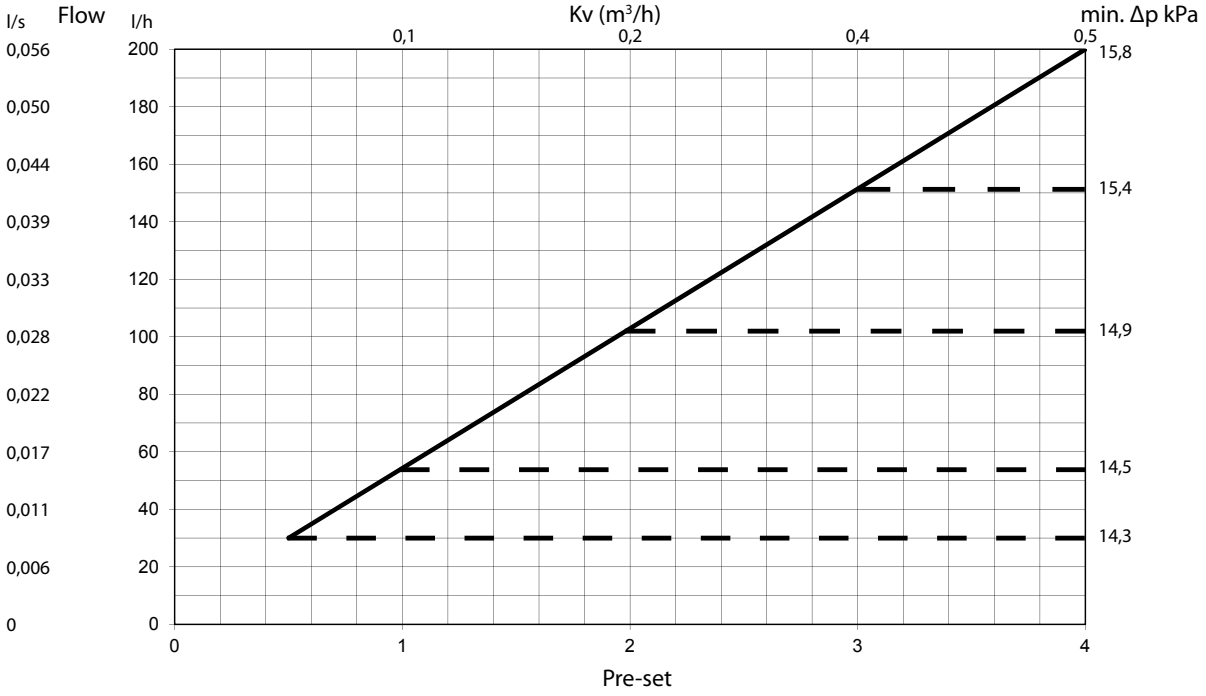


VXS..PB/VSXT..PB + MVT56/S

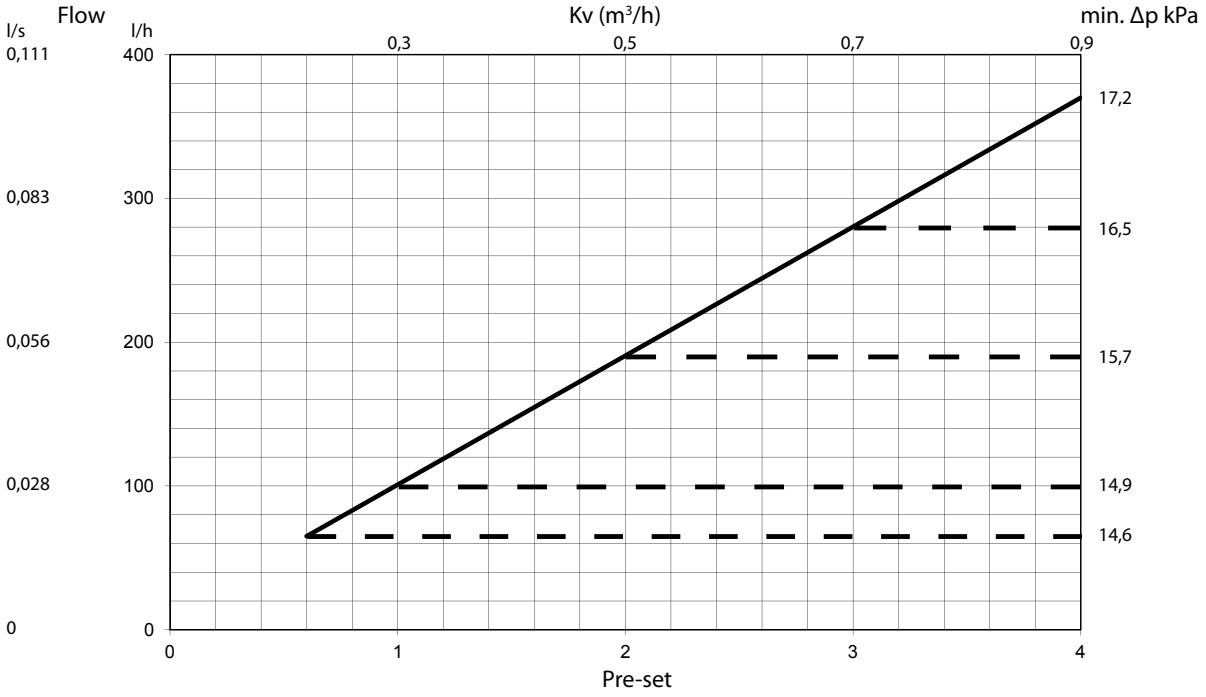


FLOW/PRE-SET DIAGRAM

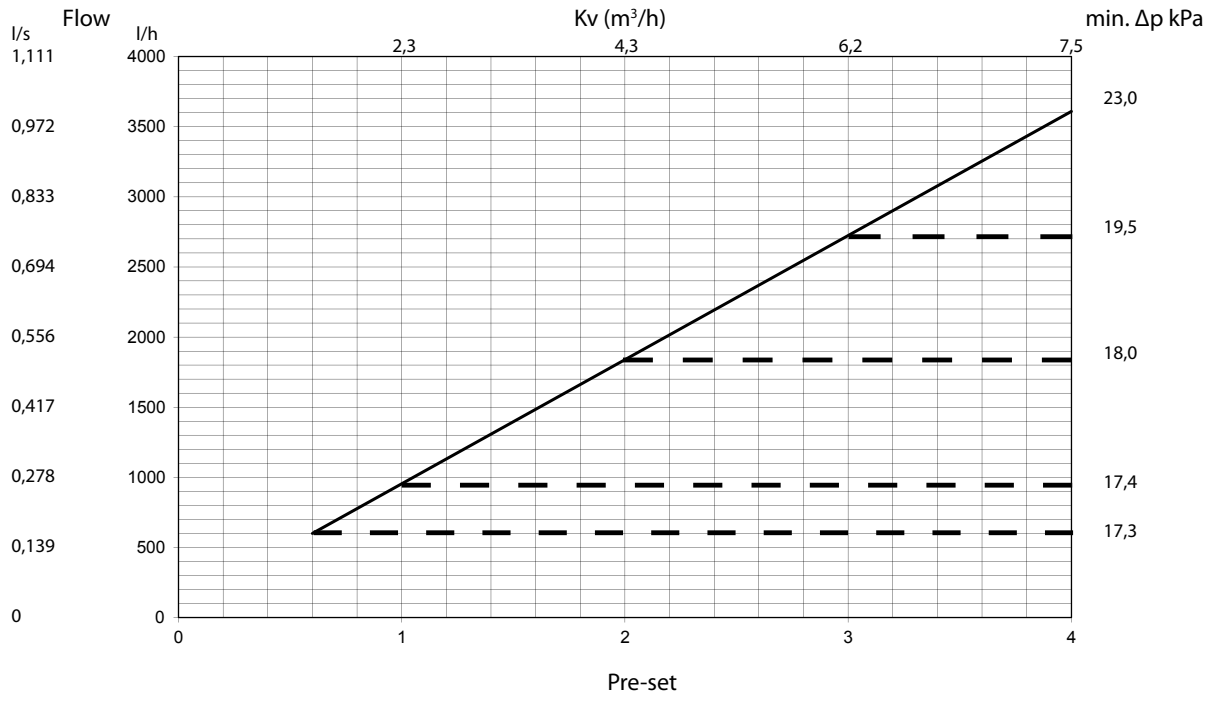
Stroke 2,5 - LOW - DN 10-15



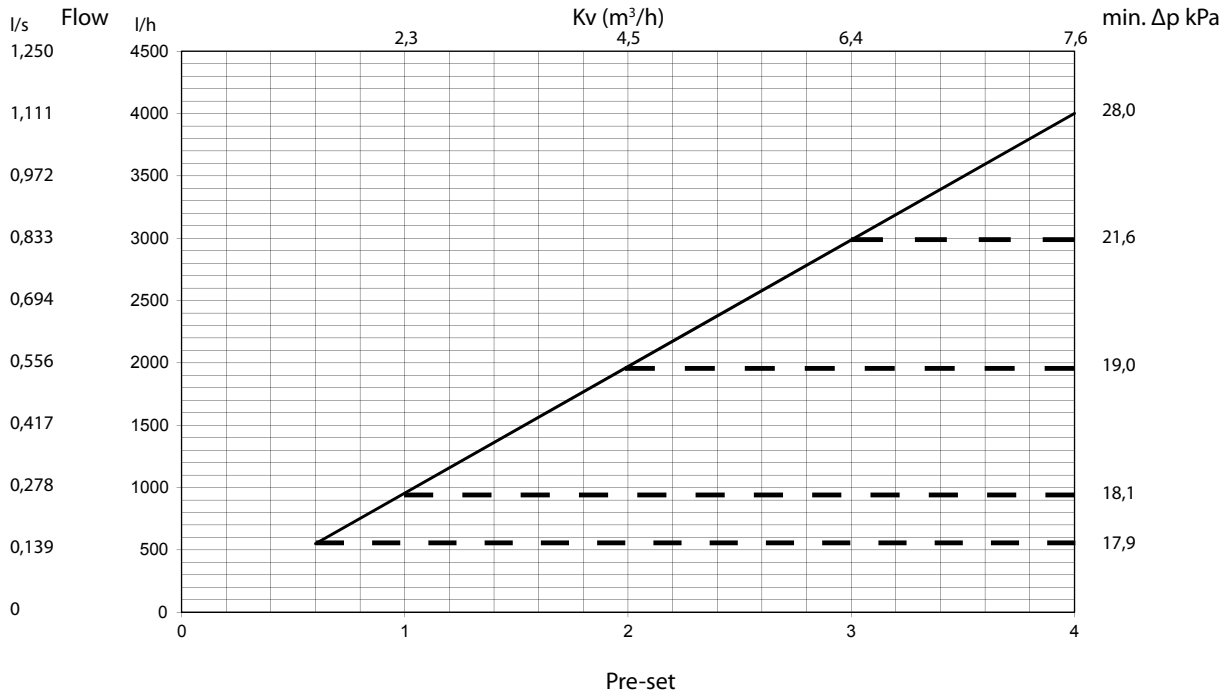
Stroke 5,0 - LOW - DN 10-15



Stroke 5,5 - DN 25



Stroke 5,5 - DN 32



The performances stated in this sheet can be modified without any prior notice