Flow control valve VPCF

Sturdy and versatile

Highlights

- Durable even in critical environments
- High dynamic response for variable cycle times
- High repetition accuracy for a linear characteristic curve
- IP65, ATEX certification, PWIS-free
- Compact, lightweight, sturdy
- Easy to clean
- Universal installation and mounting position

Short response times, high repetition accuracy, compact size, PWIS-free and certification for ATEX 3GD make the proportional flow control valve VPCF unique. It is ideal for blanket gas applications, and controlling air flow and speed in painting and flow-through systems.

reddot award 2017
winner

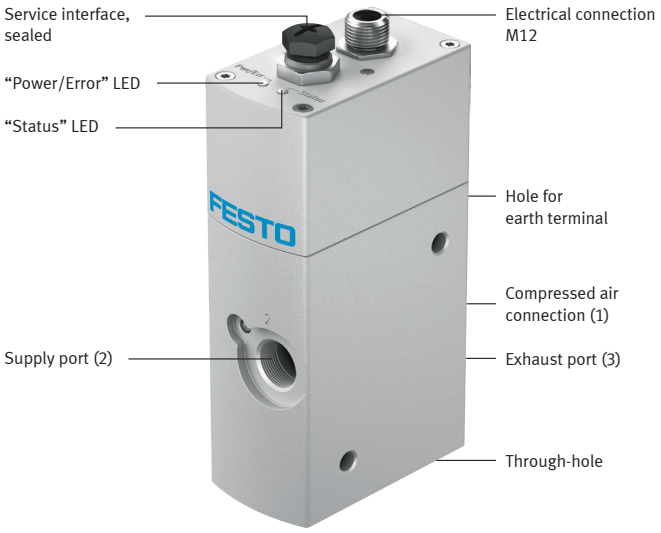
Immediate increase in productivity
VPCF meets the highest requirements for dynamic response, repetition accuracy and linearity of the characteristic curve. Unit quantities and output volumes can be increased thanks to shorter cycle times, resulting in significant cost savings.

Save on compressed air and tubing
Because VPCF can be used directly in the Ex zone, tubing lengths and compressed air consumption are reduced. The reduced air volumes also increase the dynamic response that can be achieved.

PWIS approval included
VPCF is PWIS-free. The possibility of contamination of components with paint wetting impairment substances is therefore excluded.

Lightweight, compact, universally mountable
The compact dimensions, easily accessible pneumatic connections and easy actuation of the VPCF mean that it can be arranged flexibly and mounted just about anywhere – even in existing applications.

Flow control valve VPCF



How VPCF works

VPCF controls the flow rate to a connected pneumatic device, irrespective of its flow resistance or fluctuations in the compressed air supply. The required sensors and the closed-loop control system are already integrated in the valve. The setpoint value for the flow rate can be specified using an analogue 0 ... 10 V or 4 ... 20 mA interface. The current actual value is also fed back in analogue format. The maximum flow rate for VPCF is 1500 l/min at 10 bar.

Typical applications

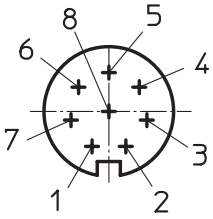
Blanket gas and air flow regulation:

- Spray jet control in painting systems
- Laser beam enclosure
- Air flow regulation above the heater in hot air applications
- Air cushion regulation during fabric and film processing

Speed regulation:

- Control of paint spraying nozzles
- Speed regulation of pneumatic motors and compressed air diaphragm pumps

Plug M12, 8-pin



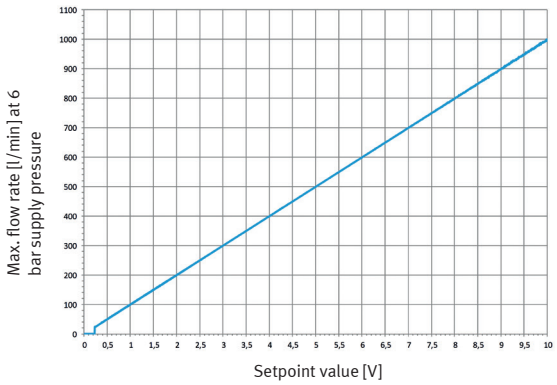
1	Digital In	**5**	Digital Out 2
2	24 V	**6**	Analogue Out
3	Analogue In-	**7**	0V
4	Analogue In+	**8**	Digital Out 1

Technical data

Type code e.g: VPCF-6-L-8-6-A4-E-EX2

VPCF	
Nominal size [mm]	6
Valve type	In-line valve
Valve function	3/3-way valve
Pneumatic connection	G3/8
Pressure range [bar]	6 and 10
Actuation	0 ... 10 V 4 ... 20 mA
Display type	LED
EU certification	II 3 GD
Max. flow rate [l/min]	1000 at 6 bar 1500 at 10 bar
Min. flow rate [l/min]	20 at 6 bar 30 at 10 bar
Control range [l/min]	50 - 1000 at 6 bar 75 - 1500 at 10 bar
Valve dynamic response 10% ... 90% spool position [ms]	Approx. 5
Absolute accuracy	‹ 4% FS
Repetition accuracy	‹ 2.5% FS
Dimensions (D x H x W) [mm]	42 x 135 x 70
Weight [kg]	0.810
Approvals	EX 3 GD and PWIS-free

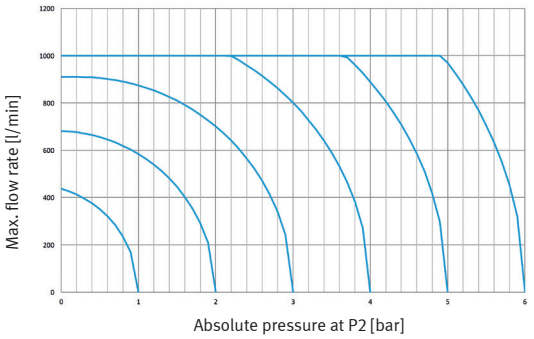
Characteristic curve for flow rate from 1 to 2



Precise control of flow and mass flow rate at a specified value without external sensors. The flow rate follows the input value according to a linear characteristic curve.

Maximum possible flow rate depending on P1 and P2

6 bar version max. 1000 l/min



The C value of the valve is 255 l/(min*bar). In higher flow ranges, this C value is a prerequisite for the line at the working port of the valve (2).

PSI 156.5 en 2015/12 – Errors and omissions excepted