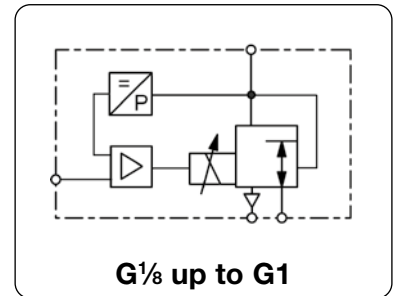


Description	The pneumatic proportional valve controls the outlet pressure in proportion to an electrical command input signal. It comprises a complete closed loop servo system in a compact mono block assembly with proportional solenoid valve, electronic regulator and internal pressure transducer. The valve works as a 3-port/2-way valve with proportional magnet. The digital control system offers advantages at installation and commissioning for adapting the valve to special applications. The regulator can be set and optimised using a PC, RS232 adapter and software. Data record can be saved and used for further valves. The valve has no constant bleed. At absence of input signal or supply voltage the valve exhausts.
Software	Display: signal, outlet pressure, parameter, pressure switch signal etc. Scope function: view setpoint, outlet pressure, internal signals from PID control Parameters: command signal, zero point, overload threshold, ramp Valve diagnosis: parameters factory set or customised, optimization of the valve



General technical features

Description	3-port/2-way valve with proportional magnet and digital control
Mounting position	any, preferably vertical
Protection class	IP65 with mounted coupling socket
Shock resistance	3G
Temperature range	0 °C to 60 °C / 32 °F to 140 °F, fluid / ambient temperature
Material	Body: brass (for G ¹ / ₈ and G ¹ / ₄) or aluminium (for G ¹ / ₂ and G1) Inner valve: brass and stainless steel Seals: NBR/Buna-N, EPDM or FKM on request, FKM for 50 bar version

Pneumatic features

Media	dry, lubricated, unlubricated and 5 µm filtered compressed air or non-corrosive gases
Supply pressure	see chart
Flow rate	see chart, at 7 bar supply pressure and open outlet
Exhaust	same nominal size as on inlet valve, thus same relief capacity
Air consumption	without air consumption

Electrical features

Supply voltage	24 V DC ±10%
Electrical connection	M12, 5-pin coupling socket
Power consumption	12 W at G ¹ / ₈ , 24 W at G ¹ / ₄ , 34 W at G ¹ / ₂ , 44 W at G1
Current consumption	500 mA at G ¹ / ₈ , 1000 mA at G ¹ / ₄ , 1400 mA at G ¹ / ₂ , 1800 mA at G1
Command signal	0-10 V, 0-20 mA, 4-20 mA
Impedance	100 kΩ at voltage signal (0.1 mA current consumption) 250 Ω at current signal
Setpoint input	0-10 V, 0-20 mA, 4-20 mA

Accuracy

Linearity/Hysteresis	< ± 0.5% FS
Repeatability	± 0.5% FS
Response sensitivity	± 0.5% FS
Over all accuracy	± 0.5% FS

Adjustment and parameter settings

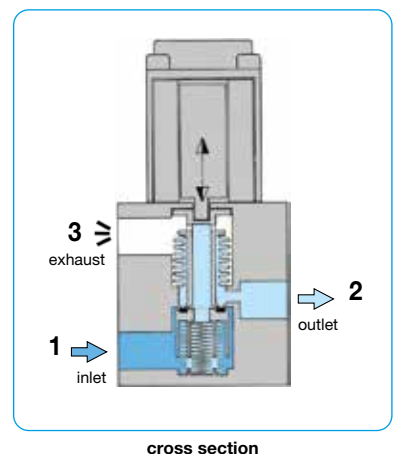
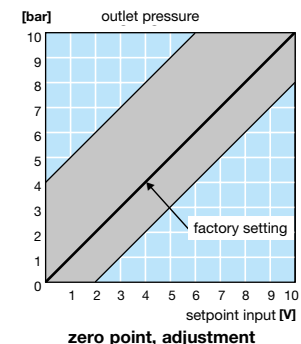
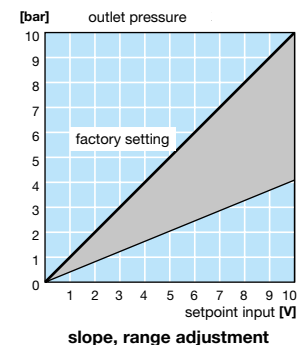
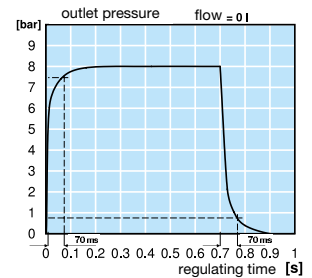
Zero point / range	Zero point and range can be calibrated percentagewise.
Control mode / Amplification	Through the software different control modes may be chosen. All parameters of P/PI/PID controllers can be tuned.
Diagnosis	A diagnostic tool including data recording is available within the software.
Characteristic curve	Increasing or decreasing curve can be set (increasing by standard).

Downstream regulation for vacuum/positive pressure regulators (V1)

Recommended when tank shall be evacuated or filled with positive pressure. At inlet port (1) either compressed air or atmosphere has to be applied. The use of a filter is advisable.

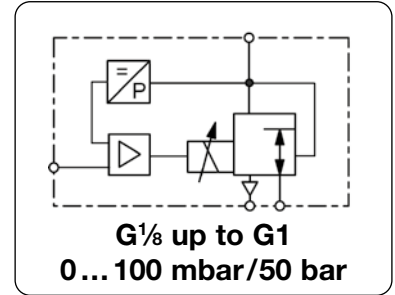
Downstream regulation for vacuum regulators (V3)

Recommended when tank shall be evacuated. Exhaust port (3) will be closed. Inlet port (1) must be connected with vacuum pump. Outlet port (2) has to be connected with consumer or tank.



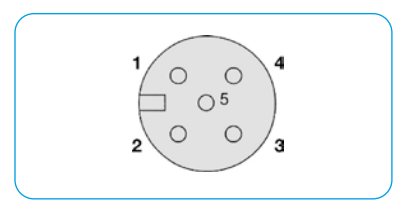
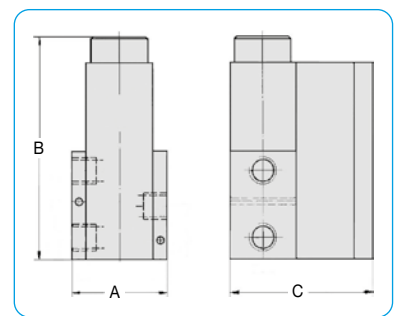
Technical features

• Pressure range	0...0.1 bar bis 0...50 bar	• Linearity / Hysteresis	± 0.5% FS
• Command signal	0-10 V, 0-20 mA, 4-20 mA	• Response sensitivity	± 0.5% FS
• Output signal	0-10 V, 0-20 mA, 4-20 mA	• Repeatability	± 0.5% FS
• Regulating time	< 1 s	• Rated input	12 / 22 / 30 / 44 W
• Pressure sensor	100 / 500 mbar, 1 / 5 / 10 / 16 / 20 / 30 / 50 bar	• Relief capacity	full nominal size
• Flow rate	250 / 820 / 1700 / 6500 l/min		



Dimensions			Nominal size	K _v -value	Flow rate	Supply max.	Connection thread	Pressure range	Order number
A	B	C	DN	(m ³ /h)	l/min*1	bar	G	bar	

Proportional pressure regulator									
0-10 V command signal, supply voltage 24 V DC, with coupling socket									
PP									
35	83	57	3	0.18	210	-1	G ¹ / ₈	0...-1.0	PPA00-00V3
						2		0... 0.1	PPA00-A100
						2		0... 0.5	PPA00-A500
						2		0... 1.0	PPA00-0100
						8		0... 3.0	PPA00-0300
						12		0... 6.0	PPA00-0600
						12		0... 10	PPA00-1000
						18		0... 16	PPA00-1600
						22		0... 20	PPA00-2000
						30		0... 25	PPA00-2500
52	105	68	6	0.6	700	-1	G ¹ / ₄	0...-1.0	PP000-00V3
						2		0... 0.1	PP000-A100
						2		0... 0.5	PP000-A500
						2		0... 1.0	PP000-0100
						8		0... 3.0	PP000-0300
						12		0... 6.0	PP000-0600
						12		0... 10	PP000-1000
						18		0... 16	PP000-1600
						22		0... 20	PP000-2000
						40		0... 30	PP000-3000
						60		0... 50	PP000-5000
70	136	85	12	1.2	1400	-1	G ¹ / ₂	0...-1.0	PP100-00V3
						2		0... 1.0	PP100-0100
						8		0... 3.0	PP100-0300
						12		0... 6.0	PP100-0600
						12		0... 10	PP100-1000
						14		0... 12	PP100-1200
96	190	101	20	4.8	5600	-1	G1	0...-1.0	PP200-00V3
						2		0... 1.0	PP200-0100
						8		0... 3.0	PP200-0300
						12		0... 6.0	PP200-0600
						12		0... 10	PP200-1000
						14		0... 12	PP200-1200



Special options, add the appropriate letter or number					
setpoint input	0-20 mA	1	4-20 mA	PP..2-....	
feedback output	0-10 V	1	0-20 mA 2	4-20 mA	PP..3-....
deviant pressure range for absolute pressure	indicate on order			PP...-XX..	
body made of stainless steel	P ₂ = max. 20 bar, body / inner parts, 1.4304, EPDM, G ¹ / ₄ and G ¹ / ₂			PP...-..0A	
body made of aluminium	valve body only, max. 20 bar G ¹ / ₄ only			PP...-..SS	
for oxygen	specially cleaned, FKM elastomer			PP0...-..19	
cascade regulation	w/o monitor signal 2. sensor, electr. feedback 0-10 V			PP...-..15	
	w/o monitor signal 2. sensor, electr. feedback 4-20 mA			PP...-..KU	
				PP...-..KI	

Accessories, enclosed				
S232 module	with D-sub plug and with USB plug and basic version "light"	2 m cable		PDRS232
software		2 m cable		PDSOB
coupling socket	M12x1, 5-pin with	2 m cable, 5 x 0.25	angular	PDSOFT1
		5 m cable, 5 x 0.25	angular	KM12-C5-2
adapter cable	M12x1, 5-pin with	0.2 m cable		KM12-C5-5
				PRK-PR-PP

*1 at 6 bar supply pressure and 5 bar outlet pressure

pin	description	5-wire cable (2m)
1	24 V supply voltage	brown
2	analog input signal	white
3	supply earth	blue
	analog earth	
4	analog outlet signal	black
5	digital pressure switch signal	grey
housing	EMC shield	shield

connection diagram