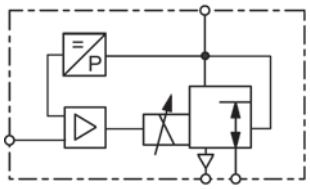
Description The pneumatic proportional valve controls the outlet pressure in proportion to an electrical command input signal. It comprises a complete closed loop servo system in a compact mono block assembly with proportional solenoid valve, electronic regulatior and internal pressure transducer. The 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

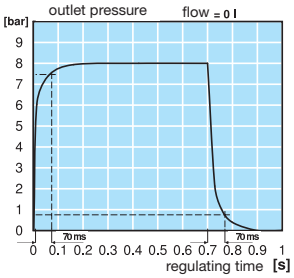
Display:	signal, outlet pressure, parameter, pressure switch signal etc.
Scope function:	view setpoint, outlet pressure, internal signals from PID control
Parameters:	command signal, zero point, overload threshold, ramp
Valve diagnosis:	parameters factory set or customised, optimization of the valve



G⅛ up to G1

General technical features

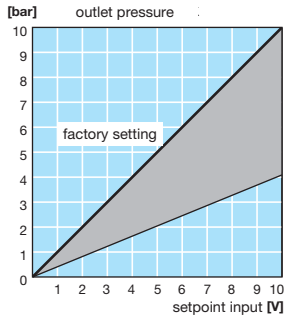
Description	3-port/2-way valve with proportional magnet and digital control
Mounting position	any, preferably vertical
Protection class	IP65 with mounted coupling socket
Temperature range	0 °C to 60 °C / 32 °F to 140 °F, fluid / ambient temperature
Material	Body: brass (for G⅛ and G¼) or aluminium (for G½ and G1) Inner valve: brass and stainless steel Seals: NBR/Buna-N, EPDM or FKM on request, FKM for 50 bar version



regulating time, step function

Pneumatic features

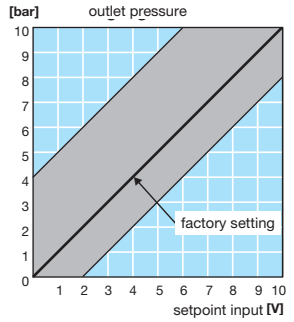
Media	dry, lubricated, unlubricated and 5 µm filtered compressed air or non-corrosive gases
Supply pressure	see chart
Flow rate	see chart, at 7 bar supply pressure and open outlet
Exhaust	same nominal size as on inlet valve, thus same relief capacity
Air consumption	without air consumption



slope, range adjustment

Electrical features

Supply voltage	24 V DC ±10%
Electrical connection	M12, 5-pin coupling socket
Power consumption	12 W at G⅛, 24 W at G¼, 34 W at G½, 44 W at G1
Current consumption	500 mA at G⅛, 1000 mA at G¼, 1400 mA at G½, 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



zero point, adjustment

Accuracy

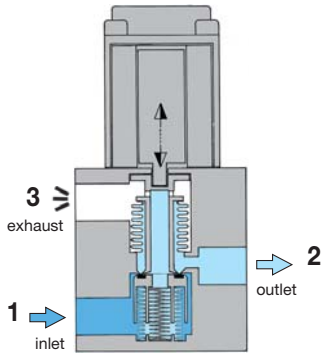
Linearity / Hysteresis	< ± 0.5% FS
Repeatability	± 0.5% FS
Response sensitivity	± 0.5% FS
Over all accuracy	± 0.5% FS

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.



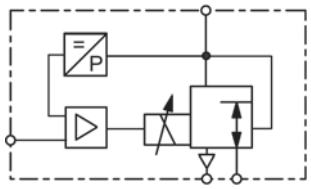
cross section

Proport. pressure
10

Digital Proportional Pressure Regulator "AirTronic"®D PP

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		

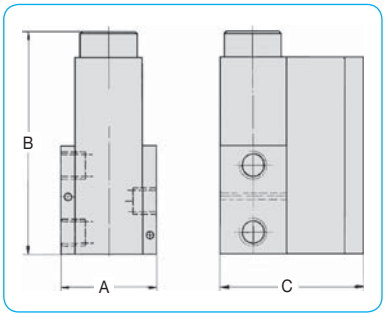


G⅛ up to G1
0…100 mbar/50 bar

Dimensions A mm	B mm	C mm	Nominal size DN	K_v-value (m^3/h)	Flow rate l/min*1	Supply max. bar	Connection thread G	Pressure range bar	Order number
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	G⅛	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	G¼	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	G½	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**

PPA

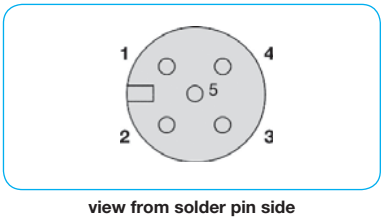
PP0



dimensions

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	indicate on order					PP . . . -**XX**. .
for absolute pressure						PP . . . - . . **0A**
body made of stainless steel	P_2 = max. 20 bar, body / inner parts, 1.4304, EPDM, G¼ and G½					PP . . . - . . **SS**
body made of aluminium	valve body only, max. 20 bar				G¼ only	PP 0 . . - . . **19**
for oxygen	specially cleaned, FKM elastomer					PP . . . - . . **15**
for dynamic application	P_2 = for 30 bar- up to 50 bar version				G¼ only	PP 0 . . - . . **DY**
cascade regulation	w/o monitor signal 2. sensor, electr. feedback 0-10 V					PP . . . - . . . **KU**
	w/o monitor signal 2. sensor, electr. feedback 4-20 mA					PP . . . - . . . **KI**



view from solder pin side

Zubehör, lose beigelegt

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

pin	description	5-wire cable (2m)	6-wire cable (5m)
1	24 V supply voltage	brown	brown
2	analog input signal	white	white
3	supply earth	blue	green
	analog earth		yellow
4	analog outlet signal	black	pink
5	digital pressure switch signal	grey	grey
housing	EMC shield	shield	shield

connection diagram

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

Technical details: see previous page

PDF CAD
www.aircom.net

Order example:
PPA00-00V3