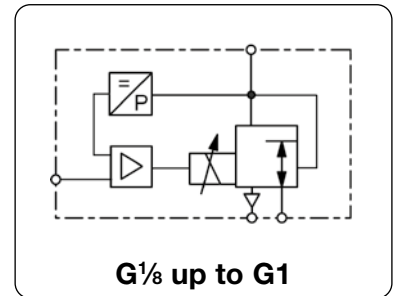


| | |
|--------------------|--|
| Description | The pneumatic proportional regulator controls the outlet pressure in proportion to an electrical command input signal. It comprises a complete closed loop servo system in a compact mono block assembly with proportional solenoid valve, electronic regulator 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, PR 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 6 bar supply pressure and 5 bar outlet pressure |
| Exhaust | same nominal size as on inlet valve, thus same relief capacity without air consumption |
| 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 | < ± 0.5% FS |
| Hysteresis | < ± 1.0% FS |
| Repeatability | ± 0.5% FS |
| Response sensitivity | ± 1.0% FS |

Adjustment and parameter settings

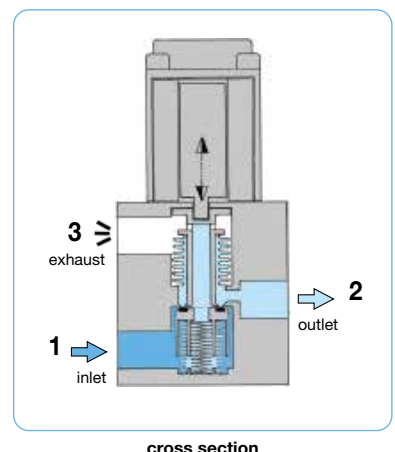
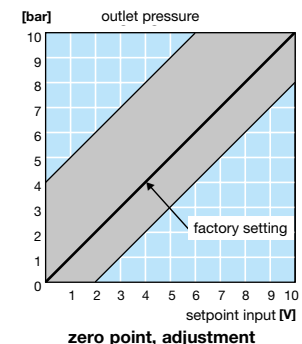
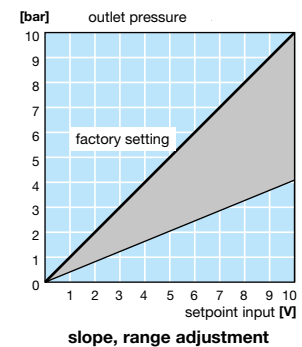
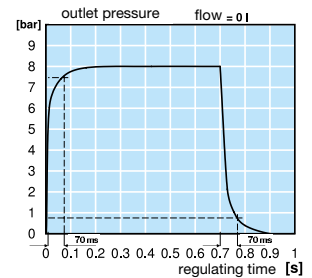
| | |
|-------------------------------------|--|
| Zero point / range | Zero point and range can be calibrated percentagewise. |
| Control mode / Amplification | Through the software different control modes may be chosen. All parameters of P/PI/PID controllers can be tuned. |
| Diagnosis | A diagnostic 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.

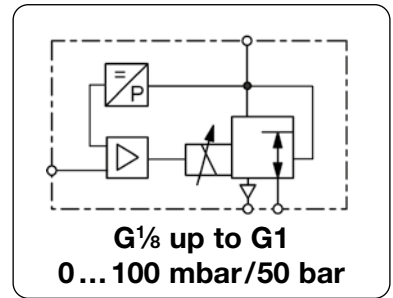
Downstream regulation for vacuum regulators (V3)

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.



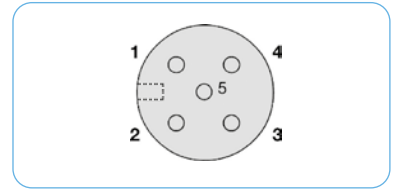
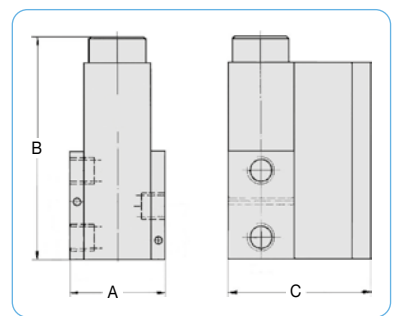
Technical features

| | | | |
|--------------------------|--|-------------------------------|---------------------|
| • Pressure range | 0...0.1 bar bis 0...50 bar | • Linearity | < ± 0.5% FS |
| • Command signal | 0-10 V, 0-20 mA, 4-20 mA | • Hysteresis | < ± 1.0% FS |
| • Output signal | 0-10 V, 0-20 mA, 4-20 mA | • Response sensitivity | ± 1.0% FS |
| • Regulating time | < 1 s | • Repeatability | ± 0.5% FS |
| • Pressure sensor | 100 / 500 mbar, 1 / 5 / 10 / 16 / 20 / 30 / 50 bar | • Rated input | 12 / 22 / 30 / 44 W |
| • Flow rate | 250 / 820 / 1700 / 6500 l/min | • Relief capacity | full nominal size |



| 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 | | | | | | | | | |
| 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

| | | |
|----------------------------|---|----------------------------|
| PR adapter software | with USB plug and 1 m cable | PDU5B |
| coupling socket | basic version "light" | PDSOFT1² |
| adapter cable | 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 |
| | M12x1, 5-pin with 0.2 m cable | PRK-PR-PP |

*1 at 6 bar supply pressure and 5 bar outlet pressure
*2 You do not need any software to use the valve!

Technical details: see previous page www.aircom.net

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

connection diagram

* Product group

Order example:
PPA00-00V3

