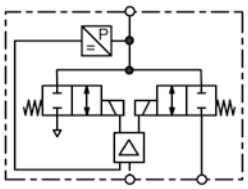
PROPORTIONAL PRESSURE REGULATOR WITH HIGH ACCURACY AND HIGH FLOW PQ3…PQ6

Technical features

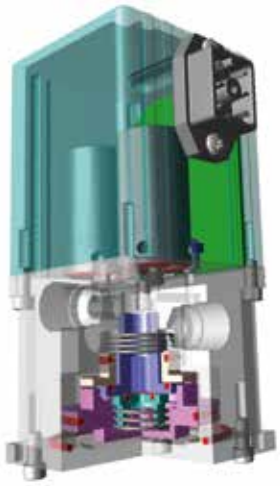
• **Pressure range**	-1... 35 bar	• **Accuracy**	± 0.4 %
• **Input signal**	0-10 V; 4-20 mA	• **Mounting position**	any
• **Protection class**	IP65	• **Adjustment**	zero point, span, hysteresis
• **Response time**	15 ... 20 ms	• **Air consumption**	without air consumption
• **Power consumption**	6 W		



accurate 0.4 %

General technical features

Description	Two solenoid valves control the system pressure. One valve is for inlet control, the other for outlet control. In order to achieve high volume flow the regulator is pilot-controlled, i.e. the valves control an integral volume booster. Extraordinary accuracy is reached by measuring the outlet pressure of the booster and feeding back the according signal.
Mounting position	any, preferably upright
Protection class	IP65
Temperature range	0 °C to 70 °C / 32 °F to 158 °F
Material	Booster body: nickel-plated aluminium; Elastomer: FKM, NBR/Buna-N Transducer: aluminium and silicon; Valves: nickel-plated brass

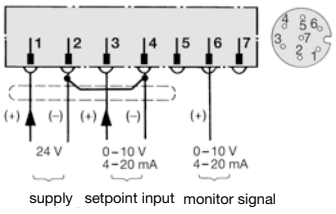


Pneumatic features

Media	dry, unlubricated and 40 µm filtered compressed air or non-corrosive gases
Supply pressure	see chart, minimum 10% above outlet pressure
Flow rate	**PQ3**: 700 l/min at 8 bar supply pressure and 6 bar outlet pressure **PQ4 / PQ6**: 2000 l/min at 8 bar supply pressure and 6 bar outlet pressure
Exhaust	nearly same relief capacity as ventilation capacity
Air consumption	without constant bleed

Electrical features

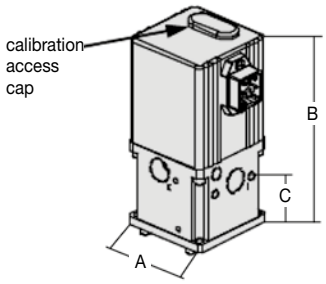
Supply voltage	15-24 V DC
Power consumption	max. 6 W
Command signal	0-10 V, optionally 4-20 mA
Command signal impedance	10 kΩ at voltage signal, 100 Ω at current signal
Electrical connector	plug M16x0.75, 7-pin, with coupling socket, optionally plug M12
Monitor signal	0-10 V, optionally 4-20 mA
Security	constant outlet pressure at voltage drop



connection diagram for supply and signal

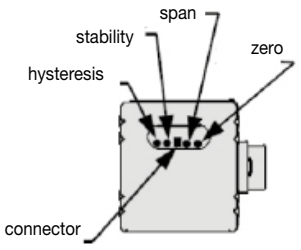
Accuracy

Linearity / Hysteresis	± 0.3% FS > 7 bar outlet pressure ± 0,5% FS
Response sensitivity	< 0.1% FS
Response time	10…15 ms
Repeatability	± 0.2% FS
Accuracy	± 0.4% FS



Adjustment

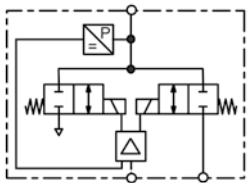
Adjustment	Adjustment by calibration access cap on the top of the valve.
Zero point	The zero point can be changed by up to 10% of full scale, e.g. from 0 bar to 0.6 bar at a 6 bar regulator. External adjustment via potentiometer Z "zero".
Span	The maximum pressure value of the control range can be reduced by up to 10%, e.g. from 6 bar to 5.4 bar. External adjustment via potentiometer S "span".
Hysteresis	Response sensitivity can be adjusted via potentiometer H “hysteresis”.



PROPORTIONAL PRESSURE REGULATOR WITH HIGH ACCURACY AND HIGH FLOW PQ3…PQ6

Description Closed loop electronic pressure regulator consisting of two solenoid valves, an internal pressure transducer, and an electronic control circuit mounted to an integral volume booster. The pressure is controlled by activating the solenoid valves, which apply pressure to the pilot side of the volume booster.

Single loop Pressure is controlled by two solenoid valves. One valve functions as inlet control, the other as exhaust. The pressure outlet is measured by an internal pressure transducer which provides a feedback signal to the electronic controls. This feedback signal is compared with the command input signal. Any difference between the two signals causes one of the two solenoid valves to open, allowing flow into or out of the system. Accurate pressure is maintained by these two valves.



0...0.1 bar/35 bar

Dimensions A mm	B mm	C mm	Flow rate l/min*1	Supply pressure max. bar	Accuracy %	Connection thread G/NPT	Pressure range bar	Order number	E*
Single loop regulator				0 ... 10 V input and feedback signal supply voltage 24 V DC, with coupling socket				**PQ3/PQ4/PQ6**	
51	123	34	700	0.2	0.25	¼″ NPT	0…0,1	**PQ3EE-C1**	
				1.0			0…0,5	**PQ3EE-C5**	
				2.0			0…1,0	**PQ3EE-01**	
				3.0			0…2,0	**PQ3EE-02**	
				9.0			0…4,0	**PQ3EE-04**	
				9.0			0…6,0	**PQ3EE-06**	
				9.0			0…8,0	**PQ3EE-08**	
				15			0… 10	**PQ3EE-10**	
				15		⅜″ NPT	0… 12	**PQ3EE-12**	
				24			0… 16	**PQ3EE-16**	
				24			0… 20	**PQ3EE-20**	
				38			0… 25	**PQ3EE-25**	
				38			0… 30	**PQ3EE-30**	
				38			0… 35	**PQ3EE-35**	
77	175	65	2000	0.2	0.4	½″ NPT	0…0,1	**PQ4EE-C1**	
				1.0			0…0,5	**PQ4EE-C5**	
				2.0			0…1,0	**PQ4EE-01**	
				3.0			0…2,0	**PQ4EE-02**	
				9.0			0…4,0	**PQ4EE-04**	
				9.0			0…6,0	**PQ4EE-06**	
				9.0			0…8,0	**PQ4EE-08**	
				15			0… 10	**PQ4EE-10**	
77	175	65	2000	0.2	0.4	¾″ NPT	0…0,1	**PQ6EE-C1**	
				1.0			0…0,5	**PQ6EE-C5**	
				2.0			0…1,0	**PQ6EE-01**	
				3.0			0…2,0	**PQ6EE-02**	
				9.0			0…4,0	**PQ6EE-04**	
				9.0			0…6,0	**PQ6EE-06**	
				9.0			0…8,0	**PQ6EE-08**	
				15			0… 10	**PQ6EE-10**	

PQ3EE-10

PQ4EE-10

Special options, add the appropriate letter

4-20 mA	input and monitor signal	PQ . I**C**- . .
M12 connector	5-pin (coupling socket not included)	PQ . . . -. **.M12**

Accessories, enclosed

coupling socket	M16x0.75, 7-pin with 2 m cable	straight	**PRK-A2L**
		angular	**PRK-C2L**
coupling socket	M12x1, 5-pin with 2 m cable, 5 x 0.25	angular	**KM12-C5-2**
	5-pin with 5 m cable, 5 x 0.25	angular	**KM12-C5-5**
mounting bracket	made of steel	for PQ3	**PQKT-01**
mounting bracket	made of steel	for PQ4/PQ6	**PQKT-02**

PRK-A **PRK-C**

Technical details: see previous page

PDF CAD
www.aircom.net

Order example: PQ3EE-C1