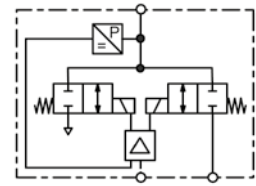


# PROPORTIONAL PRESSURE REGULATOR WITH HIGH ACCURACY AND HIGH FLOW PQ3...PQ6

## Technical features

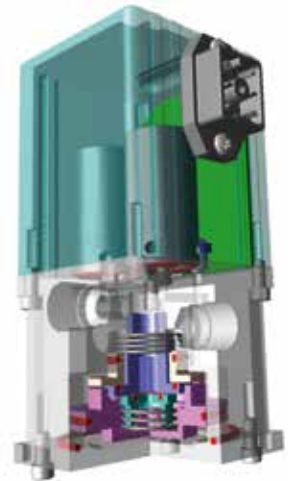
• <b>Pressure range</b>	-1... 35 bar	• <b>Accuracy</b>	± 0.4%
• <b>Input signal</b>	0-10 V; 4-20 mA	• <b>Mounting position</b>	any
• <b>Protection class</b>	IP65	• <b>Adjustment</b>	zero point, span, hysteresis
• <b>Response time</b>	15 ... 20 ms	• <b>Air consumption</b>	without air consumption
• <b>Power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



**accurate 0.4%**

## General technical features

<b>Description</b>	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.		
<b>Mounting position</b>	any, preferably upright		
<b>Protection class</b>	IP65		
<b>Temperature range</b>	0 °C to 70 °C / 32 °F to 158 °F		
<b>Material</b>	Booster body: nickel-plated aluminium	Elastomer: FKM, NBR/Buna-N	
	Transducer: aluminium and silicon	Valves: nickel-plated brass	

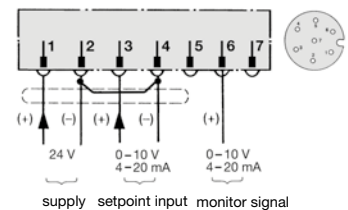


## Pneumatic features

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

## Electrical features

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



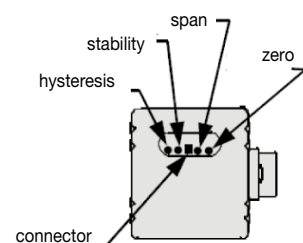
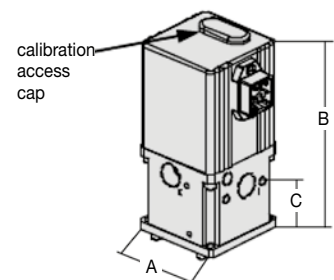
connection diagram for supply and signal

## Accuracy

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

## Adjustment

<b>Adjustment</b>	Adjustment by calibration access cap on the top of the valve.
<b>Zero point</b>	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".
<b>Span</b>	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".
<b>Hysteresis</b>	Response sensitivity can be adjusted via potentiometer H "hysteresis".



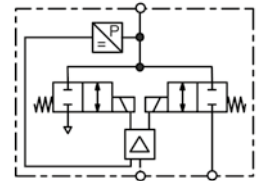
# PROPORTIONAL PRESSURE REGULATOR WITH HIGH ACCURACY AND HIGH FLOW PQ3...PQ6

## 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			Flow rate l/min*1	Supply pressure max. bar	Accuracy %	Connection thread G/NPT	Pressure range bar	Order number
A	B	C						
mm	mm	mm						

## 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	1/4" 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			3/8" NPT	0...12	PQ3EE-12
				24				0...16	PQ3EE-16
				24				0...20	PQ3EE-20
				38				0...25	PQ3EE-25
77	175	65	2000	0.2	0.4	1/2" 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	3/4" 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 . IC- . .
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