

# Section 2 Proportional Quick Exhaust

## **OPERATION OF THE PQE**

- 1. The pilot operated regulator and the PPC5C are both fed from a common inlet.
- 2. The "out" port of the PPC5C sends pressure to the pilot port of the pilot operated regulator and to the "12" end of the 400 Series Quick Exhaust Valve. The secondary pressure of the pilot operated regulator is sent to the output port of the block and it is also sent to the "14" end and inlet of the 400 Series Quick Exhaust Valve.
- 3. The outlet pressure of the PPC5C along with the memory spring in the 400 Series valve will keep the valve in a closed state as the unit increases pressure.
- 4. To reduce pressure, drop the PPC5C's signal. This will lower the pressure on the "12" end of the 400 Series valve. The "14" end of the 400 Series valve now has higher pressure causing a snap-action shifting of the 400 Series valve which will quickly exhaust the downstream pressure to the new selected pressure.

Note: Below 20 psi, the P.Q.E. has reduced exhausting capabilities due to the memory spring in the 400 Series Quick Exhaust Valve and modifications to the pilot operated regulator.





Port size	Flow (Max)	[Cv/NI/min]		Individual mounting	Series	
1/2" - 3/4"	6.3/6300	)		analog		
OPERATIONAL BENEFITS 1. Accurate pressure cont 2. Fast response. 3. High flow. 4. Quick exhaust function 5. Unaffected by change 6. Long life. 7. Designed to meet Nem 8. Analog control. 9. Analog or TTL feedbac 10. Closed loop system. HOW TO ORDER	trol. 1. in line pressure. 1a 4 specifications. 1k.				6500 92	
PROPORTIONAL QU		( <b>X X X / - 0</b> )	Indicate	es unit is to be assembled with PPC,		
Regulator size (series)         65 6500 Series       Additional series	Sense Gage reg Standard 1 No g 2 Incluc filled separ * Gage p #2414:	port on plator     Port three       ige gage lugged     c     1/2" NPTF       p 3/4" NPTF     p     3/4" SPP       t 1/2" BSPT     m     3/4" BSPT       art     m     3/4" BSPT	which is <b>size &amp;</b> <b>id type</b> (6500 Series) (6500 Series) L (6500 Series) R (6500 Series) R (6500 Series)	s ordered separately EXAMPLE : PQE65A <b>- AA1C -</b> PPC5C - <b>AGB- AG</b> NOTE : PPC5C must be ordered separately. Reference "How to order" for the analog P	<b>9</b> <b>EA - BBB - CO - 9</b> PC5C.	
PPC5C SERIES						
BASIC MODEL	Revision PPC5C	<b>x                                    </b>	<b>X X X - X X</b> ) -	SIGNAL & CONNECTOR OPTIONS (SEE BELOW)		
Туре	Porting Feedback options	Pressure range PSI/BAR	Pressure reference	Overall Flow Cv/NI/min accuracy Fill Exh.		
A Analog G BOI O-r	TOM PORTS ing Mount B Single Xducer/ Ext. Sense (Pres	A 100/6.7 G B 60/4 G C 30/2 E 50/3.3 J 75/5 K 117/7.8 M 150/10 P 90/6	Gage Pressure	E ± 2.5 % F.S. A 0.07/70 0.07/70 B 0.09/90 0.09/90 c 0.07/70 0.09/90		
SIGNAL & CONNECTOR	<u>OPTIONS</u>	<u>, x x x - x x</u>				
Command signal	Analog monitor signal	Logic monitor signal (10mA, MAX)	Electrical con	nector OCable length		
0-10V Differential c 4-20mA 3-Wire d-20mA 4-Wire	A None B 0-10V	A None B TTL (Low = Pressure Achieved) C TTL (High = Pressure Achieved) D 24V (Low = Pressure Achieved) E 24V (High = Pressure Achieved)	A 3 Pin Mini B 5 Pin Mini C 6 Pin Mini D 3 Pin Micro E 5 Pin Micro F 6 Pin Micro G 3 Wire Grommet H 4 Wire Grommet J 6 Wire Grommet	0 No Cable 8 3 Fr/0.9m 0 6 Fr/1.8m E 12 Fr/3.6m		

#### IMPORTANT ! READ NOTES BEFORE ORDERING

 ${\ensuremath{\bullet}}$  For options "O" (no cable), choose electrical connector options "A" through "F" only.





РРС ТҮРЕ	PNEUMATIC DATA	l
Analog, single transducer external sense, bottom O-ring mount	Inlet pressure :	120 PSI max
	Fluids :	Air or inert gases
	Lubrication :	Not required. However, if used, a medium aniline point oil is recommended
	Filtration :	40 micron
ELECTRICAL DATA	*Output pressure :	20 to 100 PSI
Reference PPC5C specifications	Overall accuracy :	2.5% full scale
	All ports :	1/2, 3/4, NPTF, BSPPL, BSPTR

#### PHYSICAL DATA

Connector :	Reference PPC5C specifications		
Enclosure :	Aluminum, sealed		
Mounting :	Any plane		
Ambient temperature range :	0 to 50°C (32°F to 120°F)		

Inlet pressure :	120 PSI max					
Fluids :	Air or inert gases					
Lubrication :	Not required. However, if used, a medium aniline point oil is recommended					
Filtration :	40 micron					
*Output pressure :	20 to 100 PSI					
Overall accuracy :	2.5% full scal	2.5% full scale				
All ports :	1/2, 3/4, NPTF, BSPPL, BSPTR					
Flows : Output flow : Exhaust flow :	1/2" ports: Cv 5.3 3/4" ports: C 1/2" ports: Cv 1.5 3/4" ports: C		v 6.3 v 1.5			
**Output volume requirements :	Port size	Output volume at		Minimum length		
		end of output pipe		of output pipe		
	1/2″	100 Cu. in. and larger		78″		
		50 to 99 Cu. in.		100″		
	3/4″	100 Cu. in. and larger		60″		
		50 to	99 Cu. in.	90″		

\* The quick exhaust portion of the PQE was not designed to be used at pressures below 20 PSIG. The PQE will exhaust below 20 PSIG but at a very reduced rate. Also, the minimum pressure change (from higher to lower) that will allow

the quick exhaust to function is 3 PSIG. \*\* This is the minimum output volume and output piping required to keep the unit stable. Configurations below these minimums should be tested on a case by case basis.

### DIMENSIONS





Port size	Floш (Max) (Cv/NI/min)	Individual mounting	Series
1/2" - 3/4"	6.3/6300	digital	
<ul> <li>OPERATIONAL BENEFITS</li> <li>1. Accurate pressure control.</li> <li>2. Fast response.</li> <li>3. High flow.</li> <li>4. Quick exhaust function.</li> <li>5. Unaffected by change in line pre</li> <li>6. Long life.</li> <li>7. Designed to meet Nema 4 specif</li> <li>8. Digital control.</li> <li>9. Analog or TTL feedback.</li> <li>10. Closed loop system.</li> </ul>	ssure. ications.		6500 92
PROPORTIONAL QUICK EXH Revision PQE Regulator size Sense (series)	AUST 65 A - XX X X ( - 9) Gage port on Port siz regulator thread t	Indicates unit is to be assembled with PPC, which is ordered separately EXAMPLE : PQE65A - AAIC - 9 PPC5C DGB- AGEA - AAA - 9	
65 6500 Series AA Standard	<ul> <li>1 No gage - gage port plugged</li> <li>2 Include gage, filled *(List gage separately)</li> <li>* Gage part #24142-160</li> <li>c 1/2" NPTF (65 p) 3/4" NPTF (65 p) 3/4" BSPTR (65 p) 3/</li></ul>	500 Series)       6500 Series style regulator, standard sense, no gage, 1/2" h         500 Series)       Digital PPC, bottom o-ring mount, external sense, 100 psi ra         500 Series)       reference, 2.5% accuracy, with .07 flow (fill and exhaust), 4         500 Series)       command signal, no analog or logic signal, 6-pin mini conne         500 Series)       NOTE :         PPC5C must be ordered separately.       Reference "How to order" for the digital PPC5C.	NPTF ports. nge, gage bit sinking/positive ector, no cable.
PPC5C SERIES BASIC MODEL Revisi Type Porting	on PPC5C X X X - X X X X - (X X Pressure range P PSI/BAR Pressure range P	SIGNAL & CONNECTOR         OPTIONS (SEE BELOW)         Pressure         Gerence         Gerence         Gerence         Bigstop         Film         Extended	
Digital     G BOTTOM PORTS     O-ring Mount	B Single Xducer/ Ext. Sense (Pressure) Ext. Sense (Pressure) B 60/4 C 30/2 E 50/3.3 F 80/5.3 J 75/5 K 117/7.8 M 150/10 P 90/6	ge Pressure E ± 2.5 % F.S. A 0.07/70 0.07/70 B 0.09/90 0.09/90 C 0.07/70 0.09/90	
SIGNAL & CONNECTOR OPTIONS	<u><u> </u></u>		
Command signal Analog	y monitor signal Logic monitor signal	OElectrical connector Cable length	
A 4-Bit Sinking/pos. B 4-Bit Sourcing/pos. D 8-Bit Sinking/pos. G 4-Bit Sinking/neg. H 4-Bit Sourcing/neg. K 8-Bit Sourcing/neg.	A None B TTL (Low = Pressure Achieved) C TTL (High = Pressure Achieved) D 24V (Low = Pressure Achieved) E 24V (High = Pressure Achieved) G	6 Pin Mini 0 No Cable 7 Pin Mini 8 3 Ft/0.9m 8 Pin Mini 0 6 Ft/1.8m 14 Wire E 12 Ft/3.6m	

IMPORTANT ! READ NOTES BEFORE ORDERING

All connector options are available with the 4-Bit command signal. Options "A", "B" and "C" can be supplied with or without a cable. Option "G" requires a cable. Select length from table. The 4-Bit command signal without the analog monitor signal (AMS) or logic monitor signal (LMS) requires a 6 Pin connector. For the AMS or LMS options, add one pin for each. The 8-Bit command signal can only use option "G". Select cable length from table.





PPC TYPE	PNEUMATIC DATA	
Digital, single transducer external sense, bottom O-ring mount	Inlet pressure :	120 PSI max
	Fluids :	Air or inert gases
	Lubrication :	Not required. However, if used, a medium aniline point oil is recommended
	Filtration :	40 micron
ELECTRICAL DATA	*Output pressure :	20 to 100 PSI
Reference PPC5C specifications	Overall accuracy :	2.5% full scale
	All ports :	1/2, 3/4, NPTF, BSPPL, BSPTR

#### PHYSICAL DATA

Connector :	Reference PPC5C specifications		
Enclosure :	Aluminum, sealed		
Mounting :	Any plane		
Ambient temperature range :	0 to 50°C (32°F to 120°F)		

Inlet pressure :	120 PSI max				
Fluids :	Air or inert gases				
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Overall accuracy :	2.5% full scale				
All ports :	1/2, 3/4, NPTF, BSPPL, BSPTR				
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**Output volume requirements :	Port size	Output volume at end of output pipe		Minimum length of output pipe	
	1/2″	100 Cu. in. and larger		78″	
		50 to 99 Cu. in.		100″	
	3/4″	100 Cu. in. and larger		60″	
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### DIMENSIONS

