



ISO Registered Company



MODEL PBE-H

MODEL PBE-H PRESSURE BUILD & ECONOMIZER REGULATOR

The Model PBE has a compact body and functions in a dual role as a pressure building regulator and as an economizer relief regulator in one model. The pressure build feature controls the outlet pressure while the economizer feature operates to relieve any excess pressure in the system above set point from atmospheric to 250 psig (17.2 Barg).

FEATURES

The Economizer feature begins to open when pressure approaches 10 psig (0.7 barg) above set point.

APPLICATIONS

Widely used for pressure control of liquified gas in storage tank.



CAUTION

This is not a safety device and must not be substituted for a code approved pressure safety relief valve or a rupture disc.

STANDARD/GENERAL SPECIFICATIONS

Body Size:	1/2" (DN15) with FNPT connections. Inlet connection size is equal to outlet connection size.	Range Spring:	SST. See Table 3.
Body Orientation:	<u>Globe</u> : Side inlet, side outlet.	Cryogenic Construction:	Cleaned for oxygen service per-Cashco Spec. #S-1134. Mount in horizontal piping with adjusting screw oriented downwards.
Body & Spring Chamber Mat'l:	Bronze - ASTM B62 C83600.	Flow Capacities:	Max. Cv Comp. Diaph.: 3.0 Metal Diaph.: 2.3 For Capacities see Table 4.
Body Cap:	Brass - ASTM B16, Alloy 360	Option-21:	<u>STRAINER</u> : Inlet filter to capture debris. When installed reduces capacity by approximately 40 %.
Diaphragm:	Metal – Phos. Bronze or 302 SST Composition – Gylon. See Table 2.	Option -31:	<u>BSPT END CONNECTIONS</u> . British Standard Tapered Pipe threads per ISO 7/1; used as an alternate to NPT ends.
Seat:	TFE	Option-80:	<u>HIGHOUTLET PRESSURE</u> . Taller spring chamber for use with range spring 100 - 250 psig. (see dimensions tables.)
Gasket:	TFE - (used with metal diaphragm)		
Temperature Range:	-325 to +150°F (-198 to +66°C).		
Maximum Design Pressure:	400 psig (27.6 Barg).		

TECHNICAL SPECIFICATIONS

TABLE 1 BODY/SPRING CHAMBER/BODY CAP MAX. PRESSURE - TEMPERATURE			
Pressure		Temperature	
psig	(barg)	°F	(°C)
400	(27.6)	-325 to +150	(-198 to +66)
Inlet & outlet have same Pressure vs. Temperature ratings.			

TABLE 2 TRIM MATERIAL COMBINATIONS			
Part	Trim Designation Number		
	B9B	B9S	B9G
Diaphragm	Phos. Bronze	302 SST	Gylon
Diaphragm Gasket	TFE	TFE	--
Piston	Brass		
Seat Disc	TFE		
Piston Spring	17-7PH SST		
Piston Post	316 SST		
Pusher Plate	316 SST		
Cylinder	Brass		
Cylinder Gasket	Gylon		

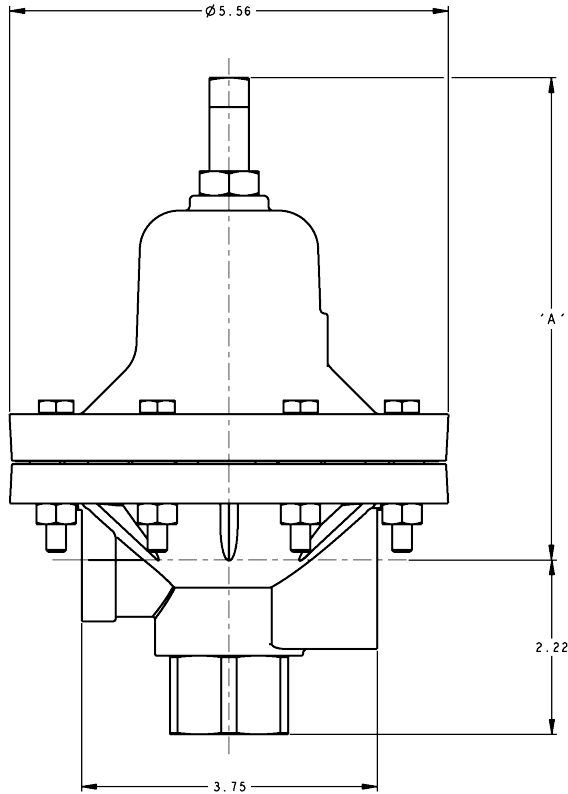
TABLE 3 RANGE SPRINGS / MAX. PRESSURE DROP			
Range Spring		Max Pressure Drop	
psig	barg	psid	bard
2-15	(.14-1.0)	200	(13.8)
10-40	(.69-2.8)	395	(27.2)
30-80	(2.1-5.5)	395	(27.2)
70-150	(4.8-10.3)	395	(27.2)
100-250	(6.9-17.2)	395	(27.2)

TABLE 4 CAPACITY - Cv (F_L = 0.95)							
Flowing Pressure		Metal Diaphragm			Composition Diaphragm		
		% Droop			% Droop		
psig	(Barg)	10%	20%	30%	10%	20%	30%
5	(0.3)	0.17	0.23	0.28	0.06	0.07	0.20
10	(0.7)	0.16	0.19	0.20	0.24	0.50	0.71
15	(1.0)	0.33	0.38	0.44	0.37	0.67	1.00
25	(1.7)	0.27	0.37	0.50	0.29	0.62	0.94
35	(2.4)	0.22	0.40	0.64	0.30	0.60	1.00
50	(3.4)	0.22	0.37	0.54	0.20	0.43	0.66
75	(5.2)	0.26	0.53	0.74	0.28	0.56	0.88
100	(6.9)	0.50	0.84	1.13	0.37	0.78	1.16
125	(8.6)	0.45	0.84	1.21	0.46	0.90	1.36
150	(10.3)	0.45	0.81	1.17	0.57	1.24	1.76
175	(12.1)	0.42	0.82	1.20	0.83	1.39	1.79
200	(13.8)	0.48	0.91	1.28	0.69	1.40	1.80
225	(15.5)	0.53	0.92	1.22	0.82	1.46	1.73
250	(17.2)	0.48	0.88	1.26	0.75	1.45	1.80

NOTES

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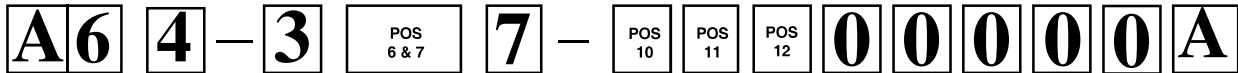
DIMENSIONS & WEIGHT



"A" Dimensions - in		Weight - lbs
Std Construction	6.31	12
Option -80	7.31	13

MODEL PBE-H PRODUCT CODER 02/07/20

An "X" in POS 12 followed by a 5-digit control number overrides remaining selections.



POSITION 6 & 7 - TRIM DESIGNATION NO.	
Desig.	CODE
B9B	BB
B9G	BG
B9S	BS

POSITION 10 - END CONNECTION	
Description	CODE
FNPT	1
-31 Opt. BSPT	B
BSPT - Screwed Tapered Pipe Thread	

POSITION 11 - RANGE SPRING		
psig	(Barg)	CODE
2 - 15	(.14 - 1.0)	A
10 - 40	(.69 - 2.8)	C
30 - 80	(2.1 - 5.5)	D
70 - 150	(4.8 - 10.3)	E
100 - 250 * Opt.-80 only	(6.9 - 17.2)	F

* Includes Opt-80 for High Outlet Pressure construction.

*** For information on ATEX see pages 8 & 9 on the IOM.**

POSITION 12 - OPTION		
Description	Option	CODE
None	---	0
Strainer	-21	F
For Special Construction Contact Cashco for Special Product Code.	SPQ	X

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