



Model P4

Balanced Pressure Reducing Regulator 3/8"– 1/2" (DN10–DN15) NPT

The Model P4 is designed for gases with inlet pressures up to 3600 psig (248 Barg). Standard adjustable outlet ranges from 1-10 psig (.07-.69 Barg) thru 10-500 psig (.69-34.5 Barg). Flow coefficient of .6 Cv available. This versatile point of use regulator can be ordered with a variety of options to meet your system demands.

GENERAL SPECIFICATIONS

Inlet / Outlet

Port Size: 3/8" and 1/2" (DN10 and DN15)

Maximum Inlet

Pressure: 3,600 psig (248 Barg)

Outlet Pressure:

1-10 psig (.07-.69 Barg)
2-25 psig (.14-1.7 Barg)
2-50 psig (.14-3.4 Barg)
2-100 psig (.14-6.9 Barg)
3-250 psig (.21-17.2 Barg)
5-500 psig (.34-34.5 Barg)

Body End

Connections: FNPT
Tube End- 3/8" & 1/2"
(1/2" O.D. Max Press.
2,780 psig.) (191.7 Barg)

Body and

Spring Chamber
Material: 316L SST/316L SST
Brass/6061 AL

Wetted

Trim Material: See Table 3

Max Temperature:

Kel-F -45 to 185°F (-42.7 to 85 °C)
TFE -45 to 275°F (-42.7 to 135°C)

FEATURES

- Accurate Adjustment
- Balanced Trim
- Low Internal Volume
- Low Operating Torque
- Suitable for corrosive applications

FUNCTIONAL PERFORMANCE

Supply Pressure

Effect: 2/100 psig (.14/6.9 Barg)

Temperature

Coefficient: 0.2 psig/°F (.01 Barg/ °C)

Design Proof

Pressure: 7,200 psig (496.4 Barg)

Design Burst

Pressure: 14,440 psig (995.6 Barg)

Internal Volume:

10 cc

Design Leakage:

Outboard 1x10⁻⁹ scc/sec He

Inboard 1x10⁻⁹ scc/sec He

Cv Capability:

.6

OPTION DEFINITION FOR TABLE 9

Captured Vent - (6)

The captured vent feature can only be installed on regulators with 316L SST body and spring chamber material. The design is for maximum safety for the user when handling toxic or hazardous media. The user can easily pipe this vent to a safe location. It features a 1/8" FNPT port located on the spring housing. This feature can be incorporated into a self-relieving regulator that provides an additional port to permit the piping away of the expelled media.

Cleaned for Oxygen Service - (M)

This is a requirement for gaseous oxygen environments. All regulators requiring advanced cleaning shall be processed according to strict guidelines.

Panel Mount - (C)

The panel mount feature requires a panel cut out of 1-3/8". Complete with a threaded spring housing, and a panel mount ring to secure the regulator.

Relief Valve - (H, J, K, or L)

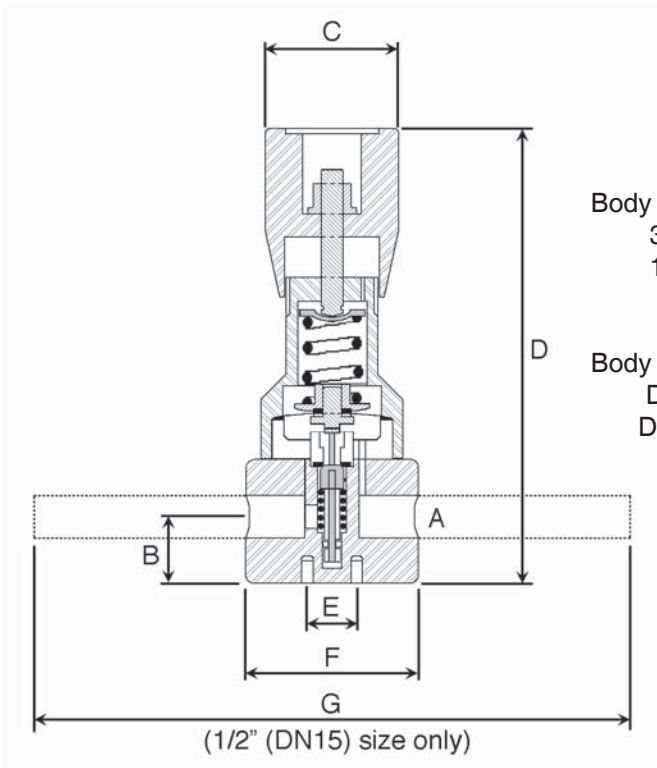
The relief valve main function is to relieve excess downstream pressure due to system malfunctions. This feature prevents over pressurization by automatically venting of gas or liquid. The valve is fully adjustable and is 1/4" male x 1/4" male.

Tamper Proof - (1)

In this feature the control knob is removed and replaced with an acorn nut. The user can set the outlet pressure and securely tighten the nut, preventing any unwanted adjustments on the regulator.

Colored Knobs - (2, 8, 9 and W)

In this feature the control knob is anodized aluminum either in black, blue, green or red, compared to the standard red composite knob. This allows for color coding of processes.



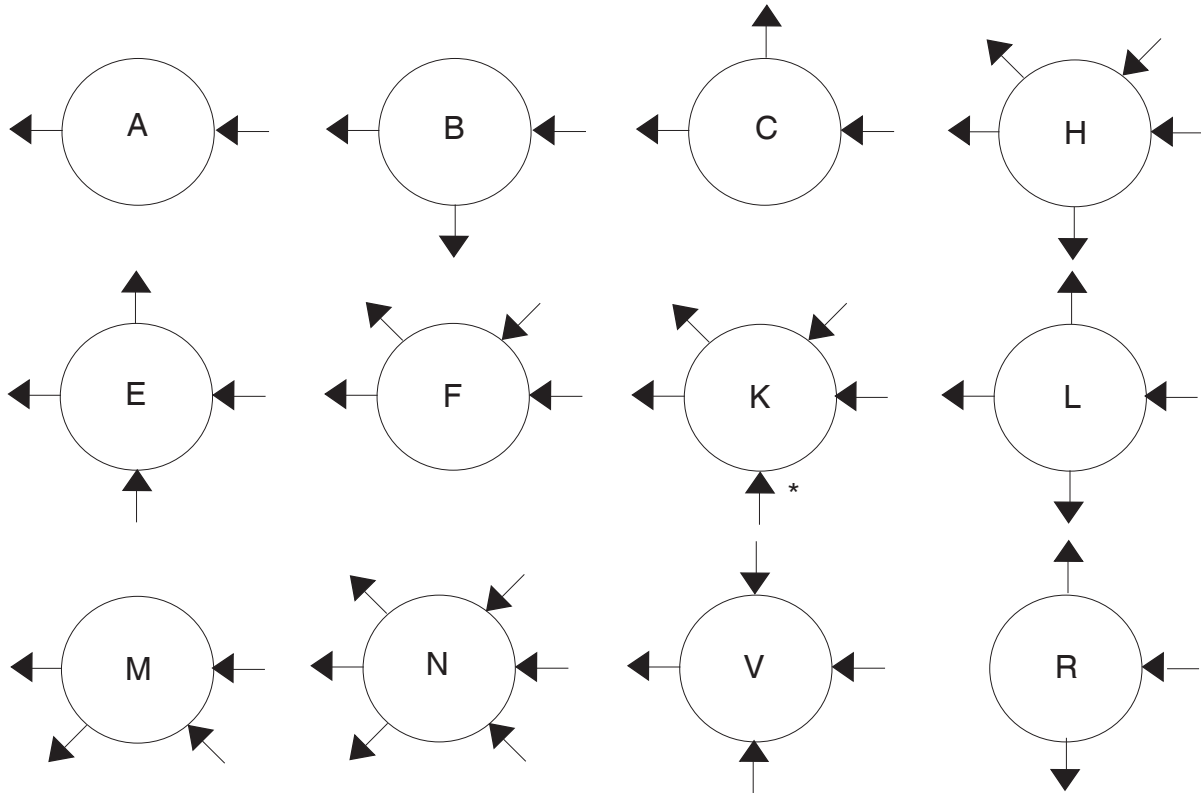
**Dimensions and Weights
English Units (Inches & lbs)**

Body Size (A)	B	C	D	E	F	G	Weight
3/8"	1.125"	1.99"	6.125"	.75"	2.75"	N/A	2.2 lbs
1/2"	1.125"	1.99"	6.125"	.75"	2.75"	6.94"	2.2 lbs

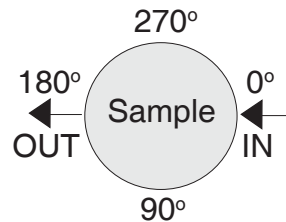
Metric Units (mm & kg)

Body Size (A)	B	C	D	E	F	G	Weight
DN8	28.5	50.5	155.5	22.2	69.8	N/A	.99 kg
DN10	28.5	50.5	155.5	22.2	69.8	176.3	.99 kg

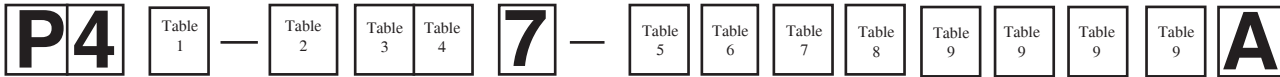
Porting Configuration Guide



* Used as a purge port.



MODEL P4 PRODUCT CODE 01/19/09
(COMPOSITE RED KNOB STANDARD)



Size	Cv	CODE
3/8" FNPT (DN10 FNPT)	0.60	B
1/2" FNPT (DN15 FNPT)	0.60	A

Body/Spring Chamber Mat'l.	CODE
316L SST/316L SST	S
Brass/6061 AL	B

Diaphragm , Seat Retainer, Poppet & Poppet Spring	Seat Material	CODE
302 SST w/Tefzel ring, 316L SST, 316L SST, Inconel X-750, Viton/TFE Back-up	PCTFE	G
	TFE	U
Inconel w/TFE liner, monel R-405, Monel R-405 Inconel X-750	PCTFE	V
	TFE	X
Hastelloy C-276 w/TFE liner, Hastelloy C-276, Hastelloy C-276, Hastelloy C-276	PCTFE	Y
	TFE	%

Description	CODE	Description	CODE
See Porting Chart	**** A	See Porting Chart	*** N
	** B		*** K
	** C		** L
	*** E		*** M
	*** F		** R
	*** H		*** V

NOTE: When specifying Tables 7 & 8, review asterisks in Table 4:

- * Inlet gauge port only
- ** Outlet gauge port only
- *** Inlet & outlet gauge ports
- **** No gauge ports available

End Connection(s)	CODE
FNPT	1
Tube End *	T
1/4" FNPT x 1/4" Compression End Connections	4
1/4" FNPT x 3/8" Compression End Connections	5
1/2" FNPT x 1/2" Compression End Connections	6
1/2" FNPT x 3/4" Compression End Connections	7

*Not Available with Brass body material.
Must use Porting configuration "A".

Psig (Barg)	CODE
1 - 10 (.07 - .69)	1
2 - 25 (.14 - 1.7)	2
2 - 50 (.14 - 3.4)	3
2 - 100 (.14 - 6.9)	4
3 - 250 (.21 - 17.2)	5
5 - 500 (.34 - 34.5)	6

When ordering a valve per one of Cashco's special drawings, the code "X" and the 5-digit number following override all other options. Otherwise, proceed with Tables 7 thru 9.

Psig (Barg)	CODE
0 - 15 (0 - 1.0)	A
0 - 30 (0 - 2.1)	B
0 - 60 (0 - 4.1)	C
0 - 100 (0 - 6.9)	D
0 - 160 (0 - 11.0)	E
0 - 300 (0 - 20.7)	F
0 - 600 (0 - 41.4)	G
No Outlet Gauge	0

Psig (Barg)	CODE
0 - 15 (0 - 1.0)	A
0 - 30 (0 - 2.1)	B
0 - 60 (0 - 4.1)	C
0 - 100 (0 - 6.9)	D
0 - 160 (0 - 11.0)	E
0 - 300 (0 - 20.7)	F
0 - 600 (0 - 41.4)	G
0 - 1000 (0 - 69.0)	H
0 - 2000 (0 - 137.9)	I
0 - 3000 (0 - 206.9)	J
0 - 5000 (0 - 344.9)	K
No Inlet Gauge	0

OPTIONS	CODE	OPTIONS	CODE
No Option	0	Relief Valve: 3-50 psig *	H
Tamper Proof	1	Relief Valve: 50-150 psig *	J
Mounting Bracket	5	Relief Valve: 150-350 psig *	K
Captured Vent **	6	Relief Valve: 350-600 psig *	L
Black Knob	2	Oxygen Cleaned Per Spec #S-1134	M
Blue Knob	8	Reducing Adaptor (1/2" MNPT x 3/4" FNPT)***	Q
Green Knob	9	Reducing Adaptor (1/2" MNPT x 1" FNPT)***	R
Red Knob	W		
Panel Mount	C		

* When selecting Relief Valve indicate SET POINT PRESSURE in Special Instructions on order.
 ** 316L SST body & spring chamber ONLY
 *** ONLY for primary inlet & outlet ports.
 For Special Construction Other Than Above Contact Cashco for Special Product Code

1. NUMERIC digits assigned first in "ascending" order.
2. ALPHA designations are assigned second in "alphabetical" order.
3. Left justify.
4. Add "0" to all unused squares.
5. If insufficient quantity of squares, consult factory for proper code.