



Series 2002PR

“Mighty Gun” High Pressure Regulator

Application

This self-contained pressure-reducing regulator is designed for flexibility and is for low and high pressure systems. It can be used with natural gas, air, or other gases. It is primarily used to regulate pressure and volume to fuel gas valves or production instrumentation on oil and gas process equipment.

Features

- Multiple Orifice Sizes, 316 S.S. Std.
- Easy Maintenance: Trim can be replaced with the body in-line from top entry design.
- Protective Cap: Tamper Resistant Pressure Setting
- Steel body and die cast aluminum diaphragm housing.
- Body can be rotated to four positions with diaphragm housing for user convenience.
- NACE Compatible
- Utility Spring Range Available: 10 to 95 psig

Specifications

Connection 1" FNPT
 Seat Ring Orifices 3/32", 1/8", 3/16", 1/4", 3/8", or 1/2"
 Operating Temperature -20°F to 180°F
 Materials (NACE Compatible) See Parts
 Maximum Inlet Pressure, Differential Pressure, and Outlet Pressure Ranges See Table 1
 Flow Capacities See Table 2
 Maximum Spring and Diaphragm Housing Pressure See Table 3

Overpressure Protection

As is true with most regulators, the WellMark “Mighty Gun” Series 2002PR Regulator has an outlet pressure rating that is lower than the inlet pressure rating. Overpressure protection is needed to avoid overpressure if the actual inlet pressure can exceed the outlet pressure rating.



Dimensional Data

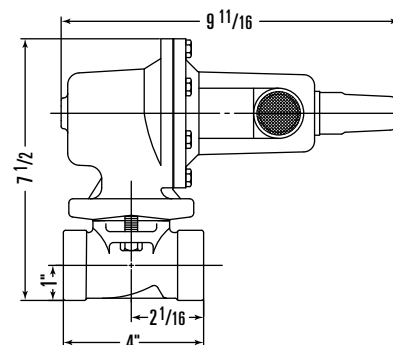


Table 1. Max. Pressure, Differential Press. & Outlet Pressure Ranges

Outlet Pressure Range Spring Part No. Color Code	Port Diameter (Inches)	Maximum Inlet Pressure (psig)	Maximum Differential Pressure (psig)
5 ⁽¹⁾ to 20 psig 11038 (YELLOW)	3/32	2000	2000
	1/8	1000	1000
	3/16	750	750
	1/4	500	500
	3/8	300	300
15 to 40 psig 11039 (GREEN)	1/2	250	250
	3/32	2000	2000
	1/8	1500	1500
	3/16	1000	1000
	1/4	750	750
35 to 80 psig 11040 (BLUE)	3/8	500	500
	1/2	300	300
	3/32	2000	2000
	1/8	2000	2000
	3/16	1750	1750
70 to 150 psig 11041 (RED)	1/4	1500	1500
	3/8	1000	1000
	1/2	750	750
	3/32	2000	2000
	1/8	2000	2000
	3/16	2000	2000
	1/4	1750	1750
	3/8	1250	1250
	1/2	750	750

1. For pressure settings under 10 psig, inlet pressure should be limited to approximately 100 psig so the set point adjustment can be reached.



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Table 2. Flow Capacities in scfh of 0.6 Specific Gravity Natural Gas ⁽¹⁾

Outlet Pressure Range Spring Part No. Color Code	Outlet Press. Setting (psig)	Inlet Press. (psig)	Port Diameter (Inches)					
			3/32	1/8	3/16	1/4	3/8	1/2
5 to 20 psig ⁽²⁾ 11038 (YELLOW)	5 ⁽³⁾	10	170	330	710	1100	1900	2500
		15	240	390	890	1600	2500	3350
		20	290	500	1160	2060	3400	4450
		30	380	670	1560	2800	4750	6900
		60	640	1170	2600	4710	8140	13,700
		75	770	1410	3150	5710	9790	14,500
		100	990	1800	4070	7310	12,500	16,000
	10	15	210	375	880	1590	2480	3300
		20	280	490	1150	2050	3380	4410
		30	380	670	1560	2800	4720	6840
		60	640	1170	2600	4710	8140	13,700
		75	770	1410	3150	5710	9790	14,500
		100	990	1800	4070	7310	12,500	16,000
		150	1420	2580	5850	10,500	17,000	18,000
		200	1850	3370	7630	13,700	18,000	18,500
		300	2700	4910	11,200	19,800	20,000	—
		500	4400	8090	15,700	20,000	—	—
		750	5400	12,000	18,000	—	—	—
		1000	5800	14,000	—	—	—	—
		1250	6300	—	—	—	—	—
	1500	6600	—	—	—	—	—	
	1750	6800	—	—	—	—	—	
	2000	7600	—	—	—	—	—	
	20	30	350	620	1450	2580	4360	6290
		50	550	1000	2280	4090	7670	14,100
		60	640	1170	2640	4750	9690	14,500
		100	990	1800	4070	7310	13,900	23,300
150		1420	2580	5850	10,500	17,700	34,200	
200		1850	3370	7630	13,700	26,600	39,100	
300		2700	4910	11,200	20,100	37,000	—	
500		4400	8090	18,300	32,900	—	—	
750		6600	12,000	23,600	—	—	—	
1000		8900	16,000	—	—	—	—	
1250		10,000	—	—	—	—	—	
1500		10,400	—	—	—	—	—	
1750		12,000	—	—	—	—	—	
2000		14,000	—	—	—	—	—	

Outlet Pressure Range Spring Part No. Color Code	Outlet Press. Setting (psig)	Inlet Press. (psig)	Port Diameter (Inches)						
			3/32	1/8	3/16	1/4	3/8	1/2	
35 to 80 psig 11040 (BLUE)	60	75	700	1230	2760	4880	8630	16,100	
		100	970	1740	4010	7000	13,000	19,300	
		150	1420	2580	5850	10,500	18,900	32,800	
		200	1850	3370	7630	13,700	24,000	42,200	
		300	2700	4910	11,200	20,100	32,500	69,100	
		500	4400	8090	18,300	32,900	64,000	94,300	
		750	6600	12,000	27,200	43,380	66,900	130,000	
		1000	8700	16,000	36,100	50,300	67,700	—	
		1250	11,000	19,000	45,000	57,000	—	—	
		1500	13,000	22,000	54,000	63,000	—	—	
		1750	15,000	25,000	63,000	—	—	—	
		2000	17,000	28,000	—	—	—	—	
		80	100	900	1600	3750	6650	12,200	18,600
			150	1410	2580	5850	10,500	21,100	33,600
	200		1850	3370	7630	13,700	28,400	44,100	
	300		2700	4910	11,200	20,100	43,300	75,400	
	500		4400	8090	18,300	32,900	71,600	110,000	
	750		6600	12,000	27,200	48,900	105,500	135,000	
	1000		8700	16,000	36,100	64,900	118,000	—	
	70 to 150 psig 11041 (RED)	100	150	1170	2510	5540	8710	16,000	24,000
			200	1850	3370	7630	12,000	21,300	34,100
300			2700	4910	11,200	19,400	30,100	53,200	
500			4400	8090	18,300	31,800	66,500	83,900	
750			6600	12,000	27,200	47,300	95,300	117,000	
1000			8700	16,000	36,100	59,700	100,000	120,000	
1250			11,000	19,000	45,000	72,000	114,000	—	
1500			13,000	22,000	54,000	86,000	—	—	
1750			15,000	25,000	63,000	95,000	—	—	
2000			17,000	28,000	71,000	—	—	—	
125			150	1250	2340	5340	9470	15,700	20,800
		200	1830	3320	7550	13,400	28,100	32,800	
		300	2700	4910	11,200	20,100	36,300	52,600	
		500	4400	8090	18,300	32,900	70,800	109,000	
		750	6600	12,000	27,200	48,900	104,000	158,000	
		1000	8700	16,000	36,100	64,800	136,000	160,000	
150		1250	11,000	19,000	45,000	80,000	145,000	—	
	1500	13,000	22,000	54,000	96,000	—	—		
	1750	15,000	25,000	63,000	112,000	—	—		
	2000	17,000	28,000	71,000	—	—	—		
	200	1760	3200	7290	12,900	21,400	33,600		
	300	2700	4910	11,200	17,200	40,100	55,900		
	500	4400	8090	18,300	32,900	70,300	111,000		
	750	6600	12,000	27,200	48,900	104,000	160,000		
	1000	8700	16,000	36,100	64,800	138,000	162,000		
	1250	11,000	19,000	45,000	80,000	150,000	—		
1500	13,000	22,000	54,000	96,000	—	—			
1750	15,000	25,000	63,000	112,000	—	—			
2000	17,000	28,000	71,000	—	—	—			

- Capacity is based on 20% droop unless otherwise noted. See “Capacity Data” for equivalent capacities of other gases.
- For pressure settings under 10 psig, inlet pressure should be limited to approximately 100 psig so the set point adjustment can be reached.
- For pressure set point of 5 psig, the droop is 2 psig.



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Capacity Data

Natural gas regulating capacities for selected inlet pressures and outlet pressure settings are shown in Table 2. Flows are in scfh (60°F and 14.7 psia) of 0.6 specific gravity, natural gas at 60°F. To determine the equivalent capacities for other gases, multiply the table capacity by the following factors: for air use 0.775, for nitrogen use 0.789, for propane use 0.628, or for butane use 0.548. For gases of other specific gravities, multiply the given capacity by 0.775, and divide by the square root of the particular specific gravity.

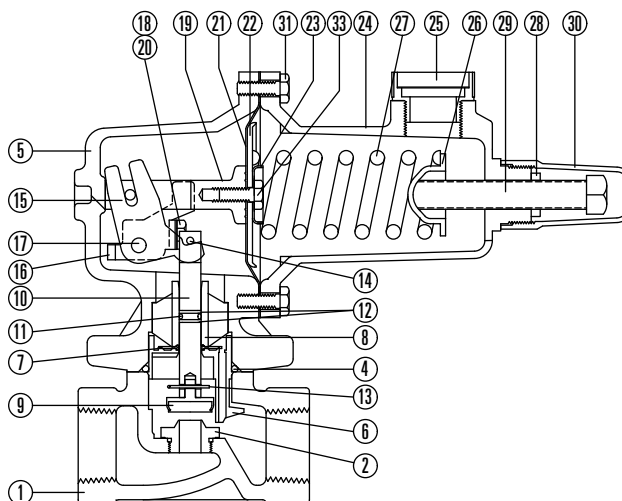
Parts List

Item	Description	Qty.	Part No.
1	BODY, 1" NPT, STEEL WCB	1	40520
2*	SEAT, 3/32" 316 S.S.	1	21069
	SEAT, 1/8" 316 S.S.	1	21070
	SEAT, 3/16" 316 S.S.	1	21071
	SEAT, 1/4" 316 S.S.	1	21072
	SEAT, 3/8" 316 S.S.	1	21073
	SEAT, 1/2" 316 S.S.	1	21074
3	CAP SCREW, STEEL PLATED (NOT SHOWN)	2	11092
4*	O-RING, VITON®	1	10423
5	DIAPHRAGM CASE, ALUMINUM	1	40522
6	BOOST BODY	1	40526
7	STABILIZER, NITRILE	1	11036
8	STEM GUIDE, S.S. CF8M	1	21059
9*	DISK ASSEMBLY, 316 S.S./NEOPRENE	1	21082
	DISK ASSEMBLY, 316 S.S./NYLON	1	21083
10	STEM, 316 S.S.	1	21062
11*	O-RING, VITON®	1	05000-0769
12	BACK UP RING, TFE	2	11087
13	HAIR PIN CLIP, STAINLESS STEEL	1	11047
14	PIN, STAINLESS STEEL	1	11046
15	LEVER, STEEL PLATED	1	21061
16	LEVER RETAINER, STEEL PLATED	1	31015
17	LEVER PIN, STAINLESS STEEL	1	11034
18	LEVER CAP SCREW, 316 S.S.	2	11043
19	POST, & PIN ASSY.	1	21130
20	LOCK WASHER, 316 S.S.	2	11045
21*	DIAPHRAGM, NITRILE	1	11037
22	DIAPH. HEAD, STEEL PLATED	1	21078
23	SPRING SEAT, STEEL PLATED	1	21079
24	UPPER HOUSING, ALUMINUM	1	40524
25	VENT ASSEMBLY, PLASTIC	1	11035
26	UPPER SPRING SEAT, STEEL	1	21080
27	SPRING, 5-20 psig	1	11038
	SPRING, 15-40 psig	1	11039
	SPRING, 35-80 psig	1	11040
	SPRING, 70-150 psig	1	11041
	SPRING, 10-95 psig	1	11211
28	JAM NUT, STEEL	1	21081
29	ADJUSTING SCREW, STEEL	1	11042
30	CAP, PLASTIC	1	31016
31	CAP SCREW, STEEL PLATED	8	11044
32	NAME PLATE, ALUMINUM (NOT SHOWN)	1	21094
33	CAP SCREW, STEEL PLATED	1	11043

*Recommended Spare Part

Table 3. Max. Spring and Diaphragm Housing Pressure

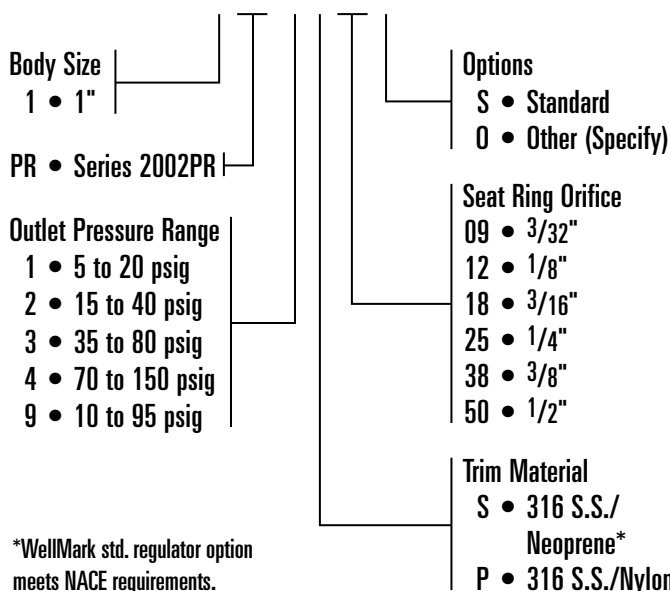
Maximum pressure to avoid leakage to atmosphere or possible damage to internal parts.	250 psi
Maximum pressure to prevent burst of housing or possible damage to internal parts.	375 psi
Maximum diaphragm housing over-pressure (above set point) to avoid damage to internal parts.	60 psi



Determining the Model Number

Example given: A 1" Model 2002PR Pressure Regulator with an Outlet Pressure Range of 70 to 150 psig and 1/4" Seat Ring Orifice.

MODEL 1 PR-4 S 25 S



*WellMark std. regulator option meets NACE requirements.