

## RG20 Regulator

The RG20 is a direct spring operated, pressure regulator that can be used anywhere pressure regulation of natural gas, air or other gas is required. Its housing can be moved to one of four positions to save space during installation.

The RG20 was designed for easy maintenance by allowing access to the body without removing it from the line. A NACE option is available for sour service.

The RG20H, a high pressure option, is available which includes a steel housing and spring cover capable of handling pressures above 150 psi.

## Specifications

**Size:** 1" & 2"

**Connection:** Female NPT

**Body Type:** Globe

**Orifice Sizes:** .125" (1/8"), .188" (3/16"), .25", .375" (3/8"), .50"

**Temperature Range:** -20° F to 180° F (-29° C to 82° C)

**Body Pressure Rating:** 2000 psi

**Materials:**

**Body:** WCB Steel

**Housing and Spring Cover:** Aluminum (RG20), WCB Steel (RG20H)

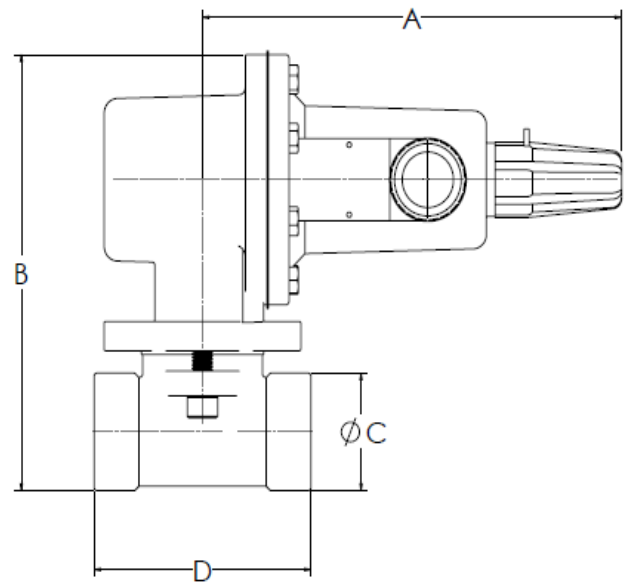
**Orifice and Disk Holder:** Aluminum, Stainless (Optional)

**Disk:** Buna, Viton®, Nylon

**Diaphragm:** Buna, Viton® (Optional)

## Dimensions

Dimensions in inches (mm).



Approximate Weight		
	Material	
	Aluminum	Steel
1"	6.5 lbs	10 lbs
2"	10.5 lbs	14 lbs

Housing and Spring Cover Pressure Ratings		
Material Pressure Limitations:	Material	
	Aluminum	Steel
To prevent housing failure	375 psi	1500 psi
To prevent leakage to atmosphere	250 psi	800 psi
To prevent damage to internal parts	60 psi	120 psi

Dimensions								
Body Size	A		B		C		D	
	inches	mm	inches	mm	inches	mm	inches	mm
1"	7.72	196.1	7.40	188.0	2.00	50.8	4.00	101.6
2"	7.72	196.1	8.47	215.1	3.38	85.9	5.00	127.0

# Capacities of 0.6 S.G. Natural Gas in SCFH

Outlet Pressure Range	Outlet Pressure psig bar		Inlet Pressure psig bar		1" Body Size					2" Body Size				
					Orifice Diameter					Orifice Diameter				
					.125"	.188"	.25"	.375"	.50"	.125"	.188"	.25"	.375"	.50"
5 to 20 psig <sup>2</sup> (0.34 to 1.4 bar) Yellow Spring	5 <sup>3</sup>	0.34	10	0.69	330	710	1,100	1,900	2,500	330	710	1,080	1,700	2,400
			15	1.0	390	890	1,600	2,500	3,350	390	890	1,250	1,900	2,700
			20	1.4	500	1,160	2,060	3,400	4,450	500	1,160	1,900	2,650	3,900
			30	2.1	670	1,560	2,800	4,750	6,900	670	1,560	2,800	3,680	6,500
			60	4.1	1,170	2,600	4,710	8,140	13,700	1,170	2,600	4,750	7,250	17,800
			75	5.2	1,410	3,150	5,710	9,790	14,500	1,410	3,150	5,700	8,060	22,400
			100	6.9	1,800	4,070	7,310	12,500	16,000	1,790	4,070	7,310	16,200	28,700
	10	0.69	15	1.03	375	880	1,590	2,480	3,300	375	880	1,220	1,860	2,670
			20	1.4	490	1,150	2,050	3,380	4,410	490	1,150	1,880	2,610	3,830
			30	2.1	670	1,560	2,800	4,720	6,840	670	1,560	2,760	3,640	6,460
			60	4.1	1,170	2,600	4,710	8,140	13,700	1,170	2,600	4,750	7,250	17,800
			75	5.2	1,410	3,150	5,710	9,790	14,500	1,410	3,150	5,700	8,060	22,400
			100	6.9	1,800	4,070	7,310	12,500	16,000	1,790	4,070	7,310	16,200	28,700
			150	10.3	2,580	5,850	10,500	17,000	18,000	2,580	5,850	10,500	23,300	25,900
			200	13.8	3,370	7,630	13,700	18,000	18,500	3,370	7,630	13,700	22,700	24,000
			300	20.7	4,910	11,200	19,800	20,000		4,910	11,200	10,300	12,800	
			500	34.5	8,090	15,700	20,000			8,090	18,300	21,000		
			750	51.7	12,000	18,000				12,000	27,200			
			1,000	69.0	14,000					16,000				
			1,250	86.2										
	1,500	103												
	1,750	121												
	2,000	138												
	20	1.4	30	2.1	620	1,450	2,580	4,360	6,290	620	1,450	2,350	4,300	6,110
			50	3.4	1,000	2,280	4,090	7,870	14,100	1,000	2,280	4,040	7,100	12,800
			60	4.1	1,170	2,640	4,750	9,690	14,500	1,170	2,640	4,750	8,400	15,700
			100	6.9	1,800	4,070	7,310	13,900	23,300	1,800	4,070	7,310	16,200	28,700
			150	10.3	2,580	5,850	10,500	17,700	34,200	2,580	5,850	10,500	23,300	29,000
			200	13.8	3,370	7,630	13,700	26,600	39,100	3,370	7,630	13,700	24,000	33,000
			300	20.7	4,910	11,200	20,100	37,000		4,910	11,200	20,100	19,600	
			500	34.5	8,090	18,300	32,900			8,090	18,300	32,900		
			750	51.7	12,000	23,600				12,000	27,200			
			1,000	69.0	16,000					16,000				
1,250			86.2											
1,500			103											
1,750			121											
2,000	138													
15 to 40 psig (1.0 to 2.8 bar) Green Spring	40	2.8	60	4.1	1,090	2,530	4,510	9,290	9,420	1,090	2,530	4,370	8,680	13,300
			75	5.2	1,370	3,080	5,640	10,800	16,500	1,370	3,080	5,540	11,900	19,300
			100	6.9	1,790	4,070	7,310	14,700	21,900	1,800	4,070	7,310	16,200	25,400
			150	10.3	2,580	5,850	10,500	20,500	34,500	2,580	5,850	10,500	23,300	41,300
			200	13.8	3,370	7,630	13,700	27,100	46,400	3,370	7,630	13,700	30,400	53,900
			300	20.7	4,910	11,200	20,100	40,100	67,100	4,910	11,200	20,100	44,600	46,000
			500	34.5	8,090	18,300	32,900	63,900		8,090	18,300	32,900	22,000	
			750	51.7	12,000	27,200	39,400			12,000	27,200	28,000		
			1,000	69.0	16,000	36,100				16,000	36,100			
			1,250	86.2	19,000					19,000				
			1,500	103	22,000					22,000				
			1,750	121										
			2,000	138										

# Capacities of 0.6 S.G. Natural Gas in SCFH continued

Outlet Pressure Range	Outlet Pressure		Inlet Pressure		1" Body Size					2" Body Size				
	psig	bar	psi	bar	Orifice Diameter					Orifice Diameter				
					.125"	.188"	.25"	.375"	.50"	.125"	.188"	.25"	.375"	.50"
35 to 80 psig (2.4 to 5.5 bar) Blue Spring	60	4.1	75	5.2	1,230	2,760	4,880	8,630	16,100	1,260	2,760	4,900	9,000	12,300
			100	6.9	1,740	4,010	7,000	13,000	19,300	1,740	4,010	7,000	15,000	20,400
			150	10.3	2,580	5,850	10,500	18,900	32,800	2,580	5,850	10,500	23,300	35,200
			200	13.8	3,370	7,630	13,700	24,000	42,200	3,370	7,630	13,700	30,400	53,900
			300	20.7	4,910	11,200	20,100	32,500	69,100	4,910	11,200	20,100	44,600	79,000
			500	34.5	8,090	18,300	32,900	64,000	94,300	8,090	18,300	32,900	73,000	38,800
			750	51.8	12,000	27,200	43,380	66,000	130,000	12,000	27,200	48,900	53,000	32,000
			1,000	69.0	16,000	36,100	50,300	67,700		16,000	36,100	43,000	52,000	
			1,250	86.2	19,000	45,000	57,000			19,000	45,000	70,000		
			1,500	103	22,000	54,000	63,000			22,000	54,000	43,000		
	1,750	121	25,000	63,000				25,000	26,000					
	2,000	138	28,000					28,000						
	80	5.5	100	5.2	1,600	3,750	6,650	12,200	18,600	1,630	3,750	6,400	12,800	20,400
			150	10.3	2,580	5,850	10,500	21,100	33,600	2,580	5,850	10,500	23,300	41,300
			200	13.8	3,370	7,630	13,700	28,400	44,100	3,370	7,630	13,700	30,400	53,900
			300	20.7	4,910	11,200	20,100	43,300	75,400	4,910	11,200	20,100	44,600	79,000
			500	34.5	8,090	18,300	32,900	71,600	110,000	8,090	18,300	32,900	73,000	48,000
			750	51.8	12,000	27,200	48,900	105,500	135,000	12,000	27,200	48,900	87,000	44,000
			1,000	69.0	16,000	36,100	64,900	118,000		16,000	36,100	65,000	63,000	
1,250			86.2	19,000	45,000	80,000			19,000	45,000	63,000			
1,500			103	22,000	54,000	96,000			22,000	54,000	86,000			
1,750			121	25,000	63,000				25,000	63,000				
2,000	138	28,000					28,000							
70 to 150 psig (4.8 to 10.3 bar) Red Spring	100	6.9	150	10.3	2,510	5,540	8,710	16,000	24,000	2,510	5,540	8,600	16,000	22,000
			200	13.8	3,370	7,630	12,000	21,300	34,100	3,370	7,630	13,700	22,000	33,000
			300	20.7	4,910	11,200	19,400	30,100	53,200	4,910	11,200	20,100	35,000	65,300
			500	34.5	8,090	18,300	31,800	66,500	83,900	8,090	18,300	32,900	73,000	129,000
			750	51.8	12,000	27,200	47,300	95,300	117,000	12,000	27,200	48,900	108,000	54,000
			1,000	69.0	16,000	36,100	59,700	100,000	120,000	16,000	36,100	64,800	82,000	
			1,250	86.2	19,000	45,000	72,000	114,000		19,000	45,000	80,000	110,000	
			1,500	103	22,000	54,000	86,000			22,000	54,000	96,000		
			1,750	121	25,000	63,000	95,000			25,000	63,000	112,000		
			2,000	138	28,000	71,000				28,000	71,000			
	125	8.6	150	10.3	2,340	5,340	9,470	15,700	20,800	2,340	5,340	8,600	16,000	24,000
			200	13.8	3,320	7,550	13,400	28,100	32,800	3,320	7,550	13,700	24,000	36,000
			300	20.7	4,910	11,200	20,100	36,300	52,600	4,910	11,200	20,100	39,000	65,300
			500	34.5	8,090	18,300	32,900	70,800	109,000	8,090	18,300	32,900	73,000	129,000
			750	51.8	12,000	27,200	48,900	104,000	158,000	12,000	27,200	48,900	108,000	59,000
			1,000	69.0	16,000	36,100	64,800	138,000	160,000	16,000	36,100	64,800	58,000	
			1,250	86.2	19,000	45,000	80,000	145,000		19,000	45,000	80,000	75,000	
			1,500	103	22,000	54,000	96,000			22,000	54,000	96,000		
			1,750	121	25,000	63,000	112,000			25,000	63,000	112,000		
			2,000	138	28,000	71,000				28,000	71,000			
	150	10.3	200	13.8	3,200	7,290	12,900	21,400	33,600	3,200	7,290	13,000	24,000	38,000
			300	20.7	4,910	11,200	17,200	40,100	55,900	4,910	11,200	20,100	44,600	64,200
			500	34.5	8,090	18,300	32,900	70,300	111,000	8,090	18,300	32,900	73,000	129,000
			750	51.8	12,000	27,200	48,900	104,000	160,000	12,000	27,200	48,900	108,000	62,000
			1,000	69.0	16,000	36,100	64,800	138,000	162,000	16,000	36,100	64,800	144,000	
			1,250	86.2	19,000	45,000	80,000	150,000		19,000	45,000	80,000	81,000	
			1,500	103	22,000	54,000	96,000			22,000	54,000	96,000		
			1,750	121	25,000	63,000	112,000			25,000	63,000	112,000		
			2,000	138	28,000	71,000				28,000	71,000			

- Capacity is based on 20 percent droop unless otherwise noted below.
  - For pressure setting under 10 psig (0.69 bar) limit the input pressure to 100 psig (6.9 bar) to obtain the setpoint.
  - For 5 psig (0.34 bar) pressure set point, the droop is 2 psig (0.14 bar).
  - Grayed out areas indicate that the inlet pressure is too high for a given orifice size.
  - 10-95 psi utility spring available.
  - To convert capacities to another gas multiply by .775 and divide by the square root of the specific gravity of the desired gas.
- To convert SCFH to m3 /hr multiply 0.0268.

# Capacities of 0.6 S.G. Natural Gas in SCFH continued

Outlet Pressure Range	Outlet Pressure		Inlet Pressure		1" Body Size					2" Body Size				
	psig	bar	psi	bar	Orifice Diameter					Orifice Diameter				
					.125"	.188"	.25"	.375"	.50"	.125"	.188"	.25"	.375"	.50"
140 to 250 psig (9.7 to 17.2 bar) Blue Spring RG20H Only	150	10.3	200	13.8	3,200	7,290	11,500	21,600	31,000	3,200	7,290	13,700	24,100	31,000
			250	17.2	4,100	9,200	15,400	28,600	40,000	4,100	9,200	16,100	28,600	40,000
			300	20.7	4,910	11,200	19,300	31,000	46,000	4,910	11,200	19,300	31,000	46,000
			400	27.6	6,500	14,800	25,000	40,000	50,000	6,500	14,800	25,000	40,000	50,000
			500	34.5	8,090	18,300	32,000	51,000		8,090	18,300	32,000		
			750	51.7	12,000	27,200	46,000			12,000	27,200	48,000		
			1,000	69.0	16,000	36,100	60,000			16,000	36,100	65,000		
			1,250	86.2	19,000	45,000				19,000	45,000			
			1,500	103	22,000	54,000				22,000	54,000			
			1,750	121	25,000	63,000				25,000	63,000			
	2,000	138	28,000					28,000						
	200	13.8	250	17.2	3,850	8,400	15,000	31,000	41,000	3,850	8,400	16,100	33,000	41,000
			300	20.7	4,910	11,200	19,500	36,000	52,000	4,910	11,200	20,100	36,000	52,000
			400	27.6	6,500	14,800	26,500	52,000	68,000	6,500	14,800	26,500	52,000	68,000
			500	34.5	8,090	18,300	33,000	61,000		8,090	18,300	33,000	61,000	
			750	51.8	12,000	27,200	49,000			12,000	27,200	49,000		
			1,000	69.0	16,000	36,100	65,000			16,000	36,100	65,000		
			1,250	86.2	19,000	45,000				19,000	45,000			
			1,500	103	22,000	54,000				22,000	54,000			
			1,750	121	25,000	63,000				25,000	63,000			
			2,000	138	28,000					28,000				
	250	17.2	300	20.7	4,500	9,900	18,500	37,000	75,000	4,500	9,900	18,500	37,000	75,000
			400	27.6	6,400	14,300	26,000	55,000	81,000	6,400	14,300	26,000	55,000	81,000
			500	34.5	8,090	18,300	33,000	64,000	95,000	8,090	18,300	33,000	64,000	95,000
			750	51.8	12,000	27,200	49,000	102,000		12,000	27,200	49,000	102,000	
			1,000	69.0	16,000	36,100	65,000			16,000	36,100	65,000		
			1,250	86.2	19,000	45,000	81,000			19,000	45,000	81,000		
			1,500	103	22,000	54,000				22,000	54,000			
			1,750	121	25,000	63,000				25,000	63,000			
			2,000	138	28,000	71,000				28,000	71,000			
240 to 500 psig (16.5 to 34.5 bar) Red Spring RG20H Only			250	17.2	300	20.7	4,500	9,900	18,500	37,000	75,000	4,500	9,900	18,500
	400	27.6			6,400	14,300	26,000	55,000	81,000	6,400	14,300	26,000	55,000	81,000
	500	34.5			8,090	18,300	33,000	64,000	95,000	8,090	18,300	33,000	64,000	95,000
	750	51.8			12,000	27,200	49,000	102,000		12,000	27,200	49,000	102,000	
	1,000	69.0			16,000	36,100	65,000			16,000	36,100	65,000		
	1,250	86.2			19,000	45,000	81,000			19,000	45,000	81,000		
	1,500	103			22,000	54,000				22,000	54,000			
	1,750	121			25,000	63,000				25,000	63,000			
	2,000	138			28,000	71,000				28,000	71,000			
	300	20.7			350	24.1	5,150	11,300	18,400	31,000	45,000	5,150	11,300	18,400
			400	27.6	6,200	13,700	23,400	40,000	52,000	6,200	13,700	23,400	40,000	52,000
			500	34.5	8,090	18,300	32,000	53,000	67,000	8,090	18,300	32,000	53,000	67,000
			750	51.7	12,000	27,200	48,000	80,000		12,000	27,200	48,000	80,000	
			1000	69	16,000	36,100	62,000			16,000	36,100	62,000		
			1250	86.2	19,000	45,000	79,000			19,000	45,000	79,000		
			1500	103	22,000	54,000				22,000	54,000			
			1750	121	25,000	63,000				25,000	63,000			
			2000	138	28,000	71,000				28,000	71,000			

# Capacities of 0.6 S.G. Natural Gas in SCFH continued

Outlet Pressure Range	Outlet Pressure		Inlet Pressure		1" Body Size					2" Body Size				
	psig	bar	psi	bar	Orifice Diameter					Orifice Diameter				
					.125"	.188"	.25"	.375"	.50"	.125"	.188"	.25"	.375"	.50"
240 to 500 psig (16.5 to 34.5 bar) Red Spring RG20H Only	400	27.6	450	31	6,400	14,000	25,000	47,000	67,000	6,400	14,000	25,000	47,000	67,000
			500	34.6	8,090	18,300	32,000	54,000	77,000	8,090	18,300	32,000	54,000	77,000
			750	51.7	12,000	27,200	49,000	91,000		12,000	27,200	49,000	91,000	
			1000	69	16,000	36,100	65,000			16,000	36,100	65,000		
			1250	86.2	19,000	45,000	81,000			19,000	45,000	81,000		
			1500	103	22,000	54,000				22,000	54,000			
			1750	121	25,000	63,000				25,000	63,000			
	2000	138	28,000	71,000				28,000	71,000					
	500	34.5	550	37.9	7,700	16,800	33,000	62,000	90,000	7,700	16,800	33,000	62,000	90,000
			600	47.4	8,800	19,400	37,000	70,000	104,000	8,800	19,400	37,000	70,000	104,000
			750	51.7	12,000	27,200	49,000	88,000	140,000	12,000	27,200	49,000	88,000	140,000
			1000	69	16,000	36,100	65,000	130,000		16,000	36,100	65,000	130,000	
			1250	86.2	19,000	45,000	81,000			19,000	45,000	81,000		
			1500	103	22,000	54,000	97,000			22,000	54,000	97,000		
1750			121	25,000	63,000				25,000	63,000				
2000	138	28,000	71,000				28,000	71,000						

## Pressure Ranges

Outlet Pressure Range	Orifice Size	Maximum Inlet Pressure					
		Nylon Disk		Buna Disk		Viton® Disk	
		psi	bar	psi	bar	psi	bar
5' to 20 psig (0.34 to 1.4 bar)	.125"	1000	69	1000	69.0	300	20.7
	.188"	750	51.7	750	51.7	300	20.7
	.25"	500	34.5	500	34.5	300	20.7
	.375"	300	20.7	300	20.7	300	20.7
	.50"	250	17.2	250	17.2	250	17.2
15 to 40 psig (1.0 to 2.8 bar)	.125"	1500	103.4	1000	69.0	300	20.7
	.188"	1000	69.0	1000	69.0	300	20.7
	.25"	750	51.7	750	51.7	300	20.7
	.375"	500	34.5	500	34.5	300	20.7
	.50"	300	20.7	300	20.7	300	20.7
35 to 80 psig (2.4 to 5.5 bar)	.125"	2000	137.9	1000	69.0	300	20.7
	.188"	1750	120.7	1000	69.0	300	20.7
	.25"	1500	103.4	1000	69.0	300	20.7
	.375"	1000	69.0	1000	69.0	300	20.7
	.50"	750	51.7	750	51.7	300	20.7
70 to 150 psig (4.8 to 10.3 bar)	.125"	2000	137.9	1000	69.0	300	20.7
	.188"	2000	137.9	1000	69.0	300	20.7
	.25"	1750	120.7	1000	69.0	300	20.7
	.375"	1250	86.2	1000	69.0	300	20.7
	.50"	750	51.7	750	51.7	300	20.7
140 to 250 psig (9.7 to 17.2 bar)	.125"	2000	138				
	.188"	1750	121				
	.25"	1500	103				
	.375"	1000	69.0				
	.50"	750	51.7				
240 to 500 psig (16.5 to 34.5 bar)	.125"	2000	138				
	.188"	1750	121				
	.25"	1500	103				
	.375"	1000	69.0				
	.50"	750	51.7				

1. For outlet pressure setting below 10 psi (.69 bar) the inlet pressure should be 100 psi (6.9 bar) or less.

# How to Order

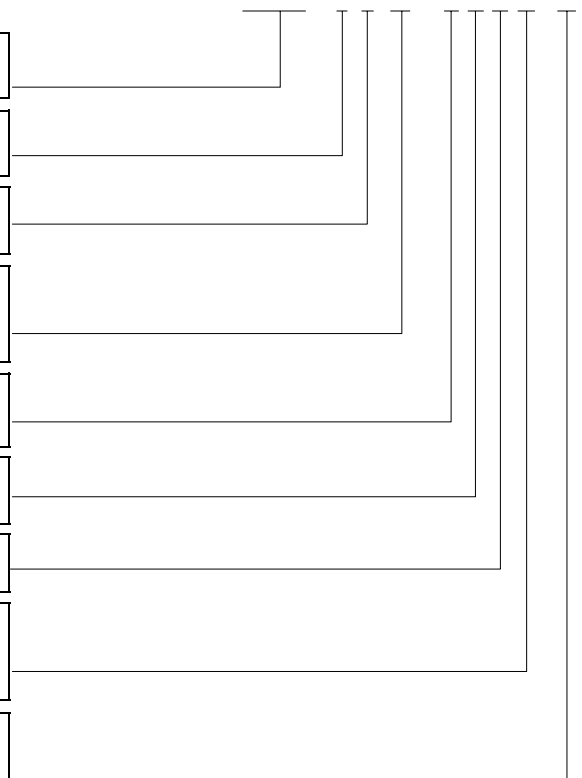
The part numbering system is detailed below.

Example Model No. **RG20-1N50-A1B6-3**

RG20 Series Regulator, 1" Body, Threaded Ends, Aluminum Disk Holder, Buna Diaphragm, Buna Seat and Seals, .375" Orifice, 35-80 PSI

**RG20 - 1 N 50 - A 1 B 6 - 3**

<b>Model</b>		
RG20 - Standard Pressure (Springs 1-5)    RG20H - High Pressure (Springs 6 & 7)		
<b>Connection Size</b>		
1 - 1"	2 - 2"	
<b>Connection Type</b>		
N - NPT	F - RFF	
<b>Class</b>		
50 - Threaded	30 - 300	
10 - 150	60 - 600	
<b>Trim Material</b>		
A - Aluminum (Buna Seat Only)	T - Stainless (NACE)	
<b>Diaphragm and Seal Material</b>		
1 - Buna	2 - Viton® (NACE)	
<b>Seat Material</b>		
V - Viton® (NACE)	B - Buna	N - Nylon (NACE)
<b>Orifice Size</b>		
2 - .125" (1/8")	4 - .25"	8 - .50"
3 - .188" (3/16")	6 - .375" (3/8")	
<b>Outlet Spring Range</b>		
1 - 5-20 psi	4 - 70-150 psi	7 - 240-500psi
2 - 15-40 psi	5 - 10-95 psi	
3 - 35-80 psi	6 - 140-250psi	



Repair kits available.

Note: Nylon is only recommended for use with springs 3 through 7 (35-500 psi).



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