

High-Pressure Regulators RG10 Models

The RG10 pressure regulator is a high-pressure, direct-spring operated pressure regulator. Its heavy-duty design makes it ideal for high-pressure regulation in the oil and natural gas industry.

Typical applications include farm taps, first or second cut regulation, transmission to distribution and many other high-pressure processes. It has a maximum inlet pressure of 1500 psi and an outlet range of 27-500 psi. This high-pressure regulator may also be converted into a relief valve. A NACE option is available for sour service.

Specifications

Sizes: 1" & 2"

Connection: Female NPT, flanged

Body Type: Globe

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

Temperature Range:

0° F to 300° F (-18° C to 149° C) Viton®

-20° F to 180° F (-29° C to 82° C) Buna, nylon, neoprene

Body Pressure Rating: 1500 psi

Housing Pressure Rating:

To prevent housing failure: 550 psi

To prevent damage to internal parts: 200 psi above set point

up to 550 psi max

Weight: 1"–25 lbs, 2"–30 lbs

Materials:

Body: WCB steel

Housing and Spring Cover: WCB steel

Orifice, Disk Holder and Shuttle: Brass, stainless (optional)

Disk: Buna, Viton®, nylon

Diaphragm: Neoprene, Viton® (optional)

Inlet Pressure

The inlet pressure should not exceed the sum of the regulator set point and the max pressure drop.

Example:

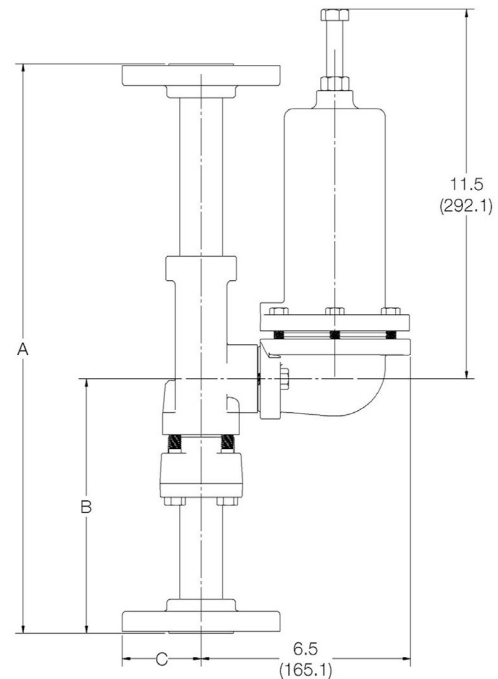
For a 100 psi set point with a max pressure-drop of 750, the inlet pressure should be kept below 850 psi.

Maximum Inlet Pressure and Pressure Drop									
Orifice Size	Max Inlet Pressure		Max Pressure Drop						
			Nylon Disk		Viton® Disk		Buna Disk		
	psi	bar	psi	bar	psi	bar	psi	bar	psi
.125"	1500	103.4	1500	103.4	200	13.8	600	41.4	
.188"	1500	103.4	1500	103.4			600	41.4	
.25"	1500	103.4	1000	69.0			600	41.4	
.375"	1000	69.0	500	34.5			500	34.5	
.50"	750	51.7	250	17.2			250	17.2	



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Dimensions



Dimensions				
Connection	Body Size	A	B	C
Threaded	1" Body	7.5	3.7	1.3
	2" Body	7.9	3.9	1.9
150 RFF	1" Body	17.9	8.0	2.1
	2" Body	19.9	8.7	3.0
300/600 RFF	1" Body	17.9	8.0	2.4
	2" Body	19.9	8.7	3.3

Capacities of 0.6 S.G. Natural Gas in SCFH

Outlet Pressure Range	Outlet Pressure		Inlet Pressure		1" Body Size					2" Body Size				
	psig	bar	psig	bar	Orifice Diameter					Orifice Diameter				
					.125"	.188"	.25"	.375"	.50"	.125"	.188"	.25"	.375"	.50"
27 to 50 psig (1.86 to 3.4 bar)	50	3.4	60	4.1	900	2,000	3,100	5,200	8,100	1,000	2,100	3,200	5,300	12,000
			75	5.2	1,300	2,800	3,800	7,200	10,000	1,400	2,900	3,900	7,300	16,000
			100	6.9	1,700	3,500	5,700	10,500	13,000	1,800	3,600	5,800	10,000	21,000
			150	10.3	2,600	5,700	8,700	13,000	17,000	2,700	5,800	9,000	15,000	36,000
			200	13.8	3,500	7,800	11,000	16,000	19,000	3,600	7,900	12,000	21,000	55,000
			300	20.7	5,300	10,500	14,000	20,000	23,000	5,500	11,000	19,000	48,000	83,000
			400	27.6	6,900	13,000	17,000	23,000		7,000	15,000	27,000	63,000	
			550	19.3	9,600	16,000	20,000	26,000		9,700	21,000	38,000	88,000	
			600	41.4	9,800	17,000	21,000			10,000	23,000	42,000		
			1,050	72.4	17,000	23,000	27,000			19,000	42,000	74,000		
1,500	103	19,000	25,000				27,000	60,000						
46 to 95 psig (32 to 6.5 bar)	50	3.4	60	4.1	800	1,500	2,400	4,300	6,400	900	1,600	2,500	4,400	7,300
			75	5.2	1,200	2,100	3,100	5,500	8,000	1,300	2,200	3,200	6,100	9,300
			100	6.9	1,500	3,100	4,200	7,500	10,000	1,600	3,400	4,300	7,600	12,000
			150	10.3	2,400	4,500	6,700	11,000	14,000	2,500	4,600	7,100	12,000	19,000
			200	13.8	3,400	6,600	9,400	14,000	17,000	3,500	6,700	9,600	16,000	27,000
			300	20.7	5,200	8,900	11,000	16,000	20,000	5,300	10,000	14,000	27,000	51,000
			400	27.6	6,800	11,000	15,000	20,000		6,900	13,000	21,000	46,000	
			550	19.3	9,500	13,000	17,000	23,000		9,600	18,000	29,000	87,000	
			600	41.4	9,800	14,000	19,000			10,000	20,000	35,000		
			1,050	72.4	14,000	19,000	22,000			18,000	41,000	73,000		
	1,500	103	18,000	24,000				26,000	59,000					
	75	5.2	100	6.9	1,700	3,200	5,000	8,000	13,000	1,800	3,300	5,200	9,000	14,000
			125	8.6	2,200	4,300	6,700	10,000	15,000	2,300	4,400	6,900	11,000	18,000
			200	5.2	3,500	7,300	10,000	16,000	22,000	3,600	7,400	11,000	19,000	30,000
			250	17.2	4,400	9,400	13,000	19,000	24,000	4,500	9,500	14,000	26,000	44,000
			325	22.4	5,700	11,000	16,000	23,000	27,000	5,800	12,000	18,000	36,000	67,000
			400	27.6	7,100	14,000	19,000	27,000		7,200	15,000	24,000	47,000	
			575	39.6	9,700	18,000	23,000	30,000		9,800	22,000	37,000	92,000	
			600	41.4	9,900	19,000	25,000			10,000	23,000	39,000		
			1,075	74.1	18,000	27,000	32,000			19,000	42,000	75,000		
1,500			103	23,000	32,000				24,000	60,000				
90 to 150 psig (6.2 to 10.3 bar)	100	6.9	125	8.6	2,000	3,600	5,500	9,200	13,000	2,100	3,700	5,600	9,800	15,000
			150	10.3	2,500	4,600	6,800	11,000	16,000	2,600	4,900	7,400	12,000	18,000
			200	5.2	3,600	6,600	9,400	13,000	22,000	3,700	6,900	10,000	17,000	27,000
			250	17.2	4,400	8,500	11,000	18,000	26,000	4,500	8,700	13,000	22,000	34,000
			300	20.7	5,300	9,800	14,000	21,000	30,000	5,400	10,000	16,000	27,000	44,000
			350	24.1	6,100	10,000	16,000	25,000	32,000	6,300	12,000	19,000	33,000	57,000
			400	27.6	7,000	13,000	18,000	27,000		7,200	14,000	21,000	39,000	
			600	41.4	9,500	18,000	23,000	35,000		10,000	21,000	34,000	69,000	
			1,100	75.8	19,500	28,000	35,000			19,000	43,000	74,000		
			1,500	103	25,000	35,000				27,000	59,000			
	125	8.6	150	10.3	2,400	4,600	6,700	11,000	17,000	2,500	5,000	8,100	12,000	20,000
			200	5.2	3,500	6,800	10,000	15,000	23,000	3,600	7,400	11,000	19,000	30,000
			250	17.2	4,300	8,900	12,000	19,000	29,000	4,400	9,400	14,000	24,000	39,000
			300	20.7	5,200	10,000	15,000	25,000	34,000	5,300	11,000	17,000	31,000	48,000
			375	25.9	6,600	13,000	18,500	28,000	39,000	7,000	15,000	24,000	43,000	65,000
			400	27.6	7,300	14,500	19,000	29,000		8,300	18,000	28,000	56,000	
			500	34.5	7,900	15,000	25,000	36,000		8,800	19,000	30,000	59,000	
			625	43.1	10,000	22,000	29,000	41,000		11,000	24,000	40,000	79,000	
			1,125	77.6	18,000	33,000	42,000			19,000	44,000	79,000		
			1,500	103	26,000	43,000				27,000	60,000			
150	10.3	200	13.8	3,400	6,800	10,000	16,000	26,000	3,500	7,300	11,000	18,000	30,000	
		250	17.2	4,400	8,800	13,000	20,000	32,000	4,500	9,500	15,000	26,000	38,000	
		300	20.7	5,300	10,000	15,000	24,000	35,000	5,400	11,000	19,000	32,000	52,000	
		400	27.6	7,100	14,000	22,000	34,000	42,000	7,200	15,000	26,000	46,000	77,000	
		450	31.0	7,700	17,000	24,000	36,000		8,100	18,000	29,000	54,000		
		650	44.8	9,000	24,000	33,000	49,000		10,000	25,000	44,000	88,000		
		800	55.2	13,000	29,000	38,000			14,000	30,000	54,000			
		1,150	79.2	20,000	38,000	49,000			21,000	46,000	78,000			
1,500	103	26,000	47,000				27,000	60,000						

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	psig	bar	Orifice Diameter					Orifice Diameter					
					.125"	.188"	.25"	.375"	.50"	.125"	.188"	.25"	.375"	.50"	
150 to 200 psig (10.3 to 13.8 bar)	150	10.3	200	13.8	3,400	6,200	9,300	16,000	24,000	3,500	6,900	10,000	17,000	28,000	
			250	17.2	4,300	8,800	12,000	20,000	27,000	4,400	9,000	13,000	23,000	36,000	
			300	20.7	5,300	10,000	15,000	24,000	30,000	5,400	11,000	17,000	28,000	47,000	
			400	27.6	7,100	14,000	21,000	32,000	38,000	7,200	15,000	24,000	40,000	66,000	
			450	31.0	7,600	15,000	24,000	36,000		8,000	17,000	27,000	46,000		
			650	44.8	9,000	21,000	33,000	48,000		10,000	22,000	40,000	74,000		
			800	55.2	13,000	27,000	37,000			14,000	30,000	51,000			
				1,150	79.3	19,500	34,000	49,000			20,000	45,000	78,000		
				1,500	103	26,000	44,000				27,000	60,000			
		200	13.8	250	17.2	4,200	8,300	12,000	20,000	30,000	4,300	9,100	13,000	23,000	42,000
	300			20.7	5,200	10,000	16,000	25,000	35,000	5,300	11,000	18,000	33,000	52,000	
	450			31.0	7,800	16,000	26,000	43,000	50,000	7,900	17,000	29,000	52,000	84,000	
	600			41.1	9,500	22,000	34,000	55,000		10,000	23,000	40,000	75,000		
	700			48.3	11,000	25,000	40,000	61,000		12,000	27,000	47,000	90,000		
800	55.2			13,000	30,000	43,000			14,000	31,000	54,000				
1,000	68.9			16,000	37,000	50,000			17,000	39,000	69,000				
			1,200	82.7	20,000	41,000	59,000			21,000	48,000	83,000			
			1,500	103	26,000	53,000				27,000	60,000				
200 to 275 psig (13.8 to 19 bar)	200	13.8	250	17.2	4,200	8,200	11,000	20,000	29,000	4,300	8,900	12,000	23,000	35,000	
			300	20.7	5,200	10,000	14,500	25,000	35,000	5,300	11,000	18,000	31,000	46,000	
			450	31.0	7,700	16,000	24,000	40,000	50,000	7,800	17,000	28,000	50,000	78,000	
			600	41.4	9,500	22,000	31,000	51,000		10,000	23,000	38,000	70,000		
			700	48.3	11,000	25,000	35,000	55,000		12,000	27,000	45,000	83,000		
			800	55.2	13,000	29,000	42,000			14,000	31,000	52,000			
			1,000	68.9	16,000	36,000	50,000			17,000	39,000	68,000			
				1,200	82.7	19,000	41,000	55,000			20,000	46,000	83,000		
				1,500	103	26,000	51,000				27,000	60,000			
		250	17.2	300	20.7	4,900	9,000	15,000	28,000	42,000	5,000	10,000	17,000	30,000	52,000
	400			27.6	7,000	14,000	23,000	40,000	56,000	7,100	15,000	25,000	47,000	76,000	
	500			34.5	8,500	18,000	29,000	51,000	65,000	8,600	19,000	34,000	62,000	103,000	
	600			41.4	9,500	22,000	34,000	59,000		10,000	23,000	41,000	78,000		
	750			51.7	12,500	28,000	44,000	69,000		13,000	29,000	51,000	106,000		
1,000	68.9			16,000	39,000	58,000			17,000	40,000	68,000				
1,200	82.7			21,000	49,000	69,000			22,000	50,000	87,000				
			1,500	103	26,000	59,000				27,000	60,000				
	275	19	300	20.7	4,700	9,000	15,000	28,000	39,000	4,800	10,000	17,000	29,000	43,000	
400			27.6	6,900	14,000	25,000	40,000	54,000	7,000	15,000	26,000	47,000	73,000		
525			36.2	8,600	18,000	35,000	68,000	94,000	9,200	20,000	36,000	69,000	112,000		
775			53.4	11,000	28,000	51,000	95,000		12,000	30,000	52,000	112,000			
1,000			68.9	16,000	39,000	67,000			17,000	40,000	68,000				
1,275			89.9	21,000	50,000	87,000			22,000	51,000	89,000				
1,500			103	26,000	60,000				26,000	61,000					
275 to 500 psig (19 to 34.5 bar)	275	19	300	20.7	4,500	7,500	10,000	20,000	31,000	4,600	8,400	13,000	23,000	37,000	
			400	27.6	6,600	12,000	16,000	31,000	43,000	7,000	13,000	20,000	32,000	53,000	
			525	36.2	8,600	16,000	21,000	39,000	56,000	9,300	18,000	27,000	46,000	73,000	
			775	53.4	11,000	24,000	32,000	55,000		13,000	28,000	44,000	73,000		
			1,000	68.9	17,000	32,000	43,000			18,000	37,000	57,000			
			1,275	87.9	21,000	40,000	53,000			22,000	48,000	77,000			
			1,500	103	26,000	46,000				27,000	57,000				
		300	20.7	400	27.6	6,600	11,000	16,000	31,000	42,000	7,000	13,000	21,000	35,000	54,000
	550			38	9,700	18,000	23,000	44,000	63,000	9,800	20,000	30,000	52,000	78,000	
	600			41.4	9,900	19,000	26,000	48,000		10,000	21,000	34,000	59,000		
	700			48.3	11,000	23,000	30,000	54,000		12,000	26,000	40,000	72,000		
	800			55.2	13,000	26,000	35,000	61,000		14,000	29,000	47,000	81,000		
	900			62.1	15,000	29,000	39,000			16,000	34,000	53,000			
	1,300			90	22,000	43,000	58,000			23,000	50,000	80,000			
			1,500	103	26,000	49,000				27,000	58,000				

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	psig	bar	Orifice Diameter					Orifice Diameter				
					.125"	.188"	.25"	.375"	.50"	.125"	.188"	.25"	.375"	.50"
275 to 500 psig (19 to 34.5 bar)	400	27.6	500	34.5	8,300	16,000	24,000	44,000	62,000	8,800	17,000	28,000	49,000	77,000
			600	41.4	10,000	24,000	33,000	61,000	86,000	11,000	25,000	40,000	75,000	112,000
			800	55.2	13,000	30,000	41,000	76,000		14,000	31,000	51,000	95,000	
			900	62.1	15,000	34,000	49,000	85,000		16,000	36,000	58,000	110,000	
			1,000	68.9	17,000	38,000	54,000			18,000	40,000	66,000		
			1,200	82.7	20,000	46,000	63,000			21,000	48,000	80,000		
			1,400	96.5	24,000	55,000	76,000			25,000	57,000	96,000		
	1,500	103	26,000	60,000				27,000	61,000					
	500	34.5	8,700	16,000	26,000	50,000	77,000	9,000	18,000	30,000	53,000	89,000		
	750	51.7	12,000	28,000	40,000	78,000	100,000	13,000	29,000	48,000	90,000	141,000		
	900	62.1	15,000	34,000	52,000	92,000		16,000	35,000	60,000	113,000			
	1,000	68.9	17,000	39,000	60,000	100,000		18,000	40,000	67,000	130,000			
	1,500	103	26,000	59,000	72,000			27,000	60,000	82,000				

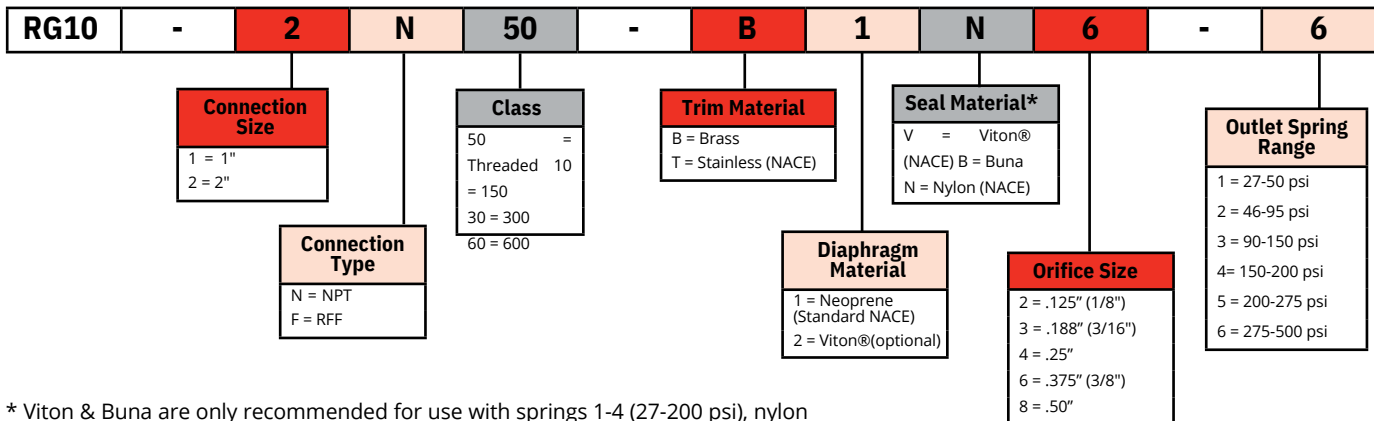
- Capacity is based on 20 percent droop unless otherwise noted below.
- Grayed out areas indicate that the inlet pressure is too high for a given orifice size.
- To convert capacities to another gas, multiply by .775 and divide by the square root of the specific gravity of the desired gas.

How to Order

Options are listed below. All configurations may not be available. Call your sales representative or FW Murphy for more information. Repair kits are available.

Example Model No. **RG10-2N50-B1N6-6**

RG10 Series Regulator, 2" Body, Threaded Ends, Brass Trim, Neoprene Diaphragm, Nylon Seat, .375" Orifice, 275-500 psi Spring



* Viton & Buna are only recommended for use with springs 1-4 (27-200 psi), nylon is only recommended for use with springs 5-6 (200-500 psi).



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