

RG50 Regulator

The RG50 is a pressure reducing regulator with a wide variety of applications such as natural gas distribution systems, boilers, furnaces, and much more. The RG50 provides high accuracy, no atmospheric bleed, and a heavy main spring that provides a tight shutoff. With high-capacity pressure control and excellent low flow control, topped off with ease of maintenance, the RG50 is the perfect solution for pressure reducing applications, when high flow and high accuracy are required.

Three pilot options with different spring ranges are available for the RG50. The RG50H has a spring range of 10-65 psi, and the RG50HP has a spring range of 35-100 psi. The RG50LD has multiple springs covering a range of 2 inWC to 20 psi.

Specifications

Sizes: 2"

Connection: Female NPT, Flanged

Body Type: Globe

Port Sizes: 7/8", 1 1/8",

Reduced Sizes 7/8" x 5/8", 7/8" x 1/2", 7/8" x 3/8"

Spring Range: RG50HP: 35 - 100 psi, RG50H: 10 - 65 psi

RG50LD: 0.072 psi (2 in WC) - 20 psi

Maximum Inlet Pressure:

7/8" Orifice - 400 psi

1-1/8" Orifice - 300 psi

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

Maximum Actuator Pressures:

Operating: 100 psi

Emergency: 110 psi

Maximum Pilot Spring Case Pressure for Pressure Loading: 100 psi

Maximum Rated Travel: 1/4 in(6.4 mm)

Materials:

Body: Ductile Iron

Actuator Casing: Ductile Iron

Pilot Body and Spring Case: Ductile Iron

Orifice, Disk Holder and Shuttle: Brass

Disk: Buna, Viton®, Nylon

Diaphragm: Neoprene



RG50H



RG50HP

Body Pressure Ratings	
NPT	600 psi
150 Class Flange	250 psi
300 Class Flange	640 psi

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

Orifice Size				Inlet Pressure		Outlet Pressure, psig/bar																							
						0.25 / 0.02		0.5 / 0.03		1 / 0.07		2.0 / 0.14		3 / 0.21		4 / 0.28		5 / 0.34		6 / 0.41		7 / 0.48		8 / 0.55		9 / 0.62			
In.	mm	psig	bar	SCFH	Nm³/h	SCFH	Nm³/h	SCFH	Nm³/h	SCFH	Nm³/h	SCFH	Nm³/h	SCFH	Nm³/h	SCFH	Nm³/h	SCFH	Nm³/h	SCFH	Nm³/h	SCFH	Nm³/h	SCFH	Nm³/h				
7/8	22	5	0.34	7.2	0.2	7.2	0.2	6.6	0.2	6.6	0.2																		
		6	0.41	7.8	0.2	7.8	0.2	7.8	0.2	7.8	0.2	6.6	0.2																
		7	0.48	9	0.2	9	0.2	9	0.2	9	0.2	7.2	0.2	6.6	0.2														
		8	0.55	9.6	0.3	9.6	0.3	9.6	0.3	9.6	0.3	7.8	0.2	7.2	0.2	6.6	0.2												
		9	0.62	10	0.3	10	0.3	10	0.3	10	0.3	9	0.2	8.4	0.2	7.2	0.2	6.6	0.2										
		10	0.69	11.4	0.3	11.4	0.3	10.8	0.3	10	0.3	9.6	0.3	9	0.2	8.4	0.2	7.8	0.2	7.2	0.2								
		15	1	14.4	0.4	14.4	0.4	14.4	0.4	14.4	0.4	14.4	0.4	13.8	0.4	13.2	0.4	13.2	0.4	12	0.3	12	0.3	11.4	0.3				
		20	1.4	18.6	0.5	18.6	0.5	18.6	0.5	18.6	0.5	18.6	0.5	18.6	0.5	18	0.5	16.8	0.5	16.2	0.4	15.6	0.4	15	0.4				
		25	1.7	21	0.6	21	0.6	21	0.6	21	0.6	21	0.6	21	0.6	21	0.6	21	0.6	21	0.6	19.8	0.5	19.8	0.5				
		30	2.1	23	0.6	23	0.6	23	0.6	23	0.6	23	0.6	23	0.6	23	0.6	23	0.6	23	0.6	23	0.6	23	0.6				
		35	2.4	26	0.7	26	0.7	26	0.7	26	0.7	26	0.7	26	0.7	26	0.7	26	0.7	26	0.7	26	0.7	26	0.7				
		40	2.8	28	0.8	28	0.8	28	0.8	28	0.8	28	0.8	28	0.8	28	0.8	28	0.8	28	0.8	28	0.8	28	0.8				
		50	3.4	34	0.9	34	0.9	34	0.9	34	0.9	34	0.9	34	0.9	34	0.9	34	0.9	34	0.9	34	0.9	34	0.9				
		60	4.1	42	1.1	42	1.1	42	1.1	42	1.1	42	1.1	42	1.1	42	1.1	42	1.1	42	1.1	42	1.1	42	1.1				
		75	5.2	47	1.3	47	1.3	47	1.3	47	1.3	47	1.3	47	1.3	47	1.3	47	1.3	47	1.3	47	1.3	47	1.3				
		100	6.9	59	1.6	59	1.6	59	1.6	59	1.6	59	1.6	59	1.6	59	1.6	59	1.6	59	1.6	59	1.6	59	1.6				
		125	8.6	73	2	73	2	73	2	73	2	73	2	73	2	73	2	73	2	73	2	73	2	73	2				
		150	10.3	86	2.3	86	2.3	86	2.3	86	2.3	86	2.3	86	2.3	86	2.3	86	2.3	86	2.3	86	2.3	86	2.3				
		175	12.1	96	2.6	96	2.6	96	2.6	96	2.6	96	2.6	96	2.6	96	2.6	96	2.6	96	2.6	96	2.6	96	2.6				
		200	13.8	108	2.9	108	2.9	108	2.9	108	2.9	108	2.9	108	2.9	108	2.9	108	2.9	108	2.9	108	2.9	108	2.9				
		225	15.5	123	3.3	123	3.3	123	3.3	123	3.3	123	3.3	123	3.3	123	3.3	123	3.3	123	3.3	123	3.3	123	3.3				
		250	17.2	132	3.5	132	3.5	132	3.5	132	3.5	132	3.5	132	3.5	132	3.5	132	3.5	132	3.5	132	3.5	132	3.5				
		300	20.7	162	4.3	162	4.3	162	4.3	162	4.3	162	4.3	162	4.3	162	4.3	162	4.3	162	4.3	162	4.3	162	4.3				
		350	24.1	188	5	188	5	188	5	188	5	188	5	188	5	188	5	188	5	188	5	188	5	188	5				
		400	27.6	215	5.8	215	5.8	215	5.8	215	5.8	215	5.8	215	5.8	215	5.8	215	5.8	215	5.8	215	5.8	215	5.8				
		1 1/8	29	1	0.07	5	0.1*																						
				2	0.14	7.5	0.2*	7.5	0.2*	6	0.2*																		
				3	0.21	9	0.2	9	0.2*	8.5	0.2*																		
				4	0.28	10	0.3	10	0.3	10	0.3	8.5	0.2*																
				5	0.34	12	0.3	12	0.3	12	0.3	10	0.3	9	0.2*														
				6	0.41	13	0.3	13	0.3	13	0.3	12	0.3	10	0.3	9	0.2*												
				7	0.48	15	0.4	15	0.4	15	0.4	13	0.3	12	0.3	10	0.3	9	0.2*										
8	0.55			16	0.4	16	0.4	16	0.5	14	0.4	13	0.3	12	0.3	11	0.3	9	0.2*										
9	0.62			17	0.5	17	0.5	17	0.6	16	0.4	15	0.4	14	0.4	12	0.3	11	0.3	10	0.3*								
10	0.69			19	0.5	19	0.5	19	0.6	17	0.5	16	0.4	15	0.4	14	0.4	13	0.3	12	0.3	10	0.3*						
15	1			24	0.6	24	0.6	24	0.7	24	0.6	24	0.6	23	0.6	22	0.6	22	0.5	20	0.5	20	0.5	19	0.5				
20	1.4			31	0.8	31	0.8	31	0.8	31	0.8	31	0.8	31	0.8	30	0.8	30	0.7	27	0.7	26	0.7	25	0.7				
25	1.7			35	0.9	35	0.9	35	0.9	35	0.9	35	0.9	35	0.9	35	0.9	35	0.9	35	0.9	35	0.9	33	0.9				
30	2.1			39	1	39	1	39	1	39	1	39	1	39	1	39	1	39	1	39	1	39	1	39	1				
35	2.4			44	1.2	44	1.2	44	1.2	44	1.2	44	1.2	44	1.2	44	1.2	44	1.2	44	1.2	44	1.2	44	1.2				
40	2.8			47	1.3	47	1.3	47	1.3	47	1.3	47	1.3	47	1.3	47	1.3	47	1.3	47	1.3	47	1.3	47	1.3				
50	3.4			57	1.5	57	1.5	57	1.5	57	1.5	57	1.5	57	1.5	57	1.5	57	1.5	57	1.5	57	1.5	57	1.5				
60	4.2			65	1.7	65	1.7	65	1.7	65	1.7	65	1.7	65	1.7	65	1.7	65	1.7	65	1.7	65	1.7	65	1.7				
75	5.2			78	2.1	78	2.1	78	2.1	78	2.1	78	2.1	78	2.1	78	2.1	78	2.1	78	2.1	78	2.1	78	2.1				
100	6.9			99	2.7	99	2.7	99	2.7	99	2.7	99	2.7	99	2.7	99	2.7	99	2.7	99	2.7	99	2.7	99	2.7				
125	8.6			122	3.3	122	3.3	122	3.3	122	3.3	122	3.3	122	3.3	122	3.3	122	3.3	122	3.3	122	3.3	122	3.3				
150	10.3			143	3.8	143	3.8	143	3.8	143	3.8	143	3.8	143	3.8	143	3.8	143	3.8	143	3.8	143	3.8	143	3.8				
175	12.1			160	4.3	160	4.3	160	4.3	160	4.3	160	4.3	160	4.3	160	4.3	160	4.3	160	4.3	160	4.3	160	4.3				
200	13.8			180	4.8	180	4.8	180	4.8	180	4.8	180	4.8	180	4.8	180	4.8	180	4.8	180	4.8	180	4.8	180	4.8				
225	15.5			205	5.5	205	5.5	205	5.5	205	5.5	205	5.5	205	5.5	205	5.5	205	5.5	205	5.5	205	5.5	205	5.5				
250	17.2			220	5.9	220	5.9	220	5.9	220	5.9	220	5.9	220	5.9	220	5.9	220	5.9	220	5.9	220	5.9	220	5.9				
300	20.7			265	7.1	265	7.1	265	7.1	265	7.1	265	7.1	265	7.1	265	7.1	265	7.1	265	7.1	265	7.1	265	7.1				

RG50LD

1. Grayed out areas indicate that the inlet pressure is too high for a given orifice size.
2. To convert capacities to another gas, multiply by .775 and divide by the square root of the specific gravity of the desired gas.
3. To convert SCFH to m³/hr multiply by 0.0268
4. * - Requires 0.75 psi(g) / 0.05 bar minimum differential pressure construction.

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

Orifice Size		Inlet Pressure		Outlet Pressure, psig/bar																											
				10 / 0.69		15 / 1.0		20 / 1.4		25 / 1.7		30 / 2.1		35 / 2.4		40 / 2.8		45 / 3.1		50 / 3.5		60 / 4.1		75 / 5.2		100 / 6.9					
In.	mm	psig	bar	SCFH	Nm³/h	SCFH	Nm³/h	SCFH	Nm³/h	SCFH	Nm³/h	SCFH	Nm³/h	SCFH	Nm³/h	SCFH	Nm³/h	SCFH	Nm³/h	SCFH	Nm³/h	SCFH	Nm³/h	SCFH	Nm³/h	SCFH	Nm³/h				
7/8	22	15	1.0	11.4	0.3																										
		20	1.4	15	0.4	10.8	0.3																								
		25	1.7	19.8	0.5	16.2	0.4	12	0.3																						
		30	2.1	23	0.6	20	0.5	17	0.5	12.5	0.3																				
		35	2.1	26	0.7	24	0.6	21	0.6	18	0.5	13	0.3																		
		40	2.8	28	0.8	28	0.8	26	0.7	23	0.6	19	0.5	14.4	0.4																
		50	3.4	34	0.9	34	0.9	34	0.9	31	0.8	28	0.8	25	0.7	21	0.6	15.5	0.4												
		60	4.1	42	1.1	42	1.1	42	1.1	42	1.1	37	1	35	0.9	30	0.8	27	0.7	23	0.6										
		75	5.2	47	1.3	47	1.3	47	1.3	47	1.3	47	1.3	47	1.3	45	1.2	41	1.1	37	1	30	0.8								
		100	6.9	59	1.6	59	1.6	59	1.6	59	1.6	59	1.6	59	1.6	59	1.6	59	1.6	59	1.6	53	1.4	44	1.2						
		125	8.6	73	2	73	2	73	2	73	2	73	2	73	2	73	2	73	2	73	2	73	2	66	1.8	48	1.3				
		150	10.3	86	2.3	86	2.3	86	2.3	86	2.3	86	2.3	86	2.3	86	2.3	86	2.3	86	2.3	86	2.3	86	2.3	72	1.9				
		175	12.1	96	2.6	96	2.6	96	2.6	96	2.6	96	2.6	96	2.6	96	2.6	96	2.6	96	2.6	96	2.6	96	2.6	93	2.5				
		200	13.8	108	2.9	108	2.9	108	2.9	108	2.9	108	2.9	108	2.9	108	2.9	108	2.9	108	2.9	108	2.9	108	2.9	108	2.9				
		225	15.5	123	3.3	123	3.3	123	3.3	123	3.3	123	3.3	123	3.3	123	3.3	123	3.3	123	3.3	123	3.3	123	3.3	123	3.3				
		250	17.2	132	3.5	132	3.5	132	3.5	132	3.5	132	3.5	132	3.5	132	3.5	132	3.5	132	3.5	132	3.5	132	3.5	132	3.5				
		300	20.7	162	4.3	162	4.3	162	4.3	162	4.3	162	4.3	162	4.3	162	4.3	162	4.3	162	4.3	162	4.3	162	4.3	162	4.3				
		350	24.1	188	5	188	5	188	5	188	5	188	5	188	5	188	5	188	5	188	5	188	5	188	5	188	5				
		400	27.6	215	5.8	215	5.8	215	5.8	215	5.8	215	5.8	215	5.8	215	5.8	215	5.8	215	5.8	215	5.8	215	5.8	215	5.8				
1 1/8	29	15	1.0	13	0.4																										
		20	1.4	24	0.6	18	0.5																								
		25	1.7	32	0.9	27	0.7	20	0.5																						
		30	2.1	39	1	34	0.9	28	0.8	21	0.6																				
		35	2.1	44	1.2	40	1.1	35	0.9	30	0.8	22	0.6																		
		40	2.8	47	1.3	47	1.3	43	1.2	38	1	32	0.9	24	0.6																
		50	3.4	57	1.5	57	1.5	57	1.5	52	1.4	47	1.3	42	1.1	35	0.9	26	0.7												
		60	4.2	65	1.7	65	1.7	65	1.7	65	1.7	62	1.7	58	1.6	50	1.3	45	1.2	38	1										
		75	5.2	78	2.1	78	2.1	78	2.1	78	2.1	78	2.1	78	2.1	74	2	68	1.8	60	0.9	50	1.3								
		100	6.9	99	2.7	99	2.7	99	2.7	99	2.7	99	2.7	99	2.7	99	2.7	99	2.7	99	2.7	99	2.7	88	2.4						
		125	8.6	122	3.3	122	3.3	122	3.3	122	3.3	122	3.3	122	3.3	122	3.3	122	3.3	122	3.3	122	3.3	122	3.3	80	2.1				
		150	10.3	143	3.8	143	3.8	143	3.8	143	3.8	143	3.8	143	3.8	143	3.8	143	3.8	143	3.8	143	3.8	143	3.8	120	3.2				
		175	12.1	160	4.3	160	4.3	160	4.3	160	4.3	160	4.3	160	4.3	160	4.3	160	4.3	160	4.3	160	4.3	160	4.3	155	4.2				
		200	13.8	180	4.8	180	4.8	180	4.8	180	4.8	180	4.8	180	4.8	180	4.8	180	4.8	180	4.8	180	4.8	180	4.8	180	4.8				
		225	15.5	205	5.5	205	5.5	205	5.5	205	5.5	205	5.5	205	5.5	205	5.5	205	5.5	205	5.5	205	5.5	205	5.5	205	5.5				
		250	17.2	220	5.9	220	5.9	220	5.9	220	5.9	220	5.9	220	5.9	220	5.9	220	5.9	220	5.9	220	5.9	220	5.9	220	5.9				
		300	20.7	265	7.1	265	7.1	265	7.1	265	7.1	265	7.1	265	7.1	265	7.1	265	7.1	265	7.1	265	7.1	265	7.1	265	7.1				
						RG50LD										RG50HP															
						RG50H																									

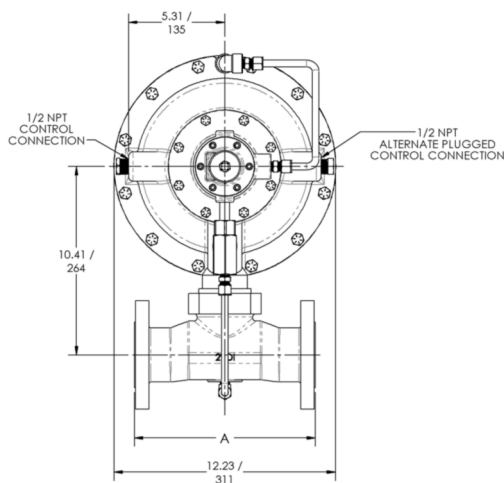
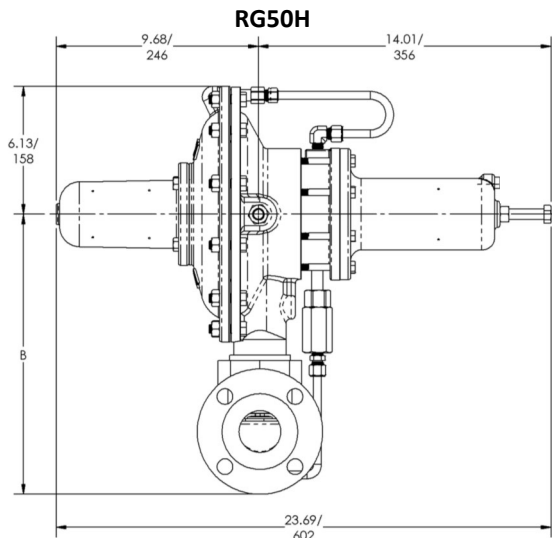
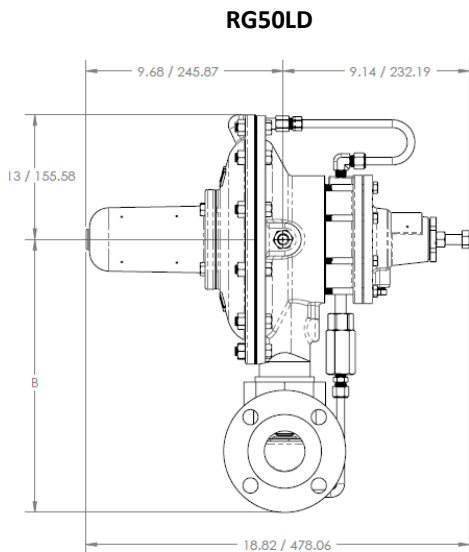
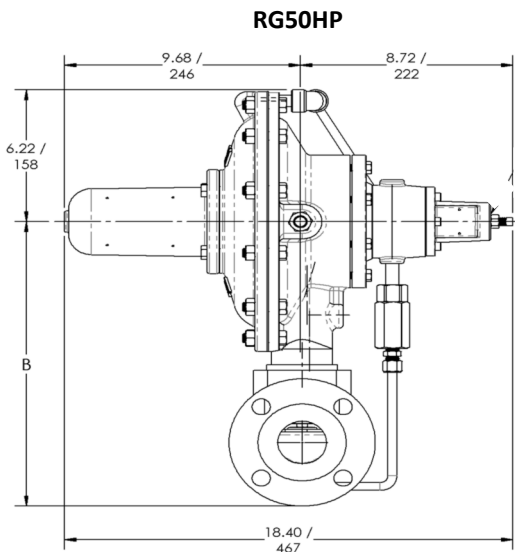
1. Grayed out areas indicate that the inlet pressure is too high for a given orifice size.
2. To convert capacities to another gas, multiply by .775 and divide by the square root of the specific gravity of the desired gas.
3. To convert SCFH to m³/hr multiply by 0.0268
- 4WC. To convert WC to psi multiply WC value by 0.36127.

Maximum Allowable Pressure Drop and Minimum Differential Pressures

Maximum Allowable Pressure Drop		Minimum Differential Pressure for Full Stroke		Disk Material	Maximum Orifice Size
psig	bar	psig	bar		In.
150	10.3	3	0.21	Buna and Viton	1 1/8"
250	17.2	3	0.21	Buna and Viton	7/8"
300	20.7	10	0.69	Nylon	1 1/8"
400	27.6	10	0.69	Nylon	7/8"

Dimensions

Dimensions in inches/mm.



Dimensions		
Body	A	B
NPT	6.25"	12.28"
Class 150	10.00"	13.41"
Class 300	10.50"	13.66"

How to Order

Example Model No. **RG50HP-2N50-BN7**

RG50HP Series Regulator, 2" Body, Threaded Ends, Brass Trim with Nylon Seat, 7/8" Port

RG50HP - 2 N 50 - B N 7 -

Pilot Style

LD - 0.072 psi (2 inWC) - 20 psi Pilot **H** - 10-65 psi Pilot **HP** - 35-100 psi Pilot

Connection Size

2 - 2"

Connection Type

N - NPT **F** - RFF

Class

50 - Threaded **10** - 150 **30** - 300

Trim Material

B - Brass

Seat Material

V - Viton® **B** - Buna **N** - Nylon*

Port Size

3 - 7/8" x 3/8" **4** - 7/8" x 1/2" **5** - 7/8" x 5/8"
7 - 7/8" **9** - 1 1/8"

Spring Range (LD Pilot Only)

1 - 2 - 4 inWC **2** - 3 - 12 inWC **3** - 0.25 - 2 psi **Blank** - for HP and H Pilots
4 - 2 - 10 psi **5** - 5 - 15 psi **6** - 10 - 20 psi

*Cannot be used with RG50LD

Repair kits available.

Beaumont Manufacturing
bmd
and Distribution Company
www.beaumontmanufacturing.com

Phone: 409-225-5863

Fax: 409-242-1005

850 Fannin St.

Beaumont, Texas 77701

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