Type 1227

High Flow Gas Pressure Regulator

Reliable pressure control for the oil and gas industry

The Type 1227 Pressure Regulator is a pressure-reducing, direct-operated regulator suitable for use with compressed air, natural gas, or an assortment of other inert gases. The Type 1227 is available with output ranges that span from 5 psi up to 150 psi and can be ordered with a variety of orifice sizes and materials providing application flexibility in the oil and gas industries.

Features

- Wide range of orifice sizes for different flow capacities
- 1" or 2" body size
- Guarded against unwanted set point adjustment with tamper-proof cap
- Trim can be replaced without disconnecting regulator from the system
- Can be re-arranged into multiple orientations for difficult installations with limited maneuverability
- Superior Sensitivity
- NACE MR0175 construction available
- Assembled and Tested in the USA

Materials of Construction

	Standard (S)	Nace (N)
Body	LCC Steel	LCC Steel
Bonnet, Diaphragm Case	Ductile Iron	LCC Steel
Diaphragm	Nitrile	Flourocarbon
Valve Disk	Nitrile (Nylon option)	Flourocarbon
Trim	Aluminum (stainless option)	Stainless Steel

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Table 1 Maximum Inlet Pressure by Output Range, Orifice Size, and Disk Material

Output Range**	Orifice Size		Maximum Inlet Pressure					
			Nitrile (NBR) Disk		Fluorocarbon (FKM) Disk		Nylon (PA) Disk (option)	
	in.	mm	psi	bar	psi	bar	psi	bar
5-20 psi (0.4-1.4 bar)	3/32	2.4	300	20.7	1000	69	2000	138
	1/8	3.2	300	20.7	1000	69	1000	69
	3/16	4.8	300	20.7	750	51.7	750	15.7
	1/4	6.4	300	20.7	500	34.5	500	34.5
	3/8	9.5	300	20.7	300	20.7	300	20.7
	1/2	13	300	20.7	250	17.2	250	17.2
15-40 psi (1.0-2.8 bar)	3/32	2.4	300	20.7	1000	69	2000	138
	1/8	3.2	300	20.7	1000	69	1500	103
	3/16	4.8	300	20.7	1000	69	1000	69
	1/4	6.4	300	20.7	750	51.7	750	51.7
	3/8	9.5	300	20.7	500	34.5	500	34.5
	1/2	13	300	20.7	300	20.7	300	20.7
35-80 psi (2.4-5.5 bar) 10-95 psi (0.7-6.4 bar)	3/32	2.4	300	20.7	1000	69	2000	138
	1/8	3.2	300	20.7	1000	69	2000	138
	3/16	4.8	300	20.7	1000	69	1750	121
	1/4	6.4	300	20.7	1000	69	1500	103
	3/8	9.5	300	20.7	1000	69	1000	69
	1/2	13	300	20.7	750	51.7	750	51.7
70-150 psi (4.8-10.3 bar)	3/32	2.4	300	20.7	1000	69	2000	138
	1/8	3.2	300	20.7	1000	69	2000	138
	3/16	4.8	300	20.7	1000	69	2000	138
	1/4	6.4	300	20.7	1000	69	1750	121
	3/8	9.5	300	20.7	1000	69	1250	86.2
	1/2	13	300	20.7	750	51.7	750	51.7

Table 2 Cv Values

Orifice Size		Cv Value	
in.	mm	1" NPT Body	2" NPT Body
3/32	2.4	0.24	0.23
1/8	3.2	0.43	0.42
3/16	4.8	0.93	1.02
1/4	6.4	1.71	1.66
3/8	9.5	3.42	3.39
1/2	13	5.29	5.01

Table 3 Flow Capacities in SCFH at 20% droop of Natural Gas (0.6 Specific Gravity)

Output Range	Set Point (psi)	Inlet Pressure (psi)	Orifice Size (in.) 1" NPT Body Size 3/32	1/8	3/16	1/4	3/8	1/2	2" NPT Body Size 3/32	1/8	3/16	1/4	3/8	1/2
5-20 psi (0.4-1.4 bar)	5	10	170	330	710	1100	1900	2500	170	330	710	1080	1700	2400
		20	290	500	1160	2060	3400	4450	290	500	1160	1900	2650	3900
		60	640	1170	2600	4710	8140	13700	640	1170	2600	4750	7250	17800
		100	990	1800	4070	7310	12500	16000	990	1790	4070	7310	16200	28700
	10	15	210	375	880	1590	2480	3300	210	375	880	1220	1860	2670
		30	380	670	1560	2800	4720	6840	380	670	1560	2760	3640	6460
		75	770	1410	3150	5710	9790	14500	770	1410	3150	5700	8060	22400
		150	1420	2580	5850	10500	17000	18000	1420	2580	5850	10500	23300	25900
		300	2700	4910	11200	19800	20000		2700	4910	11200	10300	12800	
		750	5400	12000	18000				6600	12000	27200			
		1250	6300						11000					
		1750	6800						15000					
		2000	7600						6300					
	20	30	350	620	1450	2580	4360	6290	350	62	145	2350	4300	6110
		60	640	1170	2640	4750	9690	14500	640	1170	2640	4750	8400	15700
		150	1420	2580	5850	10500	17700	34200	1420	2580	5850	10500	23300	29000
		300	2700	4910	11200	20100	37000		2700	4910	11200	20100	19600	
		750	6600	12000	23600				6600	12000	27200			
		1250	10000						11000					
		1750	12000						15000					
		2000	14000						6300					
15-40 psi (1.0-2.8 bar)	40	60	610	1090	2530	4510	9290	9420	610	1090	2530	4370	8680	13300
		100	990	1790	4070	7310	14700	21900	990	1800	4070	7310	16200	25400
		200	1850	3370	7630	13700	27100	46400	1850	3370	7630	13700	30400	53900
		500	4400	8090	18300	32900	63900		4400	8090	18300	32900	22000	
		1000	8700	16000	36100				8700	16000	36100			
		1500	13000	22000					13000	22000				
		2000	17000						17000					
35-80 psi (2.4-5.5 bar)	60	100	970	1740	4010	7000	13000	19300	970	1740	4010	7000	15000	20400
		200	1850	3370	7630	13700	24000	42200	1850	3370	7630	13700	30400	53900
		500	4400	8090	18300	32900	64000	94300	4400	8090	18300	32900	73000	38800
		1000	8700	16000	36100	50300	67700		8700	16000	36100	43000	52000	
		1500	13000	22000	54000	63000			13000	22000	54000	43000		
		2000	17000	28000					17000	28000				
	80	150	1410	2580	5850	10500	21100	33600	1410	2580	5850	10500	23300	41300
		300	2700	4910	11200	20100	43300	75400	2700	4910	11200	20100	44600	79000
		750	6600	12000	27200	48900	105500	135000	6600	12000	27200	48900	87000	44000
		1250	11000	19000	45000	80000			11000	19000	45000	63000		
		1750	15000	25000	63000				15000	25000	63000			
70-150 psi (4.8-10.3 bar)	100	50	1170	2510	5540	8710	16000	24000	1170	2510	5540	8600	16000	22000
		300	2700	4910	11200	19400	30100	53200	2700	4910	11200	20100	35000	65300
		500	4400	8090	18300	31800	66500	83900	4400	8090	18300	32900	73000	129000
		1000	8700	16000	36100	59700	100000		8700	16000	36100	64800	82000	
		1500	13000	22000	54000	86000			13000	22000	54000	96000		
		2000	17000	28000	71000				17000	2800	7100			
	125	200	1830	3320	7550	13400	28100	32800	1830	3320	7550	13700	24000	36000
		500	4400	8090	18300	32900	70800	109000	4400	8090	18300	32900	73000	129000
		1000	8700	16000	36100	64800	138000	160000	8700	16000	36100	64800	58000	
		1500	13000	22000	54000	96000			13000	22000	54000	96000		
		2000	17000	28000	71000				17000	28000	71000			
	150	300	2700	4910	11200	17200	4010	55900	2700	4910	11200	20100	44600	64200
		750	6600	12000	27200	48900	104000	160000	6600	12000	27200	48900	108000	62000
		1250	1100	1900	45000	80000	150000		11000	19000	45000	80000	81000	
		1750	15000	25000	63000	112000			15000	25000	63000	112000		

Note: To convert SCFH to Nm^3/h, multiply the SCFH flow capacity by 0.02832

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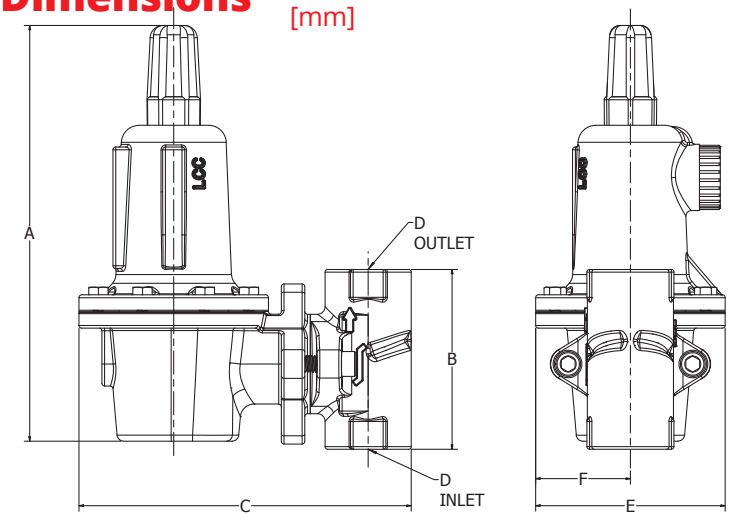
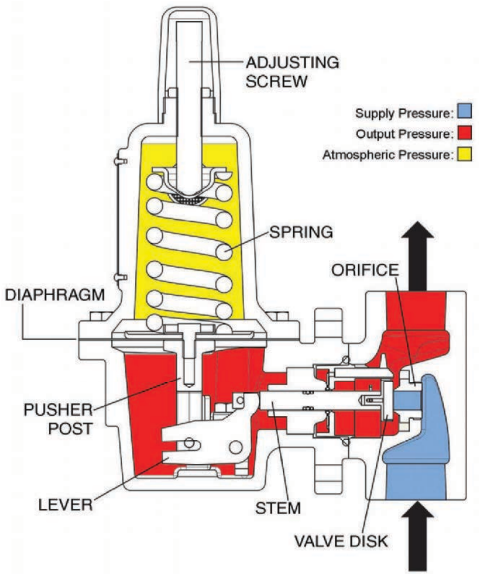
Dimensions

inch
[mm]



	A	B	C	D	E	F
1" Body	9.41 [239.0]	4.07 [103.4]	7.52 [191.1]	1" NPT	4.29 [109.0]	2.15 [54.5]
2" Body	9.41 [239.0]	5.00 [127.0]	8.57 [217.8]	2" NPT	4.29 [109.0]	2.15 [54.5]



Principles of Operation

Note: The ControlAir Type 1227 High Flow Gas Pressure Regulator does not include internal relief. Therefore, if the inlet pressure is able to exceed the diaphragm casing pressure rating, the user must provide a pressure relieving device.

Specifications

Body Sizes	1" or 2" NPT
Output Ranges	5-20 psi (0.4-1.4 bar), 15-40 psi (1.0-2.8 bar), 10-95 psi (0.7-6.4 bar), 35-80 psi (2.4-5.5 bar), 70-150 psi (4.8-10.3 bar)
Maximum Inlet Pressure	see Table 1
Body Inlet Pressure Rating	
LCC Steel	2,000 psi (138 bar)
Valve Disk Inlet Pressure Rating	
Nitrile (NBR) Disk	1000 psi (69 bar)
Nylon (PA) Disk	2000 psi (138 bar)
Flourocarbon (FKM) Disk	300 psi (20.7 bar)
Orifice Sizes	3/32", 1/8", 3/16", 1/4", 3/8", 1/2"
Maximum Flow Coefficients (Cv)	see Table 2
Flow Capacities	see Table 3
Temperature Limits	
Elastomer Material Valve/Disk Diaphragm	
Nitrile (NBR) & Nylon (PA)	-40°F to 180°F (-40°C to 82°C)
Fluorocarbon (FKM)	0°F to 180°F (-18°C to 82°C)
Body Material	
LCC Steel -40°F to 180°F (-40°C to 82°C)	
Weights	
1" NPT / DN 25 Body	6.5 lbs. (3 kg)
2" NPT / DN 50 Body	10 lbs. (4.5 kg)
Operating Media	Compressed Air, Natural Gas, Other Inert Gases

Ordering Use this coding system to order

Model
1227 – ☐ ☐ ☐ ☐ ☐

Version
S Standard
N NACE

Port Size (NPT)
F 1"
G 2"

Spring Range
C 5-20 psig (0.3-1.4 bar)*
D 15-40 psi (1-2.8 bar)
E 35-80 psi (2.4 bar)
F 10-95 psi (0.7-6.4 bar)
G 70-150 psi (4.8-10.3 bar)

Orifice Size
A 3/32"
B 1/8"
C 3/16"
D 1/4"
E 3/8"
F 1/2"

Options
S Stainless Trim (1227S only, standard on 1227N)
N Nylon Valve Disk
B Nitrile Elastomers

*If the set point is 10 psi (0.69 bar) or less, the inlet pressure should remain below 100 psi (6.9 bar) to still allow for set point adjustment.

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