

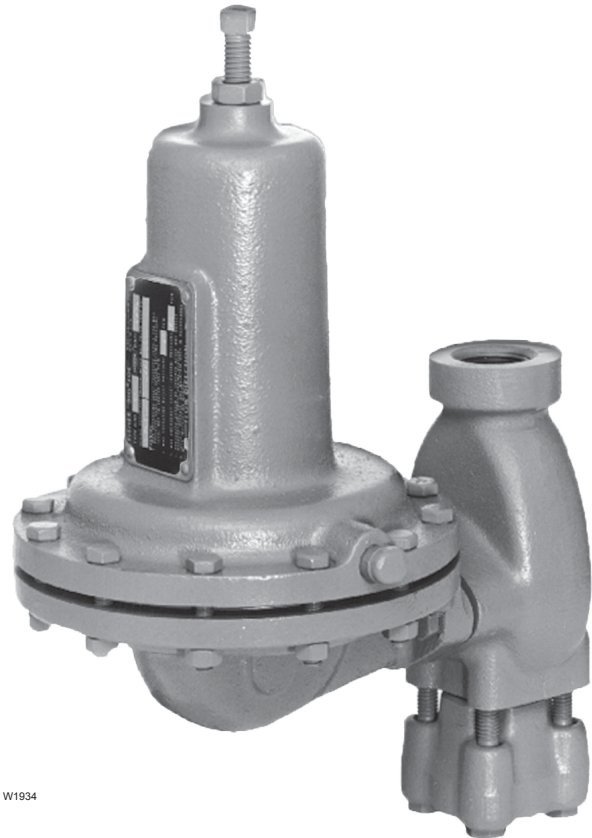
Type 630 Regulator

Introduction

The Type 630 Big Joe™ regulators are direct-operated, spring-loaded, pressure reducing regulators. They are available in 1 and 2-inch / DN 25 and 50 body sizes, and they are designed for maximum inlet pressures to 1500 psig / 103 bar and outlet pressures from 3 to 500 psig / 0.21 to 34.5 bar. The Type 630 can be used with natural gas, air, or a variety of other gases for such applications as first-stage farm-tap regulators or high-pressure industrial regulators. The Type 630 can be converted in the field to a relief valve or is available as the Type 630R relief valve/backpressure regulator; refer to the separate Type 630R Bulletin (71.4:630R) for information.

Features

- **High-Pressure Capabilities**—Inlet pressures up to 1500 psig / 103 bar and control pressures up to 500 psig / 34.5 bar.
- **Rugged Construction**—Compact, sturdy design and solid metal construction provide a strong, reliable, long-lasting regulator.
- **Better Low-Pressure Control**—The Type 630 is available in both high-pressure and low-pressure constructions; the low-pressure units have a larger diaphragm area to provide more accurate control of low-pressure settings.
- **Sour Gas Service Capability**—Optional materials are available for applications handling sour gases. These constructions comply with the recommendations of the NACE International MR0175.



W1934

Figure 1. Type 630 Big Joe High-Pressure Regulator

The manufacturing processes and materials used by Fisher® Controls assure that all products specified for sour gas service comply with the chemical and physical requirements of NACE International MR0175.

Bulletin 71.1:630

Specifications

Body Sizes

1 and 2-inch / DN 25 and 50

End Connection Style

NPT, ASME CL150 RF, CL300 RF, or CL600 RF

Maximum Inlet Pressure and Pressure Drops⁽¹⁾

Up to 1500 psig / 103 bar, See Table 1

Maximum Outlet Pressure⁽¹⁾

Up to 500 psig / 34.5 bar, See Table 2

Outlet Pressure Ranges

3 to 500 psig / 0.21 to 34.5 bar, See Table 2

Pressure Registration

Internal

Flow Capacities

See Tables 3 and 4

Orifice Sizes and Wide-Open Flow Coefficients for Relief Valve Sizing

ORIFICE SIZE		C _g	C _v	C ₁
Inch	mm			
1/8	3.2	13.9	0.49	28.4
3/16	4.8	31.3	1.11	28.2
1/4	6.4	55.1	2.03	27.2
3/8	9.5	122.5	4.61	26.6
1/2	13	216.0	8.18	26.4

Temperature Capabilities⁽¹⁾

Nitrile (NBR), Nylon (PA), and Neoprene (CR):

-20 to 180°F / -29 to 82°C

Fluorocarbon (FKM) and Polytetrafluoroethylene (PTFE):

0 to 300°F / -18 to 149°C

Construction Materials

Body: Cast iron, or steel

Spring Case and Diaphragm Adaptor:

Cast iron or steel

Orifice: Brass or stainless steel

Valve Disk: Nitrile (NBR), Nylon (PA), Polytetrafluoroethylene (PTFE), or Fluorocarbon (FKM)

Valve Disk Holder: Brass or stainless steel

Valve Carrier: Brass or stainless steel

Diaphragm: Neoprene (CR) or Fluorocarbon (FKM)

Inlet Body Gaskets: Copper with brass trim or stainless steel with stainless steel trim

All Other Gaskets: Composition

Lever: Zinc-plated steel or Stainless steel

Diaphragm Connector: Aluminum with brass trim or stainless steel with stainless steel trim

Pitot Tube: Stainless steel

Regulator Spring: Plated steel

Adjusting Screw: Steel

Diaphragm Plate: Zinc-plated steel

Upper Spring Seat: Zinc

Lower Spring Seat: Zinc-plated steel (low pressure) or Zinc (high pressure)

Vent: Type Y602-9

Spring Case Vent

1/4 NPT

Options

PTFE diaphragm protector, wire-seal adjusting screw, and NACE

Approximate Weight

1-inch End Connection: 25 pounds / 11.3 kg

2-inch End Connection: 30 pounds / 13.6 kg

1. The pressure/temperature limits in this Bulletin and any applicable standard or code limitation should not be exceeded.

Installation

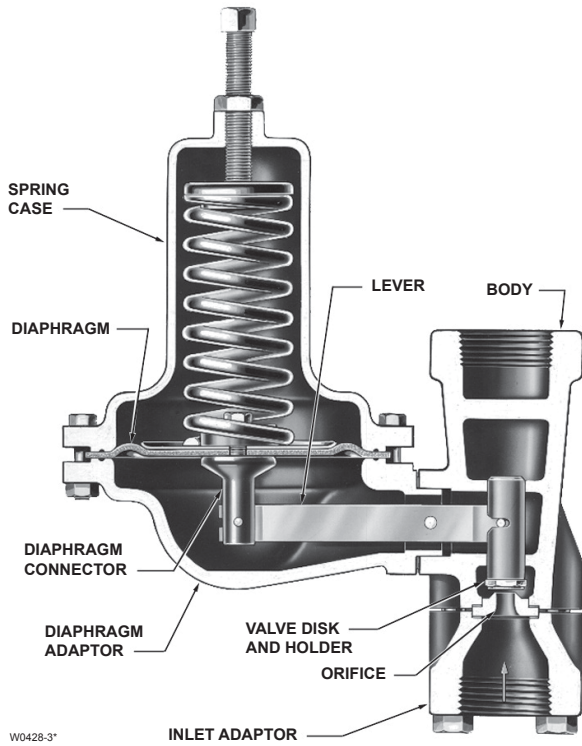
These regulators may be installed in any position. Some installations may require a remote vent line. Protect all vent openings against the entrance of rain, snow, debris, or any other foreign material that may plug the opening.

Direction of flow through the regulator body must be in the direction indicated by the flow direction arrow found on the regulator body.

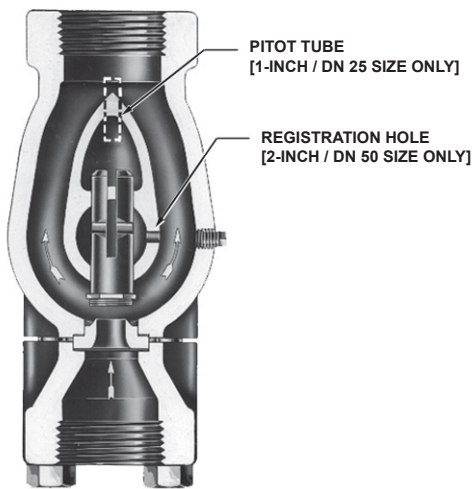
Overpressure Protection

As is the case with most regulators, these regulators have an outlet pressure rating that is lower than the inlet pressure rating. Overpressure protection is needed if the actual inlet pressure can exceed the outlet pressure rating.

Regulator operation below the limits specified in Tables 1 and 2 do not preclude the possibility of damage from external sources or from debris in the pipeline. The regulator should be inspected for damage after any overpressure condition.



FULL SECTION



BODY ONLY
(ROTATED 90°)

Figure 2. Type 630 Sectional Views

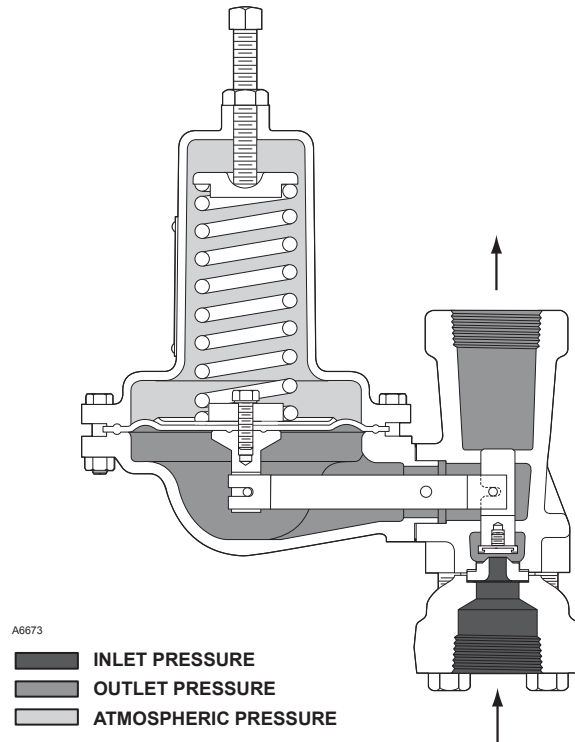


Figure 3. Type 630 Operational Schematic

Principle of Operations

Refer to Figure 2. In the regulator construction, outlet pressure registers beneath the diaphragm. As long as the outlet pressure is less than the set pressure, spring force on the diaphragm causes the lever to hold the valve open. When the outlet pressure exceeds the set pressure, the diaphragm moves to compress the spring and the lever closes the valve until the outlet pressure returns to set pressure.

Capacity Data

Flow capacities are given in Tables 3 and 4 in standard cubic feet per hour (SCFH) and normal cubic meters per hour (Nm³/h) of 0.6 specific gravity natural gas. To determine the equivalent flow rate for other gases, multiply the table value by the appropriate factor: air—0.775; butane—0.547; nitrogen—0.789; propane—0.627.

Bulletin 71.1:630

Table 1. Maximum Inlet Pressure and Pressure Drops

ORIFICE SIZES		MAXIMUM ALLOWABLE INLET PRESSURE ⁽¹⁾		MAXIMUM ALLOWABLE PRESSURE DROPS							
				Nylon (PA) and Polytetrafluoroethylene (PTFE) Disk		Fluorocarbon (FKM) Disk		Nitrile (NBR) Disk			
inches	mm	psig	bar	psig	bar	psig	bar	psig	bar		
1/8 and 3/16	3.2 and 4.8	1500	103	1500	103	200	13.8	600	41.4		
1/4	6.4			1000	69						
3/8	9.5	1000	69	500	34.5					500	34.5
1/2	13	750	51.7	250	17.2					250	17.2

1. Inlet pressure must not exceed the sum of the actual outlet pressure setting and the maximum allowable pressure drop. For example, with an outlet pressure setting of 200 psig / 13.8 bar and a 3/8-inch / 9.5 mm orifice with a maximum allowable pressure drop of 500 psid / 34.5 bar d, the maximum inlet pressure is 700 psig / 48.3 bar.

2. Nitrile (NBR) valve disks are normally furnished for pressure drops to 200 psi / 13.8 bar, differential. For better erosion resistance, Nylon (PA) valve disks are normally furnished for higher pressure drops. Some erosion of valve disks occurs at all pressure drops due to solid particles in the flow stream. The rate of erosion is higher with large amounts of impurities in the flow stream and with high pressure drops. Valve disks and other regulator parts must be inspected periodically for erosion and damage and must be replaced as necessary.

Table 2. Outlet Pressure Ranges

REGULATOR CONSTRUCTION	OUTLET PRESSURE RANGE		SPRING PART NUMBER	SPRING COLOR CODE	SPRING WIRE DIAMETER		SPRING FREE LENGTH		MAXIMUM OUTLET PRESSURE OVER SETPOINT ⁽¹⁾		MAXIMUM EMERGENCY OUTLET (CASING) PRESSURE ⁽⁴⁾	
	psig	bar			inches	mm	inches	mm	psig	bar	psig	bar
	Low pressure	3 to 10			0.21 to 0.69	0W019227022	Red stripe	0.23	5.84	6.0	152	20
8 to 20		0.55 to 1.4	0W019127022	Olive green	0.28	7.11	20 ⁽²⁾	1.4 ⁽²⁾				
17 to 30		1.2 to 2.1	0W019027022	Unpainted	0.34	8.64	Limited by Maximum Emergency Outlet Pressure					
27 to 40		1.9 to 2.8	0Y066427022	Green stripe	0.36	9.14						
High pressure	27 to 50	1.9 to 3.4	0W019227022	Red stripe	0.23	5.84	6.1	155	200	13.8	550	37.9
	46 to 95	3.2 to 6.6	0W019127022	Olive green	0.28	7.11						
	90 to 150	6.2 to 10.3	0W019027022	Unpainted	0.34	8.64						
	150 to 200	10.3 to 13.8	0Y066427022	Green stripe	0.36	9.14						
	200 to 275	13.8 to 19.0	1J146927142	Blue stripe	0.38	9.65	200 ⁽³⁾	13.8 ⁽³⁾				
	275 to 500	19.0 to 34.5	1K370927082	Yellow stripe	0.44	11.2	6.2	157				

1. Damage to internal parts of the regulator may occur if outlet pressure exceeds the actual pressure setting by amounts greater than those shown in this column.

2. For outlet pressure settings to 25 psig / 1.7 bar only. For pressure settings over 25 psig / 1.7 bar, outlet pressure is limited by maximum emergency outlet pressure of 45 psig / 3.1 bar.

3. For outlet pressure settings to 350 psig / 24.1 bar only. For pressure settings over 350 psig / 24.1 bar, outlet pressure is limited by maximum emergency outlet pressure of 550 psig / 37.9 bar.

4. Leakage or bursting of pressure-containing parts may occur if outlet pressure exceeds these values.

To determine the wide-open capacity for relief sizing with the flow coefficients (C_g), use the appropriate procedure below.

1. If flow is critical (absolute outlet pressure is equal to or less than one-half the absolute inlet pressure), use the equation:

$$\text{Flow} = (\text{Absolute Inlet Pressure}) (C_g) (1.29)$$

The flow determined will be in SCFH of 0.6 specific gravity natural gas. To convert SCFH to Nm³/h multiply the SCFH result by 0.0268.

2. If flow is less than critical (absolute outlet pressure is greater than one-half the absolute inlet pressure), use Fisher[®]'s computerized sizing program or contact your local Sales Office.

Table 3. 1-Inch / DN 25 Body Capacities (Based on 20% Droop)

	OUTLET PRESSURE RANGE, SPRING PART NUMBER, AND COLOR	INLET PRESSURE		OUTLET PRESSURE		1-INCH / DN 25 BODY CAPACITIES IN SCFH / Nm ³ /h OF 0.6 SPECIFIC GRAVITY OF NATURAL GAS									
						Orifice Size, Inches / mm									
						1/8 / 3.2		3/16 / 4.8		1/4 / 6.4		3/8 / 9.5		1/2 / 13	
		psig	bar	psig	bar	SCFH	Nm ³ /h	SCFH	Nm ³ /h	SCFH	Nm ³ /h	SCFH	Nm ³ /h	SCFH	Nm ³ /h
LOW PRESSURE	3 to 10 psig / 0.21 to 0.69 bar 0W019227022 Red Stripe	10	0.69	5	0.34	200	5	510	14	990	27	1700	46	2200	59
		20	1.4			400	11	770	21	1200	32	2000	54	2700	72
		30	2.1			600	16	1100	29	1500	40	2200	59	3300	88
		50	3.4			950	25	1500	40	2100	56	2800	75	4200	113
		60	4.1			1100	29	1750	47	2400	64	3000	80	4100	110
		100	6.9			1700	46	2400	64	2900	78	4000	107	4900	131
		200	13.8			3000	80	3400	91	4200	113	5100	137	6100	163
		400	27.6			3700	99	3900	105	4500	121	6400	172	-----	-----
		500	34.5			4100	110	4300	115	4700	126	7400	198	-----	-----
		600	41.4			4300	115	4600	123	5000	134	-----	-----	-----	-----
		1000	69.0			4600	123	4900	131	5600	150	-----	-----	-----	-----
		1500	103			5000	134	5400	145	-----	-----	-----	-----	-----	-----
	8 to 20 psig / 0.55 to 1.4 bar 0W019127022 Olive Drab	20	1.4	10	0.69	500	13	1200	32	1800	48	4200	113	4900	131
		30	2.1			700	19	1400	38	2800	75	4100	110	5300	142
		50	3.4			1000	27	2300	62	4100	110	5100	137	6200	166
		60	4.1			1150	31	2700	72	4200	113	5500	147	6500	174
		100	6.9			1600	43	3800	102	5000	134	6400	172	7300	196
		200	13.8			3300	88	5800	155	6900	185	7700	206	8200	220
		400	27.6			5400	145	6900	185	7600	204	9000	241	-----	-----
		500	34.5			6000	161	7100	190	7900	212	9700	260	-----	-----
		600	41.4			6500	174	7300	196	8200	220	-----	-----	-----	-----
		1000	69.0			7200	193	7700	206	8400	225	-----	-----	-----	-----
		1500	103			7400	198	8400	225	-----	-----	-----	-----	-----	-----
		20	1.4			15	1.0	470	13	1000	27	1700	46	3300	88
30	2.1	600	16	1500	40			2500	67	4600	123	5200	139		
50	3.4	1000	27	2300	62			3800	102	5500	147	5700	153		
60	4.1	1150	31	2700	72			4300	115	6100	163	6800	182		
100	6.9	1900	51	4300	115			6200	166	7600	204	9600	257		
200	13.8	3600	96	7500	201			8500	228	9600	257	10,000	268		
400	27.6	7100	190	8700	233			10,000	268	11,000	295	-----	-----		
500	34.5	8300	222	8800	236			10,500	281	12,000	322	-----	-----		
600	41.4	8600	230	9600	257			10,800	289	-----	-----	-----	-----		
1000	69.0	9600	257	10,000	268			11,000	295	-----	-----	-----	-----		
1500	103	10,000	268	11,000	295			-----	-----	-----	-----	-----	-----		

- continued -

Bulletin 71.1:630

Table 3. 1-Inch / DN 25 Body Capacities (Based on 20% Droop) (continued)

	OUTLET PRESSURE RANGE, SPRING PART NUMBER, AND COLOR	INLET PRESSURE		OUTLET PRESSURE		1-INCH / DN 25 BODY CAPACITIES IN SCFH / Nm ³ /h OF 0.6 SPECIFIC GRAVITY OF NATURAL GAS									
		psig	bar	psig	bar	Orifice Size, Inches / mm									
						1/8 / 3.2		3/16 / 4.8		1/4 / 6.4		3/8 / 9.5		1/2 / 13	
		SCFH	Nm ³ /h	SCFH	Nm ³ /h	SCFH	Nm ³ /h	SCFH	Nm ³ /h	SCFH	Nm ³ /h	SCFH	Nm ³ /h		
LOW PRESSURE	8 to 20 psig / 0.55 to 1.4 bar 0W019127022 Olive Drab	30	2.1	20	1.4	600	16	1500	40	2500	67	4600	123	6800	182
		40	2.8			800	21	2000	54	3400	91	5700	153	8100	217
		50	3.4			1000	27	2300	62	4200	113	6800	182	9000	241
		60	4.1			1150	31	2700	72	4900	131	7500	201	9800	263
		100	6.9			1800	48	4100	110	7400	198	9500	255	11,000	295
		200	13.8			3600	96	8000	214	10,000	268	12,000	322	13,000	348
		400	27.6			7200	193	10,000	268	13,000	348	14,000	375	----	----
		500	34.5			8500	228	10,800	289	13,400	359	14,800	397	----	----
		600	41.4			10,000	268	12,000	322	13,800	370	----	----	----	----
		1000	69.0			11,000	295	12,300	330	15,000	402	----	----	----	----
	1500	103	12,000	322	13,000	348	----	----	----	----	----	----			
	17 to 30 psig / 1.17 to 2.1 bar 0W019027022 Silver	30	2.1	20	1.4	590	16	900	24	1700	46	3300	88	4700	126
		40	2.8			790	21	1700	46	2400	64	4000	107	6100	163
		50	3.4			900	24	2200	59	3600	96	4900	131	6900	185
		60	4.1			1050	28	2500	67	4000	107	5500	147	7400	198
		100	6.9			1700	46	4000	107	5500	147	7600	204	9700	260
		200	13.8			3400	91	6400	172	9100	244	11,000	295	12,000	322
		400	27.6			7000	188	8700	233	11,000	295	13,000	348	----	----
		500	34.5			8000	214	9800	263	11,800	316	13,700	367	----	----
		600	41.4			9600	257	11,000	295	13,000	348	----	----	----	----
		1000	69.0			10,000	268	12,000	322	14,000	375	----	----	----	----
	1500	103	12,000	322	13,000	348	----	----	----	----	----	----			
	27 to 40 psig / 1.9 to 2.8 bar 0Y066427022 Green Stripe	40	2.8	30	2.1	800	21	1500	40	2400	64	4400	118	6400	172
		50	3.4			900	24	2000	54	3200	86	5600	150	7700	206
60		4.1	1100			29	2500	67	3900	105	6300	169	8900	239	
100		6.9	1700			46	3900	105	6400	172	9400	252	11,000	295	
200		13.8	3500			94	7000	188	9400	252	14,000	375	15,000	402	
400		27.6	6900			185	12,000	322	15,000	402	17,000	456	----	----	
500		34.5	8800			236	12,500	335	15,600	418	17,800	477	----	----	
600		41.4	9700			260	13,400	359	16,000	429	----	----	----	----	
1000		69.0	15,600			418	15,800	423	17,900	480	----	----	----	----	
1500		103	16,400			440	18,000	482	----	----	----	----	----	----	
	50	3.4	40	2.8	950	25	1800	48	3200	86	5500	147	8900	239	
	60	4.1			1100	29	2300	67	4100	110	7500	201	10,000	268	
	100	6.9			1800	48	4100	110	7000	188	11,000	295	14,000	375	
	200	13.8			3500	94	7800	209	12,000	322	17,000	456	19,000	509	
	400	27.6			7100	190	15,000	402	18,000	482	21,000	563	----	----	
	500	34.5			8800	236	16,500	442	18,700	501	21,700	582	----	----	
	600	41.4			9800	263	18,000	482	21,000	563	----	----	----	----	
	1000	69.0			16,800	450	19,800	531	22,800	611	----	----	----	----	
	1500	103			20,000	536	22,000	590	----	----	----	----	----	----	

- continued -

Table 3. 1-Inch / DN 25 Body Capacities (Based on 20% Droop) (continued)

	OUTLET PRESSURE RANGE, SPRING PART NUMBER, AND COLOR	INLET PRESSURE		OUTLET PRESSURE		1-INCH / DN 25 BODY CAPACITIES IN SCFH / Nm ³ /h OF 0.6 SPECIFIC GRAVITY OF NATURAL GAS									
						Orifice Size, Inches / mm									
						1/8 / 3.2		3/16 / 4.8		1/4 / 6.4		3/8 / 9.5		1/2 / 13	
		psig	bar	psig	bar	SCFH	Nm ³ /h	SCFH	Nm ³ /h	SCFH	Nm ³ /h	SCFH	Nm ³ /h	SCFH	Nm ³ /h
HIGH PRESSURE	27 to 50 psig / 1.9 to 3.4 bar 0W019227022 Red Stripe	60	4.1	50	3.4	900	24	2000	54	3100	83	5200	139	8100	217
		100	6.9			1700	46	3500	94	5700	153	10,500	281	13,000	348
		200	13.8			3500	94	7800	209	11,000	295	16,000	429	19,000	509
		300	20.7			5300	142	10,500	281	14,000	375	20,000	536	23,000	616
		400	27.6			6900	185	13,000	348	17,000	456	23,000	616	----	----
		500	34.5			8700	233	15,000	402	19,000	509	25,000	670	----	----
		600	41.4			9800	263	17,000	456	21,000	563	----	----	----	----
		1000	69.0			16,200	434	22,300	598	26,300	705	----	----	----	----
		1500	103			19,000	509	25,000	670	----	----	----	----	----	----
		46 to 95 psig / 3.2 to 6.6 bar 0W019127022 Olive Drab	60			4.1	50	3.4	800	21	1500	40	2400	64	4300
	100		6.9	1500	40	3100			83	4200	113	7500	201	10,000	268
	200		13.8	3400	91	6800			182	9400	252	14,000	375	17,000	456
	300		20.7	5200	139	8900			239	11,000	295	16,000	429	20,000	536
	400		27.6	6800	182	11,000			295	15,000	402	20,000	536	----	----
	500		34.5	8600	230	12,300			330	16,300	437	22,000	590	----	----
	600		41.4	9800	263	14,000			375	19,000	509	----	----	----	----
	1000		69.0	13,500	362	18,400			493	21,700	582	----	----	----	----
	1500		103	18,000	482	24,000			643	----	----	----	----	----	----
	1000		69.0	1700	46	3200			86	5000	134	8000	214	13,000	348
	200	13.8	3500	94	7300	196	10,000	268	16,000	429	22,000	590			
400	27.6	7100	190	14,000	375	19,000	509	27,000	724	----	----				
500	34.5	8600	230	16,300	437	21,300	571	28,700	769	----	----				
600	41.4	9900	265	19,000	509	25,000	670	----	----	----	----				
1000	69.0	16,700	448	25,800	691	31,000	831	----	----	----	----				
1500	103	23,000	616	32,000	858	----	----	----	----	----	----				
90 to 150 psig / 6.2 to 10.3 bar 0W019027022 Sliver	125	8.62	100	6.9	2000	54	3600	96	5500	147	9200	247	13,000	348	
	150	10.3			2500	67	4600	123	6800	182	11,000	295	16,000	429	
	200	13.8			3600	96	6600	177	9400	252	13,000	348	22,000	590	
	300	20.7			5300	142	9800	263	14,000	375	21,000	563	30,000	804	
	400	27.6			7000	188	13,000	348	18,000	482	27,000	724	----	----	
	500	34.5			8300	222	15,500	415	20,500	549	31,000	831	----	----	
	1000	69.0			17,500	469	26,000	697	32,600	874	----	----	----	----	
	1500	103			25,000	670	35,000	938	----	----	----	----	----	----	
	150	10.3			2400	64	4600	123	6700	180	11,000	295	17,000	456	
	200	13.8			3500	94	6800	182	10,000	268	15,000	402	23,000	616	
300	20.7	5200	139	10,000	268	15,000	402	25,000	670	34,000	911				
400	27.6	7300	196	14,500	389	19,000	509	29,000	777	----	----				
500	34.5	7900	212	15,000	402	25,000	670	36,000	965	----	----				
1000	69.0	16,000	429	30,300	812	38,800	1040	----	----	----	----				
1500	103	26,000	697	43,000	1152	----	----	----	----	----	----				
200	13.8	3400	91	6800	182	10,000	268	16,000	429	26,000	697				
300	20.7	5300	142	10,000	268	15,000	402	24,000	643	35,000	938				
400	27.6	7100	190	14,000	375	22,000	590	34,000	911	42,000	1126				
500	34.5	8000	214	18,800	504	26,300	705	39,300	1053	----	----				
800	55.2	13,000	348	29,000	777	38,000	1018	----	----	----	----				
1000	69.0	17,000	456	34,000	911	44,300	1187	----	----	----	----				
1500	103	26,000	697	47,000	1260	----	----	----	----	----	----				
150 to 200 psig / 10.3 to 13.8 bar 0Y066427022 Green Stripe	200	13.8	150	10.3	3400	91	6200	166	9300	249	16,000	429	26,000	697	
	300	20.7			5300	142	10,000	268	15,000	402	24,000	643	30,000	804	
	400	27.6			7100	190	14,000	375	21,000	563	32,000	858	38,000	1018	
	500	34.5			8000	214	16,500	442	26,300	705	39,000	1045	----	----	
	800	55.2			13,000	348	27,000	724	37,000	992	----	----	----	----	
	1000	69.0			16,700	448	31,000	831	43,900	1177	----	----	----	----	
1500	103	26,000	697	44,000	1179	----	----	----	----	----	----				

- continued -

Bulletin 71.1:630

Table 3. 1-Inch / DN 25 Body Capacities (Based on 20% Droop) (continued)

	OUTLET PRESSURE RANGE, SPRING PART NUMBER, AND COLOR	INLET PRESSURE		OUTLET PRESSURE		1-INCH / DN 25 BODY CAPACITIES IN SCFH / Nm ³ /h OF 0.6 SPECIFIC GRAVITY OF NATURAL GAS									
						Orifice Size, Inches / mm									
		psig	bar	psig	bar	1/8 / 3.2		3/16 / 4.8		1/4 / 6.4		3/8 / 9.5		1/2 / 13	
						SCFH	Nm ³ /h	SCFH	Nm ³ /h	SCFH	Nm ³ /h	SCFH	Nm ³ /h	SCFH	Nm ³ /h
HIGH PRESSURE	150 to 200 psig / 10.3 to 13.8 bar 0Y066427022 Green Stripe	250	17.2	200	13.8	4200	113	8300	222	12,000	322	20,000	536	30,000	804
		300	20.7			5200	139	10,000	268	16,000	429	25,000	670	35,000	938
		600	41.4			9500	255	22,000	590	34,000	911	55,000	1474	----	----
		700	48.3			11,000	295	25,000	670	40,000	1072	61,500	1648	----	----
		800	55.2			13,000	348	30,000	804	43,000	1152	----	----	----	----
		1000	69.0			16,000	429	37,000	992	50,000	1340	----	----	----	----
		1200	82.7			20,000	536	41,000	1099	59,000	1581	----	----	----	----
		1500	103			26,000	697	53,000	1420	----	----	----	----	----	----
	200 to 275 psig / 13.8 to 19.0 bar 1J146927142 Blue Stripe	250	17.2	200	13.8	4200	113	8200	220	11,000	295	20,000	536	29,000	777
		300	20.7			5200	139	10,000	268	14,500	389	25,000	670	35,000	938
		600	41.4			9500	255	22,000	590	31,000	831	51,000	1367	----	----
		700	48.3			11,000	295	25,000	670	35,000	938	55,000	1474	----	----
		800	55.2			13,000	348	29,000	777	42,000	1126	----	----	----	----
		1000	69.0			16,000	429	36,000	965	50,000	1340	----	----	----	----
		1200	82.7			19,000	509	41,000	1099	55,000	1474	----	----	----	----
		1500	103			26,000	697	51,000	1367	----	----	----	----	----	----
300		20.7	250	17.2	4900	131	9000	241	15,000	402	28,000	750	42,000	1126	
400		27.6			7000	188	14,000	375	23,000	616	40,000	1072	56,000	1501	
500		34.5			8500	228	18,000	482	29,000	777	51,000	1367	65,000	1742	
600		41.4			9500	255	22,000	590	34,000	911	59,000	1581	----	----	
1000	69.0	275	19.0	16,000	429	39,000	1045	58,000	1554	----	----	----	----		
1500	103			26,000	697	59,000	1581	----	----	----	----	----	----		
300	20.7			4700	126	9000	241	15,000	402	28,000	750	39,000	1045		
400	27.6			6900	185	14,000	375	25,000	670	40,000	1072	54,000	1447		
600	41.4	9300	249	21,000	563	39,800	1067	76,100	2039	----	----				
1000	69.0	16,000	429	39,000	1045	67,000	1796	----	----	----	----				
1500	103	26,000	697	60,000	1608	----	----	----	----	----	----				
275 to 500 psig / 19.0 to 34.5 bar 1K370927082 Yellow Stripe	300	20.7	275	19.0	4500	121	7500	201	10,000	268	20,000	536	31,000	831	
	400	27.6			6600	177	12,000	322	16,000	429	31,000	831	43,000	1152	
	600	41.4			9300	249	18,400	493	24,300	651	43,800	1174	----	----	
	1000	69.0			17,000	456	32,000	858	43,000	1152	----	----	----	----	
	1500	103	26,000	697	46,000	1233	----	----	----	----	----	----			
	400	27.6	300	20.7	6600	177	11,000	295	16,000	429	31,000	831	42,000	1126	
	600	41.4			9900	265	19,000	509	26,000	697	48,000	1286	----	----	
	700	48.3			11,000	295	23,000	616	30,000	804	54,000	1447	----	----	
	800	55.2			13,000	348	26,000	697	35,000	938	61,000	1635	----	----	
	1000	69.0	400	27.6	16,800	450	32,500	871	43,800	1174	----	----	----	----	
	1300	89.6			22,000	590	43,000	1152	58,000	1554	----	----	----	----	
	1500	103			26,000	697	49,000	1313	----	----	----	----	----	----	
	500	34.5			400	27.6	8300	222	16,000	429	24,000	643	44,000	1179	62,000
	600	41.4	9400	252			21,300	571	30,000	804	55,300	1482	----	----	
	800	55.2	13,000	348			30,000	804	41,000	1099	76,000	2037	----	----	
	900	62.1	15,000	402			34,000	911	49,000	1313	85,000	2278	----	----	
	1000	69.0	500	34.5	17,000	456	38,000	1018	54,000	1447	----	----	----	----	
	1200	82.7			20,000	536	46,000	1233	63,000	1688	----	----	----	----	
1400	96.5	24,000			643	55,000	1474	76,000	2037	----	----	----	----		
1500	103	26,000			697	60,000	1608	----	----	----	----	----	----		
550	37.9	500	34.5	8700	233	16,000	429	26,000	697	50,000	1340	77,000	2064		
600	41.4			9500	255	19,000	509	36,800	986	57,000	1528	----	----		
900	62.1			15,000	402	34,000	911	52,000	1394	92,000	2466	----	----		
1000	69.0			17,000	456	39,000	1045	60,000	1608	100,000	2680	----	----		
1500	103	26,000	697	59,000	1581	72,000	1930	----	----	----	----				

Table 4. 2-Inch / DN 50 Body Capacities (Based on 20% Droop)

	OUTLET PRESSURE RANGE, SPRING PART NUMBER, AND COLOR		INLET PRESSURE		OUTLET PRESSURE		2-INCH / DN 50 BODY CAPACITIES IN SCFH / Nm ³ /h OF 0.6 SPECIFIC GRAVITY OF NATURAL GAS									
							Orifice Size, Inches / mm									
							1/8 / 3.2		3/16 / 4.8		1/4 / 6.4		3/8 / 9.5		1/2 / 13	
							SCFH	Nm ³ /h	SCFH	Nm ³ /h	SCFH	Nm ³ /h	SCFH	Nm ³ /h	SCFH	Nm ³ /h
LOW PRESSURE	3 to 10 psig / 0.21 to 0.69 bar 0W019227022 Red Stripe		10	0.69	5	0.34	290	8	830	22	1300	35	3300	88	5900	158
			20	1.4			500	13	1200	32	2100	56	4800	129	9100	244
			30	2.1			760	20	1600	43	2700	72	7000	188	11,000	295
			50	3.4			1100	29	2200	59	3900	105	9800	263	17,000	456
			60	4.1			1250	34	2700	72	4500	121	11,100	297	19,500	523
			100	6.9			1900	51	4300	115	7000	188	17,000	456	30,000	804
			200	13.8			3700	99	8200	220	13,000	348	32,000	858	57,000	1528
			400	27.6			7200	193	16,000	429	28,000	750	64,000	1715	----	----
			500	34.5			9100	244	19,000	509	35,000	938	79,000	2117	----	----
			600	41.4			10,000	268	24,000	643	42,000	1126	----	----	----	----
	1000	69.0	18,000	482	39,000	1045	69,000	1849	----	----	----	----				
	1500	103	22,000	590	60,000	1608	----	----	----	----	----	----				
	Red Stripe		20	1.4	10	0.69	560	15	1300	35	2200	59	5100	137	9000	241
			30	2.1			770	21	1500	40	3000	80	7000	188	11,000	295
			50	3.4			1100	29	2400	64	4300	115	9800	263	17,000	456
			60	4.1			1250	34	2800	75	5000	134	11,100	297	19,500	523
			100	6.9			1900	51	4400	118	7600	204	17,000	456	30,000	804
			200	13.8			3700	99	8100	217	14,000	375	33,000	884	57,000	1528
			400	27.6			7200	193	16,000	429	28,000	750	62,000	1662	----	----
			500	34.5			8900	239	19,000	509	35,000	938	76,000	2037	----	----
			600	41.4			10,000	268	23,000	616	42,000	1126	----	----	----	----
			1000	69.0			18,000	482	40,000	1072	72,000	1930	----	----	----	----
	1500	103	27,000	724	60,000	1608	----	----	----	----	----	----				
	8 to 20 psig / 0.55 to 1.4 bar 0W019127022 Olive Drab		20	1.4	10	0.69	550	15	1200	32	1700	46	2500	67	4900	131
30			2.1	760			20	1500	40	2500	67	4600	123	8800	236	
50			3.4	1000			27	2300	62	3800	102	7800	209	16,000	429	
60			4.1	1200			32	2700	72	4500	121	9900	265	18,500	496	
100			6.9	1900			51	4300	115	7400	198	17,000	456	30,000	804	
200			13.8	3600			96	8000	214	14,000	375	32,000	858	57,000	1528	
400			27.6	7200			193	15,000	402	28,000	750	60,000	1608	----	----	
500			34.5	8800			236	19,000	509	35,000	938	74,000	1983	----	----	
600			41.4	10,000			268	23,000	616	42,000	1126	----	----	----	----	
1000			69.0	18,000			482	39,000	1045	72,000	1930	----	----	----	----	
1500	103	27,000	724	60,000	1608	----	----	----	----	----	----					
Olive Drab		20	1.4	15	1.0	520	14	1100	29	1800	48	3500	94	5700	153	
		30	2.1			740	20	1600	43	2800	75	5900	158	10,000	268	
		50	3.4			1100	29	2400	64	4300	115	9800	263	16,000	429	
		60	4.1			1250	34	2800	75	5000	134	11,100	297	18,500	496	
		100	6.9			1900	51	4400	118	7800	209	17,000	456	30,000	804	
		200	13.8			3700	99	8300	222	14,000	375	31,000	831	57,000	1528	
		400	27.6			7200	193	16,000	429	29,000	777	64,000	1715	----	----	
		500	34.5			9200	247	20,000	536	37,000	992	82,000	2198	----	----	
		600	41.4			11,000	295	23,000	616	42,000	1126	----	----	----	----	
		1000	69.0			18,000	482	40,000	1072	71,000	1903	----	----	----	----	
1500	103	27,000	724	60,000	1608	----	----	----	----	----	----					

- continued -

Bulletin 71.1:630

Table 4. 2-Inch / DN 50 Body Capacities (Based on 20% Droop) (continued)

	OUTLET PRESSURE RANGE, SPRING PART NUMBER, AND COLOR	INLET PRESSURE		OUTLET PRESSURE		2-INCH / DN 50 BODY CAPACITIES IN SCFH / Nm ³ /h OF 0.6 SPECIFIC GRAVITY OF NATURAL GAS									
		psig	bar	psig	bar	Orifice Size, Inches / mm									
						1/8 / 3.2		3/16 / 4.8		1/4 / 6.4		3/8 / 9.5		1/2 / 13	
		SCFH	Nm ³ /h	SCFH	Nm ³ /h	SCFH	Nm ³ /h	SCFH	Nm ³ /h	SCFH	Nm ³ /h	SCFH	Nm ³ /h		
LOW PRESSURE	8 to 20 psig / 0.55 to 1.4 bar 0W019127022 Olive Drab	30	2.1	20	1.4	700	19	1600	43	2600	70	5200	139	9200	247
		40	2.8			900	24	2100	56	3500	94	7500	201	12,000	322
		50	3.4			1100	29	2400	64	4300	115	9400	252	15,000	402
		60	4.1			1250	34	2800	75	5100	137	11,000	295	18,000	482
		100	6.9			1900	51	4300	115	7800	209	17,000	456	29,000	777
		200	13.8			3700	99	8200	220	14,000	375	32,000	858	59,000	1581
		400	27.6			7300	196	16,000	429	28,000	750	63,000	1688	----	----
		500	34.5			9100	244	19,300	517	35,500	951	78,800	2112	----	----
		600	41.4			11,000	295	24,000	643	43,000	1152	----	----	----	----
		1000	69.0			17,700	474	39,200	1051	71,600	1919	----	----	----	----
	1500	103	27,000	724	60,000	1608	----	----	----	----	----	----			
	17 to 30 psig / 1.17 to 2.1 bar 0W019027022 Silver	30	2.1	20	1.4	680	18	1300	35	2100	56	3500	94	6000	161
		40	2.8			890	24	1800	48	2800	75	5100	137	8200	220
		50	3.4			1000	27	2300	62	3700	99	6200	166	10,000	268
		60	4.1			1200	32	2700	72	4300	115	7400	198	12,500	335
		100	6.9			1900	51	4200	113	6900	185	12,000	322	24,000	643
		200	13.8			3500	94	8000	214	13,000	348	32,000	858	56,000	1501
		400	27.6			7100	190	15,000	402	28,000	750	63,000	1688	----	----
		500	34.5			8900	239	19,200	515	35,500	951	78,800	2112	----	----
		600	41.4			10,000	268	24,000	643	42,000	1126	----	----	----	----
		1000	69.0			17,700	474	39,200	1051	70,600	1892	----	----	----	----
	1500	103	27,000	724	60,000	1608	----	----	----	----	----	----			
	27 to 40 psig / 1.9 to 2.8 bar 0Y066427022 Green Stripe	40	2.8	30	2.1	860	23	1800	48	2900	78	5300	142	8500	228
		50	3.4			1000	27	2300	62	3800	102	7300	196	11,000	295
60		4.1	1200			32	2700	72	4700	126	8900	239	14,000	375	
100		6.9	1800			48	4200	113	7800	209	16,000	429	28,000	750	
200		13.8	3600			96	8100	217	14,000	375	24,000	643	58,000	1554	
400		27.6	7000			188	16,000	429	28,000	750	64,000	1715	----	----	
500		34.5	8900			239	19,100	512	34,900	935	80,900	2168	----	----	
600		41.4	10,000			268	23,000	616	42,000	1126	----	----	----	----	
1000		69.0	18,400			493	39,800	1067	70,900	1900	----	----	----	----	
1500		103	27,000			724	61,000	1635	----	----	----	----	----	----	
	40	2.8	30	2.1	850	23	1600	43	2600	70	4500	121	7200	193	
	50	3.4			1000	27	2200	59	3500	94	5900	158	9700	260	
	60	4.1			1200	32	2600	70	4200	113	7300	196	12,000	322	
	100	6.9			1800	48	4200	113	6900	185	12,000	322	23,000	616	
	200	13.8			3600	96	8100	217	13,000	348	24,000	643	57,000	1528	
	400	27.6			7000	188	15,000	402	28,000	750	64,000	1715	----	----	
	500	34.5			8900	239	18,800	504	34,900	935	80,200	2149	----	----	
	600	41.4			10,000	268	23,000	616	42,000	1126	----	----	----	----	
	1000	69.0			18,400	493	39,700	1064	70,800	1897	----	----	----	----	
	1500	103			27,000	724	61,000	1635	----	----	----	----	----	----	
	50	3.4	40	2.8	1000	27	2100	56	3400	91	5900	158	9900	265	
	60	4.1			1200	32	2600	70	4300	115	7900	212	12,000	322	
	100	6.9			1900	51	4300	115	7200	193	13,000	348	24,000	643	
	200	13.8			3600	96	8200	220	14,000	375	30,000	804	56,000	1501	
	400	27.6			7200	193	16,000	429	28,000	750	63,000	1688	----	----	
	500	34.5			8900	239	19,600	525	35,100	941	79,400	2128	----	----	
	600	41.4			10,000	268	23,000	616	42,000	1126	----	----	----	----	
	1000	69.0			17,300	464	39,400	1056	70,200	1881	----	----	----	----	
	1500	103			27,000	724	61,000	1635	----	----	----	----	----	----	

- continued -

Table 4. 2-Inch / DN 50 Body Capacities (Based on 20% Droop) (continued)

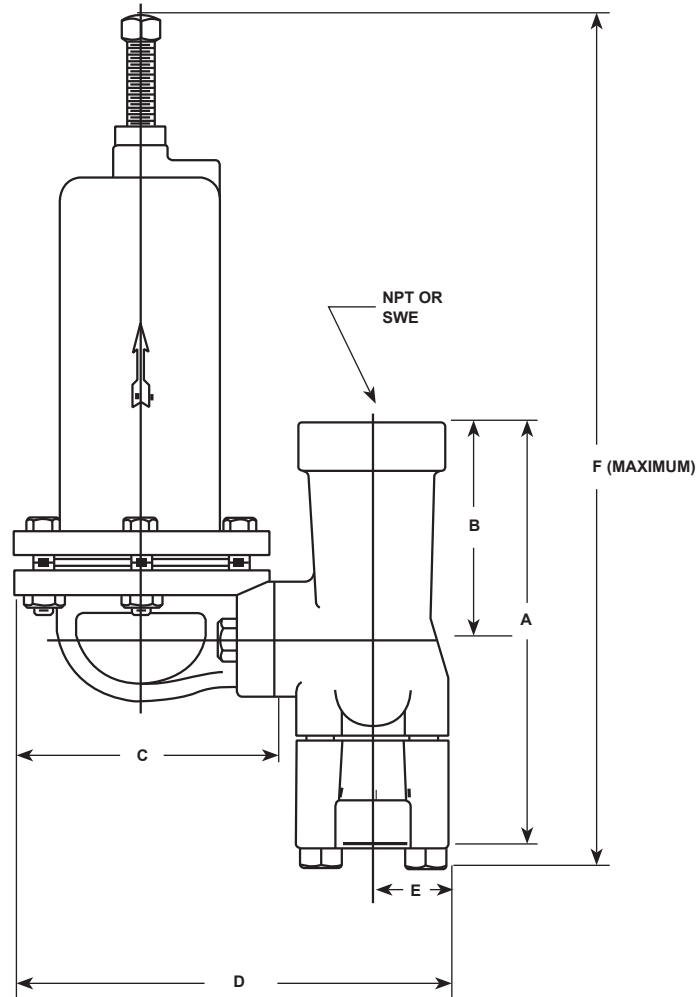
	OUTLET PRESSURE RANGE, SPRING PART NUMBER, AND COLOR	INLET PRESSURE		OUTLET PRESSURE		2-INCH / DN 50 BODY CAPACITIES IN SCFH / Nm ³ /h OF 0.6 SPECIFIC GRAVITY OF NATURAL GAS									
		psig	bar	psig	bar	Orifice Size, Inches / mm									
						1/8 / 3.2		3/16 / 4.8		1/4 / 6.4		3/8 / 9.5		1/2 / 13	
		SCFH	Nm ³ /h	SCFH	Nm ³ /h	SCFH	Nm ³ /h	SCFH	Nm ³ /h	SCFH	Nm ³ /h	SCFH	Nm ³ /h		
HIGH PRESSURE	27 to 50 psig / 1.9 to 3.4 bar 0W019227022 Red Stripe	60	4.1	50	3.4	1000	27	2100	56	3200	86	5300	142	12,000	322
		100	6.9			1800	48	3600	96	5800	155	10,000	268	21,000	563
		200	13.8			3600	96	7900	212	12,000	322	21,000	563	55,000	1474
		300	20.7			5500	147	11,000	295	19,000	509	48,000	1286	83,000	2224
		400	27.6			7000	188	15,000	402	27,000	724	63,000	1688	-----	-----
		500	34.5			8800	236	19,000	509	34,300	919	79,700	2136	-----	-----
		600	41.4			10,000	268	23,000	616	42,000	1126	-----	-----	-----	-----
		1000	69.0			18,000	482	39,900	1069	70,400	1887	-----	-----	-----	-----
	1500	103	27,000	724	60,000	1608	-----	-----	-----	-----	-----	-----			
	46 to 95 psig / 3.2 to 6.6 bar 0W019127022 Olive Drab	60	4.1	50	3.4	900	24	1600	43	2500	67	4400	118	7300	196
		100	6.9			1600	43	3400	91	4300	115	7600	204	12,000	322
		200	13.8			3500	94	6700	180	9600	257	16,000	429	27,000	724
		300	20.7			5300	142	10,000	268	14,000	375	27,000	724	51,000	1367
		400	27.6			6900	185	13,000	348	21,000	563	46,000	1233	-----	-----
		500	34.5			8700	233	16,300	437	26,300	705	73,300	1964	-----	-----
		600	41.4			10,000	268	20,000	536	35,000	938	-----	-----	-----	-----
		1000	69.0			17,100	458	38,700	1037	68,800	1844	-----	-----	-----	-----
	1500	103	26,000	697	59,000	1581	-----	-----	-----	-----	-----	-----			
	90 to 150 psig / 6.2 to 10.3 bar 0W019027022 Silver	100	6.9	75	5.17	1800	48	3300	88	5200	139	9000	241	14,000	375
		200	13.8			3600	96	7400	198	11,000	295	19,000	509	30,000	804
400		27.6	7200			193	15,000	402	24,000	643	-----	-----	-----	-----	
500		34.5	8700			233	19,000	509	31,400	842	-----	-----	-----	-----	
600		41.4	10,000			268	23,000	616	39,000	1045	-----	-----	-----	-----	
1000		69.0	17,600			472	39,000	1045	69,300	1857	-----	-----	-----	-----	
1500		103	24,000			643	60,000	1608	-----	-----	-----	-----	-----	-----	
150 to 200 psig / 10.3 to 13.8 bar 0Y066427022 Green Stripe		150	10.3			150	10.3	2600	70	4900	131	7400	198	12,000	322
	200	13.8	3700	99	6900			185	10,000	268	17,000	456	27,000	724	
	300	20.7	5400	145	10,000			268	16,000	429	27,000	724	44,000	1179	
	400	27.6	7200	193	14,000			375	21,000	563	39,000	1045	-----	-----	
	500	34.5	8600	230	17,500			469	27,500	737	54,000	1447	-----	-----	
	1000	69.0	17,200	461	38,600			1034	66,000	1769	-----	-----	-----	-----	
	1500	103	27,000	724	59,000			1581	-----	-----	-----	-----	-----	-----	
	150	10.3	2500	67	5000			134	8100	217	12,000	322	20,000	536	
	200	13.8	3600	96	7400			198	11,000	295	19,000	509	30,000	804	
	300	20.7	5300	142	11,000			295	17,000	456	31,000	831	48,000	1286	
	400	27.6	7000	188	15,000			402	24,000	643	43,000	1152	65,000	1742	
	500	34.5	8800	236	19,000			509	30,000	804	59,000	1581	-----	-----	
1000	69.0	17,000	456	39,000	1045	69,300	1857	-----	-----	-----	-----				
1500	103	27,000	724	60,000	1608	-----	-----	-----	-----	-----	-----				
150 to 200 psig / 10.3 to 13.8 bar 0Y066427022 Green Stripe	200	13.8	150	10.3	3500	94	6900	185	10,000	268	17,000	456	28,000	750	
	300	20.7			5400	145	11,000	295	17,000	456	28,000	750	47,000	1260	
	400	27.6			7200	193	15,000	402	24,000	643	40,000	1072	66,000	1769	
	500	34.5			8500	228	18,300	490	30,250	811	53,000	1420	-----	-----	
	800	55.2			14,000	375	30,000	804	54,000	1447	-----	-----	-----	-----	
	1000	69.0			18,000	482	39,100	1048	67,700	1814	-----	-----	-----	-----	
	1500	103			27,000	724	60,000	1608	-----	-----	-----	-----	-----	-----	
	1500	103			27,000	724	60,000	1608	-----	-----	-----	-----	-----	-----	

- continued -

Bulletin 71.1:630

Table 4. 2-Inch / DN 50 Body Capacities (Based on 20% Droop) (continued)

	OUTLET PRESSURE RANGE, SPRING PART NUMBER, AND COLOR	INLET PRESSURE		OUTLET PRESSURE		2-INCH / DN 50 BODY CAPACITIES IN SCFH / Nm ³ /h OF 0.6 SPECIFIC GRAVITY OF NATURAL GAS										
						Orifice Size, Inches / mm										
		psig	bar	psig	bar	1/8 / 3.2		3/16 / 4.8		1/4 / 6.4		3/8 / 9.5		1/2 / 13		
						SCFH	Nm ³ /h	SCFH	Nm ³ /h	SCFH	Nm ³ /h	SCFH	Nm ³ /h	SCFH	Nm ³ /h	
HIGH PRESSURE	150 to 200 psig / 10.3 to 13.8 bar 0Y066427022 Green Stripe	250	17.2	200	13.8	4300	115	9100	244	13,000	348	23,000	616	42,000	1126	
		300	20.7			5300	142	11,000	295	18,000	482	33,000	884	52,000	1394	
		600	41.4			10,000	268	23,000	616	40,000	1072	75,000	2010	----	----	
		700	48.3			12,000	322	27,000	724	47,000	1260	90,000	2412	----	----	
		800	55.2			14,000	375	31,000	831	54,000	1447	----	----	----	----	
		1000	69.0			17,000	456	39,000	1045	69,000	1849	----	----	----	----	
		1200	82.7			21,000	563	48,000	1286	83,000	2224	----	----	----	----	
		1500	103			27,000	724	60,000	1608	----	----	----	----	----	----	
	150 to 275 psig / 10.3 to 19.0 bar 1J146927142 Blue Stripe	250	17.2	200	13.8	4300	115	8900	239	12,000	322	23,000	616	35,000	938	
		300	20.7			5300	142	11,000	295	18,000	482	31,000	831	46,000	1233	
		600	41.4			10,000	268	23,000	616	38,000	1018	70,000	1876	----	----	
		700	48.3			12,000	322	27,000	724	45,000	1206	83,000	2224	----	----	
		800	55.2	250	17.2	14,000	375	31,000	831	52,000	1394	----	----	----	----	
		1000	69.0			17,000	456	39,000	1045	68,000	1822	----	----	----	----	
		1200	82.7			20,000	536	46,000	1233	83,000	2224	----	----	----	----	
		1500	103			27,000	724	60,000	1608	----	----	----	----	----	----	
		300	20.7	250	17.2	5000	134	10,000	268	17,000	456	30,000	804	52,000	1394	
		400	27.6			7100	190	15,000	402	25,000	670	47,000	1260	76,000	2037	
		500	34.5			8600	230	19,000	509	34,000	911	62,000	1662	103,000	2760	
		600	41.4			10,000	268	23,000	616	41,000	1099	78,000	2090	----	----	
	1000	69.0	275	19.0	17,000	456	40,000	1072	68,000	1822	----	----	----	----		
	1500	103			27,000	724	60,000	1608	----	----	----	----	----	----		
	300	20.7			275	19.0	4800	129	10,000	268	17,000	456	29,000	777	43,000	1152
	400	27.6					7000	188	15,000	402	26,000	697	47,000	1260	73,000	1956
600	41.4	10,000	268	23,000			616	40,800	1093	81,900	2195	----	----			
1000	69.0	17,000	456	40,000			1072	68,000	1822	----	----	----	----			
1500	103	26,000	697	61,000	1635	----	----	----	----	----	----	----				
275 to 500 psig / 19.0 to 34.5 bar 1K370927082 Yellow Stripe	300	20.7	275	19.0	4600	123	8400	225	13,000	348	23,000	616	37,000	992		
	400	27.6			7000	188	13,000	348	20,000	536	32,000	858	53,000	1420		
	600	41.4			10,000	268	23,000	616	40,800	1093	81,900	2195	----	----		
	1000	69.0			18,000	482	37,000	992	57,000	1528	----	----	----	----		
	1500	103			27,000	724	57,000	1528	----	----	----	----	----	----		
	400	27.6	300	20.7	7000	188	13,000	348	21,000	563	35,000	938	54,000	1447		
	600	41.4			10,000	268	21,000	563	34,000	911	59,000	1581	----	----		
	700	48.3			12,000	322	26,000	697	40,000	1072	72,000	1930	----	----		
	800	55.2			14,000	375	29,000	777	47,000	1260	81,000	2171	----	----		
	1000	69.0			15,800	423	33,200	890	53,600	1436	----	----	----	----		
	1300	89.6	23,000	616	50,000	1340	80,000	2144	----	----	----	----				
	1500	103	27,000	724	58,000	1554	----	----	----	----	----	----				
	500	34.5	400	27.6	8800	236	17,000	456	28,000	750	49,000	1313	77,000	2064		
	600	41.4			10,300	276	22,300	598	36,000	965	66,300	1777	100,300	2688		
800	55.2	14,000			375	31,000	831	51,000	1367	95,000	2546	----	----			
900	62.1	16,000			429	36,000	965	58,000	1554	110,000	2948	----	----			
1000	69.0	18,000			482	40,000	1072	66,000	1769	----	----	----	----			
1200	82.7	21,000			563	48,000	1286	80,000	2144	----	----	----	----			
1400	96.5	25,000	670	57,000	1528	96,000	2573	----	----	----	----					
1500	103	27,000	724	61,000	1635	----	----	----	----	----	----					
550	37.9	500	34.5	9000	241	18,000	482	30,000	804	53,000	1420	89,000	2385			
600	41.4			10,000	268	20,800	557	34,500	925	62,300	1670	102,000	2734			
900	62.1			16,000	429	35,000	938	60,000	1608	113,000	3028	----	----			
1000	69.0			18,000	482	40,000	1072	67,000	1796	130,000	3484	----	----			
1500	103			27,000	724	60,000	1608	82,000	2198	----	----	----	----			



0X0541
AV1663
A5607

Figure 4. NPT Dimensions

Table 5. NPT Dimensions

BODY SIZE		NPT DIMENSIONS											
		A		B		C		D		E		F	
Low-Pressure Regulator													
INCH	DN	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
1	25	7.38	187	3.69	94	7.19	183	10.31	262	1.38	35	15.88	403
2	50	7.88	200	3.94	100	7.19	183	10.94	278	2.00	51	16.38	416
High-Pressure Regulator													
1	25	7.38	187	3.69	94	4.69	119	7.81	198	1.38	35	15.88	403
2	50	7.88	200	3.94	100	4.69	119	8.44	214	2.00	51	16.38	416

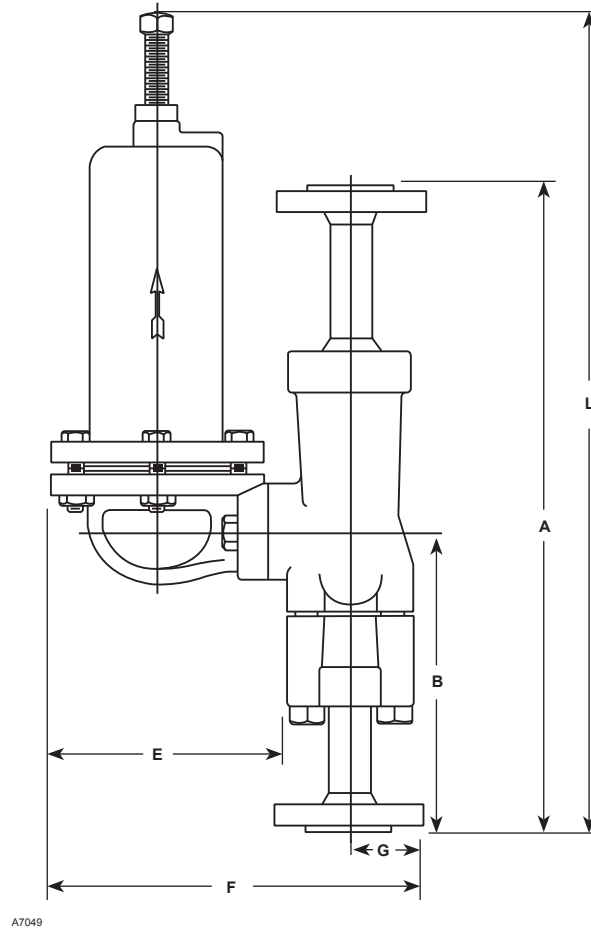


Figure 5. Flanged Dimensions

Table 6. Flanged Dimensions

BODY SIZE		FLANGED DIMENSIONS															
		A		B		E		F				G				L	
								CL150		CL300 and CL600		CL150		CL300 and CL600			
Low-Pressure Regulator																	
INCH	DN	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
1	25	17.9	455	8	203	7.2	183	11.1	282	11.4	290	2.1	53.3	2.4	61.0	20.7	526
2	50	19.9	505	9	229	7.2	183	11.9	302	12.2	310	3.0	76.2	3.3	83.8	21.9	556
High-Pressure Regulator																	
1	25	17.9	455	8	203	4.7	119	8.6	218	8.9	226	2.1	53.3	2.4	61.0	21.2	538
2	50	19.9	505	11.2	284	4.7	119	9.4	239	9.7	246	3.0	76.2	3.3	83.8	21.4	544

Ordering Information

Then, carefully review each specification and complete the Ordering Guide below. To ensure ordering accuracy, please complete the Specifications Worksheet at the bottom of this page.

Ordering Guide

Body Size (Select One)

- 1-Inch / DN 25^{***}
- 2-Inch / DN 50^{***}

Body Material and End Connection Style (Select One)

Steel

- CL150 RF^{**}
- CL150 RF^{**}
- CL300 RF^{**}
- CL600 RF^{**}

Cast Iron

- NPT^{***}

Trim Material (Select One)

- Brass^{***}
- Stainless steel^{**}

Disk and Holder Material (Select One)

- Nitrile (NBR) and brass^{***}
- Nitrile (NBR) and stainless steel^{*}
- Nylon (PA) and brass^{**}
- Nylon (PA) and stainless steel^{*}

Orifice Material (Select One)

- Brass^{***}
- Stainless steel^{*}

Orifice Size (Select One)

- 1/8-inch / 3.2 mm^{**}
- 3/16-inch / 4.8 mm^{**}
- 1/4-inch / 6.4 mm^{**}
- 3/8-inch / 9.5 mm^{**}
- 1/2-inch / 13 mm^{**}

Outlet Pressure Range (Select One)

- 3 to 10 psig / 0.21 to 0.69 bar, Red stripe^{**}
- 8 to 20 psig / 0.55 to 1.4 bar, Olive green^{**}
- 17 to 30 psig / 1.17 to 2.1 bar, Unpainted^{**}
- 27 to 40 psig / 1.9 to 2.8 bar, Green stripe^{**}
- 27 to 50 psig / 1.9 to 3.4 bar, Red stripe^{**}
- 46 to 95 psig / 3.2 to 6.6 bar, Olive green^{**}
- 90 to 150 psig / 6.2 to 10.3 bar, Unpainted^{**}
- 150 to 200 psig / 10.3 to 13.8 bar, Green stripe^{**}
- 200 to 275 psig / 13.8 to 19.0 bar, Blue stripe^{**}
- 275 to 500 psig / 19.0 to 34.5 bar, Yellow stripe^{**}

Replacement Parts Kit (Optional)

- Yes, send one replacement parts kit to match this order.

Regulators Quick Order Guide	
***	Readily Available for Shipment
**	Allow Additional Time for Shipment
*	Special Order, Constructed from Non-Stocked Parts. Consult your local Sales Office for Availability.
Availability of the product being ordered is determined by the component with the longest shipping time for the requested construction.	

Specification Worksheet

Application (Please designate units):
 Specific Use _____
 Line Size _____
 Gas Type and Specific Gravity _____
 Gas Temperature _____

Does the Application Require Overpressure Protection?
 Yes No If yes, which is preferred:
 Relief Valve Monitor Regulator Shutoff Device
 Is overpressure protection equipment selection assistance desired? _____

Pressure:
 Maximum Inlet Pressure (P_{1max}) _____
 Minimum Inlet Pressure (P_{1min}) _____
 Downstream Pressure Setting(s) (P_2) _____
 Maximum Flow (Q_{max}) _____

Performance Required:
 Accuracy Requirements? _____
 Need for Extremely Fast Response? _____

Other Requirements: _____

Industrial Regulators

Emerson Process Management Regulator Technologies, Inc.

USA - Headquarters
McKinney, Texas 75069-1872, USA
Tel: +1 800 558 5853
Outside U.S. +1 972 548 3574

Asia-Pacific
Shanghai 201206, China
Tel: +86 21 2892 9000

Europe
Bologna 40013, Italy
Tel: +39 051 419 0611

Middle East and Africa
Dubai, United Arab Emirates
Tel: +971 4811 8100

Natural Gas Technologies

Emerson Process Management Regulator Technologies, Inc.

USA - Headquarters
McKinney, Texas 75069-1872, USA
Tel: +1 800 558 5853
Outside U.S. +1 972 548 3574

Asia-Pacific
Singapore 128461, Singapore
Tel: +65 6770 8337

Europe
Bologna 40013, Italy
Tel: +39 051 419 0611
Chartres 28008, France
Tel: +33 2 37 33 47 00

TESCOM

Emerson Process Management Tescom Corporation

USA - Headquarters
Elk River, Minnesota 55330-2445, USA
Tels: +1 763 241 3238
+1 800 447 1250

Europe
Selmsdorf 23923, Germany
Tel: +49 38823 31 287

Asia-Pacific
Shanghai 201206, China
Tel: +86 21 2892 9499

For further information visit www.fisherregulators.com

The Emerson logo is a trademark and service mark of Emerson Electric Co. All other marks are the property of their prospective owners. Fisher is a mark owned by Fisher Controls International LLC, a business of Emerson Process Management.

The contents of this publication are presented for informational purposes only, and while every effort has been made to ensure their accuracy, they are not to be construed as warranties or guarantees, express or implied, regarding the products or services described herein or their use or applicability. We reserve the right to modify or improve the designs or specifications of such products at any time without notice.

Emerson Process Management Regulator Technologies, Inc. does not assume responsibility for the selection, use or maintenance of any product. Responsibility for proper selection, use and maintenance of any Emerson Process Management Regulator Technologies, Inc. product remains solely with the purchaser.