

F200 Pilot Operated Pressure Regulator

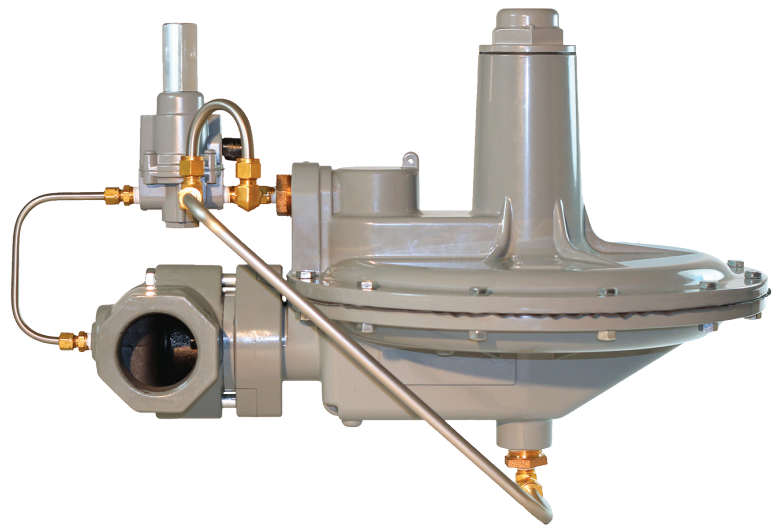


- External or Internal Pressure Registration
- Minimize Sudden Downstream Load Change
- Ideal for Fix Factor Billing
- Quick Response Time / High Accuracy

The F200 series is a manual, direct acting, self-operating, spring loaded, adjustable regulator. The F200 series is used in applications where pressure reduction is required. The regulator will reduce the risk of "shock" from abrupt changes of downstream conditions. This can help prevent safety equipment from shutting an operation down.

Applications

- Compressors
- Gas Engines
- Service Regulators



Materials of Construction

Adjusting Screw	Aluminum / Zinc Plated Steel
Body	Ductile Cast Iron or WCB Steel
Bonnet	Aluminum
Closing Cap	Aluminum
Diaphragm	Nitrile
Lower Casing	Aluminum
Molded Seat Assembly	Nitrile
Orifice	Aluminum
Upper/Lower Spring Seat	Aluminum / Brass
Flange	Ductile Cast Iron / WCB Steel

F200 Series Maximum Inlet Pressure

Orifice Inches	Range	Maximum Inlet Pressure	
		PSIG	BAR
1/4"	Any	125	8.618
3/8"	Any	125	8.618
1/2"	Any	100	6.894
3/4"	Any	60	4.136
1"	Any	25	1.723
1-3/16"	Any	15	1.034

Specifications

Maximum Inlet	See Table 1	
Maximum Emergency Outlet	15 PSIG	
Pressure Ranges	See Table 2	
Port Sizes	1.25 NPT	
	1.5 NPT	
	1.5 NPT x 2 NPT	
	2 NPT	
Orifice Sizes	1/4"	
	3/8"	
	1/2"	
	3/4"	
	1"	
	1-3/16"	
End Connections	150 RF Flange	Steel Units Only
	125 FF Flange	Iron Units Only
Temperature Range	-20 °F to 180 °F	
	-29 °C to 82 °C	
Approx. Weight	27 lbs. (12.25 kg)	

F200 Main Spring Ranges

Model	Spring Ranges		Spring Color	Part Number
	WC or PSIG	mBAR		
F200	4 - 14 WC	14.94 - 34.87	Red	655-697-003
	14 - 2 PSIG	34.87 - 137.89		
F200	PSIG	BAR	Black	655-697-004
	2 - 10	0.137 - 0.689		

F200 Pilot Spring Ranges

Model	Spring Ranges		Spring Color	Part Number
	WC or PSIG	mBAR		
F200	4 - 14 WC	14.94 - 34.87	White	655-765-000
	14 - 2 PSIG	34.87 - 137.89	Yellow	655-749-000
F200	PSIG	BAR	Black	655-000-202
	2 - 10	0.137 - 0.689		

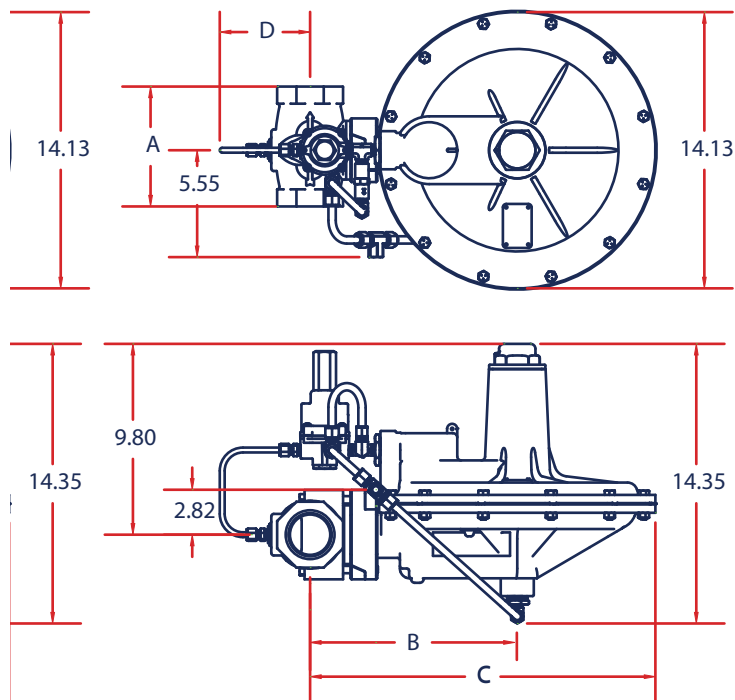
F200 Part Matrix

F200									0						
															Version
															Internal Registration
															External Registration
															Port Size
															1.25 NPT
															1.5 NPT
															1.5 x 2 NPT
															2 NPT
															Spring Range - WC or PSI / mBAR
															4 - 14" WC 10 - 35
															14" - 2 PSIG 35 - 138
															2 - 10 PSIG 138 - 689
															Special Construction
															None
															150 RF (1.5" & 2" Steel Only)
															125 FF (2" Iron Only)
															Orifice
															4 1/4"
															6 3/8"
															8 1/2"
															B 3/4"
															D 1"
															F 1-3/16"
															Port Orientation
															3 Right
															4 Left
															Body Material
															0 Iron
															2 Steel

F200 Dimensions

Body Size	A			B	C	D		
	Inches	NPT	125 FF Flange			150 RF Flange	NPT	125 FF Flange
1.25	6.13			11.03	18.09	1.85		
1.5	6.13		10	11.03	18.09	1.85		2.5
1.5 x 2	6.13			11.03	18.09	1.85		
2	6.13	10	10	10.59	17.66	2.15	4.42	4.42

F200 Standard



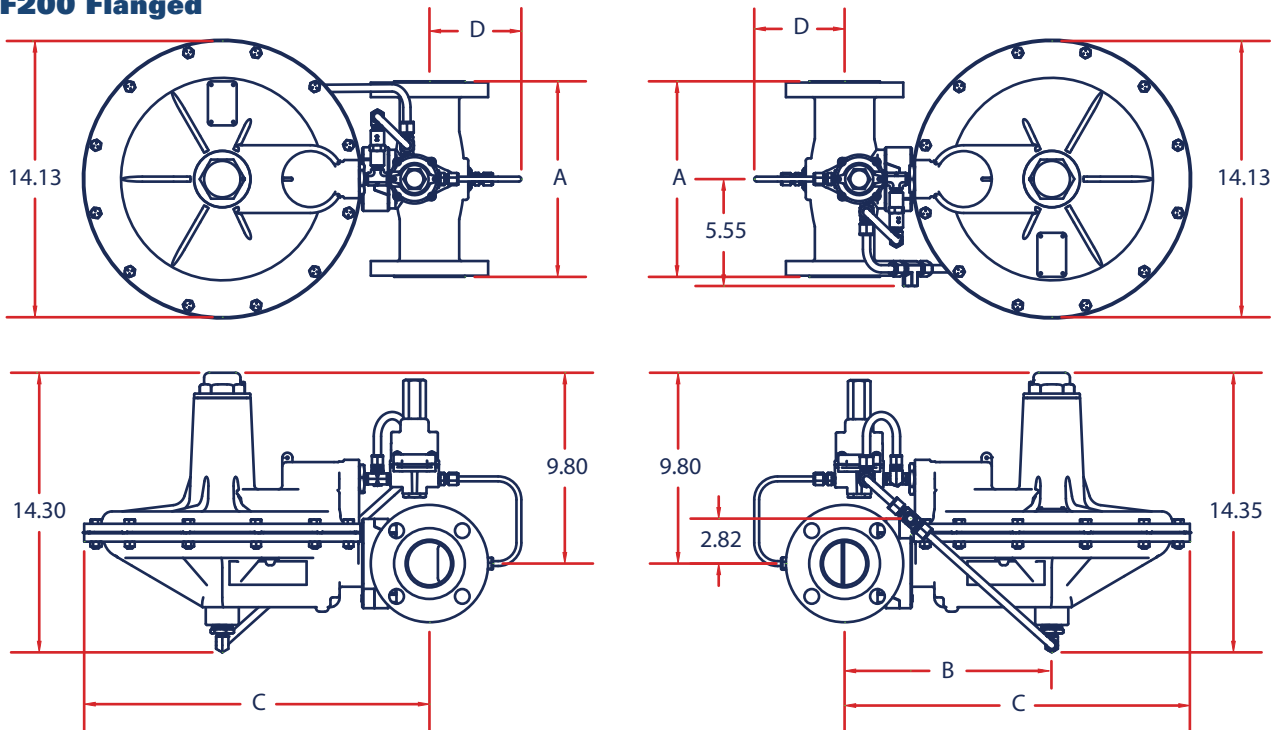
Outlet Pressure, Spring Part Number, and Accuracy	Inlet Pressure		NPT 2 (DN 50) Body Sizes					
			Orifice Size, Inches (mm)					
	PSIG	BAR	1/4	3/8	1/2	3/4	1	1-3/16
4 inches WC (15 mbar) 655-765-000 1" WC Droop	2	0.14	697	1576	3123	4901	7009	6730
	5	0.34	999	2596	4568	8477	9402	8568
	10	0.69	1517	3577	6329	12387	11613	10219
	15	1.00	1835	4367	7753	13161	12697	11303
	25	1.70	2632	6185	12015	15871	14168	
	30	2.10	2903	6619	12387	15484		
	60	4.10	4707	11535	19742	17032		
	75	5.17	6200	14632	18581			
	100	6.90	7974					
	125	8.60	8825					
7 inches WC (17 mbar) 655-765-000 1" WC Droop	2	0.14	650	1626	2671	4835	7432	7742
	5	0.34	1006	2582	4346	8524	9414	5574
	10	0.69	1533	3750	5806	12000	13279	10245
	15	1.00	1835	4586	7907	15097	14710	11806
	25	1.70	1835	6908	11342	17806	16258	
	30	2.10	2942	6674	11674	17419		
	60	4.10	4877	11321	19355	18194		
	75	5.17	6286	15148	20903			
	100	6.90	7897					
	125	8.60	8826					
1 PSIG / 0.069 BAR 655-749-000 1% Droop	2	0.14	530	1379	2300	4102	6635	8195
	5	0.34	1030	2599	4205	8193	12227	12307
	10	0.69	1548	3799	6252	12636	17814	16490
	15	1.00	1870	4817	7805	16656	20013	16689
	25	1.70	2690	6968	10967	22735	21215	
	30	2.10	2870	7082	12494	22875		
	60	4.10	4800	11343	19941	25990		
	75	5.17	5820	14074	23788			
	100	6.90	7900	16241	29032			
	125	8.60	9850	11159				

1. Limited due to boost

- Shaded areas show where maximum operating inlet pressure for a given port diameter is exceeded.

2. When using the 4" to 14" range spring in combination with the 3/8" or 1/2" orifice, the boost to the outlet pressure (P2) will exceed 1% of the set pressure when the inlet pressure (P1) is above 30 PSIG. This will occur only on the internal registration model (D) and does not occur on the external registration model (P).

F200 Flanged



F200D Flow Capacities in SCFH of 0.6 Specific Gravity Natural Gas

Outlet Pressure, Spring Part Number, and Accuracy	Inlet Pressure		NPT 2 (DN 50) Body Sizes					
			Orifice Size, Inches (mm)					
	PSIG	BAR	1/4	3/8	1/2	3/4	1	1-3/16
2 PSIG / 0.138 BAR 655-749-000 1% Droop	5	0.34	885	2204	3876	7918	11296	13256
	10	0.69	1500	3638	6120	11761	17727	15753
	15	1.00	1872	4697	7826	15924	20141	17475
	25	1.70	2605	6880	11090	23775	22475	
	30	2.10	2816	7139	12465	25837		
	60	4.10	4600	11116	19794	26585		
	75	5.17	5763	15070	23514			
	100	6.90	7600	17534	29662			
	125	8.60	8910	21383				
2 PSIG / 0.138 BAR 655-000-002 1% Droop	5	0.34	914	2200	3684	7356	11198	13236
	10	0.69	1525	3547	5804	11212	17230	16737
	15	1.00	1874	4566	7609	16223	19974	17335
	25	1.70	2607	6892	11098	23785	23328	
	30	2.10	2817	7267	12367	23716		
	60	4.10	4740	11421	19742	27821		
	75	5.17	6200	14490	23297			
	100	6.90	7500	18396	28595			
	125	8.60	8846	22076				
5 PSIG / 0.345 BAR 655-749-000 1% Droop	10	0.69	1269	3082	5173	10665	13034	17165
	15	1.00	1740	4343	7501	14764	22517	19215
	25	1.70	2641	6899	11045	18844	24540	
	30	2.10	2877	6672	12462	24553		
	60	4.10	4770	11591	19461	31796		
	75	5.17	6236	14801	22500			
	100	6.90	8137	18096	28504			
	125	8.60	8893	21553				
10 PSIG / 0.689 BAR 655-000-002 1% Droop	15	1.00	1430	3476	6027	11837	14849	18153
	25	1.70	2584	6899	11045	18844	29278	
	30	2.10	2897	6421	12346	22853		
	60	4.10	4810	8926	19405	37290		
	75	5.17	6394	14869	21782			
	100	6.90	8155	17656	28725			
	125	8.60	8925	21365				

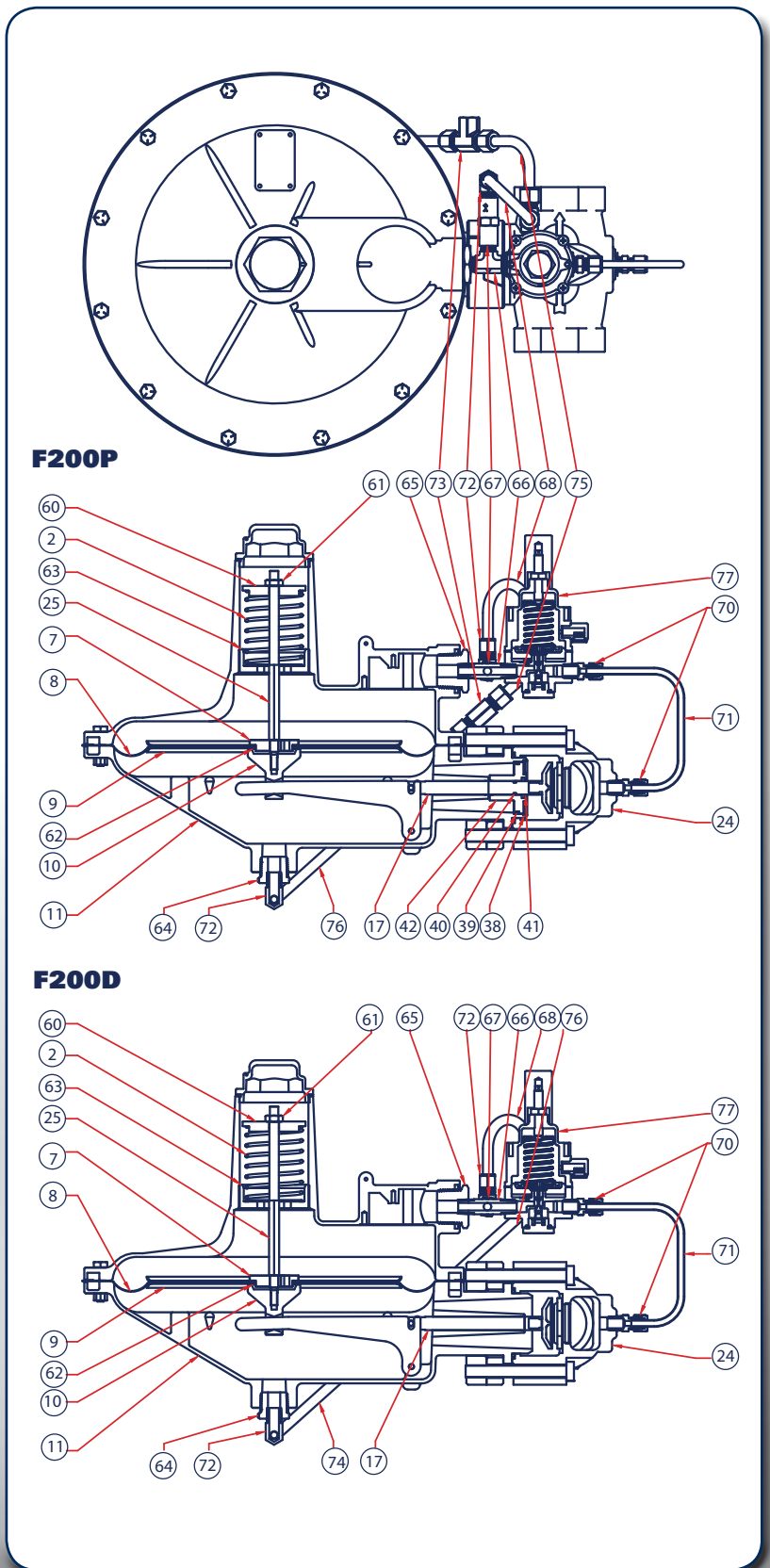
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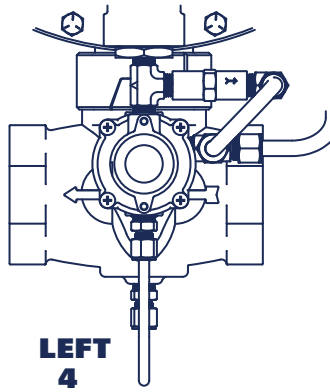
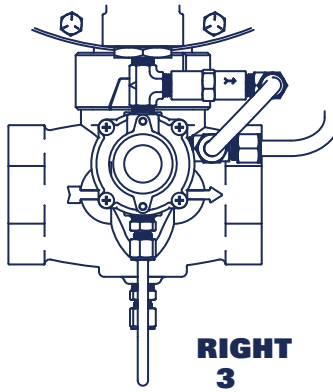
2. When using the 4" to 14" range spring in combination with the 3/8" or 1/2" orifice, the boost to the outlet pressure (P2) will exceed 1% of the set pressure when the inlet pressure (P1) is above 30 PSIG. This will occur only on the internal registration model (D) and does not occur on the external registration model (P).

F200 Parts List

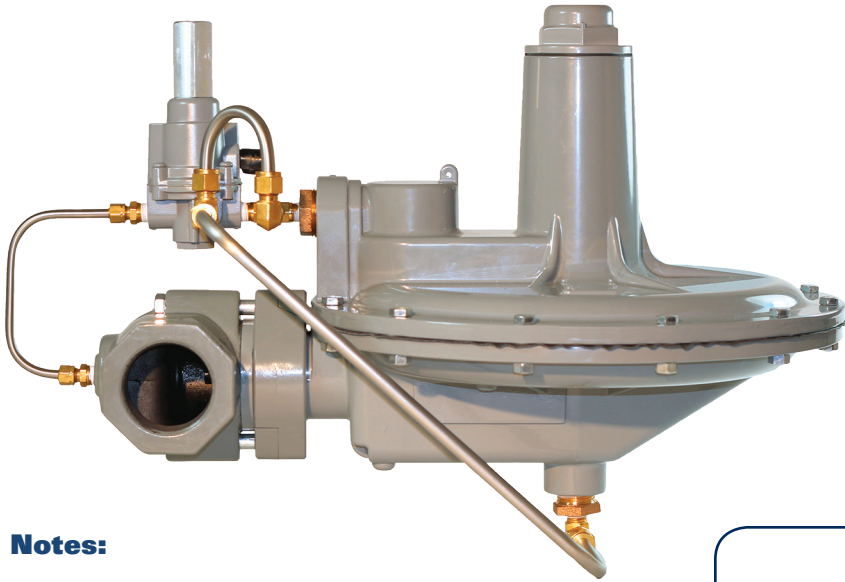
Item	Description	Qty.	Part Number
2	Closing Spring 4" WC - 2 PSIG	1	655-697-003
	Closing Spring 2 - 10 PSIG		655-697-004
7	Diaphragm Relief Plug	1	650-134-000
8	Diaphragm	1	618-072-000
9	Diaphragm Head	2	628-277-000
10	Pusher Post	1	637-326-001
11	Lower Casing Assembly F200D	1	629-219-002
	Lower Casing Assembly F200P		629-219-001
17	Valve Stem Assembly F200D	1	827-013-000
	Valve Stem Assembly F200P		827-013-001
24	2 NPT	Iron Body	664-443-000
		Steel Body	664-443-001
	1.5 NPT	Iron Body	664-442-000
		Steel Body	664-442-002
	1.5 x 2 NPT	Iron Body	664-441-000
		Steel Body	664-441-001
	1.25 NPT	Iron Body	664-442-001
		Steel Body	664-442-003
	125 FF 10"	Iron Body	664-444-000
	150 RF 2"	Steel Body	664-444-001
	150 RF 1.5"	Steel Body	664-444-002
	25	Stem	1
38	Retaining Ring (F200P Only)	1	693-027-000
39	O-ring Lg (F200P Only)	1	649-309-004
40	O-ring (F200P Only)	1	649-000-005
41	Wiper Ring (F200P Only)	1	644-061-000
42	Stem Adaptor (F200P Only)	1	653-058-000
60	Spring Retainer	1	626-121-000
61	Hex Nut	1	634-000-054
63	Spring Seat	1	650-198-000
64	Case Bushing 3/4 x 1/4	1	622-076-000
65	Bonnet Bushing 1 x 1/4	1	622-075-000
66	Tee M1/4 x M1/4 x M1/4	1	622-077-000
67	Relief Valve	1	678-061-000
68	Relief Valve Tubing	1	660-124-000
69	Right Angle Tee 1/4 x 3/8 x 3/8	1	622-074-000
70	Straight 1/4 x 1/4 Fitting	2	622-045-000
71	Pilot Supply Tubing	1	660-122-000
72	Elbow 1/4 x 3/8	2	622-061-000
73	In-Line Tee F1/4 x 3/8 x 3/8 (F200P Only)	1	622-078-000
74	Sensing Tubing F200D	1	660-123-000
75	Sensing Tubing F200P Short End	1	660-125-000
76	Sensing Tubing F200P Long End	1	660-126-000
77	PL84 Pilot 4" - 14" WC	1	832-036-000
	PL84 Pilot 14" WC - 2 PSIG		832-036-001
	PL84 Pilot 2 - 10 PSIG		832-036-002



F200 Body Orientation*



* Port orientation is based on the body's "Out" port location in relation to the top view of the regulator.



Notes:



BelGAS™

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BelGAS, the leader in pressure regulator design, offers the Oil, Gas and Pipeline Industry the same precision and reliability in flow control and pressure control that the control valve market has enjoyed for over 40 years. At BelGAS, we have raised the industry standard for quality, accuracy, and dependability. Even more important is that we provide this value to our customers at an economical price.

The BelGAS product offering includes pressure regulators for gas, air and propane service; explosion-proof I/P transducers for electro-pneumatic applications; process and test gauges for pressure measurement in general and severe service and a wide assortment of bimetal thermometers and thermowells for both high and low temperature indication.

Whether the requirements call for a high pressure flow condition, a low pressure relief application or the regulation of fuel or process gas in a system, BelGAS can provide a dependable and cost effective solution.

