

- **Simple Maintenance:** Actuator assembly and valve trim can be quickly changed without removing the valve from the line. Simply loosen the hammer nut and lift the actuator assembly free of the body. No special tools are required.
- **Safety Pressure Relief:** As a warning, the hammer nut is designed to leak a small amount of process fluid if an attempt to remove the actuator is made while the valve body is still pressurized.
- **Hardened Trim:** Precipitation hardened stainless steel and tungsten carbide trim options will handle the most damaging process conditions.
- **Sour Gas Service:** All control valves come standard with NACE MR0175 compliant parts to ensure functionality in sour gas applications.

The BelGAS CP P7100 series is a pneumatically operated control valve. Offering a NACE compliant construction as standard, P7100 is designed to withstand severely corrosive mediums associated with the oil and gas industry. Trim options of precipitation hardened stainless steel and tungsten carbide allow P7100 to handle most destructive process conditions. A LCC steel body makes the product suited for applications in a wide temperature range.

Applications

- Separators
- Liquid Level Controls
- Scrubbers
- Wellheads



Materials of Construction

Upper and Lower Housing	Steel
Main Spring	Steel
Diaphragm	Neoprene with Nylon
Diaphragm Plate	Steel
Packing Plug	Stainless Steel
Hammer Nut	Steel
Body	LCC Steel
Trim/Orifice	17-4PH Stainless Steel or Tungsten Carbide
V-Packing	Virgin PTFE

Specifications

Inlet Pressure Rating	4000 PSIG (MAX)
Assembled Valve Temperature Range	-40 to 200°F (-40 to 93°C)
Shutoff Classification	ANSI Class IV
Air Pressure to Actuator	3 - 15 Spring: 0 to 20 PSIG recommended 6 - 30 Spring: 0 to 35 PSIG recommended

P7100 Series Actuator

Actuator Size	Diaphragm Effective Area	Housing Max. Pressure	Approximate Weight
No. 35	35 in. ²	50 PSIG	25 lbs (11.3 kg)
No. 70	70 in. ²	35 PSIG	50 lbs (22.7 kg)

P7100 Part Matrix

P71	50				S			R							
	↑↑	↑↑	↑	↑	↑	↑↑	↑	↑	↑	↑	↑	↑	↑	Style	
	50													Closed Coupled	
														Body Size	
		08												1"	
		16												2"	
														End Connections	
		S												Female NPT	
		F												Raised Face Flange (RF)	
		J												Ring Type Joint Flange (RTJ)	
														ANSI Class	
		1												ANSI 150	
		2												ANSI 300	
		6												ANSI 600*	
		9												ANSI 900*	* RTJ Class Rating
		5												ANSI 1500**	** FNPT & RTJ 4000 psig @ 200°F
														Materials of Construction	
		S												LCC, NACE	
														Body Style	
														Globe	
														Tee (1") or Angle (2")	

Repair Kits for Trim (Plug, Cage with O-ring, Pin)

971P71			
	↑	↑	↑
			Trim Material
1			17-4PH SST, w/ Nitrile Oring
2			Tungsten Carbide, w/ Nitrile Oring
			Trin Size
	4		1/4"
	6		3/8"
	8		1/2"
	B		3/4"
	D		1"
			Trim Characteristic
	T		Modified Precent (Throttling)
	S		Quick Opening (on/off)

Repair Kits for O-rings

971P71	5	0	
	↑	↑	↑
			Type
	5		Elastomer Kit
			Material
		0	Nitrile
		2	Fluorocarbon
		A	TFE/P
		K	FFKM
		R	HNBR
		0	

P7100 Top Works

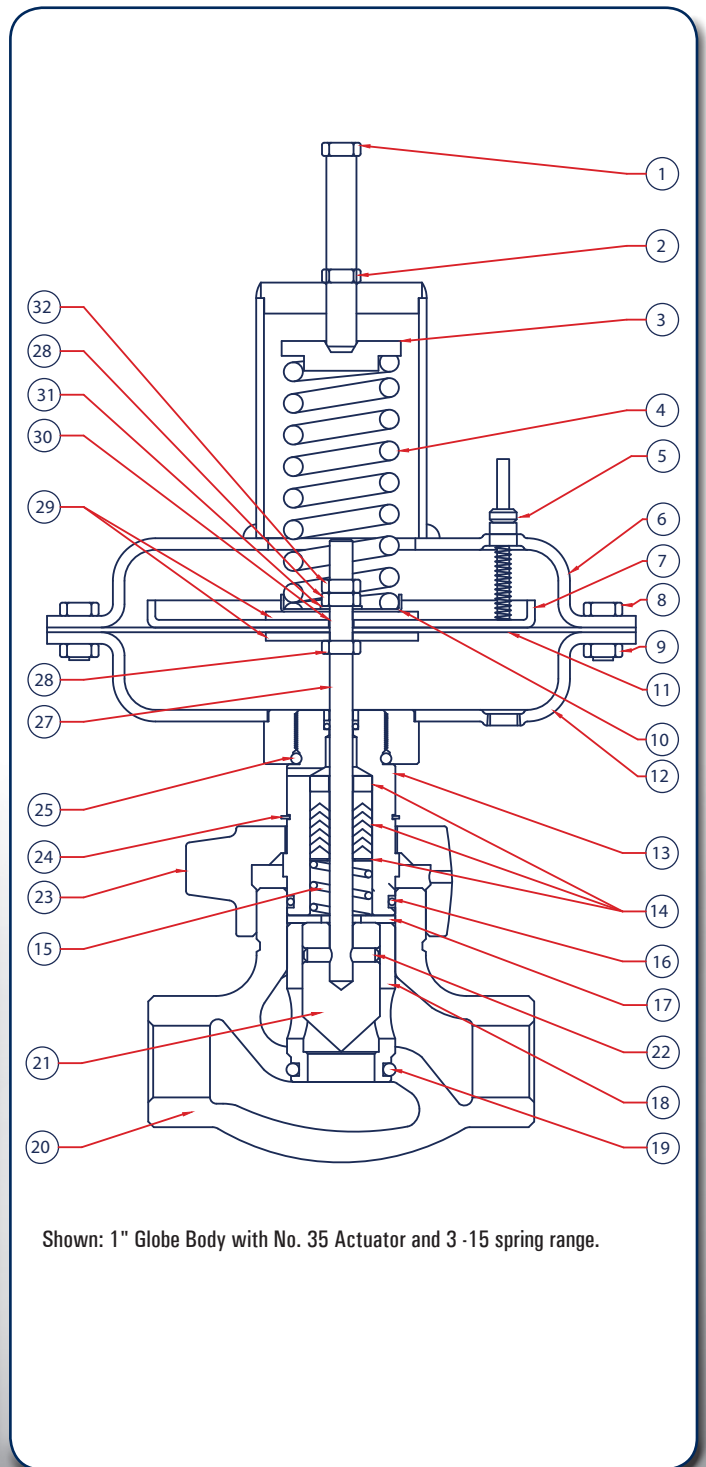
P71	50		R	
	▲▲	▲▲	▲	▲
				Style
	50			Closed
				Actuator Selection
		33		No. 35 Actuator w/3-15 Spring
		36		No. 35 Actuator w/6-30 Spring
		73		No. 70 Actuator w/3-15 Spring
		76		No. 70 Actuator w/6-30 Spring
			R	Actuator Type
				Reverse Acting (Spring Closes / Air Opens)
				Seal Material
			O	Buna-N
			2	Viton®
			A	Aflas®
			K	Kalrez®
			R	HNBR

				Actuator Selection
				No. 35 Actuator w/3-15 Spring
				No. 35 Actuator w/6-30 Spring
				No. 70 Actuator w/3-15 Spring
				No. 70 Actuator w/6-30 Spring
				Actuator Type
				Reverse Acting (Spring Closes/ Air Opens)
				Seal Material
				Nitrile
				Fluorocarbon
				TFE/P
				FFKM
				HNBR
				Trim Material
1				17-4PH SST
2				Tungsten Carbide
				Trim Size
4				1/4"
6				3/8"
8				1/2"
B				3/4"
D				1"
				Trim Characteristic
T				Modified Percent (Throttling)
S				Quick Opening (on/off)

P7100 Parts List

Item	Description	Qty.	Part Number
1	Adjustment Screw #35	1	648-559-000
	#70		648-559-001
2	Jam Nut #35	1	634-000-056
	#70		634-181-000
3	Upper Spring Retainer #35, 3-15 Spring	1	643-214-000
	#35, 6-30 Spring		643-213-000
	#70, 3-15 Spring		643-230-000
	#70, 6-30 Spring		655-757-000
4	Spring #35, 3-15 Spring	1	655-756-000
	#35, 6-30 Spring & #70, 3-15 Spring		655-755-000
	#70, 6-30 Spring		819-014-000K
5	Position Indicator Assembly	1	802-132-000
	#35, 3-15 Spring		820-135-000
	#35, 6-30 Spring		802-134-000
	#70, 3-15 Spring		802-133-000
	#70, 6-30 Spring		638-083-000
6	Upper Diaphragm Housing	1	638-082-000
7	Diaphragm Plate #35	1	648-560-000
	#70		634-184-000
8	Diaphragm Housing Screw	12	643-215-000
9	Diaphragm Housing Nut	12	662-425-000
10	Lower Spring Retainer #35, 3-15 Spring	1	662-424-000
	#35, 6-30 Spring & #70, 3-15 Spring		See Repair Kits Page 2
	#70, 6-30 Spring		802-131-000
11	Diaphragm #35	1	802-130-000
	#70		See Repair Kits Page 2
12	Lower Diaphragm Housing #35	1	824-001-000
	#70		655-759-000
13	Packing Plug	1	649-329-000
14	Packing Kit	1	649-330-000
15	Packing Spring	1	649-351-001
			649-352-001
			649-353-001
16	Packing Plug O-ring Nitrile	1	662-427-000
	Fluorocarbon		See Repair Kits Page 2
	TFE/P		649-327-000
	FFKM		649-328-000
	HNBR		649-351-002
17	Packing Washer	1	649-352-002
18	Cage/Seat	1	649-353-002
19	Seat O-ring Nitrile	1	664-417-000
	Fluorocarbon		664-421-000
	TFE/P		664-419-000
	FFKM		664-426-000
	HNBR		See Repair Kits Page 2
20	Body 1" NPT, Globe	1	649-327-000
	1" NPT, Tee		649-328-000
	2" NPT, Globe		649-351-002
	2" NPT, Angle		649-352-002
21	Valve Plug	1	649-353-002
22	Pin	1	689-014-000
23	Hammer Nut	1	634-151-000
24	Ring Retainer	1	662-423-000
25	Lower Housing O-ring Nitrile	1	649-000-004
	Fluorocarbon		649-323-000
	TFE/P		649-351-003
	FFKM		649-352-003
	HNBR		649-353-003
27	Stem	1	689-014-000
28	Hex Nut	2	634-151-000
29	Bearing Washer	1	662-423-000
30	Diaphragm O-ring Nitrile	1	649-000-004
	Fluorocarbon		649-323-000
	TFE/P		649-351-004
	FFKM		649-352-004
	HNBR		649-353-004
31	Lock Washer	1	662-429-000
32	Hex Jam Nut	1	634-000-010
	NPT Plug (1" Tee Body Only)	1	639-140-000
Not Shown	Nameplate	1	632-571-000
	NACE Tag	1	675-015-000
	Drive Screw (Nameplate)	1	648-573-000
	Cable Tie (NACE Tag)	1	010-267-000

P7100 Parts Drawing



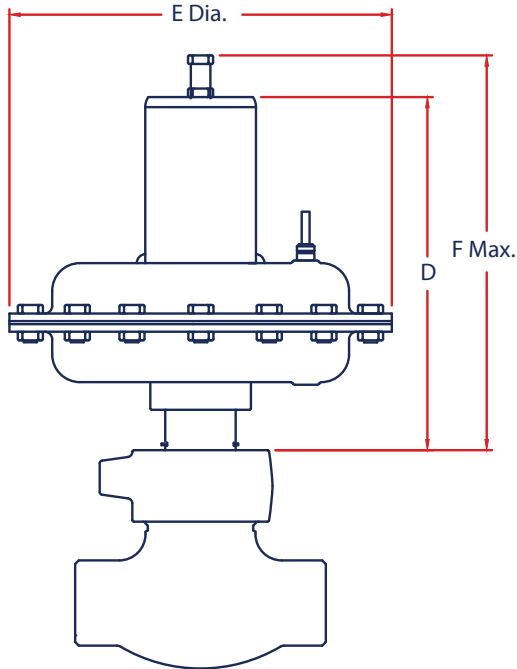
Shown: 1" Globe Body with No. 35 Actuator and 3-15 spring range.

P7100 Actuator Dimensions

Actuator Size	Spring Range	Dimension					
		D		E		F	
		Inches	mm	Inches	mm	Inches	mm
No. 35	3-15	8.77	222.68	9.50	241.30	10.77	273.48
	6-30	10.64	270.18	9.50	241.30	12.64	320.98
No. 70	3-15	10.64	270.18	12.50	317.50	12.64	320.98
	6-30	12.39	314.63	12.50	317.50	14.39	365.43

BelGAS^{CP}
Control Products

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P7100 Body Dimensions

Body Size	Face to Face "A"											B		C	
	End Connection	ANSI Rating													
		150		300		600		900		1500					
		Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm		
1"	NPT							6.25	159	6.25	159	1.56	39.6	3.69	93.7
	RF	7.25	184	7.75	197	8.25	210	9.38	238	9.38	238				
	RTJ	7.75	197	8.25	210	8.25	210	9.38	238	9.38	238				
2"	NPT							7.50	191	7.50	191	3.69	93.7	3.69	93.7
	RF	10.00	254	10.50	267	11.25	286	12.88	327	12.88	327				
	RTJ	10.50	267	11.13	283	11.38	289	13.00	330	13.00	330				

