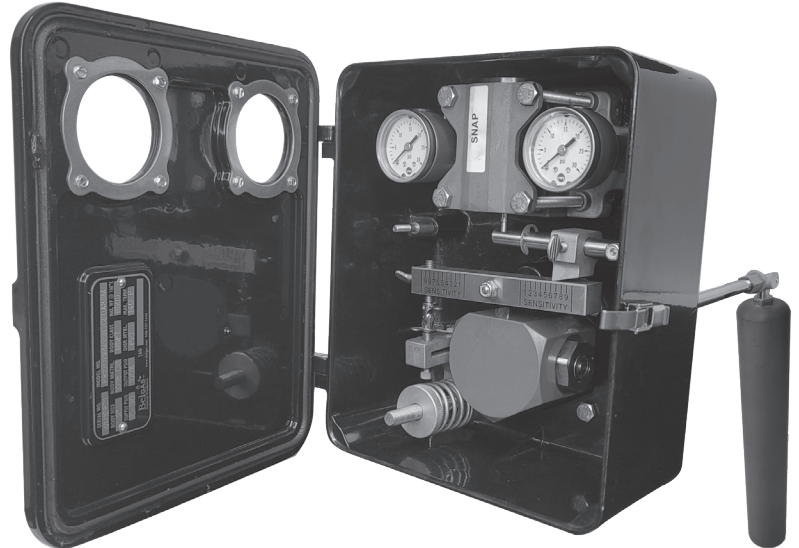


The BelGAS^{CP} P8100 series is a pneumatic or electronically operated liquid level controller with a flexible yet rugged design that allows optimal performance in the harshest environments. Options for the pilot valve, arm, spring, and displacer provide the versatility to set the controller to a wide range of spans, levels, and use in most fluids.

Applications

- Separators
- Compressor Scrubbers
- Tanks
- Dehydrators
- Other Process Equipment



Features

- **NACE Standard:** All controllers are constructed using NACE MR0175 compliant materials.
- **Weatherproof Sealed Case:** All pneumatic cases have a seal to protect the internal components from the weather. The cases can be plumbed to vent any exhaust gases to a remote area.
- **Left, Right, and Centerback Mounting Options:** Multiple mounting configurations allow for easy visibility and access.
- **Adjustable Level and Span:** Easily adjustable settings allow the P8100 to be adjusted for a variety of applications and requirements.
- **Liquid Level & Controller** equipped with an intermittent-bleeding pilot, manufactured by Marsh Bellofram Corporation, operates properly with air emission no greater than 0.4 SCFH at 30 PSI pilot pressure.

Pilot Valves Features

- **Snap Pilot:** The snap pilot provides a quick on/off action within a desired span to precisely control the level of a fluid in a variety of applications.
- **Throttle Pilot:** The throttle pilot provides a smooth proportional output between 0%-100% across a desired span.
- **Hybrid Pilot:** The hybrid pilot provides a quick on/off action while also minimizing emissions during activation.
- **Electric Pilot:** The electric switch is available in SPDT and DPDT

Specifications



Pneumatic Pilot Specifications		
Type	Input (psig)	Output (psig)
Snap/Hybrid	0-30/0-60	0% or 100%
Throttle	0-30/0-60	0% to 100%

Electric Pilot Specifications		
Type	Specs	Certifications
SPDT	15 amp at 125, 250, or 480 Vac	NEMA 1, 7, & 9 UL and CSA Certified
DPDT	10 amp at 125 or 250 Vac	

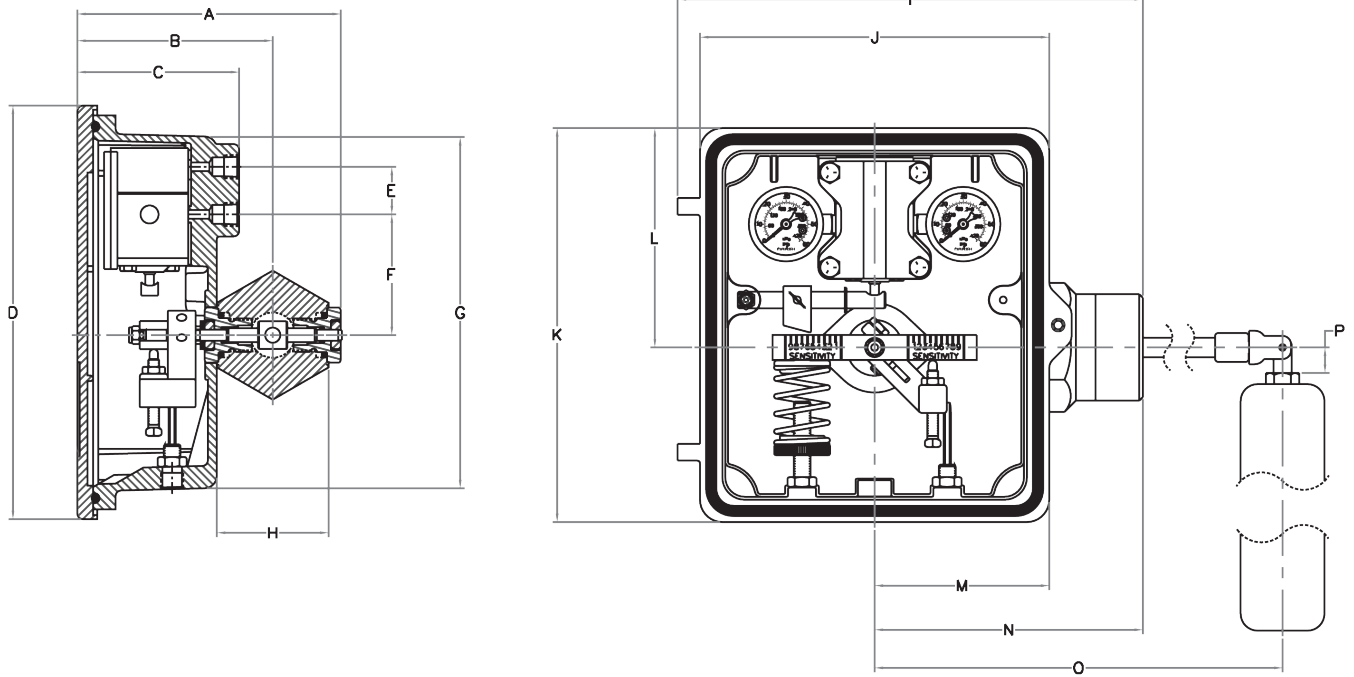
Displacer Specifications		
Material	Temperature Rating (°F)	Max Pressure (psig)
PVC	-40 - 140	6000
Acrylic	-40 - 180	6000
316 SS	-70 - 180	2000
	180 - 400	1500

Minimum Allowable Specific Gravity	
Liquid Interface	0.035
Top Level	0.300

Materials of Construction	
Displacer	PVC, Acrylic, 316SS
Door/Case	Aluminum
Body	Carbon Steel
Internals	316SS

P8100/P8101/P8105 Dimensional Data

P8100/P8101 Dims

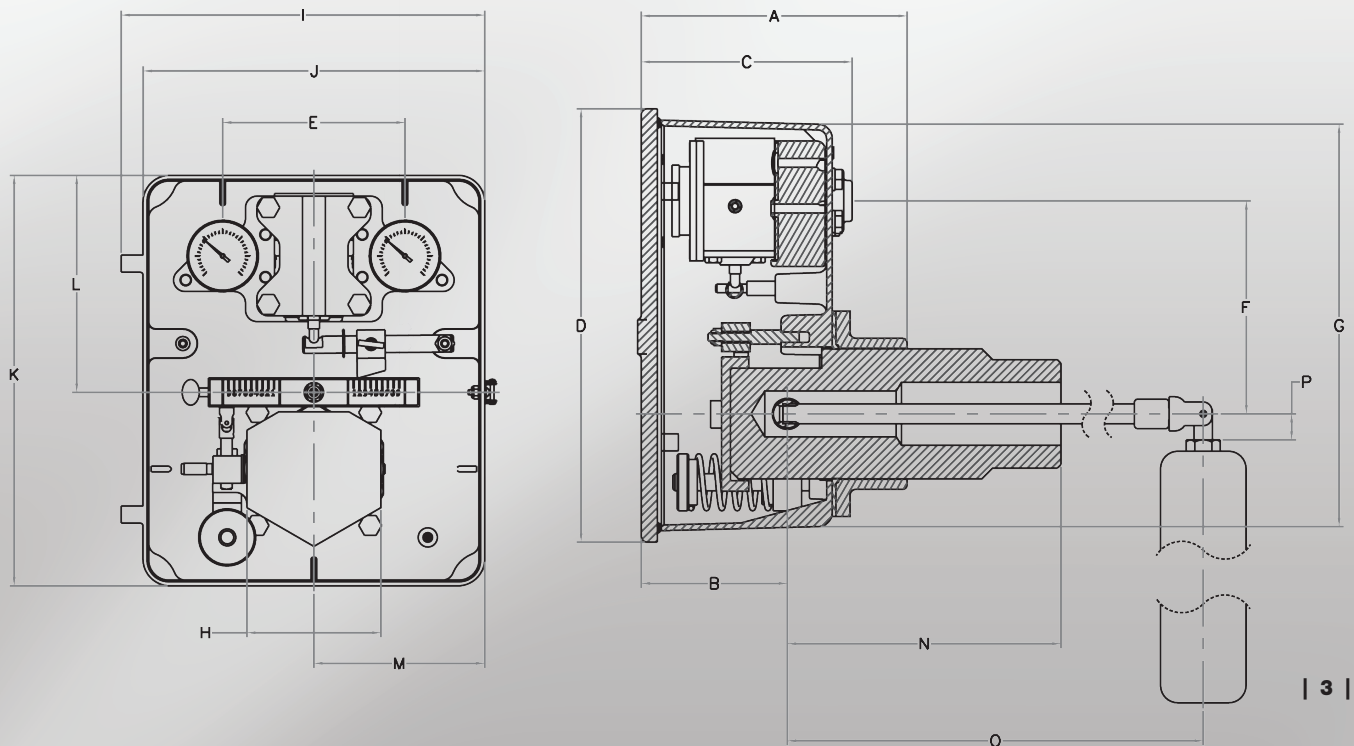


	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O*	P
P8100 Sealed	5.92	4.37	3.62	9.25	1.07	2.70	7.87	2.50	10.41	7.81	8.81	4.91	3.91	See Table	1.00	0.82
P8101 Electric	6.00	4.30	3.05	8.75	1.00	2.69	7.57	2.50	10.19	7.31	7.93	4.47	3.50		1.00	0.82
P8105 CB	5.80	3.18	4.11	9.50	4.00	4.67	8.69	2.50	8.00	7.50	9.00	4.76	3.75		1.00	0.82

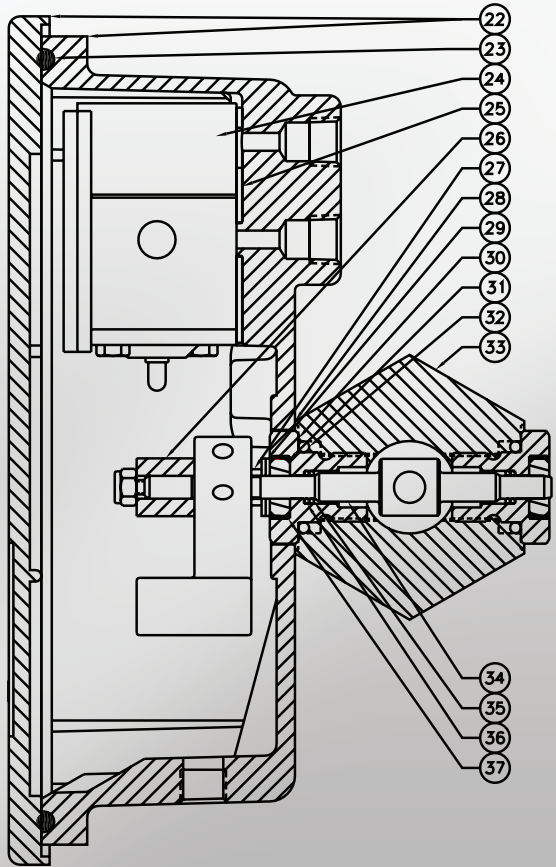
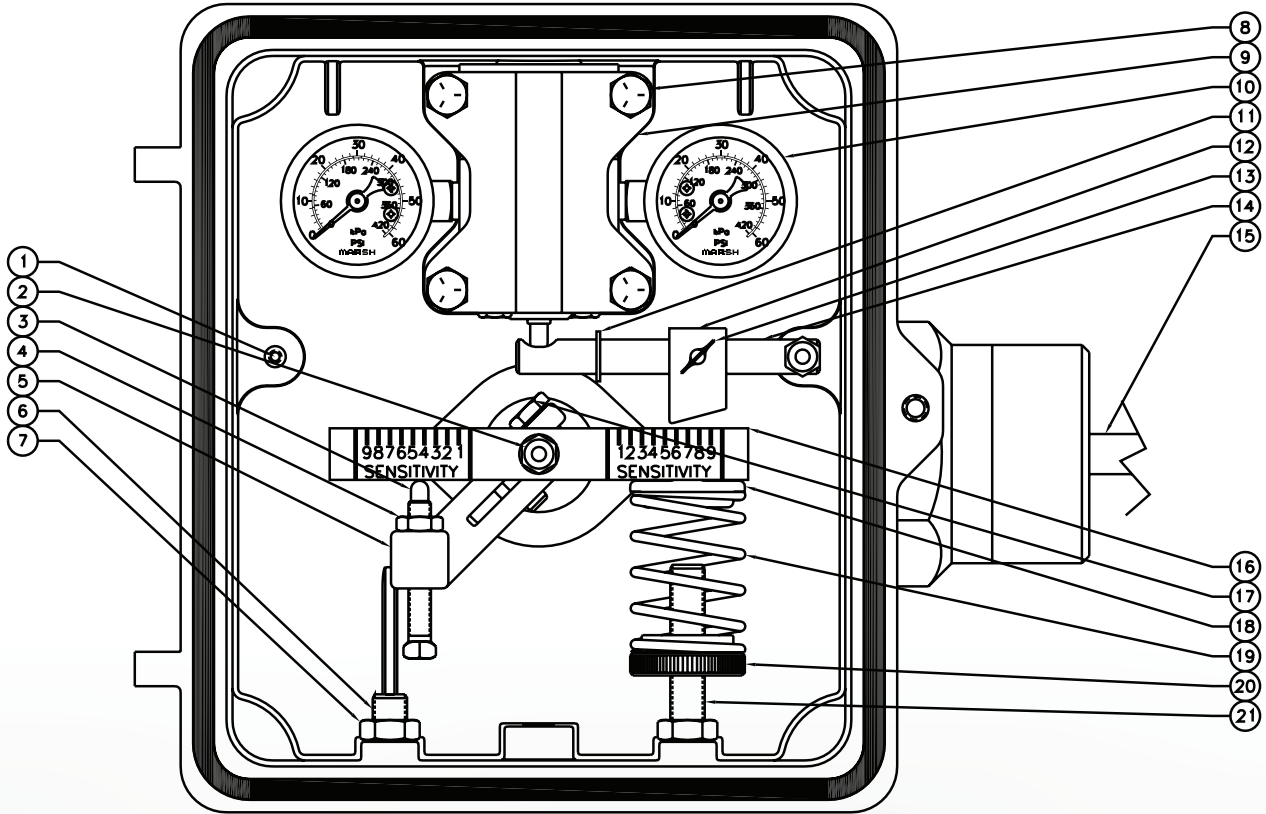
* Plus Arm Length

"N" Dimension	150# RF	300# RF	600# RF	900# RF	1500# RF	MNPT
2" Connection	6.50	6.81	7.19	8.00	8.00	6.00

P8105 Dims



P8100/P8101 Parts List



P8100/P8101 Parts List



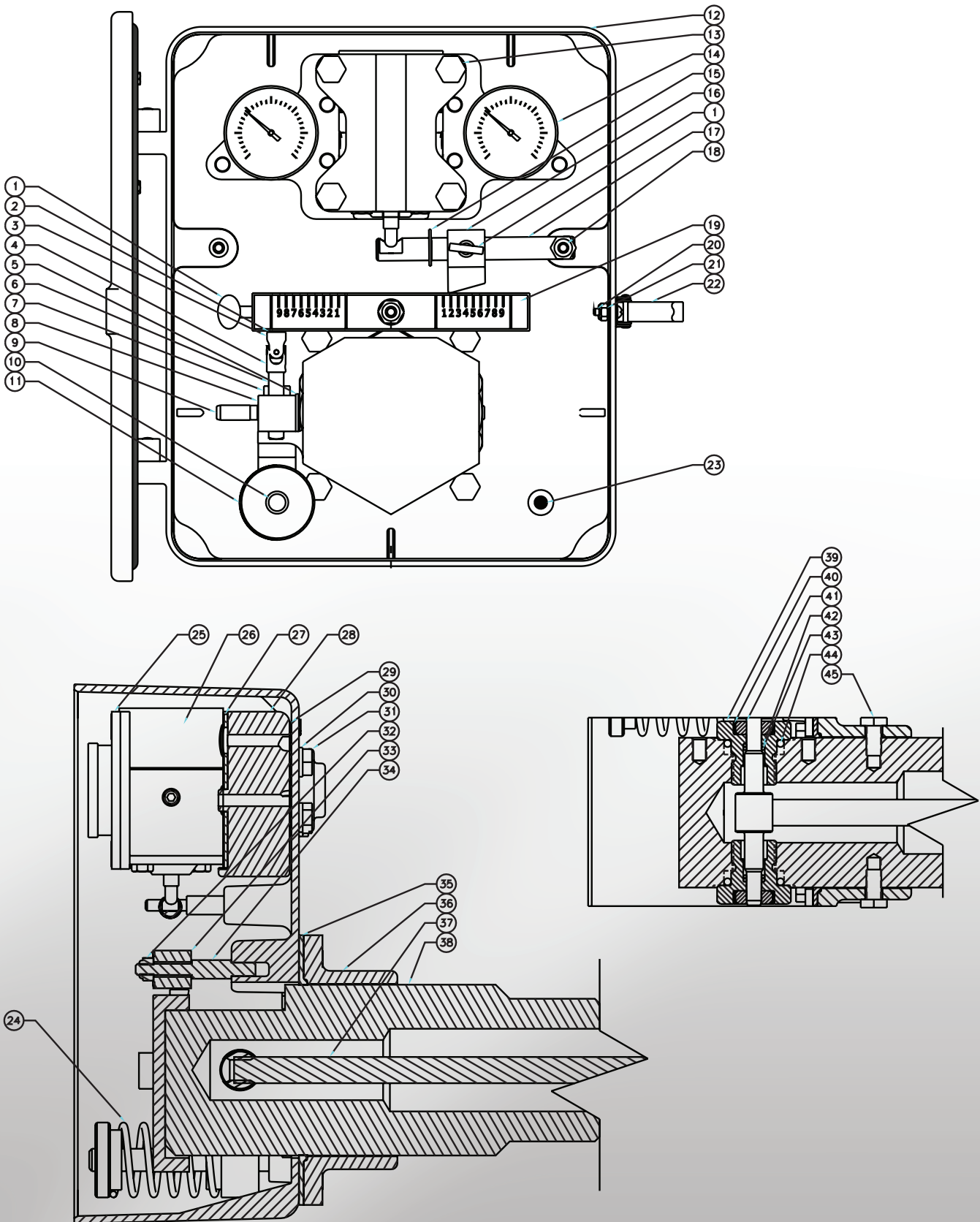
Item	Description	Part Number	QTY
1	Stud	657-018-000	2
2	Stop Nut	634-208-000	2
3	Adjustment Screw	648-558-000	1
4	Adjustment Screw Nut	634-209-000	1
5	Level Adjustment Bar	670-038-000	1
6	Sealing Bolt (P8100 Only)	648-467-007	1
7	Sealing Nut	634-209-001	2
8	Pilot Bracket Bolt (P8100 Only)	648-640-000	4
9	Pilot Bracket (P8100 Only)	638-130-000	1
10	Pilot Gauges (P8100 Only)	See Repair Kits	1
11	Retaining Ring	693-030-000	1
12	Fulcrum	694-002-001	1
13	Thumb Screw	648-565-000	1
14	Flapper Bar, P8100	670-037-000	1
	Flapper Bar, P8101	811-084-000	
15**	Displacer Arm, 12.5"	646-549-000	1
	Displacer Arm, 15"	646-549-001	
	Displacer Arm, 18"	646-549-006	
16	Sensitivity Tag	632-568-000	1
17	Level Adjustment Bar Screw	648-563-001	2
18	Upper Spring Retainer	643-217-000	1
19	Light Duty Spring, Green	655-761-000	1
	Medium Duty Spring, Silver	655-762-000	
	Heavy Duty Spring, Yellow	655-763-000	
	X- Heavy Duty Spring, Red	655-764-000	
20	Lower Spring Retainer	643-219-000	1
21	Spring Bolt	648-564-000	1
22	Door/Case, P8100	842-001-000	1
	Door/Case, P8101	842-003-000	
23	Door Seal, P8100	6504V0000-00194-22	1
	Door Seal, P8101	5314L0028-00250-22	
24	Pilot, P8100	See Repair Kits	1
	Pilot, SPDT	843-004-000	
	Pilot, DPDT	659-004-000	
25*	Pilot Gasket, Buna-N (P8100 only)	624-129-000	1
	Pilot Gasket, Fluorocarbon (P8100 only)	624-129-001	
26	Sensitivity Bar	670-040-000K	1
27	Spacer	654-191-000	1

Item	Description	Part Number	QTY
28*	Body Gasket	624-110-000	1
29	Washer	662-431-000	1
30	Bearing Block	602-130-000	2
31	Sealed Bearing	602-149-000	2
32*	Bearing Block O-Ring, Buna-N	649-332-000	2
	Bearing Block O-Ring, Fluorocarbon	649-000-237	
33**	2" NPT Body	664-411-000	1
34	Shaft	651-104-000	1
35*	Shaft O-Ring, Buna-N	649-000-003	2
	Shaft O-Ring, Fluorocarbon	649-000-343	
36*	Shaft Back Up Ring	649-333-000	2
37	Bearing Ring	644-311-000	2
38**	Displacer, 1.88 x 12 PVC	660-106-000K	1
	Displacer, 1.88 x 12 Acrylic	660-107-000K	
	Displacer, 1.66 x 12 SS	818-008-000K	
39	Door Hinge Pin	635-082-000	2
40*	Door Lens Gasket	624-095-000	4
41	Door Lens	619-070-000	2
42	Door Lens Holder	643-216-000	2
43	Door Lens Screw	648-561-000	8
44	Door Knob, P8100	648-418-001	1
	Door Knob, P8101	669-032-000	
45	Door Knob Retainer, P8100	662-442-000	1
	Door Knob Retainer, P8101	654-206-000	
46	Door Nameplate	632-569-000	1
47	Body Screw	648-563-000	2
48	Sealing Washer	662-245-002	2
49	Nameplate	632-566-000	1
50	Drive Screw	648-573-000	2
51	Screen, P8100	647-023-000	1
	Screen, P8101	647-019-000	
52	Pipe, (P8101 only)	660-134-000	1
53	Sealing Lock Nut, (P8101 only)	634-228-000	2
54	Mounting Screw, (P8101 only)	648-562-001	2
55	Door Knob O-Ring, (P8101 only)	649-000-006	1
56	Door Latch, (P8101 only)	607-310-000	1
57	Door Latch Rivet, (P8101 only)	645-031-000	2

* Parts included in repair kits.

** Consult factory for all options

P8105 Parts List



P8105 Parts List



Item	Description	Part Number	QTY
1	Thumb Screw	648-565-000	2
2	Upper Adjustment Screw	648-655-000	1
3	Universal Joint	673-045-000M	1
4	Cotter Pin (not shown)	635-119-000	2
5	Washer	662-431-000	1
6	Lower Adjustment Screw	648-621-000R	1
7	Level Adjustment Bar Screw	648-563-005	2
8	Level Adjustment Bar	670-047-000	1
9	Shaft	651-132-000	1
10	Welded Spring Assembly	803-081-000	1
11	Spring Retainer	643-219-000	1
12	Door/Case, CB	842-005-000	1
13	Pilot Mount Screw	648-000-176	4
14*	Pilot Gauges (See Repair Kits)	Page 8	1
15	Retaining Ring	693-030-000	1
16	Fulcrum	694-002-001	1
17	Flapper Bar, Pneumatic CB	670-037-000	1
18	Flapper Bar Stud	657-018-001	2
19	Sensitivity Adj. Plate Tag	632-568-000	1
20	Latch Screws	648-429-017	2
21	Latch Nuts	634-000-081	2
22	Door Latch	669-044-000	1
23	Screen	647-023-000	1
24	Light Duty Spring, Green	655-761-000	1
	Medium Duty Spring, Silver	655-762-000	1
	Heavy Duty Spring, Yellow	655-763-000	1
	X-Heavy Duty Spring, Red	655-764-000	1
25	Pilot Mount Plate	638-130-000	1
26*	Pilot (See Repair Kits)	Page 8	1
27*	Pilot Gasket, Buna-N	624-129-000	1
	Pilot Gasket, Fluorocarbon	624-129-001	1
28	Pilot Mounting Block	679-058-000	1
29*	Pilot Bracket Gasket, Buna	624-093-000	1
	Pilot Bracket Gasket, Fluorocarbon	624-094-000	1
28	Pilot Mounting Block	679-058-000	1

Item	Description	Part Number	QTY
30	Lock Washers	662-268-000	6
31	Pilot Bracket Screws	648-563-002	6
32	Stop Nut	634-208-000	2
33	Sensitivity Adjustment Bar	670-051-000K	1
34	Sensitivity Bar Stud	657-021-000	1
35*	Body Bracket Gasket	624-128-000	1
36	Body Bracket	623-101-000	1
37**	Displacer Bar, 12.5" SS	646-549-000K	1
	Displacer Bar, 15" SS	646-549-001K	
	Displacer Bar, 18" SS	646-549-006K	
38**	2" NPT Body	664-631-000	1
39	Bearing Block	602-130-000	2
40	Tolerance Ring, 301SS	644-311-000	2
41	Sealed Radial Ball Bearing	602-149-000	2
42*	Shaft O-Ring, Buna-N	649-000-003	2
	Shaft O-Ring, Fluorocarbon	649-000-343	
43*	Shaft Back-Up Ring	649-333-000	2
44*	Bearing Block O-Ring, Buna-N	649-332-000	2
	Bearing Block O-Ring, Fluorocarbon	649-000-237	
45	Body Bracket Assembly Screw	648-563-000	10
46*	Door Seal	5114L0032-00250-22	1
47	Hinge Pin	635-082-000	2
48*	Lens Gasket	624-095-000	4
49	Lens Acrylic	619-070-000	2
50	Lens Holder	643-216-000	2
51	Lens Holder Screw	648-561-000	8
52	Drive Screw (Nameplate)	648-573-000	2
53	Nameplate	632-566-000	1
54	Door Nameplate	632-675-000	1
55	Vertical Displacer Kit	821-000-003	1
56**	Displacer 1.88"X12" PVC	660-106-000K	1
	Displacer 1.88"X12" Acrylic	660-107-000K	
	Displacer 1.66"X12" SS	818-008-000K	

Pilot Valves Repair Kit: How to Order

Part Number Matrix: How to Order

Part Combination

- 0 = Gauges Only
- 1 = Pilot Valve Only with Back Connectors & Sponge
- 2 = Pilot Valve with Pressure Gauges, Back Connectors & Sponge
- 4 = Pilot Valve with Pressure Gauges, & Buna-N Gasket
- 5 = Pilot Valve Components
- 6 = Pilot Valve only & Buna-N Gasket
- 7 = Pilot Valve only & Fluorocarbon Gasket
- 8 = Pilot Valve with Pressure Gauges, & Fluorocarbon Gasket

Type of Valve

- 0 = Gauges Only
- 1 = Snap
- 2 = Throttle
- 3 = Hybrid

Pressure Range

- 0 = No Pressure Gauge
- 1 = 0-30 PSIG Gauges (Left & Right)
- 2 = 0-60 PSIG Gauges (Left & Right)
- 3 = 0-30 PSIG Gauges (Centerback)
- 4 = 0-60 PSIG Gauges (Centerback)

971P81	X	X	X
Base #			

Elastomer Repair Kit: How to Order

Material

- 1 = Nitrile
- 2 = Fluorocarbon

Enclosure

- 0 = Non-Weatherproof
- 1 = Weatherproof
- 2 = Centerback

971P813	X	X
Base #		

*More options available upon request.

**Left hand mount is designated by the displacer arm on the left hand side when looking at the front of the unit.

P81	XX	X	XX	XX	X	X	X	XX	X	X	X	X	X	X
Base #	Options													

Controller Case

- 00 = Weatherproof Pneumatic
- 01 = Electric
- 05 = Weatherproof Centerback Mount

Arm Length*

- N = 12.5"
- A = 15"
- T = 18"

End Connection*

- 14 = 1.5" MNPT
- 16 = 2" MNPT, RF

End Connection Type*

- MS = Screwed MNPT
- RF = Raised Face Flange (RF)

End Connection Rating

- 0 = MNPT
- 1 = ANSI 150
- 3 = ANSI 300
- 6 = ANSI 600
- 9 = ANSI 900
- 5 = ANSI 1500

Body, Shaft & Bearing Block Materials

- N = Carbon Steel / 316SS,
- Wetted Parts NACE

Pilot

- S = Snap (Pneumatic On/Off)
- T = Throttling (Pneumatic Modulating)
- N = Hybrid Pilot (No-Bleed Snap)
- E = DPDT Electric Switch
- P = SPDT Electric Switch

Mounting Controller Action**

- LD = Left Hand/Direct
- LR = Left Hand/Reverse
- RD = Right Hand/Direct
- RR = Right Hand/Reverse
- CD = Center/Direct
- CR = Center/Reverse

Seal Material

- 0 = Buna-N
- 2 = Fluorocarbon

Displacer*

- A = 1.88" x 12"/PVC
- J = 1.88" x 12"/Acrylic
- 0 = 1.66" x 12"/316 Stainless Steel

Gauge Type (Range/Material)

- 3 = 0-30 PSI/316 Stainless Steel
- 6 = 0-60 PSI/316 Stainless Steel
- E = Electric (E Pilot Options Only)

Enclosure

- S = Weatherproof
- A = Electric

Spring Type (Consult factory)

- L = Light Duty (Green)
- M = Medium Duty (Silver)
- H = Heavy Duty (Yellow)
- K = X-Heavy Duty (Red)



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