

The BelGAS^{CP} P8700 series is a low pressure liquid level controller offered in Pneumatic or Electric outputs. The P8700 series offers several options which allow it to control liquid levels in a range of vessels.

Applications

- Low Pressure Separators
- Treater Applications
- Other vessels which require liquid level monitor



Features

- **Manual Override Cable Access:** The body is designed to allow for manual override access. Optional cable can be selected for factory set-up.
- **Body Mounting Options:** The body is offered in 1" NPT, 2" NPT or 4" with optional hammer union in ACME or NPSL threads.
- **Pneumatic Valve:** Offers block and bleed design.
- **Control:** Monitors either high or low liquid levels.
- **Optional Float Sizes:** Choose from several different float sizes to best suit your application needs.
- **Sour Gas Service:** Standard with NACE MR0175 compliant parts.

Specifications

| Unit | |
|-----------------------|--|
| Working Pressure | 500 PSIG |
| Operating Temperature | -20° to 212°F (-29° to 100°C) |
| Floats | |
| Working Pressure | 500 PSIG |
| Collapse Pressure | 750 PSIG |
| Operating Temperature | Up to 250°F (121.1°C) |
| Valve | |
| Supply Pressure | 100 PSI (250 PSI Available) |
| Pilot Connections | 1/4" FNPT |
| Electric Switch | |
| UL/CSA Rating | 15 amps, 125, 250 or 480 VAC 1/8 Hp, 125 VAC; 1/4 Hp, 250 VAC 1/2 amp, 125 VDC; 1/4 amp, 250 VDC |
| Switch | Single Pole/Double Throw |
| Ex | Explosion Proof |
| Conduit Connection | 1/2"-14 FNPT |

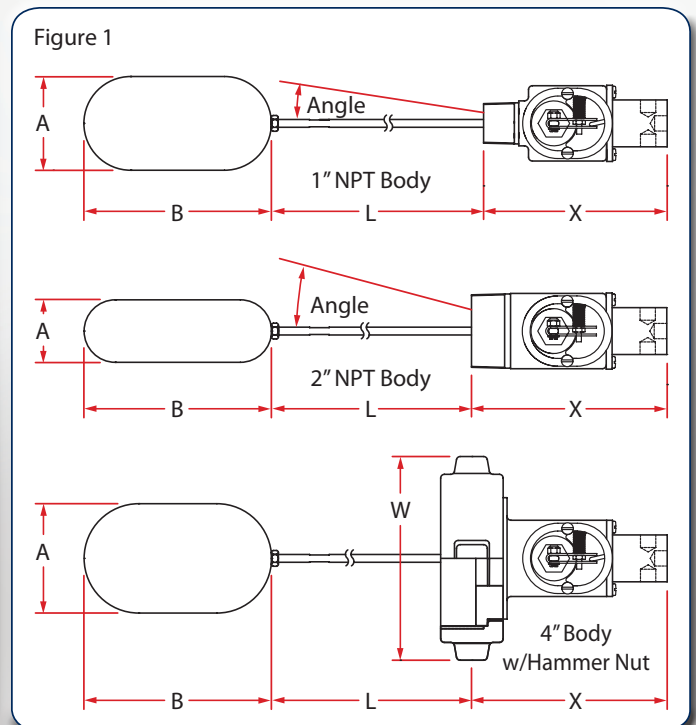
Dimensional Data (in.)

| Body (in.) | Standard Float | | | Angle (Max) | Valve* X | Electric Switch X | W |
|------------|----------------|---|------|-------------|----------|-------------------|------|
| | A | B | L | | | | |
| 1 NPT | 3.0 | 6 | 7.25 | 9° | 5.88 | 6.41 | — |
| 2 NPT | 2.0 | 6 | 6.88 | 15° | 6.25 | 6.75 | — |
| 4 w/Union | 3.5 | 5 | 7.00 | — | 6.13 | 6.65 | 6.25 |

Note: Dimensions shown are approximate with standard options.
* Valve shown

Materials of Construction

| Part | Material |
|-----------|---------------------------------|
| Body | Carbon Steel |
| Float | Stainless Steel |
| Float Arm | Stainless Steel |
| Bushing | Stainless Steel |
| Actuator | Stainless Steel |
| Trunnion | Stainless Steel |
| Seals | Fluorocarbon (Optional Nitrile) |



P8700 Part Number Matrix and Repair Kits

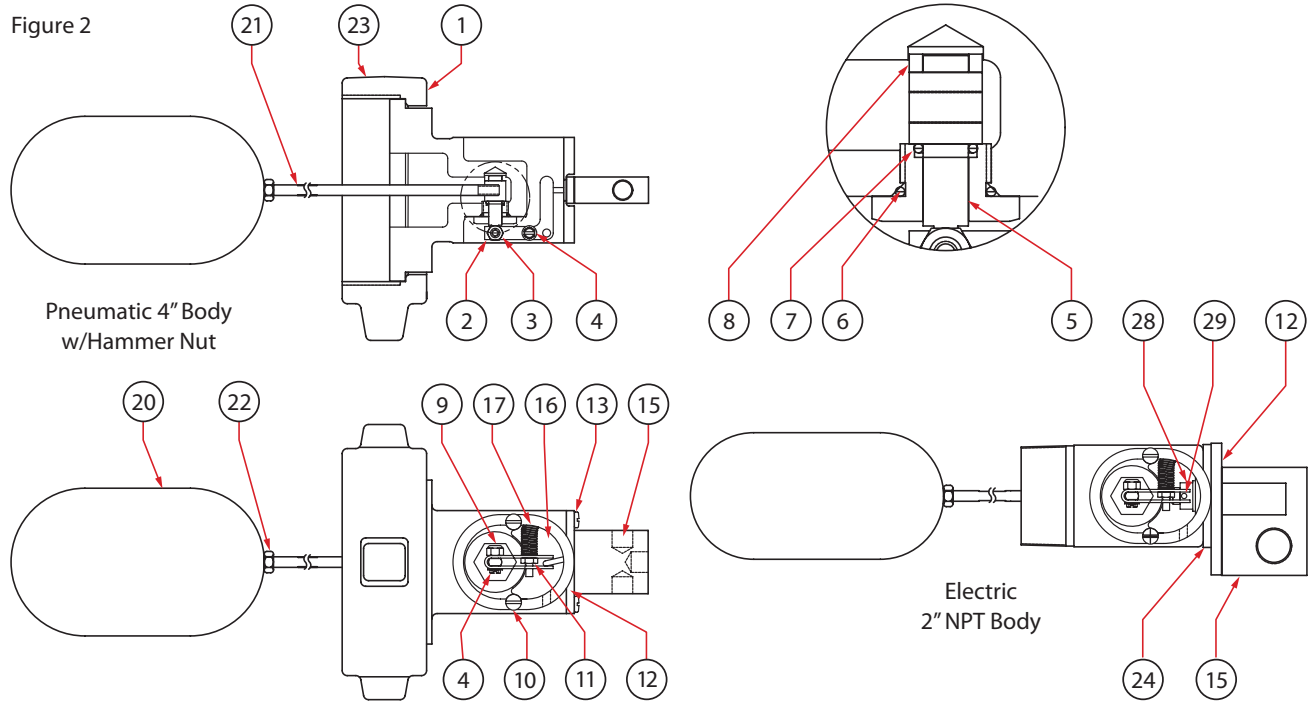
| P87 | | | | | | | | | | | | X |
|---|-----------|--|--|--|--|--|--|--|--|--|--|---|
| Style | | | | | | | | | | | | |
| Pneumatic | P | | | | | | | | | | | |
| Electric | E | | | | | | | | | | | |
| Body Size | | | | | | | | | | | | |
| 1" NPT | 08 | | | | | | | | | | | |
| 2" NPT | 16 | | | | | | | | | | | |
| 4" Body | 32 | | | | | | | | | | | |
| End Connections | | | | | | | | | | | | |
| None | 0 | | | | | | | | | | | |
| 4" Hammer Union (4-8 NPSL Threads) | 1 | | | | | | | | | | | |
| 4" Hammer Union (4.5-6 ACME 2G Threads) | 2 | | | | | | | | | | | |
| Float Arm Length (in.) | | | | | | | | | | | | |
| 10 (Standard) | 10 | | | | | | | | | | | |
| 6 | 06 | | | | | | | | | | | |
| 8 | 08 | | | | | | | | | | | |
| 12 | 12 | | | | | | | | | | | |
| 14 | 14 | | | | | | | | | | | |
| Float | | | | | | | | | | | | |
| 2" X 6" (Standard w/2" NPT Body) | 1 | | | | | | | | | | | |
| 3" X 6" (Standard w/1" NPT Body) | 2 | | | | | | | | | | | |
| 3.5" X 6" (Standard w/4" Body) | 3 | | | | | | | | | | | |
| Output Options | | | | | | | | | | | | |
| Supply Pressure 100 PSI (Pneumatic) | A | | | | | | | | | | | |
| Supply Pressure 250 PSI (Pneumatic) | B | | | | | | | | | | | |
| Electric Switch | C | | | | | | | | | | | |
| Seal Material | | | | | | | | | | | | |
| Nitrile | 0 | | | | | | | | | | | |
| Fluorocarbon | 2 | | | | | | | | | | | |
| Weldneck Length (4" Pipe) | | | | | | | | | | | | |
| None | 0 | | | | | | | | | | | |
| 5" Length | 5 | | | | | | | | | | | |
| 8" Length | 8 | | | | | | | | | | | |
| 4" Seal | | | | | | | | | | | | |
| None | N | | | | | | | | | | | |
| 4" Seal (Nitrile) | 0 | | | | | | | | | | | |
| 4" Seal (Fluorocarbon) | 2 | | | | | | | | | | | |
| Manual Override Cable | | | | | | | | | | | | |
| None | 0 | | | | | | | | | | | |
| 20' Cable | 1 | | | | | | | | | | | |

| Repair Kit Matrix | | | | | | | | | | | |
|---|----------|--|--|--|--|--|--|--|--|--|--|
| 971P87 | | | | | | | | | | | |
| Type | | | | | | | | | | | |
| Nitrile | 0 | | | | | | | | | | |
| Fluorocarbon | 2 | | | | | | | | | | |
| 4" Seal | | | | | | | | | | | |
| None | N | | | | | | | | | | |
| 4" Seal (Nitrile) | 0 | | | | | | | | | | |
| 4" Seal (Fluorocarbon) | 2 | | | | | | | | | | |
| Output Options | | | | | | | | | | | |
| None | 0 | | | | | | | | | | |
| 4" Supply Pressure, 100 PSI (Pneumatic) | A | | | | | | | | | | |
| 4" Supply Pressure, 250 PSI (Pneumatic) | B | | | | | | | | | | |

| Repair Kit Options | | | | |
|--------------------|----------------------------|--------------|-------------|-------------|
| Item | Description | | Qty. | Part Number |
| 6 | O-ring / Bushing | Nitrile | 1 | 649-000-149 |
| | | Fluorocarbon | | 649-307-002 |
| 7 | O-ring / Trunnion | Nitrile | 1 | 649-000-004 |
| | | Fluorocarbon | | 649-323-000 |
| 8 | Bearing Sleeve | | 1 | 602-136-000 |
| 26 | O-ring (4") (Not Shown) | Nitrile | 1 | 649-381-001 |
| | | Fluorocarbon | | 649-383-001 |
| 13 | Screw (Mtg. Plate to Body) | Pneumatic | 2 | 648-605-000 |
| | | Electric | | 648-607-000 |
| 15 | 3-Way Valve | 100 PSI | 1 | 678-064-000 |
| | | 250 PSI | | 678-064-001 |
| | Electric Switch | | 659-006-000 | |

P8700 Parts List

Figure 2

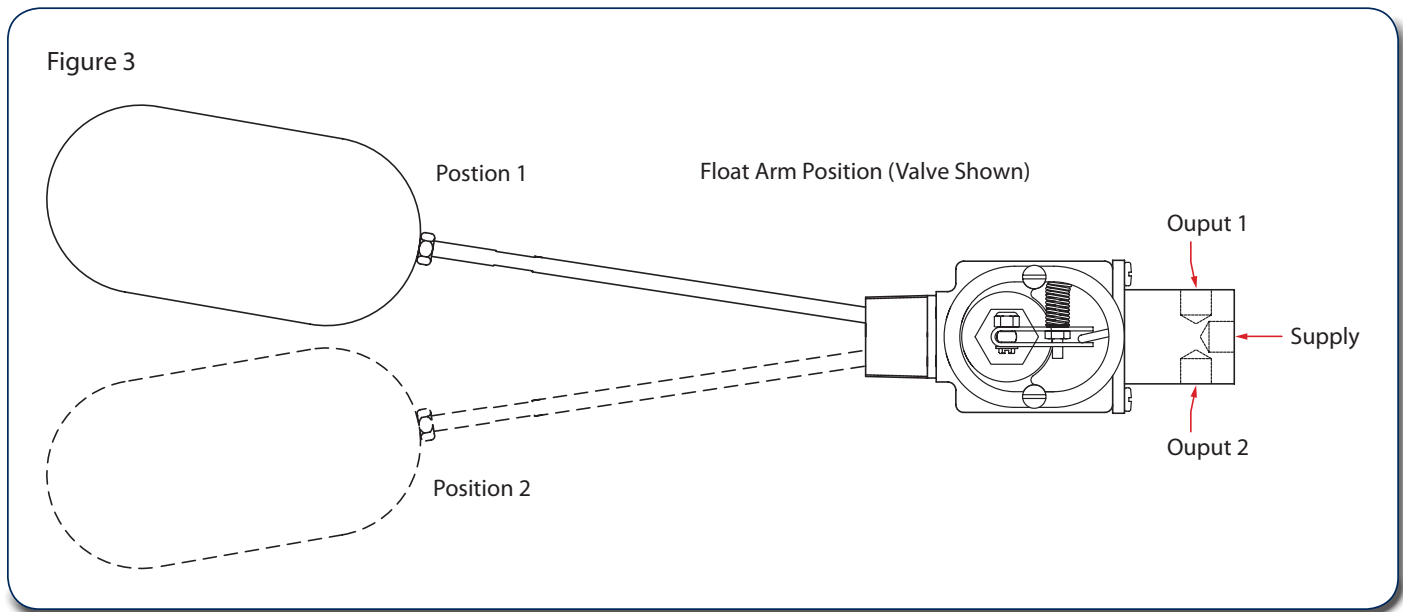


| Item | Description | | Qty. | Part Number |
|------|----------------------------|-----------------|------|-------------|
| 1 | 1"NPT Body | Pneumatic | 1 | 664-603-000 |
| | | Electric | | 664-604-000 |
| | 2"NPT Body | Pneumatic | | 664-606-000 |
| | | Electric | | 664-608-000 |
| | 4" Body | Pneumatic | | 664-610-000 |
| | | Electric | | 664-611-000 |
| 2 | Actuator | Pneumatic | 1 | 703-015-000 |
| | | Electric | | 703-016-000 |
| 3 | Locknut | | 1 | 634-484-000 |
| 4 | Screw | | 2 | 648-606-000 |
| 5 | Trunnion | | 1 | 649-003-000 |
| 6 | O-ring / Bushing | Nitrile | 1 | 649-000-149 |
| | | Fluorocarbon | | 649-307-002 |
| 7 | O-ring / Trunnion | Nitrile | 1 | 649-000-004 |
| | | Fluorocarbon | | 649-323-000 |
| 8 | Bearing Sleeve | | 1 | 602-136-000 |
| 9 | Bushing | | 1 | 608-095-000 |
| 10 | Cover Screw | | 4 | 648-605-001 |
| 11 | Jam Nut | | 1 | 634-146-003 |
| 12 | Mounting Plate | Pneumatic | 1 | 638-103-000 |
| | | Electric | | 638-105-000 |
| 13 | Screw (Mtg. Plate to Body) | Pneumatic | 2 | 648-605-000 |
| | | Electric* | | 648-607-000 |
| 14 | Screw* (Mtg. Plate to) | Valve | 2 | 648-607-000 |
| | | Electric Switch | | 648-598-000 |
| 15 | 3-Way Valve | 100 PSI | 1 | 678-064-000 |
| | | 250 PSI | | 678-064-001 |
| | Electric Switch | | | 659-006-000 |

| Item | Description | | Qty. | Part Number |
|------|-----------------------------------|----------------------|------|-------------|
| 16 | Spring Keeper | | 1 | 656-001-001 |
| 17 | Spring | | 1 | 655-796-000 |
| 18 | Cover Plate | | 1 | 614-069-000 |
| 19 | Nameplate | | 1 | 632-593-000 |
| 20 | Float (2"X6", Std. w/2" NPT Body) | | 1 | 715-000-000 |
| | Float (3"X6", Std. w/1" NPT Body) | | | 715-000-001 |
| | Float (3.5"X6", Std. w/4" Body) | | | 715-000-002 |
| 21 | Float Arm | 10" Std. | 1 | 651-115-000 |
| | | 6" | | 651-115-001 |
| | | 8" | | 651-115-002 |
| | | 12" | | 651-115-003 |
| | | 14" | | 651-115-004 |
| 22 | Jam Nut | | 1 | 634-146-004 |
| 23 | Cap Plug | Pneumatic | 3 | 639-000-004 |
| | | Electric | 1 | 639-000-006 |
| 24 | Spacer (Electric) | | 1 | 638-104-000 |
| 25 | Hammer Union | 4-8NPSL | 1 | 634-224-000 |
| | | 4.5-6 ACME 2G | | 634-225-000 |
| 26 | O-ring (4")* | Nitrile | 2 | 649-381-001 |
| | | Fluorocarbon | | 649-383-001 |
| 27 | Weldneck* | 4"X5", 4-8NPSL | 2 | 716-003-000 |
| | | 4"X8", 4-8NPSL | | 716-003-001 |
| | | 4"X5", 4.5-6 ACME 2G | 1 | 716-004-000 |
| | | 4"X8", 4.5-6 ACME 2G | | 716-004-001 |
| 28 | Adapter Collar | | 1 | 653-061-000 |
| 29 | Adapter Shaft | | 1 | 651-117-000 |

* Not shown

P8700 Operation Principle



Position Instructions (Figure 3)

Valve

- **Position 1:** Float arm in the upward direction, toggle position on valve would be in downward direction. Supply pressure applied would produce output 1 pressure to equal supply pressure.
- **Position 2:** Float arm in the downward direction, toggle position on valve would be in upward direction. Supply pressure applied would produce output 2 pressure to equal supply pressure.
- **Note:** No bleed will come from output port not engaged.

Electric Switch

- **Position 1:** Float arm up, actuator angled down; normally closed engaged.
- **Position 2:** Float arm down, actuator angle upward; normally open engaged.

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