

L627 High Flow LP Gas Regulator

- Wide Range of Flow Capacities
- Durable Powder Coated Exterior
- Installation Versatility

The L627 is a spring loaded, direct-operated LP Gas regulator for high pressure applications in the oil and gas industries. These regulators provide durability, from the powder-coated epoxy exterior finish, as well as installation versatility, from the multi-position body and spring case configurations.

Applications

- Fuel Gas
- Gas Gathering
- Pressure Reduction
- UL listed
- UL 144



L627 Part Matrix

| L627 | | 0 | 0 | 0 | 1 | 0 | |
|------------|---|---|---|----------|---|---|------------------------|
| | ↑ | ↑ | ↑ | ↑ | ↑ | ↑ | Port Size |
| 06 | | | | | | | 3/4" |
| 08 | | | | | | | 1" |
| 16 | | | | | | | 2" |
| | | | | | | | Spring Range |
| | | | | | | | PSIG BAR |
| 020 | | | | | | | 5 - 20 0.34 - 1.4 |
| 040 | | | | | | | 15 - 40 1 - 2.8 |
| | | | | | | | Orifice |
| | | | | 4 | | | 1/4" |
| | | | | 6 | | | 3/8" |
| | | | | 8 | | | 1/2" |

Specifications

| | | |
|-----------------------------|---------------|----------------|
| Maximum Inlet Body Pressure | | |
| Orifice (All Orifice Sizes) | 250 PSIG | |
| Nitrile Seat | 250 PSIG | All Units |
| Body Sizes | 3/4 NPT | |
| | 1 NPT | |
| | 2 NPT | |
| Orifice Sizes | 1/4" | |
| | 3/8" | |
| | 1/2" | |
| Output | 5-20 PSIG | |
| | 15-40 PSIG | |
| Temperature Range | -20° to 180°F | (-29° to 82°C) |
| Weight Approximate | | |
| 1" | 5.3 lbs | 2.39 kg |
| 2" | 8.8 lbs | 3.96 kg |

Materials of Construction

| Body, Bonnet, Diaphragm Case | |
|------------------------------|---|
| Options | Cast Ductile Iron Body / Aluminum Bonnet & Diaphragm Case |
| Diaphragm | |
| Option | Nitrile |
| Seat | |
| | Nitrile |
| Orifice | |
| | Aluminum |

| Maximum Bonnet and Diaphragm Casing Pressure | L627 | |
|--|------|------|
| | PSIG | BAR |
| Maximum pressure to spring and diaphragm casing to prevent leak to atmosphere (internal parts damage may occur). | 250 | 17.2 |
| Maximum diaphragm casing overpressure to prevent damage to internal parts. | 60 | 4.1 |

L627 Regulator Rebuild Kit

| | Kit Includes | Part Number |
|-------------------|---|-------------|
| L627 Low Pressure | Nitrile diaphragms (2), Nitrile valve disk, O'rings, back-up rings, and retaining pin | 971-627-L00 |

L627 Flow Capacities (0.6 S.G.) in SCFH¹



| Outlet Pressure Range | Outlet Pressure Setting | | Inlet Pressure | | 3/4" Body Size | | | 1" Body Size | | | |
|--|-----------------------------------|------|----------------|------|-----------------------|--------|--------|-----------------------|--------|--------|--------|
| | | | | | Port Diameter, inches | | | Port Diameter, inches | | | |
| | PSIG | BAR | PSIG | BAR | 1/4 | 3/8 | 1/2 | 1/4 | 3/8 | 1/2 | |
| 5 to 20 psig ² (0.34 to 1.4 BAR) | 5 ³ | 0.34 | 10 | 0.69 | 1060 | 1540 | 1900 | 1100 | 1900 | 2500 | |
| | | | 15 | 1.0 | 1300 | 2150 | 3350 | 1600 | 2500 | 3350 | |
| | | | 20 | 1.4 | 1800 | 3050 | 4350 | 2060 | 3400 | 4450 | |
| | | | 30 | 2.1 | 2490 | 3880 | 6850 | 2800 | 4750 | 6900 | |
| | | | 60 | 4.1 | 4240 | 6270 | 7370 | 4710 | 8140 | 13,700 | |
| | | | 75 | 5.2 | 5100 | 6620 | 7700 | 5710 | 9790 | 14,500 | |
| | 10 | 0.69 | 100 | 6.9 | 5980 | 7440 | 7900 | 7310 | 12,500 | 16,000 | |
| | | | 15 | 1.03 | 1290 | 2100 | 3300 | 1590 | 2480 | 3300 | |
| | | | 20 | 1.4 | 1790 | 3000 | 4300 | 2050 | 3380 | 4410 | |
| | | | 30 | 2.1 | 2480 | 3860 | 6830 | 2800 | 4720 | 6840 | |
| | | | 60 | 4.1 | 4240 | 6270 | 7370 | 4710 | 8140 | 13,700 | |
| | | | 75 | 5.2 | 5100 | 6620 | 7700 | 5710 | 9790 | 14,500 | |
| | | | 100 | 6.9 | 5980 | 7440 | 7900 | 7310 | 12,500 | 16,000 | |
| | 20 | 1.4 | 150 | 10.3 | 7130 | 8180 | 8200 | 10,500 | 17,000 | 18,000 | |
| | | | 200 | 13.8 | 7250 | 8200 | 8300 | 13,700 | 18,000 | 18,500 | |
| | | | 30 | 2.1 | 2490 | 4360 | 6290 | 2580 | 4360 | 6290 | |
| | | | 50 | 3.4 | 4010 | 7870 | 8500 | 4090 | 7870 | 14,100 | |
| | | | 60 | 4.1 | 4680 | 8340 | 8940 | 4750 | 9690 | 14,500 | |
| | 15 to 40 PSIG (1.0 to 2.8 BAR) | 40 | 2.8 | 100 | 6.9 | 7220 | 10,300 | 13,600 | 5640 | 10,800 | 16,500 |
| | | | | 150 | 10.3 | 10,400 | 13,200 | 15,300 | 7310 | 14,700 | 21,900 |
| | | | | 150 | 10.3 | 10,400 | 17,400 | 18,200 | 10,500 | 20,500 | 34,500 |
| 200 | | | | 13.8 | 13,500 | 18,000 | 18,500 | 13,700 | 27,100 | 46,400 | |

1. Capacity is based on 20 percent droop unless otherwise noted below.
2. For pressure setting under 10 PSIG (0.69 BAR) limit the input pressure to 100 PSIG (6.9 BAR) to obtain the setpoint.
3. For 5 PSIG (0.34 BAR) pressure set point, the droop is 2 PSIG (0.14 BAR)

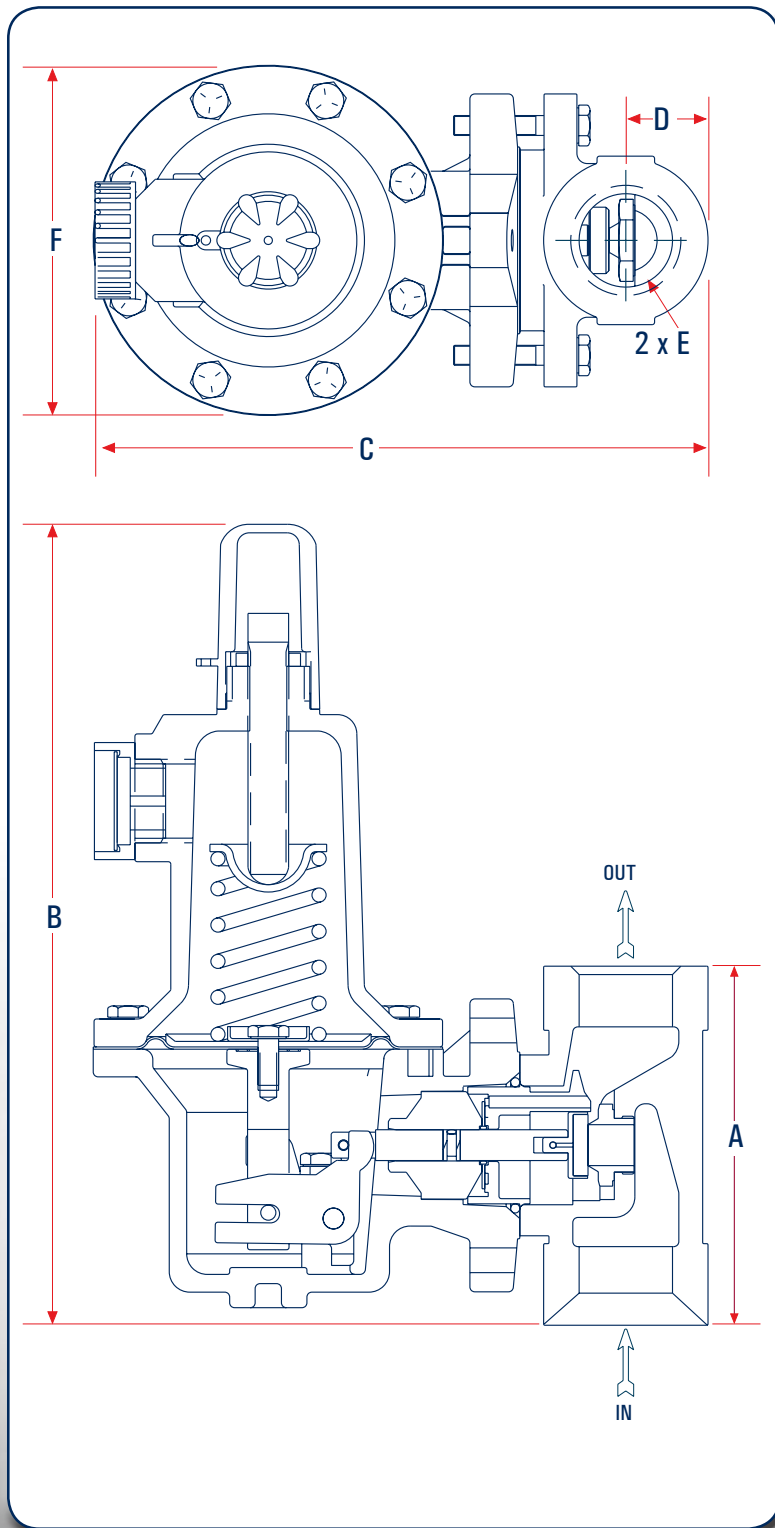
| Outlet Pressure Range | Outlet Pressure Setting | | Inlet Pressure | | L627 – 2" Body Size | | | |
|--|-----------------------------------|------|----------------|------|-----------------------|---------------------|---------------------|---------------------|
| | | | | | Port Diameter, inches | | | |
| | PSIG | BAR | PSIG | BAR | 1/4 | 3/8 | 1/2 | |
| 5 to 20 psig ² (0.34 to 1.4 BAR) | 5 ³ | 0.34 | 10 | 0.69 | 1080 | 1700 | 2400 | |
| | | | 15 | 1.0 | 1250 | 1900 | 2700 | |
| | | | 20 | 1.4 | 1900 | 2650 | 3900 | |
| | | | 30 | 2.1 | 2800 | 3680 | 6500 | |
| | | | 60 | 4.1 | 4750 | 7250 | 17,800 | |
| | | | 75 | 5.2 | 5700 | 8060 | 22,400 | |
| | 10 | 0.69 | 100 | 6.9 | 7310 | 16,200 | 28,700 | |
| | | | 15 | 1.03 | 1220 | 1860 | 2670 | |
| | | | 20 | 1.4 | 1880 | 2610 | 3830 | |
| | | | 30 | 2.1 | 2760 | 3640 | 6460 | |
| | | | 60 | 4.1 | 4750 | 7250 | 17,800 | |
| | | | 75 | 5.2 | 5700 | 8060 | 22,400 | |
| | | | 100 | 6.9 | 7310 | 16,200 | 28,700 | |
| | 20 | 1.4 | 150 | 10.3 | 10,500 | 23,300 | 25,900 ⁵ | |
| | | | 200 | 13.8 | 13,700 | 22,700 ⁵ | 24,000 ⁵ | |
| | | | 30 | 2.1 | 2350 | 4300 | 6110 | |
| | | | 50 | 3.4 | 4040 | 7100 | 12,800 | |
| | | | 60 | 4.1 | 4750 | 8400 | 15,700 | |
| | 15 to 40 PSIG (1.0 to 2.8 BAR) | 40 | 2.8 | 100 | 6.9 | 7310 | 16,200 | 28,700 |
| | | | | 150 | 10.3 | 10,500 | 23,300 | 29,000 ⁵ |
| | | | | 200 | 13.8 | 13,700 | 24,000 ⁵ | 33,000 ⁵ |

1. Capacity is based on 20 percent droop unless otherwise noted below.
2. For pressure setting under 10 PSIG (0.69 BAR) limit the input pressure to 100 PSIG (6.9 BAR) to obtain the setpoint.
3. For 5 PSIG (0.34 BAR) pressure set point, the droop is 2 PSIG (0.14 BAR)
5. Capacities are based on 25 percent boost if setting is less than 12 PSIG (0.8 BAR), 3 PSIG (0.2 BAR) boost if setting is from 12 to 60 PSIG (0.2 to 4 BAR), and 5 percent boost if setting is greater than 60 PSIG (4 BAR).

| Outlet Pressure Range | Outlet Pressure Setting | | Inlet Pressure | | L627 – 2" Body Size | | |
|-----------------------------------|-------------------------|-----|----------------|------|-----------------------|--------|--------|
| | | | | | Port Diameter, inches | | |
| | PSIG | BAR | PSIG | BAR | 1/4 | 3/8 | 1/2 |
| 15 to 40 PSIG (1.0 to 2.8 BAR) | 40 | 2.8 | 60 | 4.1 | 4370 | 8680 | 13,300 |
| | | | 75 | 5.2 | 5540 | 11,900 | 19,300 |
| | | | 100 | 6.9 | 7310 | 16,200 | 25,400 |
| | | | 150 | 10.3 | 10,500 | 23,300 | 41,300 |
| | | | 200 | 13.8 | 13,700 | 30,400 | 53,900 |

1. Capacity is based on 20 percent droop unless otherwise noted below.
5. Capacities are based on 25 percent boost if setting is less than 12 PSIG (0.8 BAR), 3 PSIG (0.2 BAR) boost if setting is from 12 to 60 PSIG (0.2 to 4 BAR), and 5 percent boost if setting is greater than 60 PSIG (4 BAR).

L627 Dimensions



| Type | Body Size | | A | B | C | D | E | F* |
|------|-----------|--------|------|-------|------|------|------|------|
| L627 | 3/4" | mm | 104 | 243 | 190 | 26 | 3/4" | 108 |
| | | inches | 4.08 | 9.54 | 7.46 | 1.0 | | 4.25 |
| | 1" | mm | 104 | 243 | 190 | 26 | 1" | 108 |
| | | inches | 4.08 | 9.54 | 7.46 | 1.0 | | 4.25 |
| | 2" | mm | 127 | 256 | 218 | 43 | 2" | 108 |
| | | inches | 5.0 | 10.06 | 8.56 | 1.69 | | 4.25 |

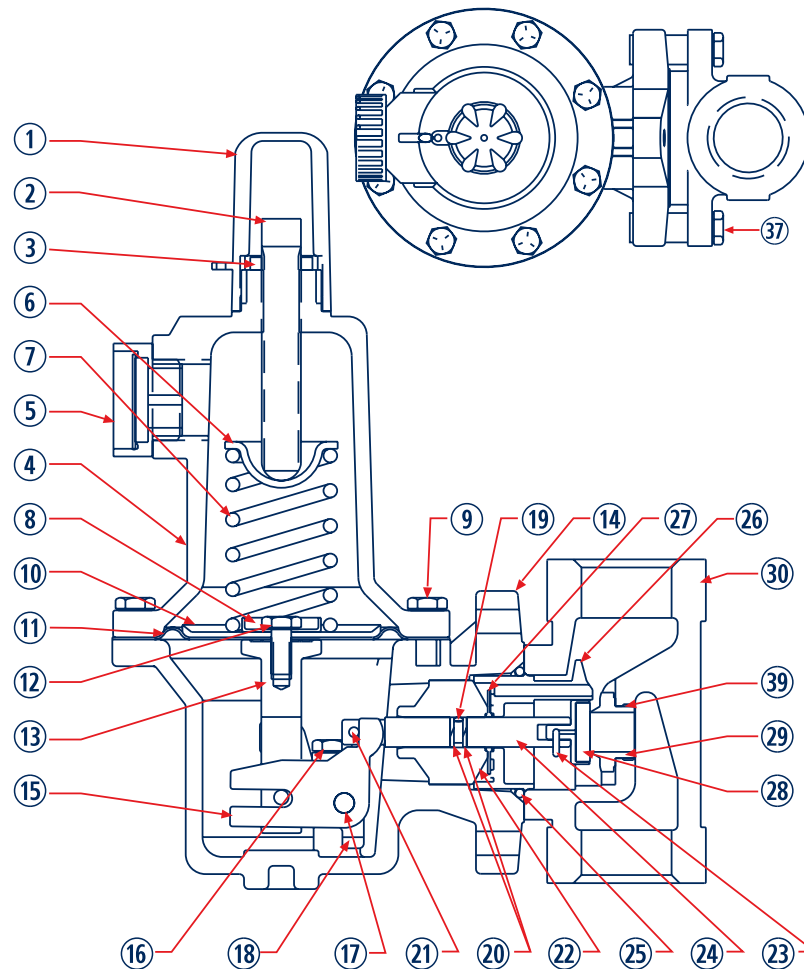
L627 Flow Coefficients

| Orifice Size | | 3/4 Inch Body | | | 1 Inch (DIN 25) Body | | | 2 Inch (DIN 50) Body | | | K |
|--------------|------|--|--|-------|--|--|-------|--|--|-------|------|
| Inches | mm | Wide-Open C_v for External Relief Sizing | Wide-Open C_v for External Relief Sizing | C_1 | Wide-Open C_v for External Relief Sizing | Wide-Open C_v for External Relief Sizing | C_1 | Wide-Open C_v for External Relief Sizing | Wide-Open C_v for External Relief Sizing | C_1 | |
| 1/4 | 6.4 | 50 | 1.63 | 30.5 | 50 | 1.71 | 29.3 | 52 | 1.66 | 31.3 | 0.76 |
| 3/8 | 9.5 | 108 | 2.99 | 36.1 | 108 | 3.42 | 31.6 | 115 | 3.39 | 33.9 | 0.79 |
| 1/2 | 12.7 | 190 | 4.87 | 39.0 | 190 | 5.29 | 35.9 | 200 | 5.01 | 39.9 | .074 |

L627 Parts

| Item | Description | Part Number |
|------|---------------------------------------|-------------|
| 1 | Cover Adj. Screw, plastic | 610-053-000 |
| 2 | Adjustment Screw | 648-465-000 |
| 3 | Locknut | 634-154-000 |
| 4 | Bonnet, L627 - Aluminum | 604-258-000 |
| 5 | Vent Screw Assembly | 836-005-000 |
| 6 | Spring Guide, Upper | 626-079-000 |
| 7 | Range Spring | |
| | 5-20 PSIG–Yellow | 655-661-000 |
| | 15-40 PSIG–Green | 655-661-001 |
| 8 | Spring Guide, Lower | 643-191-000 |
| 9 | Build Screw, Spring Case (8 required) | |
| | L627 - Aluminum | 648-466-000 |
| 10 | Diaphragm Piston | 637-306-000 |
| 11 | Diaphragm | |
| | Aluminum/Iron Case (Nitrile) | 618-093-000 |
| 12 | Screw, Diaphragm | 648-466-002 |
| 13 | Post, Pusher | 827-005-000 |
| 14 | Diaphragm Case - Aluminum | 629-202-000 |
| 15 | Lever | 703-004-000 |
| 16 | Lever Screw (2 required) | 648-466-002 |
| 17 | Pin, Lever | 635-053-000 |
| 18 | Lever Retainer | 643-192-001 |
| 19 | Stem O-ring, Nitrile | 649-000-003 |
| 20 | Stem Backup Ring, TFE (2 required) | 644-047-000 |

| Item | Description | Part Number |
|------|---|-----------------|
| 21 | Pin, Groove | 635-054-000 |
| 22 | Stem Guide | 626-083-000 |
| 23 | Pin Clip | 635-055-000 |
| 24 | Stem, 316SS | 689-005-000 |
| 25 | Diaphragm Case O-ring, Nitrile | 649-280-000 |
| 26 | Boost Body | 686-003-000 |
| 27 | Stabilizer, Nitrile | 649-278-000 |
| 28 | Seat assembly - Aluminum holder/nitrile disk | 822-037-000 |
| 29 | Orifice - Aluminum | |
| | 1/4" | 688-013-002 |
| | 3/8" | 688-013-001 |
| | 1/2" | 688-013-000 |
| 30 | Body - Ductile Iron | |
| | 3/4 NPT | 664-280-000 |
| | 1 NPT | 664-280-001 |
| | 2 NPT | 664-282-000 |
| 31 | Nameplate (not shown) | 632-474-000 |
| 37 | Build Screw, 3/4" & 1" Aluminum unit (2 required) | 648-466-001 |
| | Build Screw 2" Aluminum Unit (2 required)* | 648-466-003 |
| | *For 648-466-003 only, order 662-000-023 Lock Washer. | |
| 39 | Thread Locker | Consult factory |
| 40 | Name Plate Drive Screw (2 required) (not shown) | 648-464-000 |





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.