

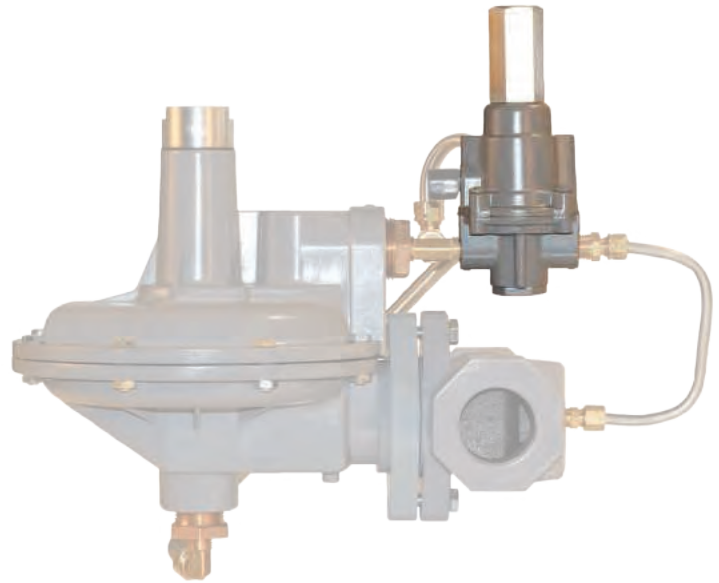
# F300 Pressure Regulator

- Minimize Sudden Downstream Load Change
- Wide Pressure Ranges
- P302 has Internal Relief Valve for Overpressure Protection
- Ideal for Fix Factor Billing

The F300 series pilot operated pressure regulator is a manual, direct acting, self-operating, spring loaded, adjustable regulator. The F300 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                  |
| Body                 | Ductile Iron or WCB Steel |
| Bonnet               | Aluminum                  |
| Closing Cap          | Aluminum                  |
| Diaphragm            | Nitrile                   |
| Lower Casing         | Aluminum                  |
| Molded Seat Assembly | Nitrile                   |
| Orifice              | Aluminum                  |
| Flange               | Ductile Iron / WCB Steel  |

## F300 Series Maximum Inlet Pressure

|                |       | F300                   |       |
|----------------|-------|------------------------|-------|
| Orifice Inches | Range | Maximum Inlet Pressure |       |
|                |       | PSIG                   | BAR   |
| 3/16"          | Any   | 125                    | 8.618 |
| 1/4"           | Any   | 125                    | 8.618 |
| 3/8"           | Any   | 80                     | 5.516 |
| 1/2"           | Any   | 60                     | 4.137 |
| 3/4"           | Any   | 20                     | 1.379 |

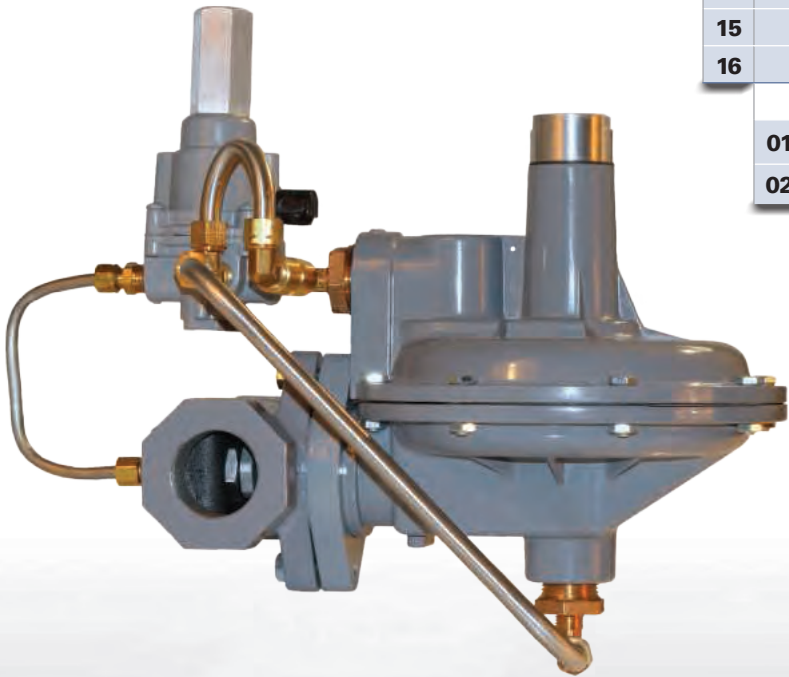
## Specifications

|                          |                  |                  |
|--------------------------|------------------|------------------|
| Maximum Inlet            | See Table 1      |                  |
| Maximum Emergency Outlet | 25 PSIG          |                  |
| Pressure Ranges          | See Table 2      |                  |
| Port Sizes               | 1.25 NPT         |                  |
|                          | 1.5 NPT          |                  |
|                          | 1.5 NPT x 2 NPT  |                  |
|                          | 2 NPT            |                  |
| Orifice Sizes            | 3/16"            |                  |
|                          | 1/4"             |                  |
|                          | 3/8"             |                  |
|                          | 1/2"             |                  |
|                          | 3/4"             |                  |
| End Connections          | NPT              |                  |
|                          | 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           | 10 lbs. (4.5 kg) |                  |

## F300 Series Range Springs

| Table 2 |             |               |               |                    |                          |
|---------|-------------|---------------|---------------|--------------------|--------------------------|
| Model   | PL84 Pilot  | Spring Ranges |               | Pilot Spring Color | Pilot Spring Part Number |
|         |             | PSIG          | BAR           |                    |                          |
| F300    | 832-036-002 | 2 - 10 PSIG   | 0.137 - 0.689 | Black              | 655-000-202              |
| F300    | 832-036-003 | 2 - 20 PSIG   | 0.137 - 1.378 | Yellow             | 655-000-267              |

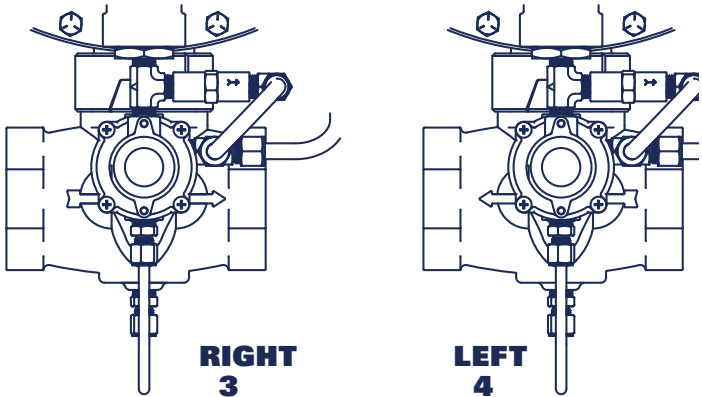
### F300 Part Matrix



### F300 Regulator Rebuild Kits

|                | Kit Includes                               | Part Number |
|----------------|--------------------------------------------|-------------|
| F300 Regulator | Diaphragm, Disk Holder, Cap Gasket, O-Ring | 971-F30-000 |

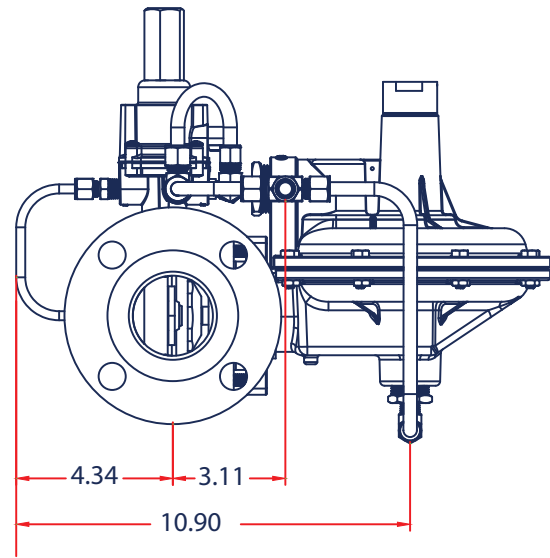
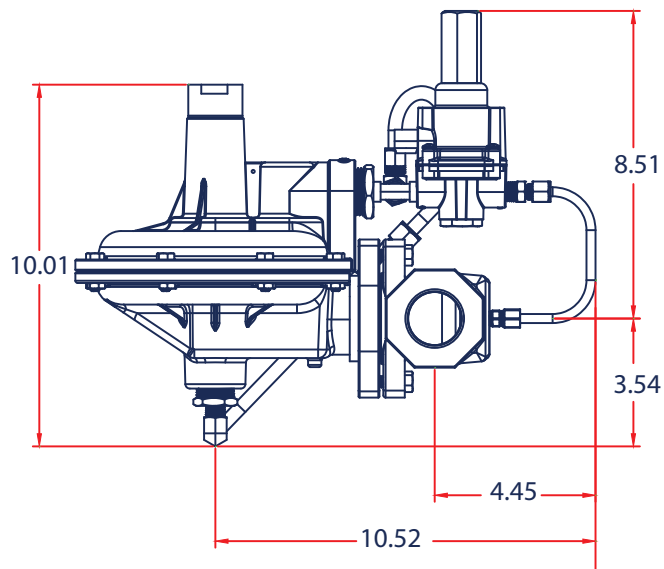
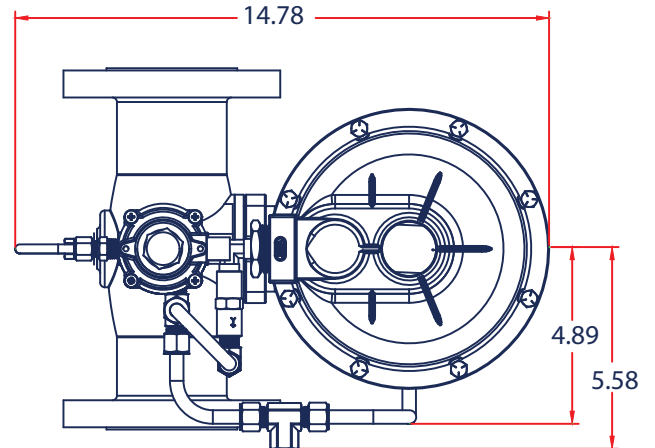
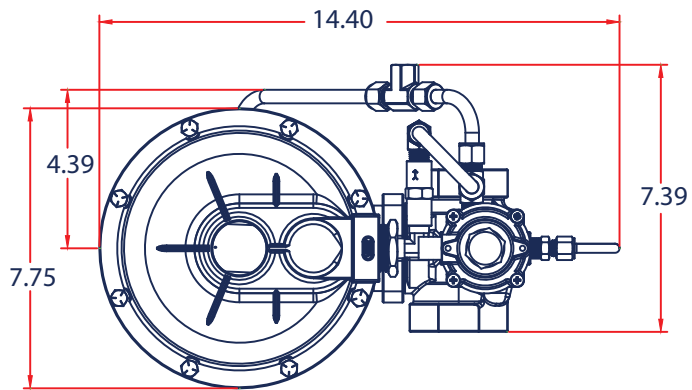
### F200 Body Orientation\*



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

|      |   |    |     |   |   |   |   |   |  |                                 |
|------|---|----|-----|---|---|---|---|---|--|---------------------------------|
| F300 |   |    |     | 0 |   |   |   |   |  | Version                         |
|      | ▲ | ▲▲ | ▲▲▲ | ▲ | ▲ | ▲ | ▲ | ▲ |  | Internal Registration           |
|      | D |    |     |   |   |   |   |   |  | External Registration           |
|      | P |    |     |   |   |   |   |   |  | Port Size                       |
|      |   | 12 |     |   |   |   |   |   |  | 1.25 NPT                        |
|      |   | 14 |     |   |   |   |   |   |  | 1.5 NPT                         |
|      |   | 15 |     |   |   |   |   |   |  | 1.5 x 2 NPT                     |
|      |   | 16 |     |   |   |   |   |   |  | 2 NPT                           |
|      |   |    |     |   |   |   |   |   |  | Spring Range - WC or PSI / mBAR |
|      |   |    | 010 |   |   |   |   |   |  | 2 - 10 PSI / 138 - 689          |
|      |   |    | 020 |   |   |   |   |   |  | 2 - 20 PSI / 138 - 1378         |
|      |   |    | 0   |   |   |   |   |   |  | Special Construction            |
|      |   |    |     | 0 |   |   |   |   |  | None                            |
|      |   |    |     | A |   |   |   |   |  | 150 RF (2" Steel Only)          |
|      |   |    |     | E |   |   |   |   |  | 125 FF (2" Iron Only)           |
|      |   |    |     |   |   |   |   |   |  | Orifice                         |
|      |   |    |     | 3 |   |   |   |   |  | 3/16" (Only for P Version)      |
|      |   |    |     | 4 |   |   |   |   |  | 1/4"                            |
|      |   |    |     | 6 |   |   |   |   |  | 3/8"                            |
|      |   |    |     | 8 |   |   |   |   |  | 1/2"                            |
|      |   |    |     | B |   |   |   |   |  | 3/4"                            |
|      |   |    |     |   |   |   |   |   |  | Port Orientation                |
|      |   |    |     |   | 3 |   |   |   |  | Right                           |
|      |   |    |     |   | 4 |   |   |   |  | Left                            |
|      |   |    |     |   |   |   |   |   |  | Body Material                   |
|      |   |    |     |   | 0 |   |   |   |  | Iron                            |
|      |   |    |     |   | 2 |   |   |   |  | Steel                           |

## F300 Dimensions



**F300D flow Capacities in SCFH** of 0.6 Specific Natural Gas, **Internal Registration**

| Outlet<br>Pressure, Spring Part<br>Number, and Accuracy                   | Inlet Pressure |      | NPT 1.5 (DN40) Body Size |       |       |      | NPT 2.0 (DN50) Body Size |       |       |       |
|---------------------------------------------------------------------------|----------------|------|--------------------------|-------|-------|------|--------------------------|-------|-------|-------|
|                                                                           |                |      | Orifice Size, Inches     |       |       |      | Orifice Size, Inches     |       |       |       |
|                                                                           | PSIG           | BAR  | 1/4"                     | 3/8"  | 1/2"  | 3/4" | 1/4"                     | 3/8"  | 1/2"  | 3/4"  |
| 2.0 PSIG<br>Set Pressure<br><br>XXX-XXX-XXX<br><br>0.5 PSIG Droop         | 5              | 0.34 | 800                      | 2100  | 3000  | 5000 | 750                      | 2000  | 3000  | 5000  |
|                                                                           | 10             | 0.69 | 1250                     | 3100  | 4800  | 6000 | 1300                     | 3400  | 5000  | 8500  |
|                                                                           | 15             | 1.00 | 1700                     | 4200  | 6500  | 7000 | 1700                     | 4300  | 6600  | 12000 |
|                                                                           | 20             | 1.38 | 2000                     | 5000  | 7500  | 7000 | 2100                     | 5200  | 8300  | 14000 |
|                                                                           | 30             | 2.10 | 2700                     | 6500  | 9000  |      | 2750                     | 6800  | 10000 |       |
|                                                                           | 50             | 3.45 | 4000                     | 9000  | 9500  |      | 4000                     | 9500  | 15000 |       |
|                                                                           | 60             | 4.10 | 4500                     | 9500  | 9500  |      | 4700                     | 11000 | 15000 |       |
|                                                                           | 80             | 5.52 | 5800                     | 9500  |       |      | 6000                     | 12900 |       |       |
|                                                                           | 100            | 6.90 | 7000                     |       |       |      | 7000                     |       |       |       |
|                                                                           | 125            | 8.60 | 7500                     |       |       |      | 7500                     |       |       |       |
| 5.0 PSIG<br>Set Pressure<br><br>XXX-XXX-XXX<br><br>0.5 PSIG Droop         | 10             | 0.69 | 1250                     | 3000  | 4200  | 7000 | 1200                     | 3000  | 4000  | 700   |
|                                                                           | 15             | 1.00 | 1700                     | 4000  | 6000  | 7000 | 1700                     | 4100  | 6000  | 10000 |
|                                                                           | 20             | 1.38 | 2000                     | 5000  | 7500  | 7000 | 2100                     | 5200  | 7200  | 13000 |
|                                                                           | 30             | 2.10 | 2700                     | 7000  | 10000 |      | 2750                     | 6500  | 10000 |       |
|                                                                           | 50             | 3.45 | 4000                     | 9000  | 11000 |      | 4000                     | 9500  | 14000 |       |
|                                                                           | 60             | 4.10 | 4500                     | 10500 | 11000 |      | 4700                     | 11000 | 16000 |       |
|                                                                           | 80             | 5.52 | 5800                     | 11500 |       |      | 6000                     | 13000 |       |       |
|                                                                           | 100            | 6.90 | 7000                     |       |       |      | 7000                     |       |       |       |
|                                                                           | 125            | 8.60 | 7700                     |       |       |      | 8000                     |       |       |       |
| 10.0 PSIG<br>Set Pressure<br><br>XXX-XXX-XXX<br><br>0.5 PSIG Droop        | 15             | 1.00 | 1400                     | 3000  | 4600  | 7500 | 1300                     | 3200  | 4000  | 7600  |
|                                                                           | 20             | 1.38 | 1800                     | 4000  | 6800  | 7500 | 1900                     | 4200  | 6000  | 10000 |
|                                                                           | 30             | 2.10 | 2700                     | 6000  | 9800  |      | 2600                     | 6500  | 10000 |       |
|                                                                           | 50             | 3.45 | 4000                     | 9000  | 11000 |      | 4000                     | 9200  | 15000 |       |
|                                                                           | 50             | 3.45 | 4000                     | 9000  | 11000 |      | 4000                     | 9200  | 15000 |       |
|                                                                           | 50             | 3.45 | 4000                     | 9000  | 11000 |      | 4000                     | 9200  | 15000 |       |
|                                                                           | 100            | 6.90 | 7200                     |       |       |      | 7000                     |       |       |       |
|                                                                           | 125            | 8.60 | 8500                     |       |       |      | 8300                     |       |       |       |
| 15.0 PSI<br>Set Pressure<br><br>XXX-XXX-XXX<br><br>0.5 PSIG Droop         | 20             | 1.38 | 1600                     | 4000  | 5200  | 7500 | 1500                     | 3500  | 5000  | 9000  |
|                                                                           | 30             | 2.10 | 2600                     | 6000  | 8500  |      | 2700                     | 6000  | 8500  |       |
|                                                                           | 30             | 2.10 | 2600                     | 6000  | 8500  |      | 2700                     | 6000  | 8500  |       |
|                                                                           | 60             | 4.10 | 4600                     | 10500 | 12000 |      | 4800                     | 10500 | 17000 |       |
|                                                                           | 80             | 5.52 | 5900                     | 12000 |       |      | 6000                     | 13000 |       |       |
|                                                                           | 100            | 6.90 | 7200                     |       |       |      | 7000                     |       |       |       |
|                                                                           | 125            | 8.60 | 8500                     |       |       |      | 8300                     |       |       |       |
| 20.0 PSIG<br>Set Pressure<br><br>XXX-XXX-XXX<br><br>20.0 PSI Set Pressure | 30             | 2.10 | 2200                     | 5500  | 7500  |      | 2400                     | 5500  | 7500  |       |
|                                                                           | 50             | 3.45 | 3800                     | 9500  | 11000 |      | 4000                     | 9200  | 15000 |       |
|                                                                           | 60             | 4.10 | 4600                     | 10500 | 13000 |      | 4800                     | 10500 | 17000 |       |
|                                                                           | 80             | 5.52 | 5900                     | 12000 |       |      | 6000                     | 13000 |       |       |
|                                                                           | 100            | 6.90 | 7200                     |       |       |      | 7000                     |       |       |       |
|                                                                           | 125            | 8.60 | 8500                     |       |       |      | 8300                     |       |       |       |

1. Limited due to boost

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

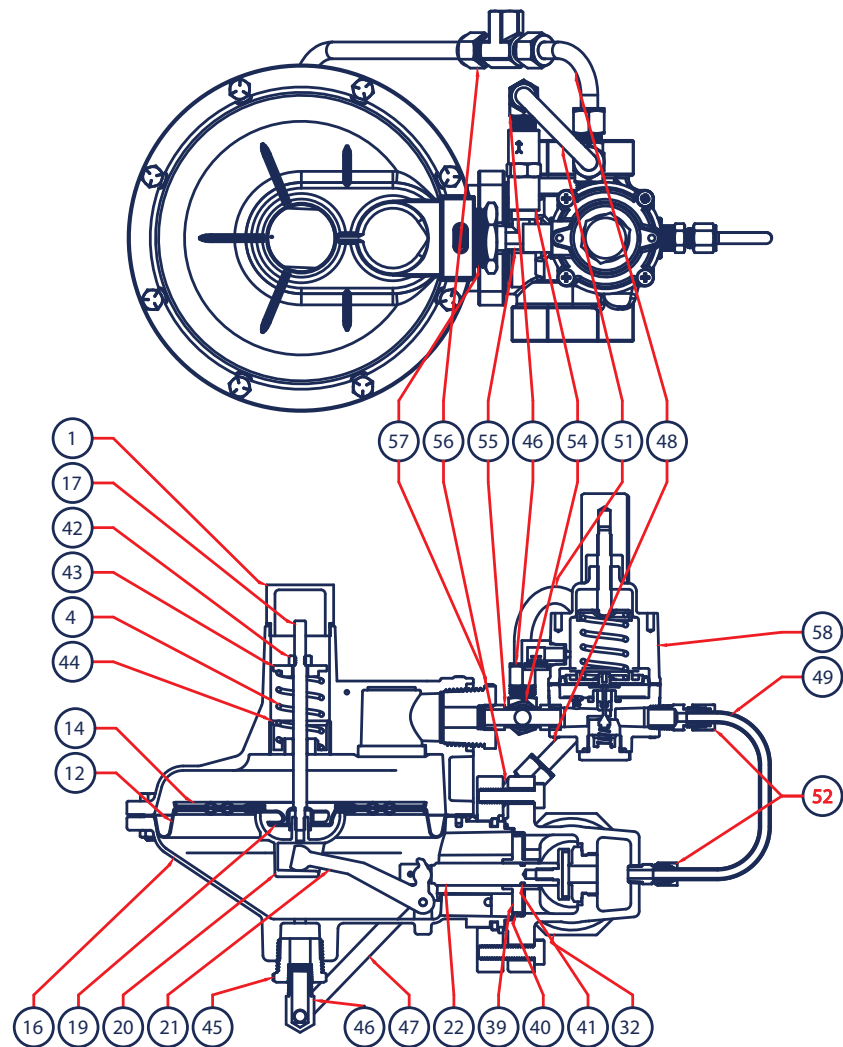
# F300P flow Capacities in SCFH of 0.6 Specific Natural Gas, External Registration

| Outlet<br>Pressure, Spring Part Number, and<br>Accuracy                    | Inlet Pressure |      | NPT 1.5 (DN40) Body Size |      |       |       |       |
|----------------------------------------------------------------------------|----------------|------|--------------------------|------|-------|-------|-------|
|                                                                            |                |      | Orifice Size, Inches     |      |       |       |       |
|                                                                            | PSIG           | BAR  | 3/16"                    | 1/4" | 3/8"  | 1/2"  | 3/4"  |
| 2.0 PSIG<br>Set Pressure<br><br>XXX-XXX-XXX<br><br>2.0 PSI<br>Set Pressure | 5              | 0.34 | 510                      | 770  | 1800  | 2100  | 4250  |
|                                                                            | 10             | 0.69 | 870                      | 1450 | 3050  | 4500  | 8350  |
|                                                                            | 15             | 1.00 | 1130                     | 1800 | 3700  | 5650  | 10900 |
|                                                                            | 20             | 1.38 | 1280                     | 2150 | 4900  | 7600  | 13500 |
|                                                                            | 30             | 2.10 | 1600                     | 2750 | 6100  | 9100  |       |
|                                                                            | 50             | 3.45 | 2350                     | 4100 | 9000  | 13500 |       |
|                                                                            | 60             | 4.10 | 2700                     | 4750 | 10300 | 16100 |       |
|                                                                            | 80             | 5.52 | 3450                     | 6050 | 12900 |       |       |
|                                                                            | 100            | 6.90 | 4300                     | 6900 |       |       |       |
|                                                                            | 125            | 8.60 | 5200                     | 8300 |       |       |       |
|                                                                            |                |      |                          |      |       |       |       |
| 5.0 PSIG<br>Set Pressure<br><br>XXX-XXX-XXX<br><br>0.5 PSIG Droop          | 10             | 0.69 | 650                      | 1300 | 2550  | 3200  | 6500  |
|                                                                            | 15             | 1.00 | 900                      | 1500 | 3300  | 5250  | 9600  |
|                                                                            | 20             | 1.38 | 1290                     | 2150 | 4700  | 7450  | 12900 |
|                                                                            | 30             | 2.10 | 1600                     | 2750 | 6100  | 9200  |       |
|                                                                            | 50             | 3.45 | 2350                     | 4100 | 9000  | 13500 |       |
|                                                                            | 60             | 4.10 | 2700                     | 4750 | 10300 | 16100 |       |
|                                                                            | 80             | 5.52 | 3450                     | 6050 | 13000 |       |       |
|                                                                            | 100            | 6.90 | 4300                     | 6900 |       |       |       |
|                                                                            | 125            | 8.60 | 5200                     | 8300 |       |       |       |
| 10.0 PSIG<br>Set Pressure<br><br>XXX-XXX-XXX<br><br>0.5 PSIG Droop         | 15             | 1.00 | 700                      | 1150 | 2700  | 4100  | 7200  |
|                                                                            | 20             | 1.38 | 1200                     | 1950 | 4100  | 6000  | 11600 |
|                                                                            | 30             | 2.10 | 1600                     | 2750 | 6100  | 9200  |       |
|                                                                            | 50             | 3.45 | 2350                     | 4100 | 9000  | 13500 |       |
|                                                                            | 60             | 4.10 | 2700                     | 4750 | 10300 | 16100 |       |
|                                                                            | 80             | 5.52 | 3450                     | 6050 | 13000 |       |       |
|                                                                            | 100            | 6.90 | 4300                     | 6900 |       |       |       |
|                                                                            | 125            | 8.60 | 5200                     | 8300 |       |       |       |
|                                                                            |                |      |                          |      |       |       |       |
| 15.0 PSIG<br>Set Pressure<br><br>XXX-XXX-XXX<br><br>0.5 PSIG Droop         | 20             | 1.38 | 1030                     | 1650 | 3050  | 3800  | 7700  |
|                                                                            | 30             | 2.10 | 1500                     | 2450 | 5700  | 7800  |       |
|                                                                            | 50             | 3.45 | 2350                     | 4100 | 9000  | 13500 |       |
|                                                                            | 60             | 4.10 | 2700                     | 4750 | 10300 | 16100 |       |
|                                                                            | 80             | 5.52 | 3450                     | 6050 | 13000 |       |       |
|                                                                            | 100            | 6.90 | 4300                     | 6900 |       |       |       |
|                                                                            | 125            | 8.60 | 5200                     | 8300 |       |       |       |
|                                                                            |                |      |                          |      |       |       |       |
| 20.0 PSIG<br>Set Pressure<br><br>XXX-XXX-XXX<br><br>0.5 PSIG Droop         | 30             | 2.10 | 1200                     | 2100 | 4700  | 7300  |       |
|                                                                            | 50             | 3.45 | 2350                     | 4100 | 9000  | 13500 |       |
|                                                                            | 50             | 3.45 | 2350                     | 4100 | 9000  | 13500 |       |
|                                                                            | 80             | 5.52 | 3450                     | 6050 | 13000 |       |       |
|                                                                            | 100            | 6.90 | 4300                     | 6900 |       |       |       |
|                                                                            | 125            | 8.60 | 5200                     | 8300 |       |       |       |

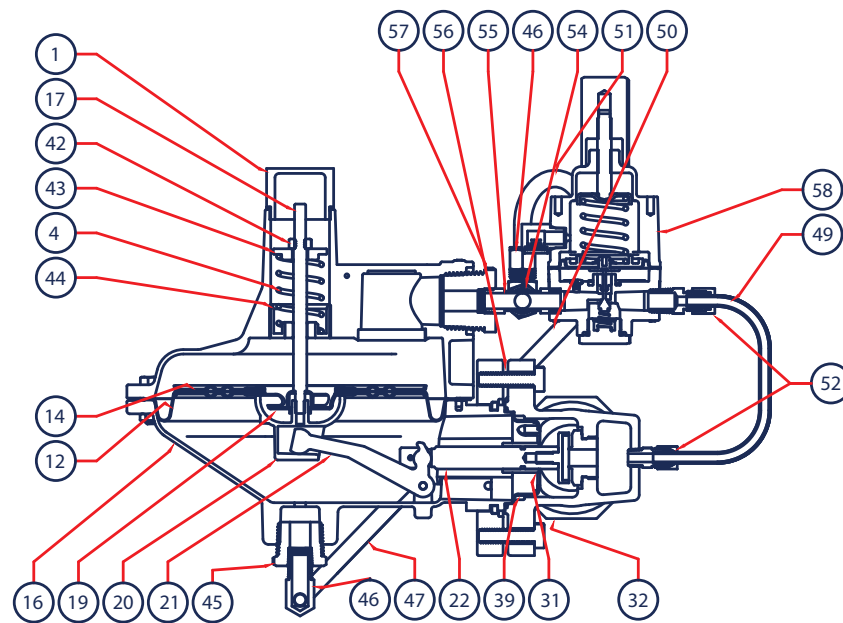
1. Limited due to boost

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

F300P



F300D



| Item | Description                               | Qty. | Part Number |
|------|-------------------------------------------|------|-------------|
| 1    | Closing Cap                               | 1    | 610-111-000 |
| 4    | Closing Spring                            | 1    | 655-808-000 |
| 12   | Diaphragm                                 | 1    | 618-111-000 |
| 14   | Diaphragm Plate                           | 2    | 638-091-000 |
| 16   | Lower Casing - Aluminum                   | 1    | 629-259-001 |
| 17   | Stem                                      | 1    | 689-035-000 |
| 19   | Diaphragm relief                          | 1    | 650-199-000 |
| 20   | Pusher Post, F300                         | 1    | 637-340-002 |
| 21   | Lever - Plated Steel - F300               | 1    | 703-012-001 |
| 22   | Valve Stem - F300                         | 1    | 651-107-001 |
| 28   | Throat Baffle (F300D Only)                | 1    | 686-007-000 |
| 31   | Stem Guide (F300D Only)                   | 1    | 626-122-000 |
| 32   | Body, 1-1/4 NPT                           | 1    | 664-576-002 |
|      | Body, 1-1/2 NPT                           |      | 664-576-003 |
|      | Body, 2" NPT - Iron                       |      | 664-443-000 |
|      | Body, 2" NPT - Steel                      |      | 664-443-001 |
|      | Body, 1-1/2 x 2" NPT - Iron               |      | 664-441-000 |
|      | Body, 1-1/2 x 2" NPT - Steel              |      | 664-441-001 |
|      | CL 125FF 2" - Iron                        |      | 664-444-000 |
|      | CL 150RF 2" - Steel                       |      | 664-444-001 |
| 34   | Bonnet O Version                          | 1    | 604-274-000 |
| 37   | Body Adaptor - 2" Only                    | 1    | 654-199-000 |
| 38   | O-Ring - Body Adapter - 2" Only           | 1    | 649-000-152 |
| 39   | Throat Block (F300P Only)                 | 1    | 653-064-000 |
| 40   | O-Ring - Throat Block (F300P Only)        | 1    | 649-392-000 |
| 41   | O-Ring - Valve Stem (F300P Only)          | 1    | 649-269-005 |
| 42   | Stem Nut                                  | 1    | 634-000-054 |
| 43   | Spring Guide                              | 1    | 626-130-000 |
| 44   | Spring Seat                               | 1    | 650-219-000 |
| 45   | Lower Casing Bushing 3/4 x 1/4            | 1    | 622-076-000 |
| 46   | Elbow 1/4 x 3/8                           | 2    | 622-061-000 |
| 47   | Sensing Tubing F300P Long End             | 1    | 660-149-000 |
| 48   | Sensing Tubing F300P Short End            | 1    | 660-150-000 |
| 49   | Pilot Supply Tubing                       | 1    | 660-151-000 |
| 50   | Sensing Tubing F300D                      | 1    | 660-152-000 |
| 51   | Relief Valve Tubing                       | 1    | 660-124-000 |
| 52   | Straight 1/4 X 1/4 Fitting                | 2    | 622-045-000 |
| 53   | Right Angle Tee 1/4 X 3/8 X 3/8           | 1    | 622-074-000 |
| 54   | Relief Valve                              | 1    | 678-061-000 |
| 55   | Tee M1/4 X M1/4 X M1/4                    | 1    | 622-077-000 |
| 56   | In-Line Tee F1/4 x 3/8 x 3/8 (F200P Only) | 1    | 622-078-000 |
| 57   | Bonnet Bushing 1 X 1/4                    | 1    | 622-075-000 |
| 58   | PL84 Pilot 2-10 PSI                       | 1    | 832-036-002 |
|      | PL84 Pilot 2-20 PSI                       |      | 832-036-003 |

