

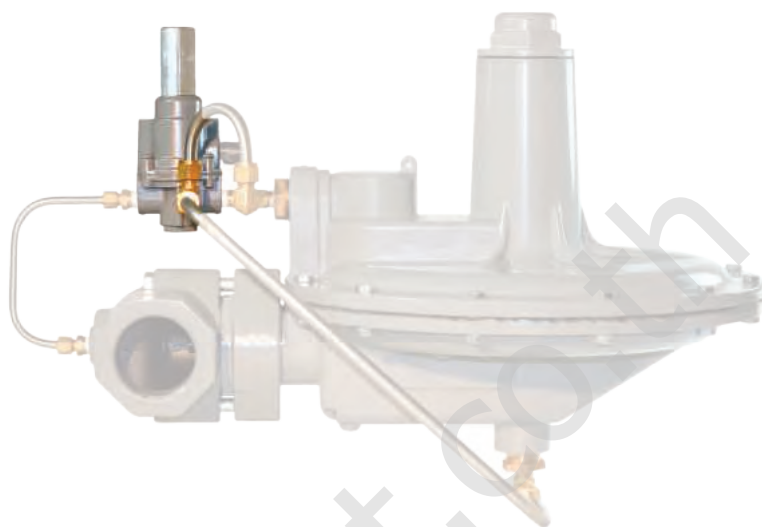
# F200 Pilot Operated Pressure Regulator

- External or Internal Pressure Registration
- Minimize Sudden Downstream Load Change
- Ideal for Fix Factor Billing
- Quick Response Time / High Accuracy

The F200 series is a manual, direct acting, self-operating, spring loaded, adjustable regulator. The F200 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 / Zinc Plated Steel   |
| Body                    | Ductile Cast Iron or WCB Steel |
| Bonnet                  | Aluminum                       |
| Closing Cap             | Aluminum                       |
| Diaphragm               | Nitrile                        |
| Lower Casing            | Aluminum                       |
| Molded Seat Assembly    | Nitrile                        |
| Orifice                 | Aluminum                       |
| Upper/Lower Spring Seat | Aluminum / Brass               |
| Flange                  | Ductile Cast Iron / WCB Steel  |

## F200 Series Maximum Inlet Pressure

| Table 1        |       |                        |       |
|----------------|-------|------------------------|-------|
| Orifice Inches | Range | Maximum Inlet Pressure |       |
|                |       | PSIG                   | BAR   |
| 1/4"           | Any   | 125                    | 8.618 |
| 3/8"           | Any   | 125                    | 8.618 |
| 1/2"           | Any   | 100                    | 6.894 |
| 3/4"           | Any   | 60                     | 4.136 |
| 1"             | Any   | 25                     | 1.723 |
| 1-3/16"        | Any   | 15                     | 1.034 |

## Specifications

|                          |                    |                  |
|--------------------------|--------------------|------------------|
| Maximum Inlet            | See Table 1        |                  |
| Maximum Emergency Outlet | 15 PSIG            |                  |
| Pressure Ranges          | See Table 2        |                  |
| Port Sizes               | 1.25 NPT           |                  |
|                          | 1.5 NPT            |                  |
|                          | 1.5 NPT x 2 NPT    |                  |
|                          | 2 NPT              |                  |
| Orifice Sizes            | 1/4"               |                  |
|                          | 3/8"               |                  |
|                          | 1/2"               |                  |
|                          | 3/4"               |                  |
|                          | 1"                 |                  |
|                          | 1-3/16"            |                  |
| 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           | 27 lbs. (12.25 kg) |                  |

## F200 Main Spring Ranges

| Table 2 |               |                |              |             |
|---------|---------------|----------------|--------------|-------------|
| Model   | Spring Ranges |                | Spring Color | Part Number |
|         | WC or PSIG    | mBAR           |              |             |
| F200    | 4 - 14 WC     | 14.94 - 34.87  | Red          | 655-697-003 |
|         | 14 - 2 PSIG   | 34.87 - 137.89 |              |             |
| F200    | PSIG          | BAR            | Black        | 655-697-004 |
|         | 2 - 10        | 0.137 - 0.689  |              |             |

## F200 Pilot Spring Ranges

| Model | Spring Ranges |                | Spring Color | Part Number |
|-------|---------------|----------------|--------------|-------------|
|       | WC or PSIG    | mBAR           |              |             |
| F200  | 4 - 14 WC     | 14.94 - 34.87  | White        | 655-765-000 |
|       | 14 - 2 PSIG   | 34.87 - 137.89 | Yellow       | 655-749-000 |
| F200  | PSIG          | BAR            | Black        | 655-000-202 |
|       | 2 - 10        | 0.137 - 0.689  |              |             |

[illegible]

| Body Size | A    |               |               | B     | C     | D    |               |               |
|-----------|------|---------------|---------------|-------|-------|------|---------------|---------------|
| Inches    | NPT  | 125 FF Flange | 150 RF Flange |       |       | NPT  | 125 FF Flange | 150 RF Flange |
| 1.25      | 6.13 |               |               | 11.03 | 18.09 | 1.85 |               |               |
| 1.5       | 6.13 |               | 10            | 11.03 | 18.09 | 1.85 |               | 2.5           |
| 1.5 x 2   | 6.13 |               |               | 11.03 | 18.09 | 1.85 |               |               |
| 2         | 6.13 | 10            | 10            | 10.59 | 17.66 | 2.15 | 4.42          | 4.42          |

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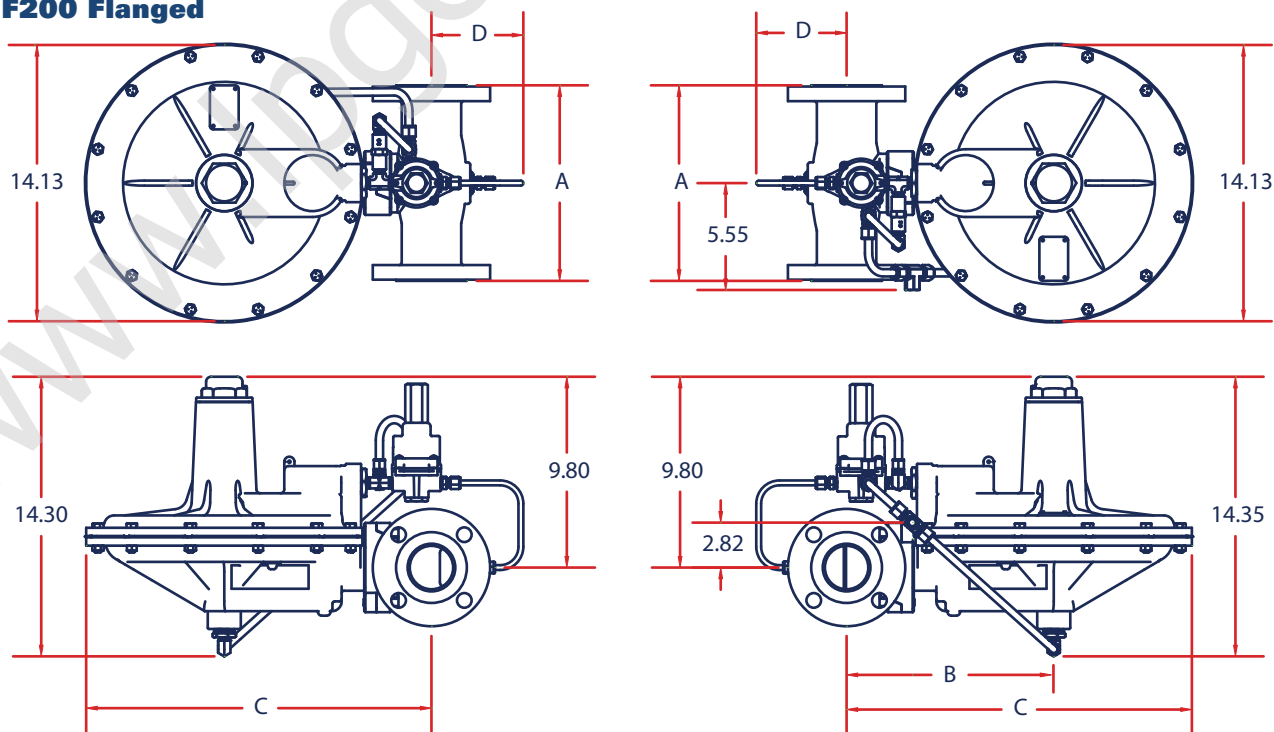
| Outlet Pressure, Spring Part Number, and Accuracy   | Inlet Pressure |      | NPT 2 (DN 50) Body Sizes  |       |       |       |       |        |
|-----------------------------------------------------|----------------|------|---------------------------|-------|-------|-------|-------|--------|
|                                                     |                |      | Orifice Size, Inches (mm) |       |       |       |       |        |
|                                                     | PSIG           | BAR  | 1/4                       | 3/8   | 1/2   | 3/4   | 1     | 1-3/16 |
| 4 inches WC (15 mbar)<br>655-765-000<br>1" WC Droop | 2              | 0.14 | 697                       | 1576  | 3123  | 4901  | 7009  | 6730   |
|                                                     | 5              | 0.34 | 999                       | 2596  | 4568  | 8477  | 9402  | 8568   |
|                                                     | 10             | 0.69 | 1517                      | 3577  | 6329  | 12387 | 11613 | 10219  |
|                                                     | 15             | 1.00 | 1835                      | 4367  | 7753  | 13161 | 12697 | 11303  |
|                                                     | 25             | 1.70 | 2632                      | 6185  | 12015 | 15871 | 14168 |        |
|                                                     | 30             | 2.10 | 2903                      | 6619  | 12387 | 15484 |       |        |
|                                                     | 60             | 4.10 | 4707                      | 11535 | 19742 | 17032 |       |        |
|                                                     | 75             | 5.17 | 6200                      | 14632 | 18581 |       |       |        |
|                                                     | 100            | 6.90 | 7974                      |       |       |       |       |        |
|                                                     | 125            | 8.60 | 8825                      |       |       |       |       |        |
|                                                     | 2              | 0.14 | 650                       | 1626  | 2671  | 4835  | 7432  | 7742   |
|                                                     | 5              | 0.34 | 1006                      | 2582  | 4346  | 8524  | 9414  | 5574   |
| 7 inches WC (17 mbar)<br>655-765-000<br>1" WC Droop | 10             | 0.69 | 1533                      | 3750  | 5806  | 12000 | 13279 | 10245  |
|                                                     | 15             | 1.00 | 1835                      | 4586  | 7907  | 15097 | 14710 | 11806  |
|                                                     | 25             | 1.70 | 1835                      | 6908  | 11342 | 17806 | 16258 |        |
|                                                     | 30             | 2.10 | 2942                      | 6674  | 11674 | 17419 |       |        |
|                                                     | 60             | 4.10 | 4877                      | 11321 | 19355 | 18194 |       |        |
|                                                     | 75             | 5.17 | 6286                      | 15148 | 20903 |       |       |        |
|                                                     | 100            | 6.90 | 7897                      |       |       |       |       |        |
|                                                     | 125            | 8.60 | 8826                      |       |       |       |       |        |
| 1 PSIG / 0.069 BAR<br>655-749-000<br>1% Droop       | 2              | 0.14 | 530                       | 1379  | 2300  | 4102  | 6635  | 8195   |
|                                                     | 5              | 0.34 | 1030                      | 2599  | 4205  | 8193  | 12227 | 12307  |
|                                                     | 10             | 0.69 | 1548                      | 3799  | 6252  | 12636 | 17814 | 16490  |
|                                                     | 15             | 1.00 | 1870                      | 4817  | 7805  | 16656 | 20013 | 16689  |
|                                                     | 25             | 1.70 | 2690                      | 6968  | 10967 | 22735 | 21215 |        |
|                                                     | 30             | 2.10 | 2870                      | 7082  | 12494 | 22875 |       |        |
|                                                     | 60             | 4.10 | 4800                      | 11343 | 19941 | 25990 |       |        |
|                                                     | 75             | 5.17 | 5820                      | 14074 | 23788 |       |       |        |
|                                                     | 100            | 6.90 | 7900                      | 16241 | 29032 |       |       |        |
|                                                     | 125            | 8.60 | 9850                      | 11159 |       |       |       |        |

1. Limited due to boost

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

2. When using the 4" to 14" range spring in combination with the 3/8" or 1/2" orifice, the boost to the outlet pressure (P2) will exceed 1% of the set pressure when the inlet pressure (P1) is above 30 PSIG. This will occur only on the internal registration model (D) and does not occur on the external registration model (P).

### F200 Flanged



## F200D Flow Capacities in SCFH of 0.6 Specific Gravity Natural Gas

| Outlet<br>Pressure, Spring Part<br>Number, and Accuracy | Inlet Pressure |      | NPT 2 (DN 50) Body Sizes  |       |       |       |       |        |
|---------------------------------------------------------|----------------|------|---------------------------|-------|-------|-------|-------|--------|
|                                                         |                |      | Orifice Size, Inches (mm) |       |       |       |       |        |
|                                                         | PSIG           | BAR  | 1/4                       | 3/8   | 1/2   | 3/4   | 1     | 1-3/16 |
| 2 PSIG / 0.138 BAR<br><br>655-749-000<br><br>1% Droop   | 5              | 0.34 | 885                       | 2204  | 3876  | 7918  | 11296 | 13256  |
|                                                         | 10             | 0.69 | 1500                      | 3638  | 6120  | 11761 | 17727 | 15753  |
|                                                         | 15             | 1.00 | 1872                      | 4697  | 7826  | 15924 | 20141 | 17475  |
|                                                         | 25             | 1.70 | 2605                      | 6880  | 11090 | 23775 | 22475 |        |
|                                                         | 30             | 2.10 | 2816                      | 7139  | 12465 | 25837 |       |        |
|                                                         | 60             | 4.10 | 4600                      | 11116 | 19794 | 26585 |       |        |
|                                                         | 75             | 5.17 | 5763                      | 15070 | 23514 |       |       |        |
|                                                         | 100            | 6.90 | 7600                      | 17534 | 29662 |       |       |        |
|                                                         | 125            | 8.60 | 8910                      | 21383 |       |       |       |        |
| 2 PSIG / 0.138 BAR<br><br>655-000-002<br><br>1% Droop   | 5              | 0.34 | 914                       | 2200  | 3684  | 7356  | 11198 | 13236  |
|                                                         | 10             | 0.69 | 1525                      | 3547  | 5804  | 11212 | 17230 | 16737  |
|                                                         | 15             | 1.00 | 1874                      | 4566  | 7609  | 16223 | 19974 | 17335  |
|                                                         | 25             | 1.70 | 2607                      | 6892  | 11098 | 23785 | 23328 |        |
|                                                         | 30             | 2.10 | 2817                      | 7267  | 12367 | 23716 |       |        |
|                                                         | 60             | 4.10 | 4740                      | 11421 | 19742 | 27821 |       |        |
|                                                         | 75             | 5.17 | 6200                      | 14490 | 23297 |       |       |        |
|                                                         | 100            | 6.90 | 7500                      | 18396 | 28595 |       |       |        |
|                                                         | 125            | 8.60 | 8846                      | 22076 |       |       |       |        |
| 5 PSIG / 0.345 BAR<br><br>655-749-000<br><br>1% Droop   | 10             | 0.69 | 1269                      | 3082  | 5173  | 10665 | 13034 | 17165  |
|                                                         | 15             | 1.00 | 1740                      | 4343  | 7501  | 14764 | 22517 | 19215  |
|                                                         | 25             | 1.70 | 2641                      | 6899  | 11045 | 18844 | 24540 |        |
|                                                         | 30             | 2.10 | 2877                      | 6672  | 12462 | 24553 |       |        |
|                                                         | 60             | 4.10 | 4770                      | 11591 | 19461 | 31796 |       |        |
|                                                         | 75             | 5.17 | 6236                      | 14801 | 22500 |       |       |        |
|                                                         | 100            | 6.90 | 8137                      | 18096 | 28504 |       |       |        |
|                                                         | 125            | 8.60 | 8893                      | 21553 |       |       |       |        |
|                                                         |                |      |                           |       |       |       |       |        |
| 10 PSIG / 0.689 BAR<br><br>655-000-002<br><br>1% Droop  | 15             | 1.00 | 1430                      | 3476  | 6027  | 11837 | 14849 | 18153  |
|                                                         | 25             | 1.70 | 2584                      | 6899  | 11045 | 18844 | 29278 |        |
|                                                         | 30             | 2.10 | 2897                      | 6421  | 12346 | 22853 |       |        |
|                                                         | 60             | 4.10 | 4810                      | 8926  | 19405 | 37290 |       |        |
|                                                         | 75             | 5.17 | 6394                      | 14869 | 21782 |       |       |        |
|                                                         | 100            | 6.90 | 8155                      | 17656 | 28725 |       |       |        |
|                                                         | 125            | 8.60 | 8925                      | 21365 |       |       |       |        |
|                                                         |                |      |                           |       |       |       |       |        |

### 1. Limited due to boost

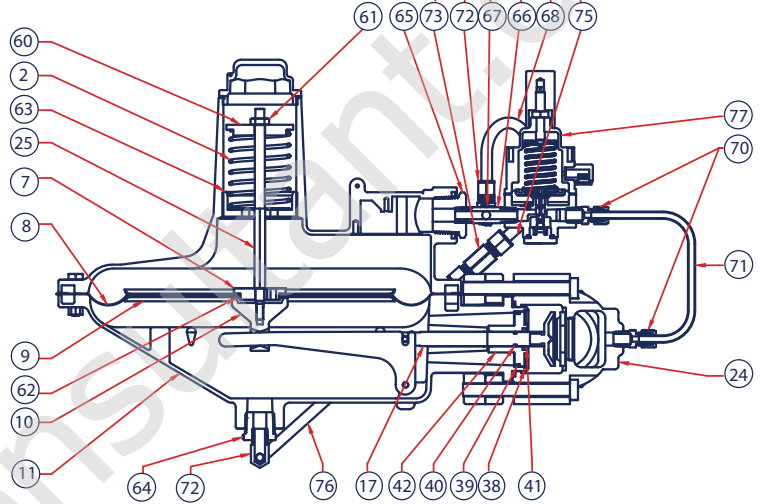
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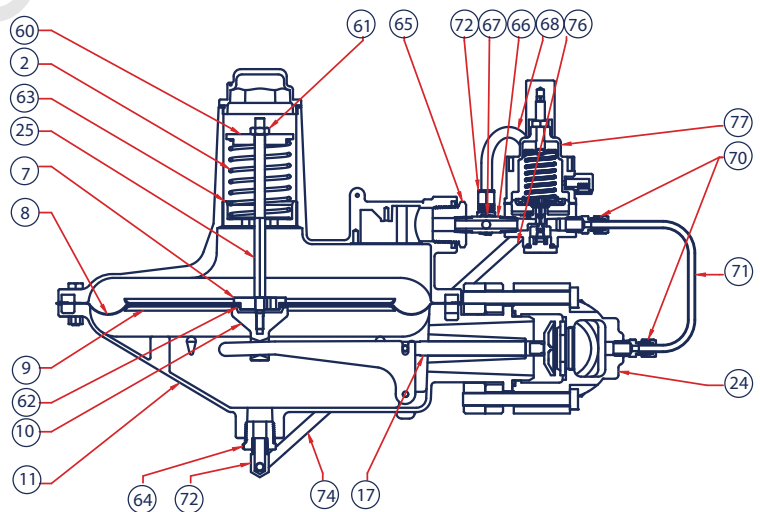
## F200 Parts List

| Item | Description                               | Qty. | Part Number |
|------|-------------------------------------------|------|-------------|
| 2    | Closing Spring 4" WC - 2 PSIG             | 1    | 655-697-003 |
|      | Closing Spring 2 - 10 PSIG                |      | 655-697-004 |
| 7    | Diaphragm Relief Plug                     | 1    | 650-134-000 |
| 8    | Diaphragm                                 | 1    | 618-072-000 |
| 9    | Diaphragm Head                            | 2    | 628-277-000 |
| 10   | Pusher Post                               | 1    | 637-326-001 |
| 11   | Lower Casing Assembly F200D               | 1    | 629-219-002 |
|      | Lower Casing Assembly F200P               |      | 629-219-001 |
| 17   | Valve Stem Assembly F200D                 | 1    | 827-013-000 |
|      | Valve Stem Assembly F200P                 |      | 827-013-001 |
| 24   | 2 NPT Iron Body                           | 1    | 664-443-000 |
|      |                                           |      | 664-443-001 |
|      | 1.5 NPT Iron Body                         | 1    | 664-442-000 |
|      |                                           |      | 664-442-002 |
|      | 1.5 x 2 NPT Iron Body                     | 1    | 664-441-000 |
|      |                                           |      | 664-441-001 |
|      | 1.25 NPT Iron Body                        | 1    | 664-442-001 |
|      |                                           |      | 664-442-003 |
|      | 125 FF 10" Iron Body                      | 1    | 664-444-000 |
|      | 150 RF 2" Steel Body                      | 1    | 664-444-001 |
|      | 150 RF 1.5" Steel Body                    | 1    | 664-444-002 |
| 25   | Stem                                      | 1    | 689-020-000 |
| 38   | Retaining Ring (F200P Only)               | 1    | 693-027-000 |
| 39   | O-ring Lg (F200P Only)                    | 1    | 649-309-004 |
| 40   | O-ring (F200P Only)                       | 1    | 649-000-005 |
| 41   | Wiper Ring (F200P Only)                   | 1    | 644-061-000 |
| 42   | Stem Adaptor (F200P Only)                 | 1    | 653-058-000 |
| 60   | Spring Retainer                           | 1    | 626-121-000 |
| 61   | Hex Nut                                   | 1    | 634-000-054 |
| 63   | Spring Seat                               | 1    | 650-198-000 |
| 64   | Case Bushing 3/4 x 1/4                    | 1    | 622-076-000 |
| 65   | Bonnet Bushing 1 x 1/4                    | 1    | 622-075-000 |
| 66   | Tee M1/4 x M1/4 x M1/4                    | 1    | 622-077-000 |
| 67   | Relief Valve                              | 1    | 678-061-000 |
| 68   | Relief Valve Tubing                       | 1    | 660-124-000 |
| 69   | Right Angle Tee 1/4 x 3/8 x 3/8           | 1    | 622-074-000 |
| 70   | Straight 1/4 x 1/4 Fitting                | 2    | 622-045-000 |
| 71   | Pilot Supply Tubing                       | 1    | 660-122-000 |
| 72   | Elbow 1/4 x 3/8                           | 2    | 622-061-000 |
| 73   | In-Line Tee F1/4 x 3/8 x 3/8 (F200P Only) | 1    | 622-078-000 |
| 74   | Sensing Tubing F200D                      | 1    | 660-123-000 |
| 75   | Sensing Tubing F200P Short End            | 1    | 660-125-000 |
| 76   | Sensing Tubing F200P Long End             | 1    | 660-126-000 |
| 77   | PL84 Pilot 4" - 14" WC                    | 1    | 832-036-000 |
|      | PL84 Pilot 14" WC - 2 PSIG                |      | 832-036-001 |
|      | PL84 Pilot 2 - 10 PSIG                    |      | 832-036-002 |

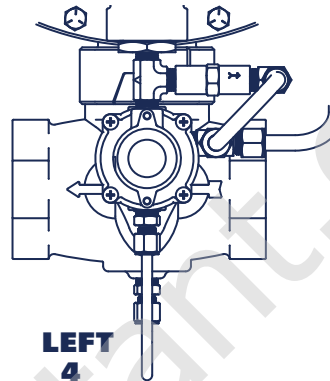
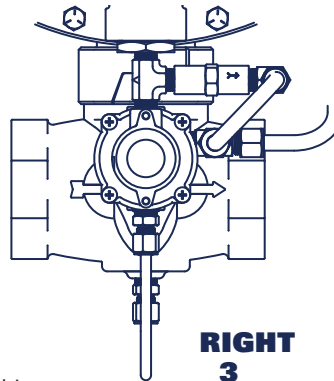
### F200P



### F200D



## F200 Body Orientation\*



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

