

APPLICATION:

Self-contained, pilot-operated regulator used for regulation of inlet pressure to gas compressors and control of supply or distribution system pressures where the pressure to the regulator varies significantly and regulated pressure must remain constant.

FEATURES:

- Tight shut-off
- Single soft seat
- Removable valve seat
- Minimum maintenance
- All internal parts can be removed with valve in line
- Single-point adjustment of setpoint
- Utilizes upstream pressure as actuation pressure
- Efficient 3-way plug accurately maintains setpoint

CERTIFICATIONS:

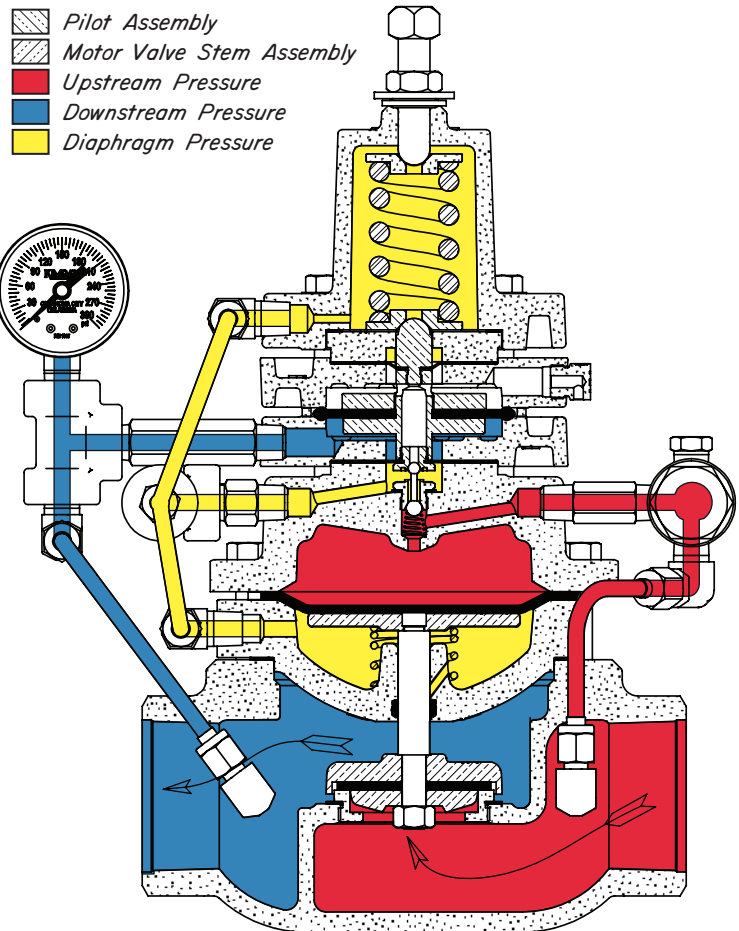
Canadian Registration Number (CRN):
 0C16234.24567890NTY (Ductile)
 0C15604.24567890NTY (Steel)
 Kimray is an ISO 9001- certified manufacturer.

CLASSIFICATIONS:

Non-Bleed / Intermittent Vent

SET POINT DRIFT RATIO:

100:1



| | Standard Configuration Code † | Order Code | Line Size | Connection Type | Oper. Press. psig | Max. W.P. psig †† | Cv | Cf |
|---------|-------------------------------|------------|-----------|-----------------|-------------------|-------------------|------|------|
| Ductile | RRB1SADF1S | AKJ | 1" | NPT | 10-300 | 300 | 13.2 | 0.74 |
| | RRB2SADF1S | AJI | 2" | NPT | 10-300 | 300 | 47.0 | 0.84 |
| | RRB2ARDF1S | AJJ | | 150RF | 10-250 | 250 | | |
| | RRB3SADF1S | AJK | 3" | NPT | 10-300 | 300 | 117 | 0.75 |
| | RRB3ARDF1S | AJL | | 150RF | 10-250 | 250 | | |
| | RRB4SADF1S | AJM | 4" | NPT | 10-300 | 300 | 210 | 0.75 |
| | RRB4ARDF1S | AJN | | 150RF | 10-250 | 250 | | |
| | RRB4ARDF1S | AJP | 6" | 150RF | 10-250 | 250 | 480 | 0.75 |
| Steel | RRB2ARWF1S | AJR | 2" | 150RF | 10-285 | 285 | 47.0 | 0.84 |
| | RRB3ARWF1S | AJS | 3" | 150RF | 10-285 | 285 | 117 | 0.75 |
| | RRB4ARWF1S | AJT | 4" | 150RF | 10-285 | 285 | 210 | 0.75 |
| | RRB6ARWF1S | AJU | 6" | 150RF | 10-285 | 285 | 480 | 0.75 |

NOTES:

For standard & optional seals, metals, Cf Cv values, material specifications & dimensions see technical data on pages 06:1 - 06:1V

† For Corrosive service remove last "S" & replace with "C"

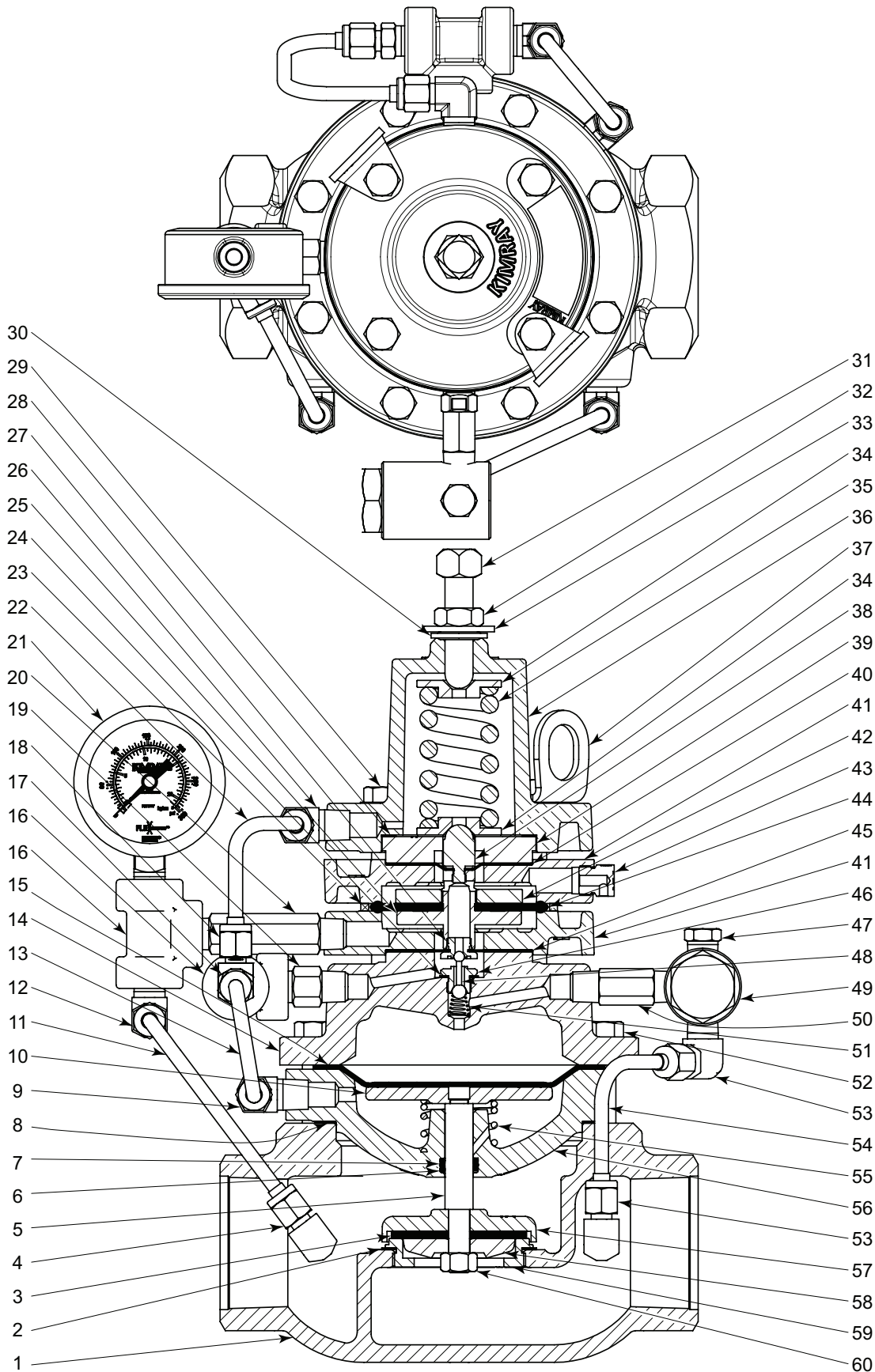
† For code builder see page 06:00.2

†† Max W.P. values based on -20°F to 100°F.

PRESSURE REGULATORS



GAS PRESSURE REDUCING BALANCED MODEL RB PARTS DRAWING



All Pictures shown are for illustration purpose only. Actual product may vary due to product enhancement.



PRESSURE REGULATORS

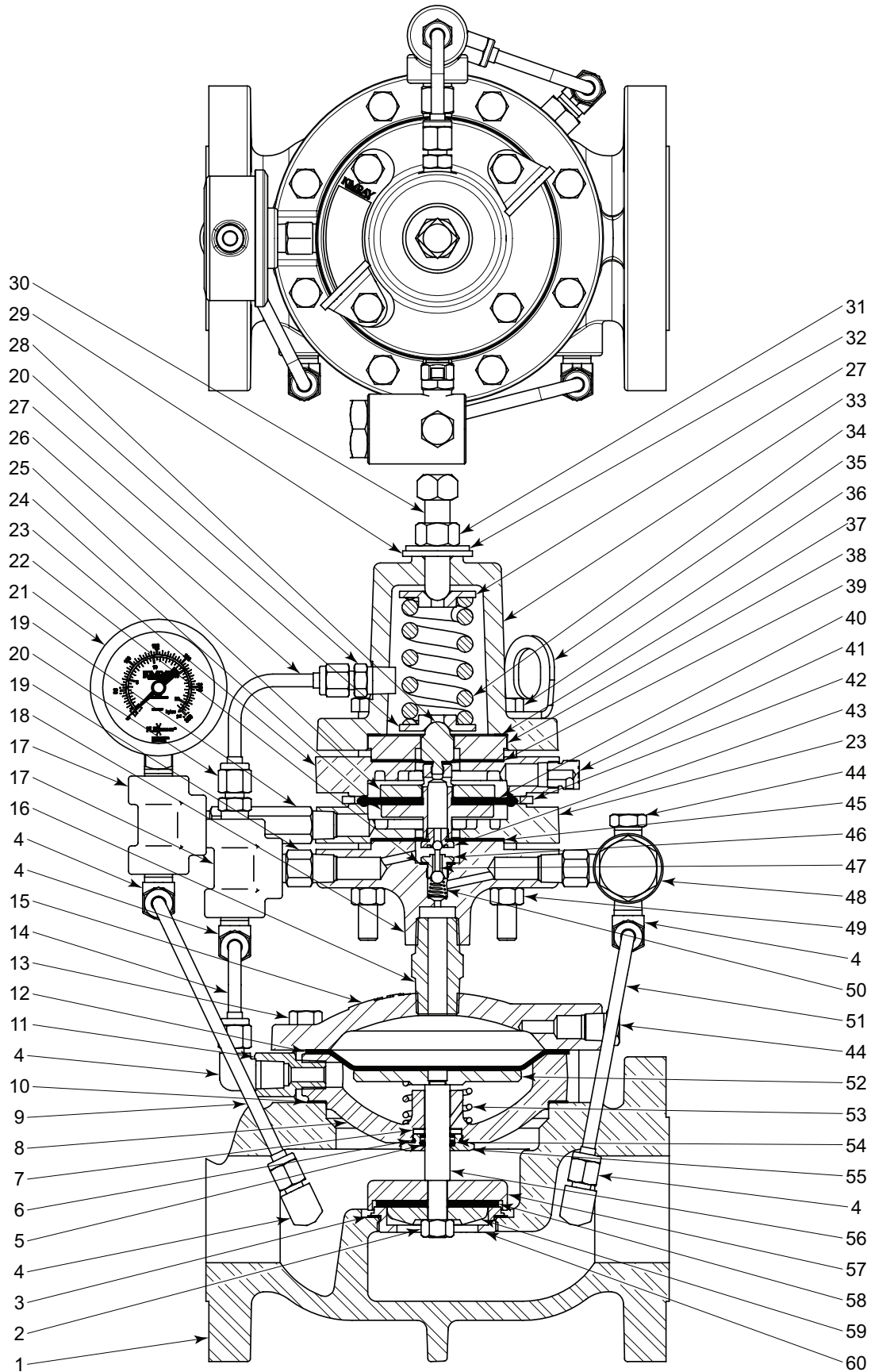
**GAS PRESSURE REDUCING BALANCED
MODEL RB PARTS LIST**

| ITEM | QTY. | DESCRIPTION | PART NUMBER | | | | | | | | | | | |
|---|-------|-------------------|-------------|---------|---------|----------|-----------|--|---------|----------|----------|-----------|----------|--------|
| | | | STANDARD | | | | | CORROSIVE | | | | | | |
| | | | 1 INCH | 2 INCH | 3 INCH | 4 INCH | 6 INCH | 1 INCH | 2 INCH | 3 INCH | 4 INCH | 6 INCH | | |
| 1 | 1 | Body | | | | | | | | | | | | |
| | | NPT Thru | 2033 | 1709 | 1634 | 2001 | ---- | 2033 ‡ | 1709 ‡ | 1634 ‡ | 2001 ‡ | ---- | | |
| | | 150RF Thru | ---- | 1913 | 1914 | 2002 | 2466 | ---- | 1913 ‡ | 1914 ‡ | 2002 ‡ | 2466 ‡ | | |
| | | Grooved Thru | ---- | 2964 | ---- | ---- | ---- | ---- | 2964 ‡ | ---- | ---- | ---- | | |
| 2 | 1 | Gasket * | ---- | 276 | 277 | 196 | 279 | 4554 | 276 | 277 | 196 | 279 | | |
| 3 | 1 | Seat | Standard * | 163HSN | 164HSN | 165HSN | 166HSN | 167HSN | 163HSN | 164HSN | 165HSN | 166HSN | 167HSN | |
| | | Reduced * | 163HSN | 164HSN | 1230HSN | 164HSN | 165HSN | 163HSN | 164HSN | 1230HSN | 164HSN | 165HSN | | |
| 4 | 1 | Elbow / Connector | 874 | | | 875 | | | 874SS6 | | | 875SS6 | | |
| 5 | 1 | Valve | Standard | 137 | 138 | 139 | 140 | 141 | 137SS6 | 138SS6 | 139SS6 | 140SS6 | 141SS6 | |
| | | Stem | Reduced | 137 | 138 | 1222SS6 | 1223SS6 | 1224SS6 | 137SS6 | 138SS6 | 1222SS6 | 1223SS6 | 1224SS6 | |
| 6 | 2 | Back Up * | 148T | 149T | 150T | 151T | 152T | 148T | 149T | 150T | 151T | 152T | | |
| 7 | 1 | O-Ring * | 153 | 154 | 155 | 156 | 157 | 153 | 154 | 155 | 156 | 157 | | |
| 8 | 1 | Gasket * | 195 | 196 | 197 | 198 | 199 | 195 | 196 | 197 | 198 | 199 | | |
| 9 | 1 | Elbow | 1605 | | 875 | | 1481 | 1605SS6 | | 875SS6 | | 1481SS6 | | |
| | | Connector | | | ---- | | 874 | | | ---- | | 874SS6 | | |
| | | Nipple | | | ---- | | 262 | | | ---- | | 262SS6 | | |
| 10 | 1 | Diaphragm Plate | 132SS6 | 133 | 134 | 135 | 136 | 132SS6 | 133 | 134 | 135 | 136 | | |
| 11 | 1 | Tubing | 123SS6 | 216SS6 | 217SS6 | 4251S6 | 218SS6 | 123SS6 | 216SS6 | 217SS6 | 4251S6 | 218SS6 | | |
| 12 | 1 | Elbow | | 875 | 874 | | 875 | | 875SS6 | 874SS6 | | 875SS6 | | |
| 13 | 1 | Tubing | 4416SS6 | 2511SS6 | | 4011SS6 | 2247SS6 | 4416SS6 | 2511SS6 | | 4011SS6 | 2247SS6 | | |
| 14 | 1 | Upper Housing | 4015 | 1703 | 1639 | 2004 | 2178 | 4015SS6 | 1703 ‡ | 1639 ‡ | 2004 ‡ | 2178 ‡ | | |
| 15 | 1 | Diaphragm * | 127 | 1706 | 1640 | 2015 | 2140 | 127 | 1706 | 1640 | 2015 | 2140 | | |
| 16 | 2 | Tee | 219 | | | 2000 | | 219SS6 | | | 2000SS6 | | | |
| 17 | 1 | Elbow / Connector | 875 | | 874 | | 875 | 874 | 875SS6 | | 874SS6 | | 875SS6 | 874SS6 |
| 18 | 1 | Elbow / Connector | 874 | | 875 | | 874 | | 874SS6 | | 875SS6 | | 874SS6 | |
| 19 | 1 | Nipple | 6890 | 648 | | 2600 | 648 | 6890SS6 | 648SS6 | | 2600SS6 | 648SS6 | | |
| 20 | 1 | Nipple | 6890 | | | 648 | | 6890SS6 | | | 648SS6 | | | |
| 21 | 1 | Pressure Gauge | | | 7707 | | | | | 7707 | | | | |
| 22 | 1 | Tubing | 4416SS6 | 2511SS6 | | 4011SS6 | 4262SS6 | 4416SS6 | 2511SS6 | | 4011SS6 | 4262SS6 | | |
| 23 | 1 | Spacer Ring * | ---- | | | 7437 | | ---- | | | 7437 | | | |
| 24 | 1 | Gasket * | 3018 | | | 118 | | 3018 | | | 118 | | | |
| 25 | 1 | Diaphragm Plate | 4495 | | | 6525 | | 4495SS6 | | | 6525SS6 | | | |
| 26 | 1 | Elbow / Connector | | 875 | | 874 | 875 | | 875SS6 | | 874SS6 | 875SS6 | | |
| 27 | 1 | Pilot Seat * | 3016 | | | 113 | | 3016SS6 | | | 113SS6 | | | |
| 28 | 1 | Gasket * | 4554 | | | 276 | | 4554 | | | 276 | | | |
| 29 | 4 | Bolt | 4553 | | | 7671 | | 4553 | | | 7671 | | | |
| 30 | 1 | Thread Seal * | 4542 | | | 4488 | | 4542 | | | 4488 | | | |
| 31 | 1 | Adjusting Screw | 6976 | | | 5163 | | 6976SS6 | | | 5163SS6 | | | |
| 32 | 1 | Nut | 1676 | | | 2377 | | 1676SS6 | | | 2377SS6 | | | |
| 33 | 1 | Washer | 4543 | | | 4491 | | 4543 | | | 4491 | | | |
| 34 | 2 | Spring Guide | 4484SS6 | | | 2612 | | 4484SS6 | | | 2612SS6 | | | |
| 35 | 1 | Spring | 4323 | | | 2611 | | 4323 | | | 2611 | | | |
| 36 | 1 | Bonnet | 4525 | | | 2610 | | 4525 | | | 2610 ‡ | | | |
| 37 | 2 | Lifting Ring | ---- | | 7559 | | ---- | ---- | | 7559 | | ---- | | |
| 38 | 1 | Pivot Screw | 4493 | | | 6524 | | 4493 | | | 6524SS6 | | | |
| 39 | 1 | Spacer | 4494S6 | | | 2021 | | 4494S6 | | | 2021 | | | |
| 40 | 1 | Diaphragm * | 3014 | | | 6520 | | 3014 | | | 6520 | | | |
| 41 | 2 | Pilot Housing | 3013 | | | 1701 | | 3013SS6 | | | 1701 ‡ | | | |
| 42 | 1 | Diaph. Nut | 3010 | | | 107 | | 3010SS6 | | | 107SS6 | | | |
| 43 | 1 | Vent Plug | 1357 | | | 147 | | 1357SS6 | | | 147SS6 | | | |
| 44 | 1 | Diaphragm * | 3011P | | | 5259P | | 3011P | | | 5259P | | | |
| 45 | 1 | Diaphragm * | 3014 | | | 110 | | 3014 | | | 110 | | | |
| 46 | 1 | Pilot Seat | 3015 | | | 565 | | 3015SS6 | | | 565SS6 | | | |
| 47 | 1 | Plug | | | | 699 | | | | | 699SS6 | | | |
| 48 | 1 | Pilot Plug * | 3017 | | | 112 | | 3017 | | | 112 | | | |
| 49 | 1 | 1/4 F30 Filter | | | | YAS | | | | | YASS6 | | | |
| 50 | 1 | Nipple | 6890 | 262 | | 2600 | 648 | 6890S6 | 262SS6 | | 2600SS6 | 648SS6 | | |
| 51 | 1 | Spring * | 3008 | | | 108 | | 3008 | | | 108HAC | | | |
| 52 | (QTY) | Bolt | 4318 (6) | 965 (8) | 907(10) | 907 (12) | 2142 (16) | 4318 (6) | 965 (8) | 907(10) | 907 (12) | 2142 (16) | | |
| 53 | 2 | Elbow | | | | 875 | | | | | 875SS6 | | | |
| 54 | 1 | Tubing | 123SS6 | 1638SS6 | 1826SS6 | 1383SS6 | 2247SS6 | 123SS6 | 1638SS6 | 1826SS6 | 1383SS6 | 2247SS6 | | |
| 55 | 1 | Spring | 1358 | 1388 | 7132 | 1529 | 1575 | 1358 | 1388 | 7132 | 1529 | 1575 | | |
| 56 | 1 | Lower Housing | 142 | 1704 | 1632 | 145 | 146 | 142 ‡ | 1704 ‡ | 1632 ‡ | 145 ‡ | 146 ‡ | | |
| 57 | 1 | Seat | Standard | 158 | 159 | 160 | 161 | 162 | 158SS6 | 2493SS6 | 2494SS6 | 2495SS6 | 2961SS6 | |
| | | Disc | Reduced | 158 | 159 | 1229 | 159 | 160 | 158SS6 | 2493SS6 | 2585SS6 | 2493SS6 | 2494SS6 | |
| 58 | 1 | Ratio | Standard | 176SS6 | 177SS6 | 178 | 179 | 180 | 176SS6 | 177SS6 | 3076SS6 | 3078SS6 | 3079SS6 | |
| | | Plug | Reduced | 4932 | 4933 | 1228SS6 | 177SS6 | 178 | 4932SS6 | 4933SS6 | 1228SS6 | 177SS6 | 178 | |
| 59 | 1 | Rem. | Standard | ---- | 272K | 273K | 274K | 275K | ---- | 2496SS6K | 2497SS6K | 2498SS6K | 3075SS6K | |
| | | Seat | Reduced | ---- | 4934K | 1219DK | 1220DK | 1221K | ---- | 4934SS6K | 1219SS6K | 1220SSK | 1221SS6K | |
| 60 | 1 | Nut | Standard * | 172 | 173 | | 906 | 175 | 172SS6 | 173SS6 | | 174SS6 | 175SS6 | |
| | | Reduced * | 172 | | 173 | | 906 | 172SS6 | | 173SS6 | | 174SS6 | | |
| Repair Kits | | | RYD | RYG | RYK | RYO | RYR | ‡ Coated Parts available with "E" shell material | RYDS6 | RYGS6 | RYKS6 | RYOS6 | RYRS6 | |
| * These parts are recommended spare parts and are stocked as repair kits. | | | | | | | | | | | | | | |

PRESSURE REGULATORS



STEEL GAS PRESSURE REDUCING BALANCED MODEL RB PARTS DRAWING



All Pictures shown are for illustration purpose only. Actual product may vary due to product enhancement.



PRESSURE REGULATORS

**STEEL GAS PRESSURE REDUCING BALANCED
MODEL RB PARTS LIST**

| ITEM | QTY. | DESCRIPTION | PART NUMBER | | | | | | | | |
|---|-------|-----------------|----------------------|----------------------|----------------------|---------------------|-------------------------|----------|----------|-----------|----------|
| | | | STANDARD | | | | CORROSIVE | | | | |
| | | | 2 INCH | 3 INCH | 4 INCH | 6 INCH | 2 INCH | 3 INCH | 4 INCH | 6 INCH | |
| 1 | 1 | Body | 2468 | 2469 | 2470 | 2959 | 2468 ‡ | 2469 ‡ | 2470 ‡ | 2959 ‡ | |
| 2 | 1 | Nut | 173 | 906 | | 175 | 173SS6 | 174SS6 | | 175SS6 | |
| 3 | 1 | Gasket | 276 | 277 | 196 | 279 | 173SS6 | | 174SS6 | | |
| 4 | 6 | Eil | 875 (see note below) | | | | 875SS6 (see note below) | | | | |
| 5 | 2 | Back Up | 149T | 150T | 151T | 152T | 149T | 150T | 151T | 152T | |
| 6 | 1 | O-Ring | 5225 | 5226 | 5227 | 4086 | 5225 | 5226 | 5227 | 4086 | |
| 7 | 1 | Spacer | 4557DS6 | 4561DS6 | 4566DS6 | 4571DS6 | 4557DS6 | 4561DS6 | 4566DS6 | 4571DS6 | |
| 8 | 1 | Lower Housing | 2481 | 2482 | 2483 | 2957 | 2481 ‡ | 2482 ‡ | 2483 ‡ | 2957 ‡ | |
| 9 | 1 | Tubing | 2529SS6 | 2552SS6 | 2507SS6 | 4306SS6 | 2529SS6 | 2552SS6 | 2507SS6 | 4306SS6 | |
| 10 | 1 | Gasket | 196 | 197 | 198 | 199 | 196 | 197 | 198 | 199 | |
| 11 | 1 | Adapter | 7244 | | | ---- | 7244S6 | | | ---- | |
| 12 | 1 | Diaphragm | 1706 | 1640 | 2015 | 2140 | 1706 | 1640 | 2015 | 2140 | |
| 13 | (QTY) | Bolt | 965 (8) | 907(10) | 907 (12) | 2142 (16) | 965 (8) | 907(10) | 907 (12) | 2142 (16) | |
| 14 | 1 | Tubing | 4416S6 | 4305S6 | 4418S6 | 4251S6 | 4416S6 | 4305S6 | 4418S6 | 4251S6 | |
| 15 | 1 | Bonnet | 2487 | 2488 | 2489 | 2956 | 2487 ‡ | 2488 ‡ | 2489 ‡ | 2956 ‡ | |
| 16 | 1 | Nipple | 2516 | | | | 2516SS6 | | | | |
| 17 | 2 | Tee | 2000 | | | | 2000SS6 | | | | |
| 18 | 1 | Base | 2515 | | | | 2515 ‡ | | | | |
| 19 | 3 | Nipple | 648 | | | | 648SS6 | | | | |
| 20 | 2 | Connector | 874 | | | | 874SS6 | | | | |
| 21 | 1 | Pressure Gauge | 7707 | | | | 7707 | | | | |
| 22 | 1 | Gasket | 118 | | | | 118 | | | | |
| 23 | 2 | Pilot Housing | 2514 | | | | 2514 ‡ | | | | |
| 24 | 1 | Diaphragm Plate | 6525 | | | | 6525SS6 | | | | |
| 25 | 1 | Diaphragm Nut | 107 | | | | 107SS6 | | | | |
| 26 | 1 | Tubing | 4414S6 | 4050SS6 | 4666S6 | 4305S6 | 4414S6 | 4050SS6 | 4666S6 | 4305S6 | |
| 27 | 2 | Spring Guide | 2612 | | | | 2612SS6 | | | | |
| 28 | 1 | Pivot Screw | 6524 | | | | 6524SS6 | | | | |
| 29 | 1 | Packing Seal | 4488 | | | | 4488 | | | | |
| 30 | 1 | Adjusting Screw | 5163 | | | | 5163SS6 | | | | |
| 31 | 1 | Nut | 2377 | | | | 2377SS6 | | | | |
| 32 | 1 | Washer | 4491 | | | | 4491 | | | | |
| 33 | 1 | Bonnet | 2672 | | | | 2672 ‡ | | | | |
| 34 | 1 | Spring | 2611 | | | | 2611 | | | | |
| 35 | 2 | Lifting Ring | 7559 | | | ---- | 7559 | | | ---- | |
| 36 | 4 | Bolt | 4298 | | | | 4298 | | | | |
| 37 | 1 | Gasket | 276 | | | | 276 | | | | |
| 38 | 1 | Spacer | 2021 | | | | 2021 | | | | |
| 39 | 1 | Diaphragm | 6520 | | | | 6520 | | | | |
| 40 | 1 | Diaphragm | 5259P | | | | 5259P | | | | |
| 41 | 1 | Breather Plug | 147 | | | | 147SS6 | | | | |
| 42 | 1 | Spacer Ring | 7437 | | | | 7437 | | | | |
| 43 | 1 | Pilot Seat | 113 | | | | 113SS6 | | | | |
| 44 | 2 | Plug | 699 | | | | 699SS6 | | | | |
| 45 | 1 | Diaphragm | 110 | | | | 110 | | | | |
| 46 | 1 | Pilot Seat | 565 | | | | 565SS6 | | | | |
| 47 | 1 | Pilot Plug | 112 | | | | 112 | | | | |
| 48 | 1 | 1/4 F30 Filter | YAS | | | | YASS6 | | | | |
| 49 | 4 | Nut | 241 | | | | 241 | | | | |
| 50 | 1 | Spring | 108 | | | | 108HAC | | | | |
| 51 | 1 | Tubing | 2505SS6 | 4011SS6 | 2510SS6 | 5061SS6 | 2505SS6 | 4011SS6 | 2510SS6 | 5061SS6 | |
| 52 | 1 | Diaphragm Plate | 2490 | 2491 | 2492 | 2958 | 2490SS6 | 2491SS6 | 2492SS6 | 2958SS6 | |
| 53 | 1 | Spring | 1388 | 7132 | 1529 | 1575 | 1388 | 7132 | 1529 | 1575 | |
| 54 | 1 | O-Ring | 154 | 807 | 156 | 157 | 154 | 807 | 156 | 157 | |
| 55 | 1 | Retainer | 4557ES6 | 4561ES6 | 4566ES6 | 4571ES6 | 4557ES6 | 4561ES6 | 4566ES6 | 4571ES6 | |
| 56 | 1 | Valve Stem | Standard Reduced | 138 1222SS6 | 139 1223SS6 | 140 1223SS6 | 141 1224SS6 | 138SS6 | 139SS6 | 140SS6 | 141SS6 |
| 57 | 1 | Seat Disc | Standard Reduced | 2493SS6 2493SS6 | 2494SS6 2585SS6 | 2495SS6 2493SS6 | 2961SS6 2494SS6 | 2493SS6 | 2494SS6 | 2495SS6 | 2961SS6 |
| 58 | 1 | Seat | Standard Reduced | 164HSN 164HSN | 165HSN 1230HSN | 166HSN 164HSN | 167HSN 165HSN | 164HSN | 165HSN | 166HSN | 167HSN |
| 59 | 1 | Ratio Plug | Standard Reduced | 177SS6 4933 | 178 1228SS6 | 179 177SS6 | 3079SS6 178 | 177SS6 | 3076SS6 | 3078SS6 | 3079SS6 |
| 60 | 1 | Removable Seat | Standard Reduced | 2496SS6K 4934SS6K | 2497SS6K 1219SS6K | 2498SS6K 1220SSK | 3075SS6K 1221SS6K | 2496SS6K | 2497SS6K | 2498SS6K | 3075SS6K |
| ‡ Coated Parts available with "E" shell material | | | | | | | | | | | |
| Repair Kits | | | RYG | RYK | RYO | RYR | RYGS6 | RYKS6 | RYOS6 | RYRS6 | |
| * These parts are recommended spare parts and are stocked as repair kits. | | | | | | | | | | | |
| NOTE: 6 inch Lower Housing uses (1) 874, (1) 1481, & (1) 648 instead of 875 | | | | | | | | | | | |

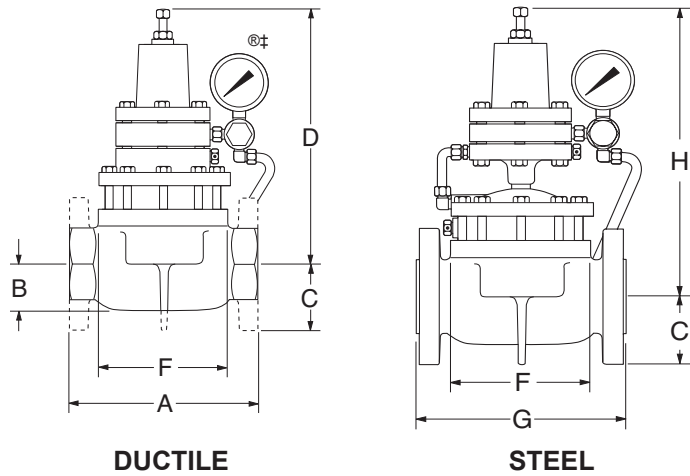
| Table 1 - Flow Coefficient(Cv) at % stem travel for Pilot-operated Regulators | | | | | | | | | | | |
|--|-------------|--------------------------|------|------|-------|-------|-------|-------|-------|-------|-------|
| 1" Pressure Regulator | | | | | | | | | | | |
| Trim Size in.(mm) | Cf | Valve Opening Percentage | | | | | | | | | |
| | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 1/2 in (12mm) Reduced | 0.75 | 0.4 | 0.7 | 0.9 | 1.3 | 1.8 | 2.5 | 3.2 | 3.9 | 4.5 | 5 |
| 1 in (25mm) Full Port | 0.74 | 1.1 | 1.8 | 2.4 | 3.4 | 4.8 | 6.6 | 8.5 | 10.2 | 11.9 | 13.2 |
| 2" Pressure Regulator | | | | | | | | | | | |
| Trim Size in. (mm) | Cf | Valve Opening Percentage | | | | | | | | | |
| | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 1 1/4 in (31 mm) Reduced | 0.75 | 1.8 | 2.8 | 3.9 | 5.4 | 7.7 | 10.5 | 13.6 | 16.2 | 19.0 | 21.0 |
| 2 in Removable Full Port * | 0.84 | 4.0 | 6.2 | 8.6 | 12.1 | 17.2 | 23.5 | 30.4 | 36.3 | 42.5 | 47.0 |
| 2 in (50 mm) Full Port * | 0.75 | 4.4 | 6.9 | 9.5 | 13.4 | 19.1 | 26.0 | 33.6 | 40.2 | 47.0 | 52.0 |
| 3" Pressure Regulator | | | | | | | | | | | |
| Trim Size in. (mm) | Cf | Valve Opening Percentage | | | | | | | | | |
| | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 1 5/8 in (66 mm) Reduced | 0.82 | 2.9 | 4.5 | 6.2 | 8.8 | 12.5 | 17.0 | 22.0 | 26.3 | 30.7 | 34.0 |
| 3 in (76 mm) Full Port | 0.75 | 9.9 | 15.6 | 21.5 | 30.2 | 42.9 | 58.6 | 75.7 | 90.4 | 105.7 | 117.0 |
| 4" Pressure Regulator | | | | | | | | | | | |
| Trim Size in. (mm) | Cf | Valve Opening Percentage | | | | | | | | | |
| | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 2 in (50 mm) Reduced | 0.80 | 4.7 | 7.3 | 10.1 | 14.2 | 20.2 | 27.5 | 35.6 | 42.5 | 49.7 | 55.0 |
| 4 in (100 mm) Full Port | 0.75 | 17.8 | 27.9 | 38.6 | 54.2 | 77.0 | 105.2 | 135.9 | 162.2 | 189.8 | 210.0 |
| 6" Pressure Regulator | | | | | | | | | | | |
| Trim Size in. (mm) | Cf | Valve Opening Percentage | | | | | | | | | |
| | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 3 in (76 mm) Reduced | 0.80 | 10.2 | 16.0 | 22.0 | 30.9 | 44.0 | 60.1 | 77.7 | 92.7 | 108.4 | 120.0 |
| 6 in (152 mm) Full Port | 0.75 | 40.6 | 63.8 | 88.1 | 123.8 | 176.0 | 240.4 | 310.6 | 370.7 | 433.7 | 480.0 |

Kimray flow equations conform to ANSI/ISA - 75.01.01-2002
 Kimray inherent flow characteristics conform to ANSI/ISA 75.11.01 -1985

PRESSURE REGULATORS

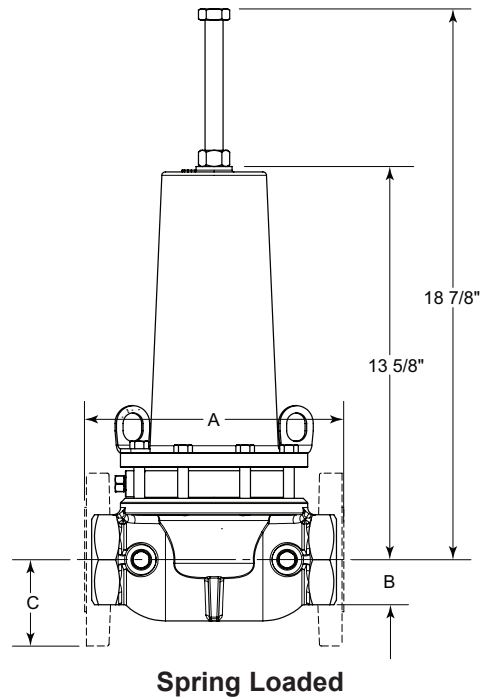
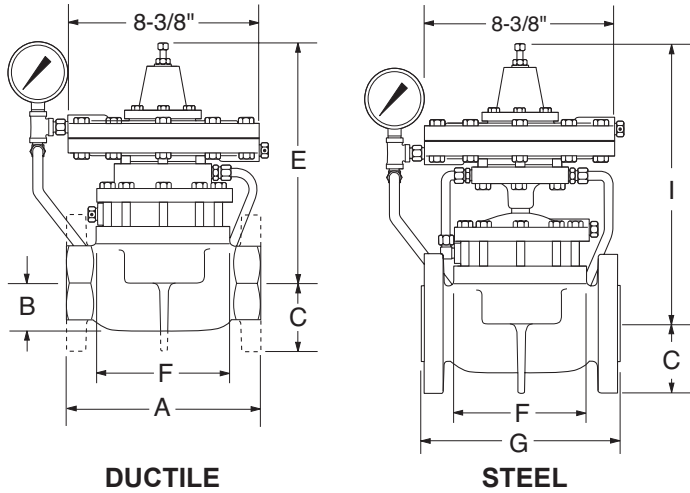


DIMENSIONS



- Back Pressure
- Back Pressure Vacuum
- Liquid Back Pressure
- Pressure Reducing
- Pressure Reducing Vacuum
- Pressure Reducing-Balanced
- Pressure Differential

- Low Pressure Back Pressure
- Ounces Back Pressure To Vacuum
- Ounces Pressure Reducing
- Ounces Pressure Reducing Vacuum
- Vacuum Back Pressure To Vacuum



| LINE SIZE | BODY SIZE | A | B | C | D* | E | F | G | H* | I |
|-----------|-----------|-----------|---------|--------|---------|----------|---------|-----------|---------|-----------|
| 1" | NPT | 4 3/8" | 1 1/8" | | 7 1/2" | 11 5/8" | 3 1/4" | | | |
| | FLANGED | 7 1/4" | 1 1/8" | 2 1/8" | 7 1/2" | 11 5/8" | 3 1/4" | | | |
| 2" | NPT | 8 1/2" | 2 1/8" | | 11 1/2" | 10 1/2" | 6 1/2" | | | |
| | FLANGED | 9" | | 3" | 11 1/2" | 10 1/2" | 6 1/2" | 9 1/8" | 14 1/2" | 14" |
| | GROOVED | 8 3/4" | 2 1/8" | | 11 1/2" | 10 1/2" | 6 1/2" | | | |
| 250 S/FGT | NPT | | | | | | | 10 1/2" | | |
| | FLANGED | | | | | | | 10 3/8" | | |
| 3" | NPT | 12 1/16" | 3 1/16" | | 13" | 12" | 8 1/2" | | | |
| | FLANGED | 12 3/16" | | 3 3/4" | 13" | 12" | 8 1/2" | 12 3/8" | 16 1/2" | 15 1/2" |
| 4" | NPT | 15" 1/16" | 4" | | 14 1/2" | 13 3/16" | 10 1/2" | | | |
| | FLANGED | 15 1/16" | | 4 1/2" | 14 1/2" | 13 3/16" | 10 1/2" | 15 1/16" | 18 1/2" | 16 11/16" |
| 6" | FLANGED | 22" | | 5 1/2" | 17" | 17 7/8" | 16" | 21 15/16" | 20 1/2" | 18 3/8" |

FLANGE DIMENSIONS ARE ANSI 125/150 STANDARD. *Add 7/8" to Pressure Reducing Balanced and Up Stream Differential Pressure Regulators for this dimension.

All Pictures shown are for illustration purpose only. Actual product may vary due to product enhancement.
 ‡ Configuration of Back Pressure Control Valve is a trademark of Kimray, Inc.

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| Table 2 - Seal Options | | |
|------------------------|-------------------|-------------------|
| Part | Standard Material | Optional Material |
| Seat | HSN | FKM, AFLAS® |
| O-rings | Nitrile | HSN, FKM, AFLAS® |
| All Diaphragms | Nitrile | HSN, FKM, AFLAS® |

| Table 3 - Seal Specifications | | | | |
|--|------------------|--------------------------|----------------|----------------|
| | NITRILE | HIGHLY SATURATED NITRILE | FKM | AFLAS® |
| Kimray Suffix | - | HSN | V | AF |
| Resistance | Abrasion | G | G-E | G |
| | Acid | F | G-E | E |
| | Chemical | F | F | E |
| | Cold | G | G | P |
| | Flame | P | P | E |
| | Heat | G | E | E |
| | Oil | G-E | E | E |
| | Ozone | P | G | G-E |
| | Set | G | G | G-E |
| | Tear | F | F | F |
| | Water/Steam | F | E | P |
| | Weather | F | G | E |
| | CO2 | F-G | G | G |
| | H2S | P | F | P |
| | Methanol | F | E | P |
| Properties | Dynamic | G | G | G |
| | Electrical | F | F | G-E |
| | Impermeability | G | G | G |
| | Tensile Strength | G | G-E | G |
| Temp. Range | -20° to +250°F | -20° to +300°F | -15° to +400°F | +15° to +450°F |
| | -29° to +121°C | -29° to +149°C | -26° to +204°C | -9° to +232°C |
| RATINGS: P-POOR, F-FAIR, G-GOOD, E-EXCELLENT | | | | |

Table 4 - Material Options

| Part Description | Valve Size | Standard Material | Corrosive Material |
|------------------|-------------------------|--------------------------------|-------------------------------|
| Ratio Plug | 1" & 2" | 316 Powdered Metal SS-316NI-25 | |
| | 1" & 2" Reduced Trim | Alloy Steel (ASTM A108) | 316SS (ASTM A479) |
| | 3" | Powdered Metal F-008 | 316SS (ASTM A479) |
| | 4" & 6" | Ductile (ASTM A395) | 316SS (ASTM A479) |
| Seat Disc | 1" | Powdered Metal F-008 | 316SS (ASTM A479) |
| | 2", 3" & 4" | Ductile (ASTM A395) | 316SS (ASTM A351 CF8M) |
| | 6" | Ductile (ASTM A395) | 316SS (ASTM A 240) |
| Stem | 1" thru 6" | 303SS (ASTM A582) | 316SS (ASTM A479) |
| Body | 1" thru 6" | Ductile (ASTM A395) | Ductile (ASTM A395) + Kimcoat |
| | 2" thru 6" | WCB (ASTM A216) | WCB (ASTM A216) + Kimcoat |
| Tubing | 1" thru 6" | 304SS (ASTM A249) | 316SS (ASTM A213) |
| Removable Seat | 2" thru 6" Ductile Body | Ductile (ASTM A395) | 316SS (ASTM A351 CF8M) |
| | 2" thru 6" Steel Body | 316SS (ASTM A351 CF8M) | |

PRESSURE REGULATORS



CODE BUILDER STANDARD PRESSURE R SERIES

Series:

R = Pressure Regulator

Model: _____

Line Size:

- 1 = 1 NPS
- 2 = 2 NPS**
- 3 = 3 NPS
- 4 = 4 NPS
- 6 = 6 NPS

End Connection:

- SA = FNPT**
- AR = 150RF Flange
- GV = Grooved (2 NPS only)

Shell Material:

- D = Ductile Iron**
- E = Ductile Iron w/Coating**
- W = Steel (WCB)
- X = Steel (WCB) w/Coating

Inner Valve Size:

- F = Full Port**
- R = Reduced Port

Control Range:

- 1 = **10 - 300 psig Spring**

Service Type:

- S = Standard**
- C = Corrosive

- BP = Back Pressure**
- BN = Back Pressure Non - Vent
- BV = Back Pressure Vacuum
- FB = Back Pressure Outside Supply
- PR = Pressure Reducing
- RN = Pressure Reducing Non - Vent
- FR = Pressure Reducing Outside Supply
- RB = Pressure Reducing Balanced
- PN = Pressure Reducing Balanced Non - Vent
- DP = Differential Pressure
- PA = Pneumatically Adjusted

R BP 2 SA D F 1 S

Options: Additional cost and lead times will apply
If multiple options required input in sequential order
Leave blank if no options required

- 1 = NACE Certification (Corrosive Option Only)
- 2 = Hydrostatic Test Certification
- 3 = MTR (Shell Components)
- A = AFLAS Elastomers
- H = HSN Elastomers
- V = FKM Elastomers
- X = Export (Hydrostatic test, MTR & 3.1)

Not all selections available on all products listed.
See the following product pages for available options
06:10.1 - 06:10.7, 06:20.1 - 06:20.5,
06:30.1 - 06:30.3, 06:40.1 - 06:40.5,
06:50.1 - 06:50.7, 06:60.1 - 06:60.5,
06:70.1 - 06:70.5, 06:80.1 - 06:80.5,