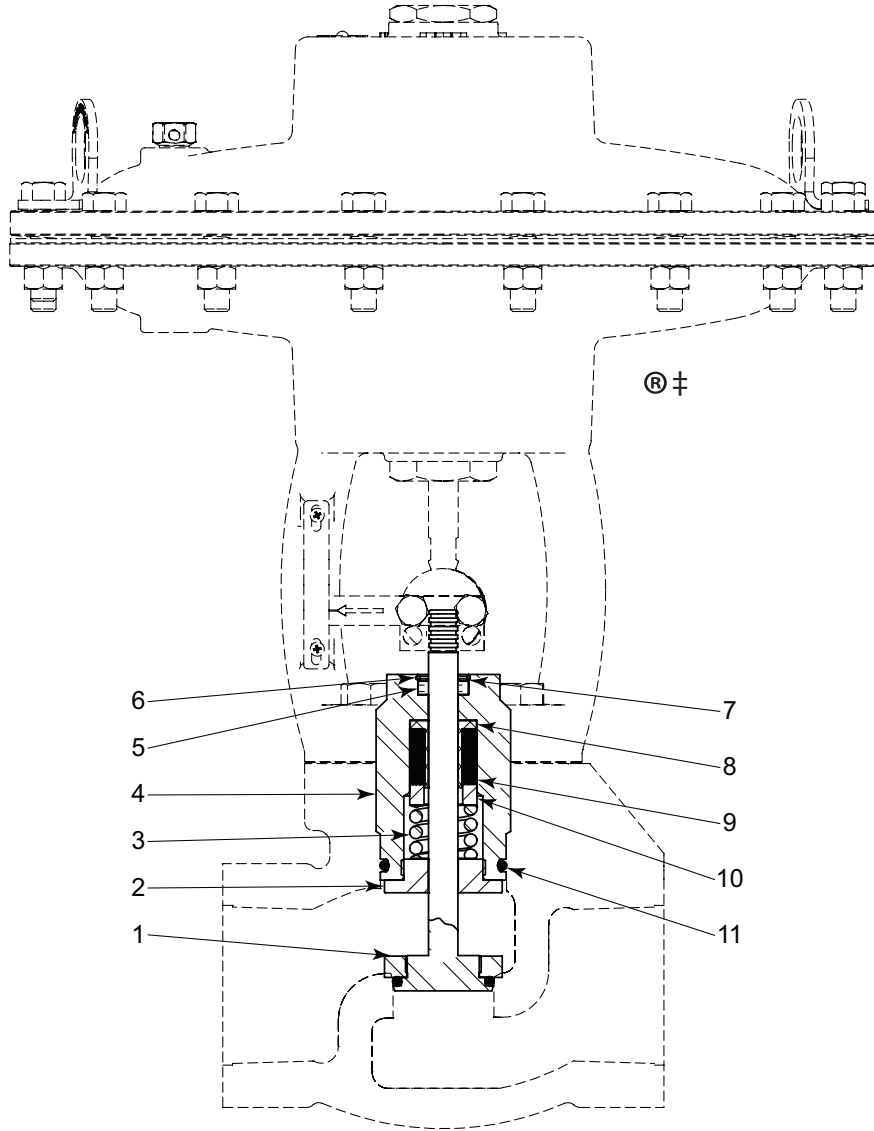


NOTES:



1" & 2" HPCV OVERSIZED SOFT SEATS STUFFING BOX ASSEMBLY PARTS DRAWING

For increased flow at low operating pressure. Maximum pressure drop is 300 psig For on - off service only.
 Uses standard valve body
 Teflon seal



| ITEM | QTY. | DESCRIPTION | PART NO. | | | |
|-------------------------|-------|------------------|----------|---------|-----------|---------|
| | | | STANDARD | | CORROSIVE | |
| | | | 1 INCH | 2 INCH | 1 INCH | 2 INCH |
| 1 | 1 | Soft Seat | 2137 | 2136 | 2137SS6 | 2136SS6 |
| 2 | 1 | Nut | 1828 | 1829 | 1828SS6 | 1829SS6 |
| 3 | 1 | Spring | 465 | 509 | 465HAC | 509HAC |
| 4 | 1 | Stuffing Box | 479 | 526 | 479SS6 | 526SS6 |
| 5 | 1 | Felt Wiper * | 480 | 527 | 480 | 527 |
| 6 | 1 | Snap Ring * | 938 | 940 | 938 | 940 |
| 7 | 1 | Retainer | 486 | 528 | 486 | 528 |
| 8 | 1 | Packing Sleeve * | 485 | 534 | 485 | 534 |
| 9 | (QTY) | Packing Ring * | 484 (4) | 533 (6) | 484 (4) | 533 (6) |
| 10 | 1 | Packing Follower | 482SS6 | 531SS6 | 482SS6 | 531SS6 |
| 11 | 1 | O-Ring * | 156 | 520 | 156 | 520 |
| Repair Kits | | | RFA | RFE | RFA | RFE |
| Stuffing Box Assemblies | | | EAX | EBZ | EAXSS6 | EBZSS6 |

* These parts are recommended spare parts and are stocked as repair kits.

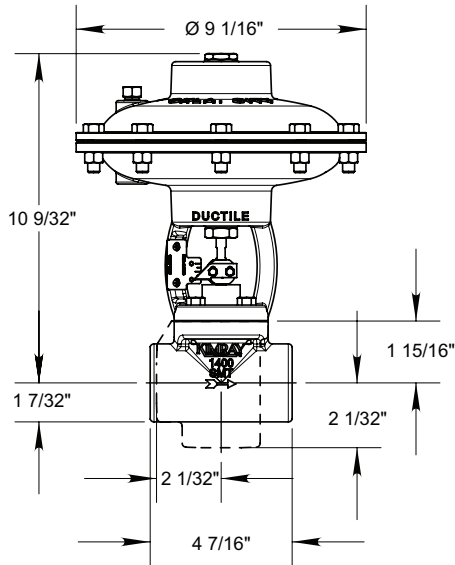
| Table 1 - Flow Coefficient(Cv) | | | | | | | | | | | | | |
|--------------------------------|--------------------|-------------------------|------|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Line Size | Trim Size in. (mm) | Trim Type | Cf | Valve Opening Percentage | | | | | | | | | |
| | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| Stem Guided | | | | | | | | | | | | | |
| 1" | 1/8 in (3.17 mm) | Linear (Nominal) | 0.58 | 0.10 | 0.40 | 0.50 | 0.70 | 0.90 | 1.00 | 1.00 | 1.00 | 1.10 | 1.10 |
| | 3/16 in (4.74 mm) | | 0.59 | 0.20 | 0.50 | 0.77 | 1.00 | 1.30 | 1.40 | 1.50 | 1.50 | 1.50 | 1.50 |
| | 1/4 in (6.35 mm) | | 0.78 | 0.28 | 0.72 | 1.11 | 1.50 | 1.80 | 1.95 | 2.08 | 2.13 | 2.15 | 2.17 |
| | 3/8 in (9.52 mm) | | 0.91 | 0.40 | 1.10 | 1.60 | 2.20 | 2.70 | 2.90 | 3.10 | 3.20 | 3.20 | 3.20 |
| | 1/2 in (12.7 mm) | | 0.94 | 0.70 | 1.90 | 2.90 | 4.00 | 4.80 | 5.20 | 5.50 | 5.60 | 5.70 | 5.70 |
| 2" | 1/4 in (6.35 mm) | | 0.55 | 0.40 | 1.00 | 1.50 | 2.00 | 2.50 | 2.70 | 2.80 | 2.90 | 2.90 | 3.00 |
| | 3/8 in (9.52 mm) | | 0.77 | 0.53 | 1.33 | 2.06 | 2.80 | 3.40 | 3.60 | 3.90 | 4.00 | 4.00 | 4.00 |
| | 1/2 in (12.7 mm) | | 0.78 | 0.94 | 2.38 | 3.67 | 4.97 | 5.98 | 6.48 | 6.91 | 7.06 | 7.13 | 7.20 |
| | 3/4 in (19.0 mm) | | 0.80 | 1.60 | 4.00 | 6.20 | 8.40 | 10.10 | 11.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| 1 in (25.4 mm) | 0.77 | | 2.80 | 7.00 | 11.00 | 15.00 | 18.00 | 19.00 | 20.00 | 21.00 | 21.00 | 21.00 | 21.00 |
| 1" | 1/8 in (3.17 mm) | Quick Opening (Carbide) | 0.73 | 0.39 | 0.40 | 0.40 | 0.40 | 0.40 | 0.40 | 0.40 | 0.40 | 0.40 | 0.40 |
| | 3/16 in (4.74 mm) | | 0.74 | 0.77 | 0.90 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| | 1/4 in (6.35 mm) | | 0.68 | 0.88 | 1.51 | 1.67 | 1.71 | 1.73 | 1.73 | 1.74 | 1.74 | 1.74 | 1.74 |
| | 3/8 in (9.52 mm) | | 0.74 | 1.02 | 2.40 | 3.36 | 3.64 | 3.73 | 3.78 | 3.82 | 3.83 | 3.83 | 3.86 |
| | 1/2 in (12.7 mm) | | 0.90 | 1.09 | 2.46 | 4.17 | 5.03 | 5.27 | 5.45 | 5.60 | 5.72 | 5.85 | 5.93 |
| 2" | 1/4 in (6.35 mm) | | 0.65 | 1.23 | 1.82 | 1.87 | 1.87 | 1.87 | 1.87 | 1.87 | 1.87 | 1.87 | 1.87 |
| | 3/8 in (9.52 mm) | | 0.76 | 1.65 | 3.41 | 3.77 | 3.83 | 3.84 | 3.84 | 3.84 | 3.84 | 3.84 | 3.84 |
| | 1/2 in (12.7 mm) | | 0.80 | 2.26 | 4.35 | 5.87 | 6.36 | 6.51 | 6.58 | 6.61 | 6.63 | 6.63 | 6.63 |
| | 3/4 in (19.0 mm) | | 0.78 | 2.16 | 4.61 | 7.23 | 9.19 | 10.2 | 10.6 | 10.9 | 10.9 | 10.9 | 10.9 |
| 1 in (25.4 mm) | 0.70 | | 2.54 | 5.58 | 9.30 | 12.3 | 14.2 | 15.1 | 15.5 | 15.6 | 15.6 | 15.6 | |
| 1" | 1/8 in (3.17 mm) | Equal Percentage | 0.73 | 0.01 | 0.02 | 0.03 | 0.04 | 0.06 | 0.09 | 0.15 | 0.26 | 0.32 | 0.34 |
| | 1/4 in (6.35 mm) | | 0.66 | 0.05 | 0.10 | 0.14 | 0.19 | 0.29 | 0.58 | 0.93 | 1.27 | 1.63 | 1.99 |
| | 1/2 in (12.7 mm) | | 0.78 | 0.16 | 0.32 | 0.47 | 0.60 | 0.93 | 1.74 | 2.99 | 4.41 | 5.65 | 6.49 |
| 2" | 1/4 in (6.35 mm) | | 0.65 | 0.10 | 0.14 | 0.19 | 0.23 | 0.27 | 0.55 | 0.82 | 1.12 | 1.62 | 1.72 |
| | 7/16 in (11.1 mm) | | 0.60 | 0.10 | 0.30 | 0.50 | 0.70 | 1.00 | 1.50 | 2.60 | 3.80 | 4.80 | 5.40 |
| | 5/8 in (15.8 mm) | | 0.58 | 0.30 | 0.50 | 0.90 | 1.10 | 1.40 | 2.30 | 3.90 | 6.40 | 8.70 | 10.80 |
| 7/8 in (22.2 mm) | 0.66 | 0.40 | 0.90 | 1.57 | 2.10 | 3.00 | 4.20 | 6.30 | 9.60 | 13.00 | 17.00 | | |
| Cage Guided | | | | | | | | | | | | | |
| 2" | 1 1/2 in (38mm) | Equal Percentage | 0.75 | 0.60 | 1.30 | 2.20 | 3.40 | 5.00 | 8.60 | 14.0 | 21.0 | 26.0 | 28.6 |
| | 2 in (51 mm) | | 0.76 | 2.00 | 4.00 | 6.00 | 8.00 | 11.0 | 20.0 | 33.0 | 45.0 | 51.0 | 57.0 |
| 3" | 2 in (51 mm) | | 0.75 | 2.90 | 4.90 | 7.40 | 9.50 | 12.0 | 17.4 | 28.9 | 40.8 | 48.1 | 52.6 |
| | 3 in (76 mm) | | 0.76 | 4.00 | 6.00 | 10.0 | 13.0 | 16.0 | 26.0 | 54.0 | 83.0 | 97.0 | 107 |
| 4" | 3 in (76 mm) | | 0.75 | 4.00 | 6.00 | 9.00 | 12.0 | 16.0 | 25.0 | 52.0 | 81.0 | 95.0 | 115 |
| | 4 in (102 mm) | | 0.75 | 9.00 | 13.0 | 18.0 | 26.0 | 36.0 | 64.0 | 104 | 148 | 197 | 222 |
| 6" | 4 in (102 mm) | | 0.75 | 9.00 | 13.0 | 18.0 | 26.0 | 36.0 | 64.0 | 104 | 148 | 197 | 222 |
| | 6 in (152 mm) | | 0.75 | 7.00 | 20.0 | 45.0 | 78.0 | 108 | 140 | 222 | 318 | 399 | 431 |
| 8" | 6 in (152 mm) | | 0.75 | 47.0 | 60.0 | 90.0 | 106 | 119 | 139 | 173 | 243 | 294 | 453 |
| | 8 in (203 mm) | | 0.75 | 51.0 | 53.0 | 235 | 362 | 485 | 584 | 665 | 699 | 745 | 810 |
| 10" | 6 in (152 mm) | 0.75 | 26.0 | 37.0 | 46.0 | 53.0 | 56.0 | 58.0 | 104 | 146 | 655 | 655 | |
| | 8.5 in (216 mm) | 0.75 | 28.0 | 72.0 | 420 | 509 | 632 | 678 | 769 | 814 | 832 | 1091 | |
| 8" | 8 in (203 mm) | Modified E.P. | 0.75 | 51.0 | 55.0 | 64.0 | 134 | 162 | 330 | 452 | 527 | 571 | 630 |
| 10" | 8.5 in (216 mm) | | 0.75 | 21.0 | 22.0 | 27.0 | 103 | 209 | 429 | 596 | 663 | 695 | 884 |
| 2" | 2 in (51 mm) | Quick Open | 0.76 | 0.80 | 1.50 | 6.10 | 13.0 | 20.2 | 27.6 | 35.6 | 42.4 | 48.8 | 53.0 |
| 3" | 3 in (76 mm) | | 0.76 | 5.10 | 21.3 | 42.4 | 63.8 | 83.0 | 97.7 | 105 | 111 | 113 | 115 |
| 4" | 4 in (102 mm) | | 0.75 | 8.20 | 43.8 | 80.0 | 119 | 170 | 211 | 237 | 247 | 252 | 253 |

HIGH PRESSURE CONTROL VALVES

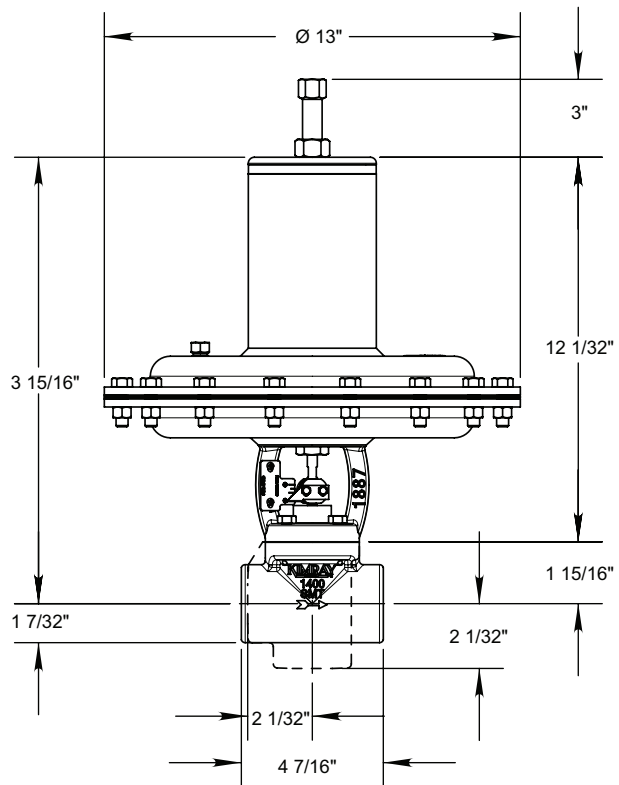


DIMENSIONS 1" MODEL CVS

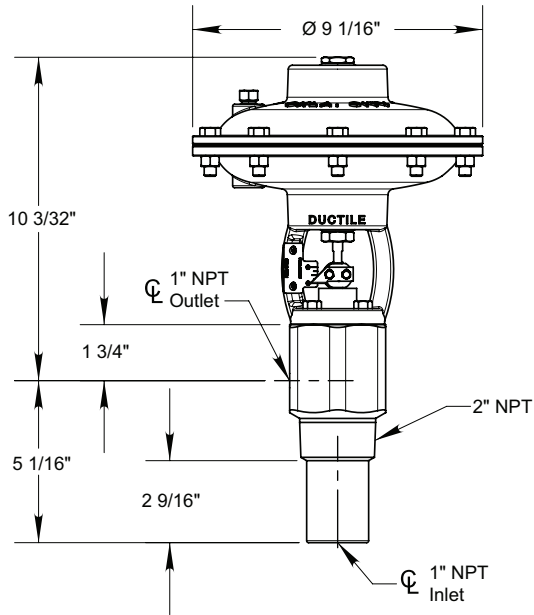
1" HPCV



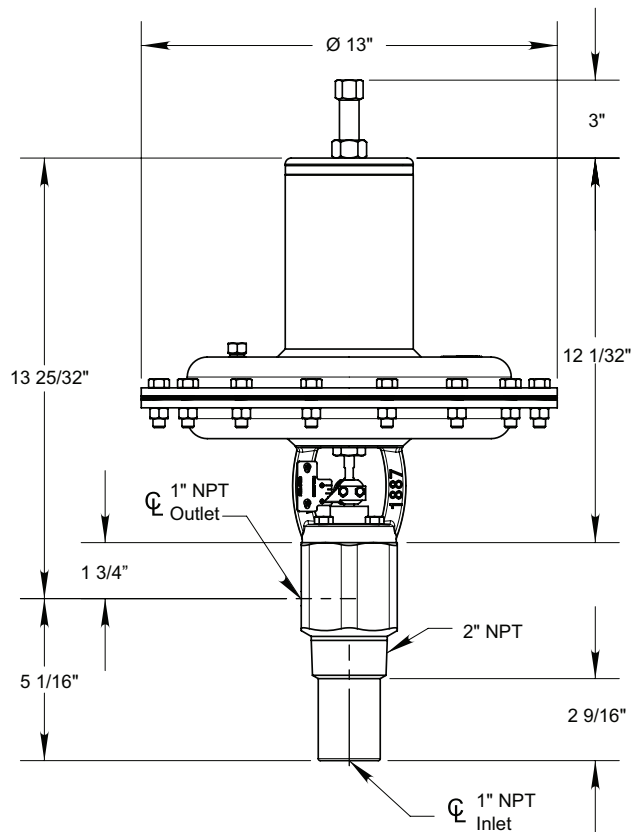
1" HPCV -65 TOPWORKS



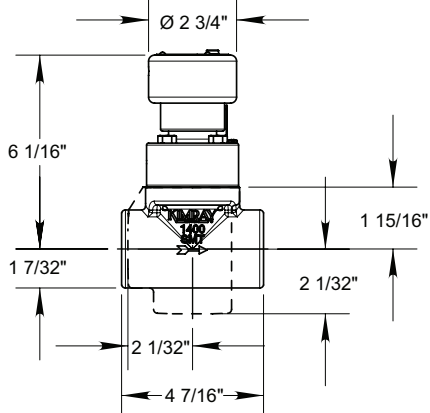
1" SMS



1" SMS -65 TOPWORKS

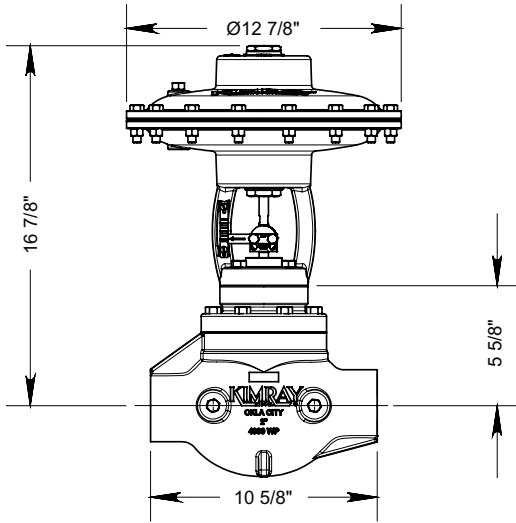


1" SMVA/T

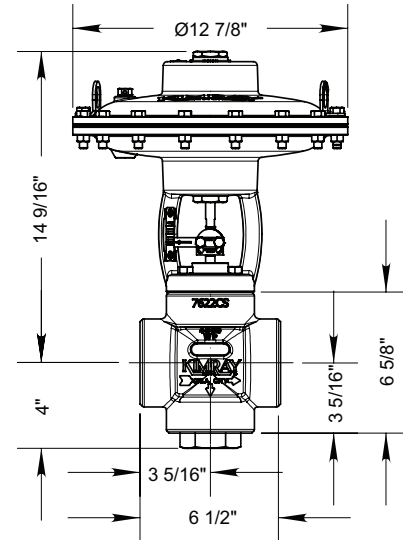


All Pictures shown are for illustration purpose only. Actual product may vary due to product enhancement.

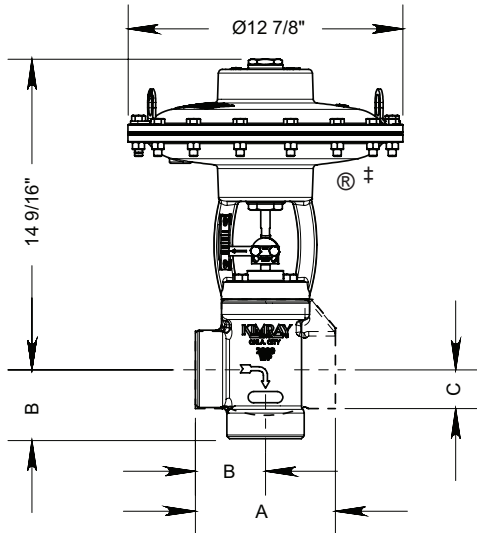
2" HPCV PB



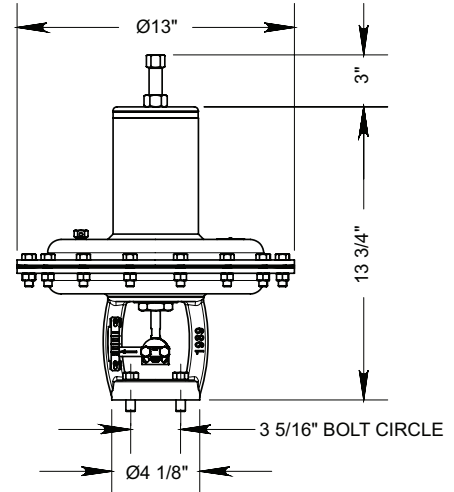
2" SMD



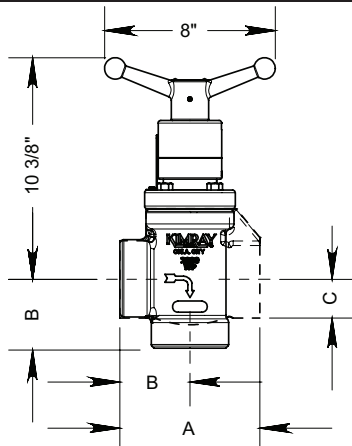
2" HPCV



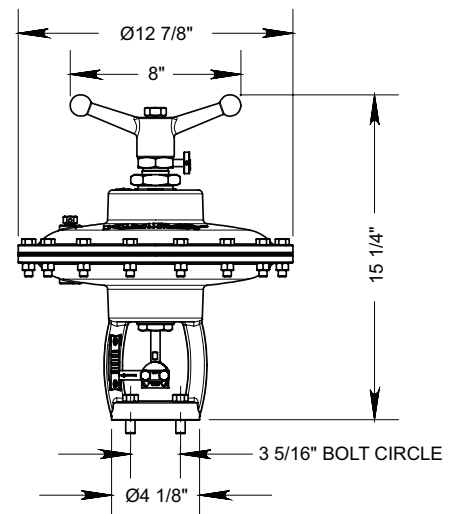
2" -65 TOPWORKS



2" SMVA/T TOPWORKS



2" MVP TOPWORKS



| MODEL NO. | A | B | C |
|-----------|---------|---------|----------|
| 2200 | 6 9/16" | 3 9/32" | 1 13/16" |
| 2400 | 6 9/16" | 3 9/32" | 2 1/16" |

All dimensions are in inches
Flanged body dimensions available on request.

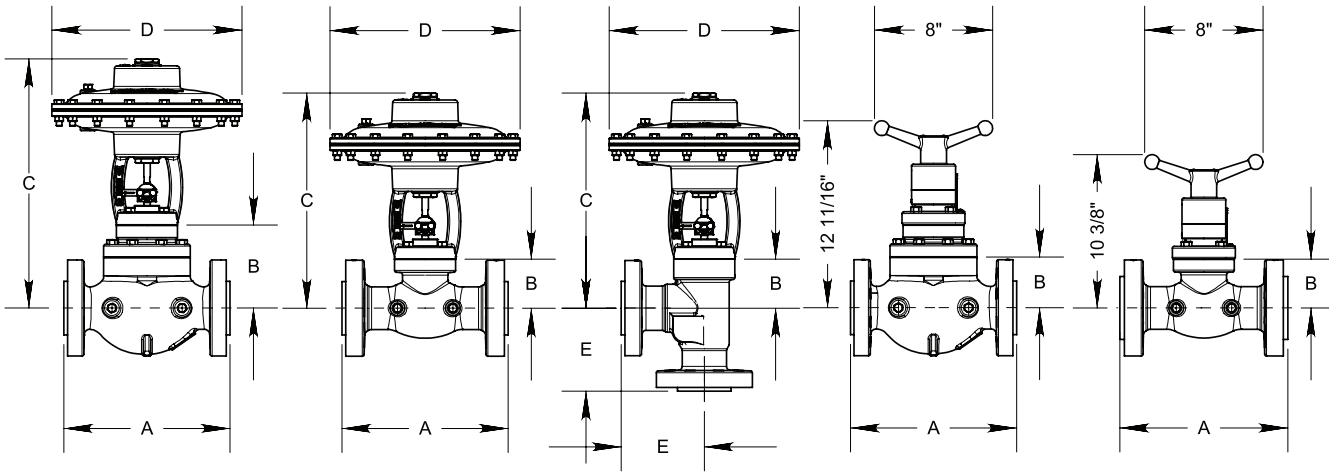
All Pictures shown are for illustration purpose only. Actual product may vary due to product enhancement.
‡ Configuration of High Pressure Control Valve is a trademark of Kimray, Inc.
www.kimray.com

HIGH PRESSURE CONTROL VALVES



DIMENSIONS

FLANGED BODY MODEL CVS & CVC



| | SIZE | BODY STYLE | A | B | C | D | E |
|-----------------|---------|------------|----------|----------|---------|----------|----------|
| STEM GUIDED | 1" | 150RF | 7 1/4" | 1 15/16" | 10 1/2" | 9 1/8" | |
| | | 150RTJ | 7 5/8" | 1 15/16" | 10 1/2" | 9 1/8" | |
| | | 300RF | 7 3/4" | 1 15/16" | 10 1/2" | 9 1/8" | |
| | | 300RTJ | 8 1/8" | 1 15/16" | 10 1/2" | 9 1/8" | |
| | | 600RF | 8 1/4" | 1 15/16" | 10 1/2" | 9 1/8" | |
| | | 600RTJ | 8 1/4" | 1 15/16" | 10 1/2" | 9 1/8" | |
| | | 1500RF | 10 3/4" | 1 15/16" | 10 1/2" | 9 1/8" | |
| | 1500RTJ | 10 3/4" | 1 15/16" | 10 1/2" | 9 1/8" | | |
| | 2" | 150RF | 10" | 3 3/16" | 14 1/2" | 12 7/8" | 5" |
| | | 150RTJ | 10 3/8" | 3 3/16" | 14 1/2" | 12 7/8" | 5" |
| | | 300RF | 10 1/2" | 3 3/16" | 14 1/2" | 12 7/8" | 5 1/2" |
| | | 300RTJ | 11" | 3 3/16" | 14 1/2" | 12 7/8" | 5 1/4" |
| | | 600RF | 11 1/4" | 3 3/16" | 14 1/2" | 12 7/8" | 5 5/8" |
| | | 600RTJ | 11 3/8" | 3 3/16" | 14 1/2" | 12 7/8" | 5 5/8" |
| | | 1500RF | 13 3/8" | 3 3/16" | 14 1/2" | 12 7/8" | 7 13/32" |
| | 1500RTJ | 13 1/2" | 3 3/16" | 14 1/2" | 12 7/8" | 7 13/32" | |
| | 2500RTJ | 16 3/8" | 3 3/16" | 14 1/2" | 12 7/8" | | |
| 2-1/16 API 5000 | 14 3/4" | 4 1/4" | 14 1/2" | 12 7/8" | 7 3/8" | | |
| CAGE GUIDED | 2" | 150RF | 10" | 5 5/8" | 17" | 12 7/8" | |
| | | 300RF | 10 1/2" | 5 5/8" | 17" | 12 7/8" | |
| | | 600RF | 11 1/4" | 5 5/8" | 17" | 12 7/8" | |
| | | 1500RF | 13 3/8" | 5 5/8" | 17" | 12 7/8" | |
| | | 1500RTJ | 13 1/2" | 5 5/8" | 17" | 12 7/8" | |
| | 3" | 150RF | 11 3/4" | 7 1/4" | 27" | 15 3/4" | |
| | | 300RF | 12 1/2" | 7 1/4" | 27" | 15 3/4" | |
| | | 600RF | 13 1/4" | 7 1/4" | 27" | 15 3/4" | |
| | | 600RTJ | 13 3/8" | 7 1/4" | 27" | 15 3/4" | |
| | 4" | 150RF | 13 7/8" | 11" | 30" | 15 3/4" | |
| | | 300RF | 14 1/2" | 11" | 30" | 15 3/4" | |
| | | 600RF | 15 1/2" | 11" | 30" | 15 3/4" | |
| | 6" | 150RF | 17 3/4" | 11 3/16" | 34 1/2" | 20 7/16" | |
| | | 300RF | 18 5/8" | 11 3/16" | 34 1/2" | 20 7/16" | |
| | | 600RF | 20 1/16" | 11 3/16" | 34 1/2" | 20 7/16" | |
| | 8" | 150RF | 21 3/8" | 11 5/16" | 34 1/2" | 20 1/2" | |
| | | 300RF | 22 3/8" | 11 5/16" | 34 1/2" | 20 1/2" | |
| 600RF | | 24" | 11 5/16" | 34 1/2" | 20 1/2" | | |
| 10" | 150RF | 26 1/2" | 11 5/16" | 34 1/2" | 20 1/2" | | |
| | 300RF | 27 7/8" | 11 5/16" | 34 1/2" | 20 1/2" | | |
| | 600RF | 29 9/16" | 11 5/16" | 34 1/2" | 20 1/2" | | |

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

| Table 2 - Seal Options | | |
|------------------------|-------------------|---------------------------|
| Part | Standard Material | Optional Material |
| Diaphragm | Nitrile | FKM |
| Packing Rings | Nitrile | FKM, Aflas, HSN, Graphite |
| Packing Sleeve | Teflon | |
| O-rings | Nitrile | FKM, Aflas, HSN |
| Seal Ring | Polyurethane | Aflas |

| Table 3 - Seal Specifications | | | | | | | |
|--|------------------|----------------|--------------------------|----------------|----------------|-----------------|------------------|
| | | NITRILE | HIGHLY SATURATED NITRILE | FKM | AFLAS® | TEFLON | GRAPHITE PACKING |
| | Kimray Suffix | - | HSN | V | AF | T | G |
| Resistance | Abrasion | G | G-E | G | G | E | PF |
| | Acid | F | G-E | G-E | E | E | G |
| | Chemical | F | F | E | E | E | E |
| | Cold | G | G | P | P | E | E |
| | Flame | P | P | E | E | P | E |
| | Heat | G | E | E | E | E | E |
| | Oil | G-E | E | E | E | E | E |
| | Ozone | P | G | G-E | E | E | F |
| | Set | G | G | G-E | P | P | G |
| | Tear | F | F | F | P | E | P |
| | Water/Steam | F | E | P | G | E | E |
| | Weather | F | G | E | E | E | E |
| | CO2 | F-G | G | G | G | E | E |
| | H2S | P | F | P | E | E | E |
| Methanol | F | E | P | P | E | E | |
| Properties | Dynamic | G | G | G | G | P | E |
| | Electrical | F | F | F | G-E | E | Conductive |
| | Impermeability | G | G | G | G | E | G |
| | Tensile Strength | G | G-E | G | F | E | P |
| Temp. Range | | -20° to +250°F | -20° to +300°F | -15° to +400°F | +15° to +450°F | -450° to +500°F | -328° to +850°F |
| | | -29° to +121°C | -29° to +149°C | -26° to +204°C | -9° to +232°C | -268° to +260°C | -200° to +455°C |
| RATINGS: P-POOR, F-FAIR, G-GOOD, E-EXCELLENT | | | | | | | |

| Table 5 - Material Options Stem Guided | | | |
|---|--------------------------|-------------------------|---------------------------|
| Part Description | Standard Material | Erosive Material | Corrosive Material |
| Body | WCB (ASTM A216) | | WCB (ASTM A216) ‡ |
| Actuator | Ductile (ASTM A395) | | |
| Stuffing Box | Carbon Steel (ASTM A105) | | 316SS (ASTM A479) |
| Cage | Alloy Steel (ASTM A108) | | 316SS (ASTM A479) |
| Stem | 303SS (ASTM A582) | | 316SS (ASTM A479) |
| Plug* | Chrome Alloy | Tungsten Carbide | 316SS (ASTM A479) |
| Seat | D-2 (ASTM A681) | Zirconia | 316SS (ASTM A479) |
| Cover Bonnet (Metering Valve) | WCB (ASTM A216) | | |

*Material can vary by trim size. See Page 01:200.2

‡ Coated Parts available with "K" service type

| Table 6 - Material Options Cage Guided | | | |
|---|------------------------------|----------------------------------|---------------------------|
| Part Description | Standard Material | Erosive Material | Corrosive Material |
| Body | WCB (ASTM A216) | | WCB (ASTM A216) ‡ |
| Actuator | Ductile (ASTM A395) | | |
| Stuffing Box | 2" - 4" | Carbon Steel (ASTM A105) | 316SS (ASTM A479) |
| | 6" - 10" | 316SS (ASTM A479) | |
| Cover Bonnet (Upper Housing) | WCB (ASTM A216) | | WCB (ASTM A216) ‡ |
| Cage | 2 & 3 inch 316SS (ASTM A479) | 4-10 inch 316SS (ASTM A351 CF8M) | |
| Stem | 316SS (ASTM A479) | 303SS (ASTM A582) | 316SS (ASTM A479) |
| Piston | 316SS (ASTM A479) | D-2 (ASTM A597) | 316SS (ASTM A479) |
| Seat Disc | D2 (ASTM A681) | Zirconia | 316SS (ASTM A479) |
| Ratio Plug | D-2 (ASTM A597) | | 316SS (ASTM A351 CF8M) |
| Seat | D-2 (ASTM A681) | | 316SS (ASTM A479) |
| Bonnet (Metering Valve) | WCB (ASTM A216) | | |

‡ Coated Parts available with "K" service type

Table 6 - 1" Stem Guided HPCV

| Valve Description | ΔP | 0 psig (0 bar) | | 100 psig (6.8 bar) | | 500 psig (34.4 bar) | | 1000 psig (68.9 bar) | | 1500 psig (103.4 bar) | |
|--------------------------|--------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|-----------------------|----------------------|
| | Spring | Crack | Full | Crack | Full | Crack | Full | Crack | Full | Crack | Full |
| 1400 SMT PO 1/8" IV | 621 (10 lbs) | 3 psig (0.21 bar) | 9.5 psig (0.66 bar) | 3 psig (0.21 bar) | 9 psig (0.62 bar) | 3 psig (0.21 bar) | 8.5 psig (0.59 bar) | 2 psig (0.13 bar) | 7 psig (0.48 bar) | 2 psig (0.13 bar) | 6 psig (0.41 bar) |
| | 463 (20 lbs) | 6.5 psig (0.44 bar) | 20.5 psig (1.41 bar) | 6 psig (0.41 bar) | 20 psig (1.37 bar) | 6 psig (0.41 bar) | 19.5 psig (1.34 bar) | 5.5 psig (0.37 bar) | 18 psig (1.24 bar) | 5.5 psig (0.37 bar) | 17.5 psig (1.20 bar) |
| | 464 (30 lbs) | 9.5 psig (0.65 bar) | 34 psig (2.34 bar) | 9.5 psig (0.65 bar) | 34 psig (2.34 bar) | 9 psig (0.62 bar) | 33 psig (2.27 bar) | 9 psig (0.62 bar) | 32 psig (2.20 bar) | 8.5 psig (0.58 bar) | 31 psig (2.13 bar) |
| 1400 SMT PO 1/8" IV EP | 621 (10 lbs) | 3.5 psig (0.23 bar) | 10 psig (0.68 bar) | 3.5 psig (0.23 bar) | 10 psig (0.68 bar) | 3 psig (0.21 bar) | 8.5 psig (0.58 bar) | 2.5 psig (0.17 bar) | 7.5 psig (0.51 bar) | 2 psig (0.13 bar) | 6 psig (0.41 bar) |
| | 463 (20 lbs) | 7 psig (0.48 bar) | 21.5 psig (1.48 bar) | 7 psig (0.48 bar) | 21 psig (1.44 bar) | 6.5 psig (0.44 bar) | 19.5 psig (1.34 bar) | 6 psig (0.41 bar) | 18.5 psig (1.27 bar) | 6 psig (0.41 bar) | 17.5 psig (1.20 bar) |
| | 464 (30 lbs) | 12.5 psig (0.86 bar) | 38 psig (2.61 bar) | 12.5 psig (0.86 bar) | 38 psig (2.61 bar) | 11 psig (0.75 bar) | 35.5 psig (2.44 bar) | 10.5 psig (0.72 bar) | 34.5 psig (2.37 bar) | 10 psig (0.68 bar) | 33 psig (2.27 bar) |
| 1400 SMT PO 3/16" IV | 621 (10 lbs) | 3.5 psig (0.23 bar) | 10.5 psig (0.72 bar) | 3.5 psig (0.23 bar) | 10 psig (0.68 bar) | 3.5 psig (0.23 bar) | 9 psig (0.62 bar) | 3.5 psig (0.23 bar) | 7.5 psig (0.51 bar) | 3 psig (0.21 bar) | 6.5 psig (0.44 bar) |
| | 463 (20 lbs) | 6.5 psig (0.44 bar) | 21.5 psig (1.48 bar) | 6.5 psig (0.44 bar) | 21 psig (1.44 bar) | 7.5 psig (0.51 bar) | 21 psig (1.44 bar) | 7 psig (0.48 bar) | 19.5 psig (1.34 bar) | 7 psig (0.48 bar) | 18.5 psig (1.27 bar) |
| | 464 (30 lbs) | 11 psig (0.75 bar) | 36 psig (2.48 bar) | 10.5 psig (0.72 bar) | 36 psig (2.48 bar) | 11 psig (0.75 bar) | 35 psig (2.41 bar) | 11 psig (0.75 bar) | 34 psig (2.34 bar) | 10.5 psig (0.72 bar) | 32.5 psig (2.23 bar) |
| 1400 SMT PO 1/4" IV | 621 (10 lbs) | 3 psig (0.21 bar) | 9.5 psig (0.65 bar) | 3 psig (0.21 bar) | 9 psig (0.62 bar) | 3 psig (0.21 bar) | 8.5 psig (0.58 bar) | 2.5 psig (0.17 bar) | 7.5 psig (0.51 bar) | 2.5 psig (0.17 bar) | 6.5 psig (0.44 bar) |
| | 463 (20 lbs) | 6 psig (0.41 bar) | 20.5 psig (1.41 bar) | 6 psig (0.41 bar) | 20 psig (1.37 bar) | 6 psig (0.41 bar) | 19.5 psig (1.34 bar) | 5.5 psig (0.37 bar) | 18 psig (1.24 bar) | 5.5 psig (0.37 bar) | 17 psig (1.20 bar) |
| | 464 (30 lbs) | 10 psig (0.68 bar) | 35 psig (2.41 bar) | 10 psig (0.68 bar) | 35 psig (2.42 bar) | 10 psig (0.68 bar) | 34 psig (2.34 bar) | 9.5 psig (0.65 bar) | 33 psig (2.27 bar) | 9 psig (0.62 bar) | 32 psig (2.20 bar) |
| 1400 SMT PO 1/4" IV EP | 621 (10 lbs) | 3 psig (0.20 bar) | 10 psig (0.68 bar) | 3 psig (0.20 bar) | 9.5 psig (0.65 bar) | 2.5 psig (0.17 bar) | 8 psig (0.55 bar) | 2.5 psig (0.17 bar) | 7 psig (0.48 bar) | 2 psig (0.13 bar) | 6 psig (0.41 bar) |
| | 463 (20 lbs) | 6.5 psig (0.44 bar) | 21.5 psig (1.48 bar) | 6.5 psig (0.44 bar) | 20 psig (1.37 bar) | 6 psig (0.41 bar) | 20 psig (1.37 bar) | 6 psig (0.41 bar) | 18.5 psig (1.27 bar) | 6 psig (0.41 bar) | 17.5 psig (1.20 bar) |
| | 464 (30 lbs) | 12 psig (0.83 bar) | 40 psig (2.75 bar) | 11.5 psig (0.79 bar) | 39 psig (2.68 bar) | 9.5 psig (0.66 bar) | 35 psig (2.42 bar) | 9 psig (0.62 bar) | 33 psig (2.27 bar) | 9 psig (0.62 bar) | 32 psig (2.20 bar) |
| 1400 SMT PO 3/8" IV SNAP | 621 (10 lbs) | 4.5 psig (0.31 bar) | 10.5 psig (0.72 bar) | 4.5 psig (0.31 bar) | 10.5 psig (0.72 bar) | 5.5 psig (0.38 bar) | 9.5 psig (0.66 bar) | 6.5 psig (0.44 bar) | 8 psig (0.55 bar) | 7.5 psig (0.51 bar) | 7 psig (0.48 bar) |
| | 463 (20 lbs) | 7 psig (0.48 bar) | 21.5 psig (1.48 bar) | 7 psig (0.48 bar) | 21 psig (1.44 bar) | 9.5 psig (0.65 bar) | 21 psig (1.44 bar) | 10.5 psig (0.72 bar) | 20 psig (1.37 bar) | 11 psig (0.75 bar) | 19 psig (1.31 bar) |
| | 464 (30 lbs) | 11 psig (0.75 bar) | 35 psig (2.41 bar) | 11 psig (0.75 bar) | 35 psig (2.41 bar) | 13 psig (0.89 bar) | 35 psig (2.42 bar) | 14 psig (0.97 bar) | 33 psig (2.27 bar) | 15.5 psig (1.06 bar) | 32 psig (2.20 bar) |
| 1400 SMT PO 3/8" IV | 621 (10 lbs) | 3 psig (0.20 bar) | 9 psig (0.62 bar) | 3 psig (0.20 bar) | 9 psig (0.62 bar) | 5 psig (0.34 bar) | 9 psig (0.62 bar) | 6.5 psig (0.44 bar) | 7.5 psig (0.51 bar) | 7.5 psig (0.51 bar) | 6.5 psig (0.44 bar) |
| | 463 (20 lbs) | 6 psig (0.41 bar) | 20.5 psig (1.41 bar) | 6 psig (0.41 bar) | 20 psig (1.37 bar) | 8.5 psig (0.58 bar) | 21 psig (1.44 bar) | 9.5 psig (0.65 bar) | 20 psig (1.37 bar) | 10.5 psig (0.72 bar) | 18.5 psig (1.27 bar) |
| | 464 (30 lbs) | 9.5 psig (0.66 bar) | 34 psig (2.34 bar) | 9.5 psig (0.66 bar) | 34 psig (2.34 bar) | 11.5 psig (0.79 bar) | 33 psig (2.27 bar) | 12.5 psig (0.85 bar) | 32 psig (2.20 bar) | 13.5 psig (0.93 bar) | 31 psig (2.14 bar) |
| 1400 SMT PO 1/2" IV | 621 (10 lbs) | 3 psig (0.20 bar) | 10.5 psig (0.72 bar) | 3 psig (0.20 bar) | 10 psig (0.68 bar) | 5.5 psig (0.38 bar) | 8.5 psig (0.58 bar) | 7 psig (0.48 bar) | 7.5 psig (0.51 bar) | 9 psig (0.62 bar) | 6.5 psig (0.44 bar) |
| | 463 (20 lbs) | 6.5 psig (0.44 bar) | 21 psig (1.44 bar) | 6 psig (0.41 bar) | 20.5 psig (1.41 bar) | 8.5 psig (0.58 bar) | 19.5 psig (1.34 bar) | 10 psig (0.68 bar) | 18.5 psig (1.27 bar) | 12 psig (0.83 bar) | 17.5 psig (1.20 bar) |
| | 464 (30 lbs) | 11.5 psig (0.79 bar) | 37 psig (2.54 bar) | 11 psig (0.75 bar) | 36 psig (2.48 bar) | 13.5 psig (0.93 bar) | 35 psig (2.41 bar) | 15 psig (1.03 bar) | 34 psig (2.34 bar) | 17 psig (1.20 bar) | 33 psig (2.27 bar) |
| 1400 SMT PO 1/2" IV EP | 621 (10 lbs) | 3.5 psig (0.24 bar) | 10 psig (0.68 bar) | 3.5 psig (0.24 bar) | 9.5 psig (0.66 bar) | 7 psig (0.48 bar) | 10 psig (0.68 bar) | 7.5 psig (0.52 bar) | 7.5 psig (0.51 bar) | 9.5 psig (0.65 bar) | 6 psig (0.41 bar) |
| | 463 (20 lbs) | 7 psig (0.48 bar) | 21.5 psig (1.48 bar) | 7.5 psig (0.51 bar) | 21.5 psig (1.48 bar) | 10.5 psig (0.72 bar) | 21 psig (1.44 bar) | 12.5 psig (0.86 bar) | 20.5 psig (1.41 bar) | 14 psig (0.97 bar) | 19 psig (1.31 bar) |
| | 464 (30 lbs) | 11 psig (0.75 bar) | 37 psig (2.54 bar) | 11 psig (0.75 bar) | 37 psig (2.54 bar) | 14 psig (0.97 bar) | 35 psig (2.41 bar) | 16 psig (1.10 bar) | 34 psig (2.34 bar) | 18 psig (1.24 bar) | 33 psig (2.27 bar) |

Table 7 - 2" Stem Guided HPCV

| Valve Description | ΔP | 0 psig (0 bar) | | 100 psig (6.8 bar) | | 500 psig (34.4 bar) | | 1000 psig (68.9 bar) | | 1500 psig (103.4 bar) | |
|-----------------------------|------------------|------------------------|-------------------------|------------------------|-------------------------|------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| | Spring | Crack | Full | Crack | Full | Crack | Full | Crack | Full | Crack | Full |
| 2400 SMT PO 1/4" EP IV | 1245 (15 lbs) | 3.5 psig (0.24 bar) | 15.5 psig (1.06 bar) | 3 psig (0.20 bar) | 15 psig (1.03 bar) | 2.5 psig (0.17 bar) | 15 psig (1.03 bar) | 2 psig (0.13 bar) | 14.5 psig (1.00 bar) | 1.5 psig (0.10 bar) | 13 psig (0.89 bar) |
| | 538 (20 lbs) | 3.5 psig (0.24 bar) | 18 psig (1.24 bar) | 3.5 psig (0.24 bar) | 17.5 psig (1.20 bar) | 3.5 psig (0.24 bar) | 17.5 psig (1.20 bar) | 2.5 psig (0.17 bar) | 16.5 psig (1.13 bar) | 1.5 psig (0.10 bar) | 15 psig (1.03 bar) |
| | 508 (30 lbs) | 7.5 psig (0.52 bar) | 32 psig (2.20 bar) | 7 psig (0.48 bar) | 32 psig (2.20 bar) | 6.5 psig (0.44 bar) | 31 psig (2.14 bar) | 6 psig (0.41 bar) | 30 psig (2.07 bar) | 5.5 psig (0.38 br) | 29 psig (2.00 bar) |
| 2400 SMT PO 1/4" IV | 1245 (15 lbs) | 3.5 psig (0.24 bar) | 16 psig (1.10 bar) | 3.5 psig (0.24 bar) | 16 psig (1.10 bar) | 3 psig (0.20 bar) | 14.5 psig (1.00 bar) | 3 psig (0.20 bar) | 13 psig (0.89 bar) | 3 psig (0.20 bar) | 12.5 psig (0.85 bar) |
| | 538 (20 lbs) | 4 psig (0.27 bar) | 18.5 psig (1.27 bar) | 3.5 psig (0.24 bar) | 18.5 psig (1.27 bar) | 3.5 psig (0.24 bar) | 18 psig (1.24 bar) | 3 psig (0.20 bar) | 17.5 psig (1.20 bar) | 3 psig (0.20 bar) | 16.5 psig (1.13 bar) |
| | 508 (30 lbs) | 6.5 psig (0.44 bar) | 32 psig (2.20 bar) | 6.5 psig (0.44 bar) | 33 psig (2.27 bar) | 7 psig (0.48 bar) | 31 psig (2.14 bar) | 6.5 psig (0.44 bar) | 30 psig (2.07 bar) | 6.5 psig (0.44 bar) | 29 psig (2.00 bar) |
| 2400 SMT PO 1/4" IV SNAP | 1245 (15 lbs) | 3.5 psig (0.23 bar) | 15.5 psig (1.06 bar) | 4 psig (0.27 bar) | 15.5 psig (1.06 bar) | 3 psig (0.20 bar) | 15 psig (1.03 bar) | 2.5 psig (0.17 bar) | 14.5 psig (1.00 bar) | 2 psig (0.13 bar) | 14 psig (0.97 bar) |
| | 538 (20 lbs) | 4 psig (0.27 bar) | 18 psig (1.24 bar) | 4 psig (0.27 bar) | 18 psig (1.24 bar) | 3 psig (0.20 bar) | 17 psig (1.22 bar) | 2.5 psig (0.17 bar) | 17 psig (1.22 bar) | 2 psig (0.13 bar) | 16.5 psig (1.13 bar) |
| | 508 (30 lbs) | 6.5 psig (0.44 bar) | 32 psig (2.20 bar) | 7 psig (0.48 bar) | 32 psig (2.20 bar) | 6 psig (0.41 bar) | 31 psig (2.14 bar) | 5 psig (0.34 bar) | 30 psig (2.07 bar) | 4 psig (0.27 bar) | 29 psig (2.00 bar) |
| 2400 SMT PO 3/8" IV | 1245 (15 lbs) | 4 psig (0.27 bar) | 16.5 psig (1.13 bar) | 4 psig (0.27 bar) | 16 psig (1.10 bar) | 3.5 psig (0.23 bar) | 16 psig (1.10 bar) | 3.5 psig (0.23 bar) | 15.5 psig (1.06 bar) | 3.5 psig (0.23 bar) | 15 psig (1.03 bar) |
| | 538 (20 lbs) | 4.5 psig (0.31 bar) | 18 psig (1.24 bar) | 4 psig (0.27 bar) | 18 psig (1.24 bar) | 4 psig (0.27 bar) | 17 psig (1.22 bar) | 4 psig (0.27 bar) | 16.5 psig (1.13 bar) | 4 psig (0.27 bar) | 16.5 psig (1.13 bar) |
| | 508 (30 lbs) | 8 psig (0.55 bar) | 32 psig (2.20 bar) | 8 psig (0.55 bar) | 32 psig (2.20 bar) | 7.5 psig (0.51 bar) | 32 psig (2.20 bar) | 7.5 psig (0.51 bar) | 31 psig (2.13 bar) | 7.5 psig (0.51 bar) | 30 psig (2.07 bar) |
| 2400 SMT PO 3/8" IV SNAP | 1245 (15 lbs) | 4 psig (0.27 bar) | 14.5 psig (1.00 bar) | 3.5 psig (0.23 bar) | 14.5 psig (1.00 bar) | 4.5 psig (0.31 bar) | 14 psig (0.97 bar) | 4.5 psig (0.31 bar) | 14 psig (0.97 bar) | 4.5 psig (0.31 bar) | 13.5 psig (0.93 bar) |
| | 538 (20 lbs) | 4 psig (0.27 bar) | 17.5 psig (1.20 bar) | 4 psig (0.27 bar) | 17 psig (1.22 bar) | 5 psig (0.34 bar) | 17 psig (1.22 bar) | 5 psig (0.34 bar) | 16.5 psig (1.13 bar) | 5 psig (0.34 bar) | 16 psig (1.10 bar) |
| | 508 (30 lbs) | 7.5 psig (0.51 bar) | 32 psig (2.20 bar) | 7 psig (0.48 bar) | 32 psig (2.20 bar) | 8 psig (0.55 bar) | 31 psig (2.13 bar) | 8.5 psig (0.58 bar) | 30 psig (2.07 bar) | 8.5 psig (0.58 bar) | 29 psig (2.00 bar) |
| 2400 SMT PO 7/16" EP IV | 1245 (15 lbs) | 4 psig (0.27 bar) | 15.5 psig (1.06 bar) | 4 psig (0.27 bar) | 15.5 psig (1.06 bar) | 3.5 psig (0.23 bar) | 15 psig (1.03 bar) | 3.5 psig (0.23 bar) | 14.5 psig (1.00 bar) | 3.5 psig (0.23 bar) | 14 psig (0.97 bar) |
| | 538 (20 lbs) | 4.5 psig (0.31 bar) | 18.5 psig (1.31 bar) | 4.5 psig (0.31 bar) | 18.5 psig (1.27 bar) | 4.5 psig (0.31 bar) | 17.5 psig (1.20 bar) | 4 psig (0.27 bar) | 16 psig (1.10 bar) | 4 psig (0.27 bar) | 15 psig (1.03 bar) |
| | 508 (30 lbs) | 8 psig (0.55 bar) | 32 psig (2.20 bar) | 8 psig (0.55 bar) | 31 psig (2.13 bar) | 7.5 psig (0.51 bar) | 30 psig (2.07 bar) | 7.5 psig (0.51 bar) | 29 psig (2.00 bar) | 7.5 psig (0.51 bar) | 28 psig (1.93 bar) |
| 2400 SMT PO 1/2" IV | 1245 (15 lbs) | 4 psig (0.27 bar) | 15 psig (1.03 bar) | 4 psig (0.27 bar) | 15 psig (1.03 bar) | 4.5 psig (0.31 bar) | 14.5 psig (1.00 bar) | 5 psig (0.34 bar) | 13.5 psig (0.93 bar) | 5 psig (0.34 bar) | 12 psig (0.83 bar) |
| | 538 (20 lbs) | 4 psig (0.27 bar) | 17 psig (1.22 bar) | 3.5 psig (0.23 bar) | 16.5 psig (1.13 bar) | 4.5 psig (0.31 bar) | 16.5 psig (1.13 bar) | 4.5 psig (0.31 bar) | 15.5 psig (1.06 bar) | 5 psig (0.34 bar) | 14 psig (0.97 bar) |
| | 508 (30 lbs) | 7 psig (0.48 bar) | 30 psig (2.07 bar) | 7 psig (0.48 bar) | 30 psig (2.07 bar) | 8 psig (0.58 bar) | 30 psig (2.07 bar) | 8 psig (0.55 bar) | 28 psig (1.93 bar) | 8.5 psig (0.58 bar) | 27 psig (1.86 bar) |
| 2400 SMT 1/2" IV SNAP | 1245 (15 lbs) | 3 psig (0.20 bar) | 16 psig (1.10 bar) | 3 psig (0.20 bar) | 15 psig (1.03 bar) | 4.5 psig (0.31 bar) | 14.5 psig (1.00 bar) | 5 psig (0.34 bar) | 14 psig (0.97 bar) | 5 psig (0.34 bar) | 13.5 psig (0.93 bar) |
| | 538 (20 lbs) | 3.5 psig (0.23 bar) | 17 psig (1.22 bar) | 3 psig (0.20 bar) | 16.5 psig (1.13 bar) | 4.5 psig (0.31 bar) | 16 psig (1.10 bar) | 5 psig (0.34 bar) | 15 psig (1.03 bar) | 5 psig (0.34 bar) | 14.5 psig (1.00 bar) |
| | 508 (30 lbs) | 7 psig (0.48 bar) | 32 psig (2.20 bar) | 7.5 psig (0.51 bar) | 32 psig (2.20 bar) | 7.5 psig (0.51 bar) | 31 psig (2.14 bar) | 7.5 psig (0.51 bar) | 30 psig (2.07 bar) | 8 psig (0.55 bar) | 29 psig (2.00 bar) |
| 2400 SMT PO 5/8" EP IV | 1245 (15 lbs) | 4 psig (0.27 bar) | 16 psig (1.10 bar) | 4 psig (0.27 bar) | 16 psig (1.10 bar) | 6 psig (0.41 bar) | 16.5 psig (1.13 bar) | 7.5 psig (0.51 bar) | 16 psig (1.10 bar) | 8.5 psig (0.58 bar) | 15.5 psig (1.06 bar) |
| | 538 (20 lbs) | 4 psig (0.27 bar) | 19 psig (1.31 bar) | 4 psig (0.27 bar) | 19 psig (1.31 bar) | 6.5 psig (0.44 bar) | 18.5 psig (1.27 bar) | 7.5 psig (0.51 bar) | 17.5 psig (1.20 bar) | 9 psig (0.62 bar) | 17 psig (1.22 bar) |
| | 508 (30 lbs) | 8 psig (0.55 bar) | 32 psig (2.20 bar) | 8.5 psig (0.58 bar) | 32 psig (2.20 bar) | 10 psig (0.68 bar) | 31 psig (2.14 bar) | 11.5 psig (0.79 bar) | 30 psig (2.06 bar) | 12.5 psig (1.48 bar) | 29 psig (2.00 bar) |

| | | | | | | | | | | | |
|-----------------------------|------------------|------------------------|-------------------------|------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| 2400 SMT PO 3/4" IV | 1245 (15 lbs) | 5 psig (0.34 bar) | 17 psig (1.72 bar) | 5 psig (0.34 bar) | 17 psig (1.72 bar) | 7.5 psig (0.51 bar) | 14.5 psig (1.00 bar) | 8.5 psig (0.58 bar) | 13 psig (0.89 bar) | 10 psig (0.68 bar) | 12 psig (0.83 bar) |
| | 538 (20 lbs) | 5.5 psig (0.37 bar) | 19 psig (1.31 bar) | 5.5 psig (0.37 bar) | 19 psig (1.31 bar) | 7 psig (0.48 bar) | 17 psig (1.72 bar) | 9 psig (0.62 bar) | 16 psig (1.10 bar) | 11 psig (0.75 bar) | 14 psig (0.97 bar) |
| | 508 (30 lbs) | 9 psig (0.62 bar) | 34 psig (2.34 bar) | 9 psig (0.62 bar) | 34 psig (2.34 bar) | 11 psig (0.75 bar) | 33 psig (2.27 bar) | 13 psig (0.89 bar) | 32 psig (2.20 bar) | 15 psig (1.03 bar) | 30 psig (2.07 bar) |
| 2400 SMT PO 3/4" IV SNAP | 1245 (15 lbs) | 4 psig (0.27 bar) | 15 psig (1.03 bar) | 4 psig (0.27 bar) | 15 psig (1.03 bar) | 6.5 psig (0.44 bar) | 14.5 psig (0.96 bar) | 8 psig (0.55 bar) | 13.5 psig (0.93 bar) | 9 psig (0.62 bar) | 12 psig (0.83 bar) |
| | 538 (20 lbs) | 5 psig (0.34 bar) | 18.5 psig (1.27 bar) | 5 psig (0.34 bar) | 18.5 psig (1.27 bar) | 6.5 psig (0.44 bar) | 16.5 psig (1.13 bar) | 8 psig (0.55 bar) | 15.5 psig (1.06 bar) | 9.5 psig (0.66 bar) | 14 psig (0.97 bar) |
| | 508 (30 lbs) | 9 psig (0.62 bar) | 32 psig (2.20 bar) | 9 psig (0.62 bar) | 32 psig (2.20 bar) | 10 psig (0.68 bar) | 31 psig (2.14 bar) | 11 psig (0.75 bar) | 30 psig (2.07 bar) | 12.5 psig (0.86 bar) | 29 psig (2.00 bar) |
| 2400 SMT PO 7/8" EP IV | 1245 (15 lbs) | 3.5 psig (0.23 bar) | 15 psig (1.03 bar) | 4 psig (0.27 bar) | 15 psig (1.03 bar) | 7 psig (0.48 bar) | 14.5 psig (1.00 bar) | 11 psig (0.75 bar) | 14 psig (0.97 bar) | 13.5 psig (0.93 bar) | 13.5 psig (0.93 bar) |
| | 538 (20 lbs) | 3.5 psig (0.23 bar) | 17.5 psig (1.20 bar) | 4 psig (0.27 bar) | 17.5 psig (1.20 bar) | 7.5 psig (0.51 bar) | 17 psig (1.72 bar) | 10.5 psig (0.72 bar) | 16.5 psig (1.13 bar) | 13.5 psig (0.93 bar) | 16 psig (1.10 bar) |
| | 508 (30 lbs) | 7 psig (0.48 bar) | 30 psig (2.07 bar) | 7.5 psig (0.51 bar) | 30 psig (2.07 bar) | 10.5 psig (0.72 bar) | 29 psig (2.00 bar) | 14 psig (0.97 bar) | 28 psig (1.93 bar) | 17 psig (1.72 bar) | 27 psig (1.86 bar) |
| 2400 SMT PO 1" IV | 1245 (15 lbs) | 4.5 psig (0.31 bar) | 14.5 psig (1.00 bar) | 5 psig (0.34 bar) | 14 psig (0.97 bar) | 8.5 psig (0.58 bar) | 13 psig (0.89 bar) | 12.5 psig (0.86 bar) | 11.5 psig (0.79 bar) | 16 psig (1.10 bar) | 11 psig (0.75 bar) |
| | 538 (20 lbs) | 4.5 psig (0.31 bar) | 17 psig (1.72 bar) | 5 psig (0.34 bar) | 17 psig (1.72 bar) | 8.5 psig (0.58 bar) | 16 psig (1.10 bar) | 12.5 psig (0.86 bar) | 15 psig (1.03 bar) | 17 psig (1.72 bar) | 14 psig (0.97 bar) |
| | 508 (30 lbs) | 7 psig (0.48 bar) | 31 psig (2.14 bar) | 7.5 psig (0.51 bar) | 31 psig (2.14 bar) | 12 psig (0.83 bar) | 30 psig (2.07 bar) | 16 psig (1.10 bar) | 29 psig (2.00 bar) | 19.5 psig (1.34 bar) | 28 psig (1.93 bar) |
| 2400 SMT PO 1" IV SNAP | 1245 (15 lbs) | 4.5 psig (0.31 bar) | 16.5 psig (1.13 bar) | 4.5 psig (0.31 bar) | 16.5 psig (1.13 bar) | 8.5 psig (0.58 bar) | 15.5 psig (1.06 bar) | 11.5 psig (0.79 bar) | 15 psig (1.03 bar) | 15 psig (1.03 bar) | 15 psig (1.03 bar) |
| | 538 (20 lbs) | 4.5 psig (0.31 bar) | 19 psig (1.31 bar) | 4.5 psig (0.31 bar) | 19 psig (1.31 bar) | 8.5 psig (0.58 bar) | 16 psig (1.10 bar) | 11.5 psig (0.79 bar) | 15.5 psig (1.06 bar) | 15 psig (1.03 bar) | 15 psig (1.03 bar) |
| | 508 (30 lbs) | 8 psig (0.55 bar) | 32 psig (2.20 bar) | 8 psig (0.55 bar) | 32 psig (2.20 bar) | 12 psig (0.83 bar) | 31 psig (2.14 bar) | 16 psig (1.10 bar) | 30 psig (2.07 bar) | 19.5 psig (1.34 bar) | 29 psig (2.00 bar) |

| Table 8 - 2", 3", 4", 6", 8" & 10" Cage Guided HPCV | | | | | | | | | | | |
|---|--------|-----------------------|------------------------|-----------------------|------------------------|------------------------|------------------------|------------------------|----------------------|------------------------|------------------------|
| Valve Description | ΔP | 0 psig (0 bar) | | 100 psig (6.8 bar) | | 500 psig (34.4 bar) | | 1000 psig (68.9 bar) | | 1500 psig (103.4 bar) | |
| | Spring | Crack | Full | Crack | Full | Crack | Full | Crack | Full | Crack | Full |
| 2150 SMT PB 2 IN IV | 15 lbs | 3 psig (0.21bar) | 16 psig (1.1bar) | 3.5 psig (0.24bar) | 16 psig (1.1bar) | 5.5 psig (0.38bar) | 15 psig (1.03bar) | 7.5 psig (0.52bar) | 14 psig (0.97bar) | 9.5 psig (0.66bar) | 12 psig (0.83bar) |
| | 20 lbs | 3 psig (0.21bar) | 19 psig (1.31bar) | 3 psig (0.21bar) | 18 psig (1.24bar) | 5.5 psig (0.38bar) | 17 psig (1.17bar) | 8 psig (0.55bar) | 16 psig (1.1bar) | 8.5 psig (0.59bar) | 15 psig (1.03bar) |
| | 30 lbs | 6 psig (0.41bar) | 32 psig (2.21bar) | 7 psig (0.48bar) | 31 psig (2.14bar) | 8 psig (0.55bar) | 30 psig (2.07bar) | 10.5 psig (0.72bar) | 29 psig (2bar) | 12.5 psig (0.86bar) | 28 psig (1.93bar) |
| 3150 FMT PB 3" IV | 30 lbs | 6 psig (0.41bar) | 30 psig (2.07bar) | 6.5 psig (0.45bar) | 27.5 psig (1.9bar) | 10.5 psig (0.72bar) | 27 psig (1.86bar) | 13.5 psig (0.93bar) | 25 psig (1.72bar) | 17 psig (1.17bar) | 22 psig (1.52bar) |
| 3150 FMT PB 3" IV- PC | 30 lbs | Shut | 27 psig (1.86bar) | Shut | 28 psig (1.93bar) | Shut | 30.5 psig (2.1bar) | Shut | 33 psig (2.28bar) | Shut | 36.5 psig (2.52bar) |
| 4150 FMT PB | 30 lbs | 8.5 psig (0.59bar) | 32 psig (2.21bar) | 8.5 psig (0.59bar) | 32 psig (2.21bar) | 8 psig (0.55bar) | 29.5 psig (2.03bar) | 7.5 psig (0.52bar) | 27 psig (1.86bar) | 6 psig (0.41bar) | 24.5 psig (1.69bar) |
| 4150 FMT PB 4 IN IV PC | 30 lbs | Shut | 31 psig (2.14bar) | Shut | 32.5 psig (2.24bar) | Shut | 34.5 psig (2.38bar) | Shut | 37 psig (2.55bar) | Shut | 39.5 psig (2.72bar) |
| 6150 FMT PB 6 IN IV | 30 lbs | 8 psig (0.55bar) | 29 psig (2bar) | 9.5 psig (0.66bar) | 28 psig (1.93bar) | 10.5 psig (0.72bar) | 27 psig (1.86bar) | 11 psig (0.76bar) | 25 psig (1.72bar) | 11.5 psig (0.79bar) | 22 psig (1.52bar) |
| 8150 FMT PB 8 IN IV | 30 lbs | 8 psig (0.55bar) | 29 psig (2bar) | 8.5 psig (0.59bar) | 27.5 psig (1.9bar) | 10 psig (0.69bar) | 26.5 psig (1.83bar) | 10.5 psig (0.72bar) | 24 psig (1.65bar) | 10.5 psig (0.72bar) | 21.5 psig (1.48bar) |
| 10150 FMT PB 8 IN IV | 30 lbs | 7.5 psig (0.52bar) | 28.5 psig (1.97bar) | 8.5 psig (0.59bar) | 27.5 psig (1.9bar) | 9.5 psig (0.66bar) | 26 psig (1.79bar) | 10 psig (0.69bar) | 24 psig (1.65bar) | 10.5 psig (0.72bar) | 21.5 psig (1.48bar) |

HIGH PRESSURE CONTROL VALVES



CODE BUILDER MODEL CVS (STEM GUIDED)

Series:

CV = Control Valves

Model:

S = Stem Guided

Line Size:

1 = 1 NPS
2 = 2 NPS

End Connection:

Body Type:

A = Angle
T = Thru
D = Dual

Shell Material:

W = WCB Steel
X = Steel (WCB) w/Coating

Inner Valve Size:

Actuator:

| | |
|---|--|
| 0 = No Actuator | 7 = - 65 Fail Close |
| 1 = 3 - 15 psi Spring Fail Close | 8 = Metering Valve (EP trim only) |
| 2 = 6 - 30 psi Spring Fail Close | J = 2 - 10 psi Spring Fail Close (1" only) |
| 3 = 9 - 45 psi Spring Fail Close | K = 4 - 20 psi Spring Fail Close |
| 4 = 3 - 15 psi Spring Fail Open | L = 2 - 10 psi Spring Fail Open (1" only) |
| 5 = 6 - 30 psi Spring Fail Open | M = 4 - 20 psi Spring Fail Open |
| 6 = 9 - 45 psi Spring Fail Open | |

0 = No Actuator
1 = 3 - 15 psi Spring Fail Close
2 = 6 - 30 psi Spring Fail Close
3 = 9 - 45 psi Spring Fail Close
4 = 3 - 15 psi Spring Fail Open
5 = 6 - 30 psi Spring Fail Open
6 = 9 - 45 psi Spring Fail Open

| | 1" Line Size | | | 2" Line Size | | |
|-----------|--------------|------------|------|--------------|------------|------|
| | Linear | Quick Open | E.P. | Linear | Quick Open | E.P. |
| 1/8" | 02L | 02Q | 02E | | | |
| 3/16" | 03L | 03Q | | | | |
| 1/4" | 04L | 04Q | 04E | 04L | 04Q | 04E |
| 3/8" | 06L | 06Q | | 06L | 06Q | |
| 7/16" | | | | | | 07E |
| 1/2" | 08L | 08Q | 08E | 08L | 08Q | |
| 5/8" | | | | | | 10E |
| 3/4" | | | | 12L | 12Q | |
| 7/8" | | | | | | 14E |
| 1" | | 16Q | | 16L | 16Q | |
| 1 1/2" | | | | | 24Q | |

Shell Material:

W = WCB Steel
X = Steel (WCB) w/Coating

Inner Valve Size:

Actuator:

| | |
|---|--|
| 0 = No Actuator | 7 = - 65 Fail Close |
| 1 = 3 - 15 psi Spring Fail Close | 8 = Metering Valve (EP trim only) |
| 2 = 6 - 30 psi Spring Fail Close | J = 2 - 10 psi Spring Fail Close (1" only) |
| 3 = 9 - 45 psi Spring Fail Close | K = 4 - 20 psi Spring Fail Close |
| 4 = 3 - 15 psi Spring Fail Open | L = 2 - 10 psi Spring Fail Open (1" only) |
| 5 = 6 - 30 psi Spring Fail Open | M = 4 - 20 psi Spring Fail Open |
| 6 = 9 - 45 psi Spring Fail Open | |

0 = No Actuator
1 = 3 - 15 psi Spring Fail Close
2 = 6 - 30 psi Spring Fail Close
3 = 9 - 45 psi Spring Fail Close
4 = 3 - 15 psi Spring Fail Open
5 = 6 - 30 psi Spring Fail Open
6 = 9 - 45 psi Spring Fail Open

| Service Type: | Trim Materials (Stem - Plug - Seat) | | |
|---------------------|-------------------------------------|-----------------|-----------------|
| | Linear | Quick Open | E.P. |
| S = Standard | S3-CR-D2 | S3-CB-CB | S3-CR-D2 |
| C = Corrosive | S6-S6-S6 | N/A | S6-S6-S6 |
| E = Erosive | S3-CB-ZR | S3-CB-ZR | S3-CB-ZR |
| M = Mixed Duty | S7-S7-S7 | N/A | S7-S7-S7 |

Service Type:

| Service Type: | Trim Materials (Stem - Plug - Seat) | | |
|---------------------|-------------------------------------|-----------------|-----------------|
| | Linear | Quick Open | E.P. |
| S = Standard | S3-CR-D2 | S3-CB-CB | S3-CR-D2 |
| C = Corrosive | S6-S6-S6 | N/A | S6-S6-S6 |
| E = Erosive | S3-CB-ZR | S3-CB-ZR | S3-CB-ZR |
| M = Mixed Duty | S7-S7-S7 | N/A | S7-S7-S7 |

CV S 2 S2 T W 16L 2 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 (Green)
E = VEE Packing
G = Graphite Vee Packing
H = HSN Elastomers
V = FKM Elastomers (Yellow)
X = Export (Hydrostatic test, MTR & 3.1)

Not all selections available on all products listed.
See product pages 01:10.1 - 01:10.4 for available options