

Mark 50 Series

Self-Operated Back Pressure Regulators

The Mark 50 Sliding Gate Back Pressure Regulator is used to regulate upstream pressure at a predetermined setpoint. The spring in the Mark 50 holds the sliding gate seats in their normally closed position.

The upstream pressure is sensed beneath the diaphragm. As the upstream pressure exceeds the setpoint, pressure is exerted on the diaphragm which raises the stem to modulate the disc (the movable component of the sliding gate seat set) toward the open position. As the seats open, upstream pressure will be regulated to the required setpoint. A decrease in pressure relaxes the spring and diaphragm to move the seats toward the closed position.

This brochure includes the following Series:

- **MK50:** a line of self-operating back pressure regulators designed with Jordan Valve's sliding gate seats
- **MK51:** The MK51 features a larger diaphragm than a standard MK50 to provide even greater sensitivity and more accurate regulation of your required setpoint
- **MK50QC:** The MK50QC features a "Quick Change" dome for simple range spring replacements. Ideal for facilities with multiple back pressure requirements as it is possible to stock one valve with several spare springs to cover a wide range of needs
- **MK50H:** The MK50H features a handwheel that is mounted on the adjusting screw to allow easy setpoint changes
- **MK50HP:** The MK50HP option is an elongated spring housing that features a large spring for high pressure setpoints up to 450 psi (31,03 bar)
- **MK50GP:** The MK50GP option is used in grain processing for starch cookers and other viscous services
- **MK50CR:** The MK50CR option has a special spring housing for use if the valve is in cryogenic services
- **MK501/502:** The MK501 and MK502 meet higher capacity requirements than standard back pressure regulators



MARK 50 FEATURES

- **Fast Response** — the short stroke means fast response to changes in process conditions, resulting in less offset in pressure.
- **Straight-through Flow** — The flow is straight through the valve seats and body. Direction of the disc travel is at right angles with the flow, not opposed to the direction of the flow. Thus, the flow does not unbalance the seats.
- **Quiet Operation** — The design of the Sliding Gate seats makes it inherently quieter than other types of regulators. The disc and plate are always in contact, which eliminates chattering. Straight-through flow minimizes turbulence. Multiple orifices in the plate and disc divide the flow stream into smaller flow components, also reducing noise.
- **Minimum Maintenance** — The MK50 sliding gate seats require no special tools for disassembly. The seats are pre-lapped at the factory and are self-lapping while in operation ensuring a continual tight shutoff. In sizes 2" (DN50) and smaller there are no orings or gaskets to wear out - 100% metal-to-metal sealing - for longer service life.



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SPECIFICATIONS — MK50/50QC/51/50HP

Sizes: (note: 1/4" & 3/8" sizes use 1/2" body with reducers)

- Mark 50: 1/4" through 4" (DN8 through DN100)
- Mark 50QC: 1/4" through 2" (DN8 through DN50)
- Mark 51: 1/4" through 3/4" (DN8 through DN20)
- Mark 50HP: 1/4" through 4" (DN8 through DN100)

End Connections

- Threaded — FNPT, BSPT, BSPP (1/2" - 2" only, DN15-DN50)
- ANSI Flanges (150#, 300#, 600#)
- DIN Flanges (PN10/16, PN25/40)
- JIS Flanges (upon request)

Spring Housing

- CI or DI — 1/4" through 2" (DN8 through DN50)
- DI/Steel — 2-1/2" through 4" (DN65 through DN100)

Body Materials

- Ductile Iron
- Bronze (1/2" - 2", DN15-DN50)
- Carbon Steel (A216 WCB)
- Stainless Steel (A351/CF8M)

Trim Materials:

- 303SST — Standard on Ductile Iron, Bronze, Carbon Steel valves
- 316SST — Standard on Stainless Steel valves
- Monel, Hastelloy and other Alloys available

Pressure Control Ranges: Select a range to match your setpoint. For optimal performance, your setpoint should fall in the upper portion of the selected range.

| Model | Size (DN) | Spring Ranges | |
|-----------|-------------------------------|---------------|---------------|
| | | PSI | BAR |
| 50 & 50QC | 1/4" - 3/4" (DN8 - DN20) | 2 - 20 | 0,14 - 1,38 |
| | | 10 - 30 | 0,69 - 2,07 |
| | | 20 - 45 | 1,38 - 3,10 |
| | | 30 - 135 | 2,07 - 9,31 |
| | | 80 - 185 | 5,52 - 12,76 |
| | 1" - 2" (DN25 - DN50) | 1/2 - 4 | 0,03 - 0,28 |
| | | 2 - 6 | 0,14 - 0,41 |
| | | 4 - 13 | 0,28 - 0,90 |
| | | 8 - 20 | 0,55 - 1,38 |
| | | 15 - 80 | 1,03 - 5,52 |
| | | 45 - 150 | 3,10 - 10,34 |
| | 2-1/2" - 4" (DN65 - DN100) | 4 - 15 | 0,28 - 1,03 |
| | | 7 - 24 | 0,48 - 1,65 |
| | | 16 - 30 | 1,10 - 2,07 |
| | | 75 - 190 | 5,17 - 13,10 |
| 50HP | 1/2" - 2" (DN15 - DN40) | 100 - 320 | 6,89 - 22,06 |
| | | 150 - 450 | 10,34 - 31,02 |
| | | 25 - 50 | 1,72 - 3,45 |
| | 2-1/2" - 4" (DN65 - DN100) | 40 - 80 | 2,76 - 5,52 |
| | | 1/2 - 5 | 0,03 - 0,34 |
| 51 | 1/4" - 3/4" (DN8 - DN20) | 2 - 10 | 0,14 - 0,69 |
| | | 2 - 20 | 0,14 - 1,38 |
| | | 10 - 30 | 0,69 - 2,07 |
| | | 20 - 50 | 1,38 - 3,45 |
| | | 20 - 70 | 1,38 - 4,83 |
| | | 40 - 105 | 2,76 - 7,24 |
| | | 25 - 150 | 1,72 - 10,34 |
| | | 30 - 170 | 2,07 - 11,72 |

Seat Materials:

- Jorcote on SST — Standard
- Jorcote/Jordanic on SST — For Severe Service
- Other materials available — Consult factory

Diaphragm Materials:

- Stainless Steel — Standard on 1/4" - 2" (DN8-DN50)
- Buna-N — Standard on 2-1/2" - 4" (DN65-DN100)
- Jorlon — On steam service 2-1/2" - 4" (DN65-DN100)
- Viton — Optional

Service: Steam, water, oil, gas, air and chemicals

Shutoff: ANSI Class IV

Options:

- **Double Bolting:** improves the pressure rating of the valve and ensures a tight seal between the spring housing and the body for services with high inlet pressures
- **High Pressure Spring Housing:** the HP option is an elongated spring housing that features a large spring for high pressure setpoints (up to 450 psi/31bar)
- **Handwheel:** the H option is a handwheel that is mounted on the adjusting screw to allow for easy setpoint changes
- **Exotic Alloys:** where service conditions dictate the use of specialty materials, the Mark 50 Series can be produced with bodies, trim and seats in Monel, Alloy 20, Hastelloy B, Hastelloy C, Titanium and others
- **GP Option:** grain processing modification for starch cookers and other viscous services.
- **Cryogenic Service:** CR option is a special spring housing for use if valve is in cryogenic conditions

CV Values & Maximum Differential Pressures

| Cv (Kv) | Size (DN) | Seat Material | Maximum ΔP PSI (bar) |
|-------------|----------------------------|---------------|----------------------|
| 0.84 (0,74) | 1/4" & 3/8" (DN8 & 12) | SST | 125 (8,62) |
| 1.6 (1,38) | | Jorcote | 500 (37,92) |
| 2.5 (2,15) | 1/2" & 3/4" (DN15 & 20) | SST | 125 (8,62) |
| 4.4 (3,78) | | Jorcote | 550 (37,92) |
| 6.4 (5,50) | 1" & 1-1/4" (DN25 & 32) | SST | 125 (8,62) |
| 9.5 (8,17) | | Jorcote | 450 (31,03) |
| 15 (12,9) | 1-1/2" (DN40) | SST | 75 (5,17) |
| | | Jorcote | 450 (31,03) |
| 25 (21,5) | 2" (DN50) | SST | 75 (5,17) |
| 30 (25,8) | | Jorcote | 450 (31,03) |
| 55 (47,3) | 2-1/2" (DN65) | Jorcote | 150 (10,34) |
| 115 (98,9) | 3" (DN80) | Jorcote | 150 (10,34) |
| 200 (172) | 4" (DN100) | Jorcote | 150 (10,34) |

Low Flow Cv's: reduced Cv's (Kv's) are available. Cv (Kv) ratings of smaller valves can be supplied in larger-sized valves.

| | | | | |
|---------------|---------------|---------------|-----------------|----------------|
| 0.42 (0,36) | 0.21 (0,18) | 0.08 (0,07) | 0.04 (0,03) | 0.02 (0,02) |
| 0.008 (0,007) | 0.004 (0,003) | 0.002 (0,002) | 0.0008 (0,0007) | (N/A in 316SS) |

MK50 SELF-OPERATING BACK PRESSURE REGULATORS

Cv VERSUS BUILD-UP DATA

| Model Mark 50 & 50QC | | | | | | | | |
|----------------------|-------------|--------------|------------------|-------------------|-------------------|-------------------|-------------------|-------|
| Size NPS | Nominal Cv | Set Pressure | Cv @ 5% BUILD-UP | Cv @ 10% BUILD-UP | Cv @ 15% BUILD-UP | CV @ 20% BUILD-UP | Cv @ 30% BUILD-UP | |
| 1/4" - 3/4" | 1.6 | 20 | 0.25 | 0.38 | 0.52 | 0.64 | 0.85 | |
| | | 30 | 0.24 | 0.38 | 0.51 | 0.63 | 0.84 | |
| | | 45 | 0.26 | 0.40 | 0.54 | 0.67 | 0.91 | |
| | | 135 | 0.35 | 0.57 | 0.78 | 0.98 | 1.33 | |
| | | 185 | 0.35 | 0.58 | 0.79 | 1.00 | 1.37 | |
| | 2.5 | 20 | 0.39 | 0.61 | 0.81 | 1.00 | 1.33 | |
| | | 30 | 0.38 | 0.59 | 0.79 | 0.98 | 1.32 | |
| | | 45 | 0.40 | 0.63 | 0.84 | 1.05 | 1.42 | |
| | | 135 | 0.54 | 0.89 | 1.22 | 1.53 | 2.08 | |
| | | 185 | 0.54 | 0.90 | 1.24 | 1.85 | 2.13 | |
| | 4.4 | 20 | 0.69 | 1.07 | 1.42 | 1.76 | 2.35 | |
| | | 30 | 0.66 | 1.04 | 1.39 | 1.72 | 2.32 | |
| | | 45 | 0.70 | 1.11 | 1.48 | 1.85 | 2.49 | |
| | | 135 | 0.95 | 1.57 | 2.14 | 2.69 | 3.66 | |
| | | 185 | 0.95 | 1.59 | 2.17 | 2.74 | 3.75 | |
| 1-1/4" | 6.4 | 4 | 0.74 | 1.13 | 1.48 | 1.81 | 2.41 | |
| | | 6 | 0.75 | 1.17 | 1.54 | 1.90 | 2.53 | |
| | | 10 | 0.77 | 1.21 | 1.60 | 1.99 | 2.66 | |
| | | 20 | 0.76 | 1.17 | 1.57 | 1.95 | 2.65 | |
| | | 80 | 1.08 | 1.85 | 2.57 | 3.27 | 4.57 | |
| | | 150 | 1.63 | 2.96 | 4.24 | 5.50 | 6.40 | |
| | 9.5 | 4 | 1.09 | 1.67 | 2.19 | 2.69 | 3.58 | |
| | | 6 | 1.11 | 1.73 | 2.29 | 2.82 | 3.75 | |
| | | 10 | 1.14 | 1.79 | 2.38 | 2.95 | 3.95 | |
| | | 20 | 1.12 | 1.74 | 2.33 | 2.90 | 3.93 | |
| | | 80 | 1.60 | 2.74 | 3.81 | 4.85 | 6.79 | |
| | | 150 | 2.42 | 4.39 | 6.30 | 8.16 | 9.50 | |
| | 1-1/2" | 15 | 4 | 1.59 | 2.38 | 3.09 | 3.77 | 4.96 |
| | | | 6 | 1.61 | 2.46 | 3.22 | 3.93 | 5.20 |
| | | | 10 | 1.66 | 2.54 | 3.33 | 4.11 | 5.47 |
| 20 | | | 1.63 | 2.47 | 3.27 | 4.04 | 5.45 | |
| 80 | | | 2.29 | 3.84 | 5.29 | 6.71 | 9.35 | |
| 150 | | | 3.42 | 6.10 | 8.70 | 11.20 | 15.00 | |
| 2" | 25 | 4 | 2.63 | 3.96 | 5.15 | 6.29 | 8.26 | |
| | | 6 | 2.70 | 4.09 | 5.36 | 6.56 | 8.66 | |
| | | 10 | 2.76 | 4.23 | 5.54 | 6.85 | 9.12 | |
| | | 20 | 2.72 | 4.12 | 5.45 | 6.74 | 9.09 | |
| | | 80 | 3.82 | 6.40 | 8.82 | 11.19 | 15.59 | |
| | | 150 | 5.69 | 10.16 | 14.50 | 18.72 | 25.00 | |
| | 30 | 4 | 3.16 | 4.77 | 6.21 | 7.56 | 9.97 | |
| | | 6 | 3.24 | 4.93 | 6.45 | 7.90 | 10.44 | |
| | | 10 | 3.35 | 5.08 | 6.65 | 8.22 | 10.95 | |
| | | 20 | 3.26 | 4.95 | 6.54 | 8.09 | 10.90 | |
| | | 80 | 4.59 | 7.68 | 10.59 | 13.43 | 18.71 | |
| | | 150 | 6.83 | 12.19 | 17.40 | 22.46 | 30.00 | |
| | 2-1/4" - 4" | 55 | 15 | 22.00 | 40.24 | 55.00 | 55.00 | 55.00 |
| | | | 20 | 16.69 | 30.13 | 43.17 | 55.00 | 55.00 |
| | | | 30 | 13.38 | 23.60 | 33.69 | 43.58 | 55.00 |
| 115 | | 15 | 40.26 | 73.10 | 104.44 | 115.00 | 115.00 | |
| | | 20 | 31.10 | 54.93 | 78.37 | 101.15 | 115.00 | |
| | | 30 | 24.70 | 43.21 | 61.34 | 79.11 | 113.36 | |
| 200 | | 15 | 58.81 | 108.64 | 156.79 | 200.00 | 200.00 | |
| | | 20 | 44.01 | 80.90 | 116.68 | 151.45 | 200.00 | |
| | | 30 | 34.69 | 62.97 | 90.64 | 117.77 | 170.10 | |

Notes:

1. Installed Cv is the Failure Cv for Safety Relief Valve Sizing
2. Assumes SST diaphragm, optimal spring range for set point, and minimum flow = 5% of Cv
3. Indicates valve reaches full Cv before offset is attained

Cv VERSUS BUILD-UP DATA

| Model Mark 51 | | | | | | | |
|---------------|-----------------|-----------------|---------------------|----------------------|----------------------|----------------------|----------------------|
| Size NPS | Installed Cv | Set Pressure | Cv @ 5% BUILD-UP | Cv @ 10% BUILD-UP | Cv @ 15% BUILD-UP | CV @ 20% BUILD-UP | Cv @ 30% BUILD-UP |
| 1/4" - 3/4" | 1.6 | 5 | 0.23 | 0.38 | 0.52 | 0.64 | 0.87 |
| | | 10 | 0.28 | 0.47 | 0.64 | 0.79 | 1.08 |
| | | 20 | 0.32 | 0.54 | 0.75 | 0.94 | 1.29 |
| | | 30 | 0.35 | 0.59 | 0.84 | 1.06 | 1.46 |
| | | 50 | 0.38 | 0.67 | 0.94 | 1.20 | 1.60 |
| | | 80 | 0.45 | 0.80 | 1.15 | 1.47 | 1.60 |
| | | 115 | 0.50 | 0.92 | 1.32 | 1.60 | 1.60 |
| | | 160 | 0.70 | 1.32 | 1.60 | 1.60 | 1.60 |
| | | 180 | 0.74 | 1.40 | 1.60 | 1.60 | 1.60 |
| | 2.5 | 5 | 0.36 | 0.60 | 0.81 | 1.00 | 1.36 |
| | | 10 | 0.43 | 0.73 | 0.99 | 1.24 | 1.69 |
| | | 20 | 0.49 | 0.84 | 1.17 | 1.47 | 2.01 |
| | | 30 | 0.54 | 0.93 | 1.31 | 1.65 | 2.28 |
| | | 50 | 0.60 | 1.04 | 1.47 | 1.88 | 2.50 |
| | | 80 | 0.70 | 1.26 | 1.79 | 2.30 | 2.50 |
| | | 115 | 0.78 | 1.43 | 2.06 | 2.50 | 2.50 |
| | | 160 | 1.10 | 2.06 | 2.50 | 2.50 | 2.50 |
| | | 180 | 1.16 | 2.19 | 2.50 | 2.50 | 2.50 |
| | 4.4 | 5 | 0.64 | 1.05 | 1.42 | 1.76 | 2.39 |
| | | 10 | 0.76 | 1.28 | 1.75 | 2.18 | 2.98 |
| | | 20 | 0.87 | 1.48 | 2.05 | 2.58 | 3.54 |
| | | 30 | 0.96 | 1.63 | 2.30 | 2.91 | 4.01 |
| | | 50 | 1.05 | 1.84 | 2.60 | 3.31 | 4.40 |
| | | 80 | 1.23 | 2.21 | 3.15 | 4.05 | 4.40 |
| | | 115 | 1.38 | 2.52 | 3.63 | 4.40 | 4.40 |
| | | 160 | 1.93 | 3.62 | 4.40 | 4.40 | 4.40 |
| | | 180 | 2.04 | 3.85 | 4.40 | 4.40 | 4.40 |

Notes:

1. Installed Cv is the Failure Cv for Safety Relief Valve Sizing
2. Assumes SST diaphragm, optimal spring range for set point, and minimum flow = 5% of Cv
3. Indicates valve reaches full Cv before offset is attained

MK50 SELF-OPERATING BACK PRESSURE REGULATORS

MAXIMUM WORKING PRESSURE, PSI

MAXIMUM WORKING PRESSURE, BAR

| Temp °F | 1/4" - 2" | | | | | |
|------------|-----------|------|--------------|----------|------|--------------|
| | DI Body | | | BRZ Body | | |
| | 150# | 300# | TE | 150# | 300# | TE |
| -20 to 100 | 250 | 600 | 300 [600] | 225 | 500 | 300 [500] |
| 200 | 235 | 600 | 300 [600] | 215 | 475 | 300 [475] |
| 300 | 215 | 565 | 300 [600] | 195 | 425 | 300 [425] |
| 400 | 200 | 525 | 300 [600] | 170 | 375 | 300 [375] |
| 500 | 170 | 495 | 300 [600] | 150 | 325 | 300 [325] |
| 600 | 140 | 465 | 300 [600] | — | — | — |
| 650 | 125 | 450 | 300 [600] | — | — | — |

| Temp °C | DN8 - DN50 | | | | | |
|-----------|------------|------|------------|----------|------|------------|
| | DI Body | | | BRZ Body | | |
| | 150# | 300# | TE | 150# | 300# | TE |
| -29 to 38 | 17 | 41 | 21 [41] | 16 | 34 | 21 [34] |
| 93 | 16 | 41 | 21 [41] | 15 | 33 | 21 [33] |
| 149 | 15 | 39 | 21 [41] | 13 | 29 | 21 [29] |
| 204 | 14 | 36 | 21 [41] | 12 | 26 | 21 [26] |
| 260 | 12 | 34 | 21 [41] | 10 | 22 | 21 [22] |
| 316 | 10 | 32 | 21 [41] | — | — | — |
| 343 | 9 | 31 | 21 [41] | — | — | — |

| Temp °F | 1/4" - 2" | | | | | |
|------------|-----------|------|--------------|---------|------|--------------|
| | CS Body | | | SS Body | | |
| | 150# | 300# | TE | 150# | 300# | TE |
| -20 to 100 | 285 | 740 | 300 [950] | 275 | 720 | 300 [950] |
| 200 | 260 | 675 | 300 [950] | 240 | 620 | 300 [950] |
| 300 | 230 | 655 | 300 [950] | 215 | 560 | 300 [950] |
| 400 | 200 | 635 | 300 [950] | 195 | 515 | 300 [950] |
| 500 | 170 | 600 | 300 [950] | 170 | 480 | 300 [950] |
| 600 | 140 | 550 | 300 [950] | 140 | 450 | 300 [905] |
| 650 | 125 | 535 | 300 [950] | 125 | 445 | 300 [890] |

| Temp °C | DN8 - DN50 | | | | | |
|-----------|------------|------|------------|---------|------|------------|
| | CS Body | | | SS Body | | |
| | 150# | 300# | TE | 150# | 300# | TE |
| -29 to 38 | 20 | 51 | 21 [66] | 19 | 49 | 21 [66] |
| 93 | 18 | 47 | 21 [66] | 17 | 43 | 21 [66] |
| 149 | 16 | 45 | 21 [66] | 15 | 39 | 21 [66] |
| 204 | 14 | 44 | 21 [66] | 13 | 36 | 21 [66] |
| 260 | 12 | 41 | 21 [66] | 12 | 33 | 21 [66] |
| 316 | 10 | 38 | 21 [66] | 10 | 31 | 21 [62] |
| 343 | 9 | 37 | 21 [66] | 9 | 31 | 21 [61] |

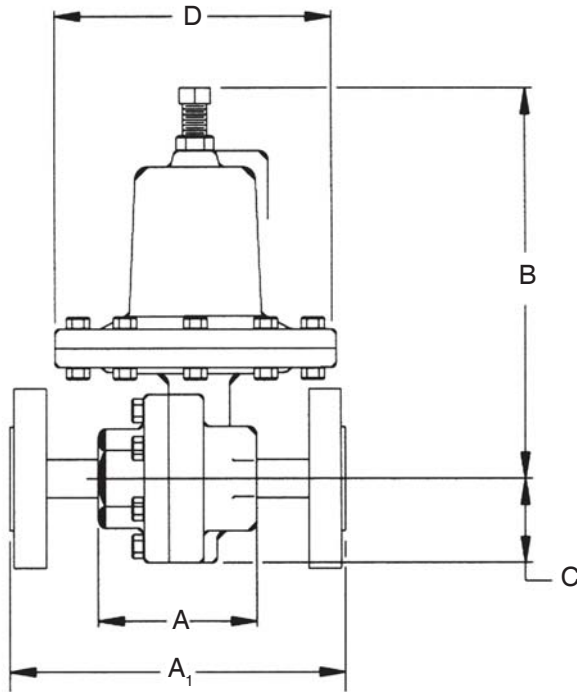
| Temp °F | 2-1/2" - 4" | | | | | |
|------------|-------------|------|---------|------|---------|------|
| | DI Body | | CS Body | | SS Body | |
| | 150# | 300# | 150# | 300# | 150# | 300# |
| -20 to 100 | 250 | 500 | 285 | 500 | 275 | 500 |
| 200 | 235 | 500 | 260 | 500 | 240 | 500 |
| 300 | 215 | 500 | 230 | 500 | 215 | 500 |
| 400 | 200 | 500 | 200 | 500 | 195 | 500 |
| 500 | 170 | 495 | 170 | 500 | 170 | 500 |
| 600 | 140 | 300 | 140 | 300 | 140 | 300 |
| 650 | 125 | 300 | 125 | 300 | 125 | 300 |

| Temp °C | DN65- DN100 | | | | | |
|-----------|-------------|------|---------|------|---------|------|
| | DI Body | | CS Body | | SS Body | |
| | 150# | 300# | 150# | 300# | 150# | 300# |
| -29 to 38 | 17 | 34 | 20 | 34 | 19 | 34 |
| 93 | 16 | 34 | 18 | 34 | 17 | 34 |
| 149 | 15 | 34 | 16 | 34 | 15 | 34 |
| 204 | 4 | 34 | 14 | 34 | 13 | 34 |
| 260 | 12 | 34 | 12 | 34 | 12 | 34 |
| 316 | 10 | 21 | 10 | 21 | 10 | 21 |
| 343 | 9 | 21 | 9 | 21 | 9 | 21 |

Notes:

- 1 Double bolting option is required to reach pressures indicated in Brackets [].
- 2 If weld flanges are supplied, use ratings in "TE" column or flange rating, whichever is less (i.e. ANSI 600/900 flanges or PN64/100 flanges).

DIMENSIONS — MK50/MK50QC



■ Mark 50: Integral Flanges: ANSI, CS & SS Bodies

| Size | ANSI Flange | A1 | | B | | C | D | Weight (lbs) | |
|--------|-------------|--------------------|-------------------|--------|-------|------|------|--------------|-------|
| | | DI/BRZ | CS/SS | DI/BRZ | CS/SS | All | All | DI/BRZ | CS/SS |
| 1/2" | 150# | 7.25 | 7.25 | 8.50 | 8.50 | 1.69 | 5.12 | 13 | 15 |
| | 300# | 7.50 | 7.50 | 8.50 | 8.50 | 1.69 | 5.12 | 14 | 16 |
| 3/4" | 150# | 7.25 | 7.25 | 8.50 | 8.50 | 1.69 | 5.12 | 14 | 16 |
| | 300# | 7.62 | 7.62 | 8.50 | 8.50 | 1.69 | 5.12 | 16 | 17 |
| 1" | 150# | 7.25 ¹ | 7.25 ² | 10.00 | 10.75 | 2.62 | 7.09 | 26 | 34 |
| | 300# | 8.75 ¹ | 7.75 ² | 10.00 | 10.75 | 2.62 | 7.09 | 28 | 37 |
| 1-1/4" | 150# | 7.87 | — | 10.00 | — | 2.62 | 7.09 | 28 | — |
| | 300# | 8.37 | — | 10.00 | — | 2.62 | 7.09 | 31 | — |
| 1-1/2" | 150# | 8.75 ¹ | 8.75 ² | 10.25 | 11.22 | 2.31 | 7.09 | 42 | 46 |
| | 300# | 10.25 ¹ | 9.25 ² | 10.25 | 11.22 | 2.31 | 7.09 | 45 | 52 |
| 2" | 150# | 10.00 | 10.00 | 10.25 | 11.42 | 2.75 | 7.09 | 46 | 50 |
| | 300# | 10.50 | 10.50 | 10.25 | 11.42 | 2.75 | 7.09 | 49 | 55 |

Note: dimensions for 2-1/2" - 4" sizes apply to DI bodies also.

1 Not ANSI standard 2 IFE only

■ Mark 50: Companion Flanges: ANSI, Ductile & Bronze Bodies

| Size | Flange | A | B | C | D | Weight (lbs) |
|--------|--------|--------|--------|-------|-------|--------------|
| 1/2" | 150# | 7.25" | 8.50" | 1.75" | 5.12" | 13# |
| | 300# | 7.50" | 8.50" | 1.87" | 5.12" | 14# |
| 3/4" | 150# | 7.25" | 8.50" | 1.93" | 5.12" | 14# |
| | 300# | 7.62" | 8.50" | 2.31" | 5.12" | 16# |
| 1" | 150# | 7.25" | 10.00" | 2.12" | 7.09" | 26# |
| | 300# | 8.75" | 10.00" | 2.43" | 7.09" | 28# |
| 1-1/4" | 150# | 7.87" | 10.00" | 2.31" | 7.09" | 28# |
| | 300# | 8.37" | 10.00" | 2.62" | 7.09" | 31# |
| 1-1/2" | 150# | 8.75" | 10.25" | 2.50" | 7.09" | 42# |
| | 300# | 10.25" | 10.25" | 3.06" | 7.09" | 45# |
| 2" | 150# | 10.00" | 10.25" | 3.00" | 7.09" | 46# |
| | 300# | 10.50" | 10.25" | 3.25" | 7.09" | 49# |

■ Mark 50/MK50QC*: Threaded & FSW Ends

| Size | Material | A | B | B~QC | C | D | Weight (lbs) |
|-------------|----------|-------|--------|--------|-------|-------|--------------|
| 1/2" & 3/4" | DI/BRZ | 3.62" | 8.50" | 10.25" | 1.69" | 5.12" | 10# |
| | CS/SS | 3.62" | 8.50" | 10.25" | 1.69" | 5.12" | 12# |
| 1" | DI/BRZ | 4.12" | 10.00" | 11.37" | 2.62" | 7.09" | 21# |
| | CS/SS | 4.18" | 10.75" | 12.00" | 2.63" | 7.09" | 25# |
| 1-1/4" | DI/BRZ | 4.12" | 10.00" | 11.37" | 2.62" | 7.09" | 21# |
| 1-1/2" | DI/BRZ | 4.50" | 10.25" | 11.37" | 2.31" | 7.09" | 23# |
| | CS/SS | 4.81" | 11.00" | 12.25" | 2.25" | 7.09" | 31# |
| 2" | DI/BRZ | 4.50" | 10.25" | 11.37" | 2.75" | 7.09" | 26# |
| | CS/SS | 5.50" | 11.00" | 12.25" | 2.75" | 7.09" | 35# |

*For MK50QC, use Column B~QC

■ Mark 50/MK50QC: Threaded & FSW Ends, Metric

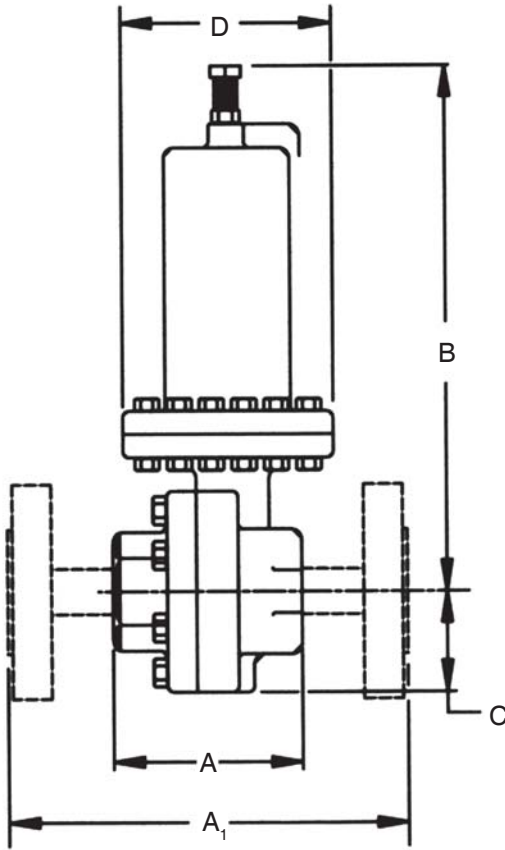
| Size | Material | A | B | B~QC | C | D | Weight (kg) |
|-----------|----------|--------|--------|--------|-------|--------|-------------|
| DN15 & 20 | DI/BRZ | 91,95 | 215,90 | 260,35 | 42,93 | 130,05 | 4,5 |
| | CS/SS | 91,95 | 215,90 | 260,35 | 42,93 | 130,05 | 5,4 |
| DN25 | DI/BRZ | 104,65 | 254,00 | 288,80 | 66,55 | 180,09 | 9,5 |
| | CS/SS | 106,17 | 273,05 | 304,80 | 66,55 | 180,09 | 11,3 |
| DN32 | DI/BRZ | 104,65 | 254,00 | 288,80 | 66,55 | 180,09 | 9,5 |
| DN40 | DI/BRZ | 114,30 | 260,35 | 288,80 | 58,67 | 180,09 | 10,4 |
| | CS/SS | 122,17 | 279,40 | 311,15 | 57,15 | 180,09 | 14,1 |
| DN50 | DI/BRZ | 114,30 | 260,35 | 288,80 | 69,85 | 180,09 | 11,8 |
| | CS/SS | 139,70 | 279,40 | 311,15 | 69,85 | 180,09 | 15,9 |

*For MK50QC, use Column B~QC

■ Mark 50: Flanged Ends, Metric

| Size DN | Flange PN | Dimensions (mm) | | | | | | Weight (kg) | |
|--------------------------|-----------|-----------------|-------|--------|-------|-----|-----|-------------|-------|
| | | A1 * | | B | | C | D | | |
| | | DI/BRZ | CS/SS | DI/BRZ | CS/SS | ALL | ALL | DI/BRZ | CS/SS |
| 15 | 10/16 | 184 | 130 | 216 | 240 | 43 | 130 | 5,9 | 6,8 |
| | 25/40 | 184 | 130 | 216 | 240 | 43 | 130 | 6,4 | 7,3 |
| 20 | 10/16 | 184 | 150 | 216 | 240 | 43 | 130 | 6,4 | 7,3 |
| | 25/40 | 184 | 150 | 216 | 240 | 43 | 130 | 7,3 | 7,7 |
| 25 | 10/16 | 184 | 160 | 273 | 262 | 67 | 180 | 11,8 | 15,4 |
| | 25/40 | 184 | 160 | 273 | 262 | 67 | 180 | 12,7 | 16,8 |
| 32 | 10/16 | 200 | — | 273 | — | 67 | 180 | 12,7 | — |
| | 25/40 | 200 | — | 273 | — | 67 | 180 | 14,1 | — |
| 40 | 10/16 | 222 | 200 | 279 | 285 | 59 | 180 | 19,1 | 20,9 |
| | 25/40 | 222 | 200 | 279 | 285 | 59 | 180 | 20,4 | 23,6 |
| 50 | 10/16 | 254 | 230 | 279 | 290 | 70 | 180 | 20,9 | 22,7 |
| | 25/40 | 254 | 230 | 279 | 290 | 70 | 180 | 22,2 | 24,9 |
| FLANGED END CS/SS | | | | | | | | | |
| Larger sizes | | A1 * | | B | | C | D | Weight (kg) | |
| 65 | 10/16 | 283 | | 476 | | 177 | 324 | 75 | |
| | 25/40 | 283 | | 476 | | 177 | 324 | 75 | |
| 80 | 10/16 | 312 | | 476 | | 177 | 324 | 84 | |
| | 25/40 | 312 | | 476 | | 177 | 324 | 84 | |
| 100 | 10/16 | 350 | | 507 | | 203 | 324 | 98 | |
| | 25/40 | 350 | | 507 | | 203 | 324 | 98 | |

DIMENSIONS — MK50HP



■ Mark 50HP: Flanged End

| Size | Flange | A1 | | B • | C | D | Weight (lbs) |
|--------|--------|--------|--------|--------|-------|-------|--------------|
| | | DI/BRZ | CS/SS | All | All | All | All |
| 1/2" | 150# | 7.25" | 7.25" | 12.25" | 1.69" | 5.20" | 21 • |
| | 300# | 7.50" | 7.50" | 12.25" | 1.69" | 5.20" | |
| | • 600# | 8.00" | 8.00" | 12.25" | 1.69" | 5.20" | |
| 3/4" | 150# | 7.25" | 7.25" | 12.25" | 1.69" | 5.20" | 22 • |
| | 300# | 7.62" | 7.62" | 12.25" | 1.69" | 5.20" | |
| | • 600# | 8.12" | 8.12" | 12.25" | 1.69" | 5.20" | |
| 1" | 150# | 7.25" | 7.25" | 12.75" | 2.62" | 5.20" | 37 |
| | 300# | 7.75" | 7.75" | 12.75" | 2.62" | 5.20" | |
| | • 600# | 8.25" | 8.25" | 12.75" | 2.62" | 5.20" | |
| 1-1/4" | 150# | 7.87" | — | 12.75" | 2.62" | 5.20" | 37 |
| | 300# | 8.37" | — | 12.75" | 2.62" | 5.20" | |
| 1-1/2" | 150# | 8.75" | 8.75" | 13.25" | 2.31" | 5.20" | 45 |
| | 300# | 9.25" | 9.25" | 13.25" | 2.31" | 5.20" | |
| | • 600# | 9.87" | 9.87" | 13.25" | 2.31" | 5.20" | |
| 2" | 150# | 10.00" | 10.00" | 13.50" | 2.75" | 5.20" | 49 |
| | 300# | 10.50" | 10.50" | 13.50" | 2.75" | 5.20" | |
| | • 600# | 11.25" | 11.25" | 13.50" | 2.75" | 5.20" | |

- 600# are not IFE
- For IFE, add 1" (25,4mm) to all "B" dimensions

■ Mark 50HP: Flanged End, Metric³

| Size DN | Flange PN | A1 | | B ² | C | D | Weight (kg) |
|---------|-----------|---------------------|--------|----------------|-------|--------|-------------|
| | | DI/BRZ ¹ | CS/SS | All | All | All | All |
| 15 | 10/16 | 184,15 | 130,00 | 311,15 | 42,93 | 132,08 | 9,5 |
| | 25/40 | 184,15 | 130,00 | 311,15 | 42,93 | 132,08 | |
| 20 | 10/16 | 184,15 | 150,00 | 311,15 | 42,93 | 132,08 | 10,0 |
| | 25/40 | 184,15 | 150,00 | 311,15 | 42,93 | 132,08 | |
| 25 | 10/16 | 184,15 | 160,00 | 323,85 | 66,55 | 132,08 | 16,8 |
| | 25/40 | 184,15 | 160,00 | 323,85 | 66,55 | 132,08 | |
| 32 | 10/16 | 199,90 | — | 323,85 | 66,55 | 132,08 | 16,8 |
| | 25/40 | 199,90 | — | 323,85 | 66,55 | 132,08 | |
| 40 | 10/16 | 222,25 | 200,00 | 336,55 | 58,67 | 132,08 | 20,4 |
| | 25/40 | 222,25 | 200,00 | 336,55 | 58,67 | 132,08 | |
| 50 | 10/16 | 254,00 | 230,00 | 342,90 | 69,85 | 132,08 | 22,2 |
| | 25/40 | 254,00 | 230,00 | 342,90 | 69,85 | 132,08 | |

- 1 Not IFE & Not per DIN3202
- 2 For IFE, Add 25,4mm
- 3 PN64/100 welded flanges, consult factory

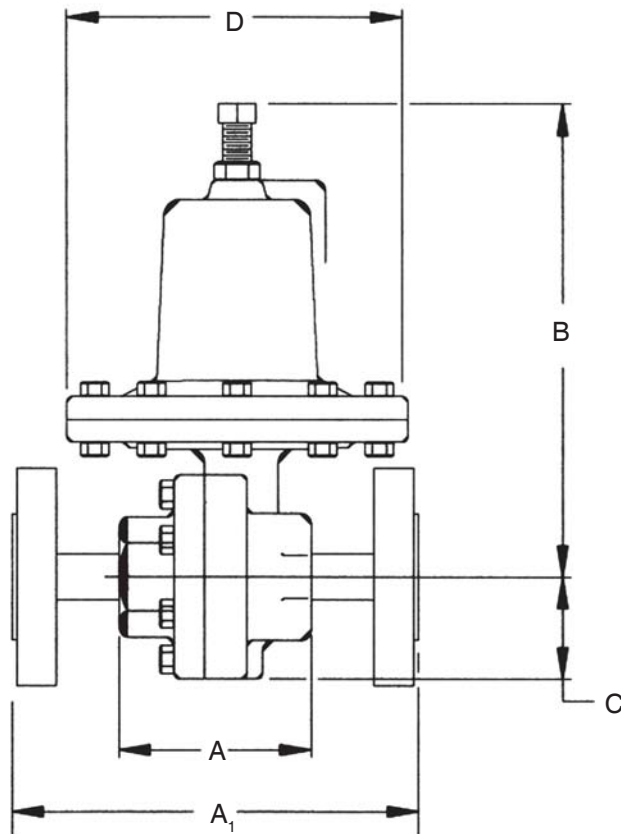
■ Mark 50HP: Threaded & FSW Ends

| Size | Material | A | B | C | D | Weight (lbs) |
|-------------|----------|-------|--------|-------|-------|--------------|
| 1/2" & 3/4" | DI/BRZ | 3.62" | 12.25" | 1.75" | 5.12" | 15 |
| | CS/SS | 3.62" | 12.25" | 1.75" | 5.12" | 17 |
| 1" | DI/BRZ | 4.12" | 12.50" | 2.12" | 5.20" | 21 |
| | CS/SS | 4.18" | 12.75" | 2.12" | 5.20" | 25 |
| 1-1/4" | DI/BRZ | 4.12" | 12.50" | 2.12" | 5.20" | 21 |
| 1-1/2" | DI/BRZ | 4.50" | 12.75" | 2.31" | 5.20" | 23 |
| | CS/SS | 4.81" | 13.25" | 2.50" | 5.20" | 31 |
| 2" | DI/BRZ | 4.50" | 12.75" | 2.50" | 5.20" | 26 |
| | CS/SS | 5.50" | 13.50" | 2.50" | 5.20" | 35 |

■ Mark 50HP: Threaded & FSW Ends, Metric

| Size | Material | A | B | C | D | Weight (kg) |
|-----------|----------|--------|--------|-------|--------|-------------|
| DN15 & 20 | DI/BRZ | 91,95 | 311,15 | 44,45 | 130,05 | 6,8 |
| | CS/SS | 91,95 | 311,15 | 44,45 | 130,05 | 7,7 |
| DN25 | DI/BRZ | 104,65 | 317,50 | 53,85 | 132,08 | 9,5 |
| | CS/SS | 106,17 | 323,85 | 53,85 | 132,08 | 11,3 |
| DN32 | DI/BRZ | 104,65 | 317,50 | 53,85 | 132,08 | 9,5 |
| DN40 | DI/BRZ | 114,30 | 323,85 | 58,67 | 132,08 | 10,4 |
| | CS/SS | 122,17 | 336,55 | 63,50 | 132,08 | 14,1 |
| DN50 | DI/BRZ | 114,30 | 323,85 | 63,50 | 132,08 | 11,8 |
| | CS/SS | 139,70 | 342,90 | 63,50 | 132,08 | 15,9 |

DIMENSIONS — MK51



■ Mark 51: Threaded & FSW Ends

| Size | Material | A | B | C | D | Weight (lbs) |
|-------------|----------|------|-------|------|------|--------------|
| 1/2" & 3/4" | DI/BRZ | 3.62 | 10.25 | 2.25 | 7.12 | 12 |
| | CS/SS | 3.62 | 10.25 | 2.25 | 7.12 | 13 |

■ Mark 51: Flanged Ends

| Size | ANSI Flange | A1 | | B | | C | D | Weight (lbs) | |
|------------|-------------|--------|-------|--------|-------|------|------|--------------|-------|
| | | DI/BRZ | CS/SS | DI/BRZ | CS/SS | All | All | DI/BRZ | CS/SS |
| 1/2 & 3/4" | 150# | 9.62 | 9.62 | 10.25 | 10.25 | 2.25 | 7.12 | 26 | 26 |
| | 300# | 10.25 | 10.25 | 10.25 | 10.25 | 2.25 | 7.12 | 29 | 29 |

■ Mark 51: Threaded & FSW Ends, Metric

| Size | Material | A | B | C | D | Weight (kg) |
|-----------|----------|-------|--------|-------|--------|-------------|
| DN15 & 20 | DI/BRZ | 91,95 | 260,35 | 57,15 | 180,85 | 5,4 |
| | CS/SS | 91,95 | 260,35 | 57,15 | 180,85 | 5,9 |

■ Mark 51: Flanged Ends, Metric

| Size DN | Flange PN | A1 ¹ | | B | | C | D | Weight (kg) | |
|---------|-----------|-----------------|-------|--------|-------|------|-------|-------------|-------|
| | | DI/BRZ | CS/SS | DI/BRZ | CS/SS | All | All | DI/BRZ | CS/SS |
| 15 & 20 | 10/16 | 244,4 | 244,4 | 260,4 | 260,4 | 57,2 | 180,9 | 11,8 | 11,8 |
| | 25/40 | 260,4 | 260,4 | 260,4 | 260,4 | 57,2 | 180,9 | 13,2 | 13,2 |

Note: 1/4" & 3/8" utilize 1/2" body with reducer bushings

1 Not per DIN3202

MK50 SELF-OPERATED BACK PRESSURE REGULATORS

ORDERING SCHEMATIC

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|----|
| 1 | - | 2 | - | 3 | / | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|----|

| 1 | Model | |
|---|-------|-----------------|
| | 50 | Standard |
| | 50HP | High Pressure |
| | 50QC | Quick Change |
| | 51 | Large Diaphragm |

| 2 | Size | | |
|---|------|-------------------------|-------|
| | | Inches | DN |
| | 025 | 1/4" | DN8 |
| | 038 | 3/8" | DN10 |
| | 050 | 1/2" | DN15 |
| | 075 | 3/4" | DN20 |
| | 100 | 1" | DN25 |
| | 125 | 1-1/4" | DN32 |
| | 150 | 1-1/2" | DN40 |
| | 200 | 2" | DN50 |
| | 250 | 2-1/2" (MK50/50HP only) | DN65 |
| | 300 | 3" (MK50/50HP only) | DN80 |
| | 400 | 4" (MK50/50HP only) | DN100 |

MK51 available in 1/4" through 3/4" only

| 3 | Body Material | |
|---|---------------|-------------------------|
| | DI | Ductile Iron |
| | BR | Bronze (1/4" - 2") |
| | CS | Carbon Steel |
| | S6 | Stainless Steel |
| | CI | Cast Iron (2-1/2" - 4") |

| 4 | End Connections | |
|---|-------------------|--------------------------------|
| | 1-4" - 2" MK50/51 | |
| | PT | NPT |
| | BT | BSPT |
| | BP | BSPP |
| | SW | FSW |
| | I5 | 150# IFE |
| | F5 | 150# FE (Except IFE) |
| | I3 | 300# IFE |
| | F3 | 300# FE (Except IFE) |
| | 2-1/2" - 4" MK50 | |
| | I1 | 125# IFE |
| | I5 | 150# IFE |
| | I2 | 250# IFE |
| | I3 | 300# IFE |
| | I7 | PN 10 DIN IFE (CS/S6) DN15-150 |
| | I6 | PN 16 DIN IFE (CS/S6) DN15-150 |
| | I8 | PN 25 DIN IFE (CS/S6) DN15-150 |
| | I4 | PN 40 DIN IFE (CS/S6) DN15-150 |

| 5 | Trim | |
|---|------|------------------------|
| | S3 | 303SS |
| | S6 | 316SS |
| | I3 | 303SSF/IFE (1/4" - 2") |
| | I6 | 316SSF/IFE (1/4" - 2") |

| 6 | Seat Material | |
|---|---------------|--------------------|
| | A | 303SST (1/4" - 2") |
| | B | 316SST (1/4" - 2") |
| | V | 303SS/Jorcote |
| | W | 316SS/Jorcote |
| | X | 303SS/JOR/JIC |
| | Y | 316SS/JOR/JIC |

| 7 | Cv (Kv) | | | |
|---|---------|-------------|-------------------|--------------|
| | 1 | 0.21 (0,28) | 9 | 15 (12,93) |
| | 2 | 0.42 (0,36) | A | 25 (21,55) |
| | 3 | 0.84 (0,72) | B | 30 (25,86) |
| | 4 | 1.6 (1,38) | D* | 55 (47,41) |
| | 5 | 2.5 (2,16) | F* | 85 (73,28) |
| | 6 | 4.4 (3,79) | G* | 115 (99,14) |
| | 7 | 6.4 (5,52) | I* | 200 (172,41) |
| | 8 | 9.5 (8,19) | * 2-12" - 4" only | |

| 8 | MK50/50QC Spring Range PSI (BAR) | | | | | |
|---|----------------------------------|---------------------|---------|---------------------|-------------|-------------------|
| | 1/4" - 3/4" | | 1" - 2" | | 2-1/2" - 4" | |
| | 14 | 2-20 (0,14-1,38) | 03 | 1/2-4 (0,03-0,28) | 22 | 4-15 (0,28-1,3) |
| | 34 | 10-30 (0,69-2,07) | 06 | 2-6 (0,14-0,41) | 30 | 7-24 (0,48-1,65) |
| | 53 | 20-45 (1,38-3,10) | 21 | 4-13 (0,28-0,90) | 52 | 16-30 (1,10-2,07) |
| | 76 | 30-135 (2,07-9,31) | 31 | 8-20 (0,55-1,38) | | |
| | A4 | 80-185 (5,52-12,76) | 50 | 15-80 (1,3-5,52) | | |
| | | | 95 | 45-150 (3,10-10,34) | | |

| 8 | Range (MK50HP) | | | |
|---|----------------|-----------------------|-------------|-------------------|
| | 1/2" - 2" | | 2-1/2" - 4" | |
| | A1 | 75-190 (5,17-13,10) | 64 | 25-50 (1,72-3,45) |
| | A7 | 100-320 (6,89-22,06) | 82 | 40-80 (2,76-5,52) |
| | A9 | 150-450 (10,34-31,02) | | |

| 8 | MK61 Spring Range PSI (BAR) | | | |
|---|-----------------------------|-------------------|-------------------|---------------------|
| | | 04 | 1/2-5 (0,03-0,34) | 62 |
| | 08 | 2-10 (0,14-0,69) | 86 | 40-105 (2,76-7,24) |
| | 14 | 2-20 (0,14-1,38) | 69 | 25-150 (1,72-10,34) |
| | 34 | 10-30 (0,69-2,07) | 79 | 30-170 (2,07-11,72) |
| | 54 | 20-50 (1,38-3,45) | | |

| 9 | Diaphragm | |
|---|-----------|--------------------------|
| | S6 | 316 SST (1/4" - 2" only) |
| | V1 | Viton |
| | BN | Buna-N |
| | JL | Jorlon |

| 10 | Actuator | |
|----|----------|--------------------------------------|
| | MD | for Metal Diaphragm (1/4" - 2" only) |
| | ED | for Elastomer Diaphragm |

Mark 501/502 Series

High Flow Back Pressure Regulators

The Mark 501 and 502 meet higher capacity requirements than standard back pressure regulators. The High Flow Mark 501 has Cv's as high as 50 (43Kv) and the Super High Flow Mark 502 has Cv's up to 70 (60,2 Kv). Each valve is standard with Jordan's Sliding Gate Seats, which helps to reduce the build-up commonly associated with high flow back pressure regulators.

Jordan's unique self-operated sliding gate back pressure regulator offers:

- Shorter stroke than a globe or plug-style valve
 - Faster response
 - Smaller and lighter weight than globe-style valves
 - Less build-up
- Straightthrough -flow
 - Less turbulence, erosion and noise
 - Improved rangeability
 - Longer seat life
- Ease of maintenance
 - Interchangeable seats and Cv's
 - Fewer spare parts
 - Self-cleaning seats
 - No gaskets or o-rings



Diaphragm Materials

- Stainless Steel — standard
- Buna-N — optional
- Jorlon — optional
- Viton — optional

Service: Steam, water, oil, gas, air and chemicals

Shutoff: ANSI Class IV

Reduced Pressure Control Ranges: Select a range to match your setpoint. For optimal performance, your setpoint should fall in the upper portion of the selected range.

SPECIFICATIONS

Sizes: 1-1/2" & 2" (DN40 & DN50)

End Connections

- Threaded (FNPT, BSPT, BSPP)
- ANSI Flanges (150#, 300#)
- DIN Flanges (PN10/16, PN25/40)

Body Materials

- Ductile Iron
- Bronze
- Carbon Steel (A216 WCB)
- Stainless Steel (A351/CF8M)

Trim Materials

- 303SST — Standard on Ductile Iron, Bronze, Carbon Steel valves
- 316SST — Standard on Stainless Steel Valves
- Monel, Hastelloy and other Alloys available

Seat Materials

- Jorcote on SST — Standard
- Jorcote/Jordanic on SST — For Severe Service

| Model | Size (DN) | Spring Ranges | |
|-----------|------------------------------|---------------|--------------|
| | | PSI | BAR |
| 501 & 502 | 1-1/2" - 2" (DN40 - DN50) | 8 - 20 | 0,55 - 1,38 |
| | | 15 - 80 | 1,03 - 5,52 |
| | | 45 - 150 | 3,10 - 10,34 |

Cv Values & Maximum Differential Pressures

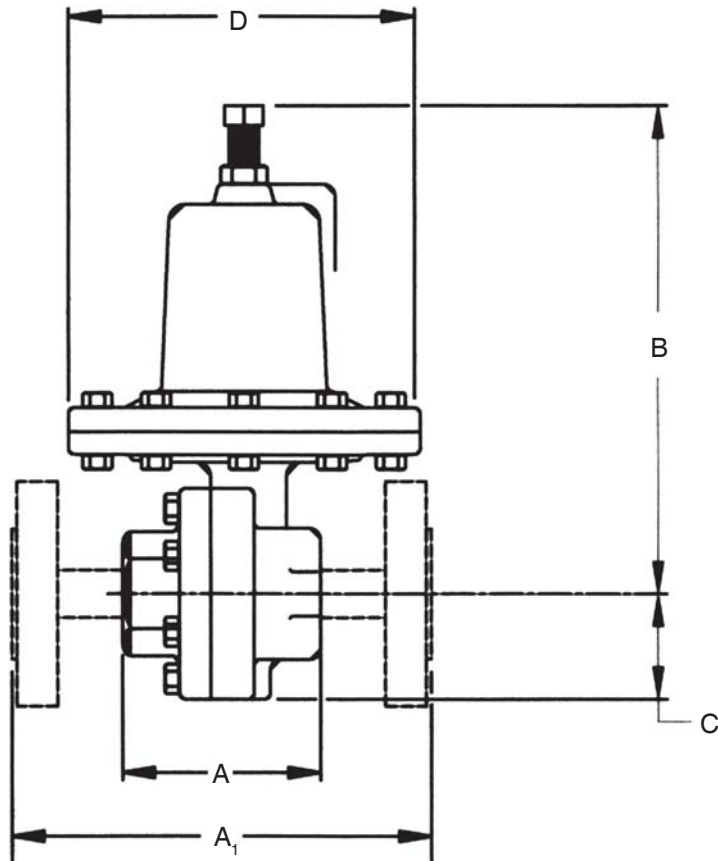
- Mark 501

| Cv (Kv) | Size (DN) | Seat Material | Maximum ΔP PSI (bar) |
|-----------|------------------------------|---------------|----------------------|
| 25 (21,5) | 1-1/2" & 2" (DN40 & DN50) | Jorcote | 150 (10,34) |
| 30 (25,8) | 1-1/2" & 2" (DN40 & DN50) | Jorcote | 150 (10,34) |
| 35 (30,1) | 1-1/2" & 2" (DN40 & DN50) | Jorcote | 150 (10,34) |
| 45 (38,7) | 1-1/2" (DN40) | Jorcote | 150 (10,34) |
| 50 (43,0) | 2" (DN50) | Jorcote | 150 (10,34) |

- Mark 502

| Cv (Kv) | Size (DN) | Seat Material | Maximum ΔP PSI (bar) |
|-----------|------------------|---------------|----------------------|
| 65 (55,9) | 1-1/2" (DN40) | Jorcote | 150 (10,34) |
| 70 (60,2) | 2" (DN50) | Jorcote | 150 (10,34) |

DIMENSIONS



■ Mark 501/502: Threaded & FSW Ends

| Size | Material | A | B | C | D | Weight (lbs) |
|-------------|----------|------|-------|------|------|--------------|
| 1-1/2" - 2" | DI/BRZ | 4.50 | 10.25 | 2.75 | 7.09 | 26 |
| | CS/SS | 5.50 | 11.00 | 2.75 | 7.09 | 35 |

■ Mark 501/502: Threaded & FSW Ends, Metric

| Size | Material | A | B | C | D | Weight (kg) |
|---------------|----------|-------|-------|------|-------|-------------|
| DN40- DN50 | DI/BRZ | 114,3 | 260,4 | 69,9 | 180,1 | 11,8 |
| | CS/SS | 139,7 | 279,4 | 69,9 | 180,1 | 15,9 |

■ Mark 501/502: Flanged Ends

| Size | ANSI Flange | A1 | | B | | C | D | Weight (lbs) | |
|--------|-------------|--------|--------|--------|-------|------|------|--------------|-------|
| | | DI/BRZ | CS/SS | DI/BRZ | CS/SS | All | All | DI/BRZ | CS/SS |
| 1-1/2" | 150# | 10.00* | 10.00* | 10.25 | 11.22 | 2.31 | 7.09 | 42 | 46 |
| | 300# | 10.25* | 10.25* | 10.25 | 11.22 | 2.31 | 7.09 | 45 | 52 |
| 2" | 150# | 10.00 | 10.00 | 10.25 | 11.42 | 2.75 | 7.09 | 46 | 50 |
| | 300# | 10.50 | 10.50 | 10.25 | 11.42 | 2.75 | 7.09 | 49 | 55 |

- Not IFE
- Not ANSI Standard

■ Mark 501/502: Flanged Ends, Metric

| Size | Flange PN | A1 | | B | | C | D | Weight (kg) | |
|------|-----------|--------|--------|--------|-------|------|-------|-------------|-------|
| | | DI/BRZ | CS/SS | DI/BRZ | CS/SS | All | All | DI/BRZ | CS/SS |
| DN40 | 10/16 | 254,0 | 254,0* | 279,0 | 285,0 | 58,7 | 180,1 | 19,1 | 20,9 |
| | 25/40 | 260,4 | 260,4* | 279,0 | 285,0 | 58,7 | 180,1 | 20,4 | 23,6 |
| DN50 | 10/16 | 254,0 | 230,0 | 279,0 | 290,1 | 69,9 | 180,1 | 20,9 | 22,7 |
| | 25/40 | 266,7 | 230,0 | 279,0 | 290,1 | 69,9 | 180,1 | 22,2 | 24,9 |

- Not IFE
- Not per DIN3202

ORDER SCHEMATIC

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|----|----|----|
| 1 | — | 2 | — | 3 | / | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| | | | | | | | | | | | | | | |

| 1 | Model | |
|---|-------|-----------------|
| | 501 | High Flow |
| | 502 | Super High Flow |

| 2 | Size | | |
|---|------|--------|------|
| | | Inches | DN |
| | 150 | 1-1/2" | DN40 |
| | 200 | 2" | DN50 |

| 3 | Body Material | |
|---|---------------|-----------------|
| | DI | Ductile Iron |
| | BR | Bronze |
| | CS | Carbon Steel |
| | S6 | Stainless Steel |

| 4 | End Connections | |
|---|-----------------|----------------------|
| | PT | NPT |
| | BT | BSPT |
| | I5 | 150# IFE CS or SST* |
| | F5 | 150# FE DI or BR |
| | I7 | PN10 IFE, CS or SST* |
| | F7 | PN10 FE DI or BR |
| | I6 | PN16 IFE, CS or SST* |
| | F6 | PN16 FE DI or BR |
| | BP | BSPP |
| | SW | FSW |
| | I3 | 300# IFE, CS or SST* |
| | F3 | 300# FE DI or BR |
| | I8 | PN25 IFE, CS or SST* |
| | F8 | PN25 FE DI or BR |
| | I4 | PN40 IFE, CS or SST* |
| | F4 | PN40 FE DI or BR |

* IFE (integral flanged end) for 2" only
FE is threaded or weld flanges

| 5 | Trim | |
|---|------|------------|
| | S3 | 303SS |
| | S6 | 316SS |
| | I3 | 303SSF/IFE |
| | I6 | 316SSF/IFE |

| 6 | Seat Material | |
|---|---------------|---------------|
| | V | 303SS/Jorcote |
| | W | 316SS/Jorcote |
| | X | 303SS/JOR/JIC |
| | Y | 316SS/JOR/JIC |

| 7 | CV (Kv) | |
|---|---------|---------|
| | A | 25 (22) |
| | B | 30 (26) |
| | V | 35 (30) |
| | W | 45 (39) |
| | C | 50 (43) |
| | Y | 65 (56) |
| | E | 70 (60) |

| 8 | Range | |
|---|-------|---------------------|
| | 53 | 20-45 (1,38-3,01) |
| | 75 | 30-95 (2,07-6,55) |
| | 97 | 60-160 (4,14-11,03) |

| 9 | Diaphragm | |
|---|-----------|---------|
| | S6 | 316 SST |
| | V1 | Viton |
| | BN | Buna-N |
| | JL | Jorlon |

| 10 | Actuator | |
|----|----------|-------------------------|
| | MD | for Metal Diaphragm |
| | ED | for Elastomer Diaphragm |

| 11 | Double Bolting | |
|----|----------------|--------------|
| | 00 | None |
| | ZZ | Non-Standard |

| 12 | Accessories | |
|----|-------------|------------------------|
| | 0 | None |
| | 6 | 316 SS Bolting |
| | 7 | Hi-temperature bolting |
| | Z | Non-standard |