



APPLICATIONS

Ideal for high-cycle applications, filling systems, galvanizing and pickling systems, water treatment systems, dosing and chemical feed lines as well as general applications that involve aggressive atmospheres that can affect actuators constructed of iron and steel.

The consistent tight-shutoff, high-cycle performance and compact size of the 687 series make it an ideal alternative to ball valves.

ACCESSORIES

- Handwheel manual override
- Electrical limit and proximity switches
- Visual position indicator
- Pneumatic and electro-pneumatic positioners
- Stroke limiters
- Safety packing
- “V” notch vent plug

DESIGN FEATURES

- Compact design
- Sizes 1/2” - 4”
- Corrosion resistant glass filled polypropylene housing with stainless steel distance piece
- 3 action modes: fail open, fail closed and double acting
- Accepts standard elastomer and Teflon faced diaphragms without changing internal components.

Technical Data

| Nominal Size | | Conversion Factors | Maximum Working Pressure | | | | | | |
|--------------|--------|--------------------|--------------------------|--------------------|--------|--------------------|--------|--------------------|--------|
| | | | bar/psi | Control Function 1 | | Control Function 2 | | Control Function 3 | |
| | | | | Elastomer | Teflon | Elastomer | Teflon | Elastomer | Teflon |
| 15 | 1/2" | Metric | bar | 0 - 10 | 0 - 6 | 0 - 10 | 0 - 6 | 0 - 10 | 0 - 6 |
| | | US | psi | 0 - 150 | 0 - 90 | 0 - 150 | 0 - 90 | 0 - 150 | 0 - 90 |
| 20 | 3/4" | Metric | bar | 0 - 10 | 0 - 6 | 0 - 10 | 0 - 6 | 0 - 10 | 0 - 6 |
| | | US | psi | 0 - 150 | 0 - 90 | 0 - 150 | 0 - 90 | 0 - 150 | 0 - 90 |
| 25 | 1" | Metric | bar | 0 - 10 | 0 - 6 | 0 - 10 | 0 - 6 | 0 - 10 | 0 - 6 |
| | | US | psi | 0 - 150 | 0 - 90 | 0 - 150 | 0 - 90 | 0 - 150 | 0 - 90 |
| 32 | 1 1/4" | Metric | bar | 0 - 10 | 0 - 6 | 0 - 10 | 0 - 6 | 0 - 10 | 0 - 6 |
| | | US | psi | 0 - 150 | 0 - 90 | 0 - 150 | 0 - 90 | 0 - 150 | 0 - 90 |
| 40 | 1 1/2" | Metric | bar | 0 - 10 | 0 - 6 | 0 - 10 | 0 - 6 | 0 - 10 | 0 - 6 |
| | | US | psi | 0 - 150 | 0 - 90 | 0 - 150 | 0 - 90 | 0 - 150 | 0 - 90 |
| 50 | 2" | Metric | bar | 0 - 10 | 0 - 6 | 0 - 10 | 0 - 6 | 0 - 10 | 0 - 6 |
| | | US | psi | 0 - 150 | 0 - 90 | 0 - 150 | 0 - 90 | 0 - 150 | 0 - 90 |
| 80 | 3" | Metric | bar | 0 - 8 | 0 - 5 | 0 - 10 | 0 - 6 | 0 - 10 | 0 - 6 |
| | | US | psi | 0 - 120 | 0 - 75 | 0 - 150 | 0 - 90 | 0 - 150 | 0 - 90 |
| 100 | 4" | Metric | bar | 0 - 6 | 0 - 4 | 0 - 10 | 0 - 6 | 0 - 6 | 0 - 6 |
| | | US | psi | 0 - 90 | 0 - 60 | 0 - 150 | 0 - 90 | 0 - 90 | 0 - 90 |

Note: All pressures are gauge pressures when applied upstream.

The C_v values for different body configurations vary due to differences in valve construction (i.e., Port size, body material, diaphragm material, etc.).

Max permissible working temperature:

300°F (depending on diaphragm and body materials).

The valve will seal against flow in either direction up to full working pressure.

Control Medium

Min. Required control pressure:

Max. Permissible control pressure:

Max. Permissible temp. of control medium:

5." To 2" 3" & 4"

45 psi 80 psi

90 psi 105 psi

100°F

Actuator volume:

1/2" to 1"

1 1/2"

2"

3"

4"

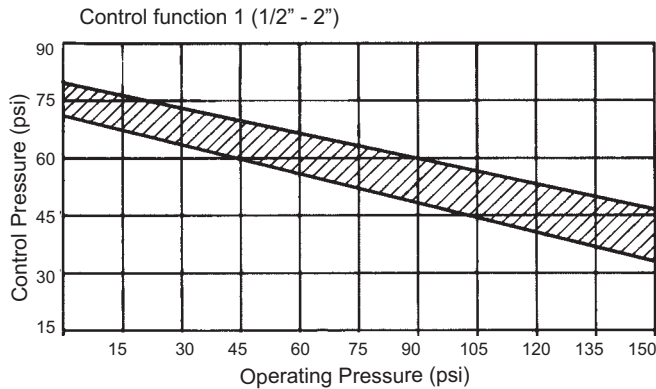
9.2 cubic inches

21.4 cubic inches

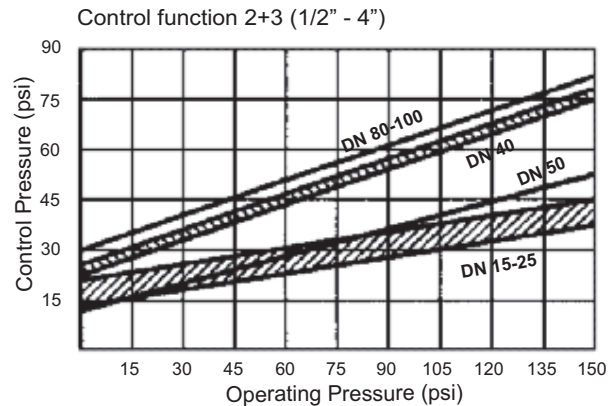
67.1 cubic inches

152.6 cubic inches

152.6 cubic inches



Above control pressures apply to maximum stroke of valve. Values are lower for lower strokes.



The values shown relate to control function 2 (with lifting spring). For control function 3 (without lifting spring) control pressure is approx. 1 bar lower.

Dimensional Data

Dimensions

| Nominal Sizes | | Units | CF 1 (STC) | CF 2 (STO), 3 (D/A) | F | G | ØB | Weight | |
|---------------|--------|-------|------------|---------------------|-------|------|-------|--------|----|
| mm | in | | A | A1 | | | | kg/lb | |
| 15 | 1/2" | mm | 169 | 127 | 77 | 1/4" | 125 | kg | 3 |
| | | in | 6.65 | 5 | 3.03 | | 4.92 | lb | 6 |
| 20 | 3/4" | mm | 171.5 | 129.5 | 79.5 | 1/4" | 125 | kg | 3 |
| | | in | 6.75 | 5.1 | 3.13 | | 4.92 | lb | 6 |
| 25 | 1" | mm | 174 | 132 | 82 | 1/4" | 125 | kg | 3 |
| | | in | 6.85 | 5.2 | 3.23 | | 4.92 | lb | 6 |
| 32 | 1 1/4" | mm | 215.7 | 166.7 | 106.7 | 1/4" | 155 | kg | 6 |
| | | in | 8.49 | 6.56 | 4.2 | | 6.1 | lb | 14 |
| 40 | 1 1/2" | mm | 220 | 171 | 111 | 1/4" | 155 | kg | 6 |
| | | in | 8.66 | 6.73 | 4.37 | | 6.1 | lb | 14 |
| 50 | 2" | mm | 261 | 200 | 132 | 1/4" | 210 | kg | 10 |
| | | in | 10.28 | 7.87 | 5.2 | | 8.27 | lb | 22 |
| 65 | 2 1/2" | mm | 383 | 307 | 215 | 1/4" | 258 | kg | 24 |
| | | in | 15.08 | 12.09 | 8.46 | | 10.16 | lb | 53 |
| 80 | 3" | mm | 391.5 | 315.5 | 223.5 | 1/4" | 258 | kg | 24 |
| | | in | 15.41 | 12.42 | 8.8 | | 10.16 | lb | 53 |
| 100 | 4" | mm | 402 | 323 | 231 | 1/4" | 328 | kg | 30 |
| | | in | 15.83 | 12.72 | 9.09 | | 12.91 | lb | 66 |

