

DelVal[®] SERIES 50/52

Resilient Seated Butterfly Valves

Wafer & Lug

Sizes 2"-24" / DN 50 - DN 600

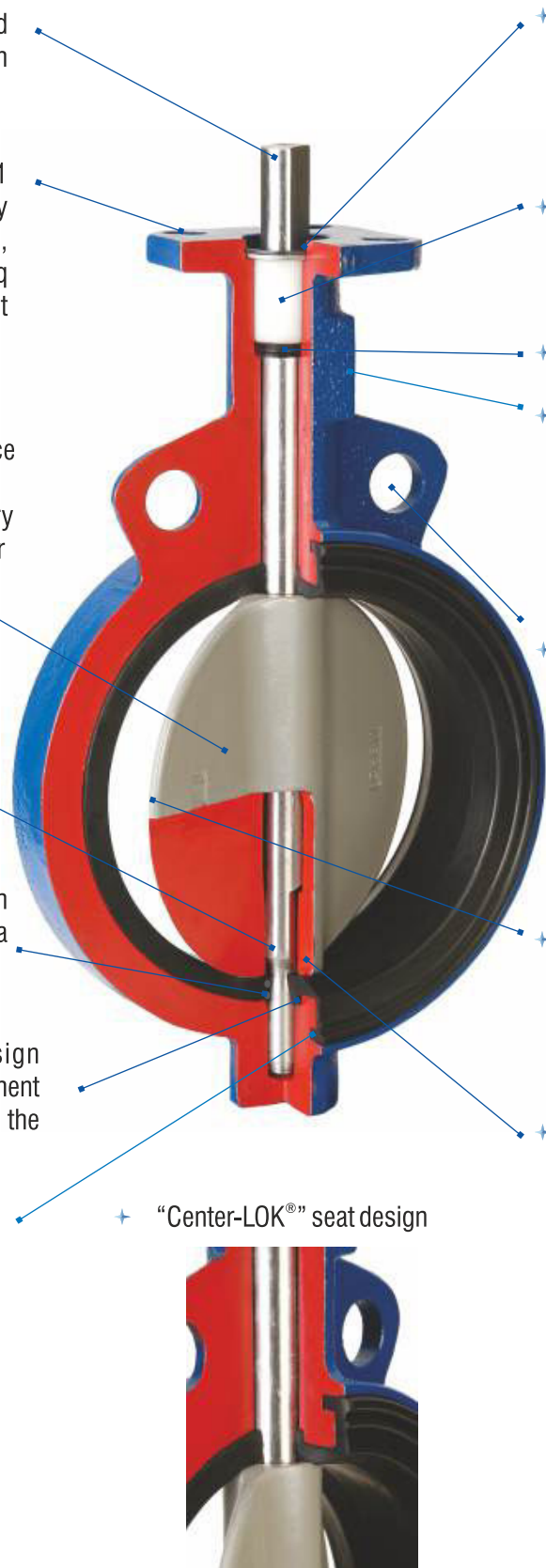


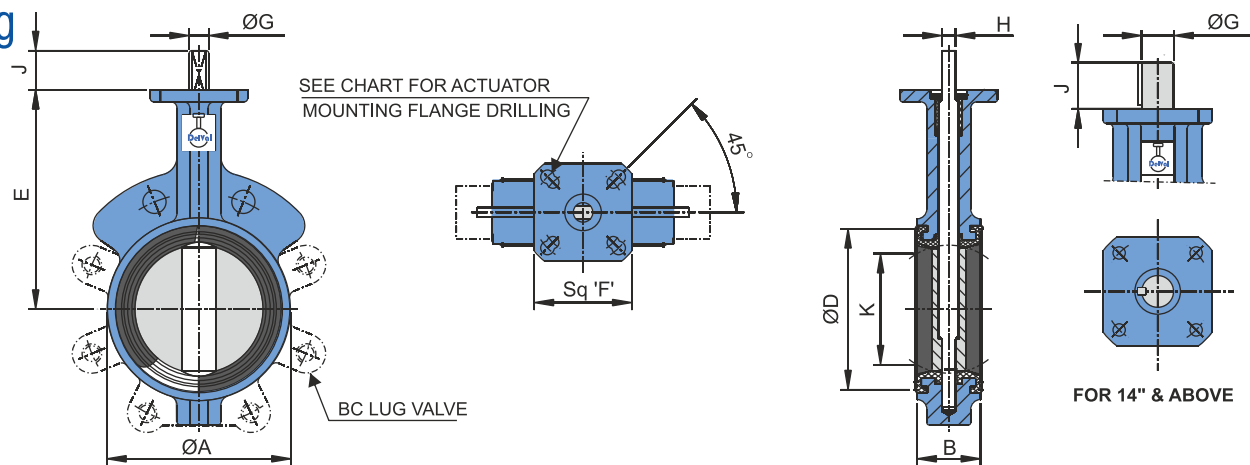
Leading the Industry with Innovation by Design

DelVal Flow Controls is pleased to offer top-of-the-line products in pipeline flow control. The DelVal® Series 50 (wafer body) and Series 52 (lug body) Butterfly Valves have been developed with extensive application, design and manufacturing expertise. These products are produced by employing modern manufacturing practices under a robust quality assurance system. These practices ensure consistent product quality and dependable performance. The DelVal® Series 50/52 Butterfly Valves have been designed to include state-of-the-art features that are described in this bulletin.

Features

- + Stem connection available in standard DelVal sizes or optional sizes to match standard secondary top plate drilling.
- + Top plate double drilled to fit ISO 5211 dimensions and standard secondary bolt circle dimensions. All handles, gear operators and pneumatic DelTorq actuators are designed to mount directly to DelVal Valves.
- + Nylon PA 12 coated disc option ensures excellent corrosion resistance to several chemical media. The hard, non-porous sintered polymer has very low hygroscopicity and is suitable for use in drinking water and non-alcoholic foodstuffs.
- + One piece stem with close tolerance double D drive eliminates the need for disc screws or taper pins.
- + Double O-rings are molded in both upper and lower journals providing a superior secondary seal.
- + Unique "Center-LOK®" seat design virtually eliminates any seat movement during the seating and un-seating of the disc.
- + Heavy duty square-grooved seat design has molded O-ring seals to serve as flange gaskets. EPDM seats are peroxide cured to yield the best elastic properties of the elastomer.
- + Unique stem retention system to provide blow-out proof stem and easy assembly and disassembly of valve.
- + Heavy duty acetal bushing absorbs the forces acting on the stem/disc assembly due to line pressure.
- + Bi-directional 'U' cup stem seal.
- + Heavy duty one-piece body has extended neck for 2" piping insulation. Standard coating is two coats of hard, Zinc-rich epoxy for excellent corrosion resistance.
- + Two flange locating holes for sizes up to 12" and four flange locating holes from size 14" to 24" ensure easy alignment of valve during installation. They meet ANSI #125/150 or other international drilling standards.
- + High strength disc with hand polished disc edge and hubs.
- + Precision machined radius on the upper and lower disc hubs is pressed against upper and lower seat sealing faces for achieving primary sealing between disc and seat.
- + "Center-LOK®" seat design





DIMENSIONS (Inch)

| Valve Size | | ØA | *B | ØD | E | Sq'F' | Top Plate Drilling | | | ØG | H | J | Key Size | K | Lug Bolting Data | | | Weight in Lbs. | |
|------------|-----|-------|------|-------|-------|-------|--------------------|--------------|---------------------|------|------|------|-----------|-------|------------------|--------------|----------------|-------------------|-----------------|
| Inch | DN | | | | | | BC | No. of Holes | Hole Dia | | | | | | BC | No. of Holes | Threads UNC-2B | Wafer (Series 50) | Lug (Series 52) |
| 2 | 50 | 3.58 | 1.62 | 2.99 | 5.51 | 3.15 | 2.76 / 3.25 | 4 | 0.39/0.438 | 0.55 | 0.39 | 1.25 | --- | 1.32 | 4.75 | 4 | 5/8-11 | 5.07 | 6.79 |
| 2 ½ | 65 | 4.13 | 1.75 | 3.54 | 5.98 | 3.15 | 2.76 / 3.25 | 4 | 0.39/0.438 | 0.55 | 0.39 | 1.25 | --- | 2.05 | 5.50 | 4 | 5/8-11 | 5.80 | 7.91 |
| 3 | 80 | 4.72 | 1.75 | 4.17 | 6.30 | 3.15 | 2.76 / 3.25 | 4 | 0.39/0.438 | 0.55 | 0.39 | 1.25 | --- | 2.70 | 6.00 | 4 | 5/8-11 | 6.83 | 8.92 |
| 4 | 100 | 5.91 | 2.00 | 5.20 | 7.09 | 3.15 | 2.76 / 3.25 | 4 | 0.39/0.438 | 0.63 | 0.43 | 1.25 | --- | 3.61 | 7.50 | 8 | 5/8-11 | 10.87 | 16.37 |
| 5 | 125 | 6.89 | 2.12 | 6.30 | 7.56 | 3.15 | 2.76 / 3.25 | 4 | 0.39/0.438 | 0.75 | 0.51 | 1.25 | --- | 4.62 | 8.50 | 8 | 3/4-10 | 13.91 | 21.56 |
| 6 | 150 | 8.07 | 2.12 | 7.36 | 8.07 | 3.15 | 2.76 / 3.25 | 4 | 0.39/0.438 | 0.75 | 0.51 | 1.25 | --- | 5.50 | 9.50 | 8 | 3/4-10 | 16.31 | 25.35 |
| 8 | 200 | 10.20 | 2.50 | 9.45 | 9.49 | 4.72 | 2.76/4.01/4.92/5.0 | 4 | 0.39/0.43/0.55/0.56 | 0.87 | 0.63 | 1.25 | --- | 7.39 | 11.75 | 8 | 3/4-10 | 28.00 | 37.92 |
| 10 | 250 | 12.21 | 2.50 | 11.50 | 10.75 | 4.72 | 4.01/4.92/5.0 | 4 | 0.43/0.55/0.56 | 1.18 | 0.87 | 2.00 | --- | 9.31 | 14.25 | 12 | 7/8-9 | 44.09 | 61.73 |
| 12 | 300 | 14.33 | 3.00 | 13.58 | 12.24 | 4.72 | 4.01/4.92/5.0 | 4 | 0.43/0.55/0.56 | 1.18 | 0.87 | 2.00 | --- | 11.12 | 17.00 | 12 | 7/8-9 | 60.85 | 92.26 |
| 14 | 350 | 16.34 | 3.00 | 15.28 | 13.62 | 4.72 | 4.92 / 5.00 | 4 | 0.55/0.563 | 1.38 | --- | 2.00 | 0.39x0.39 | 12.92 | 18.75 | 12 | 1-8 | 87.96 | 122.80 |
| 16 | 400 | 18.58 | 4.00 | 17.40 | 14.76 | 4.72 | 4.92 | 4 | 0.55 | 1.38 | --- | 2.00 | 0.39x0.39 | 14.80 | 21.25 | 16 | 1-8 | 130.51 | 184.31 |
| 18 | 450 | 20.67 | 4.35 | 19.49 | 15.98 | 6.70 | 6.50 | 4 | 0.83 | 1.97 | --- | 2.50 | 0.39x0.47 | 16.59 | 22.75 | 16 | 1 1/8-7 | 194.45 | 239.42 |
| 20 | 500 | 22.83 | 5.00 | 21.57 | 17.24 | 6.70 | 6.50 | 4 | 0.83 | 1.97 | --- | 2.50 | 0.39x0.47 | 18.61 | 25.00 | 20 | 1 1/8-7 | 236.78 | 306.88 |
| 24 | 600 | 27.24 | 5.94 | 25.75 | 19.49 | Ø8.27 | 6.50 | 4 | 0.83 | 2.50 | --- | 4.00 | 0.62x0.62 | 22.55 | 29.50 | 20 | 1 1/4-7 | 385.81 | 477.08 |

*Face to face dimension "B" generally conforming to API 609 Category A/BS EN 558-1 Series 20/ISO 5752 Series 20 / MSS SP 67 / ASME B 16.10

DIMENSIONS (mm)

| Valve Size | | ØA | **B | ØD | E | Sq'F' | Top Plate Drilling | | | ØG | H | J | Key Size | K | Lug Bolting Data | | | Weight in Kg. | |
|------------|-----|-----|-----|-----|-----|-------|--------------------|--------------|---------------|------|-----|-----|-------------|-------|------------------|--------------|----------------|-------------------|-----------------|
| Inch | DN | | | | | | BC | No. of Holes | Hole Dia | | | | | | BC | No. of Holes | Threads UNC-2B | Wafer (Series 50) | Lug (Series 52) |
| 2 | 50 | 91 | 43 | 76 | 140 | 80 | 70/82.5 | 4 | 10/11 | 14 | 10 | 32 | --- | 33.5 | 120.7 | 4 | 5/8-11 | 2.30 | 3.08 |
| 2 ½ | 65 | 105 | 46 | 90 | 152 | 80 | 70/82.5 | 4 | 10/11 | 14 | 10 | 32 | --- | 52.1 | 139.7 | 4 | 5/8-11 | 2.63 | 3.59 |
| 3 | 80 | 120 | 46 | 106 | 160 | 80 | 70/82.5 | 4 | 10/11 | 14 | 10 | 32 | --- | 68.5 | 152.4 | 4 | 5/8-11 | 3.10 | 4.05 |
| 4 | 100 | 150 | 52 | 132 | 180 | 80 | 70/82.5 | 4 | 10/11 | 16 | 11 | 32 | --- | 91.7 | 190.5 | 8 | 5/8-11 | 4.93 | 7.42 |
| 5 | 125 | 175 | 56 | 160 | 192 | 80 | 70/82.5 | 4 | 10/11 | 19 | 13 | 32 | --- | 117.3 | 215.9 | 8 | 3/4-10 | 6.31 | 9.78 |
| 6 | 150 | 205 | 56 | 187 | 205 | 80 | 70/82.5 | 4 | 10/11 | 19 | 13 | 32 | --- | 139.7 | 241.3 | 8 | 3/4-10 | 7.40 | 11.50 |
| 8 | 200 | 259 | 60 | 240 | 241 | 120 | 70/102/125/127 | 4 | 10/11/14/14.3 | 22 | 16 | 32 | --- | 187.6 | 298.5 | 8 | 3/4-10 | 12.70 | 17.20 |
| 10 | 250 | 310 | 68 | 292 | 273 | 120 | 102/125/127 | 4 | 11/14/14.3 | 30 | 22 | 51 | --- | 236.4 | 362.0 | 12 | 7/8-9 | 20.00 | 28.00 |
| 12 | 300 | 364 | 78 | 345 | 311 | 120 | 102/125/127 | 4 | 11/14/14.3 | 30 | 22 | 51 | --- | 282.4 | 431.8 | 12 | 7/8-9 | 27.60 | 41.85 |
| 14 | 350 | 415 | 78 | 388 | 346 | 120 | 125/127 | 4 | 14/14.3 | 35 | --- | 51 | 10x10 | 328.3 | 476.2 | 12 | 1-8 | 39.90 | 55.70 |
| 16 | 400 | 472 | 102 | 442 | 375 | 120 | 125 | 4 | 14 | 35 | --- | 51 | 10x10 | 375.8 | 539.7 | 16 | 1-8 | 59.20 | 83.60 |
| 18 | 450 | 525 | 114 | 495 | 406 | 170 | 165 | 4 | 21 | 50 | --- | 64 | 10x12 | 421.4 | 577.8 | 16 | 1 1/8-7 | 88.20 | 108.60 |
| 20 | 500 | 580 | 127 | 548 | 438 | 170 | 165 | 4 | 21 | 50 | --- | 64 | 10x12 | 472.6 | 635.0 | 20 | 1 1/8-7 | 107.40 | 139.20 |
| 24 | 600 | 692 | 154 | 654 | 495 | Ø210 | 165 | 4 | 21 | 63.5 | --- | 102 | 15.88x15.88 | 572.7 | 749.3 | 20 | 1 1/4-7 | 175.00 | 216.40 |

** Metric valve face to face dimension 'B' conforms to API 609 Category A / BS EN 558-1 Series 20 / ISO 5752 Series 20 / MSS SP 67 / ASME B 16.10

TORQUE (Lb-Inch)

| Valve Size | | 2" | 2.5" | 3" | 4" | 5" | 6" | 8" | 10" | 12" | 14" | 16" | 18" | 20" | 24" |
|--------------------------------------|-----|----|------|-----|-----|-----|-----|------|------|------|------|------|------|-------|-------|
| Full Rated Pressure Valve ΔP, PSI | 50 | 62 | 106 | 115 | 241 | 360 | 484 | 878 | 1409 | 2366 | 3064 | 3684 | 5795 | 6741 | 9601 |
| | 100 | 72 | 124 | 142 | 256 | 393 | 545 | 977 | 1586 | 2677 | 3527 | 4428 | 7273 | 8441 | 12482 |
| | 150 | 80 | 142 | 177 | 271 | 426 | 582 | 1083 | 1756 | 2987 | 3980 | 5178 | 8756 | 10126 | 15576 |
| | 175 | 91 | 150 | 197 | 279 | 443 | 620 | 1133 | 1841 | 3146 | --- | --- | --- | --- | --- |
| Reduced Disc Dia. ΔP, PSI | | 50 | --- | --- | 133 | 187 | 267 | 623 | 771 | 1259 | 2159 | 2627 | 3649 | 4285 | 6500 |

TORQUE (Nm)

| | | | | | | | | | | | | | | | |
|--------------------------------------|-----|-----|-----|-----|----|----|----|-----|-----|-----|-----|-----|-----|------|------|
| Full Rated Pressure Valve ΔP, Bar | 3.5 | 7 | 12 | 13 | 27 | 41 | 55 | 99 | 159 | 267 | 346 | 416 | 655 | 762 | 1085 |
| | 7 | 8 | 14 | 16 | 29 | 44 | 62 | 110 | 179 | 302 | 398 | 500 | 822 | 954 | 1410 |
| | 10 | 9 | 16 | 20 | 31 | 48 | 66 | 122 | 198 | 337 | 450 | 585 | 989 | 1144 | 1760 |
| | 12 | 10 | 17 | 22 | 32 | 50 | 70 | 128 | 208 | 355 | --- | --- | --- | --- | --- |
| Reduced Disc Dia. ΔP, Bar | | 3.5 | --- | --- | 15 | 21 | 30 | 70 | 87 | 142 | 244 | 297 | 412 | 484 | 734 |

Materials of Construction

Body

- ❖ Cast Iron ASTM A126 Class B/IS 210 FG 260
- ❖ Ductile Iron ASTM A395 60-40-18
- ❖ Carbon steel ASTM A 216 WCB

Disc

- ❖ DI ASTM A536 GRADE 65-45-12 + NYLON 12 COATED
- ❖ DI ASTM A 536 Grade 65-45-12 + Aroxy coated
- ❖ Stainless Steel ASTM A351 Grade CF8M

Stem

- ❖ Stainless Steel ASTM A479 Type 410
- ❖ Stainless Steel ASTM A276 Type 316
- ❖ ASTM A564 TYPE 630 (17-4PH)

Seat

- ❖ EPDM/White EPDM - Food Grade
- ❖ BUNA-N/ White BUNA-N - Food Grade
- ❖ Viton® (FKM)
- ❖ Silicone

General Design and Manufacturing

Standard: API 609 / BS EN -593

Testing Standard: API 598 / BS EN 12266-1

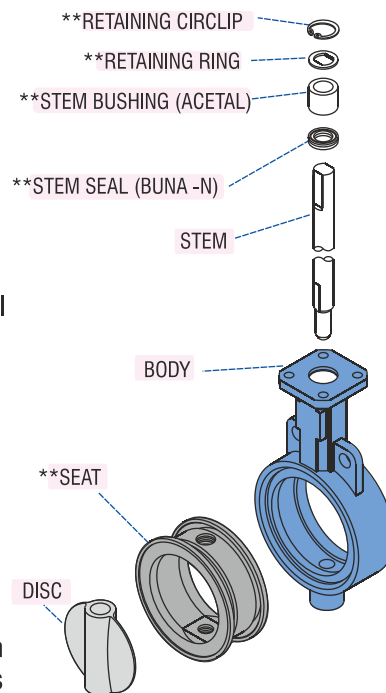
Pressure Rating:

For bi-directional bubble tight shut off and full vacuum service with disc in the closed position.

| Inch | DN | PSIG | BARG |
|------------|---------|------|------|
| * 2" - 24" | 50-600 | 230 | 16 |
| 2" - 12" | 50-300 | 175 | 12 |
| 2" - 24" | 50-600 | 150 | 10 |
| 4" - 24" | 100-600 | 87 | 6 |
| 4" - 24" | 100-600 | 50 | 3.5 |

*Optional, contact factory for details.

Dead-End Service : Without a downstream flange installed, the dead-end pressure ratings are equal to the values stated above.



**Note: Recommended Spares

Seat Temperature Range:

| Seat Type | Temperature Range | |
|-----------------------|-------------------|----------------|
| | Min. | Max. |
| EPDM / WHITE EPDM | -20° F (-29°C) | 302° F (150°C) |
| BUNA-N / WHITE BUNA-N | 0° F (-18°C) | 212° F (100°C) |
| Viton® (FKM) | 0° F (-18°C) | 392° F (200°C) |
| Silicone # | -58° F (-50°C) | 392° F (200°C) |

Max. pressure rating limited to 6 Bar.

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Operators



Valves up to size 12" depending on pressure rating can be supplied with lever handles for manual operation. Optional accessories for hand-lever operation can be provided for various flow control requirements. Pad locking can also be provided for preventing unauthorized operation.



Valves up to size 24" can be direct mounted with gear operators for manual operation. Gear operators can also be attached with chain-wheel operators for opening or closing valves located on pipelines at high elevations.



All valves can be direct mounted with pneumatic actuators or electric actuators and accessories for complete automation options such as fail open/close & positioner controlled. Valves can be mounted with manual overrides.

All statements, technical information and recommendations in the bulletin are for general use only. DelVal Flow Controls is not responsible for suitability or compatibility of these products in relation to system requirements. Consult DelVal Flow Controls distributors or factory for the specific requirements and material selection for your intended application. DelVal Flow Controls reserves the right to change or modify product design or product without prior notice. DelVal® - Registered trademark of DelVal Flow Controls.

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