# DelVal Series 42/43 Lined Butterfly Valve

DelVal's Series 42 (wafer) and 43 (lug) are lined butterfly valves for corrosive service, with PTFE, PFA or UHMWPE seat faces and lined or coated discs, from 2" to 24" (DN 50 to 600) at 150 PSIG (PN 10).



| Key data | |
|---|---|
| **Size range** | 2" to 24" (DN 50 to 600) |
| **Pressure rating** | 150 PSIG (PN 10) |
| **Seat** | PTFE/Silicone, PTFE/FKM, PFA/Silicone, PFA/FKM, UHMWPE/FKM |
| **Body** | DI, CS, SS |

## Pressure and temperature ratings

### Seat temperature limits

| Seat type | Energiser | Lower limit* | Upper limit* |
|---|---|---|---|
| **PTFE** | Silicone | -58°F(-50°C) | 392°F(200°C) |
| **PTFE** | Viton® / FKM | 0°F(-18°C) | 392°F(200°C) |
| **PTFE** | EPDM | -20°F(-29°C) | 302°F(150°C) |
| **PFA** | Silicone | -58°F(-50°C) | 392°F(200°C) |
| **PFA** | Viton® / FKM | 0°F(-18°C) | 392°F(200°C) |
| **PFA** | EPDM | -20°F(-29°C) | 302°F(150°C) |
| **UHMWPE** | Silicone | -58°F(-50°C) | 185°F(85°C) |
| **UHMWPE** | Viton® / FKM | 0°F(-18°C) | 185°F(85°C) |
| **UHMWPE** | EPDM | -20°F(-29°C) | 185°F(85°C) |

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*Temperature range shall be the lesser of the seat temperature or disc coating temperature.

### Pressure rating

| Size (inch) | DN | psig | barg |
|---|---|---|---|
| **2” to 24”** | 50 to 600 | 150 | 10 |

### End-of-line service (lug body)

| Item | Detail |
|---|---|
| **End-of-Line Service** | Lug body valves may be used in end-of-line service with downstream piping removed. |
| **2” to 24” (DN 50 to DN 600)** | 2” to 24” (DN 50 to DN 600) lug type butterfly valves are suitable for operation without a downstream flange installed, the deadend pressure ratings are equal to the values stated above. |

## Standards and specifications

### Design, testing and flange standards

| Item | Detail |
|---|---|
| **Design** | Full compliance to BS EN 593, general compliance to API 609, MSS SP 67 |
| **Face to Face** | BS EN 558 Series 20, API 609 Category-A, ISO 5752 Series 20, MSS SP 67 |
| **Testing** | BS EN 12266-1, API 598, MSS SP 67 |
| **Flange Standard** | ASME B16.5 Class 150, Other International Standards |
| **Body Style** | Split Body |
| *** Temp Range** | -29°C to 200°C<br>-20°F to 390°F |
| **Size Range** | 2” to 24” |

## Dimensions and weights

*Face to face dimension "B" conforms to API 609 Category A/BS EN 558-1 Series 20/ISO 5752 Series 20/MSS SP67/ASME B 16.10

### Key to dimension letters

| Item | Detail |
|---|---|
| **ØA** | Body outside diameter |
| **B** | Face-to-face length |
| **E** | Valve centreline to top of top flange |
| **Sq. F** | Top flange square size |
| **ØG** | Stem diameter |
| **H** | Stem width across flats |
| **J** | Stem projection above top flange |

## Operating torque

Note: Above torques are for clean media and do not contain any safety factors for actuator sizing. If other conditions exist, a service factor should be applied. Please consult UEC® for specific service factor.

### Torque by valve size (Nm)

| Item | Value |
|---|---|
| **Valve size** | Pressure ΔP, Bar |
| | 10 |
| **2"** | 24 |
| **2.5"** | 29 |
| **3"** | 47 |
| **4"** | 61 |
| **5"** | 80 |
| **6"** | 109 |
| **8"** | 201 |
| **10"** | 322 |
| **12"** | 485 |
| **14"** | 635 |
| **16"** | 873 |
| **18"** | 1230 |
| **20"** | 1535 |
| **24"** | 2446 |

## Materials of construction

### Parts and materials

| Item | Description | Standard material* (DI/CS) | Standard material* (SS) |
|---|---|---|---|
| **1** | Body | ASTM A395 60-40-18; ASTM A216 WCB | ASTM A351 CF8M/CF8 |
| ****2** | Seat | PTFE; PFA; UHMWPE | PTFE; PFA; UHMWPE |
| ****3** | Seat Energizer | Viton (FKM); Silicone; EPDM | Viton (FKM); Silicone; EPDM |
| **4** | Disc+ Stem | ASTM A351 CF8M/CF8 (One-piece investment cast disc-stem 2” to 12”); ASTM A995 4A/5A/6A (One-piece investment cast disc-stem 2” to 12”); ASTM A351 CF8M/CF8 + ASTM A479 SS410/SS316 SH (one-piece disc-stem 14” to 24”); **PTFE/PFA/UHMWPE moulded over CB7CU-1(17-4 PH) (one-piece investment cast disc-stem 2” to 12”); **PTFE/PFA/UHMWPE moulded over SS304 + 17-4 PH (one-piece disc-stem 14” to 24”) | ASTM A351 CF8M/CF8 (One-piece investment cast disc-stem 2” to 12”); ASTM A995 4A/5A/6A (One-piece investment cast disc-stem 2” to 12”); ASTM A351 CF8M/CF8 + ASTM A479 SS410/SS316 SH (one-piece disc-stem 14” to 24”); **PTFE/PFA/UHMWPE moulded over CB7CU-1(17-4 PH) (one-piece investment cast disc-stem 2” to 12”); **PTFE/PFA/UHMWPE moulded over SS304 + 17-4 PH (one-piece disc-stem 14” to 24”) |
| ****5** | Sleeve Bearing | Bear-G | Bear-G |
| ****6** | ‘O’ Ring | Viton (FKM)/Silicone/EPDM | Viton (FKM)/Silicone/EPDM |

| Item | Description | Standard material* (DI/CS) | Standard material* (SS) |
|---|---|---|---|
| **7** | Pressure Ring | ASTM A479 SS304 | ASTM A479 SS304 |
| ****8** | Stem Gasket | Aramid Fibres AF159 | Aramid Fibres AF159 |
| ****9** | Rubber Washer | Viton-A (FKM)/Silicone/EPDM | Viton-A (FKM)/Silicone/EPDM |
| ****10** | Belleville Spring | ASTM A693 Type 631 17-7 PH | ASTM A693 Type 631 17-7 PH |
| **11** | Dowel Pin | BS 970 EN8 | BS 970 EN8 |
| **12** | Socket Head Cap Screw | ISO 3506 A2-70 | ISO 3506 A2-70 |
| ****13** | 'O' Ring | NBR (BUNA-N) | NBR (BUNA-N) |
| ****14** | Pack Support | Polyacetal (Delrin) | Polyacetal (Delrin) |
| ****15** | U-Cup Seal | NBR (BUNA-N) | NBR (BUNA-N) |
| ****16** | Stem Bushing | Polyacetal (Delrin) | Polyacetal (Delrin) |
| ****17** | Thrust Bearing (24") | Phosphor Bronze BS 1400 PB4 | Phosphor Bronze BS 1400 PB4 |
| **18** | Bottom Plug/Plate | ASTM A479 SS410; Carbon steel IS 2062 Gr. B | ASTM A240 SS304/SS316 |
| **19** | Hex Head Bolt | ISO 3506 A2-70 | ISO 3506 A2-70 |
| **20** | Key ( 14" to 24") | BS 970 EN8 | BS 970 EN8 |

**Recommended spares.
*Other materials may be available on request.
DI = Ductile Iron, CS = Carbon Steel, SS = Stainless Steel

## Dimensions and weights

### Wafer and lug, Series 42/43 (mm) (columns 1 of 2)

| Valve size (inch) | DN | ØA | B | E | Sq. F | Top flange PCD | Top flange no. of holes | Top flange hole dia. | ØG | H | J | Key size |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2** | 50 | 91 | 43 | 140 | 80 | 70 | 4 | 10 | 14.0 | 10 | 32 | – |
| **2½** | 65 | 106 | 46 | 152 | 80 | 70 | 4 | 10 | 14.0 | 10 | 32 | – |
| **3** | 80 | 122 | 46 | 160 | 80 | 70 | 4 | 10 | 14.0 | 10 | 32 | – |
| **4** | 100 | 152 | 52 | 180 | 80 | 70 | 4 | 10 | 19.0 | 13 | 32 | – |
| **5** | 125 | 176 | 56 | 192 | 100 | 70/102 | 4 | 10/12 | 22.0 | 16 | 32 | – |
| **6** | 150 | 205 | 56 | 205 | 100 | 70/102 | 4 | 10/12 | 22.0 | 16 | 32 | – |
| **8** | 200 | 264 | 60 | 241 | 120 | 102/125 | 4 | 12/14 | 24.0 | 19 | 32 | – |
| **10** | 250 | 315 | 68 | 273 | 120 | 102/125 | 4 | 12/14 | 30.0 | 22 | 51 | – |
| **12** | 300 | 370 | 78 | 311 | 120 | 125 | 4 | 14 | 35.0 | 24 | 51 | – |
| **14** | 350 | 415 | 78 | 346 | 120 | 125 | 4 | 14 | 35.0 | – | 51 | 10.00x10.00 |
| **16** | 400 | 472 | 102 | 375 | 120 | 125 | 4 | 14 | 35.0 | – | 51 | 10.00x10.00 |
| **18** | 450 | 525 | 114 | 406 | 170 | 165 | 4 | 21 | 50.0 | – | 64 | 10.00x12.00 |
| **20** | 500 | 580 | 127 | 438 | 170 | 165 | 4 | 21 | 50.0 | – | 64 | 10.00x12.00 |
| **24** | 600 | 692 | 154 | 495 | ϕ210 | 165 | 4 | 21 | 63.5 | – | 102 | 15.88x15.88 |

### Wafer and lug, Series 42/43 (mm) (columns 2 of 2)

| Valve size (inch) | DN | K | Lug bolting PCD | Lug bolting no. of holes | Lug bolting thread (UNC-2B) | Approx. weight, wafer Series 42 (kg) | Approx. weight, lug Series 43 (kg) |
|---|---|---|---|---|---|---|---|
| **2** | 50 | 33.5 | 120.7 | 4 | ⅝-11 | 3.1 | 4.1 |
| **2½** | 65 | 52.1 | 139.7 | 4 | ⅝-11 | 3.5 | 4.7 |
| **3** | 80 | 68.5 | 152.4 | 4 | ⅝-11 | 4.2 | 5.0 |
| **4** | 100 | 91.7 | 190.5 | 8 | ⅝-11 | 6.0 | 9.0 |
| **5** | 125 | 117.3 | 215.9 | 8 | ¾-10 | 8.2 | 13.0 |
| **6** | 150 | 139.7 | 241.3 | 8 | ¾-10 | 10.8 | 16.3 |
| **8** | 200 | 187.7 | 298.5 | 8 | ¾-10 | 17.6 | 29.8 |
| **10** | 250 | 236.4 | 362.0 | 12 | ⅞-9 | 27.4 | 38.4 |
| **12** | 300 | 282.4 | 431.8 | 12 | ⅞-9 | 35.6 | 58.0 |
| **14** | 350 | 328.3 | 476.2 | 12 | 1-8 | 54.00 | on request |
| **16** | 400 | 375.8 | 539.7 | 16 | 1-8 | 59.20 | 83.6 |
| **18** | 450 | 421.4 | 577.8 | 16 | 1⅛-7 | 88.20 | 108.6 |

| Valve size (inch) | DN | K | Lug bolting PCD | Lug bolting no. of holes | Lug bolting thread (UNC-2B) | Approx. weight, wafer Series 42 (kg) | Approx. weight, lug Series 43 (kg) |
|---|---|---|---|---|---|---|---|
| **20** | 500 | 472.6 | 635.0 | 20 | 1⅛-7 | 107.40 | 139.2 |
| **24** | 600 | 572.7 | 749.3 | 20 | 1¼-7 | 175.00 | 216.4 |

For a quotation, send the size, pressure rating, materials, operator and quantity to UEC by phone, WhatsApp or email. Inch and pound tables are on the product page at www.unitedengg.co.in/valves/delval/series-42-43-lined-butterfly-valve. Data as published by DelVal Flow Controls; DelVal and DelTorq are trademarks of DelVal Flow Controls.