

Product Specification for Double Offset High Performance Butterfly Valve

Valve Type: Series 44–49 - Wafer / Lugged / Double Flanged - Short

Body:

- Shall be one-piece Wafer, Lug or Double flanged short pattern design.
- Extended neck allows for 2" pipeline insulation and easy access to stem packing adjustment and actuator mounting.
- Flange hole drilling as per international flange standard as specified.
- Top flange is drilled as per ISO 5211 to accommodate direct mounting of a wide range of actuators.
- The integral disc stop is designed to prevent disc from rotating in wrong direction and to minimize possible seat damage.



Disc:

- The disc has been Engineered to maximize flow and minimize resistance to provide a high flow coefficient (Cv).
- The disc is positioned offset from the centre for easy operation.

Stem:

- Shall be one-piece design.
- Shall be blow out proof.
- The weakest point shall be outside the pressure boundary.
- The high strength, stainless steel one-piece stem provides maximum strength for high torque applications.
- Disc to stem connection by wedge pins which are positioned tangentially on the stem which places them in compression rather than shear thus eliminating potential for failure. The pins are precision fit and wedge type which provide positive mechanical attachment of disc to stem.

Seat:

- The offset disc produces a cam-like action, pulling the disc from the seat. This action reduces seat wear and eliminates seat deformation when the disc is in the open position. The disc does not contact the seat when the valve is in the open condition; thereby, seat service life is extended and torques are reduced. As the valve closes, the cam like action converts the rotary motion of the disc to a linear type motion effectively pushing the disc on to the seat.

Stem packing:

- Gland flange assembly is live loaded with Belleville springs.
- The stem packing arrangement features a pull-down gland with easy access to tighten the nuts without removal of the operator.

Seat Designs:

- **Soft Seat:** Flexible lip seat retains its original shape and maintains bi-directional seal.
- **Fire safe Seat:** During and after fire, when the resilient material has been partially or completely burnt, the metal seat ring provides a positive seal by remaining in constant contact with the disc in either direction of the flow media.
- **Metal Seat:** Flexible metal seat offers a very high sealing capability with low leakage rates. The mechanical properties and the shape of the metal seat allow it to flex and maintain constant positive sealing against the disc.

Material of Construction:

- **Body:** ASTM A216 Gr WCB / ASTM A351 Gr CF8 / ASTM A351 Gr CF8M
- **Disc:** ASTM A351 Gr CF8 / ASTM A351 Gr CF8M
- **Seat:** PTFE, RPTFE, ULTRA & Metal – SS316
- **Stem:** ASTM A479 TYPE 410 / ASTM A564 TYPE 630 (17-4-PH) / ASTM A479 XM-19
- **Seat Retainer:** ASTM A516 Gr.70 / ASTM A240 TYPE SS 304 / ASTM A240 TYPE SS 316
- **Retainer Screws:** A4-70 (SS 316)
- **Bearing:** Bear-X / SS 316 + Fire safe coating
- **Stem Packing:** PTFE / Graphite
- **Gland Flange:** ASTM A 516 Gr.70 / ASTM A 240 TYPE SS 304 / ASTM A 240 TYPE SS 316

Working Temperature:

- **PTFE:** -58 °F TO 400 °F (-50 °C TO 204 °C)
- **RPTFE:** -58 °F TO 428 °F (-50 °C TO 220 °C)
- **ULTRA:** -58 °F TO 500 °F (-50 °C TO 260 °C)
- **UHMPE:** -20 °F TO 200 °F (-29 °C TO 93 °C)

Bi-directional Service: (With downstream flanges and disc in closed position)

2"-60" (DN 50 – DN 1500) 285 psi (19.6 barg)
2"-60" (DN 50 – DN 1500) 740 psi (51.1 barg)

Dead-End Service: (No downstream flanges and disc in closed position)

2"-60" (DN 50 – DN 1500) 285 psi (19.6 barg)
2"-60" (DN 50 – DN 1500) 740 psi (51.1 barg)

Design: API 609, EN 593 & ASME B 16.34

Testing:

API 598, BS EN 12266-1 & ISO 5208

Approvals & Certifications:

- API 609
- CE/PED Certification
- ATEX
- SIL
- Fire-Test Standard API 607
- NSF/ANSI 61-2008 Certification
- ABS
- IBR

Special Applications:

- Vacuum
- Oxygen
- Steam – Jacketed valves
- Buried service