TRIPLE OFFSET BUTTERFLY VALVE
TRI LOK® SERIES

OVERVIEW

Tri Lok® is the premier isolation valve for operation in vacuum to high-pressure applications. The non-rubbing, metal-to-metal seal delivers zero-leakage bidirectional shutoff with minimal torque, and is certified fire-tested. Compared to gate, globe, or ball valves of the same size and pressure class, Tri Lok provides space and weight savings, while minimizing installation and maintenance costs.

APPLICATIONS

- Bulk Liquid Storage
- Carbon Black Processing
- Chemical Processing
- Cryogenic Services
- Geothermal Steam
- LNG/Liquefaction
- Power Generation
- Pulp and Paper Liquor
- Refining (Downstream)
- Shipbuilding
- Steam Distribution
- Sugar and Ethanol
- Upstream Oil and Gas
- Water & Wastewater

SPECIFICATIONS

Size Range[1]	NPS 3 to 48 | DN 80 to 1200
Temperature Range[2]	-320°F to 842°F | -196°C to 450°C
Pressure Rating	ASME Class 150, 300, 600, 900
	PN10 to PN150
Body Style	Lug | Double Flanged, Short | Double Flanged, Long (Gate) | Buttweld
Shutoff Rating[3]	Zero Leakage (Bidirectional)

NOTE:
1 Larger sizes available upon request.
2 Higher temperatures available upon request.
3 Resilient Seat Valves, requirement of API 598.

MATERIAL OPTIONS[1]

Body	Carbon Steel
	Stainless Steel
	Alloys (NiAB, Hastelloy C®, other alloys)
Disc	Carbon Steel
	Stainless Steel
	Alloys (NiAB, Hastelloy C®, other alloys)
Seat	316 Stainless Steel (Hardened)
Seal Ring (Laminated)	318 Stainless Steel/Graphite
Seal Ring (Solid Seal)	318 Stainless Steel
	XM-19
	Inconel® 625
Stem	17-4PH Stainless Steel
	410 Stainless Steel
	XM-19 (Nitronic® 50)

NOTE:
1 Other materials available upon request.

DESIGN STANDARDS

Valve Design	API 609 | ASME B16.34 | ASME VIII | API 600
Seat Tightness	ISO 5208 | EN12266-1 | API 6D | API 598 | BS 6755
Face-to-Face	API 609 | ASME B16.10 | ISO 5752 | EN 558
Flange Drilling	ASME B16.5 | ASME B16.47 | EN 1092-1 | ISO 7005
Top Flange	ISO 5211 | MSS SP-101

CERTIFICATIONS & APPROVALS

Certifications	ATEX | EAC | PED | SIL | TSG
Fire Test	API 607 | ISO 10497
Fugitive Emissions	API 641 | ISO 15848-1 | TA Luft
Approvals	ABS Type | CRN

FEATURES

1 **FIELD-REPLACEABLE SEAT & SEAL SYSTEM:** The fully field-replaceable seat & seal extends overall life, minimizes downtime, and reduces the need for costly off-site repairs or total replacement.

2 **ENHANCED SEAT HARDNESS:** Eliminates risk of seat/seal galling, offering superior performance, durability, and abrasion resistance compared to other materials.

3 **METAL-TO-METAL SEALING:** Tri Lok's non-rubbing, metal-to-metal sealing system is inherently firesafe and fire-tested, while meeting zero-leakage requirements for many critical applications.

4 **SEAL RING:** Offers a flexible design and wide range of materials to provide torque-loaded sealing with zero-leakage. (Optional solid seal ring available.)

5 **SPLINED DISC-TO-STEM CONNECTION:** The strong and reliable connection allows for axial movement of the stem independent of the disc, to protect the disc/stem connection from temperature fluctuations and pressure effects. This connection prevents typical misalignment problems of rigidly attached discs and stems, minimizes hysteresis, eliminates external connections & associated hardware, and allows for easy assembly & disassembly.

6 **ADJUSTABLE STEM PACKING:** Fully-adjustable, field-replaceable stem seal system is certified to international fugitive emission standards.

7 **ROBUST BLOWOUT-PROOF STEM:** One-piece stem features blowout prevention ring located outside of the pressure boundary, as well as redundant blowout prevention mechanisms fully conforming to API 609 and safety requirements.

8 **INDEXED STEM:** Provides positive visual indication of disc/seal ring position after installation.

9 **ELONGATED STEM BEARINGS:** Hardened bearings provide maximum stem support.

10 **INCREASED BODY WALL THICKNESS:** In accordance with API 600, provides greater corrosion allowance.

11 **SIL 3 CAPABLE:** The Tri Lok valve is SIL 3 capable, while also offered as one of Bray's many automated packages that meet various SIL requirements.