Batley®

BV28000 Triple-offset Butterfly Valves

ON/OFF and CONTROL

The Batley® triple-offset butterfly valve utilises a seal design that achieves optimal sealing through a laminated seal stack made up of stainless steel and graphite. The number of required laminations can vary dependent on size and pressure class and is key to valve performance. Solid seal stacks are also available for special applications.

Features

- Triple-offset metal seat design
- Long life seats
- Bearing protectors
- Bi-directional tight sealing
- Capable of zero leakage
- Excellent throttling characteristics
- Seat design eliminates galling and minimises seat/seal wear
- Shaft does not penetrate through seat/seal
- Shutoff is assisted by pressure
- Seating improves as pressure increases
- Seal is not subject to 'set' like soft seated designs
- Torque seated, not position seated
- Self compensating seal
- Larger shaft diameter with more bearing wear surface
- Replaceable seat
- Encapsulated disc bolting

Benefits

- Less susceptible to seat leakage
- Seating improves as pressure increases - longterm seating
- No thermal binding
- Repeatable first time sealing
- Longer life
- Robust shaft design supports full range of actuator torques
- Low torque
- Erosion protected bolting

Pressure Classes

- ASME CL 150, 300 and 600 (higher on request)

Temperature

- -240°C to 650°C

Sizes

- 80mm- 1600mm (Larger sizes on request)

Materials of Construction

- Carbon Steels
- Alloy Steels
- Stainless Steels
- Nickel Aluminium Bronze
- Special application materials available on request.

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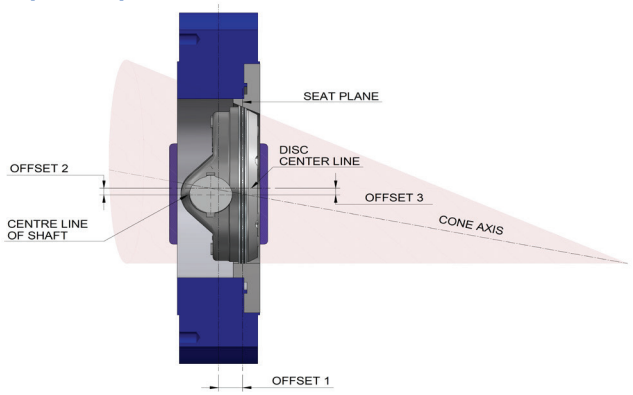
Principle of Operation



The combination of these three offsets provides an uninterrupted sealing surface, whilst maintaining sealing integrity over the valves lifecycle with minimised wear between the seat and seal. The conical profile on both the seal stack and the seat face ensures there is no seal/seat contact during operation, limiting flow induced wear in this area. The optimised seating angle can minimise binding of the disc and in doing so reduces required operational torque.

During valve closure the conical profile achieves uniform compressive sealing around the entire seat, any additional torque applied further aids the sealing and the ability for tight shut off in the non-preferred flow direction.

Pressure/Temperature

Batley® triple-offset metal seated butterfly valves cover higher temperature ranges when compared to double offset, resilient seated, high performance valves across service ranges and also performs better at higher pressures.

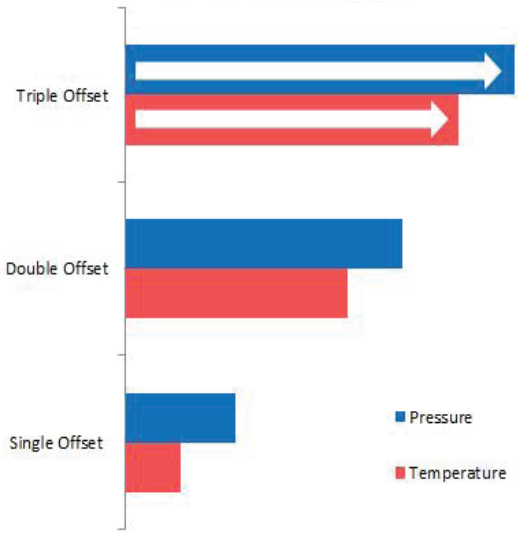
Reasons for improved performance are:

- Flexible seal stack
- Inherently fire safe
- Capable of bi-directional sealing
- Zero leakage

Service Ranges

Improvements compared to high performance (double offset) and concentric (single offset) across service ranges:

- Life cycle performance and reliability
- Wear resistance
- Higher temperature leak tightness



Offset 1: This places the shaft axis behind that of the sealing point on the seat plane.

Offset 2: The axis of the shaft is offset from the centreline of the valve and pipe line.

Offset 3: The cone axis is offset from the shaft centreline.

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