

TRUNNION MOUNTED METAL SEATED BALL VALVES

HIGH PERFORMANCE BALL VALVES FOR SEVERE SERVICES



Strahman
United Process Valves

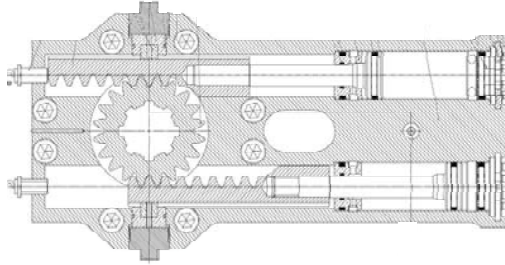
Tradition

Innovation

Commitment

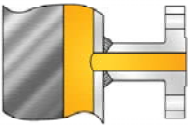
FAST AND COMPACT HYDRAULIC DRIVE

For applications where space is restricted, United Process Valves designed a special actuator to save space and enable installation of an actuated ball valve. Our special **"fast and compact hydraulic drive"** is a very compact oil actuated actuator. It is made from a one piece body for more rigidity. This actuator combines a compact design with very fast stroke times of less than 3 sec.

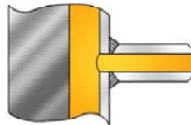


TWO PIECE DESIGN BALL VALVE WITH INTEGRAL WELDED JACKET

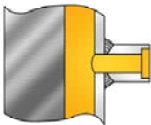
For applications where required (for example polymer applications) Strahman offers integral welded jackets for oil or steam. Available Jacket connections include:



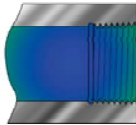
Flanged



Butt Weld



Socked Weld

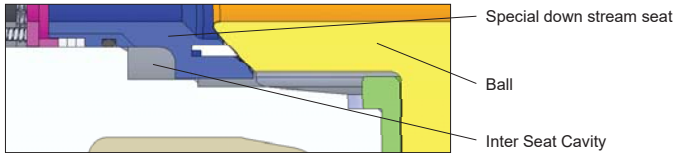


Threaded

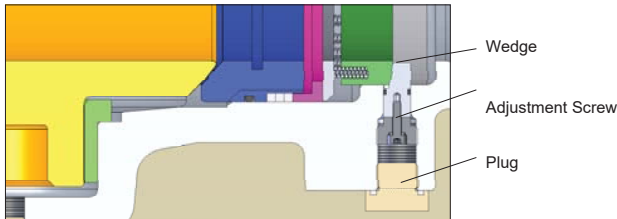


AVAILABLE OPTIONS FOR SIDE ENTRY AND BOTTOM ENTRY DESIGN VALVES

1. **CASTINGS AND FABRICATED DESIGN**
2. **REDUCED BORE** (available as an option) — The flow area of the valves is typically reduced to 80% of its full bore value. The reduction in bore is made with venture shapes at both ends and a reduced ball and seats.
3. **EXOTIC BODY AND TRIM MATERIALS AVAILABLE**
4. **FULL WELDED JACKET AROUND THE BODY AND FLANGES AVAILABLE**
5. **SOFT SEAT DESIGN AVAILABLE** — The seal ring is usually made of graphite-filled PEEK and is encapsulated in the metal seat support. It is securely retained during opening and closing to prevent “pop out” effect.
6. **FIRE-SAFE EMISSION PACKING** — We use a typical graphite packing arrangement that is TA-LUFT and EPA Method 21 certified. Graphite rings have low ash content in order to meet the requirements of the fire safe design.
7. **VALVES HAVE DOUBLE SEAT ARRANGEMENT** — The primary seat is metal, while the secondary seat is a scraper ring, usually in PEEK material. This internal scraper ring prevents scratches on the metal main seated area.
8. **SPECIAL DOWN STREAM SEAT SEALING** — When pressure builds up in the inter-seat cavity of the valve, a specially designed downstream seat pushes the ball against the seat. This feature makes the valve bi-directional. It provides a secondary seal in case of a failure or wear of the upstream seat.



9. **WEDGE SEAT OPTION** — This option allows manual adjustment of the mechanical compression between the seats and ball while valve is in service. It allows sealing the valve in case of a seat failure or excessive wear. Three wedges are equally spread behind the seat surface and can be moved up and down independently from each other. The wedges are locked in place by a screw.



TECHNICAL & GENERAL INFORMATION

Design Code & Construction

- Design standard compliant with ASME B16.34
- International standards include ANSI, DIN, JIS, API etc.
- Wide range of material selections including carbon steel / stainless steel / Titanium / Hastelloy / Duplex / Monel / Tantalum / Zirconium
- Fabricated, cast, forged and bar stock designs
- Combinations of fabricated, sand and investment casings, and bar stock available

Surface Finish

- For polymer applications, United Process Valves recommends a surface finish of Ra 0.4 for all parts in contact with the medium

Quality assurance & testing

- ISO 9001 compliant
- PED / ATEX / CE marking
- ISO 15848 1 & 2, low emission testing and certification available
- Standard testing procedures

AVAILABLE END CONNECTIONS



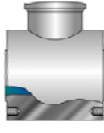
Flanges



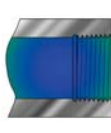
Butt Weld



Heated
Flanges



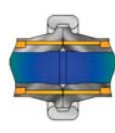
Studded
Ends



Threaded
connections
NPT & BSP



Socket Weld



Grayloc

AVAILABLE ACTUATION OPTIONS



Manual Lever



Gear Box



Electrical
Actuator



Hydraulic Cylinder



Quarter Turn
Air Actuator

STANDARD FEATURES FOR SIDE ENTRY & BOTTOM ENTRY DESIGN

1. **TRUNNION MOUNTED** — The ball is trunnion mounted to reduce the operating torque. This trunnion mounted design limits the forces on the seat rings and guarantees a long lifetime in service. It also provides a double block and bleed feature.
2. **METAL SEATING** — The sealing surfaces are chromium carbide coated with our special hardening process. The seat shape has been calculated to minimize the peak effect on the edges. This increases the lifetime of the ball and seat surfaces.
3. **FLOATING SEATS** — Allow expansion in temperature and the purge of the body inner seat cavity. The independent seats provide bi-directional tightness in the valve.
4. **THRUST BUSHING** — This thrust ring reduces the friction caused by the pressure applied on the stem area. This feature also reduces the torque required to operate the valve.
5. **ANTI-BLOW OUT** — The valve stem is securely mounted in the valve, even in case of a packing failure the integral shoulder in the valve body and the shoulder machined on the stem prevents blow-out of the stem.
6. **BIDIRECTIONAL UPSTREAM SEALING** — The two independent, spring-loaded seats prevent line pressure from by-passing the ball. In low pressure situations the springs maintain seating thrust. As line pressure increases, the process pressure pushes the up-stream seat against the ball which increases the sealing force. The bottom vent connection allows purging of the inner seat cavity which makes this design double block and bleed.
7. **STANDARD FULL BORE DESIGN**
- 8, 9. **MULTI SPRING LOADING** — Springs provide flexible and reliable seat loads. Springs (8) are protected from erosion by the seat compression ring. The seats have a groove for easy seat retraction during maintenance (9).
10. **ANTI-STATIC DESIGN** — The spring maintains a permanent contact between the ball and the stem. It prevents any accumulation of electric charges on the ball, and therefore any unexpected electric discharge.
11. **STEM GUIDE BUSHING** — This bushing is used to take the lateral forces created by actuating the valve. It prevents any bending or flexing of the stem and guarantees a long lifetime for the packing.
12. **SEPARATE BALL AND STEM** — This feature assures proper centering of the ball between the two seats. It prevents differential pressure applied on the ball to be displaced to the seats.
13. Inherently fire safe due to the design and packing/gasket materials
14. Forged body and trim

BALL AND SEAT COATINGS

For metal seated valves, ball and seat coatings are selected with careful consideration of the service conditions. Strahman uses modern technologies such as high velocity oxygen fuel (HVOF), plasma or super D-GUN (SDG) to apply the coatings to the ball and seats. To correctly select a coating, the following parameters need to be considered:

- ♦ Is the medium abrasive?
- ♦ Are there thermal shocks?
- ♦ Is the medium corrosive?
- ♦ What is the cycling frequency?
- ♦ What is the temperature?

Note: Inlet and outlet together with ball bore can be fully stellite on request.

METAL SEATED VALVES

The following coatings can be used:

- ♦ Stellite
- ♦ Chromium Carbide
- ♦ Tungsten Carbide
- ♦ Heavy-duty Tungsten Carbide

SOFT SEATED VALVES

Seat inserts can be made from:

- ♦ Bronze
- ♦ PA
- ♦ PEEK
- ♦ GRAPHITE

The Strahman United Process Valves products include:

PISTON TYPE SAMPLING VALVES

Strahman United Process Valves has a full line of sampling valves that produce live samples without exception. Our sampling valves unique design prevent failure caused by sediment or clogging.

PISTON TYPE DRAIN VALVES

Strahman United Process Valves Drain Valves are designed to prevent clogging. They are ideal for use in liquid and gas service or with slurries, polymers, and high viscosity fluids that tend to solidify at room temperature.

PISTON & DISC TYPE IN-LINE VALVES

Strahman United Process Valves Piston and Disc Type In-Line Valves alternative to a failing ball, plug or gate valve. With a wide range of positive sealing systems like M Seal, M Ring Seal and M Control, these valves provide superior in-line tightness. When opening the piston or disc it retracts completely into the valve body providing an unrestricted full flow

PISTON & DISC TYPE DIVERTER VALVES

Strahman United Process Valves Diverter Valves are designed to divert process flows with high and low viscosity. They are dead space free to prevent clogging. They are ideal for use in liquid and gas service or with slurries, polymers, and high viscosity fluids that tend to solidify at room temperature.

SINGLE & DOUBLE DISC SLAB GATE VALVES

Strahman United Process Valves Single & Double Disc Slab Gate Valves are specifically designed for use in transfer line and decoking valves for ethylene cracking units and isolation applications in FCCU (fluid catalytic cracking unit) and DCU (delayed coker unit) plants. The safety and continuous production of process plants often depend on the reliability of these "key-equipment" valves.

LINE BLINDS

Strahman United Process Valves Line Blinds provide zero leakage down stream and total isolation on process pipelines, vessels, and maritime applications. No pipeline movement is required when blind position is changed.

Please contact your local Strahman United Process Valves representative
for further details or

visit our website : www.strahman-unityprocessvalves.com



Established 1986

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ISO 9001 Certified

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