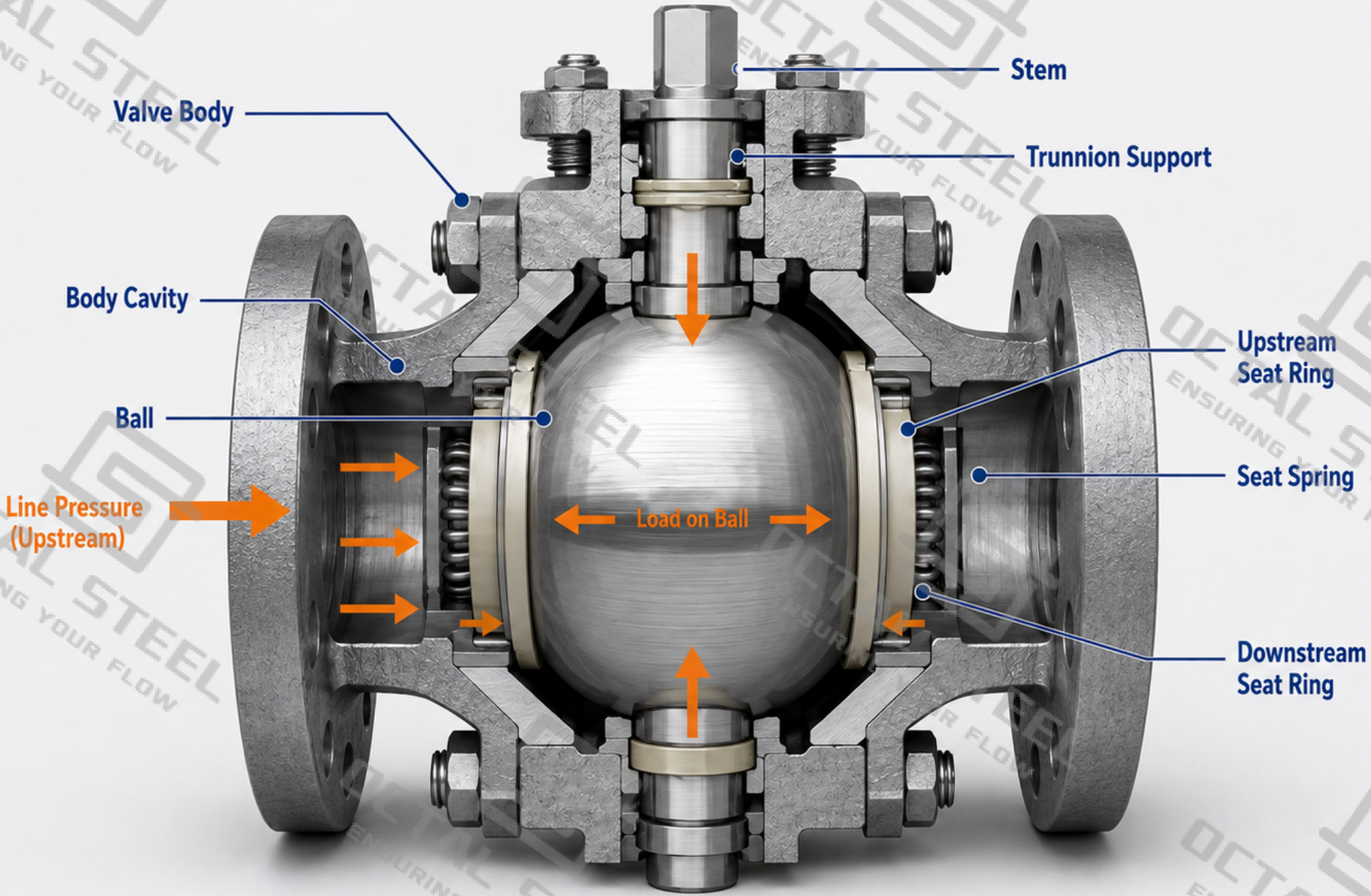
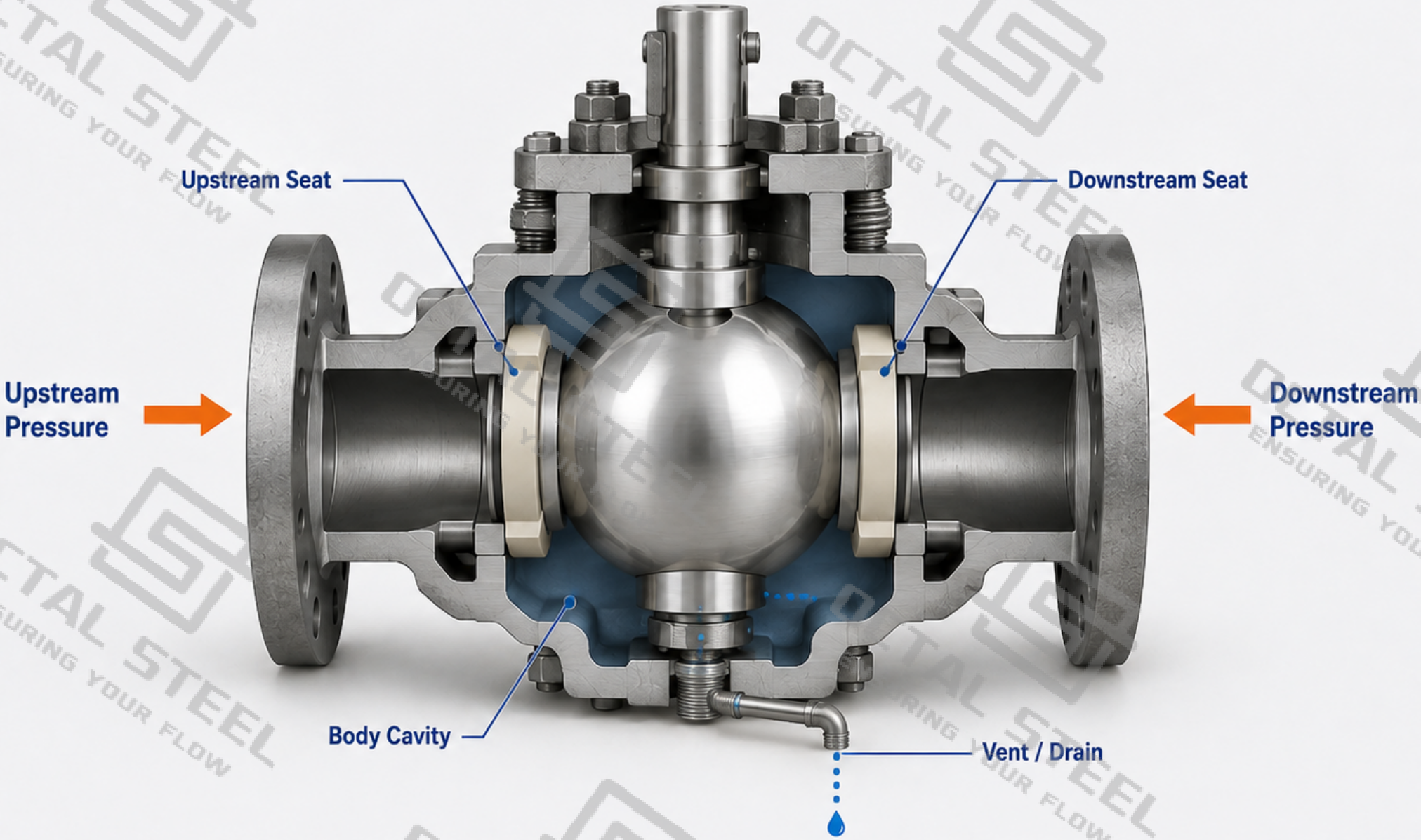
Trunnion Ball Valve Structure and Pressure Load

Technical Reference Sheet



Double Block and Bleed in an Applicable Trunnion Ball Valve

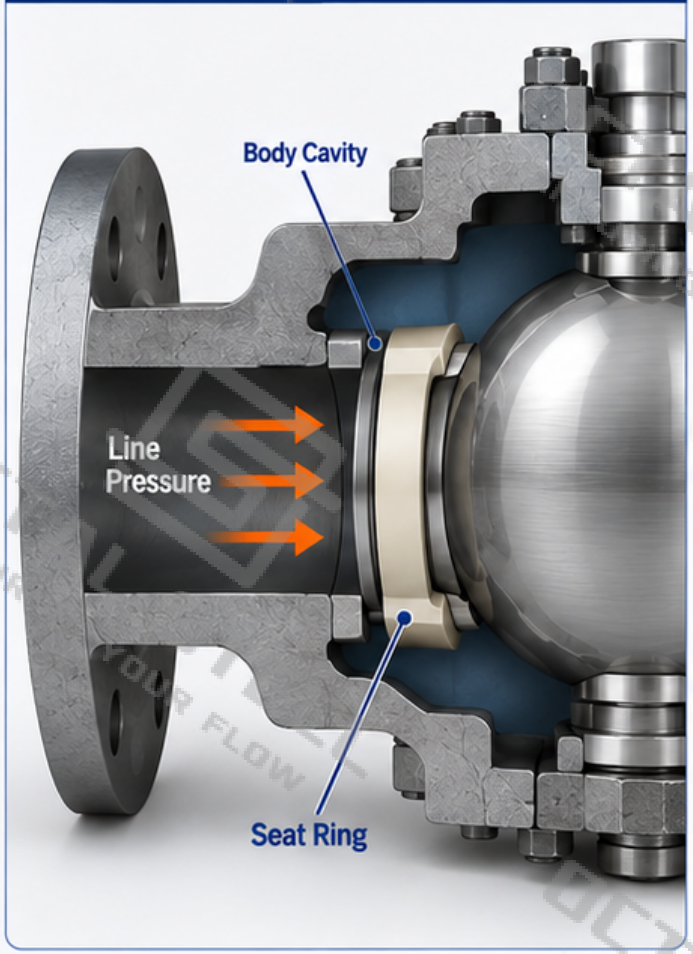


DBB functionality depends on the specified seat and valve configuration.

Body-Cavity Pressure Relief

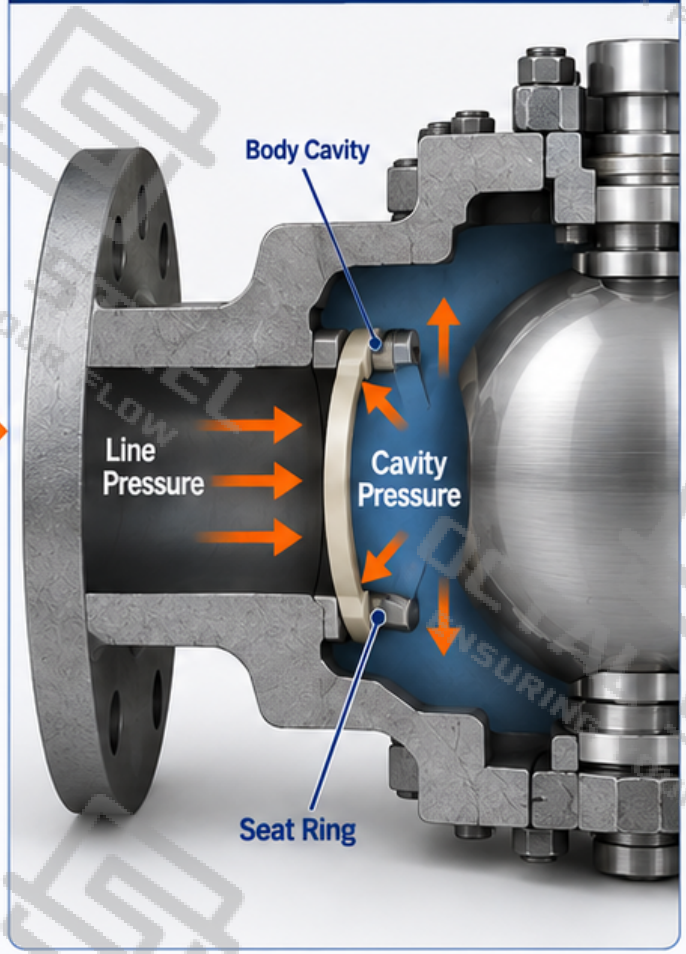
① NORMAL CLOSED CONDITION

Normal line pressure and isolated cavity



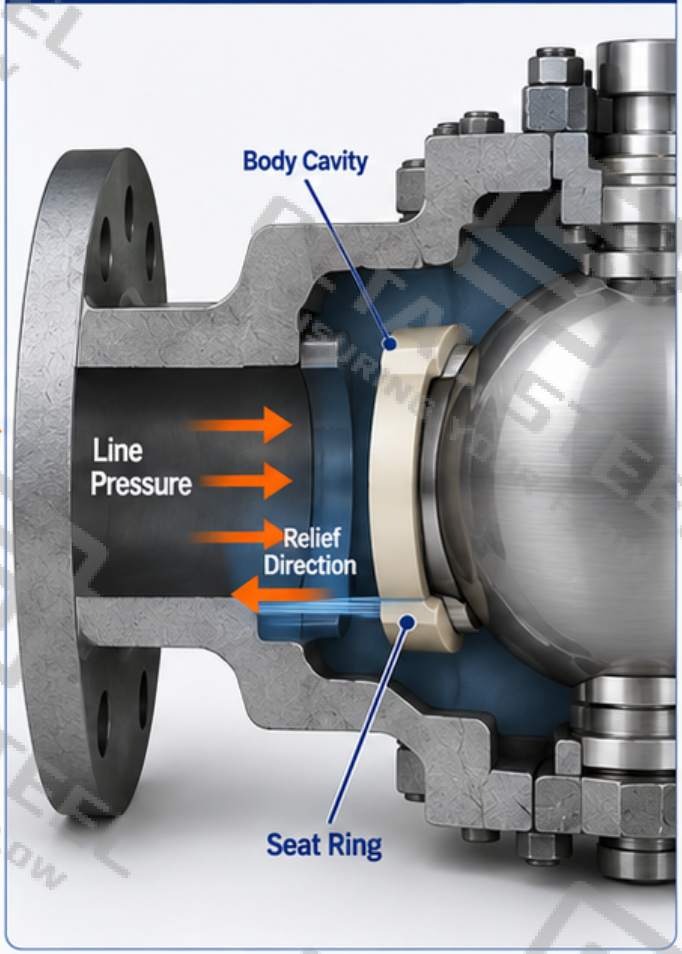
② CAVITY PRESSURE INCREASE

Trapped fluid expansion in the body cavity



③ PRESSURE RELIEF

Self-relieving seat opens toward lower-pressure side

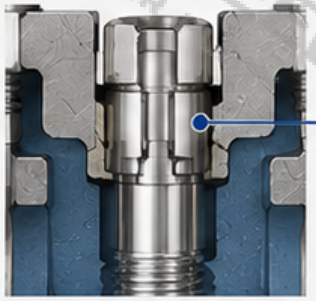


Relief direction depends on the specified seat arrangement.

Trunnion Ball Valve Stem and Sealing Functions

1 Blowout-Resistant Stem

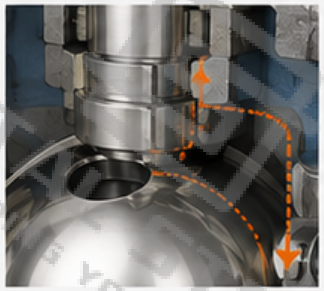
Where Specified



Stem retained from inside the pressure boundary

2 Anti-Static Continuity

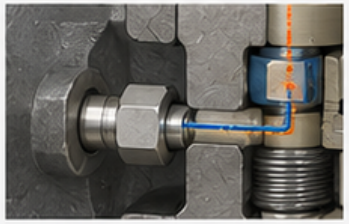
Where Specified



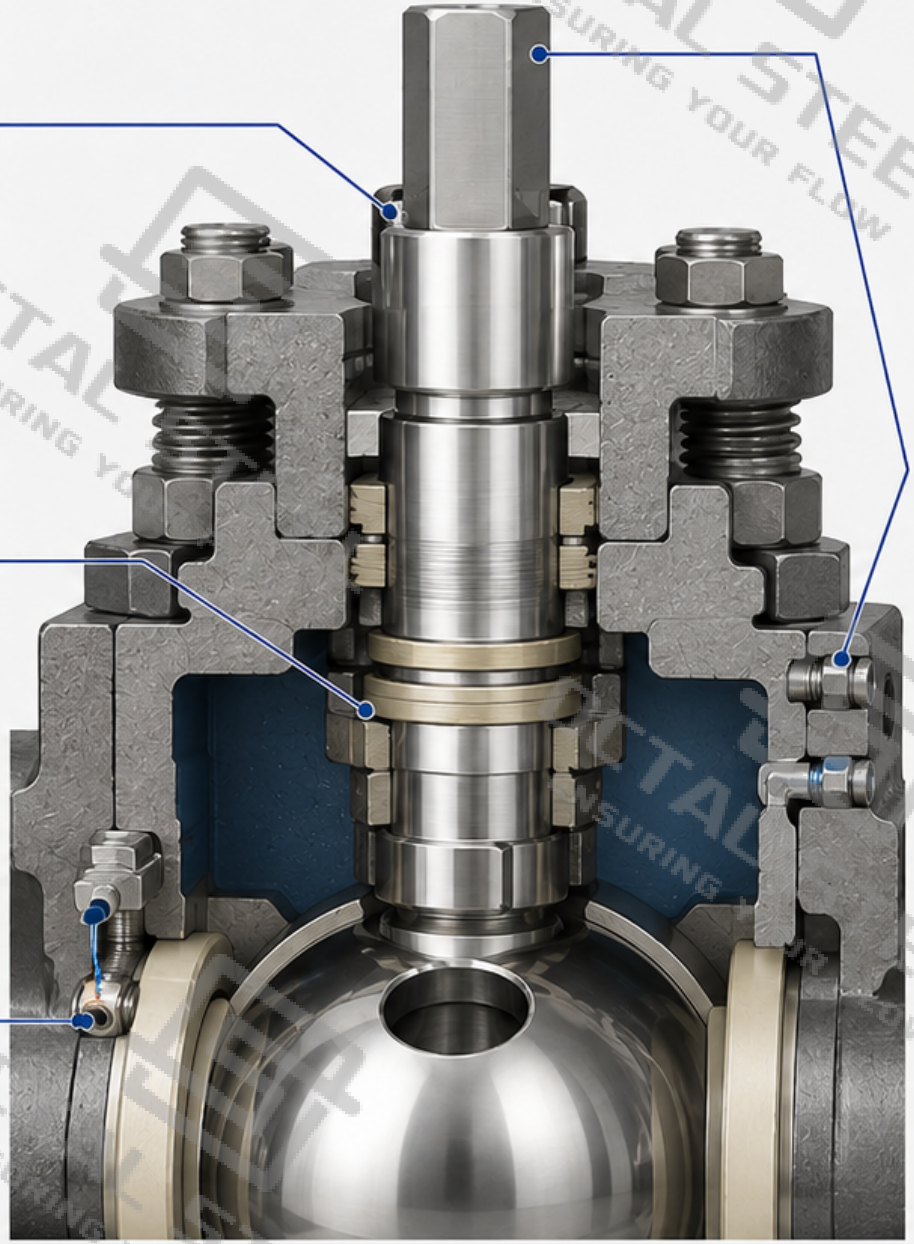
Conceptual conductive continuity path from ball/stem to body

3 Emergency Sealant Injection

Where Specified



Injection fitting and internal path toward the relevant sealing area



4 Vent and Drain

Where Specified

Vent (from body cavity)

Drain (from body cavity)

5 Stem Extension

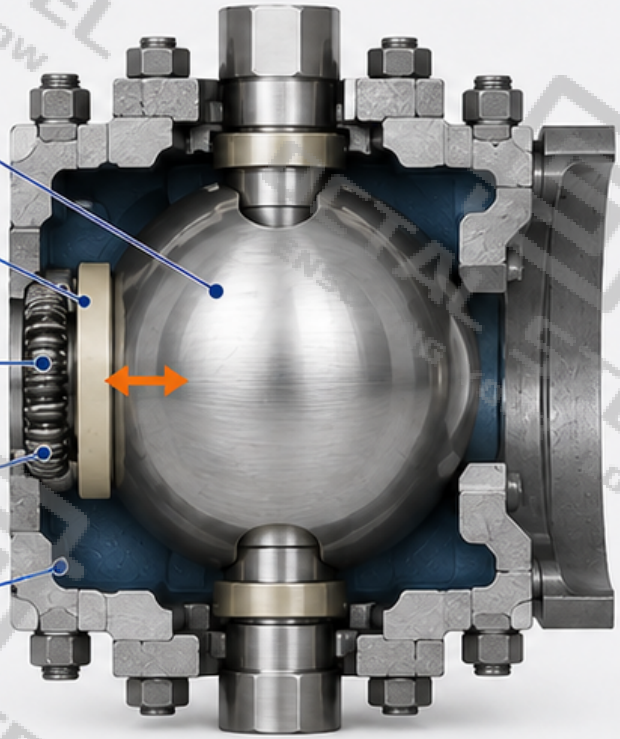
Where Specified

Extended operating stem for buried or remote operation

Trunnion Ball Valve Seat Systems

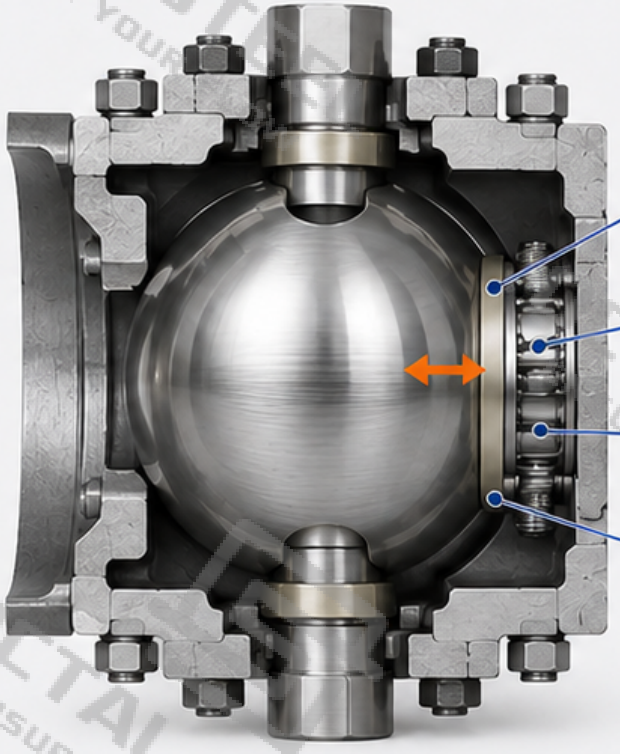
Technical Reference Sheet

SOFT SEATED TRUNNION



Orange arrows indicate seat movement only.

METAL SEATED TRUNNION



SELECTION MATRIX

Temperature

Match seat material and construction to operating temperature range.

Process Medium

Consider chemical compatibility and service severity.

Suspended Solids

Evaluate solids content, particle size, and abrasion potential.

Leakage Requirement

Select seat system based on required tightness and service criticality.

Seat material and construction must be matched to the complete pressure-temperature-service condition.

Trunnion Ball Valve Manufacturing, Inspection and Project Release

Technical Reference Sheet

MAIN PROCESS FLOW

1. Material Identification

2. Body Machining

3. Ball Precision Machining

4. Seat & Stem Preparation

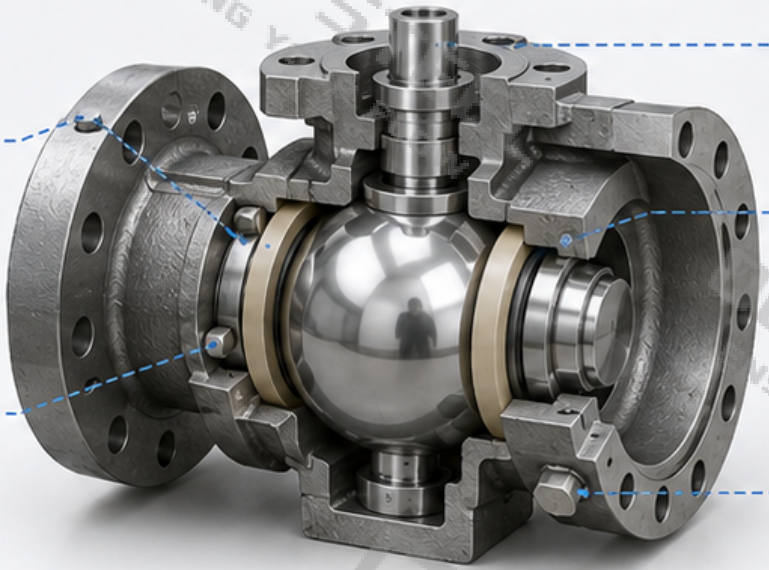
5. Valve Assembly

6. Dimensional / Functional Inspection

7. Shell & Seat Pressure Testing

8. Marking & Packing

CENTRAL INSPECTION DETAIL



PROJECT CHECK

- Size & Class
- Bore
- Seat System
- Materials
- Actuation / Documentation

TRACEABILITY STRIP

Material Identity → Inspection Record → Pressure-Test Record → Marking → Packing Record