

Trunnion Mounted Ball Valve: API 6D, Class 150–2500

In a trunnion mounted ball valve the ball is supported on upper and lower stems (trunnions), and line pressure moves the spring-loaded seats against the ball rather than moving the ball. Operating torque therefore stays low, and it is the standard isolation valve for large-diameter, high-pressure pipeline, station and process lines.

Technical specifications

Size	2"–60" (DN50–DN1500)
Pressure class	ASME Class 150–2500
End connections	RF / RTJ flanged (ASME B16.5 / B16.47), butt-weld (ASME B16.25)
Body	Two-piece or three-piece cast; full bore or reduced bore
Seats	Spring-loaded seats; PTFE, RPTFE, PEEK, nylon or metal (hard-faced)
Materials	WCB, WCC, LCC, CF8M; duplex (4A/5A) and special alloys
Functions	DBB, DIB-1, DIB-2; cavity relief; emergency sealant injection; drain and vent connections
Operation	Gear operator, pneumatic (scotch-yoke), electric or gas-over-oil actuator; extended stem



API 6D trunnion mounted ball valve with gear operator ·
representative image

Key features

- Low operating torque for large sizes and high pressure
- Double block and bleed (DBB/DIB) options
- Emergency sealant injection
- Fire-safe (API 607) and antistatic design
- Extended stem for buried lines

Typical part materials

Part	WCB	LCB / LCC	CF8M	CF8
Body, end caps (adapters)	A216 WCB	A352 LCB / LCC	A351 CF8M	A351 CF8
Ball, stem, seat ring	A105N + ENP	A350 LF2 + ENP	A182 F316	A182 F304
Trunnion, gland flange	A105N	A350 LF2	A182 F316	A182 F304
Seat insert	PTFE / RPTFE / PEEK	PTFE / RPTFE / PEEK	PTFE / RPTFE / PEEK	PTFE / RPTFE / PEEK

Part	WCB	LCB / LCC	CF8M	CF8
O-rings, fire-safe seals	FKM, graphite	FKM, graphite	FKM, graphite	FKM, graphite
Anti-static (grounding) spring	SS304	SS304	SS316	SS304

ENP: electroless nickel plating. For abrasive or high-temperature service, balls and seats can be supplied metal-seated with tungsten carbide or chromium carbide coating.

Catalog data

Body construction	2-piece or 3-piece bolted body, side entry
Design features	Anti-blowout stem, anti-static design, fire-safe (API 607 / API 6FA), double block and bleed, cavity pressure relief
Maintenance	Emergency sealant injection to seats and stem; drain and vent valves
Actuator mounting	ISO 5211 mounting pad; gear operator, pneumatic, electric and hydraulic actuators