


# Top Entry Ball Valves



  
*Engineering  
GREAT Solutions*

**Trunnion Mounted  
Spring Energized Seats**

# Trunnion Mounted Ball Valves

Our trunnion mounted top entry high performance ball valves are engineered to meet international standards like API 6A, API 6D, ASME B16.34, ISO 17292 and others on request. The range contains both soft, metal or composite seats that can be configured with single or double piston effect to provide an effective double block and bleed (DB&B) in both closed and, on request, in open position.

## Key features

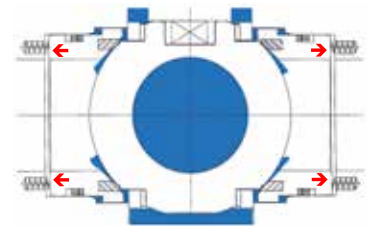
- > Soft, metal or composite material seated
- > Bi-directional tight shut-off
- > Double block & bleed
- > Fire safe and fire tested
- > Low operating torque design
- > Wide range of materials and sizes
- > Spring loaded seats
- > Trunnion mounted with energized seats
- > Anti-blowout stem design
- > Suitable for above ground or below ground installation
- > Top-entry design leads to fully maintainable in line
- > Forged or cast body options

## Benefits

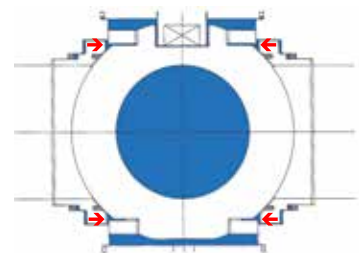
Use of forgings and the independent spring or bellows loaded floating seats which are always in contact with the ball make these valves the preferred solution for various critical applications like cryogenic, high temperature, low emission, Emergency Shutdown (ESD) or High Integrity Pressure Protectors (HIPPS) systems and sub-sea.

- > Valves can be equipped with bellow seals, steam flushing ports and protected bearings, to cope with medium/ high amounts of solids like tar sands or catalysts.
- > Approved by major end users and contractors and are designed to meet SIL3 requirements according to IEC 61508.
- > Double or triple stem seal design (with lip seals or o-rings or optionally with leak off chambers for predictive maintenance) allows us to meet and exceed the most stringent low fugitive emissions norms (ISO 15848) making our valves suitable to handle toxic or lethal fluid services.
- > The design will meet all requirements of critical service applications.
- > Seats are always in contact with the ball to provide an effective tight seal even at low differential pressures.

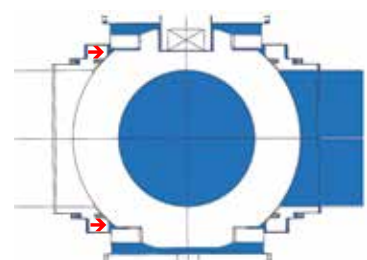
*Tight shut-off sealing*



Self relieving seats



Double piston effect seats



SPE/DPE configurator

## Typical applications

- > Well-head; flow-lines
- > Pipeline valves
- > Riser-ESDV
- > Gas over oil valves (GOV)
- > Blowdown valves (BDV)
- > Shutdown valves (SDV)
- > Scraper trap isolation
- > Process valves
- > SSIV
- > ROV
- > HIPPS
- > Sub-sea
- > Cryogenic
- > Low-temperature
- > Hot tapping
- > Inching
- > Scraper-trap
- > Switching valves
- > Metering valves
- > Quick closing (below 1 sec)
- > Oil sand slurry
- > High-temperature
- > Buried / underground valves

## Product Specification

### End connections

ANSI flanges	ANSI B16.5 for sizes up to 24" ANSI B16.47 for sizes 26" and larger
Compact flanges	NORSOK L-005
Hub connectors	All major hub end designs available
Welding ends	Butt welding to ANSI B16.25 or equivalent Socket welding to ASME B16.11 Pup pieces available on request

### Sizes

Nominal pipe size 1/2" through 60" (DN15 through DN1500)

### Pressure rating

ANSI Class 150 through 2500 and 4500  
API 2000 through 15000

### Temperature range

From -196°C to 650°C (-321°F to 1200°F)

*Full valve selection  
available on our website  
[www.imi-critical.com](http://www.imi-critical.com)*

### Material specification

Carbon Steel (CS)	ASTM A105N; ASTM A694 F60/F65; ASTM A216 WCB/WCC;
Low Temp. CS	ASTM A350 LF2; ASTM A694 F60/F65; ASTM A352 LCB/LCC
Low Alloy Steel (LAS)	STM A350 LF3; AISI 4130 (60K and 75K); ASTM A352 LC3
Martensitic SS	ASTM A182 F6a; ASTM A182 F6NM; AISI 410; A216 CA15
Austenitic SS	ASTM A182 F316/316L; ASTM A182 F304/304L; ASTM A182 F321; ASTM A182 F347; ASTM A351 CF3/CF3M/CF8/CF8M etc 6Mo SS ASTM A182 F44; ASTM A351 CK3MCuN
Duplex SS	ASTM A182 F51; A890 Gr. 4a; A995 Gr. 4A
Super Duplex SS	ASTM A182F53/F55; A890 Gr. 5A/6A; A995 Gr. 5A/6A
Ni Alloys	UNS N08825; UNS N06625; UNS N07718 ; UNS N09925
Cu Alloys	Monel 400; Monel K500
Ti Alloys	Gr. 2; Gr. 5
Co Alloys	Hastelloy C276

CS and LTCS are also available partially or fully clad. Partial cladding includes dynamic seal areas or static and dynamic seal areas. Full cladding includes all wetted areas. Cladding material can be: AISI 316L SS, 22/05 Duplex SS, 25/07 Superduplex SS and Inconel 625.

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The logo consists of the letters 'IMI' in a bold, white, sans-serif font, where the letters are closely spaced and have a slightly stylized appearance.

**Critical** Engineering