PETROLVALVES

SIDE ENTRY BALL VALVES

valves and actuators

introduction

PETROLVALVES is a leading manufacturer of valves for the oil and gas industry.

Formed in 1956, **PETROLVALVES** has grown to a company with sales, services and manufacturing facilities throughout the world, with direct presence in the United States, Norway, United Kingdom, Italy, Singapore and Australia.

The continuous investment in development of new technology has resulted in the growth and ongoing success of our company. **PETROLVALVES'** line of production includes some of the most sophisticated valve products in the world, with a strong focus on the development of custom or niche products designed according to customer's specific requirements.

PETROLVALVES has been manufacturing end entry ball valves since the early 1960's, supplying critical valves to the largest oil and gas projects.

PETROLVALVES' experience in the end entry valve designs grew quickly, meeting our clients' increasingly challenging applications, with more complex products, such as large diameter (48", 56") and/or high service classes: API 5000, API 10000, API 15000, ASME 2500 uprated, ASME 4500. For example:

34" API 5500

10" API 15000

side entry ball
DESIGN FEATURES

Standard service: use in natural gas, LNG, crude oil, refined products transmission lines as well as in many other general industrial and oil&gas applications.

For example:

- transmission pipelines
- pumping, compression and reinjection units
- offshore platforms
- onshore terminals
- pig traps
- measuring stations
- surge-relief skids
- blowdown

	DESIGN	SEAT TYPE	MODEL	SEALING TYPE
TRUNNION	Split body	▸ Soft seated	228	Elastomeric Seal
			238	Thermoplastic Seal
		▸ Metal seated	228	Elastomeric Seal
			238	Thermoplastic Seal
	3 PIECES	▸ Soft seated	241	Elastomeric Seal
			243	Thermoplastic Seal
		▸ Metal seated	241	Elastomeric Seal
			243	Thermoplastic Seal

SPECIAL SERVICE

- HIPPS
- ESD
- SSIV
- HIGH/LOW TEMPERATURE
- CRYOGENIC
- DIRTY / ABRASIVE SERVICE
- BURIED

RANGE OF PRODUCTION (*)				
API 6D class	150 to 600	900	1500	2500
SIZE	2″ to 60″	2″ to 48″	2″ to 48″	2″ to 30″
API 6A class	API 3000	API 5000**	API 10000	API 15000
SIZE	up to 34″	up to 34″	up to 16″	10″

(*) for non listed dimensions contact PV's staff
(**) and uprated

side entry ball
DESIGN FEATURES

MAIN DESIGN FEATURES	SPECIAL FEATURES	ACCESSORIES
▸ API 6D or API 6A ▸ ASME B16.34 ▸ Fire Safe ▸ Full/Reduced Bore ▸ Bidirectional/Unidirectional ▸ Self Relieving ▸ Anti blow out stem ▸ Anti static device	▸ NACE Requirement ▸ Special bore ▸ Full/partial cladding ▸ Seat Double Piston effect ▸ Double Block and Bleed ▸ Double Isolation & Bleed ▸ Equalizing hole ▸ Extended stem ▸ Extended bonnet ▸ Ad hoc design for horizontal stem installation and or vertical pipeline installation (*) ▸ Ad hoc engineering to suit customer projects requirements ▸ Internal painting (FBE, Epoxy lined) (*) inclusive of any special tooling may be needed to maintain the valve in situ	**Vent & Drain:** ▸ Plugged ▸ Flanged ▸ With valve **Stem Injection:** ▸ Class 1500 standard for DN 6" and above ▸ Class 2500 standard for DN 4" and above **Seat Injection:** ▸ Class 150/300/600 upon request for DN 6" and above ▸ Class 900/1500/2500 upon request for DN 4" and above

PETROLVALVES engineering department is specialized in fulfilling all customer's requirements and project specification.

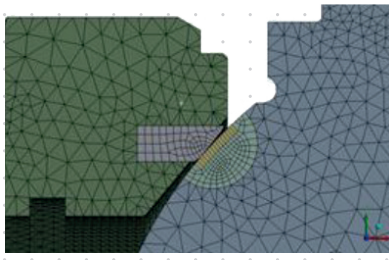
seat-to-ball
SEALING DESIGN

SOFT SEAT

With thermoplastic insert fitted, the seat is pressure energized. Our design provides tight shutoff seat-to-ball sealing, leak rate A (no visible leakage), in any condition. Multiple choices for the insert material are available to suit the service condition.

TYPICAL SEAT INSERT MATERIAL

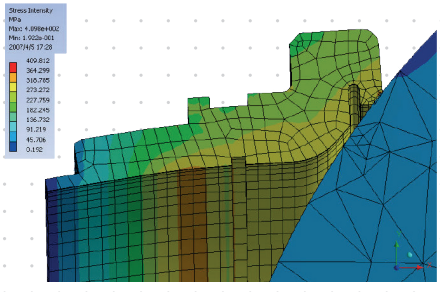
- PTFE
- RPTFE
- PCTFE
- PEEK
- Devlon
- Nylon

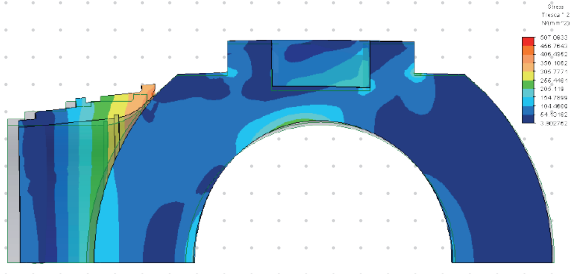


METAL SEAT

Manufactured with the assistance of the most updated technologies to provide the optimal selection of flexibility and stiffness of both ball and seat rings.

Numerical simulations are carried out to optimize any project solution.





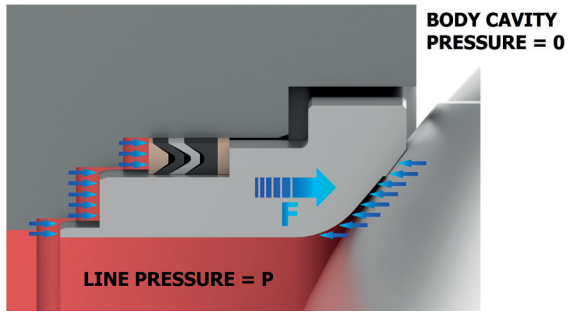
seat functionality

SELF RELIEVING SEAT

Valve seat and sealing are designed to relieve pressure in the valve cavity.
The cavity is always in the following condition:

- Body cavity pressure ≤ line pressure

Self relieving seats guarantee Double Block & Bleed performances in accordance with API 6D.

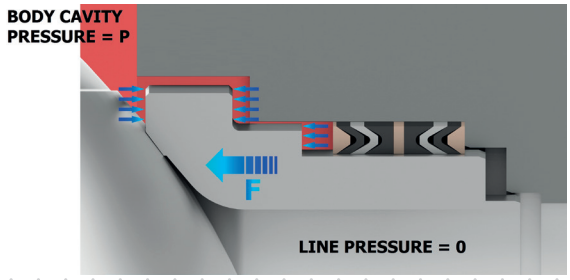


BIDIRECTIONAL SEAT

Valve seat and sealing are designed to seal against pressure source in either direction.
The seat will seal the valve as well in the following condition:

- Line pressure < body cavity pressure

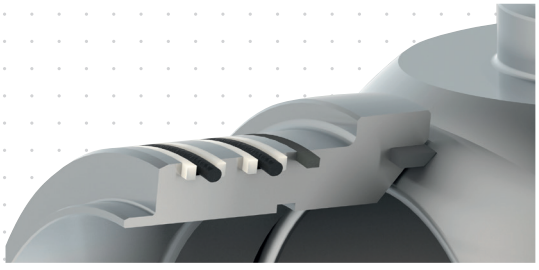
Bidirectional seat design guarantees Double Block & Bleed performances in accordance with API 6D .

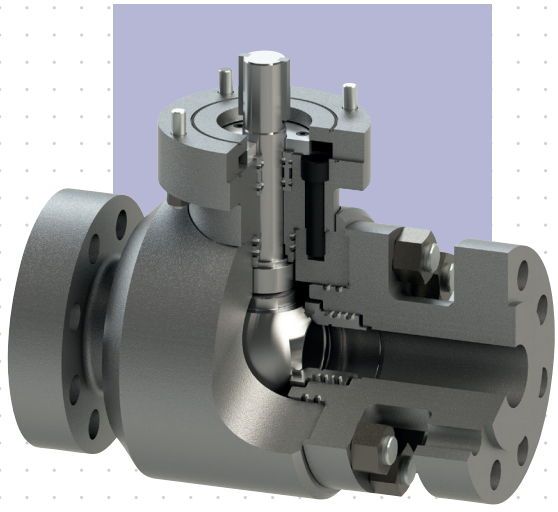


split body
228 DESIGN

SEAT ELASTOMER SEALING

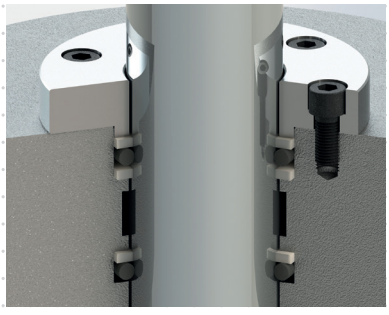
O-ring type, with PTFE back up for higher classes.
Seat to ball sealing: both soft and metal available.
Self relieving or bidirectional solution can be provided.

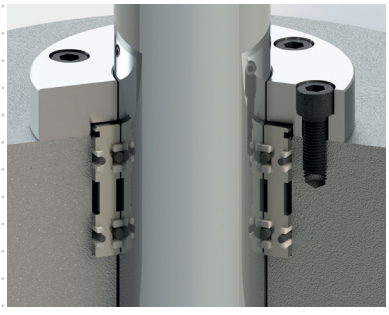




STEM SEALING

Elastomer (o-ring) type, with PTFE back up on higher classes.
Two different configurations are available.

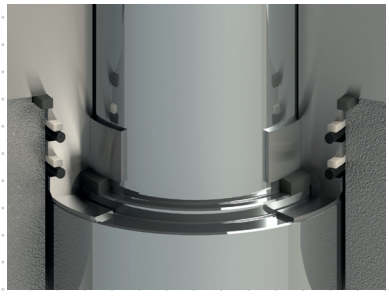




Metal seal option
available upon request

BODY SEALING

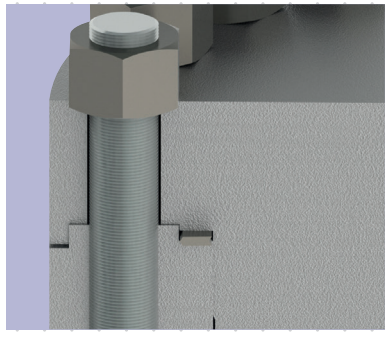
Elastomer (o-ring) type, with PTFE backup provided for higher pressure classes, and graphite for fire safe requirement.

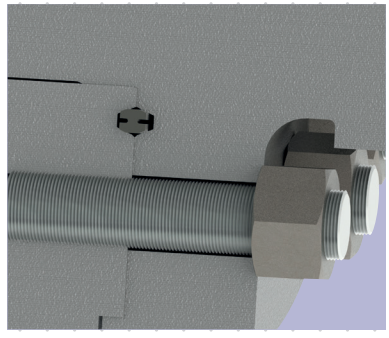


split body
238 DESIGN

BODY SEALING

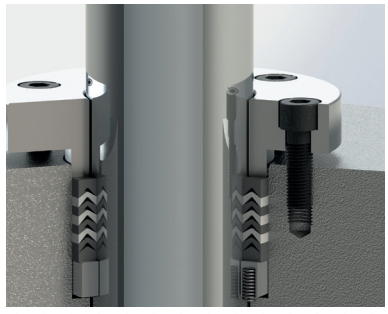
Spiral wound type, or ring joint type on higher pressure classes.

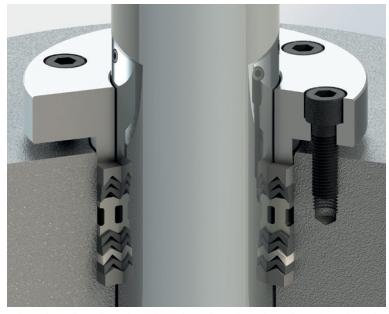




STEM SEALING

Thermoplastic multiple V rings seal type (PTFE chevron pack), with or without lantern ring.





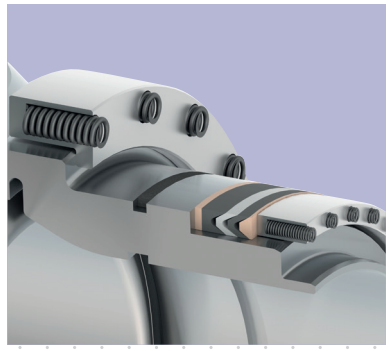
Metal seal option available upon request

SEAT SEALING

Thermoplastic multiple V rings seal type (PTFE chevron pack).

Seat to ball sealing: both soft and metal are available.

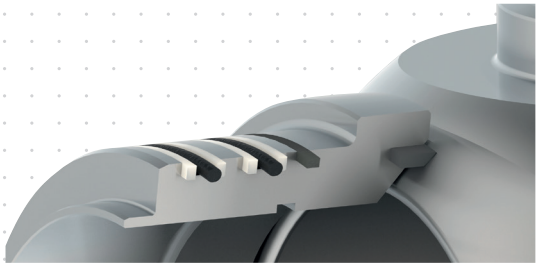
Self relieving or bidirectional solution can be provided.

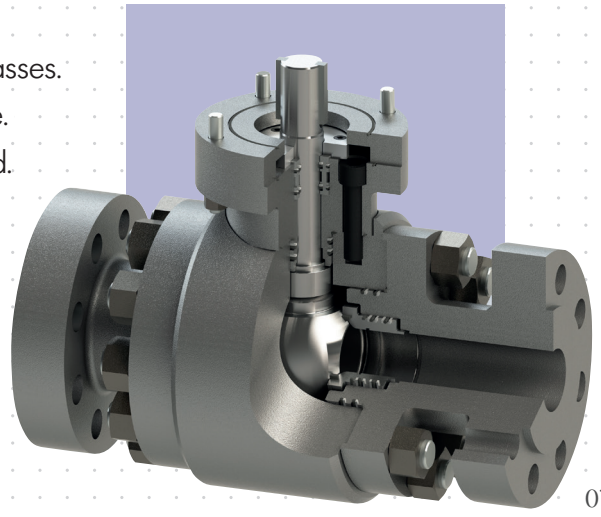


3 Pieces
241 DESIGN

SEAT ELASTOMER SEALING

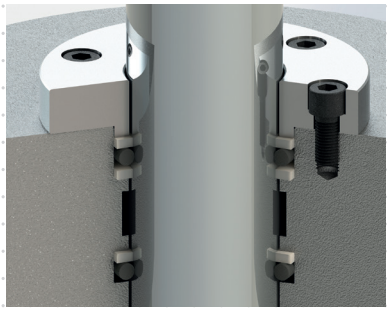
O-ring type, with PTFE back up on higher pressure classes.
Seat to ball sealing: both soft and metal are available.
Self relieving or bidirectional solution can be provided.

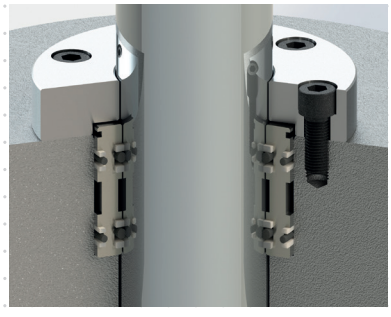




STEM SEALING

Elastomer (o-ring) type, with PTFE back up on higher classes.
Two different configuration available.

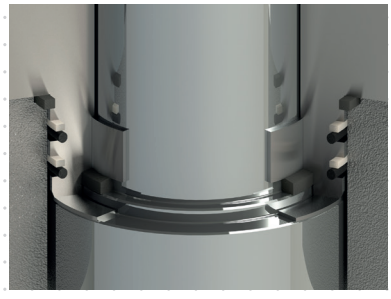




Metal seal option
available upon request

BODY SEALING

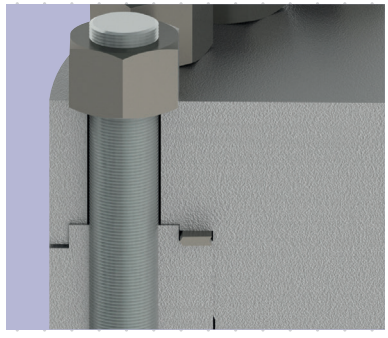
Elastomer (o-ring) type, with PTFE back up on higher pressure classes and graphite for fire safe requirement.

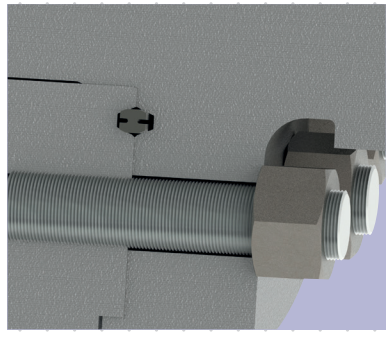


3 Pieces
243 DESIGN

BODY SEALING

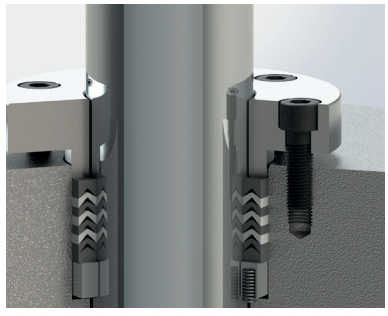
Spiral wound type, or ring joint type on higher pressure classes.

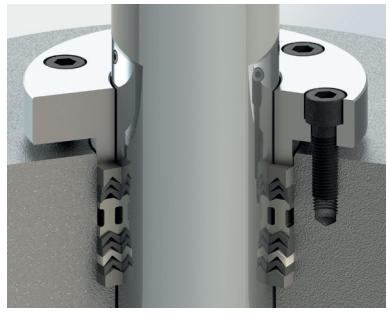




STEM SEALING

Thermoplastic multiple V rings seal type (PTFE chevron pack), with or without lantern ring.





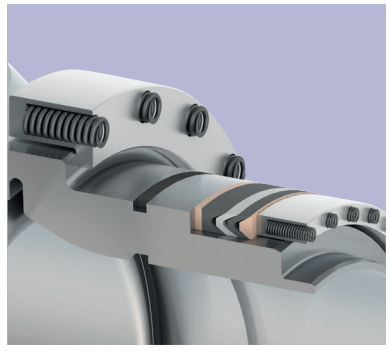
Metal seal option available upon request

SEAT SEALING

Thermoplastic multiple V rings seal type (PTFE chevron pack).

Seat to ball sealing: both soft and metal are available.

Self relieving or bidirectional solution can be provided.



materials

PETROLVALVES side entry ball valves have been designed for use with various combinations of materials which are selected to better suit service conditions.

AVAILABLE BODY MATERIAL SELECTION	AVAILABLE OBTURATOR MATERIAL SELECTION SOFT SEAT EXECUTION	AVAILABLE SEAT MATERIAL SELECTION SOFT SEAT EXECUTION
▸ CS, LTCS (*) ▸ Low Alloy Steel (*) ▸ Stainless Steel ▸ Ni Alloy (*) CRA weld overlay option available	▸ CS, LTCS (*) ▸ Low Alloy Steel (*) ▸ Austenitic / Ferritic / Martensitic Stainless Steel ▸ Duplex, Superduplex, Ni Alloy (*) CRA weld overlay option available **Option** ▸ Electroless Nickel plating	▸ CS, LTCS ▸ Low Alloy Steel ▸ Austenitic / Ferritic / Martensitic Stainless Steel ▸ Duplex, Superduplex, Ni Alloy **Secondary seal material** ▸ PTFE, RPTFE, PCTFE, PEEK, DEVLON, NYLON **Option** ▸ Electroless Nickel plating

AVAILABLE BODY MATERIAL SELECTION	AVAILABLE OBTURATOR MATERIAL SELECTION METAL SEAT EXECUTION	AVAILABLE SEAT MATERIAL SELECTION METAL SEAT EXECUTION
▸ CS, LTCS (*) ▸ Low Alloy Steel (*) ▸ Stainless Steel ▸ Ni Alloy (*) CRA weld overlay option available	▸ CS, LTCS (*) ▸ Low Alloy Steel (*) ▸ Austenitic / Ferritic / Martensitic Stainless Steel ▸ Duplex, Superduplex, Ni Alloy (*) CRA weld overlay option available **HardFacing** ▸ Tungsten / Chromium carbide coating	▸ Low Alloy Steel ▸ Austenitic / Ferritic / Martensitic Stainless Steel ▸ Duplex, Superduplex, Ni Alloy **HardFacing** ▸ Tungsten / Chromium carbide coating

Rev 01 - April 2017 - Please visit our website www.petrolvalves.com to get the latest revision.