

# XOMOX<sup>®</sup>

brands you trust.



XLB - Lined Ball Valves

**CRANE**

Crane ChemPharma & Energy

[www.cranecpe.com](http://www.cranecpe.com)

# XLB Lined Ball Valve Lower Torque - Smaller Actuators

**Lower torque**

smaller actuators, reduced costs, space and weight saving

**Actuator mounting**

fully compliant with ISO 5211 allowing use of standardized mounting kits

**Compact design**

allows installation in space restricted areas in parallel piping systems

**Valve pressure classes**

EN PN16 and ASME Class 150  
JIS 10kg



**Size range**

1/2" / DN15 through  
6" / DN150 Full Port  
1 1/2" through 8" Standard Port  
Other sizes available up to 12" / DN300

**Temperature range**

ASME: -20°F (-29°C) to 400°F (204°C)  
EN: -10°C (14°F) to 204°C (400°F)  
Above data is for ductile iron lined valves, see pressure temperature ratings in our Technical Datasheet brochure for extended temperature capabilities with alternative materials

**All wetted components**

are fully lined with permeation resistant PFA material as a barrier to corrosion.

PVDF and Anti-static PFA also available see page.....

Full Port XLB valves are also available in stainless steel construction with bodies in EN 1.4408 / ASTM CF8M material. Stainless steel valves are designed to maximize cleanliness and minimize areas where contamination could occur.

**Duplex stainless steel**

integral lined ball and stem

**Crevice-free**

body joint connection

**Body joint fasteners**

in stainless steel

**All stainless steel lever**

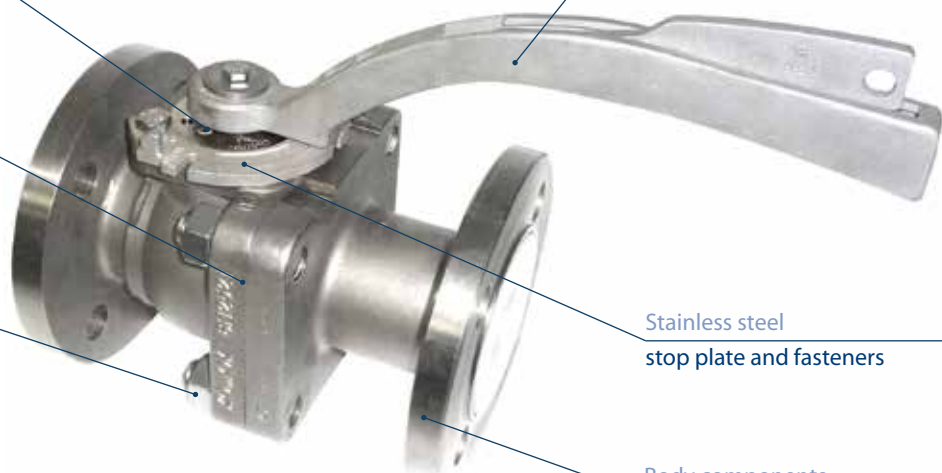
assembly with latching and locking facility

**Stainless steel**

stop plate and fasteners

**Body components**

in stainless steel



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# XLB Lined Ball Valve Innovative Stem Sealing System

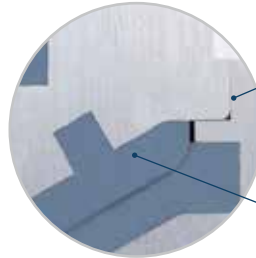
**Stainless steel lever**

latching device minimizes possibility of accidental operation. Locking capability as standard. Made of stainless steel material ideal for corrosive environments.



**Metal-to-metal contact**

at the body joint ensures that no parts of the lining can be crushed or deformed because of forces within the piping system.



**Wide conical plastic connection**

designed to maintain total seal even under extreme thermal cycling.



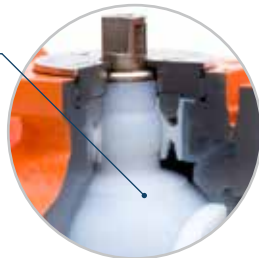
**Atmospheric seal**

innovative "pressure assisted" SX seal device provides the highest protection against fugitive emissions.



**Anti blow-out integral ball and stem**

retains positive control and minimizes the danger of stem/ball failures due to liner damage at wear points.



**Locked in fluoroplastic liner**

resists shrinkage and collapse, and permits vacuum applications.



**Chemically modified PTFE (CMP)**

seats provide greater pressure stability at higher temperatures than conventional PTFE.

ENHANCED DUAL SPECIFICATION DUCTILE IRON MATERIAL	
Standard / Grade	EN 1563 / JS 1049 ASTM A395 / 60-40-18
Chemical Requirements	C min. 3%, SI max. 2.5%, P max. 0.08%
Perlit Content	max. 5%*
Spheroidal Graphite	min. 90%*
Tensile Strength [N/mm <sup>2</sup> ]	min. 415
Yield Strength [N/mm <sup>2</sup> ]	min. 275
Elongation [%]	min. 18
Hardness [HB]	143-187
Impact Test [Joules]	min. 14 @ -20°C*
Impact Test [Joules] Single Valve	min. 11 @ -20°C*

\*Requirement of PAS1085

Source: PAS 1085: 2008-08

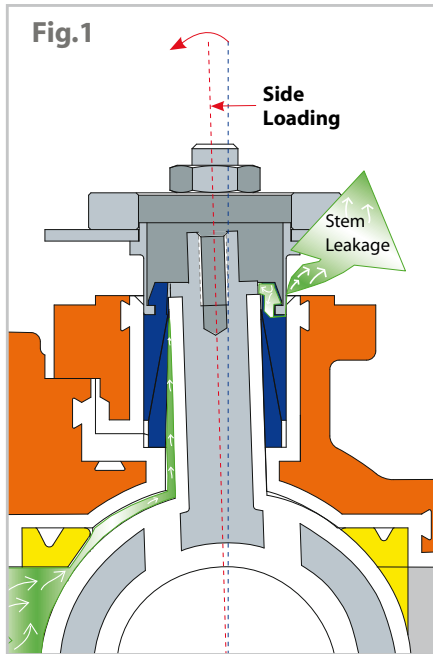
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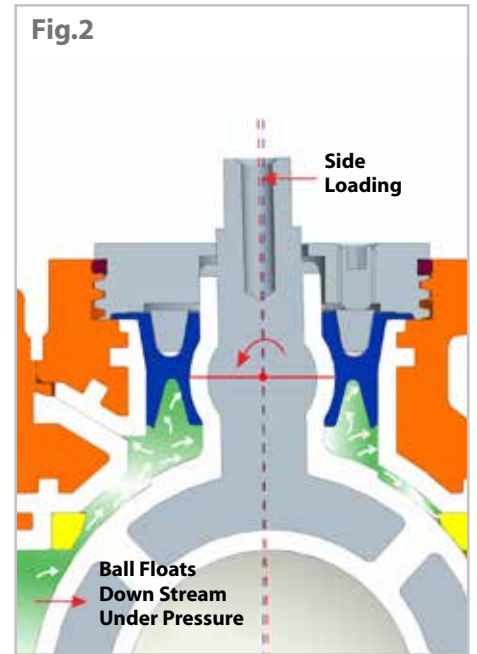
## XLB Lined Ball Valve Dynamic Body Joint Design

When valves are closed under pressure, the ball is able to float with line pressure and pressurize the downstream seat to further enhance the in-line seal. However, the stem will tend to tilt and can side load conventional packing, leading

to potential wear and eventual leakage. The SX seal in the XLB valve moves in conjunction with the spherical portion of the stem, maintaining a constant seal.



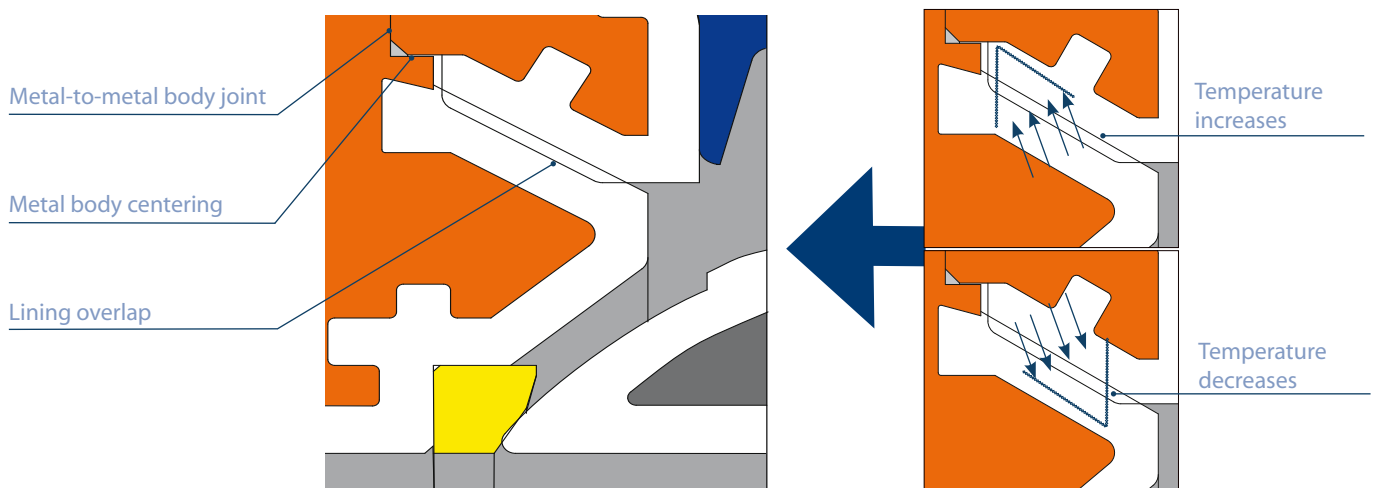
**Fig.1:** In a conventional valve, moderate stem side loading can lead to significant emissions issues. Other situations where side loading can occur during valve actuation include heavy manual operation, actuation loads, and misalignment, and abusive contact.



**Fig.2:** The XLB valve's pressure assisted SX seal stays in constant contact with stem spherical seal surface to significantly reduce the chance of atmospheric leakage.

### XLB dynamic body joint design retains pressure boundary during thermal cycles

The body assembly has metal-to-metal connection that offers resistance against forces that may be created in the pipework. This feature is designed to alleviate deformation and damage to the lining, even under pressure induced stresses. Also, the body joint sealing is provided with taper lining overlap, which is especially effective under high internal pressure and temperature variations.





# XLB Lined Ball Valve Options and Accessories

## Material and Liner Options



Low Temperature Carbon Steel Body

- All full port configurations available
- Low service temperatures below -20°F/-29°C
- Extremely cold environments below -20°F/-29°C



Antistatic-PFA Lining

- All sizes and configurations available
- Applications that cause potential electrostatic
- Complies with ATEX, European Directive 94/9/EC



PVDF-Lining

- All sizes and configurations available
- Halogen applications
- Service temperatures limited to 130°C/266°F

## Other Ball Valve Designs



Glass Pipe Design

- DN25-DN50 with and without flanges available
- Compact design adapted to the needs of glass piping systems
- Low weight and break torques



Bottom Discharge Valve

- DN25 (1")-DN150 (6") available
- Tank connection flanges through DN 250 (10")
- Allow efficient discharge of corrosive fluids from liquid tanks.



Compact Ball Valve

- DN25 (1")-DN80 (3") available
- All stainless steel construction
- Available with combined EN and ASME flange connections for maximum flexibility

## Operator Options



Standard Locking Lever

- Stainless steel for corrosive environments
- Lockable as standard
- Spring-loaded latching mechanism



Oval Handle

- Optional for sizes up to DN40 (1 1/2")
- Stainless steel for corrosive environments
- Compact design discourages accidental operation



Stem Extension

- Standard stem extensions in stainless steel
- Provides necessary clearance for operators in insulated pipeline installations
- Used with lever, gear or automated packages



Automated Valve

- XLB valves can be automated with manual, pneumatic or electric actuators.
- Actuator mounting dimension in accordance with ISO 5211
- Low torque allows for economical automation solutions

## Flow Characterization



Characterized Valve

- Available for all sizes
- One piece ball and stem design of XLB provides more positive rotational control than 2-piece designs
- Offered with standard V port characterization or customized solutions



# XLB Lined Ball Valve Applications

XLB valves offer economical solutions for the vast majority of chemical applications while maintaining the highest possible degree of performance in terms of in-line leakage and fugitive emissions.

## They are commonly used within the following industries:

- Chlor-Alkali
- Industrial Inorganic Chemicals
- Metal and Mining
- Nitrogen and Phosphatic Fertilizers
- Petroleum Refining
- Pharmaceutical

## Within these industries, XLB valves have superior performance in the following applications

- Chlorine
- Benzene
- Bromine
- Sulfuric Acid
- Nitric Acid
- Hydrochloric Acid
- Phosphoric Acid
- Sea Water

**CRANE ChemPharma, Xomox® XLB Lined Ball Valve - Performance Chart**

FUNCTION			MEDIA TYPES								APPLICATION REQUIREMENTS													
On / Off	Throttling	Diversion	Clean Liquids & Gases	Dirty Liquids & Gases	Corrosive Liquids & Gases	Hazardous Liquids & Gases	Viscous Liquids	Scaling Liquids & Slurries	Abrasive Slurries	Fibrous Slurries	Dry Materials	Vacuum Service	High Flow Capacity	Low Torque	Fugitive Emissions Control	Reduced Maintenance	Extended Service Life	Sizes	Pressure Ratings	High Temperature (ASME/EN)	Low Temperature (EN)	Low Temperature (ASME)	Key Benefit	
●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
																		1/2" - 6"	DN15 - DN150	Class 150 / PN16	400°F / 204°C	-10°C / 14°F	-20°F / -29°C	Safety / Economy

Source: CRANE Engineering

- Superior Performance
- Limited Application
- Not Applicable

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**XLB Lined Ball Valve Other Lined Products from XOMOX**

LINED ACCESSORIES



Fully lined sampling valves



Fully lined sight glass



Fully lined strainer and filters



In-line ball check valves

LINED CHECK VALVES



Y Pattern ball check valves



Vertical and horizontal poppet check valves



Spring assisted check valves



Swing check valves

LINED PLUG VALVES



Stainless steel lined plug valves



3 Way lined plug valves



Lined plug valve with ISO 5211 mounting



Lined plug valves, PN 16, class 150 and 300

LINED BUTTERFLY VALVES



Fully PFA lined butterfly valves



Fully rated lined butterfly valves for off-shore applications

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