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Installation, Maintenance, & Repair Instructions

CRANE ChemPharma, Xomox® XLD Lined Butterfly Valves

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Installation, Maintenance, & Repair Instructions For XOMOX® XLD Lined Butterfly Valves

READ CAREFULLY

The following procedures and illustrations have been prepared to assist you in the installation, maintenance and repair of your XOMOX valves. Please read these instructions carefully.

⚠WARNING

READ INSTRUCTIONS BEFORE INSTALLING OR USING THIS VALVE. Failure to follow instructions could result in death or serious injury. If there are any questions, contact your XOMOX Representative or the factory at 513-745-6000.

STORAGE

⚠WARNING

LINER DAMAGE. XOMOX Lined Butterfly valves are shipped with the disc slightly open and must remain in this position for storage. Always store the valves in their original packing with the flange protectors in place until the valve is ready for use. Never store the valve unprotected. Damage to the PFA liner could create a leak path resulting in death, serious injury or property damage.

INSTALLATION

1. The XOMOX Lined Butterfly valve is designed for installation between ANSI B 16.5, Class 150 flanged piping systems.

The valve may be installed independent of the direction of flow and may be mounted in any position between the flanges.

Recommendation: If the media flowing in the pipe contains abrasive particles such as a slurry, the valve should be mounted with the shaft in the horizontal position with the lower half of the disc opening downstream in order to extend the valve's service life.

2. For recommended flange bolt length, see chart labeled Figure XLD11 or Figure XLD21 depending on which valve is being installed.

3. All types of flanges are permissible if clearance is provided for the swing of the disc and support is provided for the valve seat and liner.

Table 1 lists disc swing clearance requirements for mating pipe flanges:

Valve Size	Disc Projection	Min Pipe ID
2	.472	1.811
3	.630	2.520
4	.980	3.543
6	1.929	5.709
8	2.834	7.756
10	3.660	9.724
12	4.449	11.693
14	4.803	12.992
16	5.630	14.960
18	6.318	16.930
20	7.126	18.897
24	10.945	22.835

4. Check the valve tag before installation to ensure that the pressure rating and materials of construction are compatible with the intended service conditions.

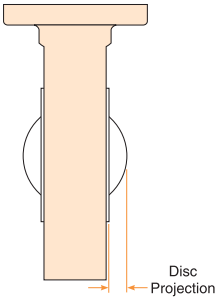
5. Use of flange gaskets is recommended to protect the valve liner during installation.

6. Check the adjoining pipelines and remove any material that could damage the valve liner.

7. The valve must be in a closed position (with the disc slightly open) during all handling and installation operations.

This is necessary to protect the sealing edge of the disc from any damage during handling and installation.

Note: Sealing edge damage may cause in-line leakage.
Note: Fittings such as tees and elbows cannot be bolted directly to the valve. Spacers must be used to create the permissible clearance from the tee or elbow fitting.



8. The valve liner should be kept clean. Any dirt or debris left in the valve can scratch the liner or the sealing edge of the disc. **Note:** A scratched liner or scratched sealing edge may cause in-line leakage.

⚠WARNING

FLANGE LEAKAGE.
During installation DO NOT allow the valve liner to catch on the mating pipe I.D. and fold over. This could damage the liner and could create flange leakage resulting in death, serious injury or serious property damage.

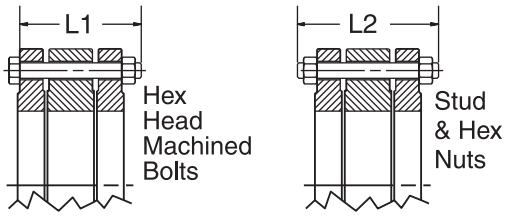
9. Proper alignment of the valve in mating flanges is required during installation. After installation between the flanges, the valve must be

Flange Bolt Selection Guide

The flange bolt dimensions provided here are based on nominal dimensions and are intended only as a guide. Bolt length in any given installation may vary due to manufacturing tolerances of valves, flanges, flange bolts, gaskets, and any additional auxiliary equipment.

Unless otherwise noted, stud and bolt lengths are based on the following data: 1. Minimum flange thickness of welding neck flanges per ANSI B16.5. and 2. Heavy hex nuts.

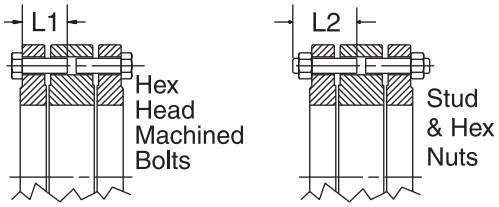
Wafer Style (Flangeless) Figure XLD11, Class 150



Valve Size	Quantity	Torque** Ft. Lbs.	Hex Head Bolt Length (L1)	Stud Length (L2)*
2″	4	75	5/8-11 x 3.50	5/8-11 x 4.50
3″	4	110	5/8-11 x 3.75	5/8-11 x 4.75
4″	8	95	5/8-11 x 4.25	5/8-11 x 5.25
6″	8	125	3/4-10 x 4.75	3/4-10 x 5.75
8″	8	190	3/4-10 x 5.25	3/4-10 x 6.25
10″	12	200	7/8-9 x 6.00	7/8-9 x 7.00
12″	12	260	7/8-9 x 6.50	7/8-9 x 7.50
14″	12	265	1-8 x 8.00	1-8 x 9.00
16″	16	240	1-8 x 8.50	1-8 x 9.50
18″	16	335	1-1/8-8 x 9.50	1-1/8-8 x 10.50
20″	20	295	1-1/8-8 x 10.50	1-1/8-8 x 11.50
24″	20	400	1-1/4-8 x 12.00	1-1/4-8 x 13.00

** Torque values are those typically used in industry as standard for lightly lubricated B7 bolts/studs.

Lug Style (Single Flange) Figure XLD21, Class 150

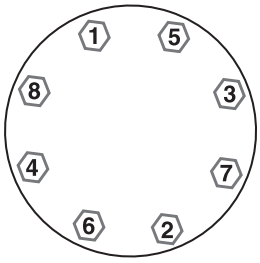


Valve Size	Quantity	Torque** Ft. Lbs.	Hex Head Bolt Length (L1)	Stud Length (L2)*
2″	4	75	5/8-11 x 1.125	5/8-11 x 2.25
3″	4	110	5/8-11 x 1.188	5/8-11 x 2.375
4″	8	95	5/8-11 x 1.312	5/8-11 x 2.625
6″	8	125	3/4-10 x 1.4375	3/4-10 x 2.875
8″	8	190	3/4-10 x 1.563	3/4-10 x 3.125
10″	12	200	7/8-9 x 1.75	7/8-9 x 3.50
12″	12	260	7/8-9 x 1.875	7/8-9 x 3.75
14″	12	265	1-8 x 2.125	1-8 x 4.50
16″	16	240	1-8 x 2.25	1-8 x 4.75
18″	16	335	1-1/8 x 2.50	1-1/8-8 x 5.25
20″	20	295	1-1/8 x 2.75	1-1/8-8 x 5.75
24″	20	400	1-1/4-8 x 3.125	1-1/4-8 x 6.50

* Note: Pressure vessel studs are measured from the first full thread to the last full thread - ***NOT*** from end to end.

checked in order to see if it is centered within the bolt circle of the flange and that the disc can be rotated through 90 degrees without any interference.

10. The flange bolts must be tightened in a criss cross manner.



For recommended torque valves, consult the appropriate lined-pipe installation instructions.

NOTE: Failure to follow this procedure may cause liner damage and impair the function of the valve.

⚠CAUTION

VALVE DAMAGE. DO NOT exceed recommended torque values. Personal injury and property damage may result.

11. If the valve is to be removed from the pipeline for any reason, the valve must be closed before any of the flange bolts are loosened. The valve must remain in a closed position until it is completely removed from the pipeline.

⚠WARNING

LINER DAMAGE. DO NOT run sharp instruments between the valve and liner or between the liner and pipe flanges. This practice could result in liner damage and could create a leak path. Death, serious injury or property damage could occur.

MAINTENANCE

XOMOX® Figure XLD11 and Figure XLD21 Lined Butterfly valves are designed and built to provide virtually maintenance-free service.

Applied within their temperature and pressure limitations and properly operated, they will require minimum attention.

All XOMOX Lined Butterfly valves are factory tested for tight shutoff. The primary seal to atmosphere is factory tested for zero leakage.

The secondary seal to atmosphere is self-adjusting and provides excellent, maintenance-free sealing to the atmosphere.

If you have any questions or concerns, consult your XOMOX Representative or the Factory at 513-745-6000.

VALVE REPAIR

XOMOX Lined Butterfly valves may be returned to a Tufline Automation & Service Center for repair.

Because of specialized equipment available at service centers, repairs can be performed more safely and economically.

Only the top seal can be replaced. If the disc or body liner are damaged, it is recommended that a new valve be purchased.

NEW VALVE WARRANTY

Factory and service center repaired valves are tested to the same specifications as new valves. Repaired valves carry the standard new valve warranty.

Shipments to XOMOX Service Centers must be prepaid. Return shipments will be f.o.b. XOMOX Service Center. See our web site for XOMOX Service Center locations.

Notice: When shipping, I.C.C. regulations require that all valves be thoroughly decontaminated and depressurized prior to shipment. The customer must provide certification that these regulations have been adhered to and that valves shipped to XOMOX Service Centers are completely free of hazardous liquids or gases.

PRODUCT RESPONSIBILITY

Xomox's concern for product performance extends to the product's period of service. We feel it is important for users to also be aware of their responsibilities. Our products are manufactured and used in numerous applications with a wide variety of service conditions. While general guidelines are often furnished, it obviously is not possible to provide complete and specific performance data for every conceivable service condition. Therefore, the end user must assume final responsibility for proper evaluation, application and performance of all products.
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