

1.0 Piping and Flange Considerations

The IFC Series BH150W/L butterfly valves are to be installed between pipeline flanges that conform to ASME B16.5 Class 150. The use of slip-on or weld neck flanges has no effect on the pressure temperature rating of the valves.

2.0 Installation

Prior to installation, inspect valve and mating flanges to assure gasket surfaces are free of defects. Remove all foreign material such as weld spatter, oil, grease and dirt from the valve, flanges and pipeline. Do not mount valves between flanges having defective gasket surfaces.

- A. Check the distance between pipe flanges to ensure clearance for valve. Check piping for proper alignment.
- B. Place valve so that the disc has been positioned to a partially open position, with the disc edge about $\frac{1}{4}$ " to $\frac{3}{8}$ " from the face of the seat (approximately 10° open). In general, IFC recommends that the valve be installed with the stem in the vertical position and the actuator mounted directly above the valve.
- C. Check valve for proper alignment
 - On wafer valves, visually center the valve with respect to the flange faces.
 - Center lugged valves with the flange bolting. Never use lugged butterfly valves to align improperly positioned piping.
- D. Operate the valve to assure that no binding or interference exists.
- E. Tighten flange bolting evenly in a crisscross pattern. The flange joint is complete when there are no gaps between the valve body and the flange faces. Bolting should then be tightened sufficiently to prevent loosening.

The following additional procedures should be observed when installing butterfly valves between welding flanges.

- A. Assemble inlet and outlet flanges to the valve body and tighten.
- B. Align the flange/body/flange assembly to the pipe in which the valve is being installed.
- C. Tack weld flanges to the pipe.
- D. After tack welding, remove the bolts and valve from the pipe flanges and complete the welding of the valve installation flanges.

Important: To prevent seat damage, allow the flanges to cool before final installation of the butterfly valve.

3.0 Valve Removal

Warning: Pipeline pressure can cause personal injury or equipment damage. Relieve pipeline pressure before loosening flange bolts and disable/lock valve actuator before valve removal.

- A. Discontinue pipeline flow, relieve pressure where the valve is located in the pipeline and close the valve.
- B. If the actuator is powered, disconnect and lock out the power to prevent accidental operation of the actuator.
- C. Support the valve and remove the mounting bolts or studs.
- D. Carefully lift the valve from the pipeline.

4.0 Operation

The IFC Series BH150W/L operates such that clockwise rotation of the valve shaft closes the disc into the seat.

- A. **SHAFT SEAL:** The shaft seal consists of Teflon packing that is contained and compressed by the packing gland. If the packing leaks, tighten the two adjustment nuts on top of the packing gland. If tightening cannot stop the leak replace the packing.
- B. **DISC SEAT:** The disc seat is constructed from Teflon and has a bellow shaped cross-section. A seat retainer that utilizes circumferential snap springs to hold the seat retainer in place retains the seat. The benefit to this design is that there is no interruption across the full gasket-seating surface, thus eliminating any potential emission leak path. If the seat requires replacement place the valve in the horizontal position with the seat retainer side upwards. Remove the seat retainer by rotating it counter clockwise. Rotate the disc clockwise into the closed position and remove the damaged seat. Clean the seat chamber machined into the body and install the new seat. Ensuring that the circumferential snap rings are positioned correctly place the seat retainer into the seat chamber and rotate clockwise until the snap rings engage. Seat replacement is complete.

5.0 Maintenance

The many IFC features minimize wear and maintenance requirements. IFC Series BH150W/L valves require no periodic maintenance or lubrication. IFC does recommend the following actions on a monthly basis:

- A. Operate the valve from full open to full close to assure operability.
- B. Check bolting for evidence of loosening and correct as required.
- C. Inspect flange faces and valve stem for signs of leakage. Tighten packing gland if necessary.
- D. Check piping and related accessories (i.e. actuator) for looseness, corrosion or defects. Correct as required.