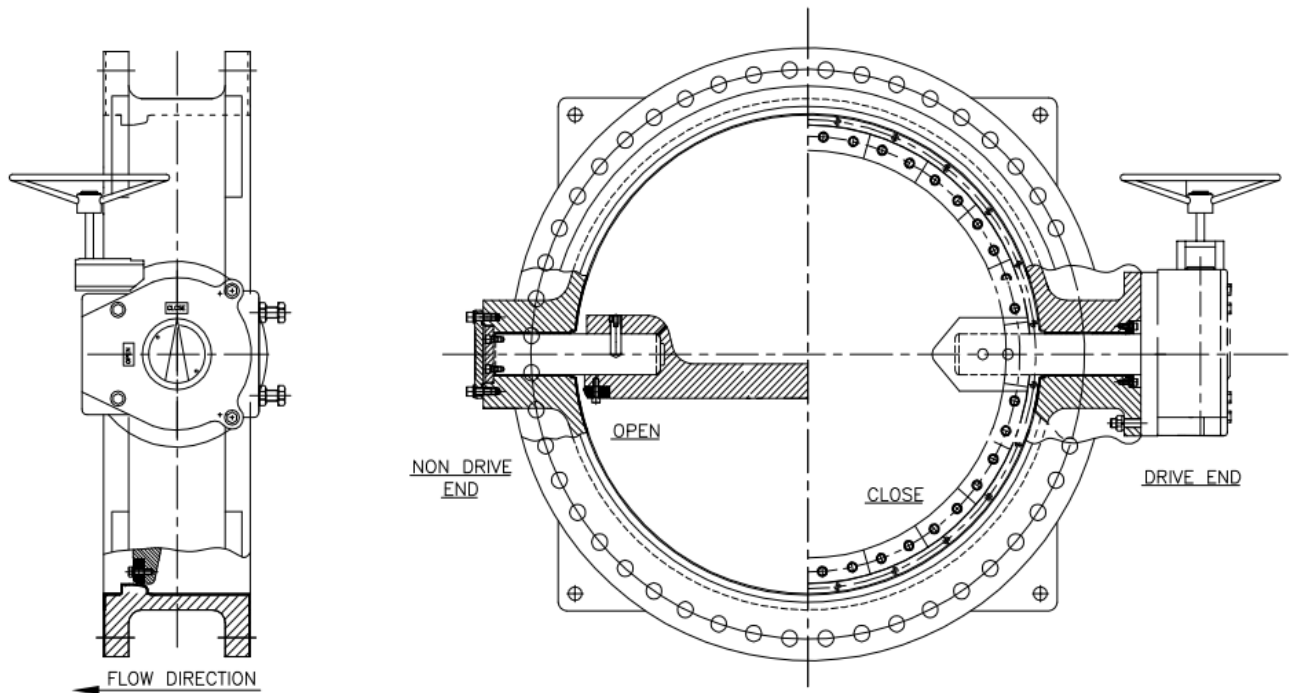


INSTALLATION, OPERATION AND MAINTENANCE MANUAL



SERIES - 60 / 61

60 SERIES



STAFFORD

DOUBLE OFFSET BUTTERFLY VALVE

INSTALLATION, OPERATION AND MAINTENANCE MANUAL

60 SERIES

INSTALLATION

FLANGE AND PIPINGS COMPATIBILITY

The valve series 60 have been designed for installation between flanges made in accordance with the (AWWA C207 CLASS 'D' / ANSI B 16.47). However, the valves made in accordance with a specific flanges norm, may not be used for another norm. Therefore, in order to verify the suitability to another norm, the following dimensions have to be checked:

1. The flange internal diameter of the valve must be:
 - i. Minimum: valve "Body Bore" (Refer GA drg.) dimension, plus a safety tolerance for the disc.
 - ii. Maximum: equal to pipe external diameter.
2. The bolts for valve centering must be sized in accordance with the selected flanges norms.
3. Standard valve flange gasket is not required.

INSTALLATION IN THE PIPING

The valve series 60 are uni-directional. The suggested installation position is with shaft in horizontal position and opening the disc downstream. The valve must not be used as a lever to gain more room between the flanges since the seat could get damaged.

Make sure that during opening the disc there is no interference between the disc and piping.

Before the installation, verify that the pipe is cleaned from impurity and welding residuals as they may damage the seat. Also make sure that the pipe is free from electrical voltage.

CAUTION : Valve should be install in pipe line such that, direction of flow/media matches with "ARROW" as shown in the GA Drawing.

INSTALLATION IN AN EXISITING PIPING

1. – Conform that the distance between the flanges is as per valve face-to-face dimension. Stretch the pipe flanges using a proper tool, to make the fitting easier.
2. – Close the valve to keep the disc inside the valve face-to-face dimension.
3. – Insert the valve between the flanges, centering the body and insert all the bolts.
4. – Keep the valve align between the flanges and close the bolts.
5. – Close the valve slowly by rotating the disc in clockwise direction and check the disc clearance in the pipe.
6. – Bring the disc in full open position and close the bolts in a cross sequence.

WARNING : For the FLANGED execution, use the same instruction, but utilizing bolting instead of screws.

60 SERIES

INSTALLATION IN A NEW PIPING

1. – Close the disc partially and center the valve between the flanges.
2. – Close the valve body between some bolts and closes them partially.
3. – Use the assembly valve/flanges for centering the valve in the piping.
4. – Tack weld the flanges to the piping.
5. – Remove the valve and bolts from the piping before full welding.

WARNING: Don't weld the pipe on line with valve fitted as the heat may damage the valve seat.

6. – Complete the welding and allow to cool.
7. – Install the valve following the sequence as per installation in an existing piping / practice”

IMPORTANT: Even if the valve is uni-directional, the suggested installation is with fluid flow direction as per arrows shown in the GA drawings.

VALVE REMOVAL FROM THE PIPING

1. – Turn the disc in “almost close” position
2. – Release and remove the bolts.
3. – Stretch pipe flanges using a proper tool.
4. – Remove the valve

MAINTENANCE AND PRESERVATION

After installation it is usually suggested to check if the disc rotates freely from open to close position.

The valves 60 SERIES are design for a long operating time without maintenance, therefore a regular / periodic maintenance or lubrication are not needed.

To keep the valve in perfect conditions, avoiding seat and gasket damages, it is necessary to keep the valve in clean, dry atmosphere. Not expose to direct sun light/heat. For smooth functioning of stocked valves; periodic open/close disc shall be perform once in month.

Check the pipe for free of solid particles as these may damage the seat, which is enough to need a seat replacement.

60 SERIES

DISMANTLING

- 1) Open the valve slightly within confines of valve body.
- 2) Remove clamping segment from disc. Hence valve seal get released. Pick up it from disc groove.
- 3) Remove gearbox indicator plate & remove gear box top cover plate. Remove gearbox cap screws & remove gearbox and associated assemblies from keyed valve shaft.
- 4) Remove bottom cover from base of valve. Remove thrust bearing & o-ring from end of lower stem.
- 5) Release and remove gland from top end.
- 6) Remove disc taper pins.
- 7) Extract shaft, note orientation of keyway in relation to gearbox quadrant position.
- 8) Remove disc from body I. D.
- 9) Check bearings & packing for score marks caused by shaft being removed, replace it if necessary.

ASSEMBLY

- 1) Keep the Body flange face resting horizontal on clean & plain ground surface. Ensure that Body ring towards ground surface.
- 2) Clean the stem bore of body with air. Remove dusty particles of inner surface of stem bore with help of cotton.
- 3) Apply thin film of grease on inner surface of stem bore of body.
- 4) Insert phosphor bronze bearing in stem bore from the gearbox mounting flange side.
- 5) Insert another bronze bearing in stem bore from bottom side of body.
- 6) Only rubber mallet is allowed to press the bearing inside the bore.
- 7) Keep disc inside body ID. Ensure that disc face is towards (ground surface) body ring. While stem bore of disc is concentric with stem bore of body.
- 8) Insert upper stem inside body bore, up to the disc bore depth. Pinhole of stem must concentric with pinhole on the disc.
- 9) Insert lower stem inside body bore; up to the disc bore depth. Pinhole of stem must concentric with pinhole on the disc.
- 10) Clean the pinhole of stem & disc prior to pin insertion.
- 11) Insert two no's of taper pins to assemble disc & upper stem.
- 12) Insert one taper pin to assemble disc & lower stem.

60 SERIES

- 13) Thrust bearing with o-ring subassembly to lower stem bottom surface with help of socket headed bolts.
- 14) Place gasket after thrust bearing.
- 15) Enclose the bottom bore by bottom cover with help of hex bolts.
- 16) Place gasket on face.
- 17) Fit top cover with o-ring subassembly fix in gear box mounting flange with help of socket headed bolts & hence enclose upper side stem bore.
- 18) Reverse the assembly 180 degree, body ring side on top.
- 19) Place the seat o-ring in groove on disc.
- 20) Hold the valve seal by clamping segment with disc by socket headed bolts.
- 21) Fit gearbox with keyway correctly matched to valve shaft position. Fit gearbox cover and indicator plate.
- 22) Apply light coat of grease on seat o-ring, close disc. Ensure that no gap found between body ring & seat o-ring.

LIST OF RECOMMENDED SPARE PARTS

Part Name	Qty.
Seal O-Ring	01
Luberized Bearing	02
Thrust Bearing	01
Valve seal	01
O-Ring	02

TROUBLESHOOTING

Symptom	Cause	Corrective Action
Stem Leak	Stem seal in body bore is leaking.	Replace stem sealing as described in disassembly & assembly.
Valve leaks at closed position	# Seat O-Ring is worn or damage # Body ring is worn or damage	# Replace seat o-ring as described in disassembly & assembly. # Consult factory for potential application problem.