

INSTALLATION / OPERATION / MAINTENANCE / USER'S MANUAL

A. Installation

1. The above listed standard valve is bi-directional and as such can be installed for flow in either direction.
2. When installing the above threaded-end valves, be sure that the threads on the mating pipe are free from excessive grit, dirt or burrs.
3. Take care to assure that any pipe sealants used are not so excessively applied to the pipe threads that the valve seats, ball and or cavity become fouled.

B. Valve Operation

1. All series **John Valve** ball valves feature 1/4 turn operation, turning the valve handle 90 degrees clockwise will fully close the valve while a 90 degree counter clockwise rotation will fully open the valve.
2. Note that the valve handle also serves as a ball orifice position indicator. If the valve handle is parallel to the pipe the valve is open, while a perpendicular handle indicates a closed valve.
3. To provide optimum service life, a hand-operated ball valve should be operated in its fully open or fully closed position. If an intermediate operating position is to be utilized, consult with your **John Valve** ball valve agent or distributor. Excessive pressure drops could adversely affect service life or the valve.
4. **John Valve's** products are assembled using a **FDA** approved lubricant. Valves can be ordered from the factory to be assembled without lubricant. The standard factory lubricant can be removed by disassembling the valve and solvent washing, however this may result in the need to replace certain seals and as such is not encouraged.
5. It is possible, in some valve designs, for seated cavities within the valve body to be filled with liquid, for example during hydrostatic test. If this liquid is not released, by partially opening the valve or some other means, and it is subject to a temperature increase and excessive pressure sufficient to cause pressure boundary failure. Where such a condition is possible, it is the responsibility of the purchaser to provide, or require to be provided, means in design, installation, or operating procedure to assure that the pressure in the valve will not exceed that allowed in this standard.
6. During the limited time of operation of a safety valve, the pressure shall not exceed the allowable pressure given in this standard, for the appropriate temperature.
7. Short-term variations in temperature in the creep range are the responsibility of the user.
8. Torques listed in **<Table 1>** is normal expected maximum breakaway torques. These values represent the force required to begin to open the valve. Typically, this breakaway value is the maximum torque required by the valve during a closed to open, opened to close cycle, bear in mind that these values have been confirmed by laboratory testing of each valve while pressurized with water to its maximum pressure rating. Certain highly viscous or abrasive services could cause an increase in torque requirements.

C. User's Note

Warning: All ball valves produced by John Valve are meant to be utilized within the temperature and pressure specified in the catalogue and on the nameplate. Exceeding these specified condition is considered as misuse on our products and can lead to serious defects and hazards. In addition, only the recommended fluid according to Chemical Resistance Table should be used to prevent high corrosion rates.

Important: It is impractical to predict frequency of stem adjustment as it is influenced by several factors. However, it is important that stem leaks are not left unattended. Lack of stem seal maintenance could result in a premature need to replace stem seals.

Note 1: If operating temperature of system is substantially higher or lower than room temperature (normal working temperature), an initial stem packing adjustment maybe necessary depends on the condition of valve.

Note 2: Valves under and including DN25 (1") are not marked with CE marks.

Note 3: Our ball valves are designed according to prEN-12516-1 and fulfill the required wall thickness within this standard, including an at least 15% safety addition in wall thickness. However, end-users has the responsibility to check the wall thickness in regular intervals due to wear/tear/corrosion of fluid in order to ensure the wall thickness is not below the minimum safety thickness allowed in this standard.

Note 4: Please download the fluid list (Chemical Resistance Table) that are published on the website for more information on possible fluid attacks. URL link: www.johnvalve.com.tw/tech/CRtable.pdf

A. Maintenance

During its' service life, the only maintenance that may be required by your **John Valve** ball valves should be periodic stem seal adjustment. If leakage at the stem is noted, simply tighten the valve stem gland nut until leakage subsides.

B. Rebuilding

1. Relieve line pressure.
2. Place the valve in its half-open position and flush the line to remove hazardous material from the valve cavity.

Note 5: Always advise maintenance personnel when they are maintaining or rebuilding a valve that has been conducting hazardous material that proper eye protection and protective clothing should always be utilized.

3. To replace seats and seals:
 - a. Place valve in its fully open position. Remove 3 of the 4 bolts and loosen the fourth.
 - b. Swing-out the valve center section.
 - c. Close the valve and remove the 2 seats, 2 body seals and the ball.
 - d. **In the cases of butt-weld end and socket-weld end ball valves, please remove the center body piece by unscrewing all four bolts before welding. This is to prevent the melting of seats and seals due to high temperature.**

Note 6: If condition of the ball sealing surface allows for its re-use, take care to handle and store the ball in such a manner so as to prevent subsequent damage to the ball's critical surfaces.

- e. Remove the valve handle nut, handle, gland nut and remove the valve stem through the body cavity.
- f. Remove the stem thrust washer from the stem (or the valve body cavity if the thrust washer did not remove from the cavity with the stem).
- g. Remove stem seal.

Examine all metallic sealing surfaces such as ball, stem shank, and pipe ends for damage such as nicks or scratches, in some cases, slight scratches across the sealing surface to pipe ends can be removed using a light emery cloth. If pipe end damage is excessive the valve must be replaced. If the ball or stem is excessively damaged, component replacement kits can be ordered. Consult your John Valve industrial ball valve agent or distributor.

4. Re-assembly

Having assured that all critical surfaces and components have been inspected, cleaned and or replaced, re-assembly can begin.

 - a. Place new thrust washer on stem and install the stem through the valve body cavity.
 - b. Place new stem seal into position.
 - c. Re-install the gland nut and tighten to the torques listed in **<Table 2>**.
 - d. Lightly lubricate seats and body seals using a lubricant that is compatible with the service requirement.
 - e. Re-install center section between pipe-ends and gradually tighten bolts in the sequence shown to with the torque values listed on **<Table 3>**.
 - f. Re-install the handle and secure with handle nut.