

THIN STAINLESS STEEL CHECK VALVE SERIES

OPERATION AND MAINTENANCE MANUAL

GENERAL

This valve has simple structure, light weight, and easy installation. This valve is mainly suitable for water supply system, petroleum, chemical, metallurgical and other industrial department is most suitable to install where there are space limitation. This valve is suitable for vertical piping for opening and closing, prevent the backflow medium.

OPERATING PRESSURES AND TEMPERATURES

| Pressure Rating | Seat | Temperature Range |
|-----------------|-------|--------------------|
| 250 psi | Viton | From 25°F to 250°F |
| 250 psi | NBR | From 25°F to 250°F |

INSTALLTION, USE AND STORAGE

Before installing clarify the flow conditions, pressure and velocity are appropriate for this valve to work effectively. Valve is to be installed vertically in the direction of the pipeline flow consistent with the direction arrow on the valve body. The valve cannot be installed to open air. Before installing the pipes inner chamber must be cleaned and the valve must be inspected to insure the rubber seat has no interruption. .When storing, this valve is kept dry. For long-term preservation, maintenance regularly. direction arrow on the valve body.

Make sure flange faces, joint sealing surfaces, body seats, and disc seats are clean. Check bolting attaching actuator to valve for loosening in transit and handling. If loose, tighten firmly. Open and close the valve to make sure it operates properly and that stops or limit switches are correctly set to that the valve seats fully. Close the valve before installing.

INSTALLATION

It is strongly recommended that all instruction manuals supplied by the valve manufacturer be reviewed in detail before installing check valves.

1. Handle valves carefully when positioning, avoiding contact or impact with other equipment, vault walls, or trench walls.

-
2. Valves are to be installed in accordance with the manufacturer's instructions.
 3. These valves can be fitted in either horizontal or vertical pipework. When installed in a horizontal pipeline, the valve stem should be preferably horizontal. This enables the butterfly valve to be self-cleaning and also enables the weight of the disk to be equally borne by the bearings.
 4. It should be considered at the design stage where valves will be located to give access for operation, adjustment, maintenance and repair.
 5. Foreign material in a butterfly valve can damage the rubber seat when valves are operated. Be sure valve interiors and adjacent piping are cleaned of foreign material prior to making up the valve to pipe joint connection.
 6. Prepare pipe ends and install valves in accordance with the pipe manufacturer's instructions for the joint used. Do not deflect the pipe-valve joint. Do not use a valve as a jack to pull pipe into alignment. In plant piping, install so as to minimize the bending to the valve connection with pipe loading.
 7. Concentrically center the valve disc between the mating flanges.
 8. This butterfly valve has integral rubber sealing faces and gaskets must not be used.
 9. Make sure the valve disc, when opened, will not contact the pipe port. This is especially necessary on pipe with linings and when valves are used. Check manufacturer's recommendations for minimum pipe ID required for clearance.
 10. Flanged joints depend on compressive deformation of the integral rubber sealing faces between the flange surfaces until metal to metal contact is achieved.

TESTING

When rubber-seated butterfly valves are used to isolate sections of a line for testing, it is important to realize that these valves are designed or factory adjusted to hold rated pressure only. Test pressures above valve rated pressure may cause leakage past the rubber seat and damage to the valve.

1. In order to prevent time lost searching for leaks, where feasible, it is recommended that excavations for buried valves not be back filled until after pressure tests have been made.
2. Seat leakage can occur from foreign material in the line. If this occurs, open the valve 5° - 10 ° to obtain high-velocity flushing action, then close. Repeat several times to clear seats for tight shutoff.
3. Seat leakage can result from a rotational shift in the position of the disc with relation to the body seat. Readjust the closing stop in the valve-actuator assembly.

OPERATING

1. Do not permit the use or operation of any valve at pressures above the rated pressure of the valve.

-
2. Stop the actuator before the valve is fully opened or closed against stops and complete the operation manually. Be sure to check the actuator directional switch against the direction indicated on wrench nut, handwheel.
 3. If a valve is stuck in some intermediate position between open and closed, check first for jamming in the actuator. If nothing is found, the interference is inside the valve. In this case, do not attempt to force the disc open or closed, because excessive torque in this position can severely damage internal parts.
 4. When an enclosed worm gear reduction operator (gearbox) is mounted on the valve body with the gear quadrant intimately connected with the valve shaft. The full open and full closed position travel stops are set at the factory and require no further adjustment.

MAINTENANCE

Maintenance of rubber-seated butterfly valves by the owner is generally limited to actuators and shaft seals. In some instances, valve design permits field adjustment when leakage occurs past the disc. Unless the owner has skilled personnel and proper equipment, any major internal problem will probably require the removal of the valve from the line and its return to the manufacturer for repair.

1. The valve should be at zero pressure and ambient temperature prior to any maintenance inspection.
2. Normal maintenance is in the area of shaft seals and actuators. Seal leakage, broken parts, hard operation, and in some cases, seat leakage should be corrected by a repair crew as soon as possible after a defect is reported.
3. If repairs are to be made in the field, repair crews should take a full complement of spare parts to the jobsite. Be sure to review the valve-manufacturer's drawings prior to any repair work.
4. After completing repairs, cycle the valve through one complete operating cycle and, after line pressure has been restored, inspect for leakage.

TROUBLESHOOTING

| Problem | Reason | Solution |
|--------------|--|---------------------------|
| Seal leakage | Seal surface is accumulated with sundry. | Clean the sealing surface |