



## **CAST IRON SILENT CHECK VALVE INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS**

### **INSTALLATION**

- 1) Thoroughly clean and prepare the piping system before valve installation.
- 2) Remove the valve end caps if present, and inspect the valve seating surfaces for cleanliness just prior to installation.
- 3) Support the valve to prevent unnecessary stresses induced by connecting pipe. When lifting the valve, secure by the body and not by the trim.
- 4) Be sure the rating of the valve is compatible with the intended service conditions. Center guided spring loaded check valves are designed for liquid applications with no particulate matter or suspended solids.
- 5) Installing the valve with adequate straight pipe from a pump or turbulence inducing device is recommended to avoid vibration and premature wear. See the MV Technical Bulletin [Check Valve Minimum Velocity and Installation Location Guidelines](#) for more details.
- 6) Silent check valves can be installed in any position, either horizontal or vertical with flow up. The flow arrow must point in the direction of flow when the system is in operation.
- 7) Damage to the valve or internal leakage may result if pipe flanges other than those with standard flat faces conforming to ASME B16.5 are used. **The mating flange inside diameter and gasket must overlap the valve seat to provide proper seat retention.** See table below.

Maximum Allowable Inside Diameter of Flange								
<b>Valve Size</b>	2 1/2"	3"	4"	5"	6"	8"	10"	12"
<b>Flange ID</b>	2.94"	3.57"	4.57"	5.66"	6.72"	8.72"	10.88"	12.88"
<hr/>								
<b>Valve Size</b>	14"	16"	18"	20"	24"	30"	36"	42"
<b>Flange ID</b>	14.14"	16.16"	18.18"	20.20"	24.25"	30.25"	36.35"	42.25"

- 8) A 1/16" thick full-face gasket is recommended. Centering the gasket is important to prevent internal valve leakage. Do NOT mount the intake side of the valve directly to equipment incorporating an elastomeric seat.
- 9) Flange bolts should be torqued in several graduated steps, using the crossover method for tightening. This even loading of the flange bolts will eliminate concentrated stresses which could fracture the valve's flanges.
- 10) For an installation video, visit the following link: [Silent Check Valve Installation](#)

## **OPERATION & MAINTENANCE**

- 1) Silent check valves are designed to prevent reverse flow automatically. On pump start-up, the flow of water forces the disc open, allowing the passage of fluid through an area equal to the pipe size. On pump shutdown, the spring closes the disc before a media reversal takes place. This type of closure, which prevents flow reversal, is the factor which allows silent operation and prevents water hammer normally associated with valve and pump shut-off. **No regular maintenance is required.**

## **INSPECTION & REMOVAL**

- 1) Close the discharge isolation valve, and bleed system pressure by loosening the discharge side flange. Do not loosen the inlet side flange until pressure has been relieved. Damage can occur to internal parts if this is not followed.
- 2) Remove the valve from the line. All parts can be checked for wear and damage.
- 3) Never attempt to inspect the seating of the valve by removing the inlet side piping. This will result in damage to the valve's internal seating mechanism.