

MUELLER®

A-2122 UL/FM Swing Check Valve

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⚠ WARNING:

1. Read and follow instructions carefully. Proper training and periodic review regarding the use of this equipment is essential to prevent possible serious injury and/or property damage. The instructions contained herein were developed for using this equipment on fittings manufactured by Mueller Co. only, and may not be applicable for any other use.
2. DO NOT exceed the pressure ratings of any components or equipment. Exceeding the rated pressure may result in serious injury and/or property damage.
3. Safety goggles and other appropriate protective gear should be used. Failure to do so could result in serious injury.

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A-2122 UL/FM Swing Check Valve

General Information / Inspection and Storage / Installation

APPLICATION / OPERATION / SAFETY

Application

Mueller® A-2122 Series UL listed and FM approved Swing Check Valves are self-contained, free-swinging disc style (gravity operated). These Check Valves are rugged in construction, simple in design and suitable for use in fire protection services.

Working Pressure:

350 psi (2" – 12"), 250 psi (14" & 16")

Hydrostatic Shell Pressure:

700 psi (2" – 12"), 500 psi (14" & 16")

Operation

The construction of Check Valve consists of Body, Cover and Disc. Once in the pipeline, the UL/FM check valve will open and close as flow conditions dictate. The valve will open as the pressure on the upstream side of the disc overcomes the downstream side. The valve will close as the situation reverses itself or the pressure equalizes. Reverse flow will cause the Disc to shut against the seat and stop the fluid going back.

Safety Measures

"Warning" and "Caution" messages indicate procedures that must be followed exactly to avoid equipment/property damage, physical injury or possibly death. Safety labels on the product indicate hazards that can cause equipment/property damage, physical injury or possibly death.

INSPECTION AND STORAGE

Inspection On Delivery

All valves should be inspected at time of delivery for shipping damage, missing parts, and conformance with specifications.

The following inspection must be performed before operating the check valve:

- Inspect the mating surface between the disc and the body for defect.
- Inspect the operation of the disc, to be able to swing as required.

Storage / Handling

Before dispatched from the factory, the ends of all valves are covered with the protective cover to prevent entry of foreign materials. All valves should be carefully unloaded and should not be dropped as this might damage to the valves.

Valves should be stored in a sheltered area, or covered with water-proof covering, to prevent

damage/contamination by weather or dirt or debris. Valves should remain with original shipping containers or skids, or stored on a flat surface with weight supported evenly by the flange face. DO NOT store valves on the shaft ends or bushing housing. Protect rubber seated valves from ozone and hydrocarbons (solvents, paints and oils, etc.)

INSTALLATION

PRECAUTION:

- Valves should not be installed in applications or for service other than those recommended by the manufacturer.
- Valves should not be installed in lines where service pressure will exceed the rated working pressure of the valve, because it may cause the valves damage or explode.

Installation

Valve can be installed horizontally or vertically (flow upwards) by following these steps:

1. Check that valve end joints conform to the mating pipe and

verify that ends are clean and sound. Valves are supplied with flat faced flanges with ANSI B16.1 Class 125 drilling. DO NOT mate these valves to pipe or fitting with raised face flanges.

2. Remove the protective covers from the body ends.

3. Closing mechanism should be checked to ensure freedom of motion and proper operation.

4. Clean the internal surface of the valve body and the seating surface.

5. It is necessary to install the valve in proper orientation with regard to flow direction as indicated by arrow on side of body.

6. Prepare pipe ends per pipe manufacture's instruction and install valve as per appropriate instructions for the specified joint. All piping should be properly supported to avoid line stress being transferred to valve. DO NOT use valve as a jack to force pipeline into position.

7. Standard wrenches and/or sockets are to be used to tighten all nuts and bolts. Fasteners are to be tightened in a "star pattern" to ensure balanced loading of bolts.

8. After completing installation and before pressurization of the valve, all pressure containing bolts and nuts should be inspected for adequate tightness to prevent leakage.

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Flange Bolt Tightening / Maintenance / Troubleshooting

FLANGE BOLT TIGHTENING METHOD

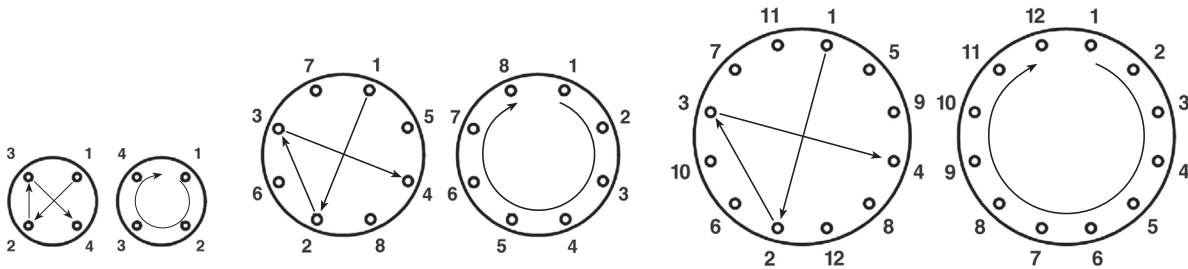
1. All the flange bolts or studs are inserted around the flange bolt circle.
2. Hand tightens the bolts and nuts.
3. Starting at the 1st bolt, follow a

cross-over bolt tightening pattern as shown in **Diagram 1**.

4. Start at the 1st bolt. Follow a circular bolt tightening pattern. Tighten bolt to firmness.

5. Repeat step 4, as many times as required until equilibrium is achieved.

DIAGRAM 1. CROSS-OVER & CIRCULAR PATTERN BOLT TIGHTEN METHOD



MAINTENANCE

⚠ WARNING: To prevent injury to operator or damage to valve and/or property, valve must be isolated and line pressure relieved from both sides of valve before opening valve cover or attempting any repairs to valve seals or mechanism. O-rings or gaskets should not be changed or added on an active valve.

The system is designed to be trouble-free with minimum care. Frequency of inspection should be based upon the operational

characteristics of the system, i.e. systems of high cycles should be inspected more frequently. At minimum semi-annual inspections are recommended.

Points of Inspection (should be at a minimum):

- All end joints, cover joints and packing boxes for leakage.
- Bolts for tightness.
- O-rings: inspection of packing box is required to assure no leakage is

evident. If leakage exists, replace O-rings -- DO NOT tighten end plug in an attempt to stop leakage.

- Inspection of interior of valve is not necessary unless improper operation is witnessed or leakage beyond the allowable rate is experienced. The interior of the valve and the internal components can be inspected by removing the valve cover. Cover gasket should be replaced any time this joint is broken. Never re-install a used cover gasket.

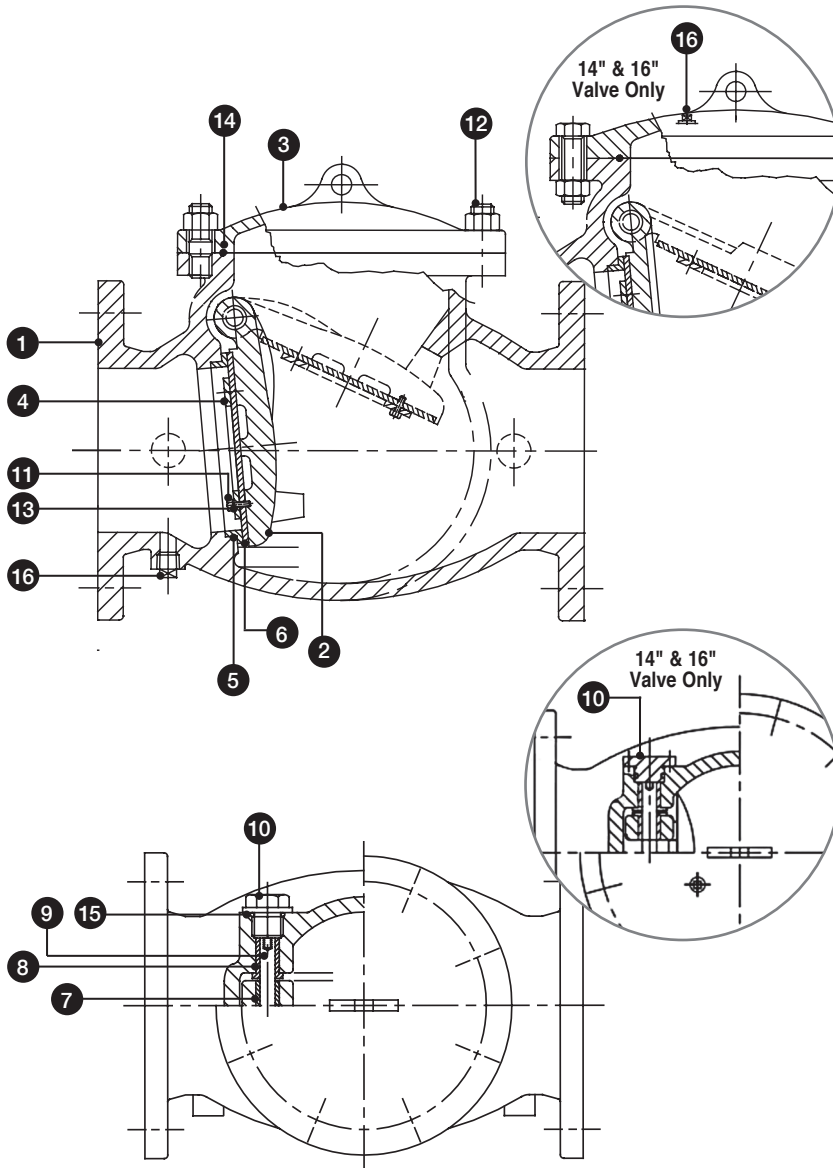
TROUBLESHOOTING

PROBLEM	CAUSE	SOLUTION
Cover Gasket Leakage	Relaxed cover bolts tension	Tighten bolts in "star pattern." Should leakage continue, replace gasket.
Seat leakage	Seats dirty	Remove inspection cover and flush.
	Disc Seat damaged	Replace Disc Seat.
Leak by Hinge Pin	Cracked or broken O-rings	Replace O-ring(s).
Vibration / Noise	Flow rate too high	Correct application.
	Loose disc mounting	Tighten Stud / Nut.
End Gasket leakage	Pipe misalignment	Realign pipe.
	Unsupported pipe load	Support pipe.
	Improper Gasket or installation	Replace / Reinstall
	Uneven tightening torque	Retighten using "star pattern".

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Parts

PARTS LIST



ID	DESCRIPTION	MATERIAL
1	Body	Ductile Iron
2	Disc	Ductile Iron
3	Cover	Ductile Iron
4	Seat Holder	Ductile Iron
5	Body Seat Ring	Bronze
6	Disc Seat Ring	Rubber Buna-N / EPDM
7	Disc Bushing	Bronze
8	Body Bushing	Bronze
9	Hinge Pin	Stainless Steel
10	Plug A (2" – 12")	Stainless Steel
	End Plate (14" & 16")	Ductile Iron
11	Disc Seat Bolt	Stainless Steel
12	Cover Stud & Nut	Zinc Coated Steel
13	Spring Washer	Stainless Steel
14	Cover Gasket	Rubber Buna-N / EPDM
15	O-Ring	Rubber Buna-N / EPDM
16	Plug B	Stainless Steel



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