

INSTALLATION, OPERATION & INSPECTION

SERIES 120WC & 120W AWWA C508, HORIZONTAL SWING CHECK VALVE

GENERAL:

All valves should be inspected at time of delivery for shipping damage and to confirm compliance with specifications. Whenever possible the valves and all apparatus should be protected from the weather. Water and debris should not collect in the valve. Note: These instructions are guidelines for use by experienced piping mechanical personnel.

WARNING: Valves are to be handled by experienced installers. They should never be used as structural members and should be appropriately rigged for lifting. Valves are heavy and should be handled with caution.

INSTALLATION:

A. Check that valve end joints conform with the mating pipe and verify that ends are clean and sound.

B. Remove any material used to restrain the flow control device lever or pin during shipment and storage. Attach any outside closing mechanism in proper position manually.

C. The floor control device and closing mechanism should be checked to insure freedom of motion and proper operation.

D. When handling the valve, do not use the outside mechanism for lifting.

E. It is necessary to install the valve with flow in the direction of the arrow located on the outside body of the valve.

F. Prepare pipe ends per pipe manufacturer's instruction and install valve as per appropriate instructions for the specific joint. All piping should be properly supported to avoid line stress on the valve. Do not use valves as a jack to force a pipeline in position.

G. 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 insure balance loading of bolts.

OPERATIONS:

Once in the pipeline, the Swing Check Valve will operate as flow conditions dictate. The valve will open as the pressure on the upstream side of the disc overcomes the



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downstream side. The valve will close as the situation reverses itself or the pressure equalizes.

These valves are self contained units. Outside Levers, Weights, Springs or Hinge Pins should never be used to manually operate the valve or restricts its operation.

External shields and surrounding piping should not interfere with the free operation of external apparatus of the valves.

MAINTENANCE:

The system is designed to be trouble free with minimum care. Frequency of inspection should be based on the operational characteristics of the system. Systems of high cycles should be inspected frequently.

At a minimum, SEMI-ANNUAL inspections are recommended. Points of inspection should be at a minimum.

1. All end joints, Cover Joints and Packing Boxes should be inspected for leakage.
2. Bolts should be checked for tightness. A torque of 90 Foot pounds is recommended for gasketed joints.
3. Inspection of the valve during operation is recommended so that the outside linkages can be inspected for proper operation.
4. Inspection of the O-Ring seals is required to assure no leakage is evident. If leakage does exist, replace seals. **CAUTION:** O-Rings should NOT be changed or added to an active valve. Valve should be isolated to prevent injury or damage to valve. Replace O-Rings by removing the lever and arm and removing the seat nut. Replace O-Rings as necessary.
5. 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 anytime this joint is broken. NEVER Re-install a used cover gasket.
6. These valves do not require lubrication during normal operation. As these valves are made of ductile iron, all efforts should be made to prevent freezing of water in the valves.



Removal of 120W / 120WC Hinge Pin & Flapper Assembly

1. Remove Ductile Iron Cover Plate (#3) by removing all of the Cover Bolts (#24) that are threaded into the body of the valve. Notice the bolts that come from the hinge pin area of the valve are shorter than the rest of the bolts. Be sure to install them in this same location when replacing the cover plate.
2. Remove Brass Seat Nut (#9). Be careful not to damage the o-rings of the Seat Nut. There are 2 inner o-rings and 1 outer o-ring.
3. With the Brass Seat Nut removed you can see a Snap Ring inside the valve. You DO NOT need to remove this Snap Ring in order to remove the hinge pin.
4. While pulling on the hinge pin (#13) with one hand use the other hand to move the Brass Spacer (#22) located inside the valve body) so that the key on the hinge pin aligns with the key way of the spacer. Neither the key on the hinge pin nor the key way in the spacer are visible. You must keep spinning the spacer a little at a time until you feel the 2 parts are aligned.
5. Remove the hinge pin while holding the flapper assembly. The front brass spacer(#22) will drop into the body of the valve upon removal of the hinge pin as will the rear brass spacer. The stainless steel key (#14) from the hinge pin will likely pull out with the hinge pin and fall on the ground. (NOTE: There will be a brass bushing that slides freely on the hinge pin. This bushing keeps the flapper arm (#5) aligned properly inside the valve.)

