

# Installation and Maintenance Manual

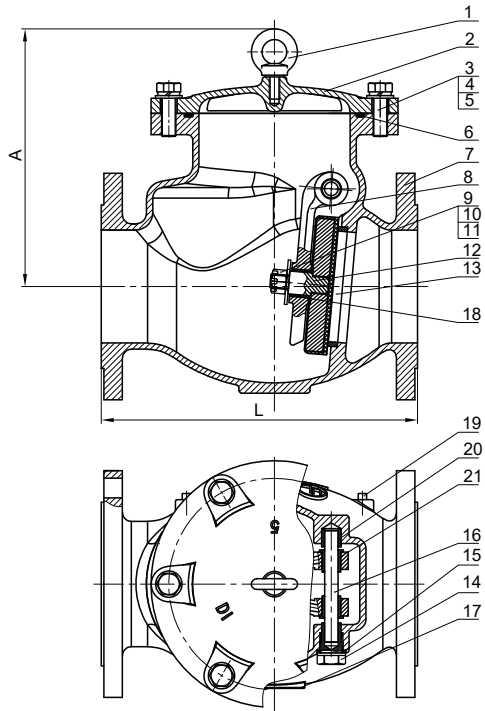
## Model 8700 Swing Check Valve

AWWA C508  
8700F (Flanged)  
8700G (Grooved)



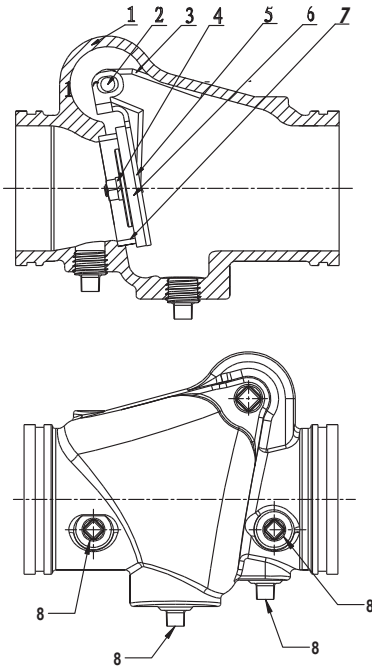
# MODEL 8700F - Swing Check Valve

## Material Lists



No.	Description	Material	ASTM Specification
1	Lifting Bolt	Carbon Steel	-
2	Cover	Ductile Iron	ASTM, A536 65-45-12
3	Hexagon head bolts	Carbon Steel	GR. 8.8
4	Washer	Carbon Steel, Zinc Plated	-
5	Spring washer	Carbon Steel, Zinc Plated	-
6	O-Ring	NBR	-
7	Body	Ductile Iron	ASTM, A536 65-45-12
8	Rocker	Ductile Iron	ASTM, A536 65-45-12
9	Hexagon slot thin nut	Stainless Steel	AISI 304
10	Washer	Stainless Steel	AISI 304
11	Split Pin	Stainless Steel	AISI 304
12	Disc	Stainless Steel	AISI 304
13	Seat	Brass	C84400
14	Shaft hole plug	Stainless Steel	AISI 304
15	Plug gasket	NBR	-
16	Radial spindle	Stainless Steel	AISI 304
17	Scutcheon	Stainless Steel	AISI 304
18	Swing arm sleeve	Bronze	ASTM C63000
19	Plug	Stainless Steel	AISI 304
20	Axle hole sleeve	Bronze	ASTM C63000
21	Shaft Sleeve	Bronze	ASTM C63000

# MODEL 8700G - Swing Check Valve



ITEM NO.	DESCRIPTION	MATERIAL	ASTM SPECIFICATION
1	Body	Ductile Iron	A536 65-45-12
2	Hinge Pin	Stainless Steel	AISI 420
3	Spring	Stainless Steel	AISI 304
4	Spring Washer	Stainless Steel	AISI 304
5	Disc	Ductile Iron	A536 65-45-12
6	Seal Ring	EPDM	-
7	Seat	Bronze	ASTM B62 C83600
8	1/2" NPT Plug	Brass	-

## **PRESSURE/TEMPERATURE RATING**

These valves must be installed in a piping system whose normal pressure and temperature do not exceed the following rating: 300 psi at a temperature of 33.1°F (0.6°) to 125.6°F (52°). If the limits of use specified in these instructions are exceeded or if the valve is used on applications for which it was not designed, a potential hazard could result.

## **LAYOUT AND SITING**

UNITED 8700 Swing Check Valves may be installed in horizontal pipe-work and vertical pipe-work if the flow is in an upwards direction. Valves must be provided with adequate support. Adjoining pipe-work must be supported to avoid the imposition of pipeline strains on the valve body. Heavy valves may need independent support or anchorage.

Note: Check valves must not be installed in vertical pipe-work with the flow in the downwards direction.

## **INSTALLATION**

Prior to installation, a check of the identification plate and body marking must be made to ensure that the correct valve is being installed. Valves are precision manufactured items, and as such, should not be subjected to misuse; such as: careless handling, allowing dirt to enter the valve through the end ports, failing to clean both the valve and system before operation, and using excessive force during bolting.

All packaging material must be removed. REMOVE WOODEN OR PAPER CHOCKS FROM INSIDE THE VALVE, which are fitted before shipping to prevent movement of the disk. In horizontal pipe-work the valve must be installed so that the bolted cover is upright and parallel with the ground-line.

Note: The valve must be installed with the direction arrow on the body corresponding to the direction of flow in the pipeline. For vertical pipe-work the flow direction should be in an upwards direction only.

Large valves are provided with a lifting eye bolt, which should be used to lift the valve.

Immediately prior to valve installation, the pipe-work to which the valve is to be installed should be checked for cleanliness and freedom from debris. Valve end caps should only be permanently removed immediately before installation.

Each valve interior should be inspected through the end ports to determine that it is clean and free from foreign matter. The mating flange (both valve and pipe-work flanges) should be examined for correct gasket contact face, surface finish, and condition. If a condition is found which would potentially cause leakage, final assembly should not be attempted until the condition is corrected.

The gaskets should be suitable for operating conditions and maximum pressure/temperature ratings. The gaskets should be inspected to ensure freedom from defects or damage.

The following steps should be taken to ensure correct alignment of the flanges being assembled. First, the installer should ensure that the initial contact of flange and gasket is parallel and that the faces are uniform. Then, the bolts should be tightened progressively by means of a crisscrossed pattern and should be repeated until all bolts are adequately tightened.

Parallel alignment and concentricity of flanges are especially important in the event of assembling a valve into an existing system; misalignment could cause damage to the valve body.

Flanged joints depend on compressive deformation of the gasket material between the flange surfaces. Thus, the bolting must be checked for correct size, length, material and that all connection flange bolt holes have been utilized.

At the conclusion of installation and before operating, all deposits or foreign material shall be removed from the equipment.

## **OPERATING**

**UNITED 8700 Swing Check Valves are designed to activate without external assistance.**

## **MAINTENANCE**

The valve should be at zero pressure and ambient temperature prior to any maintenance.

Maintenance personnel must use tools and equipment applicable for resilient-seated gate valves. Tools causing sparks are only permissible as long as no volatile conditions are present.

A full risk assessment must be undertaken prior to any maintenance. The assessment must take into account the possibility of exceeding the limits of use whereby a potential hazard could result. A maintenance program should therefore include checks on the development of unforeseen conditions, which could lead to failure.

Under normal working conditions, UNITED 8700 Swing Check Valves should not need further attention; however, when further attention is required, the following procedure is recommended:

## Replace Cover Gasket

1. Isolate the valve from the system and drain.
2. Loosen and remove the nuts and bolts from the cover.
3. Remove the cover by placing a thin bladed screwdriver or wedge between the cover and body; tap with a rubber mallet to release adhesion.
4. Examine the internal parts to ensure correct operation.
5. Replace the existing Cover Gasket with the new Cover Gasket.
6. Carefully position the cover while ensuring that the new Cover Gasket is not displaced.
7. Replace the nuts and bolts, and tighten them diametrically.