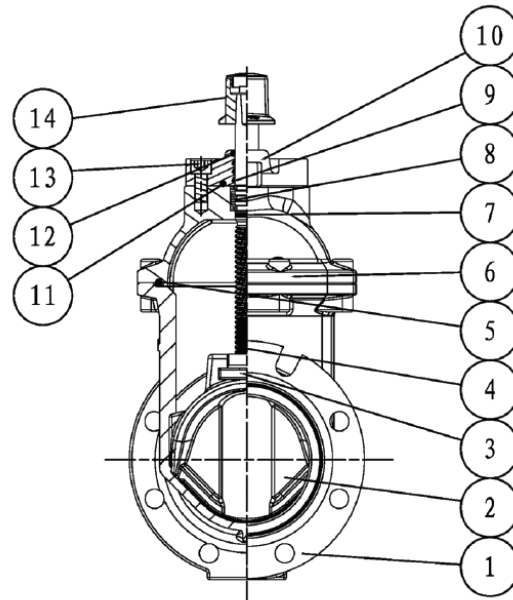


Installation, Operation and Maintenance Manual

807 Series UL/FM NRS Seat Mechanical Joint Gate Valves



No.	Component	Material
1	Body	Ductile Iron ASTM A536 65-45-12
2	Wedge	Ductile Iron EPDM Encapsulated
3	Wedge Nut	ASTM C67400
4	Stem	Stainless Steel AISI 420
5	Gasket	EPDM
6	Bonnet	Ductile Iron ASTM A536 65-45-12
7	O-ring	EPDM
8	Thrust Ring	ASTM C67400
9	O-ring	EPDM
10	Gland	Ductile Iron ASTM A536 65-45-12
11	O-ring	EPDM
12	Dustproof Ring	EPDM
13	Bolts	Carbon Steel Gr 8.8
14	Operating Nut	Ductile Iron ASTM A536 65-45-12
15	Plug (Optional)	Malleable Iron



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LAYOUT AND VALVE ORIENTATION

It should be considered at the design stage where valves will be located to give access for operation, adjustment, maintenance and repair.

All valves must be provided with adequate support. Adjoining pipework must be supported to avoid the imposition of pipeline strains on the valve body, which would impair its performance. Heavy valves may need independent support or anchorage.

Gate valves may be installed in:

- a) Horizontal pipework with stem vertical.
- b) Vertical pipework with stem horizontal.

The valve should not be installed in horizontal pipework with the stem horizontal because shut off performance may be impaired.

In the interests of safety, valves installed on end-of-line service in the closed position with infrequent opening should be fitted with a locking device on the operating mechanism. Alternatively, it should be fitted with a blanking flange on the downstream flange of the valve.

INSTALLATION

Prior to installation, a check of the identification on the 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, lack of cleaning both valve and system before operation and excessive force during bolting and handle operation.

All special packaging material must be removed. Valves must be provided with adequate support. Adjoining pipework must be supported to avoid the imposition of pipeline strains on the valve body, which would impair its performance.

Valves should not be lifted using the stem. Immediately prior to valve installation, the pipework to which the valve is to be fastened should be checked for cleanliness and freedom from debris. Valve end protectors should only be permanently removed immediately before installation. The valve interior should be inspected through the end ports to determine whether it is clean and free from foreign matter. The mating joint (both valve and pipework joints) should be checked for correct gasket contact face, surface finish and condition. If a condition is found which might cause leakage, no attempt to assemble should be made until the condition has been corrected.

The gasket should be suitable for operation conditions or maximum pressure/temperature ratings. The gaskets should be checked to ensure freedom from defects or damage.

Care should be taken to provide correct alignment of the joints being assembled. Suitable lubricant on bolt threads should be used. In assembly, bolts are tightened sequentially to make the initial contact of joints and gaskets flat and parallel followed by gradual and uniform tightening in an opposite bolting sequence to avoid bending one flange relative to the other, particularly on flanges with raised faces.

Parallel alignment of joints is especially important in the case of the assembly of a valve into an existing system. The bolting must be checked for correct size, length, material and that all connection flange bolt holes are utilized.

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

OPERATING

The valves are open Left (counter-clockwise) rotation to a positive stop. Further effort is not necessary. When fully open it is advantageous to rotate the valve clockwise 1/2 turn.

To close the valve, rotate clockwise to a positive stop.

Note:

When the valve is closed at extreme high temperature and then cooled, the wedge may become tight in the valve and prove difficult to open.

Conversely, a valve closed at room temperature can be difficult to open if there is an increase in fluid temperature causing a linear expansion of the stem, which tightens the wedge further into the body seats.

The valve should only be used in the open or closed position. Regulating or throttling service should be avoided.

MAINTENANCE

The valve should be at zero pressure and ambient temperature prior to any maintenance. Maintenance Engineers & Operators are reminded to use correct fitting tools and equipment.

A full risk assessment and methodology statement must be compiled prior to any maintenance. This must include the removal of dust deposits by good housekeeping. The risk assessment must take into account the possibility of the limits of use being exceeded whereby a potential hazard could result.

A maintenance program should therefore include checks on the development of unforeseen conditions, which could lead to failure. In systems where corrosion could be a potential hazard, wall thickness checks on the body and bonnet should be made. This requires either the removal of the valve from the pipeline or removal of the bonnet with the system at zero pressure. If the wall thickness has reduced by 25%, the valve must be replaced.

1. Soval recommends to visually inspect the gate of the valve is seating properly at the time of install. This can be by counting the number of turns it takes to open and to close. Use the table below to identify the amount of turns for each size valve.'
2. To be sure a valve is operating correctly, the valve requires operation at least every six months, if the valves are not regularly operated under normal conditions. To do this, you will want to fully open and close the valve.
3. Mechanical Joint Gate Valves should be regularly be checked for leakage every six months

Size	Number of Turns
2"	6.1/2
2.1/2"	8
3"	10
4"	13.1/2
6"	19.1/2
8"	25.1/2
10"	31.1/2
12"	37.1/2