



V A L V E S

Installation and Maintenance Instructions

Threaded, Welded,
and Flanged, End Ball Valves -

1/4" - 2" Std. Bore
&
1/4" - 1 1/2" Full Bore

CAUTION!

Before installing or performing maintenance, be sure line pressure has been relieved and any hazardous liquid, gas or steam is drained or purged from the system.

Recommended Tools for Valve Disassembly and Assembly.

2 open-end wrenches
Torque Wrench
Small screwdriver to remove stem seals.

General Recommendations

1. Handle all parts carefully to avoid nicks, dents or scratches which could cause irreversible leaking.
2. When the valve is disassembled, inspect the ball and stem closely for wear and corrosion. Also inspect all metal surfaces which contact seals or seats for scratches or nicks.
3. Whenever a valve is disassembled, keep all parts in a clean place.
4. Inspect flange bolts for corrosion or damage whenever the valve is disassembled.
5. Because of their precise design and manufacture, MCF Ball Valves do not require the use of lubricants to ease valve operation. *Some types of lubricants can actually decrease seal longevity.*
6. Minor stem leakage can usually be corrected by tightening the gland nut. It is not necessary to replace stem assembly components every time seats or seals are replaced.

Installation of Threaded End and Flanged End Ball Valves

MCF threaded end ball valves are designed to be connected to the piping with no disassembly required. *As an added safety measure, its good practice to check all bolting for tightness after valve installation.*

Recommended Torque For Body Bolting and Stem Nut - Series SRS 55, 56 and 66 Ball Valves.

Valve Size* (In.)	Wrench Size* (In)	Body Bolt Torque	
		Inch/Lbs	Ft./Lbs
1/4	7/16	52.2	4.35
3/8	7/16	52.2	4.35
1/2	7/16	52.2	4.35
3/4	1/2	119.0	9.90
1	1/2	139.2	11.60
1 1/4	1/2	148.2	12.35
1 1/2	9/16	261.0	21.75
2	9/16	278.4	23.20

Valve Size* (In.)	Wrench Size* (In)	Stem Nut Torque	
		Inch/Lbs	Ft./Lbs
1/4	9/16	70.80	5.90
3/8	9/16	70.80	5.90
1/2	9/16	70.80	5.90
3/4	9/16	70.80	5.90
1	11/16	115.20	9.60
1 1/4	11/16	115.20	9.60
1 1/2	15/16	159.48	13.29
2	15/16	159.48	13.29

* Wrench and torque data are aligned for standard port valves. Reference next larger size for full port information.



V A L V E S

Installation of Welded End Valves (Butt Weld or Socket Weld)

MCF's carbon and stainless steel valves with encapsulated PTFE body seals and Fire Safe Type valves with Graphoil body seals should be welded into the line without disassembly. Disassembly will require replacement of body seals with a new set of seals prior to reassembly. *Note: Valves with other seals must be swung out into the in-line maintenance position and both seats and seals removed prior to welding end pieces.*

1. Place the valve in the open position.
2. Align the valve between the pipe ends to make the appropriate welds in accordance with standard welding procedures.
3. Tack weld valve in line.
4. Weld each end of the valve in line making alternating passes. Allow valve and weld joint to cool between weld passes.
5. Do not rotate the valve handle/actuator before the valve has fully cooled.
6. After allowing the valve to cool down, tighten the body bolts according to the torque requirement listed for the valve size.

Changing the Seat/Seals and/or Ball.

1. Place the valve in the open position.
2. Remove bolt (#10) and bolt protector (manual valve only) (#13) and loosen, but do not remove, remaining bolts.
3. Swing the valve body (#1) out and place the valve in the closed position.
4. Remove valve body seals (#4), seats (#5), and the ball (#2). Inspect the ball closely for scratches or wear. If scratches are found, the ball should be replaced.
5. Reassemble the valve using new seats and seals from the Repair Kit. Place the valve in open position. Tighten bolts to recommended torque specifications shown on the reverse side of this instruction sheet.

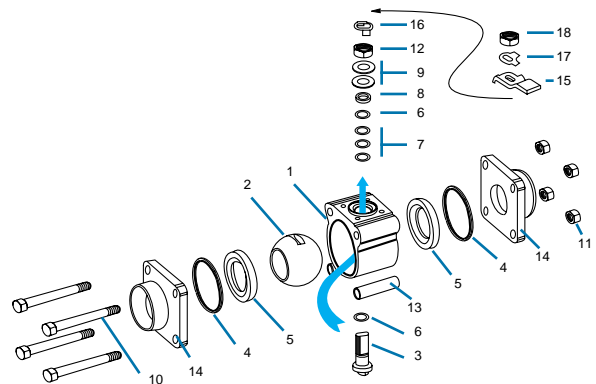
Changing the Stem Assembly

1. Disassemble the valve as described above in steps 1 through 4.
2. Remove the handle lock nut (#18), tab washer (#17), and the handle (#15).
3. Remove the saddle type lock washer (#16), adjustment nut (#12), belleville washers (#9), stem seal follower (#8).
4. Pull out stem (#3) and inner stem seal (#6) from inside the valve body.

5. Pull out the anti-static stem assembly (#7), and outer stem seal (#6) using a small screwdriver. Avoid scratching metal in the stem seal area.
6. Reassemble the stem assembly using new stem seals and anti-static seals provided in the Repair Kit
7. Reassemble the valve body. Place the valve in open position and tighten bolts (in an "x" pattern) to recommended torque specifications listed in this instruction sheet.

Part Identification

Size 1/4" -2"
Industrial Ball Valve



Repair Kit

Contains replacement seats, body seals, stem seals, belleville washers, and saddle type lock washer for use in both stainless steel and carbon steel MCF Ball Valves.