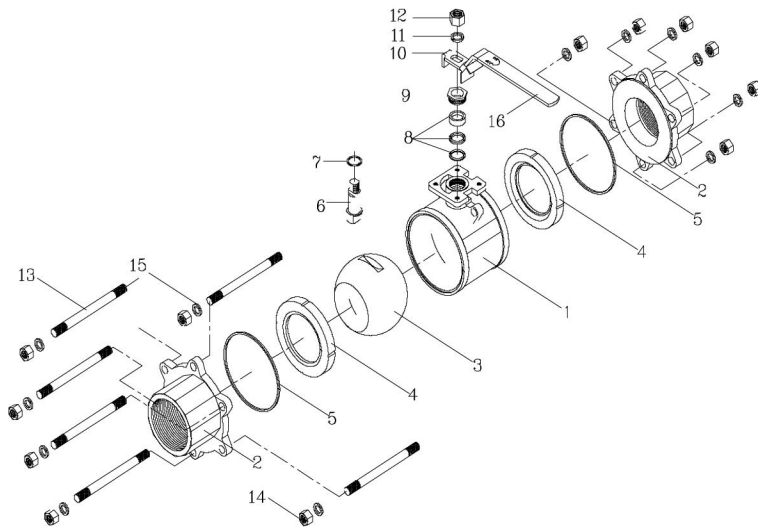


# Installation, Maintenance and Operating Instructions

## CF Ball Valves 3pc. Threaded



### Series F12

- |                     |                            |                           |
|---------------------|----------------------------|---------------------------|
| 1. Body - CF8M      | 6. Stem - 316SS            | 11. LockWasher - AISI 304 |
| 2. End Cap - CF8M   | 7. *Thrust Washer - PTFE   | 12. LeverNut - AISI 304   |
| 3. Ball - 316 SS    | 8. *Packing - PTFE         | 13. Body Stud - AISI 304  |
| 4. *Seat - R-PTFE   | 9. Packing Nut - AISI 304  | 14. Body Nut - AISI 304   |
| 5. *BodySeal - PTFE | 10. Travel Stop - AISI 304 | 15. LockWasher - AISI 304 |
|                     |                            | 16. Lever - AISI 304      |

\*Parts indicated are included with CF Service Kit

#### 1. General

The valve may be fitted in any position in the pipework. Before installing, the pipes must be flushed clean of dirt, burrs and welding residues. The pipe must be free of tension.

#### 2. installation of threaded connections

Using conventional thread sealant, apply the wrench only on the valve ends. Tightening by using the valve body or handle can lead to serious damage.

#### 3. Installation of Welding Ends

Spot-weld the valve into the piping. (F20-Series) Remove bolts and body nuts with the exception of one bolt and nut, which remain in position but slackened off. (F12-series). Remove one top bolt (sizes 1/4"– 2-1/2") or one top bolt and one side bolt (sizes 3", 4") and body nut with the other remaining body bolts remaining in position but slackened off. Swing away the center body section with the valve in open position. Secure seats against falling out (e.g. with tape). After completion of the welding operation, replace the center section, replace the bolts and nuts and tighten them.

\*(See suggested body bolt torque below.)

#### Body Bolt Torque - in./lbs.

1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"
50	50	70	160	160	345	345	345	580	1450	1450

#### 4. Putting into Operation

Open the ball valve, flush pipe thoroughly again. If there is a leakage between body and ends, tighten bolts and nuts.

#### 5. Replacement of Seats and Seals

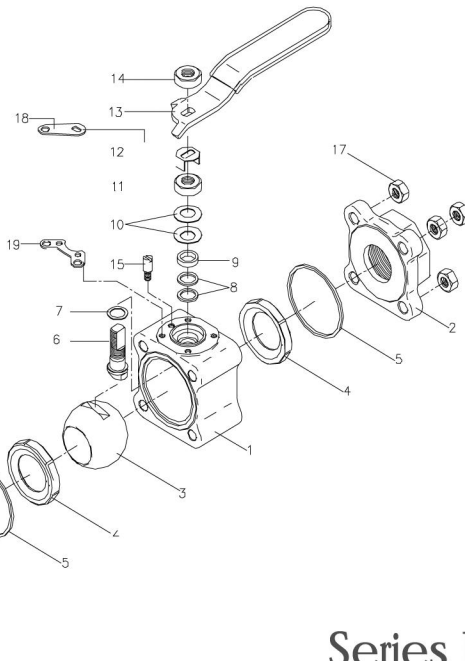
Set valve in open position and remove complete body. Close the valve, remove one of the top body bolts to swing out the body section and remove seats, ball and body seals (joint gasket). Be careful not to damage the ball. Remove handle nut and handle or actuator and unscrew stem retaining gland nut. Push stem into the valve body and remove carefully. Remove V-ring stem packing. Clean all parts, especially the sealing surfaces of ends and stem.

#### 6. Assembly

Put one stem seal on stem and insert the stem from the inside of the body. Add to the stem set of V-ring stem packing. Replace stem retaining gland nut and tighten\*. Be sure to avoid rotating the stem by applying a suitable wrench. Replace handle stem\handle washer and stem\handle nut or actuator. Insert ball, seats and body joint seals. Replace complete body in open position between the ends and tighten bolts and nuts. Check for ease of operation. (mis-alignment of actuators could result in increased operating torque required to operate the valve)

#### 7. Maintenance

Routine maintenance consists of tightening the stem nut 1/4 turn periodically to compensate for the wear caused by stem operation. More frequent observation is recommended under extreme services. Replacement Seat and Seal Kits are available as CF Service Kit ordering example: F11FRC2-KIT



### Series F20

- |                     |                             |                                  |
|---------------------|-----------------------------|----------------------------------|
| 1. Body - CF8M      | 7. *Thrust Washer - PTFE    | 13. Lever - AISI 304             |
| 2. End Cap - CF8M   | 8. *Packing - PTFE          | 14. LeverNut - AISI 304          |
| 3. Ball - 316 SS    | 9. Packing gland - 316 SS   | 15. Travel Stop - AISI 304       |
| 4. *Seat - R-P TFE  | 10. Spring Washers - 50CrV4 | 16. Body Bolt - AISI 304         |
| 5. *BodySeal - PTFE | 11. Packing Nut - AISI 304  | 17. Body Nut - AISI 304          |
| 6. Stem - 316SS     | 12. Locking Tab - AISI 304  | 18,19. Locking Device - AISI 304 |

\*Parts indicated are included with CF Service Kit