

1. USE:

- 1.1 Maximum results and long life of the valves can be maintained under normal working conditions and according with pressure/temperature rating and corrosion data chart.

2. MANUAL OPERATION:

- 2.1 The opening and closing of the valve is done by turning the lever a ¼ turn (90 degrees).
- A. Valve in Open Position – the lever is in line with the valve or pipeline.
- B. Valve in Closed Position – the lever is at right angle with the valve or pipeline.

3. DISASSEMBLY & CLEANING PROCEDURE:

Caution: ball valve can trap fluids in the ball cavity when closed.

Clean all components thoroughly and examine all seating/sealing surfaces. NO eroded or corroded leak paths are permissible. If any are found, the part must be replaced. The ball must have no scratches across its seating surface and any damage to the port lip will destroy the new seats, a damaged ball must not be re-used.

- 3.1 If the valve has been used to control hazardous media, it must be decontaminated before disassembly. It is recommended that the following steps are taken for safe removal and reassembly.
- A. Relieve the line pressure.
- B. Place valve in half-open position and flush the line to remove any hazardous material from the valve.
- C. All persons involved in the removal and disassembly of the valve should wear the proper Protective clothing, such as face shield, gloves, etc.

Maintenance of parts is easy, even if the valve is installed in the line:

By removing all the body bolts except one and loosening the remaining one, valve body can be swung out.

Seats, gaskets and ball can be replaced without disturbing pipe alignment.

On threaded lines, valve can be screwed on without the use of unions, as the three-piece construction makes valve ends free, by removing the bolts.

4. GENERAL INFORMATION FOR INSTALLATION:

- 4.1 The valve can be installed in any position on the pipeline.
- 4.2 Before installation of the valves, the pipe must be flushed clean of dirt, burrs and welding residues, or the seats and ball surface will be damaged.
- 4.3 The pipe must be free from tension.

5. INSTALLATION OF THREADED VALVES

- 5.1 Use conventional sealant, such as hemp core, Teflon, etc. on the threads.
- 5.2 Apply wrench only on the hexagon of the valve ends. Tightening by using the valve body or lever can seriously damage the valve.
- 5.3 In some applications, screwed valves are back welded on site. These valves must be treated as per instructions for weld end valves before back welding.

6. INSTALLATION OF WELD-END VALVES

- 6.1 Prepare clean working area
- 6.2 With valve in open position, remove body bolts or screws.
- 6.3 Separate pipe ends from body and remove valve seat and joint gaskets, taking care not to damage plastic parts. Place ball in part-open position to assist removal of seats.
- 6.4 Supporting ball to prevent ball from falling out of body, turn to closed position for removal.
- 6.5 Replacing three bolts, re-assembling end caps with body in correct alignment.
- 6.6 Tack weld only, remove body to protect stem assembly from welding heat, then complete weld.
- 6.7 When cooled down, clean pipe end faces, replace ball carefully and turn to open position. Replace seats and use Graphite joint gaskets from attached packet instead of PTFE joint gaskets.
- **Note:** Weld-End valves contain PTFE joint gaskets for temporary purposes only, the provided graphite joint

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gaskets shall be used in place of the PTFE joint gaskets for final installation.

- 6.8 With the valve in the closed position, install and tighten the body bolts in a uniform pattern as to evenly compress the new graphite gaskets. (Reference the following table for proper body bolt torques)
- 6.9 Check proper operation of the valve

***NOTE: The Series 83 ball valves can be welded in line without disassembly using appropriate welding techniques and operated by a qualified welder.

BOLT TIGHTENING SPECIFICATIONS

The body bolts of the valve should be tightened evenly.
Tighten one-side snugly, then the one diagonal across.
Repeat for the other bolts, bringing them all down tightly in sequence.

Torques

Series F83 - (Full port)

Valve Size	Break Away Torque (In-lbs.)	Torque of Body Bolts (In-lbs.)	Torque of Stem Nuts (In-lbs.)
1/4"	60	70 ~ 80	78
3/8"	60	70 ~ 80	78
1/2"	70	70 ~ 80	95
3/4"	90	125 ~ 160	95
1"	130	170 ~ 200	130
1-1/4"	210	195 ~ 220	130
1-1/2"	275	335 ~ 375	174
2"	400	370 ~ 405	174

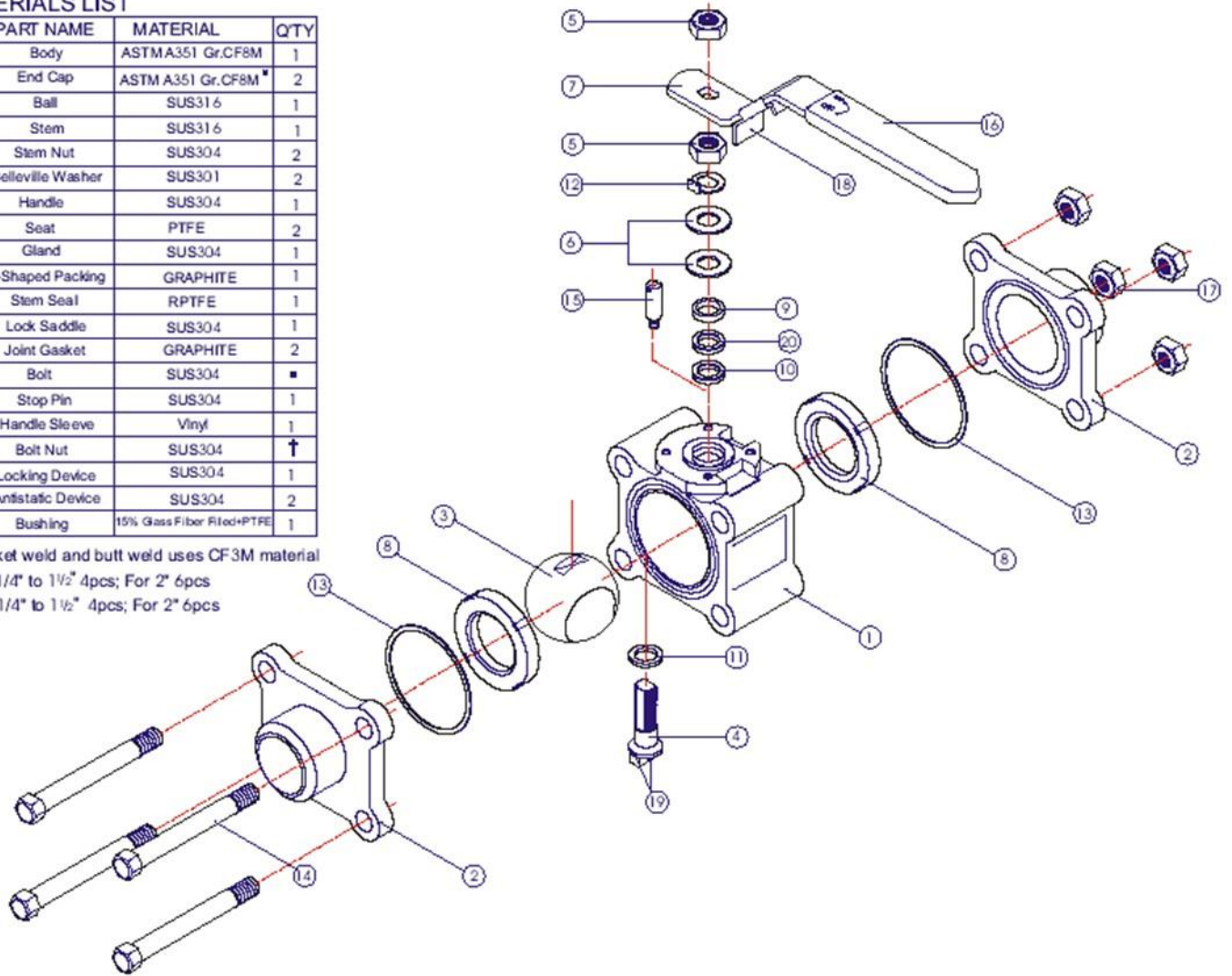
Series F8R - (Regular port)

Valve Size	Break Away Torque (In-lbs.)	Torque of Body Bolts (In-lbs.)	Torque of Stem Nuts (In-lbs.)
1/4"	60	70 ~ 80	78
3/8"	60	70 ~ 80	78
1/2"	70	70 ~ 80	78
3/4"	90	100 ~ 130	95
1"	130	125 ~ 160	95
1-1/4"	210	170 ~ 200	130
1-1/2"	275	195 ~ 220	130
2"	400	335 ~ 375	174
2-1/2"	550	370 ~ 405	174

MATERIALS LIST

NO	PART NAME	MATERIAL	QTY
1	Body	ASTMA351 Gr.CF8M	1
2	End Cap	ASTMA351 Gr.CF8M*	2
3	Ball	SUS316	1
4	Stem	SUS316	1
5	Stem Nut	SUS304	2
6	Belleville Washer	SUS301	2
7	Handle	SUS304	1
8	Seat	PTFE	2
9	Gland	SUS304	1
10	V-Shaped Packing	GRAPHITE	1
11	Stem Seal	RPTFE	1
12	Lock Saddle	SUS304	1
13	Joint Gasket	GRAPHITE	2
14	Bolt	SUS304	■
15	Stop Pin	SUS304	1
16	Handle Sleeve	Vinyl	1
17	Bolt Nut	SUS304	†
18	Locking Device	SUS304	1
19	Anti-static Device	SUS304	2
20	Bushing	15% Glass Fiber Filled+PTFE	1

- Socket weld and butt weld uses CF3M material
- For 1/4" to 1 1/2" 4pcs; For 2" 6pcs
- † For 1/4" to 1 1/2" 4pcs; For 2" 6pcs



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