

**USE:**

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.

**MANUAL OPERATION:**

The opening and closing of the valve is done by turning the lever a ¼" turn (90 degrees).

Valve in Open Position – the lever is in line with the valve or pipeline.

Valve in Closed Position – the lever is at right angle with the valve or pipeline.

**DISASSEMBLY & CLEANING PROCEDURE:**

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

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.

Relieve the line pressure

Place valve in half-open position and flush the line to remove any hazardous material from the valve. 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, the 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.

**GENERAL INFORMATION FOR INSTALLATION**

The valve can be installed in any position on the pipeline.

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. The pipe must be free from tension.

**INSTALLATION OF THREADED VALVES**

Use conventional sealant, such as hemp core, Teflon, etc. on the threads. Apply wrench only on the hexagon of the valve ends. Tightening by using the valve body or lever can seriously damage the valve. 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.

**INSTALLATION OF WELD-END VALVES**

Tack weld the valve on the pipe in four points on both end caps.

With the valve in the open position, (lever to be parallel to the axis of the pipe), remove all the body bolts except one. Loosen the nut on the remaining bolt. Swing the body outside the pipe. Finish welding both end caps on the pipe.

When cooled down, clean both end caps and body surface.

Swing the body back in position and replace the bolts. Tighten all nuts slightly. This operation is very important to keep body and end caps perfectly parallel, thus preventing distortion of the end caps. Tighten body bolts evenly. Make sure that maximum tightening torque is observed. Check proper operation of the valve.

**BOLT TIGHTENING SPECIFICATIONS**

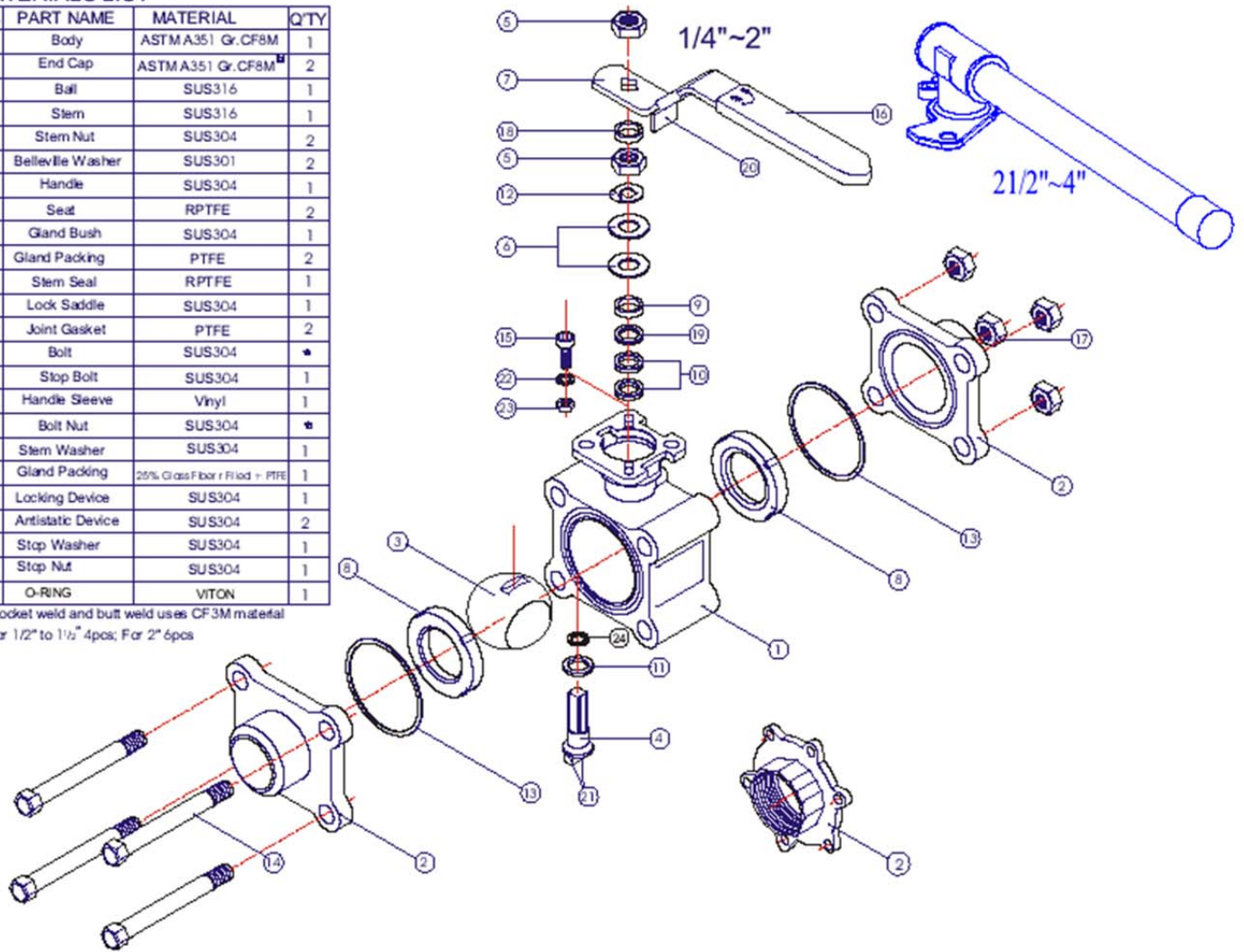
The body bolts of the valve should be tightened evenly.  
Tighten one-side snugly, then the one diagonal across.  
Repeat for the other bolts, bringing them all down tightly in sequence.

Valve Size	Break Away Torque (In-lbs.)	Torque of Body Bolts (In-lbs.)	Torque of Stem Nut (In-lbs.)
1/4"	70	90 ~ 100	69
3/8"	70	90 ~ 100	69
1/2"	75	100 ~ 130	78
3/4"	100	125 ~ 160	78
1"	145	170 ~ 200	122
1-1/4"	220	195 ~ 220	122
1-1/2"	300	335 ~ 375	165
2"	420	370 ~ 405	165
2-1/2"	560	415 ~ 440	191
3"	900	435 ~ 485	191
4"	1500	485 ~ 515	217

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	RPTFE	2
9	Gland Bush	SUS304	1
10	Gland Packing	PTFE	2
11	Stem Seal	RPTFE	1
12	Lock Saddle	SUS304	1
13	Joint Gasket	PTFE	2
14	Bolt	SUS304	★
15	Stop Bolt	SUS304	1
16	Handle Sleeve	Vnyl	1
17	Bolt Nut	SUS304	★
18	Stem Washer	SUS304	1
19	Gland Packing	25% Glas Fibr / Fild + PTFE	1
20	Locking Device	SUS304	1
21	Artistic Device	SUS304	2
22	Stop Washer	SUS304	1
23	Stop Nut	SUS304	1
24	O-RING	VITON	1

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



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A-T Controls, Inc. • 9955 International Boulevard, Cincinnati, OH 45246 • Phone: (513) 530-5175 • Fax: (513) 247-5462 • [www.a-tcontrols.com](http://www.a-tcontrols.com)