Triad Series 66FD
Fire Rated Valve

TRIAD

INSTALLATION & MAINTENANCE MANUAL

SERIES 66FD

3-PIECE FULL OR REDUCED PORT BALL VALVES

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.

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. Relief 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 remain 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 backwelded on site, These valves must be treated as per instructions for weld end valves before backwelding.

6. INSTALLATION OF WELD-END VALVES

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

6.2 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.

6.3 Finish welding both end caps on the pipe.

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

6.5 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.

6.6 Tighten body bolts evenly. Make sure that maximum tightening torque is observed.

6.7 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.

Series 66 Torque (R-PTFE SEATS)

Valve Size		Break Away Torque		Cv
Inch	DN	In/Lb	Nm	G. P .M.
1/4"	8	69	8	8
3/8"	10	69	8	8
1/2"	15	69	8	15
3/4"	20	92	10	34
1"	25	138	16	56
11/4"	32	207	23	85
11/2"	40	288	33	125
2"	50	415	47	250
21/2"	65	553	62	320
3"	80	898	101	580
4"	100	1010	114	1020

30% safety factor included.(full port)

Valve Size		Break Away Torque		Cv
Inch	DN	In/Lb	Nm	G. P .M.
1/4"	-	-	-	-
3/8"	-	-	-	-
1/2"	15	69	8	8
3/4"	20	69	8	15
1"	25	92	10	34
11/4"	32	138	16	56
11/2"	40	207	23	85
2"	50	288	33	125
21/2"	65	415	47	250
3"	80	553	62	320
4"	100	898	101	580

30% safety factor included.(Reduced port)

Triad Series 66FD
Fire Rated Valve

	NM	
	Full port	Red. port
1/4"	10 ~ 11	N/A
3/8"	10 ~ 11	N/A
1/2"	11 ~ 15	10 ~ 11
3/4"	14 ~ 18	11 ~ 15
1"	19 ~ 23	14 ~ 18
1.1/4"	22 ~ 25	19 ~ 23
1.1/2"	38 ~ 42	22 ~ 25
2"	42 ~ 46	38 ~ 42
2.1/2"	47 ~ 50	42 ~ 46
3"	49 ~ 55	47 ~ 50
4"	55 ~ 58	49 ~ 55

	IN-LBS	
SIZE	Full port	Red. port
1/4"	90 ~ 100	N/A
3/8"	90 ~ 100	N/A
1/2"	100 ~ 130	90 ~ 100
3/4"	125 ~ 160	100 ~ 130
1"	170 ~ 200	125 ~ 160
1.1/4"	195 ~ 220	170 ~ 200
1.1/2"	335 ~ 375	195 ~ 220
2"	370 ~ 405	335 ~ 375
2.1/2"	415 ~ 440	370 ~ 405
3"	435 ~ 485	415 ~ 440
4"	485 ~ 515	435 ~ 485

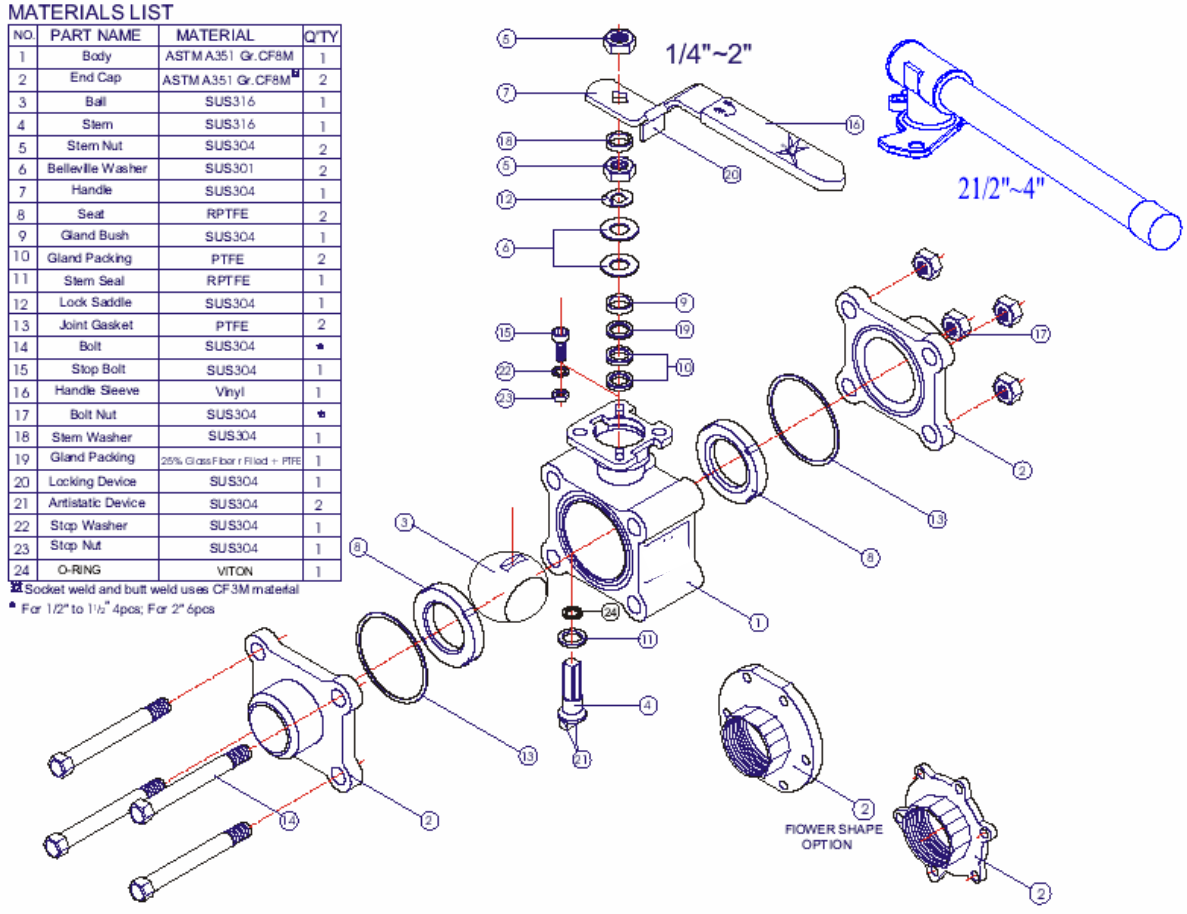
Torque of Body Bolt

MATERIALS LIST

NO.	PART NAME	MATERIAL	Q'TY
1	Body	ASTM A351 Gr.CF8M	1
2	End Cap	ASTM A351 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	Vinyl	1
17	Bolt Nut	SUS304	*
18	Stem Washer	SUS304	1
19	Gland Packing	25% Glass Fiber Filled + PTFE	1
20	Locking Device	SUS304	1
21	Antistatic 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 1½" 4pcs; For 2" 6pcs



	NM	
SIZE	**Full port**	**Red. port**
1/4"	8.2	N/A
3/8"	8.2	N/A
1/2"	9.2	8.2
3/4"	9.2	9.2
1"	14.3	9.2
1.1/4"	14.3	14.3
1.1/2"	19.4	14.3
2"	19.4	19.4
2.1/2"	22.4	19.4
3"	22.4	22.4
4"	25.5	22.4

	IN-LBS	
SIZE	**Full port**	**Red. port**
1/4"	69	N/A
3/8"	69	N/A
1/2"	78	69
3/4"	78	78
1"	122	78
1.1/4"	122	122
1.1/2"	165	122
2"	165	165
2.1/2"	191	165
3"	191	191
4"	217	191

Torque of Stem Nut