

## INSTALLATION & MAINTENANCE MANUAL TRIAD - SERIES 66FD

3- PIECE FULL OR REDUCED PORT BALL VALVES FIRE SAFE



#### 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. e On threaded lines, valve can be screwed on without the use of unions, as the three-piec 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 Loosen the nut on the remaining bolt. Swing the body outside the pipe.



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except one.

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

30% safety factor included.(full port)

30% safety factor included.(Reduced port)

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		NM
SIZE	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	870 ~ 405
3"	435 ~ 485	415 ~ 440
4"	485 ~ 515	435 ~ 485

Torque of Body Bolt

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

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