



127 Village Lane  
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## INSTALLATION & MAINTENANCE MANUAL

### 88 Series Full Port Ball Valve

#### 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 date 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 P 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:

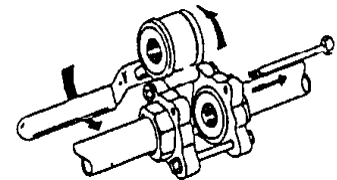
- 4.1 The valve can be installed in any position on the pipeline.
- 4.2 Before installation of the valves, the pipe must be flushed clean of dirt, burrs and welding residues, or the seats and ball surface will be damaged.
- 4.3 The pipe must be free from tension.

#### 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.





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**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 to the figures given.

Valve Size	Body Bolt Torque (in-lbs)
1/4"	27
3/8"	27
1/2"	27
3/4"	62
1"	106
1-1/4"	133
1-1/2"	177
2"	204
2-1/2"	275
3"	320
4"	530

**MATERIALS LIST**

NO.	PART NAME	QTY	MATERIAL
1	BODY	1	CF8M
2	END CAP	2	CF8M
3	BALL	1	SS316
4	SEAT GASKET	2	RTFE
5	SEAT	2	RTFE
6	JOINT GASKET	2	PTFE
7	STEM SEAL	1	RTFE
8	STEM	1	SS316
9	GLAND PACKING	3	PTFE
10	GLAND BUSH	1	SS304
11	STOP WASHER	1	SS304
12	STEM UNT	2	SS304
13	HANDLE	1	SS304
14	STEM WASHER	1	SS304
15	HANDLE SLEEVE	1	VINYL
16	BOLT	6	SS304
17	BOLT WASTER	12	SS304
18	BOLT NUT	12	SS304
19	BELLEVILLE WASHER	2	SS301
20	STOP PIN	1	SS304
21	PIN NUT	1	SS304
22	LOCKING DEVICE	1	SS304
23	GLAND PACKING	1	25% Glass Fiber Filled + PTFE

