

## Flo-Tite, Inc.

### Installation-Maintenance Manual For #200/#300 3-piece Ball Valves

#### USE

Maximum results and long life of valves can be maintained under normal working conditions and in accordance with pressure/temperature charts.

#### MANUAL OPERATION

The opening of the valve is done by turning the handle ¼ turn (90 degree)

The valve in open position: the handle is in-line with valve or pipeline.

The valve in closed position: the handle is across or perpendicular to pipeline.

#### DISASSEMBLY & CLEANING PROCEDURES

(Caution: Ball valves can trap fluids in 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.

1. Relieve the line pressure
2. Place valve in half-open position and flush the line to remove any hazardous material from valve.
3. All persons involved in the removal and disassembly of the valve should wear the proper protective clothing, such as face shield, gloves, apron, etc.

Maintenance of parts is easy, even if the valve is installed in the line by removing two cap screws and loosening the others, the valve body will “swing-out” to allow removal of seats and seals.

#### GENERAL INFORMATION FOR ON-SITE INSTALL

The valve may be fitted in any position in the pipeline.

Before installing the valves, the pipes must be flushed clean of dirt, burrs and welding residues, or you risk damaging the seats and ball surface of valve.

The pipe must be free of tension.

## **INSTALLATION OF THREADED VALVES (#210 / #310)**

Use conventional sealant, such as hemp core, Teflon, etc.

Apply wrench only on the hexagon of the valve end cap. Tightening by using the valve body or handle, can seriously damage the valve.

In some applications, screwed valves are back-welded on site. These valves must be disassembled as per instructions for Weld-End Valves.

## **STANDARD INSTALLATION OF WELD-END VALVES (#220 / #320 AND #230 / #330)**

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

With the valve in open position, loosen all cap screws into body. Take out two of the cap screws that opposite each other and swing-out the body.

Turn the handle in the half-open position to assist in the removal of the seats.

Turn handle in close position and remove ball.

Place all removed parts in a clean and secure place.

Replace the cap screws into body and tighten all nuts slightly. This operation is important, so that the body and end caps remain perfectly parallel, thus preventing any leakage at the body joints after welding. Finish welding both end caps onto the pipe.

When cool, loosen bolts and remove two opposite cap screws again.

Swing-out the body and replace ball. Turn valve in open position and replace seats and body seals.

Swing body back in between two end caps and replace two cap screws.

Bolts should be tightened evenly. Tighten one side snugly, then the one diagonally across. Repeat for the other bolts, bringing them all down tightly in sequence to the figures given.

## **WELD IN PLACE INSTALLATION PROCEDURE (#220 / #320 AND #230 / #330)**

Only valves with Supertek I (TFM), II (RTFM), III (CTFM) or 50/50 seats can be welded in place without disassembly. Cycle the valve to the open position. Weld by applying a 1/8" maximum weld bead around each end cap. **CAUTION: DO NOT** heat the center section over 350 F. Use a temperature stick and a wet cloth wrapped around the center section to prevent overheating. For welds that require multiple passes to achieve weld size, stop after each pass and carefully monitor the valve body temperature.

**BOLT TORQUES: (In Lbs)**

1/4"-1/2" – 150 In Lbs      6" – 780 In Lbs

3/4" – 150 In Lbs      8" – 900 In Lbs

1" – 150 In Lbs

1 1/4" – 280 In Lbs

1 1/2" – 280 In Lbs

2" – 285 In Lbs

2 1/2" – 330 In Lbs

3" – 600 In Lbs

4" – 650 In Lbs