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Company

FlowTek

A Subsidiary of BRAY INTERNATIONAL, Inc.

INSTALLATION - MAINTENANCE MANUAL (S7500, S7700)

3 PIECE SANITARY MICRO PURE BALL VALVES

1. USE:

- 1.1 Maximum results and long life of valves can be maintained under normal working conditions and in accordance with pressure/temperature and corrosion data chart. During shipment, storage, and in operation, the valve should be fully open or fully closed (“open” is preferred for shipping and storage). Do not use in intermediate positions without knowledge of flow and pressure drop.

2. OPERATION:

- 2.1 The Opening and closing of the valve is done by turning the handle a 1/4 turn (90 degree turn).
 - A. VALVE IN OPEN POSITION
The handle is in line with the valve or pipeline.
 - B. VALVE IN CLOSED POSITION
The handle is across the pipeline.
- 2.2 For 1/2”-2-1/2”, if slight leakage is noted at stem, straighten lock washer tab, tighten stem nut to flatten Bellville Washers, back stem nut off 1/4 turn, secure lock washer tab. For sizes larger than 2-1/2”, simply tighten gland bolts evenly until leak stops. Do not over tighten.

3. GENERAL INFORMATION FOR ON-SITE INSTALLATION:

- 3.1 The valve may be fitted in any position on the pipeline;
- 3.2 Before installing the valves, the pipes must be flushed clean of dirt, burrs and welding residues, or you will damage the seats and ball surface;
- 3.3 The pipe must be free of tension.

4. CLEANING PROCEDURES BEFORE DISASSEMBLY:

Caution : Ball Valves can trap fluids in ball cavity when closed.

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

5. VALVE DISASSEMBLY

Maintenance of parts is easy, even if the valve is installed in the line:
By removing one body bolt and loosening the other three, valve body can be swung out.
Seats, gaskets and ball can be replaced without disturbing pipe alignment:
Three-piece construction makes valve ends free, by just removing the four bolts.

- 5.1 Remove thin nut (26) from stem (5), and take the handle (25) away from the stem;
- 5.2 Remove the other thin nut, lock washer and belleville washer (18) away from the stem;
- 5.3 Remove four body nuts (8) from one side of the valve and end caps(2) will be free;
- 5.4 For in-line maintenance, remove one body bolt(9) and loosen the other three, valve body(1) can be swung out
- 5.5 Remove the front and rear cavity filler seats (4&6);
- 5.6 Turn stem until ball(3) is in closed position, then the ball will be easily removed or fall away from the valve body;
- 5.7 Press the stem into the inside of the valve body, and remove the stem, thrust bearing(11A) and thrust washer(12);
- 5.8 On top of the valve, remove the packing sleeve(15), thrust bearing (11B) and stem packing (14);

6. VALVE ASSEMBLY

- 6.1 Put thrust bearing(11A) and washer(12) on valve stem(5) and slide the stem into the stem hole on valve body;
- 6.2 Press stem packing(14) onto the stem until it is seated against the upper bottom of the stem hole;
- 6.3 Put thrust bearing (11B), then packing sleeve(15) onto the stem, on top of the stem packing(14);
- 6.4 Turn the stem until the stem flat is parallel to the port centerline(so that the ball can fit into the stem)
- 6.5 Place one of cavity filler seats (4&6) inside one end of the valve body, be sure that the tapered side of the seat facing inward and other side facing outward;
- 6.6 Put the ball inside the valve body, the stem bottom flat will fit into the slot on top of the ball;
- 6.7 Turn the stem so that the ball is in the open position(the ball will not fall out of the valve);
- 6.8 Place the other seat inside the end of the valve body, make sure the seat orientation is correct;
- 6.9 Assemble the end caps to each end of the valve body, using the spring washers(7), bolts(8) and nuts(9). Refer to the table for proper torque requirements;
- 6.10 Put belleville washer (13) together in series mode(curved surface facing outward), and then place them onto the stem, on top of the packing sleeve(15);
- 6.11 Screw the nut(11) onto the stem, until the bellville washers are flat, and then unscrew the nut half a turn;
- 6.12 Place the handle(25) onto the stem, on top of the thin nut(26);
- 6.13 Secure the handle with the other thin nut

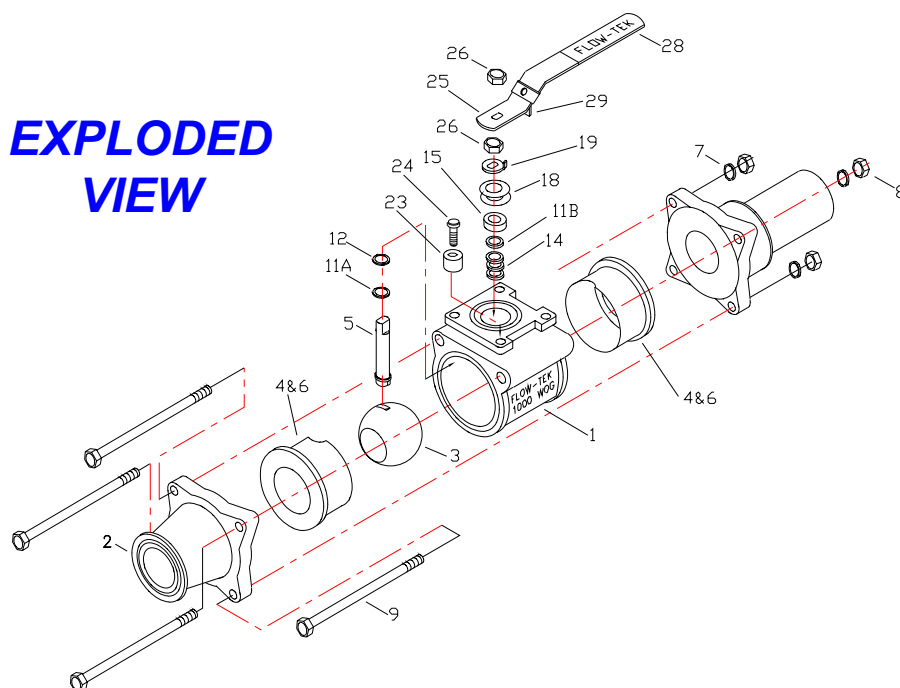
BOLT TIGHTENING SPECIFICATIONS:

The body bolts of the valve 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.

SIZE	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"
Bolt Torque (in-lbs)	140	140	140	NA	210	210	550	550	1000

Parts List (1/2"-2"):

ITEM NO.	PARTNAME
1	BODY
2	END CAP
3	BALL
4 & 6	Cavity Filler & Body Seal
5	STEM
7	SPRING WASHER
8	BODY NUT
9	BODY BOLT
11A/B	THRUST BEARING
12	THRUST WASHER
14	STEM PACKING
15	SLEEVE
18	BELLEVILLE WASHER
19	LOCK WASHER
23	Valve Stop Set Sleeve
24	VALVE STOP BOLT
25	HANDLE
26	THIN NUT
28	PLASTIC COVER
29	LOCATING LOCK



For 2-1/2" -4" parts list, consult factory.