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JFLOW SERIES VALVES
(9700 SERIES)
TRUNNION BALL VALVE
INSTALLATION – MAINTENANCE MANUAL

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9700 Series Trunnion Ball Valve
Installation – Maintenance Manual
Document #: IM-9700-01
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Installation & Maintenance for J Flow 9700 Series Two Piece Trunnion Ball Valve

General Information

The J Flow 9700 series trunnion ball valve has been designed and engineered to provide a long lasting, worry-free valve service when installed according to the instructions and specifications given in this manual. If repairs need to be made, only use genuine J Flow Controls parts which are readily available for immediate shipment (See Table B).

The following set of instructions refers only to the J Flow 9700 series trunnion ball valve. Please contact J Flow Controls if this is not the valve series in your possession.

J Flow Controls is committed to providing The Right Valve for the Right Application, Right Now.

Delivery Condition and Storage

Manual valves will be shipped in the open position. Incoming quality control should check both the packing condition to see if there is any damage during transportation and to make sure the bolts on the valve and its stem are not loose.

When storing the valves, make sure to leave the valve in the fully open or fully closed position. This will prevent damage to the seat due to contact with the balls edge. Make sure to keep protective cover in place to prevent damage to the ball surface. It is highly recommended that valves be stored indoors in a clean and dry environment until ready for use.

Safety Precautions

To prevent injury to yourself, others, or equipment, make sure to read this section in its entirety before performing any installation or operation of this valve.

The pressure ratings of the valve are based on a variety of elements, including valve series, size, body, seats, and bolt material. Verify that your application does not exceed pressure or temperature ratings on the nameplate of the valve.

Make sure to ALWAYS depressurize the line with your valve in the full open position before disassembly of the valve. Cycle the valve in the depressurized line before removing the valve.

Always wear protective equipment and take appropriate precautions to safeguard against injury caused by discharge of trapped fluids.

Only use J Flow Controls approved spare parts for maintenance on any J Flow Controls valve. A complete spare parts list is given in Table B.

As to ensure your safety and maintain warranty, do not modify the valve in any way without prior approval from J Flow Controls.

Installation

The valve may be installed in either direction. When a v-ball is used, arrows on the valve will indicate the flow. Prior to installation, be certain the valve is in the full open position. The pipe should be flushed of any media that could damage the ball or seats. Use the correct size bolts and heavy hex nuts (not provided) that are recommended for the flange size and class. When

installing, use standard gaskets suitable for the specific service (not provided). Follow the gasket manufacturer's recommendations when tightening flange bolts.

Operation

J Flow Controls valves provide tight shut off when used under normal conditions and in accordance with J Flow Controls published pressure and temperature chart. All valves are provided standard with a locking device for either the open or closed position. It is advised to never leave the valve in a partially open position as seat life can be reduced.

J Flow Controls 9700 series are a ¼ turn trunnion valve which closes in the clockwise direction. The valves handle points at the flow direction, so when the handle is in line with the pipeline, the valve is open. Subsequently, when the handle is parallel to the pipeline, the valve is closed. There is also a notch on the valve stem indicating flow as well.

Make sure when installing an actuator that the position of the valve matches the actuator.

Media which may solidify, crystallize or polymerize should never be allowed to remain in the ball valve cavities unless regular maintenance is performed.

Maintenance

J Flow Controls valves are designed to easily be disassembled and reassembled in the field for easy service. It is imperative that before completing any maintenance on a J Flow Controls valve, that the Safety Precautions section of this I&M is reviewed.

Ball valves normally do not require an internal lubricant or routine maintenance once installed. Packing can be adjusted if the valve has stem leakage or if the stem seems loose. See the Troubleshooting section of this I&M for more information.

Internal maintenance by replacing the packing, seats, seals, ball, or stem if any piece is damaged will require disassembly (see Valve Disassembly).

Troubleshooting

STEM LEAKAGE

Examine the disk springs for damage. If they are in good condition, then tighten the gland nut until disk springs are firmly compressed, then back nut off 1/16th of a turn. If damaged, take apart the stem down to the gland, fit new disk springs with their outer edges touching, replace and retighten with the stem nut. Any further maintenance will require the dismantling of the valve.

LEAKAGE AT BODY JOINT

Check to see if the body connector bolts have been tightened. If loose, tighten body bolts according to the torque requirements given in Table A. If valve still leaks, the valve has to be disassembled and body seals will need replaced.

IN-LINE LEAKAGE

Position the valve in the closed position. If leakage occurs while the valve is closed, ball sealant surface or seat could be damaged and the valve will have to be disassembled.

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Valve Disassembly

Before beginning any maintenance, make sure to read the Safety Precautions section of this I&M.

Note: An exploded view of valve parts is available at the end of this I&M.

1. To inspect and/or replace body seals, seats, packing, and/or ball, the valve must be in the open position with no flow through the valve and removed from pipeline.
2. Remove Bracket (20) by removing Nuts (10) from Bolts (7).
3. Remove Bolts (6) to remove Packing Gland (21), Packing Press Ring (17), and Packing (16).
4. Remove studs (19) to remove Gland (15), Anti-blowout Ring (14), Stem Housing (13), Stem (12), Key (27), and Gasket (18).
5. Remove Nuts (9) from Bolts (5) to separate Body Cover (2), Gasket (3), Slide Bearing (37), Trunnion (4), Thrust Bearing (36), and Anti-static Bearing (38) from Body (1).
6. Undo Body Bolts (8) from Body Nuts (11) to separate valve Body (1) and End Cap (28).
7. Remove Springs (33), Sealing Press Ring (32), Sealing Ring (31), Seat (30), and Gasket (29).
8. Remove Ball (22) and then Seat (23), Sealing Ring (24), Sealing Press Ring (25), and Springs (26).

When the valve is disassembled, be sure to clean and examine all valve parts.

1. Ball surface should be free from defects, and if any are found, ball should be replaced. Using a defective ball will severely impair the valve performance.
2. The replacement of valve seats is recommended.
3. Stem seals and body seals (including the thrust washer) should be discarded and replaced.
4. After cleaning the rest of the valve parts, examine them for wear, corrosion, or mechanical damage. Replace any defective parts.

Recommended spare manufacturers parts are indicated by an asterisk on Table B by the part name, numbered by the exploded view at the end of this I&M. Be sure to specify the exact valve part number to ensure the correct parts are ordered.

J Flow Controls does not take responsibility for incorrectly ordered spare parts.

Valve Reassembly

1. Apply an adequate amount of lubricant, that is compatible with the media being handled, around the Ball (22), Seats (23/30), Gasket (18/29), Stem (12), and Thrust Bearing (36).
2. For Valve Reassembly, follow Valve Disassembly in reverse order.
3. Be sure to tighten Body Bolts (8) to Body Nuts (11) in a diagonal fashion according to the values in Table A.

Testing

After completing the reassembly of the valve, check that it operates smoothly by cycling the valve open and closed several times.

If the entire valve was removed from the pipeline, test the valve to appropriate specifications.

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Table A: 9700 Bolt Torque Data

Size	Bolt Torque (in/lbs)
2"	442.55
2-1/2"	575.30
3"	708.10
4"	885.10
5"	1106.35
6"	1327.60
8"	1770.15
10"	2212.70
12"	2655.20
14"	3097.75
16"	3540.30
18"	3982.85
20"	4425.35
24"	5310.45

Table B: 9700 Spare Parts List

Item#	Qty	Part Name	Item#	Qty	Part Name
1	1	Body	20	1	Bracket
2	1	Body Cover	21	1	Packing Gland
3	1	Gasket	22	1	Ball
4	1	Trunnion	23	1	Seat
5	4	Bolt	24	1	Sealing Ring
6	2	Bolt	25	1	Sealing Press Ring
7	4	Bolt	26	24	Spring
8	12	Bolt	27	1	Key
9	6	Nut	28	1	Cap
10	8	Nut	29	1	Gasket
11	12	Nut	30	1	Seat
12	1	Stem	31	1	Sealing Ring
13	1	Stem Housing	32	1	Sealing Press Ring
14	4	Anti-blowout Ring	33	24	Spring
15	1	Gland	34	1	Name Plate
16	5	Packing	35	4	Rivet
17	1	Packing Press Ring	36	1	Thrust Bearing
18	1	Gasket	37	1	Slide Bearing
19	6	Stud	38	2	Anti-static Bearing