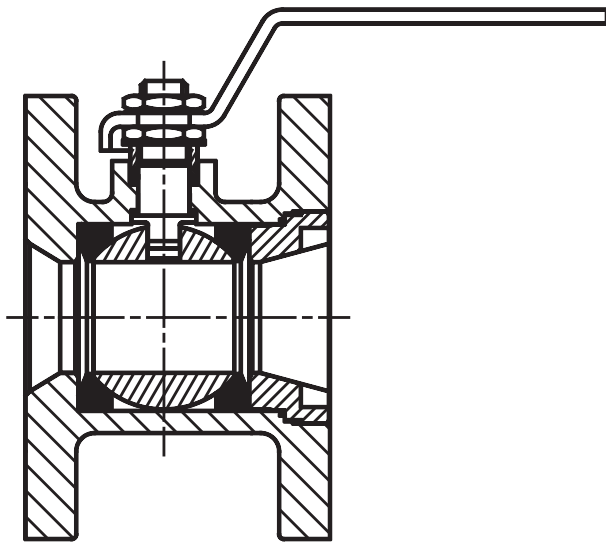


IMO - R7

Issue Date: 1/02



INSTALLATION, MAINTENANCE, AND OPERATING INSTRUCTIONS

2" (DN 50) 5RRF AND 5RRT TANK-CAR FIRE-TITE® TOP-LOADING & UNLOADING VALVES

Read entire instructions carefully before installation or servicing

1 GENERAL

This instruction manual contains important information regarding the installation, operation and troubleshooting of the Jamesbury 2" (DN 50) 5RRF (**Figure 1**) and 5RRT (**Figure 2**) Tank-Car *FIRE-TITE* Top-Loading & Unloading Valves. Please read these instructions carefully and save them for future reference.

1.1 WARNING

FOR YOUR SAFETY, IT IS IMPORTANT THAT THE FOLLOWING PRECAUTIONS BE TAKEN PRIOR TO REMOVAL OF THE VALVE FROM THE TANK CAR OR BEFORE ANY DISASSEMBLY.

1. EXERCISE NORMAL SAFETY PRECAUTIONS TO PROTECT YOURSELF AGAINST BOTH THE FLUID AND POSSIBLE UNRELIEVED PRESSURES IN THE VALVE ITSELF.
2. CYCLE THE VALVE FROM FULLY CLOSED TO FULLY OPEN AND BACK AGAIN TWO TIMES TO RELIEVE ANY RESIDUAL PRESSURE.
3. AFTER REMOVAL AND BEFORE DISASSEMBLY, CYCLE THE VALVE AGAIN SEVERAL TIMES (AS IN NO. 2).

2 INSTALLATION

Flow through this Jamesbury valve can be in either direction. In the case of a tongue and groove connection, however, the tongue is installed against the tank car. Follow the recommended practices of the gasket manufacturer when tightening flange bolts. If there is weepage past the stem seals upon installation, it means the valve may have been subject to wide temperature variations in shipment. Leaktight performance will be restored by a simple packing adjustment described in the **MAINTENANCE** Section.

3 MAINTENANCE

Routine maintenance consists of tightening the lower stem nut (16) to the torque shown in (**Table 1**) (stem nut torque) periodically to compensate for the wear caused by the stem turning against the stem seals. More frequent observation is recommended under extreme operating conditions. The upper stem nut (16) should be retightened. Overhaul maintenance consists of replacing seats and seals. A standard service kit consisting of these parts may be obtained from your Metso Automation distributor (**see Table 2**).

TABLE 1

2" (DN 50) 5RRF & 2" (DN 50) 5RRT

Insert Torque	170 – 200 lb.-ft. (231 – 271 Nm)
Stem Nut Torque	160 – 170 lb.-in. (18 – 19 Nm)

TABLE 2

SERVICE KITS

VALVE	KIT NO.
2" (DN 50) 5RRT	RKR-48MT
	RKR-48TT
2" (DN 50) 5RRF	RKR-48MT
	RKR-48TT

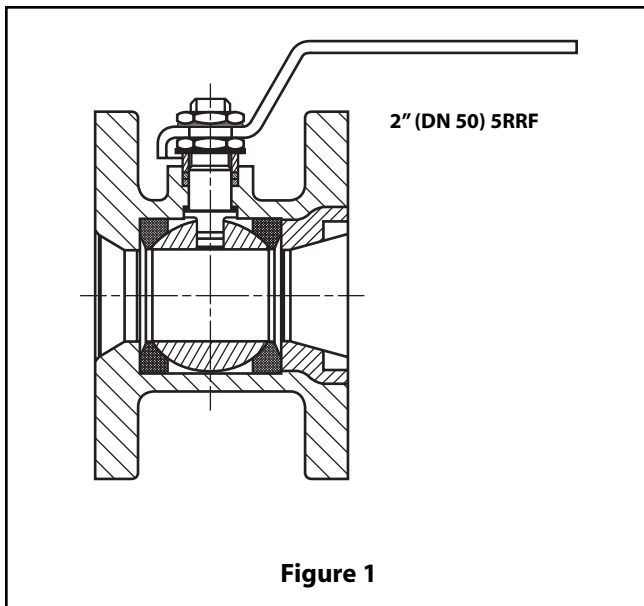


Figure 1

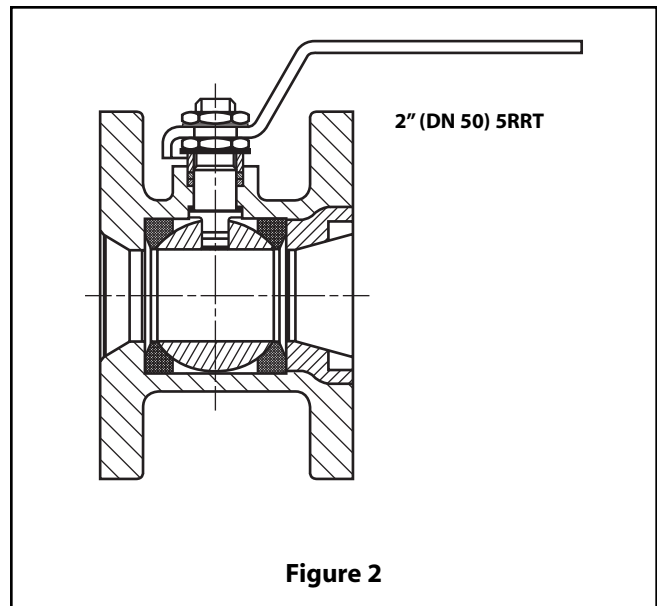


Figure 2

3.1 Disassembly

1. Read the instructions in the **WARNING** Section.
2. Place the valve in the open position.
3. Remove the stem nut (16), lockwasher (19), handle (17), the second stem nut (16), stem washer (50), and compression ring (21).
4. Place the valve in a vertical position with the insert end up.
5. Unscrew and remove the insert (2) and body seal (6).
6. Turn the ball into the closed position and remove the top seat (5) and the ball (3). If these parts do not lift out easily, take a piece of wood or some other soft material object and gently tap the ball from the end opposite the insert. This will unseat these parts without damaging them.
7. Press the stem (4) into the valve body cavity. It may be necessary to tap it with a piece of wood or some other soft material.
8. Remove the stem, then pry out and discard the old stem seals (8), the stem bearings (24), and secondary stem seal (7).
9. Carefully remove the bottom seat (5) out of the body taking caution that the body seat face is not scratched while doing so.

3.2 Assembly

Apply a good lubricant that is compatible with the flow medium lightly to seats, seals, ball, and stem to facilitate assembly and ease initial operation.

1. Slide one valve seat (5) sidewise into the body cavity (1) to just below the stem hole and tilt it into place so that the proper face will come in contact with the ball (3) (**see Figure 3**). Do not scratch or cut the seat faces.

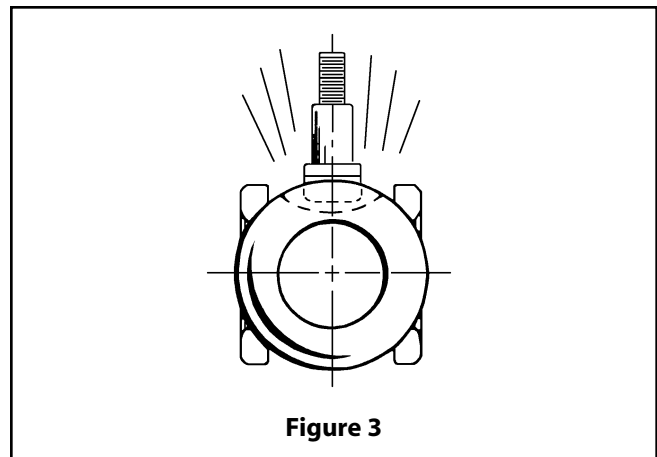
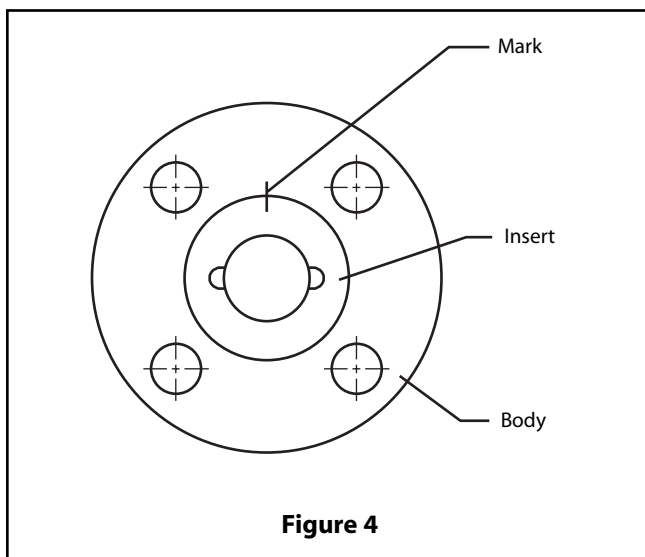


Figure 3

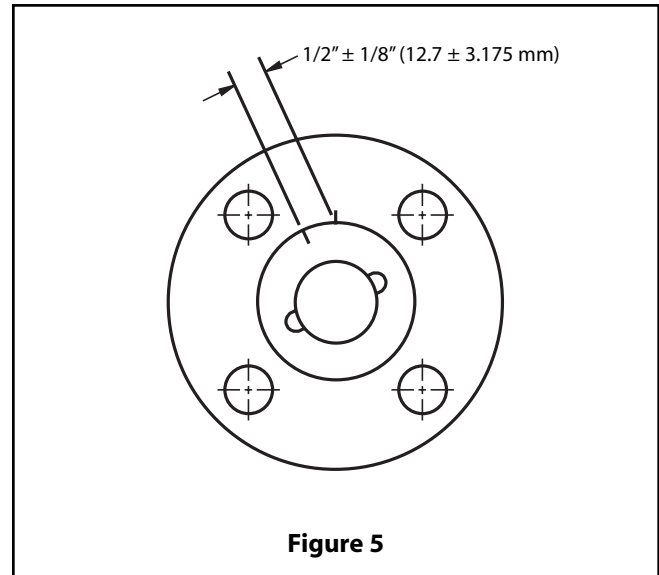
2. From inside of the body cavity, insert one stem bearing (24), then one stem seal (7), then the second stem bearing (24) up into the lower stem counterbore.
3. From the outside of the body, insert the two upper stem seals (8) into the upper stem counterbore.
4. Insert the stem (4) into the body cavity (threaded end first), and press it gently up into the stem bore until resistance is felt from lower stem bearing. Be careful not to scratch the seals.

5. Holding the stem in place from inside the body, drop the compression ring (21) over threaded end of stem protruding out of body stem bore. Follow same procedure with slotted stem washer (50) and then screw on one stem nut (16).
6. Tighten down the nut until the stem comes snugly into place. Rotate the stem gently to assure proper seating. Tighten the nut until the stem seals are fully seated, then tighten the nut to the torque specified in **(Table 1)** (stem nut torque).
7. Using a spanner wrench, screw the insert (2) into the body until it is fully seated. Mark the position as shown in **(Figure 4)**. Counting the number of turns, remove the insert.



8. Insert the ball (3) rotating it onto the stem (4) in the closed position. If necessary, turn the stem blade to align with the ball slot.
9. Insert the second seat (5) so that the sealing surface of the seat is towards the ball **(see Figure 3)**.
10. Insert the body seal (6) and gently press it into the groove in the body.

11. Using a thread lubricant compatible with the media, screw the insert (2) into the body and tighten with the required torque shown in **(Table 1)**. If a torque wrench is not available, tighten the insert the same number of turns as in Step 7 until the marks match the dimension shown in **(Figure 5)**.



12. Place the handle (17), a lock washer (19), and nut (16) on the valve stem and tighten securely. Cycle the valve slowly with a gentle back and forth motion to build gradually to the full quarter turn. A fast turning motion at this point may cut the seats before they have a chance to form the proper seal.

4 REPAIR KITS/SPARE PARTS

For further information on spare parts and service or assistance visit our web-site at www.jamesbury.com.

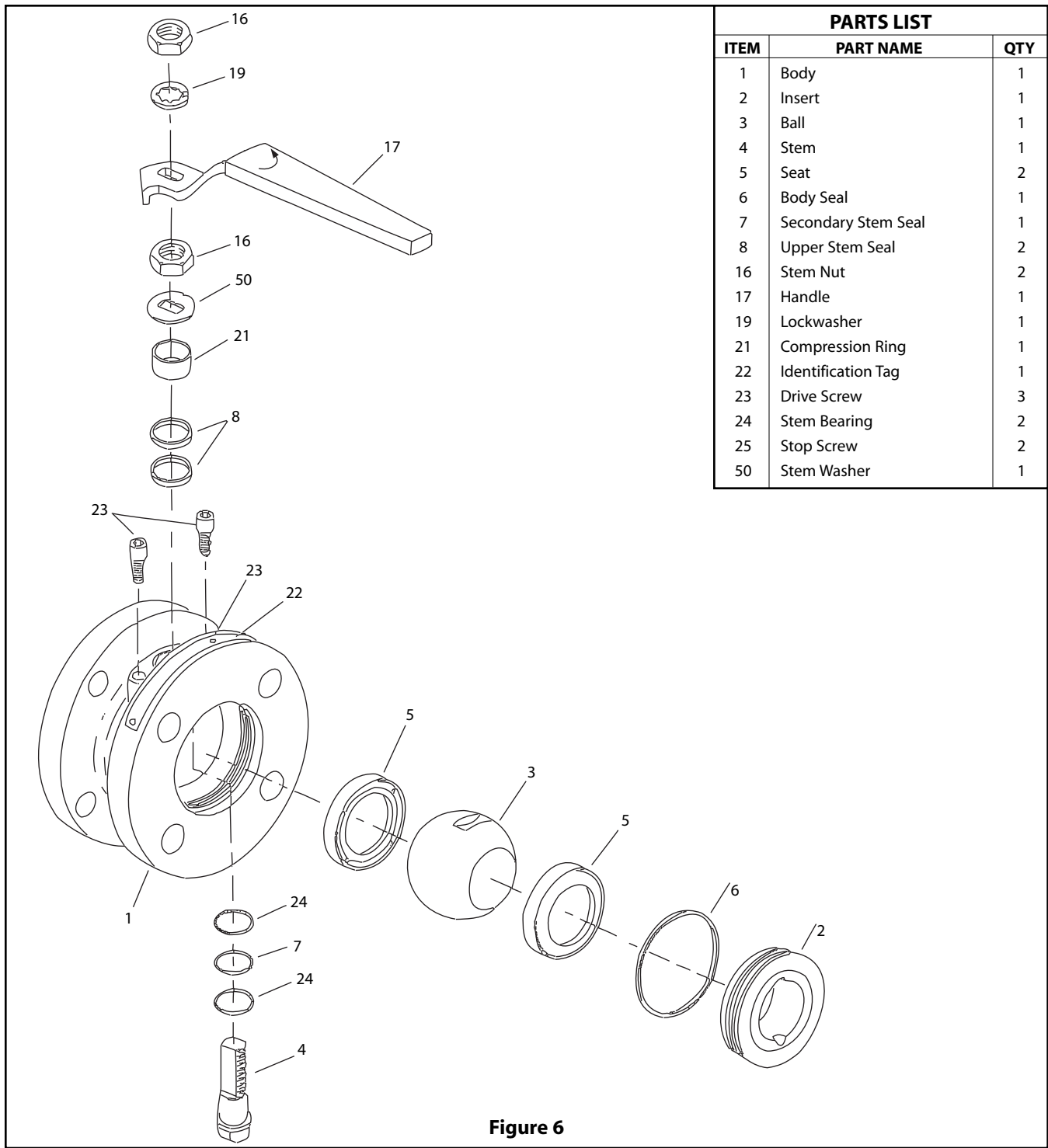


Figure 6

Metso Automation, Field Systems Division

Europe, Levytie 6, P.O. Box 310, 00811 Helsinki, Finland. Tel. int. +358 20 483 150. Fax int. +358 20 483 151

Europe (UK), 2 Lindenwood, Crockford Lane; Chineham Business Park, Chineham, Basingstoke, Hampshire RG24 8QY, UK. Tel. int. +44 (0)23 9223 8500. Fax int. +44 (0)23 9223 8510

North America • Corporate Offices, 44 Bearfoot Road, Northborough, MA, 01532 USA. Tel. int. +1 508 852 0200. Fax int. +1 508 852 8172

Operational Facilities, 44 Bowditch Drive, P.O. Box 8044, Shrewsbury, MA, 01545-8044 USA. Tel. int. +1 508 852 0200. Fax int. +1 508 852 8172

North America, 3100 Medlock Bridge Road, Suite 250, Norcross, GA 30071, USA. Tel. int. +1 770 446 7818. Fax int. +1 770 242 8386

Latin America, Av. Central, 181- Cháracas Reunidas, 12238-430, São Jose dos Campos. Tel. int. +55 12 335 3500. Fax int. +55 12 335 3535

Asia Pacific, 501 Orchard Road, #05-09 Wheelock Place, 238880 Singapore. Tel. int. +65 735 5200. Fax int. +65 735 2955

www.jamesbury.com

