

Jamesbury ball valves

5RRF and 5RRT tank-car

Fire-Tite™

top-loading and unloading valves

2" (DN 50)

Installation, maintenance and
operating instructions

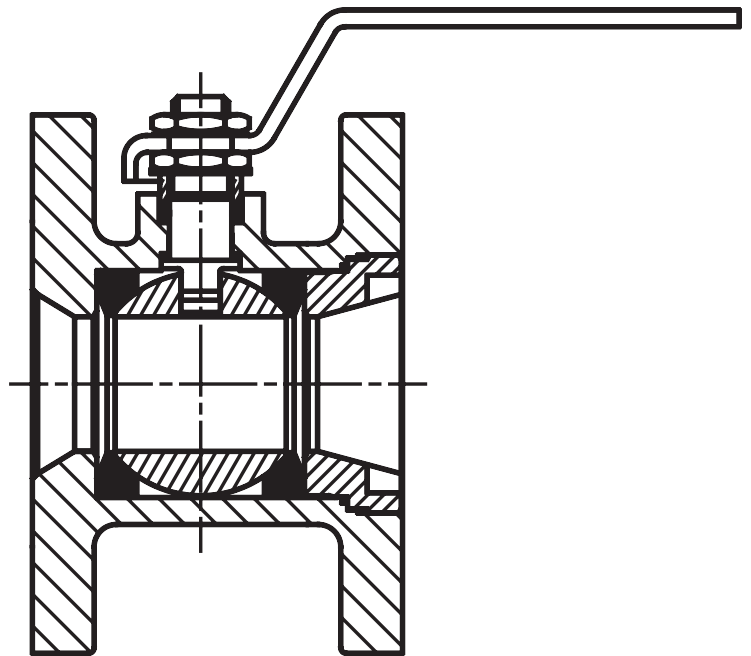


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READ THESE INSTRUCTIONS FIRST!

These instructions provide information about safe handling and operation of the valve.

If you require additional assistance, please contact the manufacturer or manufacturer's representative.

SAVE THESE INSTRUCTIONS!

Addresses and phone numbers are printed on the back cover.

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 re-tightened. Overhaul maintenance consists of replacing seats and seals. A standard repair kit consisting of these parts may be obtained from your Valmet 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	170 - 180 lb.-in. (19 – 21 Nm)

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

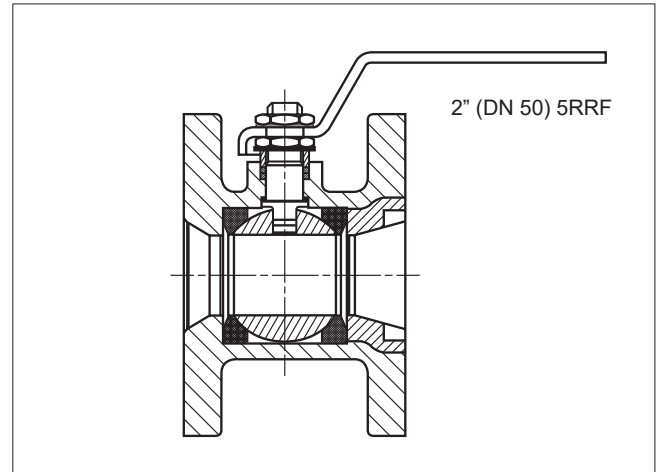


Figure 1.

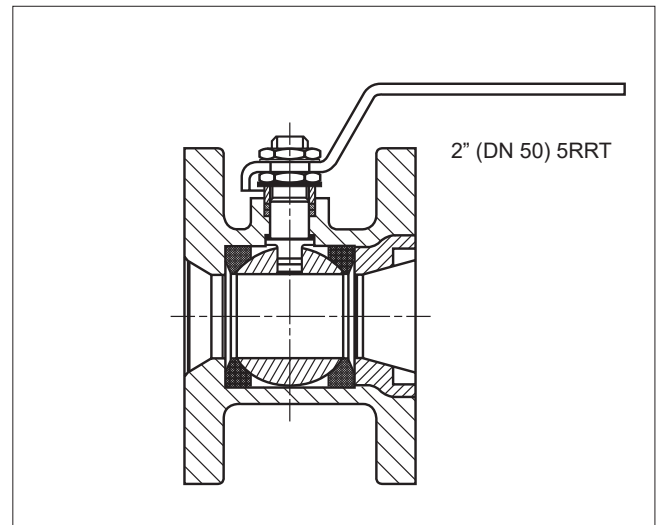


Figure 2.

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 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.

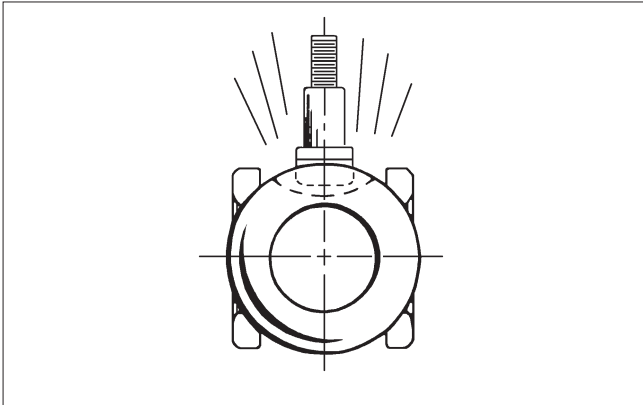


Figure 3.

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.

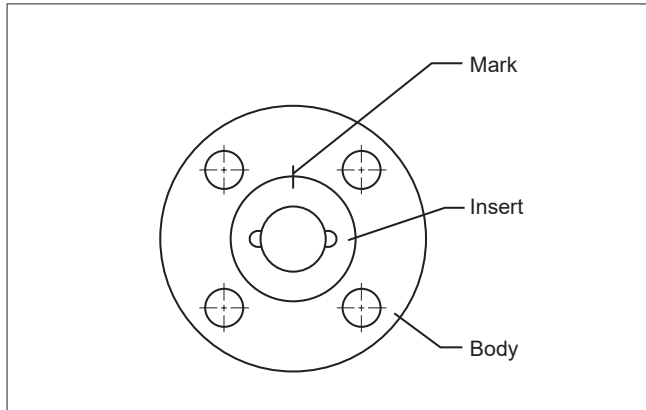


Figure 4.

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**).

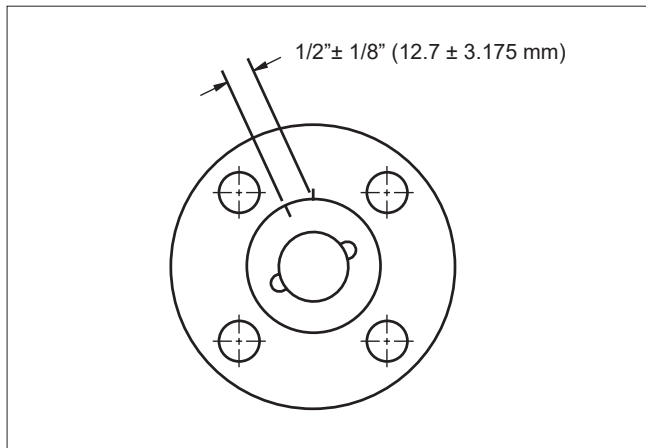


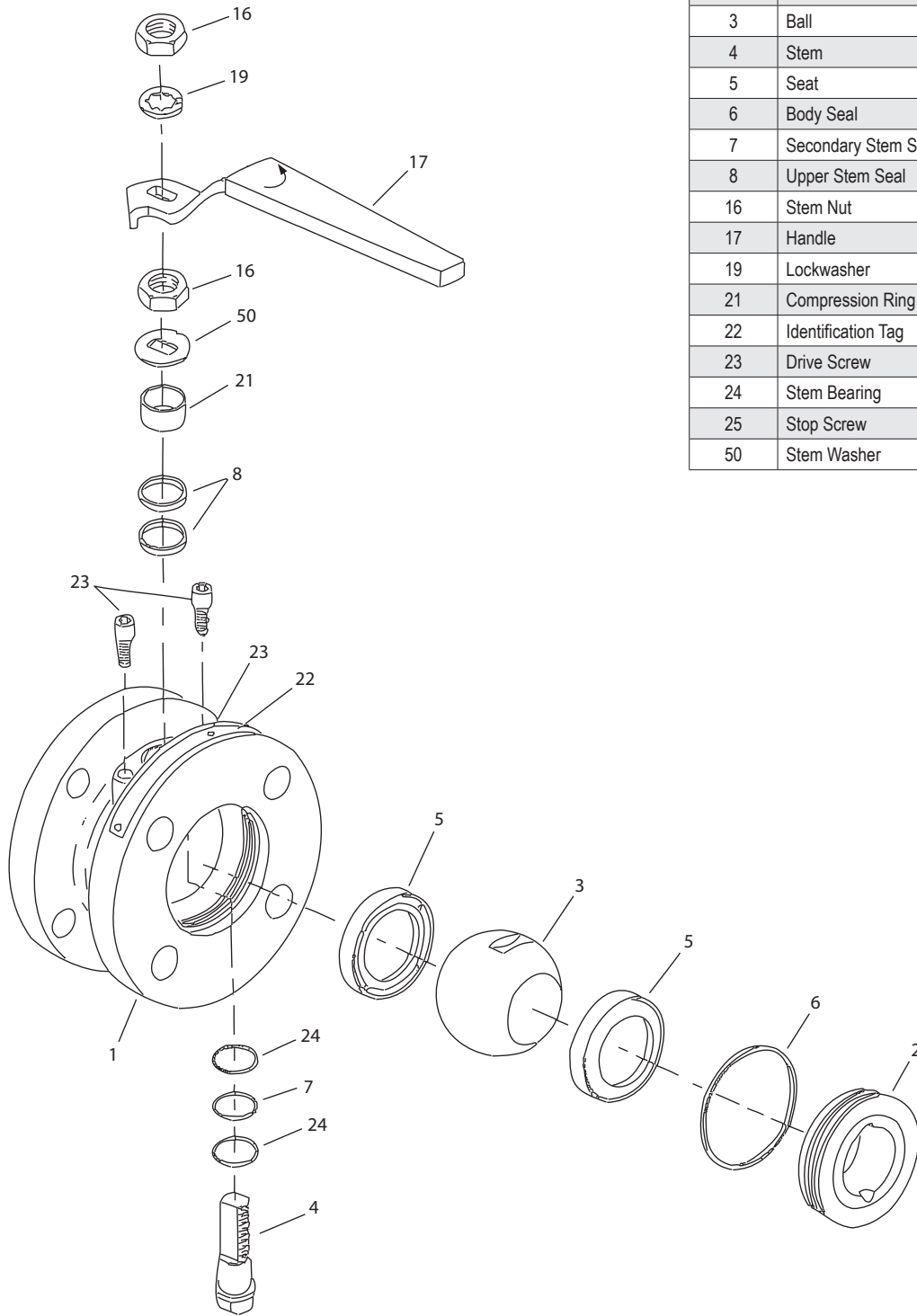
Figure 5.

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.neles.com/products/valves/tank-car-valves/.

EXPLODED VIEW & PARTS LIST



PARTS LIST		
ITEM	PART NAME	QTY
1	Body	1
2	Insert	1
3	Ball	1
4	Stem	1
5	Seat	2
6	Body Seal	1
7	Secondary Stem Seal	1
8	Upper Stem Seal	2
16	Stem Nut	2
17	Handle	1
19	Lockwasher	1
21	Compression Ring	1
22	Identification Tag	1
23	Drive Screw	3
24	Stem Bearing	2
25	Stop Screw	2
50	Stem Washer	1

Figure 6.

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