

Jamesbury valves 4" (DN100) SUZRL and 4" (DN100) SUZRS Model A Tank Car Fire-Tite™ bottom unloading valves

Installation, maintenance and
operating instructions

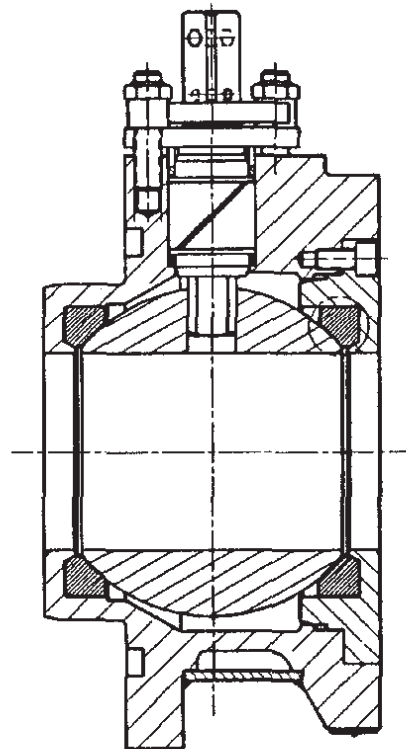


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READ THESE INSTRUCTIONS FIRST!

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™ 4" (DN100) SUZRL and 4" (DN100) SUZRS Model A Tank Car *Fire-Tite* Bottom Unloading Valves. Please read these instructions carefully and save them for further 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 UN-RELIEVED PRESSURES IN THE VALVE ITSELF.
2. AFTER REMOVAL FROM THE CAR AND BEFORE DISASSEMBLY, CYCLE THE VALVE SEVERAL TIMES TO RELIEVE ANY RESIDUAL PRESSURE.

2. INSTALLATION

Refer to the **MAINTENANCE** section for stem packing adjustment. 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. Tight sealing will be restored by a simple packing adjustment described in the **MAINTENANCE** section.

3. DISASSEMBLY

1. Read the instructions in the **WARNING** section.
2. Place the valve in the open position.
3. Remove the handle pin (28), handle (15), stem pin (21) self locking stop nuts (10), stop sleeves (14), indicator stop (12) and bonnet plate (9).
4. Pull out the stem (4), with the compression ring (18), top stem seal (7) and stem bearing (11). After the stem has been removed from the valve body, remove the emergency stem seal (13) and lower stem seal (7).
5. Place the valve in the vertical position with the insert up.
6. Remove the body insert socket head cap screws (20) and jack the insert (2) out of the valve body by tightening the jacking screws (26) evenly and alternately. When the insert is free of the valve body remove the top seat (5) and "O" ring (25) from the insert cavity after breaking the tack welds.
7. Replace the stem (4) back into the valve body stem bore and into the ball drive slot. Turn the stem so that the ball (3) rests in the closed position. Remove the stem.
8. Remove the body seal (6) and the ball (3) from the valve body.
9. Break the tack welds and remove the bottom seat (5) and "O" ring (25) from the valve body. Use care to prevent damage to the seat face and sealing surface of the valve body.

10. Clean the valve body and all re-usable components before reassembly.

4. ASSEMBLY

A good lubricant compatible with the flow media should be applied lightly to seats, seals, ball and stem to facilitate assembly and for ease of the initial operation.

1. Slide the first valve seat (5) with "O" ring (25) into the valve body seat cavity (1), so that the bevel surface of the seat will be adjacent to the ball (3) (see **Figure 2**). While clamped firmly and centered, tack weld the seat to the body (**Figure 3**).
2. Place the ball (3) into the valve body (1) in the closed position. Insert the stem (4) as a temporary means of holding the ball.
3. Install the second seat (5) with "O" ring (25) into the insert (2) so that the bevel surface of the seat will be adjacent to the ball (3). While clamped firmly and centered, tack weld the seat to the insert (2) (**Figure 3**). Install the body seal (6) into the machined sealing area of the body with the chamfer on the I.D. facing away from the ball.
4. Adjust the jacking screws (26) so they do not protrude through the insert or above the insert face.
5. Fit the insert (2) into the valve body aligning the mounting holes in the insert with threaded holes in the body.
6. Compress the insert into the body with the body insert cap screws (20) by tightening them evenly and alternately until the insert is bottomed and all cap screws are tight. (torque 25-35 ft.-lbs.)
7. Remove the stem (4) and install a stem seal (7) into the valve body stuffing box. Place the emergency seal (13) on top of the stem seal. Pre-assemble the stem (4) and stem bearing (11) as per **Figure 4**. Lubricate as noted with compatible lubricant. Install the stem/stem bearing assembly into the stem hole in the valve body (1). Exercise caution so that the stem bearing remains in place on the stem as it is being installed into the body stem bore.
8. Slide the second stem seal (7) over the stem (4) and into the body stuffing box. Slide the compression ring (18) over the stem and up against the stem seal. Slide the bonnet plate (9) over the stem and lined up with the body studs until it makes contact with the compression ring. Then gently tap the bonnet plate until the stem seal is seated on the stem shoulder.
9. Place one stop sleeve (14) and one bonnet nut (10) onto each bonnet stud.
10. Tighten each bonnet nut (10) evenly and alternately until they make contact with the bonnet plate (9). Then with a torque wrench, evenly apply about 240 in.-lbs. of torque to each nut.
11. Place the indicator stop (12) over the stem (4). A tamperproof pin in the stem will only allow the indicator stop onto the stem one way. At this point the stem with the indicator stop mounted and located between stop sleeves (14) is positioned so that a counterclockwise rotation of the stem will open the valve.
12. Retain the indicator stop by inserting the stem pin (21) into the stem (4). (See **Figure 5**)

13. Place the valve handle on the valve stem and rotate the ball slowly with a gentle back and forth motion to build gradually to the full quarter turn. A quick turning motion at this point may cut the seats before they have a chance to flow into place.
14. Secure the handle (15) on the stem (4) with the handle pin (28) so that the handle is parallel with the ball port.

5. MAINTENANCE

Good operating procedure requires periodic observation to ensure that the valve is functioning well. The frequency of observation will depend on the application.

Stem Packing Adjustment - Routine maintenance consists of tightening the two self locking stop bonnet nuts (10) periodically to compensate for the wear caused by the stem's turning against the resilient TFE seals. Tighten the bonnet nuts equally 1/2 turn. If weepage still occurs, tighten another 1/2 turn. Stem nut torque should be about 240 in.-lbs.

EXPLODED VIEW & PARTS LIST

REPAIR KITS	
VALVE	KIT NO.
4" SUZRL and 4" SUZRS	RKR-39

Overhaul maintenance consists of replacing seats and seals. A standard repair kit consisting of these parts may be obtained by contacting Valmet. See above for kit designations.

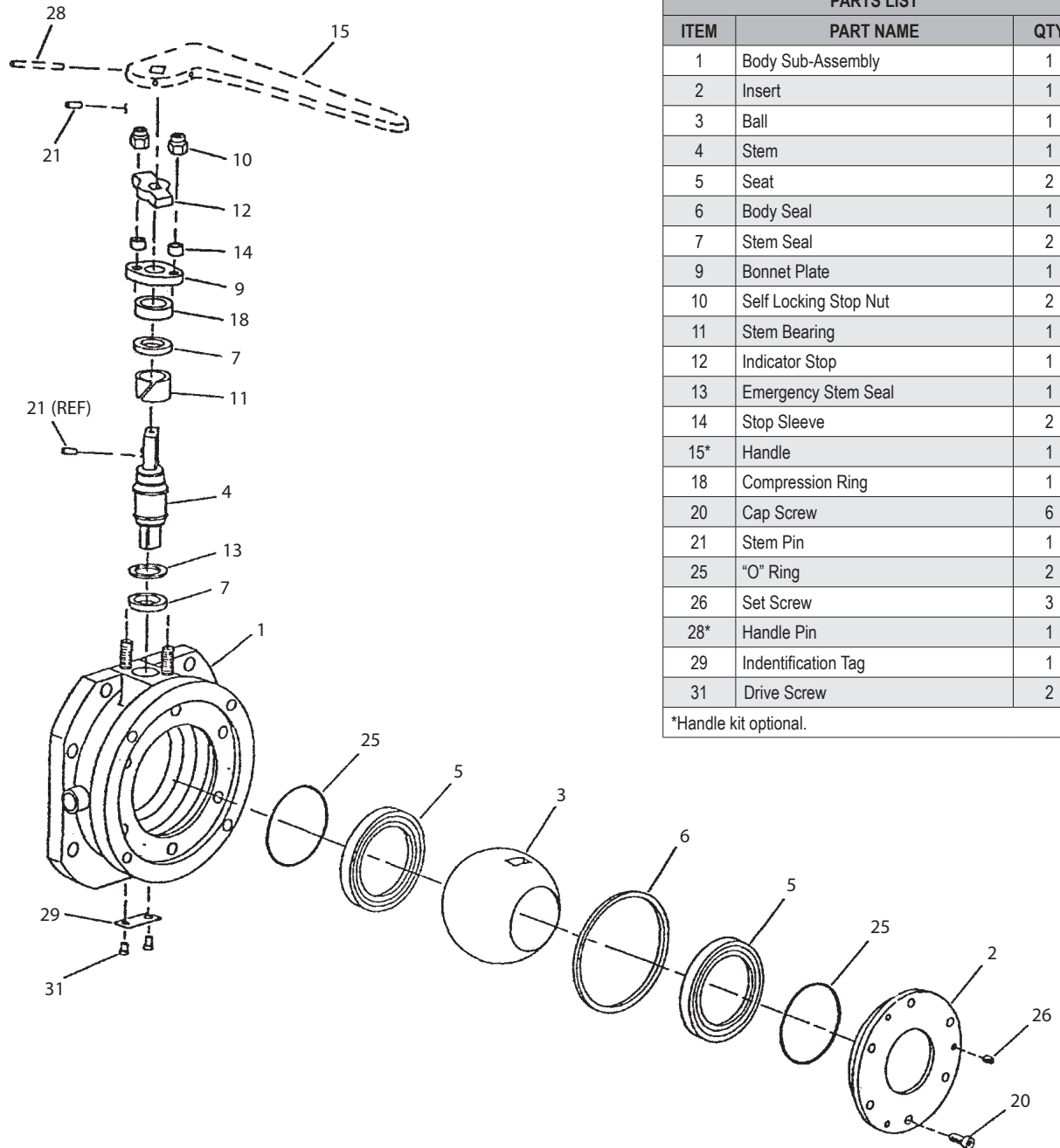


Figure 1.

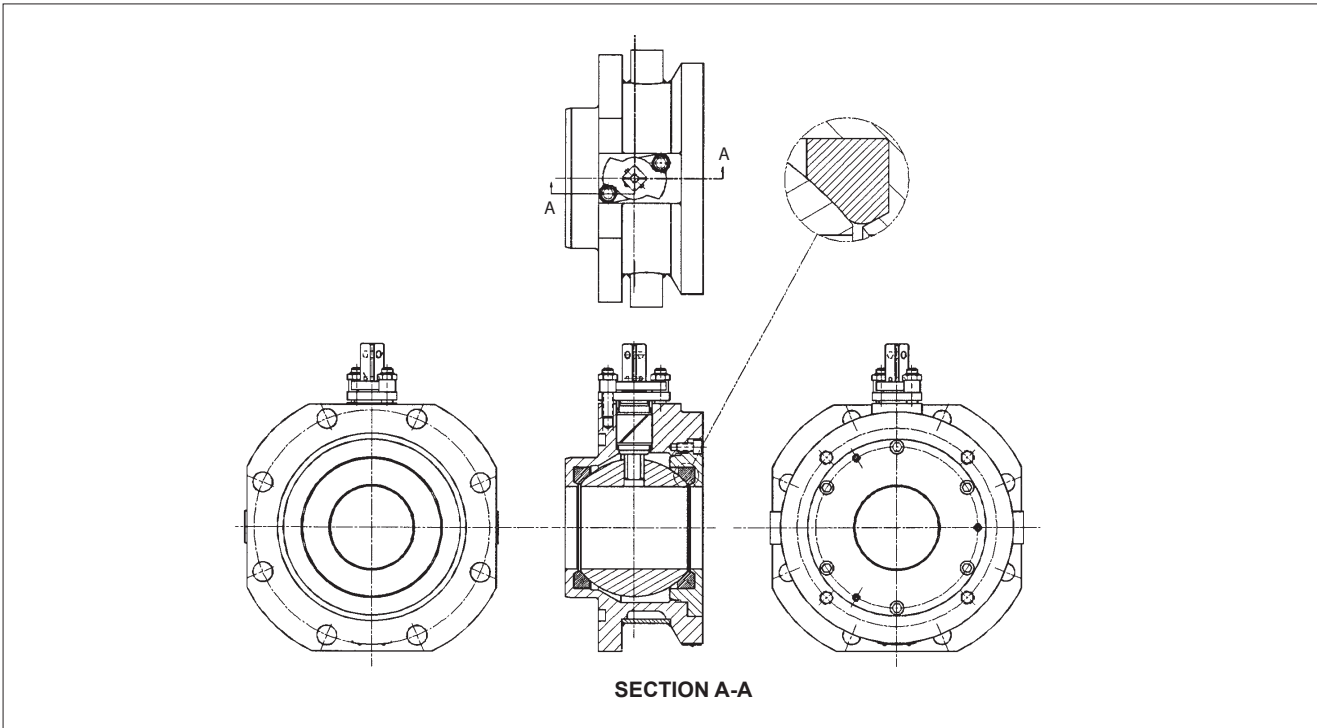


Figure 2.

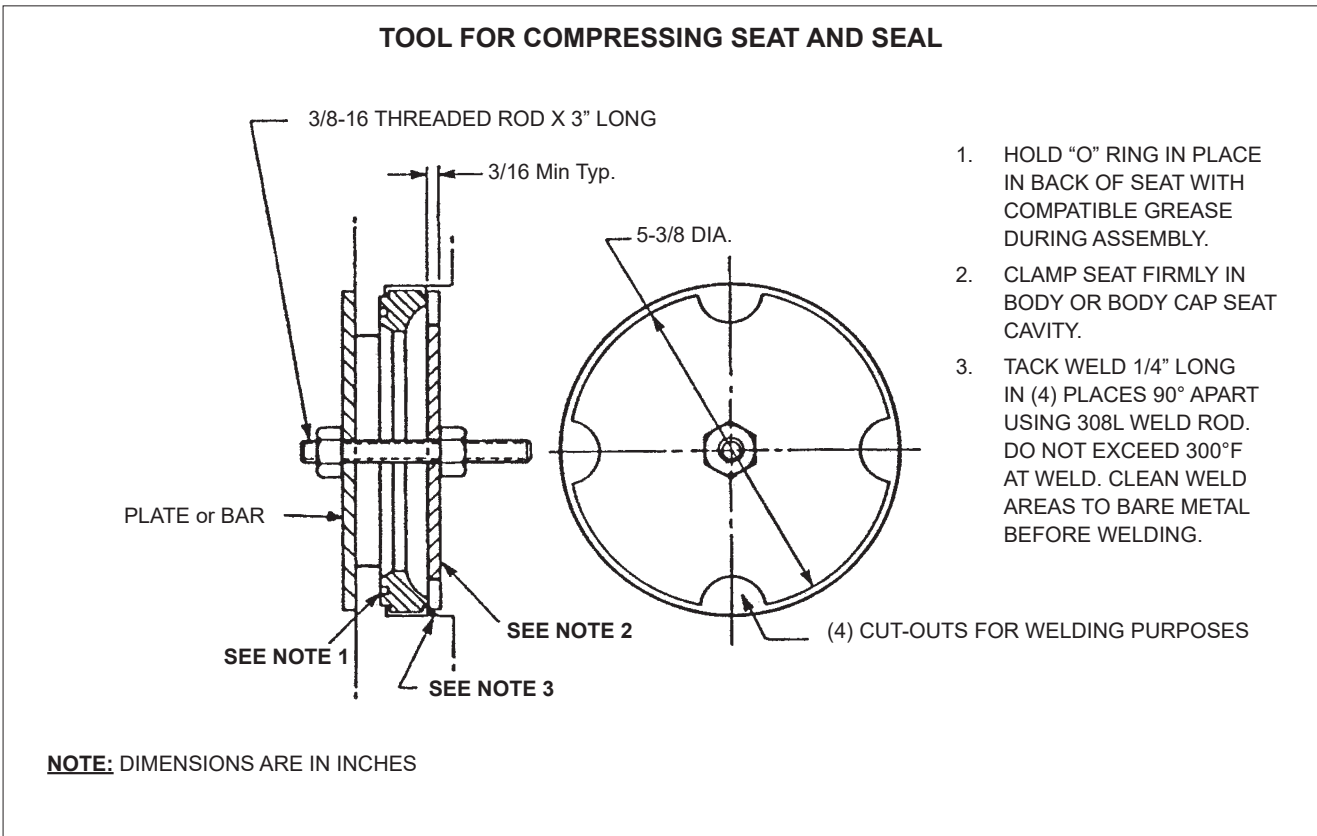


Figure 3.

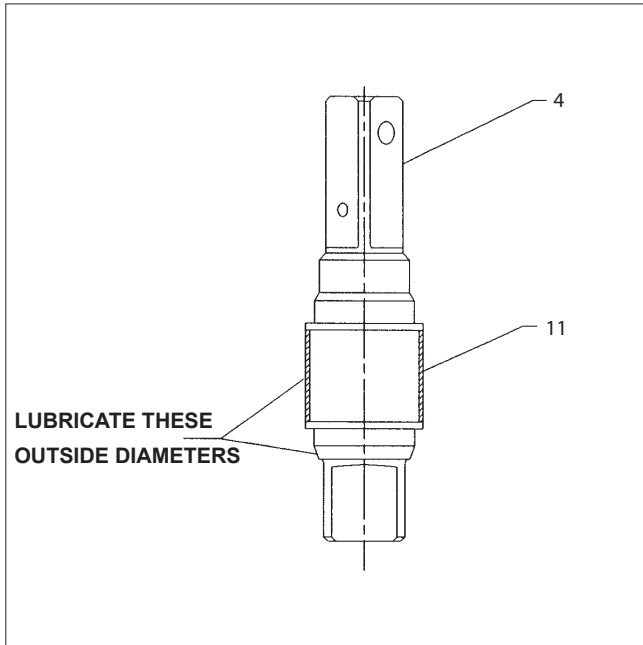


Figure 4.

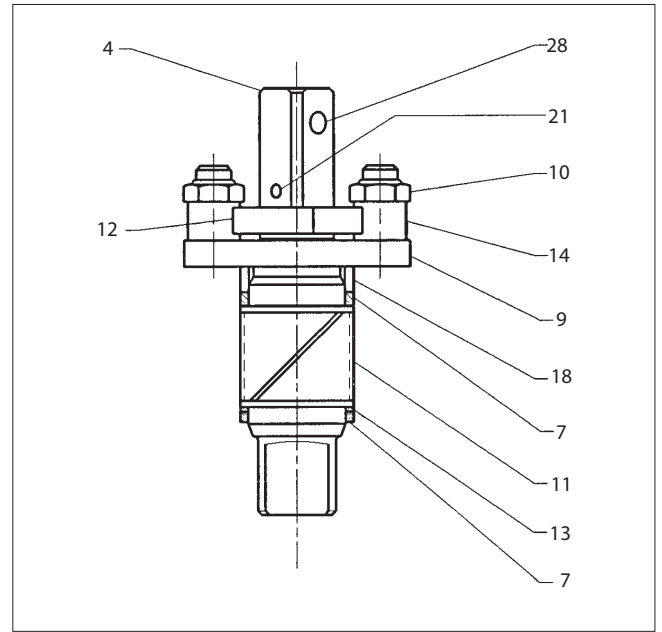


Figure 5.

Valmet Flow Control Oy

Vanha Porvoontie 229, 01380 Vantaa, Finland.

flowcontrol@valmet.com

Tel. +358 10 417 5000.

www.valmet.com/flowcontrol

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