TROY VALVE
A DIVISION OF PENN-TROY MANUFACTURING INC.

Actuated Rising Screw T-Valve Installation, Operation & Maintenance

Slip Tube Assembly

Installation

The first step in the installation of your t-valve should be the slip tube assembly. To begin with, the wiper gasket tension is preset. Install the slip tube assembly in receiving pipe in completely vertical line.

Attach the companion flange of the assembly to the receiving pipe flange with necessary hardware (not provided).

Gravity may pull the slip tube down. Block/prop up the slip tube in preparation for operator installation.

*NOTE: If the slip tube doesn't fall, the gasket tension may be too tight. Proper adjustment must be made before proceeding. Contact Troy Valve for additional "tension washers." When you receive them, remove the nuts from the compression ring, lift the ring and add one washer to each stud. Removing too many washers and then over-tightening the compression ring will over-tighten the gasket and make the valve hard to operate. Be sure that the slip tube is greased with a food grade grease before moving it up and down. Replace the compression ring and tighten nuts until bottomed out. Test to ensure slip tube falls gradually. If issues persist, do not proceed and contact us for further instructions.

Operation & Maintenance

- Ensure the slip tube assembly is adequately greased before operation is initiated. It is best to grease the tube/gasket at least quarterly.
- Be alert for symptoms of wear or of adjustments being necessary, such as hearing or feeling abnormal friction or the water level dropping below slip tube elevation.
- If you are having difficulty turning the operator/hand wheel, check to confirm proper tension of the assembly.
- If the wiper gasket must be replaced, remove the nuts from the compression ring, lift the ring and remove the split MJ gasket. You will need to order a replacement gasket using the

diameter of the receiving pipe flange. Once the replacement arrives, install and readjust per the installation instructions above.

- Addition or subtraction of tension washers may be necessary throughout the life of the valve to keep proper compression of the gasket.

Operator

Installation

1. If supplied with floor stand mounting bracket, install this component first, ensuring the bracket is level in all directions.
2. Mount the actuator to the floor stand.
    a. If the actuator IS supplied by Troy Valve and not shipped pre-assembled, remove the top mounting plate from the floor stand and attach it to the actuator. Reattach the plate and actuator assembly to the top of the floor stand.
    b. If the actuator is NOT supplied by Troy Valve, the stem nut must be inserted inside the actuator per the manufacturer's specifications. Remove the top mounting plate from the floor stand and attach it to the actuator. Reattach the plate and actuator assembly to the top of the floor stand.
3. All t-valve operator assemblies are supplied with an anti-rotation plate on the bottom of the floor stand. Before proceeding, ensure the square tubing of the plate is protruding down and out of the floor stand. This component should not protrude into the interior of the stand. If the plate is protruding into the stand, remove the two bolts securing it to the base, flip it over to correct the orientation and re-screw it to the base with the same two bolts. If the anti-rotation plate is in correct orientation, do not remove it from the base.
4. Mount the floor stand in line with the vertical receiving pipe. Fine adjustment may be needed later, so do not fully tighten mounting bolts of floor stand.
5. Connect the threaded stem with the travel tube by screwing the end of the stem with the drilled hole into the travel tube end with drilled holes until the holes are in line with each other. Then, pin them together. If supplied with a multi-start threaded stem, the stem must be started on

the marked thread otherwise the holes will not align properly.

6. The lift rod is usually preinstalled to the travel tube. If the rod is an excessive length it will not come preassembled and must be pinned to the travel tube with the supplied hardware. We recommend doing this before proceeding. If the lift rod is excessively long, it may be necessary to pin the rod to the tube after the threaded stem has been engaged in the actuator. In this case, we recommend actuating the valve towards the closed position so that the hole being pinned between the travel tube and lift rod is in close proximity to the end of the anti-rotation tube for added stability during this process.
7. If the telescoping valve is electrically actuated, follow the actuator instructions for actuator startup/operation.
8. Lightly grease the threaded stem
9. Insert the threaded stem end of the stem/travel tube assembly through the anti-rotation tube from the bottom of the floor stand and engage into actuator drive nut. Actuate the actuator while engaging the threaded stem into the drive nut. Ensure that the tube is properly aligned to fit into the square anti-rotation tube during this process. You must actuate the actuator far enough to engage the travel tube inside the anti-rotation tube.
10. Use a plumb-bob to adjust the floor stand if necessary in order to obtain axial alignment. Once alignment is achieved, tighten the mounting bolts of the floor stand fully.
11. Remove the bail riser crossbar, then remove the jam nut from the lift rod and thread the bail riser crossbar onto it. Replace the jam nut onto the lift rod.
12. At this time, the slip tube must be adjusted to an elevation above low water, but below high water. Operate the valve to adjust the height of the lift rod so the bail riser crossbar can be remounted. Tighten the jam nut on the crossbar fully.
13. Install a clear cover tube plug into the top of the actuator if not already in place.
14. Apply a Mylar strip on the exterior of the clear rack cover tube.
15. Install the clear cover tube into the clear cover tube plug on the top of the actuator by embedding it into silicone sealant.
16. Operate the valve to critical elevations and mark the Mylar strip/clear cover tube accordingly for quick reference. CAUTION: If the t-valve is electronically actuated, follow the actuator

instructions for proper setup, torque setting and limit switch setting. Troy Valve highly recommends contacting the actuator manufacturer for assistance in startup.

Operation

Telescoping valves travel vertically to regulate the water level in either the tank they are located in or in an adjacent tank. The range of travel is dictated by the tank design and specifications

- To lower the valve (open it) turn the operator counterclockwise
- To raise the valve (close it) turn the operator clockwise

No adjustments are recommended for the internal components of the floor stand operator. If the valve does not operate as expected, or starts to bind over time, refer to the slip tube adjustments section of the slip tube installation, operation and maintenance instructions.

Maintenance

- Grease the entire threaded stem monthly.
- Routinely check for debris (i.e. metal chips/shavings, dirt, etc.) on the threaded stem as this may be a sign of excessive wear.

Troubleshooting

If the t-valve is hard to operate:

- Ensure that the operator and slip tube are completely vertical and in line.
- The stem should be well greased.
- The gasket retainer should not be tightened too tight or the split gasket may bind the tube. Only tighten the gasket retainer tight enough to hold the split gasket in place.

Parts List and Predicted Life

See Troy Valve Telescoping Valve literature for a parts list. Although the life of the unit and parts are dependent on the type of usage and maintenance it receives, it is designed to last for many years of operation.

Wear Parts

The split gasket is the only predicted wear part of the valve. The life of this gasket is dependent on the amount of usage and conditions it sees. Before replacement is necessary, the gasket may be adjusted by tightening the gasket retainer.

Long Term Storage Prior to Installation

The valves and operator should be protected from excess sun exposure as the gaskets, which are normally submerged, may deteriorate if exposed to too much direct sunlight. The valves should not be stacked and the slip tube should be protected from crushing so that they do not go out of round.

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