



TSV/TDV TRIPLE DUTY VALVE TROUBLESHOOTING

1. Cannot get accurate gauge reading across TDV:

To use as a balancing device, the valve must be at least 10 pipe diameters away from the pump. Take gauge readings across the pump instead of the TDV. The TDV must be closed at least 15% to obtain accurate gauge readings.

2. Check valve assembly has failed:

TDV is probably too close to the pump, TDV should be 10 pipe diameters away from the pump discharge. At a minimum, 12" away for sizes up through 4", 24" away for sizes 5" and above.

3. Triple duty valve is making a chattering sound:

The check valve assembly is chattering, close the TDV at least 15%. Chattering should stop.

4. Valve is making a clinking sound:

The spring in the check valve assembly may be broken, or some other particulate may be inside the TDV. Disassemble TDV and clean out any particulate, replace spring if necessary.

5. Valve is making whooshing sound:

Valve is either near fully open or fully closed position. The TDV must be closed at least 15% to operate properly, they are not intended for use fully open. The valve is close to fully closed, this is not recommended, if necessary install a smaller size TDV so that it is operating at mid-range or higher. Possibly the valve is too close to the pump and you're hearing turbulence, TDV should be 10 pipe diameters away from the pump discharge. At a minimum, 12" away for sizes up through 4", 24" away for sizes 5" and above.

6. Valve is making a whistling sound:

The valve is close to being closed, probably oversized. Replace with smaller valve so that operating point is at 50% open or higher.

7. Loud clapping noise when pump turns on or off:

The valve is operating properly, but water hammer is present, use of a water hammer arrestor or variable speed pumping can solve this problem.





8. The TDV setting moves after initial setting:

Remove the handle. The handle should always be removed after setting of the TDV has been achieved. Memory stop not tightened. Refer to Memory stop setting instructions.

9. TDV will not fully close:

Something is preventing valve from closing, disassemble valve and check to see if any foreign objects are inside valve body. Check valve assembly has failed, replace check valve assembly.

10. TDV will not fully open:

Something is preventing valve from opening, disassemble valve and check to see if any foreign objects are inside valve body. Check valve assembly has failed, replace check valve assembly. Excessive corrosion and scale build-up, valve may be able to be cleaned, or completely replaced.

11. Valve will not turn at all:

Valve has not been operated throughout its range every 30 days as recommended. Scale and corrosion has frozen the components in place. Valve will need to be replaced if it cannot be broken free.

12. Check valve function not working, not holding back-pressure:

Be sure check valve is properly installed with correct direction of flow, and not with the stem pointing down or sideways, the stem **MUST** be pointing upward. To use as a balancing device, the valve must be at least 10 pipe diameters away from the pump. Take gauge readings across the pump instead of the TDV. The TDV must be closed at least 15% to obtain accurate gauge readings. The check valve has been damaged due to excessive chattering cause by turbulence, be sure TDV is far enough away from pump as previously described. Replace check valve assembly. Foreign debris may not be allowing check valve to properly seat. Disassemble TDV and remove debris. Clapper seal damaged by temperature extremes, -20F to 240F max. Replace clapper seal.

13. Check valve function not working:

The TDV is **NOT** bi-directional, it must be installed in the proper orientation and direction of flow. Horizontal or vertical installation is acceptable as long as the stem is pointing upward or sideways, never install any valve with the stem pointing down.



Horizontal



Vertical



Not Recommended



**14. TDV leaking from cover:**

Cover bolts may be loose, tighten cover bolts. Cover o-ring damaged by temperature extreme, replace cover o-ring. Check chemical treatment.

15. TDV leaking around stem:

Stem o-ring damaged by temperature extreme, replace stem o-ring. Check chemical treatment.

16. TDV leaking at Schrader fitting:

Tighten fitting. Check thread sealant and apply additional sealant. Replace Schrader fitting. Check chemical treatment.

17. Schrader fitting leaks water when attaching meter hoses:

Schrader fitting is operating properly.

18. Leaking at flanged or threaded pipe connection:

Tighten flange bolts, replace flange gasket if necessary. Tighten threaded connection, check sealant.

IMPORTANT PROCEDURES

- TDV must be minimum distance away from pump discharge, see above.
- TDV must be closed at least 15% to operate properly, will not operate properly if fully open.
- Remove handle from TDV once desired setting has been achieved, not doing so could result in unwanted movement of valve setting.

