

## Thermal Expansion Valve Clean Out Procedure

### Introduction

The Thermal Expansion Valve, in the *Unico System* coils, is an extremely reliable refrigeration metering devices. They are however, susceptible to trouble when questionable brazing and/or evacuation practices are utilized. In almost every case TX valves have been unnecessarily replaced.

### Cleaning Procedure

If a valve defect is suspected, we recommend the following steps are taken before replacement.

1. Remove system Charge. Pump charge into condensing unit if shutoff valves are part of the unit. Do not discharge refrigerant into the atmosphere.
2. Remove cap nut from bottom of valve (spring & needle/washer assembly should easily come out.). See Figure 1 for cross-section view.
3. Cut liquid line outside of coil cabinet. Use tube cutter, not a hacksaw to avoid getting metal chips into the lines.
4. Apply pressure (nitrogen) through a plastic or rubber hose to the feed tube, which runs through the center of the valve body in order to clear any oxides or debris. It is essential that enough pressure for a sufficient length of time be applied. All pressure should be relieved through the tube cut in step 3. See Figure 2.
5. Now apply pressure into the valve from the cut tube (opposite flow) in order to assure that a clean, clear passage has been established.
6. Assure cleanliness of cap, spring & needle/washer assembly.
7. Re-assemble valve.
8. Install liquid line filter-drier and a sightglass where line was cut in step 3. The sightglass should be downstream of the filter-drier. If a heat pump system, be sure to use a heat pump type filter-drier that is designed for handling refrigerant flow in both directions.
9. Leak check all connections.

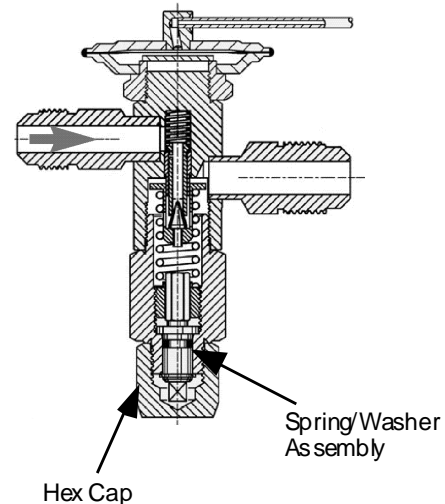
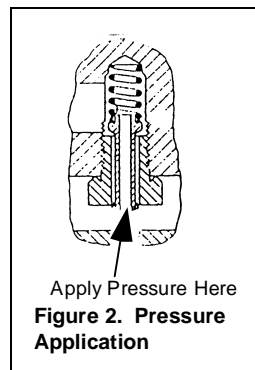


Figure 1. Typical Valve Cross-section

10. At this point, evacuation of the system is necessary.

It is highly recommended that the triple evacuation method be utilized. Since the diameter of the tube, which has just been cleared, is less than 1/32-inch (0.8 mm), it is highly susceptible to ice formation during the evacuation process. This is especially true when mild to cool temperatures exist or when a vacuum is pulled at a rapid rate and the ballast feature on the vacuum pump is not utilized.

*Note: These instructions apply to Sporlan IVE Type TX valves. If any other valve is installed, check with the Unico, Inc. Service Department.*

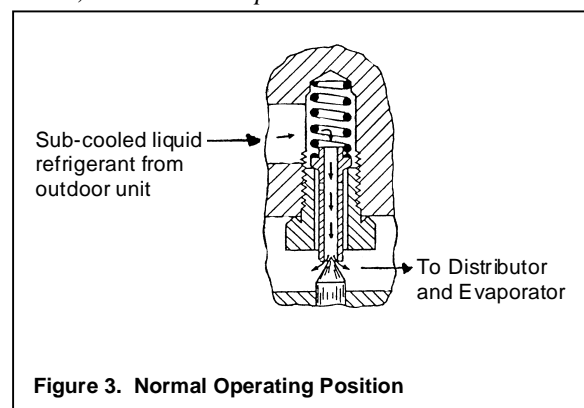


Figure 3. Normal Operating Position