Model WTTA
ASME Thermal Expansion Tank

❑ Installation ❑ Maintenance Instructions

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INSTALLATION
MAINTENANCE INSTRUCTIONS
Connect the thermal expansion tank to be cold water supply line between the backflow preventer or check valve and the water heater. This location is preferred for two reasons: a cool blader will last longer, and the air charge will not thermally expand. Piping Detail below illustrates the suggested configurations.

Checking and charging instructions
1. Close the isolation valve.

2. Slowly open the drain valve. Caution must be taken when opening the drain valve as it is under system pressure . The drain valve must remain open while checking and adjusting the tank pre-charge pressure

3. Check the air charge pressure using an accurate pressure gauge. The tank has a standard tire fitting (.302" - 32 valve). There are special pressure gauges fitted with the required air chuck available or a good quality tire air gauge may be used.

4. Adjust air charge pressure if required. The air charge pressure should be equal to the supply water pressure.

Air may be released from the tank by depressing the stem of the tire fitting until supply water pressure is equaled. There are a number of ways to get more air pressure in the tank.

Manual pump. A common bicycle air pump can be used. This is practical only when a small amount of additional air is required or if your in great shape and have several hours to kill.

Oil-free air compressor. A portable oil-free air compressor can be used. Most portable compressors can deliver 40-60 psig air, this may not be adequate.

Gas station fill-up. Almost all gas stations have air available at over 100 psig.

Bottled nitrogen. Rental tanks are inexpensive and 70 cu/ft, at 2000 psig, sizes are available. This size will fill even the largest thermal expansion tank. Nitrogen is not required and there is usually an extra cost for the required fitting.

5. Close the drain valve.

6. Open the isolation (System) valve.

Check the air charge pressure at least once a year. Tanks can lose charge from a leaking air valve, through the bladder or diaphragm membrane, or from a loose fitting.
The Thermal trap shown on the ceiling-hung tank, as shown in the Piping Detail, prevents the tank from being heated due to convection.

SUGGESTED SPECIFICATIONS
Furnish and install a thermal expansion tank for hot potable water as shown on the drawings. The tank shall be: (choose one)

The tank shall have a stainless steel NPT system connection and a .302" charging connection. The contractor shall field adjust the pre-charge pressure to equal the cold water supply pressure. The final adjusted pre-charge pressure to equal the cold water supply pressure. The final adjusted pre-charge pressure shall be reported in writing to the engineer. A pressure reducing valve shall be installed if the cold water supply pressure exceeds 80 psig.
An FDA approved heavy duty butyl bladder shall prevent the water from coming in contact with the tank shell. Diaphragm type tanks with a water side lining shall not be acceptable.

The tank shall be connected to the cold water supply line. This line is to be piped with a thermal trap and fitted with an isolation valve and drain valve to allow for periodic checking and adjusting of the pre-charge pressure.
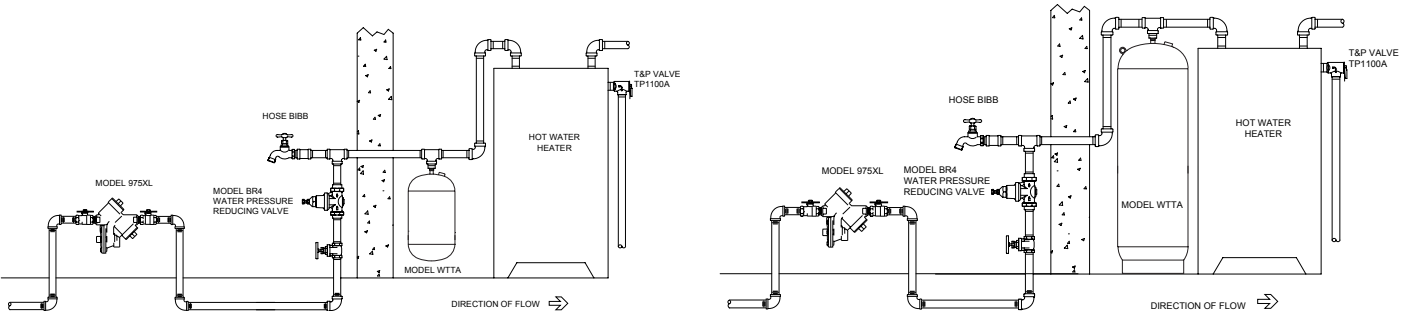
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