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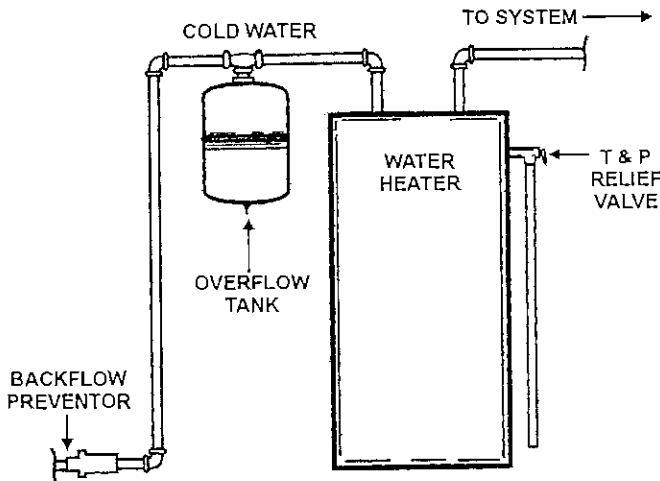
SPECIFICATIONS

EXPANSION TANKS FOR HOT WATER HEATERS

Many local codes require back flow preventers. Since this seals off the system an expansion tank is required or the relief valve will discharge on every heating cycle. The thermal expansion tanks eliminate this wasteful, costly and dangerous practice. The thermal expansion tank is certified to ANSI/NSF 61 DHot, but are suitable for temperatures up to of 200° F and pressures to 150 PSI. **DO NOT USE A STANDARD TANK.** The sizing chart will allow you to choose the correct size expansion tank for your application.

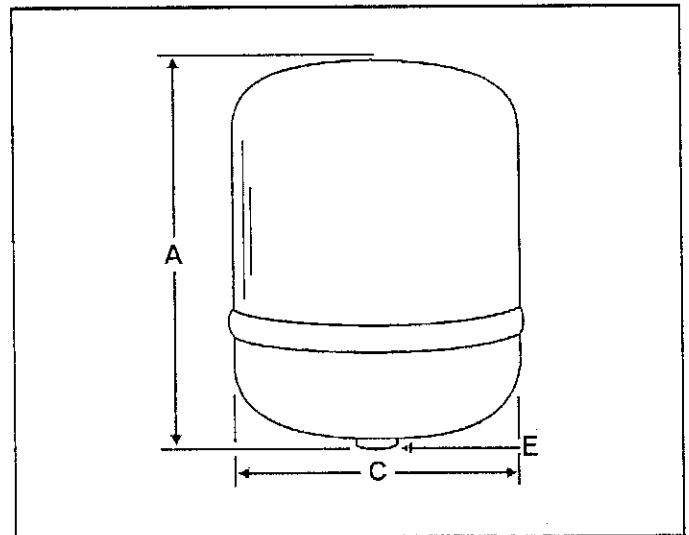
PURPOSE OF EXPANSION TANKS

When water is heated it expands. Provision must be made for this expansion in a closed hot water system. This precharged diaphragm tank stores the expanded hot water then returns water to the system when the temperature drops.



TANK SPECIFICATIONS

	2 Gallon	5 Gallon
CAPACITY IN GALLONS	2.1	4.5
PRECHARGE PRESSURE IN PSI	40	40
DIMENSIONS "A"	11.58"	14.42"
DIMENSIONS "C"	8	11
DISCHARGE CONNECTION "E"	3/4" NPT	3/4" NPT
WEIGHT	6 LBS.	10.5 LBS.



EXPANSION TANK SIZING CHART

Assumed 140° Max. Temp and 150 PSI Max. Pressure.

EXPANSION TANK NEEDED

INCOMING WATER PRESSURE	WATER HEATER CAPACITY (GALLONS)						
	30	40	50	66	80	100	120
40 psi	2 GAL	2 GAL	2 GAL	2 GAL	5 GAL	5 GAL	5 GAL
50 psi	2 GAL	2 GAL	2 GAL	2 GAL	5 GAL	5 GAL	5 GAL
60 psi	2 GAL	2 GAL	2 GAL	2 GAL	5 GAL	5 GAL	5 GAL
70 psi	2 GAL	2 GAL	2 GAL	5 GAL	5 GAL	5 GAL	5 GAL
80 psi	2 GAL	5 GAL	2 GAL	5 GAL	5 GAL	5 GAL	5 GAL

LOCATING THE NEW EXPANSION TANK

FACTS TO CONSIDER ABOUT THE LOCATION

1. The location selected should be indoors in an area not subject to freezing.
2. The items which should be installed in sequence in the cold water line are (1) the EXPANSION TANK must be installed at least 18 inches away from the cold water inlet fitting on the water heater, (2) the PRESSURE GAUGE, and (3) the PRESSURE REDUCING VALVE, if required, see Figure 1.
3. The expansion tank is designed to be supported by the system piping in the vertical position.
4. The expansion tank, pipes and your connections may, in time leak. Put the expansion tank in a place where a water leak will not damage anything. The expansion tank should be located in an area where water leakage from the tank or connections will not result in damage to the area around the expansion tank or to the lower floors of the structure.

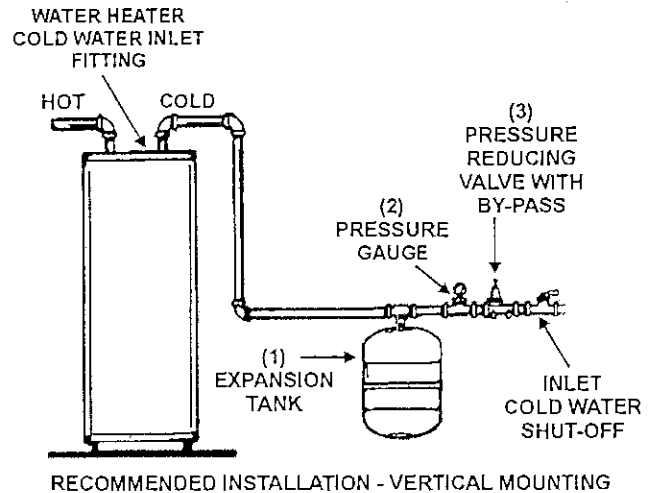


FIGURE 1.

INSTALLING THE EXPANSION TANK

WATER PIPING

This expansion tank is designed for operation on the inlet cold water line and is limited to a maximum working pressure of 150 pounds per square inch (psi) is rated to ANSI/NSF Dhot and is suitable for temperatures up to 200 Deg F.

Figure 1 above shows the correct valves and fittings that you will need to install your expansion tank. A threaded (3/4") water connection is supplied on the tank bottom.

FOLLOW THE INSTALLATION INSTRUCTIONS FOUND IN THE PACKAGING OF THE PRESSURE REDUCING VALVE AND PRESSURE GAUGE.

1. The water supply and power (electricity or gas) must be shut off during the installation of the valves and expansion tank. Follow the instructions found on the water heater and in the owner's manual.
2. Install expansion tank, pressure gauge and pressure reducing valve, if required, as shown above in Figure 1.
3. After installing the expansion tank and valves it will be necessary to expel all air from the piping. Turn the cold water inlet shut-off valve "ON". To purge the air, open a faucet and wait until a steady stream of water is coming from the faucet. At this time, close the faucet.

ADJUSTING WATER PRESSURE

1. Recommended inlet water pressure is 60 psi or less.

2. Refer to the pressure gauge. Using the adjusting screw on the pressure reducing valve, increase or decrease the pressure as indicated on the valve.
3. Open a nearby faucet allowing water to run briefly and then close the faucet. Check pressure gauge again and made additional screw adjustments as necessary. It may be necessary to repeat this procedure several times before the pressure can be adjusted to 60 psi or less.

CHECKING EXPANSION TANK AIR CHARGE

1. Shut off main cold water supply valve.
2. Open a nearby faucet allowing water to run until it stops. This indicates the pressure has been relieved.
3. Using a tire gauge, check the expansion tank's pre-charge pressure (38 psi). The expansion tank air charge must be adjusted to match the incoming water pressure. If the air charge pressure needs to be adjusted upward, use only a manual type tire pump to increase the pressure. If the air charge needs to be reduced, depress the valve core to release pressure.
4. It is important that you read your city system pressure correctly. If you read it when it is already hot and expanded you will get false readings. If you have a pressure gauge in your line, you should open

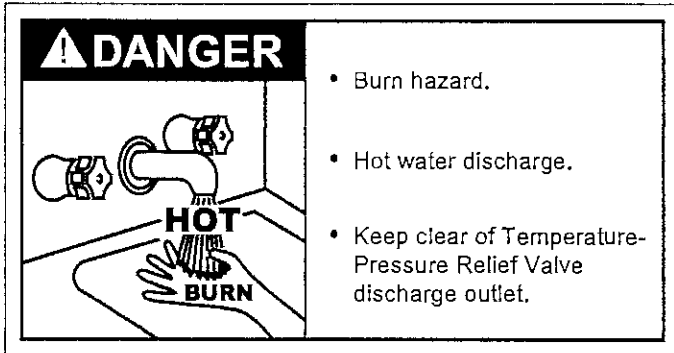
one hot water valve and let the water run for 15 minutes to reduce the line pressure, then shut the valve off and then read the pressure immediately. If you don't have a pressure gauge in your line you can either call your local water department or you can get a close approximation from your Expansion Tank. If you follow the above procedure with your tank installed and read the air pressure from your tank you will have an approximate system pressure. (In this case read the pressure with the tank full of water). If the air

pressure reads 50 PSI you need to shut-off your main water line, open a valve let the water out of the tank, and fill the tank with 50 PSI of air pressure.

5. Open the cold water supply valve.
6. Now the water heater can be put back into operation. Follow instructions found on the water heater and in the manual.

MAINTENANCE

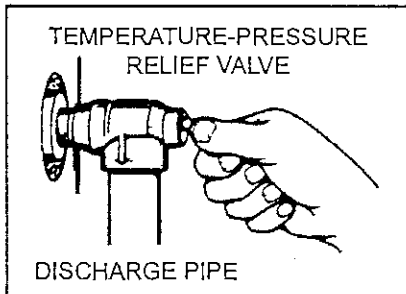
WATER HEATER TEMPERATURE-PRESSURE RELIEF VALVE



The Temperature-Pressure Relief Valve on the water heater must be manually operated at least once a year.

When checking the Temperature-Pressure Relief Valve operation, make sure that (1) no one is in front of or around the outlet of the Temperature-Pressure Relief Valve discharge line, and (2) that the water discharge will not cause any property damage, as the water may be extremely hot. Use care when operating valve as the valve may be hot.

To check the relief valve, lift the lever at the end of the valve several times, see Figure XX. The valve should seat properly and operate freely.



If after manually operating the valve, it fails to completely reset and continues to release water, immediately close the cold water inlet to the water heater and drain the water heater. Follow the draining instructions in the Instruction Manual that came with the water heater.

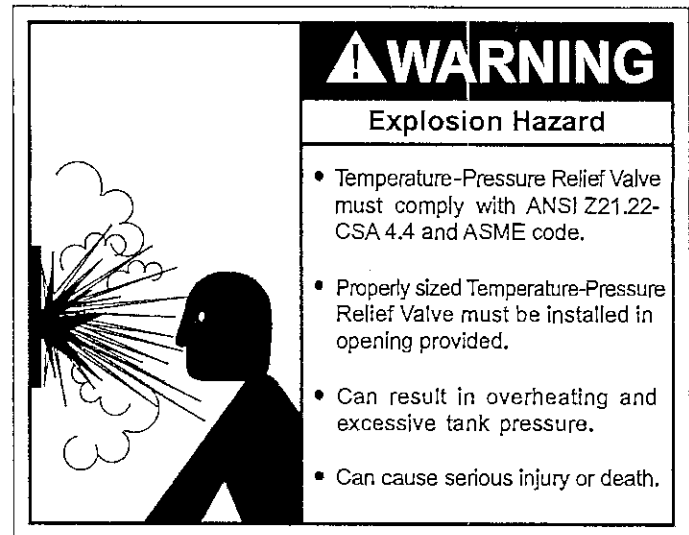
Replace the Temperature-Pressure Relief Valve with a properly rated/sized new one. See the Temperature-Pressure Relief Valve instructions in the Instruction Manual that came with the water heater for information on replacement.

WEeping TEMPERATURE-PRESSURE RELIEF VALVE

If the Temperature-Pressure Relief Valve on the water heater weeps or discharges periodically, this may be due to one or more of the following conditions:

1. The Temperature-Pressure Relief Valve may be worn or clogged with lime/calcium accumulation and need to be replaced. Refer to the Instruction Manual that came with the water heater for information on replacement.
2. The inlet water pressure may be above the recommended 60 PSI. Follow the instructions in the "Adjusting Water Pressure" section of this manual.
3. The expansion tank's air charge pressure may not be set to match the incoming water pressure. Follow the instructions in the "Checking Expansion Tank Air Charge" section of this manual.

If all the above have been checked, adjusted and/or replaced, turn the water heater "OFF" and call the local utility.



Note: Do not plug the Temperature-Pressure Relief Valve opening. This can cause property damage, serious injury or death.