

Figure 3 – Typical Storage Tank Installation

#### E. POTABLE EXPANSION TANK

A thermal expansion tank is required in the system designed for potable water use, to offset the expansion of stored water as the temperature is elevated.

## **PART 4 – CONTROL AND WIRING**

#### A. CONTROL

A pre-wired surface mount control is provided on your storage tank. Temperature may be set by removing lower cover screw and lower cover.

#### **B. WIRING**

All wiring is to be done in accordance with all applicable local and state codes. Turn off all power related to the boiler before starting any wiring procedures.



Figure 4 – Wiring the Control

## PART 5 – OPERATING THE STORAGE TANK

Boiler high limit should be set at least 20°F higher than the storage tank temperature setting. Some boilers will require a low temperature setting to maintain domestic demand.

We recommend a storage tank temperature setting of 120°F. However, a lower temperature setting may be required to comply with local and state codes for normal operation. You may prefer a setting of either higher or lower water temperature. A mixing valve in conjunction with a high temperature setting may be used for high demand applications (spas, hot tubs, whirlpools).

## CAUTION

If draining of the storage tank is necessary, open the temperature and pressure valve or a hot water tap to prevent vacuum buildup in the tank and piping.

# WARNING

A temperature limiting or mixing valve is not entirely necessary, but recommended in installations servicing disabled or elderly persons, or children. Take extreme caution to avoid scalding when temperature limiting or mixing valves are not used.

A water heating system can deliver scalding water. Be careful whenever using hot water to avoid scalding injury. Certain appliances, such as dishwashers and automatic clothes washers, may require increased water temperature. By setting the thermostat to obtain the increased water temperature required by these appliances, you may create the potential for scald injury.

To protect against injury, you should install a mixing valve in the water system. This valve will reduce point of discharge temperature by mixing cold and hot water in branch supply lines. Such valves are available from your local plumbing supplier.

| APPROXIMATE TIME / TEMPERATURE |                     |
|--------------------------------|---------------------|
|                                |                     |
| 120°F                          | More than 5 minutes |
| 125°F                          | 1 ½ to 2 minutes    |
| 130°F                          | About 30 seconds    |
| 135°F                          | About 10 seconds    |
| 140°F                          | Less than 5 seconds |
| 145°F                          | Less than 3 seconds |
| 150°F                          | About 1 1/2 seconds |
| 155°F                          | About 1 second      |
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Table 1

Table 1 details the relationship of water temperature and time with regard to scald injury and may be used as a guide in determining the safest water temperature for your applications.



Risk of scald injury increases as you increase water temperature.