

481—394.6(89) Hot water supply boilers installed before July 1, 1960—requirements.

394.6(1) Scope. This rule establishes minimum requirements for installation, operation, and inspection of hot water supply boilers installed before July 1, 1960, when any of the following limitations are exceeded:

- a. Heat input of 200,000 Btu per hour.
- b. Water temperature of 210 degrees F.
- c. A water containing capacity of 120 gallons.

394.6(2) Safety relief valves. Each hot water supply boiler must have at least one pressure and temperature relief valve bearing the National Board “HV” stamp installed on the hot water outlet line.

394.6(3) Safety valves and safety relief valves for tanks and heat exchangers.

a. When a hot water supply vessel is heated indirectly by steam in a coil or pipe, the pressure of the steam used will not exceed the safe working pressure of the tank. A safety relief valve at least 1 inch in diameter will be installed on the tank and will be set to relieve at or below the maximum allowable working pressure of the tank.

b. When water over 160 degrees F is circulated through the coils or tubes of a heat exchanger to warm the water for space heating or hot water supply, the heat exchanger will be equipped with one or more safety relief valves bearing the National Board “HV” stamp of sufficient rated capacity to prevent the heat exchanger pressure from rising more than 10 percent above the maximum allowable working pressure of the vessel. The valves will be set to relieve at or below the maximum allowable working pressure of the heat exchanger.

c. When water over 160 degrees F is circulated through the coils or tubes of a heat exchanger to generate low-pressure steam, the heat exchanger will be equipped with one or more safety valves bearing the National Board “HV” stamp of sufficient rated capacity to prevent the heat exchanger pressure from rising more than 5 psig above the maximum allowable working pressure of the vessel. The valves will be set to relieve at a pressure not to exceed 15 psig.

394.6(4) Gages. Temperature and pressure gages will be installed in accordance with 94.5(2).

394.6(5) Temperature controls. Temperature controls will be installed in accordance with 94.5(3).

394.6(6) Stop valves.

a. Stop valves will be placed in the supply and return pipe connections of a single hot water supply boiler installation to permit draining the boiler without emptying the system.

b. Where two or more boilers are connected in a common system, a stop valve will be used in each boiler’s supply and return pipe connection.

394.6(7) Thermal expansion. If a system is equipped with a check valve or pressure-reducing valve in the cold water inlet line, an airtight expansion tank or other suitable air cushion will be installed. When an expansion tank is provided, it will be constructed in accordance with the ASME Code, Section VIII, Division 1, in effect when installed, for a maximum allowable working pressure equal to or greater than the water heater. Except for prepressurized tanks, provisions will be made for draining the tank without emptying the system.

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