

CHAPTER 95
WATER HEATERS

[Prior to 9/24/86, Labor, Bureau of [530]]
[Prior to 1/14/98, see Labor Services[347] Ch 47]
[Prior to 8/16/06, see 875—Ch 208]

875—95.1(89) Scope. This chapter applies to water heaters supplying potable hot water when the heat input is greater than 50,000 Btu's per hour or the water-containing capacity is greater than 50 gallons. However, if the heat input is equal to or greater than 200,000 Btu's per hour or the water-containing capacity is equal to or greater than 120 gallons, 875—Chapter 94 shall apply instead of this chapter.

875—95.2(89) Recognized standard. All water heaters shall be in accordance with a recognized standard such as those promulgated by the Canadian Standards Association, American National Standards Institute Z21.10.1 and Z21.10.3, Underwriters Laboratories, American Gas Association, Gas Appliance Manufacturers Association, or the applicable ASME Code adopted by reference at rule 875—94.2(89).

875—95.3(89) Installation. Water heaters shall be installed in accordance with the manufacturer's recommendations. Water heaters designed solely for heating potable water shall not be used for space heating. Water heaters designed for both space heating and potable water must comply with 875—Chapter 94. Water heaters shall not be installed for use at temperatures exceeding 210 degrees Fahrenheit or for pressures exceeding 160 psig. When the water supply to a water heater exceeds 75 percent of the design pressure of the water heater, a pressure-reducing valve is required.

875—95.4(89) Temperature and pressure relief valves. Each water heater with storage capacity shall have at least one automatically resetting temperature and pressure relief valve bearing the ASME Code symbol "HV." Water heaters with no storage capacity shall have at least one automatically resetting pressure relief device bearing the AMSE Code symbol "HV," and a temperature control device recommended by the manufacturer.

95.4(1) Materials. All materials used in temperature and pressure relief valves shall be rated for temperatures and pressures at or greater than the maximum allowable working pressure of the water heater.

95.4(2) Size. The outer diameter of temperature and pressure relief valves shall not be smaller than $\frac{3}{4}$ inch. The inner diameter shall not be less than $\frac{1}{2}$ inch. The inlet opening shall have an inside diameter approximately equal to, or greater than, the seat diameter.

95.4(3) Capacity. The Btu-relieving capacity of the pressure-relieving device or devices on a water heater shall be equal to or greater than the maximum Btu input rate. The relieving capacity for electric water heaters shall be at least 3,500 Btu's per hour per kilowatt input. The pressure setting shall be less than or equal to the maximum allowable working pressure of the water heater.

95.4(4) Mounting. Temperature and pressure relief valves shall be connected to the top of water heaters or directly to a tapped or flanged opening in the water heater. Temperature and pressure relief valves shall be installed with their spindles vertical or horizontal.

875—95.5(89) Shutoff valves prohibited. Shutoff valves shall not be placed between the temperature and pressure relief valve and the water heater or on discharge pipes between such valves and the atmosphere.

875—95.6(89) Thermal expansion. If a system is equipped with a check valve or pressure-reducing valve in the cold-water inlet line, consideration should be given to installation of an airtight expansion tank or other suitable air cushion. If an expansion tank is provided, it shall be in accordance with a nationally recognized standard and rated for a maximum allowable working pressure equal to or greater than that of the temperature and pressure relief valve. Except for prepressurized tanks, provisions shall be made for draining the tank without emptying the system.

875—95.7(89) Stop valves. Stop valves shall be used in each supply and return pipe connection of multiple water heater installations to permit draining the heater without emptying the system.

875—95.8(89) Carbonization. Carbonization and other indications of improper flame shall be corrected through adjusting and cleaning the burners in accordance with the manufacturer's recommendations.

875—95.9(89) Leaks. Water or fuel leaks from pipes, valves, and fittings are prohibited.

875—95.10(89) Flues. Exhaust flues that effectively release exhaust to the outside shall be installed. Gaps, holes and deterioration in flues are prohibited.

875—95.11(89) Tanks. Tanks integral to a water heater that exhibit bulges or leaks shall be handled as follows:

95.11(1) If the tank does not bear an ASME stamp, it shall be removed.

95.11(2) If the tank bears an ASME stamp, it shall be removed or repaired pursuant to rule 875—91.8(89).

875—95.12(89) Galvanized pipes, valves, and fittings. On water heaters without an ASME stamp, galvanized pipes, valves, and fittings may be used on water applications, provided that a dielectric union is also installed in direct contact with dissimilar metals.

These rules are intended to implement Iowa Code chapter 89.

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