

Sec. 29-232-91. Safety relief valve requirements for hot water boilers

(a) Each hot water heating boiler shall have at least one ASME/National Board certified safety relief valve set to relieve at or below the maximum allowable working pressure of the boiler. Each hot water supply boiler shall have at least one ASME/National Board certified safety relief valve of the automatic reseating type set to relieve at or below maximum allowable working pressure of the boiler. Safety relief valves ASME/National Board certified as to capacity shall have pop action when tested by steam. When more than one safety relief valve is used on either hot water heating or hot water supply boilers, the additional valve or valves shall be ASME rated and may be set within a range not to exceed 6 psig above the maximum allowable working pressure of the boiler up to and including 60 psig and 10 percent for those having a maximum allowable working pressure exceeding 60 psi. Safety relief valves shall be spring loaded. Safety relief valves shall be so arranged that they cannot be reset at a higher pressure than the maximum permitted by this paragraph.

(b) No materials liable to fail due to deterioration or vulcanization when subject to saturated steam temperature corresponding to capacity test pressure shall be used for any part.

(c) No safety relief valve shall be smaller than 3/4 in. nor larger than 4-1/2 in. standard pipe size, except that boilers having a heat input not greater than 15,000 BTU per hour may be equipped with a safety relief valve of 1/2 in. standard pipe size. The inlet opening shall have an inside diameter approximately equal to, or greater than, the seat diameter. In no case shall the minimum opening through any part of the valve be less than 1/2 in. in diameter or its equivalent area.

(d) The required steam relieving capacity, in pounds per hour, of the pressure relieving device or devices on a boiler shall be the greater of that determined by dividing the maximum output in BTU at the boiler nozzle obtained by the firing of any fuel for which the unit is installed by 1,000 or shall be determined on the basis of pounds of steam generated per hour per square foot of boiler heating surfaces as given in Table 2. In many cases a greater relieving capacity of valves will have to be provided than the minimum specified by these rules. In every case, the requirements of (f) shall be met.

(e) When operating conditions are changed, or additional boiler heating surface is installed, the valve capacity shall be increased, if necessary, to meet the new conditions and shall be in accordance with (f). The additional valves required, on account of changed conditions, may be installed on the outlet piping provided there is no intervening valve.

(f) Safety relief valve capacity for each boiler shall be such that, with the fuel burning equipment installed and operated at maximum capacity, the pressure cannot rise more than 6 psi above the maximum allowable working pressure for pressure up to and including 60 psi and 10 percent of maximum allowable working pressures over 60 psi.

(g) If there is any doubt as to the capacity of the safety relief valve, an accumulation test shall be run. (See ASME Code, Section VI, Recommended Rules for Care and Operation of Heating Boilers.)

(h) No valve of any description shall be placed between the safety relief valve and the boiler, nor on the discharge pipe between the safety relief valve and the atmosphere. The discharge pipe shall be at least full size and fitted with an open drain to prevent water lodging in the upper part of the safety relief valve or in the discharge pipe. When an elbow

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is placed on the safety relief valve discharge pipe, it shall be located close to the safety relief valve outlet or the discharge pipe shall be securely anchored and supported. All safety relief valve discharges shall be so located or piped as not to endanger persons working in the area.

(Effective August 25, 1987)