

13 NCAC 13 .0408 GAUGE GLASSES AND WATER COLUMNS

(a) Steam boilers, except for forced flow steam boilers and forced flow water boilers requiring forced circulation to prevent overheating of the tubes, shall be provided with a visible gauge glass which will allow the operator to observe the water level of the boiler. Boilers with a maximum allowable working pressure in excess of 400 psig shall have two gauge glasses. Two independent remote level indicators may be used, in accordance with the ASME Code, in lieu of one of the gauges. Gauge glasses and remote level indicators must be visible to the operator while reading the pressure at the boiler.

(b) Gauge glasses shall be mounted directly on the boiler or on a water column. Gauge glasses shall be mounted so that the lowest visible part of the gauge glass is above the lowest permissible water level by at least 2 inches for high pressure boilers and 1 inch for steam heating boilers. Gauge glasses may be installed with stop cocks or valves to allow for gauge glass replacement during boiler operation. The connections from the boiler shall be not less than 3/4 inch NPS up to and including the isolation valves, and not less than 1/2 inch outside diameter tubing from the isolation valve to the gauge glass.

(c) Gauge glasses shall be provided with a drain valve or cock and discharge outlet at the bottom-most connection of not less than 1/4 inch diameter. The discharge outlet shall be piped to a safe location to prevent injury to the operator while blowing down the gauge glass.

(d) Water columns, chambers which moderate fluctuations in water elevations for determining the operating water level in a boiler, when used, shall be designed, constructed, and stamped as required by the ASME Code. The piping connections to the boiler shall be not less than 1 inch NPS for high pressure boilers or 3/4 inch NPS for heating boilers. If the water column is connected to the boiler by pipe fittings, no shut off valves of any type shall be placed in such pipe. A cross or equivalent fitting shall be placed at every right angle turn to facilitate cleaning. Water columns shall have a drain valve and discharge outlet of not less than 3/4 inch NPS.

*History Note: Authority G.S. 95-69.11; 95-69.14;
 Eff. January 1, 1995;
 Amended Eff. July 1, 2011; July 1, 2006;
 Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff. July 22,
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