

Scope of Work for Installing Instantaneous Water Heater at Hollings Cancer Center

Instantaneous water heater shall be constructed in accordance with ASME Code for a working pressure of 150 psig. The packaged water heater shall be constructed with a vertical 316 stainless steel tank, with stainless threaded opening, ½" O.D. Copper tubes, copper lined tube sheet, and steel coil head.

Heater shall be mounted on a steel support skid. Heater shall be insulated with foam in place insulation protected by an enameled metal jacket, 20-gauge minimum thickness.

Heater shall be factory assembled and piped including incoming steam strainer, electronic operated temperature regulator, main and auxiliary float and thermostatic steam traps. Coil shall be baffled and shall have an integral bronze circulator to circulate the water across the coil.

Heater shall be supplied with solid-state control module with LCD touch screen display and LED pilot lights to indicate on-off, primary high limit, and secondary high limit. Solid-state control module shall be provided with a field programmable digital electronic PID controller allowing the owner to set operating and temperature limits on the display screen. Solid-state control module shall have red alarm light and alarm horn with built in alarm silence relay. Solid-state control module shall be supplied with dry contact closure outputs to indicate to building automation system (BAS) the occurrence of power on, primary high temperature, and secondary high temperature. The control module shall allow the Building Automation System (BAS) to turn the heater on or off through a remote contact closure. The control module shall allow the BAS to remotely set the temperature of the heater using a 4-20 mA input signal. The control module shall allow the BAS to remotely monitor the operating temperature via a 4-20 mA signal. Control module shall communicate with the BAS. Control module shall be supplied with an on-off switch and shall be mounted in a panel. All solenoids and limits shall be 24 VAC.

Heater shall be furnished with a water pressure gauge and an A.S.M.E. pressure-temperature relief valve of sufficient size to relieve total BTU input of the coil.

Furnish water heater with additional safety system designed to relieve excessively heated water from the vessel. The safety system shall be field programmable for set point and differential and shall be of the electronic type.

Heater shall be provided with a vacuum breaker.

Manufacturer shall assume responsibility for correct sizing of components to assure performance designated in design criteria.

Heater shall be mounted vertical.

Coil to heat 25 GPM from 40 °F to 140 °F with 15 psig steam to the control valve.

1274.56 #/hr of source steam, 13 psi pressure drop across the control valve.

Heater shall be installed in parallel with current instantaneous water heater. Water heater being installed is replacing defunct model.