

SPECIFICATION: INSTANTANEOUS DOUBLE WALL STEAM DOMESTIC WATER HEATER

COBREX™ Water Heater

PVI Cobrex water heater(s) manufactured by PVI INDUSTRIES shall provide _____°F water @ _____ gpm when supplied with _____ psi saturated steam. The water heating system shall include the following:

1. Steam Control:

Water heater shall operate within a range of 2 psi to 15 psi steam pressure to the heat exchanger and shall not require the use of a steam control valve or other steam side controls when supply steam pressure is at or below 15 psi.

2. Heat Exchanger:

The double-wall heat exchanger shall be constructed from copper. The heat exchanger shall be vertical in design for optimum space utilization. The steam shall pass through corrugated copper tubes and water through the copper shell in a counterflow direction, promoting turbulent flow to maximize heat transfer efficiency and reduce sediment build-up/scale formation on the heat transfer surfaces. No pull space clearance shall be necessary for heat exchanger cleaning. The heat exchanger shall be of double wall construction rated for 250-psig/406°F design on shell and tube sides. The heat exchanger shall be certified to ASME section VIII and code stamp certified. A Float and Thermostatic trap, sized for 1.5X steam flow shall be used to collect and discharge condensate as required.

All surfaces above 140°F shall be field insulated by others.

3. Temperature Control:

A non-adjustable self-contained temperature control system shall be utilized to provide the specified outlet water temperature within +- 4° accuracy to the specified maximum gpm and during recirculation-only periods. No temperature drop during recirculation periods is permitted. Domestic side pressure drop shall not exceed 9 psi. Electro-mechanical over temperature shutdown protection shall be provided to stop hot water flow from exiting the water heater if over temperature flow is sensed. Cold-water flow shall be permitted through the system in shutdown conditions. Domestic water outlet temperature gauge shall be provided.

4. Piping:

Heat exchanger shall connect to piping with Victaulic type fittings.

Water piping shall be constructed from non-ferrous materials. A 150-psi pressure relief valve shall be located on the heat exchanger outlet piping. Heat exchanger water-side access ports shall be provided for on-skid inspection and clean-in-place capability.

5. Finishing:

The water heater will be factory packaged requiring site hookup to utilities only. Water heater skid width dimensions shall not exceed 35-½". Start up instructions shall be provided with the unit.

6. Warranty Summary:

Cobrex heat exchanger shall carry an unconditional, non-prorated, 3-year warranty against failure due to thermal shock, mechanical failure, corrosion or erosion. All other water heater system components shall have a one-year warranty.