

SPECIFICATION: INSTANTANEOUS DOUBLE WALL WATER-TO-WATER HEATER

EZ Plate™ Double Wall Water Heater

PVI EZ Plate Double Wall water heater(s) manufactured by PVI INDUSTRIES shall provide _____°F water @ _____ gpm when supplied with _____°F boiler water @ _____ gpm. The water heating system shall include the following:

1. Water Control:

Water heater shall operate within a range of 125 to 180°F boiler water at a minimum 5°F above domestic temperature, to the heat exchanger and shall not require the use of a boiler water control valve or other boiler water side controls when supply water temperature is at or below 180°F.

As an option, a 2-way magnetically actuated boiler water shut-off valve can be provided to limit the flow of water through the heat exchanger in low demand periods. The valve shall have a tight shut-off with no more that 0.02%Cv leakage rate. The valve shall fail closed on loss of power.

2. Heat Exchanger:

The double-wall heat exchanger shall be constructed from 316 Stainless Steel. The heat exchanger shall be Plate and Frame design for optimum heat transfer. The boiler water and potable water shall pass through corrugated plates 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 150-psig/302°F design. The heat exchanger shall be certified to ASME section VIII and code stamp certified. The heat exchanger shall be atmospherically vented with a leak detection path on all plates. The gaskets shall be EPDM peroxide cured material for chlorine/chloramine resistance.

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 7 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:

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 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 30". Start up instructions shall be provided with the unit.

6. Optional:

The Water Heater either ____ shall or ____ shall not include a digital temperature indicator capable of remote communications with Modbus RTU via an optional RS-485 cable. Protocol gateway available for ____ Modbus TCP/IP, ____ BacNet IP, ____ BacNet MSTP, or ____ LonWorks

7. Warranty Summary:

EZ Plate heat exchanger shall carry an unconditional, non-prorated, 18-month warranty against failure due to thermal shock, mechanical failure, corrosion or erosion. All other water heater system components shall have a one-year warranty.