

TH-500VX "Vacuflo" Steam Fired Converter Water Heater Specification

General: Furnish horizontal type steam fired building heat converters as complete factory packages ready for installation with the following:

Heat exchanger shall be ASME Code constructed and stamped in accordance with Section VIII Division I, for unfired pressure vessels rated for 150 psig @ 375°F tube side and full vacuum to 150 psig @ 400°F shell side. Shell construction shall be carbon steel with rear steam entry to completely avoid tube impingement upon entry, seamless copper or stainless steel tubes, steel tube sheet, and cast iron or fabricated steel head.

Heat exchanger shall be pre-insulated with 2" of Airglass insulation with a removable vinyl jacket covering.

Furnish with a complete inlet steam control valve assembly to control both steam pressure to a vacuum in the shell and outlet water temperature simultaneously. The assembly shall include an inlet isolation valve, strainer, bypass with globe valve, and steam separator with steam drip trap.

The steam control valve shall have segmented V trim construction with a soft steam seat for dead tight Class VI shutoff. Valve shall be electric operated with 100:1 flow control turndown and noise level to 82 DBA maximum.

Furnish with a steam-operated vacuum rated 150 psig ASME condensate return pump, closed loop configuration with no vent to atmosphere, reservoir chamber, inlet and outlet check valves, inlet and outlet isolation valves, exhaust piping with air vent, and complete motive steam piping with steam accumulator & drip trap. All condensate piping shall be schedule 80 & welded at all points possible and shall be vacuum rated. To allow heater operation in the event of condensate pump failure the condensate reservoir shall be piped to Thermaflo JSA Condensate cooler sized to cool the total volume of condensate produced at rated capacity of the heater from 212F to 140F. Condensate pump outlet will be fitted with a JCM Condensate mixer to blend high temperature condensate from drip trap with the lower temperature condensate from the steam operated pump to prevent water hammer in condensate discharge line.

Furnish with an EC800 Control Panel with UL Listed Digital microprocessor temperature pressure controller with electric controls and high temperature safety shutdown. Controller shall have a dual function that shall control outlet temperature from the tube side and pressure to 1 psig on the shell side. Condensate discharge shall not flash under any flow condition. Controller shall have a high temperature alarm and shutdown, white power on lights, red alarm lights, and shall be mounted and factory wired to the unit. The controller shall accept a 4-20 ma input signal from a building automation system to set outlet water temperature as required, and shall have remote enable/disable function. Controller also can take up to three run permissive inputs and will have R485, or Modbus communications capability.

Unit shall be Thermaflo Engineering Company model TH500VX or equal.

2/10/15

Thermaflo Engineering Inc. was formed in 1986 to provide our customers with packaged steam system solutions.

Over 25 years of hands on field experience enables us to meet the customers needs with standard and custom equipment that is simple, yet reliable, yielding many years of fit and forget service. Our standard design Water Heaters, Clean Steam Generators, Deaerators, and Feed Water Systems can be shipped quickly, while incorporating exclusive unique features that make Thermaflo Engineering systems "SECOND TO NONE IN FIELD RELIABILITY."



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