

## TCHS-V Series Vertical Clean Steam Generator Specification

General: Furnish factory packaged vertical steam-to-steam vertical cross flow generator, tested on steam service ready for installation and startup.

Unit shall produce \_\_\_\_\_ lbs/hr of \_\_\_\_\_ psig clean steam .95% dry certified to EN 285 when supplied with \_\_\_\_\_ lbs/hr of \_\_\_\_\_ psig saturated plant steam.

The steam-to-steam generator shall be ASME code constructed and stamped with the "UB" stamp, Section VIII for unfired vessels.

The shell shall be constructed of 316L stainless steel with 100% X-Ray of all seam welds per ASME Code and factory insulated with 2" of high-density fiberglass removable insulation jacket.

The internal heating coil shall be .049- wall seamless 316L stainless steel construction, and shall produce clean steam instantaneously without lag.

The tube sheet shall be a 2 pass configuration and constructed of 316L stainless steel.

The plant steam supply head shall be ASME CODE Stamped full flow channel fabricated steel.

Clean Steam outlet fitted with an internal impingement steam separator

Clean Steam Generator shall be furnished pre-piped, wired and tested with the following:

- Automatic TDS blowdown control system complete with 316L internal quill, NEMA 4 control panel and automatic surface and bottom blowdown valve 316L stainless steel w/ jet after cooler, self-acting cooling valve and thermometer to cool blowdown.
- Double tandem 316L stainless steel manual bottom blowdown valves
- ASME Section I safety relief valve with stainless steel wetted construction set for full rated capacity of plant steam at 3% overpressure.
- 316 Stainless steel vacuum breaker
- Electronic Modulating Fail operated pressure V Ball stainless steel control valve with strainer and main drip steam trap. Control valve shall be modulating ball type for dead tight Class 6 shutoff service.
- High Capacity Main Coil Float and Thermostatic steam trap complete with strainer and isolation valve.
- Visual Sight Glass. 316 Stainless Construction, furnished with isolation valves with inner checks mounted on stilling well Visual Sight Glass. 316 Stainless Construction fitted complete with isolation valves and internal checks mounted on stilling well
- NEMA 4 UL Listed Main Control Panel with Full PID Control of Clean Steam Pressure and Level with LED Readout and Alarms
- Makeup water level control system with modulating V Ball 316 stainless steel feed water control valve, high and low level alarms (bell), independent high high shutdown of all feed water, plant steam shutoff system and Building Alarm and Automation Interface. Level controls shall be 316 stainless steel stilling well fail safe type with digital differential pressure transmitter.
- Unit shall be hydro tested and steam quality tested prior to shipment with test papers furnished
- U-1 ASME Code Data Sheets furnished on shipment, factory startup provided.

**Clean Steam Generator shall be model: THCS-V Vertical "Clean Pak" as manufactured by Thermaflo Engineering, Inc.**