

PART 1 – GENERAL

1.1 REFERENCE

- A. Work under this Section is subject to requirements of Contract Documents including General Conditions of Contract, Supplementary Conditions, and sections under Division 01 General Requirements.

1.2 QUALITY ASSURANCE

- A. Water heating equipment shall conform to State and Local Codes, meet national standards, and be certified by respective organization and bear its stamp.

1.3 SUBMITTALS

- A. Shop drawings on items specified herein.

PART 2 – PRODUCTS

2.1 Materials specified herein shall be new unless otherwise noted.

2.2 Electric Tankless Water Heater

- A. Manufacturers: Hubbell, - (add other alternates based on size)
- B. Water heater shall be all copper construction with low
- C. Provide a quantity of packaged type instantaneous electric tankless water heater(s) Model No. **TX** as manufactured by HUBBELL Electric Heater Co., Stratford, CT. The entire unit is packaged ready for plumbing and electrical service connections and shall bear the cULus listing mark certifying the entire unit to UL499, UL EPH Sanitation listed to ANSI/NSF Standard 5 and CSA C22.2 No. 64-M91 (single phase units) and CSA C22.2 No. 88 (three phase units).
- D. The heating chamber shall be all Sil-brazed copper and bronze construction. (**Optional Specification:** Type 316L Stainless Steel). A plastic heating chamber shall not be acceptable. Water heater heating chamber shall be rated for a maximum allowable working pressure of 150psi. The heating chamber and all electrical controls shall be completely enclosed in a heavy gauge Type 304 stainless steel case.

- E. The tankless heater shall be designed to operate at volts, phase, 50/60Hz balanced power and shall draw equal amperage across all phases at all times. For 3 phase heaters, power shall be a 3 wire (3 live, 1 ground) or a 4 wire (3 live, 1 neutral, 1 ground) system that does not require a neutral leg. The heater will draw amps only when operating at full power. The immersion heating elements shall be high quality Incoloy sheathed and sized to obtain the rated capacity. Each element is to be operated using zero cross over solid state controls. The heating elements shall be fully modulated from 0-100% to provide precise temperature control through the full range of flows. A Hi-Limit thermostat with automatic reset shall be factory installed to disconnect each heating element in the event of an over-temperature condition. An electronic digital display temperature controller shall be user adjustable in 1° increments in either ° F or ° C and shall display flow rate, outlet temperature, inlet temperature and provide error indication. A turbine-type flow meter shall be factory installed to provide precise temperature control for water flows as low as 0.2 GPM up to a maximum flow of 8 GPM. Heaters that require greater than 0.2 GPM flow for actuation or restrict flow shall not be acceptable. (**Optional Specification:** High Flow Model HX, provides up to 40 GPM flow with minimum actuation at 0.5 GPM).
- F. The tankless heater shall be rated at KW which will heat GPM of water at ° F rise (° to ° F). Heaters that restrict hot water flow in any way shall not be acceptable.
- G. Refer to Water Heater Schedule for water heater capacity required.

3.1 INSTALLATION

- A. Install water heaters as recommended by manufacturer. Provide final connections as required. Coordinate water heater location with other Contractors.
- B. Warranty on all electrical components against defects in workmanship and material for a period of one (1) year from date of start-up, and the heating chamber for a full five (5) years from date of start-up, provided that the unit is started within three (3) months of date of shipment.

All fabrication and assembly shall be performed in the U.S.A.
- C. Initial start-up shall be provided by representative of manufacturer.

END OF SECTION