

## SECTION 22 3300 - DOMESTIC WATER HEATERS

### PART 1 – GENERAL

#### 1.1 CONDITIONS

- A. The applicable provisions of Section 22 0000, PLUMBING GENERAL REQUIREMENTS, are hereby made a part of this section and the Contractor is cautioned to read Section 22 0000 carefully as items of work applicable to the section are included in Section 22 0000.

#### 1.2 DESCRIPTION OF WORK

- A. The work to be performed under this section of the specifications comprises the furnishing of all labor and materials and the completion of all work of this section as shown on the drawings and/or herein specified.
- B. In general, the work included under this section consists of, but is not limited to, the following:
  - 1. Domestic Water Heaters

#### 1.3 RELATED WORK

- A. Section 22 0000, PLUMBING GENERAL REQUIREMENTS.
- B. Circulating Pump: Section 22 1123, PLUMBING PUMPS.

#### 1.4 SUBMITTALS

- A. In accordance with Section 22 0000, PLUMBING GENERAL REQUIREMENTS, furnish the following:
  - 1. Manufacturer's Literature and Data:
    - a. Steam-Fired Water Heater

### PART 2 – PRODUCTS

#### 2.1 ACCEPTABLE MANUFACTURERS

- A. Subject to compliance with requirements.
  - 1. Hubbell Water Heaters

## 2.2 STEAM WATER HEATER

- A. Water heater shall be a Hubbell ST Model indirect-fired steam water heater.
- B. The storage section shall be constructed in accordance with ASME code for a working pressure of 150 psig. The shell shall be carbon steel with stainless steel fittings. The interior lining shall be a minimum of 5/8" thick cement. Water heater shall be designed to recover ## GPH of water from 40 to 140 degrees when supplied with ## psi steam to control valve.
- C. The heat exchanger shall be fabricated with single wall copper tubes, non-ferrous sheath, baffles. The bottom of the storage section shall be supported on the floor by welded steel skids. The tank shall have a 12" x 16" manway, steel lifting lugs and ASME rated temperature and pressure relief valve. The steam control valve provided with the water heater shall be modulating electric operated and designed to be fail safe.
- D. The tank shall be insulated to meet or exceed ASHRAE 90.1 requirements.
- E. A non-ferrous integral inter tank circulating pump shall be provided with copper piping and isolation valves. Unit shall have a high limit single solenoid safety valve. The storage section trim shall include a dial thermometer and pressure gage. A water heater drain shall be provided. System shall include main strainer, F & T trap, drip trap and condensate strainer and associated piping. Provide fully-ported valves for tank connections.
- F. Water will be stored at 140 Deg. F.
- G. Initial startup shall be by a factory-trained technician. A letter of compliance with all factory recommendations and installation instructions shall be submitted to the Engineer with operation and maintenance instructions.

## PART 3 – EXECUTION

### 3.1 WATER HEATERS

- A. Water heater shall have an ANSI Z21.22 temperature and pressure relief valve with test lever. Valves shall have an ASME temperature rated capacity of not less than the installed heating capacity.
- B. Standby heat loss for water heaters shall conform to requirements of Section 4.3.1 of ANSI C72.1 and ASHRAE Standard 90-75.
- C. All water heater shall have warranty equal to those specified for usage or application.
- D. Contractor shall provide the services of a factory authorized and trained representative to supervise all phases of equipment startup. A letter of compliance with all factory recommendations and installation instructions shall be submitted to the Engineer with operation and maintenance instructions.

END OF SECTION 22 330