

SECTION 22 34 36 WATER HEATER, GAS FIRED BOILER WITH STORAGE TANK

PART 1 - GENERAL

1.01 RELATED WORK

- A. Section 22 05 23: Valves for Plumbing Piping
- B. Section 22 07 00: Plumbing Insulation
- C. Section 22 11 16: Domestic Water Piping

1.02 SUBMITTALS

- A. Submit product data for review.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

- A. Lochinvar "Power-Fin".
- B. Patterson-Kelley "Therrific".
- C. Aerco, Inc.

2.02 EQUIPMENT

- A. Water containing section shall be of copper, fin-tube construction employing solid copper tubes having extruded integral fins and bronze headers. The entire heat exchanger shall carry a 5 year limited warranty against failure caused by defective workmanship or material.
- B. The water heater shall bear the ASME stamp and shall be National Board listed for 150 PSI working pressure. Water heater shall be AGA listed or UL listed and shall be test certified. The burner and heating section will be certified by an independent laboratory to operate with NOx emissions not to exceed 30 ppmv corrected to 3% O₂, dry (at or above 400,000 Btu per hour but no greater than 2.0 million Btu per hour) and 55 ppmv corrected to 3% O₂, dry (below 400,000 Btu per hour). The unit shall comply in all aspects with Texas Commission on Environmental Quality (TCEQ) emission regulations. The manufacturer shall demonstrate the unit has been tested in accordance with Test Method 7, including 7A-E, and the South Coast Air Management District Protocol: Nitrogen Oxides emissions Compliance Testing for Natural Gas-Fired Water Heaters and Small Boilers (latest adopted edition).
- C. The unit will have the capability of being vented directly "through the wall" or of being vented into a conventional stack. Water heater shall be fully approved for installation either indoors or outdoors.
- D. Standard operation controls and equipment shall include an automatic ignition device, operating aquastat, electric high-limit, automatic main gas valve, main gas pressure regulator, master switch with pilot light, ASME relief valve and temperature gauges.
- E. The entire unit shall be factory assembled, pre-wired and tested, and shall include a properly sized bronze, circulating pump. Water heater shall meet the energy efficiency requirements of ASHRAE 90.1 (latest adopted version).

2.03 STORAGE TANK

- A. Tank shall be complete with storage and overall dimensions as scheduled. The tank supplier shall guarantee the tank to deliver 80% of tank capacity without a drop in outlet temperature.
- B. The tank shall be built in accordance with ASME construction requirements and so labeled, with a Working Pressure of 150 P.S.I. The tank lining shall be copper lining 3 lb. min., with ten year guarantee. Provide a 12" x 16" manhole for tanks 30" diameter and larger.
- C. Provide factory supplied ASME temperature and pressure relief valve.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Furnish factory or manufacturer's service representative to verify system installation and operation.
- B. Verify location and clearance requirements.
- C. Install in accordance with manufacturer's recommendations and Contract Drawings.
- D. Install vent line to atmosphere as shown on Drawings.
- E. Insulate water connections as specified in Section 22 07 00.
- F. Clean and test equipment in accordance with Section 22 05 00.

END OF SECTION