

## SECTION 223000 - PLUMBING EQUIPMENT

## PART 1 GENERAL

## 1.1 SECTION INCLUDES

- A. Water Heaters.

## 1.2 RELATED REQUIREMENTS

- A. Section 220548 - Vibration and Seismic Controls for Plumbing Piping and Equipment.
- B. Section 262717 - Equipment Wiring: Electrical characteristics and wiring connections.

## 1.3 REFERENCE STANDARDS

- A. ANSI Z21.10.1 - Gas Water Heaters - Volume I - Storage Water Heaters with Input Ratings of 75,000 Btu per Hour or Less; 2009.
- B. ANSI Z21.10.3 - Gas Water Heaters - Volume III - Storage Water Heaters with Input Ratings Above 75,000 Btu per Hour, Circulating and Instantaneous Water Heaters; 2008.

## 1.4 SUBMITTALS

- A. See Section 013000 - Administrative Requirements, for submittals procedures.
- B. Product Data:
- C. Operation and Maintenance Data: Include operation, maintenance, and inspection data, replacement part numbers and availability, and service depot location and telephone number.
- D. Warranty: Submit manufacturer warranty and ensure forms have been completed in Owner's name and registered with manufacturer.
- E. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
  - 1. See Section 016000 - Product Requirements, for additional provisions.

## 1.5 CERTIFICATIONS

- A. Water Heaters: NSF approved.
- B. Gas Water Heaters: Certified by CSA International to ANSI Z21.10.1 or ANSI Z21.10.3, as applicable, in addition to requirements specified elsewhere.

## 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Provide temporary inlet and outlet caps. Maintain caps in place until installation.

## 1.7 WARRANTY

- A. See Section 017800 - Closeout Submittals, for additional warranty requirements.
- B. Provide five year manufacturer warranty for domestic water heaters.

## PART 2 PRODUCTS

### 2.1 WATER HEATER MANUFACTURERS

- A. A.O. Smith Water Products Co: [www.hotwater.com](http://www.hotwater.com).
- B. Bock Water Heaters, Inc: [www.bockwaterheaters.com](http://www.bockwaterheaters.com).
- C. Rheem Manufacturing Company: [www.rheem.com](http://www.rheem.com).
- D. Lochinva Corp.; Model TNR125-60: [www.lochinvar.com](http://www.lochinvar.com)
- E. Substitutions: See Section 016000 - Product Requirements.

### 2.2 COMMERCIAL GAS FIRED WATER HEATERS

- A. Type: Automatic, natural gas-fired, vertical storage.
- B. Performance:
  - 1. Energy Factor: 0.98.
  - 2. Storage capacity: 60 gal (227 L).
  - 3. Input: 125000 Btuh (36.6 kW) at sea level.
  - 4. Minimum recovery rate: 148 gph (560 L/s) with 100 degrees F (56 degrees C) temperature rise.
  - 5. Tank: Glass lined welded steel ASME labelled; multiple flue passages, 4 inch (100 mm) diameter inspection port, thermally insulated with minimum 2 inches (50 mm) glass fiber, encased in corrosion-resistant steel jacket; baked-on enamel finish; floor shield and legs.
- C. Tank: Glass lined welded steel ASME labelled; multiple flue passages, 4 inch (100 mm) diameter inspection port, thermally insulated with minimum 2 inches (50 mm) glass fiber, encased in corrosion-resistant steel jacket; baked-on enamel finish; floor shield and legs.
- D. Accessories: Provide:
  - 1. Water Connections: Brass.
  - 2. Dip tube: Brass.
  - 3. Drain Valve.

4. Anode: Magnesium.
  5. Temperature and Pressure Relief Valve: ASME labelled.
- E. Controls: Automatic water thermostat with temperature range adjustable from 120 to 180 degrees F (49 to 82 degrees C), automatic reset high temperature limiting thermostat factory set at 195 degrees F (90 degrees C), gas pressure regulator, multi-ribbon or tubular burner, 100 percent safety shut-off pilot and thermocouple, flue baffle and draft hood.

### PART 3 EXECUTION

#### 3.1 INSTALLATION

- A. Install plumbing equipment in accordance with manufacturer's instructions, as required by code, and complying with conditions of certification, if any.
- B. Coordinate with plumbing piping and related fuel piping work to achieve operating system.

#### 3.2 SCHEDULES

- A. Water Heaters:
1. Drawing Code: WH-1
  2. Manufacturer: Lochinvar
  3. Model: TNR125-60
  4. Input: 125,000 BtuH
  5. Recovery: 148 GPH
  6. Storage Capacity: 60 gal.
  7. Volt/phase: 120/1

END OF SECTION