

SECTION 22 30 00 - PLUMBING EQUIPMENT

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes:

1. **KROGER DIRECT BUY PROGRAM:** Owner supplied/Contractor installed.
 - a. The Kroger Company will supply the following:
 - 1) Domestic water heaters.
 - b. Comply with requirements in Division 00 Section "General Conditions."
2. Contractor supplied items:
 - a. Hot water circulating pumps.
 - b. Fasteners, valves, unions, thermometers, and other items not provided by Owner necessary for a complete installation.
3. Contractor installed items:
 - a. Domestic water heaters with temperature pressure valve.
 - b. Hot water circulating pumps.
 - c. Provide installation and final connections.

1.2 SUBMITTALS

- A. Product Data: For hot water circulating pumps.
- B. Operation and Maintenance Data: For hot water circulating pumps.
- C. The Owner will post the following information on the Owner's Project Management Website (PMW) for the Contractor's use for installation and preparation of operation and maintenance manuals:
1. Product Data: For each type and size of water heater indicated. Rated capacities, operating characteristics, furnished specialties, and accessories will be included.
 2. Operation and maintenance data.

1.3 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

- B. ASME Compliance: Where ASME-code construction is indicated, fabricate and label commercial water heater storage tanks to comply with ASME Boiler and Pressure Vessel Code: Section VIII, Division 1.
- C. Comply with NSF 61, "Drinking Water System Components - Health Effects; Sections 1 through 9" for all components that will be in contact with potable water.

PART 2 - PRODUCTS

2.1 DOMESTIC WATER HEATERS

- A. Refer to Division 01 Section "Vendor Contact List" for contact information on domestic water heaters provided by Owner.

2.2 HOT WATER CIRCULATING PUMP

- A. Main System Pump CP-1
 - 1. Product: Bell and Gossett, A Division of ITT Industries; Series 100 BNFI, bronze circulating pump. Specify store number and address when ordering.
 - a. (No substitutions allowed).
 - 2. Size pump to accept system line sizing without reducing line size.
- B. Under Sink Instant Hot Water Pump CP-2
 - 1. Product: Laing Thermotech, Inc.; AutoCirc Model ACT-303-BTW circulating pump.

PART 3 - EXECUTION

3.1 WATER HEATER INSTALLATION

- A. Provide expansion tanks as indicated.
- B. Install water heater and accessories in accordance with manufacturer's installation instructions. Install water heater where indicated on Drawings.
- C. Install commercial water heaters on concrete pad.
 - 1. Exception: Omit concrete bases for commercial water heaters if installation on stand, bracket, suspended platform, or direct on floor is indicated.
 - 2. Concrete base construction requirements are specified in Division 22 Section "Common Work Results for Plumbing."

- D. Install water heaters level and plumb according to layout drawings, original design, and referenced standards. Maintain manufacturer's recommended clearances. Arrange units so controls and devices needing service are accessible.
- E. Install gas water heaters according to NFPA 54.
 - 1. Install gas shutoff valves on gas supplies to gas water heaters without shutoff valves.
 - 2. Install gas pressure regulators on gas supplies to gas water heaters without gas pressure regulators if gas pressure regulators are required to reduce gas pressure at burner.
 - 3. Install automatic gas valves on gas supplies to gas water heaters, if required for operation of safety control.
- F. Install combination temperature and pressure relief valves in top portion of storage tanks. Use relief valves with sensing elements that extend into tanks. Extend commercial, water-heater, relief-valve outlet, with drain piping same as domestic water piping in continuous downward pitch, and discharge by positive air gap onto closest floor drain.
- G. Install water heater drain piping as indirect waste to spill by positive air gap into open drains or over floor drains. Install hose-end drain valves at low points in water piping for water heaters that do not have tank drains.
- H. Install thermometer on outlet piping of water heaters.
- I. Install piping-type heat traps on inlet and outlet piping of water heater storage tanks without integral or fitting-type heat traps.
- J. Fill water heaters with water.

3.2 CONNECTIONS

- A. Install piping adjacent to water heaters to allow service and maintenance. Arrange piping for easy removal of water heaters.

3.3 FIELD QUALITY CONTROL

- A. Engage a factory-authorized service representative to inspect installation, including connections.
- B. Perform the following field tests and inspections:
 - 1. Leak Test: After installation, test for gas and water leaks. Repair leaks and retest until no leaks exist.
 - a. Gas supply pipe fittings inside unit may become loose during shipment. Test gas supply system fittings inside and outside the unit before startup with a noncorrosive leak-detecting fluid such as a soap solution.
 - 2. Operational Test: After electrical circuitry has been energized, confirm proper operation.

- 3. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- C. Remove and replace water heaters that do not pass tests and inspections and retest as specified above.

3.4 DEMONSTRATION

- A. Owner will provide a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain commercial water heaters.

END OF SECTION 22 30 00