

# LAARS PLATE Commercial Indirect Water Heater

Date: Bid Date:  
Project #: Location:  
Project Name: Engineer:  
Contractor: Prepared By:

Specification



Contractor shall supply and install Qty.: \_\_\_\_\_ Laars Model No. LP- \_\_\_\_\_D high efficiency plate and frame water heater(s).

The heater shall be a Laars Plate Model \_\_\_\_\_, rated at the temperatures and water flows shown on the schedule.

The heater shall be constructed and stamped in accordance with the ASME Boiler and Pressure Vessel Code, Section VIII, Division I, for a boiler-side working pressure of 150 psi and 220°F temperature, and a domestic side working pressure of 150 psi. The heater shall be rated in accordance with ANSI/AHRI Standard 400 (I-P), Performance Rating of Liquid to Liquid Heat Exchangers.

The heater shall be designed to allow use with condensing and non-condensing boilers. The heater shall accept boiler water temperature down to 5°F above desired domestic water temperature, enabling typical condensing boilers to be at condensing inlet water temperatures, and maximizing system efficiency.

The heat exchanger shall be double wall, and shall be stainless steel construction. It shall be designed to efficiently produce up to 150 gpm of domestic hot water, and DHW temperature set point up to 180°F, depending on system design.

The heater shall be factory assembled, as a skid-mounted package. Each assembled package shall include the heat exchanger, control valve, interconnecting copper piping, backflush connections, isolation valves, control panel, electrical wiring, temperature gauge, 150psi T&P relief valve, drain valve, and inlet strainers. Flanged connections shall be used to allow for complete removal of the heat exchangers without disturbing the water heater piping. The control panel shall be able to be rotated 180° for easy readability.

The heater assembly shall have a microprocessor-based PID control system with LCD. The control shall use a durable temperature sensor that transmits a 4-20mA signal through twisted shielded wiring to a 3-way control valve. The system shall manage control valve to achieve accurate set point, within 4°F of the selected temperature, under varying load patterns, via real-time load tracking.

The control shall be building automation/management system-ready, with RS485 Modbus & BACnet on-board, enable/disable connection, and the ability to accept a 4-20mA remote temperature set point.

The heater shall have a 120V single phase 60Hz, 15 Amp electrical connection.

The heat exchanger shall carry a five-year non-prorated warranty, and other parts of the assembly shall carry a one-year warranty.

Standard features shall include:

- ASME section VIII stamped
- Rated in accordance with ANSI/AHRI Standard 400
- PID controller
- RS485 Modbus and BACnet data port
- Compatible with BAS/BMS
- Audible over-temp alarm
- Completely skid-mounted and wired
- Double-wall 316 stainless steel heat exchanger
- 3-way control valve
- 150psi temperature & pressure relief valve
- Backflush connections
- Isolation valves
- Temperature gauge
- Drain valve
- Inlet strainers
- Compatible with condensing and non-condensing boilers
- 5-year heat exchanger warranty