

**Typical Specification for HTP
Phoenix Plus® Gas-Fired Water Heaters
Models: PHP-199 / 260 / 320 / 399 Btu /Hr**

**Guide Specification Sheet
Phoenix Plus® Gas-Fired
Water Heaters**

The Phoenix Plus® Gas-Fired Water Heater shall be manufactured by HTP with an identification of model number PHP- _____ and a modulation input range of _____ Btu/Hr. The Phoenix Plus® Gas-Fired Water Heater shall operate on either Natural or LP gas.

The heater tank shall be constructed of 316L stainless steel. The water heater shall have two heat exchangers. Each heat exchanger shall be constructed of 90/10 cupronickel, and the secondary condensing section shall be constructed of 800H stainless steel and 90/10 cupronickel.

The tank shall have wrapped insulation and be enclosed in a pre-painted metal cabinet designed for corrosion resistance and either indoor or outdoor installation. All components shall be located on the front of the heater for easy service access. All related hardware shall be constructed of stainless steel studs with brass nuts. All water connection nipples shall be constructed of stainless steel and attached to the side of the tank and top of the heater.

The heaters shall be ETL listed and will exceed the minimum efficiency requirements of ASHRAE 90.1b-1992, and shall be approved in accordance with ANSI Z 21.10.3. All heaters will be supplied with a factory installed ASME rated temperature and pressure relief valve, a low water cutoff, a high temperature switch, an upper hot water sensor, a lower cold water sensor, and a condensate trap assembly ready for easy connection to a field supplied condensate drain.

The heater shall have two independent, integrated digital controller devices with integral diagnostics, LED faults and temperature settings for establishing set point and temperature differential. Ignition shall be direct spark and take place at a speed pre-set for the burner blower. The control shall utilize an algorithm to fully adjust the burner modulating firing rate while maintaining the desired temperature. The pre-mix stainless steel burner uses a 120 volt motor with pulse wave modulation control to change fan speed, adjusting the combustion air volume of fuel and air through the burner and establishing a continuous BTU input range to meet the water heating set point requirement. The digital LED control display shall provide means, via push buttons, for adjustments of operating temperatures, differential adjustment, ECO reset, service mode, and real time status mode. In addition, there shall be a computer connection to download operating history, including all fault codes and hours of operation above 50% input, below 50% input, as well as real time status reporting of all operations. The burner assembly shall be mounted so as to be easily removed as an integral unit for ease of service.

The heater shall have two independent combustion systems connected into an exhaust manifold inside of the cabinet. Appliance venting can be designed for either two pipe (intake and exhaust) closed combustion, or a single pipe system taking mechanical room air and piping exhaust outside. Schedule 40 or 80 PVC or stainless steel piping materials are approved for venting applications (see installation manual for further venting details). (**NOTE: Foam core pipe is not an approved exhaust venting material.**) The vent connections (intake and exhaust) shall be located on the top of the heater.

Appliance venting can be installed using several different methods, including:

Indoor Direct Venting – Where the intake and exhaust vents terminate in a two pipe configuration or through a factory approved sidewall or roof termination kit.

Indoor Combustion Venting from a Confined or Unconfined Space – Where the exhaust runs vertically and combustion air is drawn either from the mechanical room or from outdoors.

Outdoor Installation – Where outdoor air is drawn through the front louver in the water heater cabinet to supply combustion air to the combustion system. Exhaust is vented vertically from the top of the unit.

The total combined length of exhaust and intake vents cannot exceed 200 feet for all models based on 3” for PHP-199 models and 4” for PHP-260 / 320 / 399. Adequate combustion air must be supplied when drawing air from the mechanical room. Avoid the room contaminates listed in the installation manual.

The heater shall be in compliance with the NOx emissions limit set forth in SCAQMD Rule 1146.2. The heater shall be factory assembled, test-fired for correct BTU input, and adjusted for proper combustion parameters. Complete operating and installation instructions shall be furnished with every heater as packaged by the manufacturer for shipping.

The heater shall operate at altitudes up to 4500 feet above sea level without additional parts or adjustment.

The surfaces of these products contacted by consumable water contain less than 0.25% lead by weight, as required by the Safe Drinking Water Act, Section 1417.

Maximum unit dimensions shall be length _____ inches, width _____ inches and height _____ inches. Maximum unit weight shall be _____ pounds.

NOTE: Due to variations in CSD-1 requirements from state to state, please consult with the factory for all controls required in your jurisdiction.