

Typical Specification for HTP Elite Heating Boiler ®
Models: EL-80 /110 /150 / 220 / 299 / 301 / 399 Btu / Hr

Guide Specification Sheet

Elite Heating Boiler ®

The Elite Heating Boiler®, manufactured by HTP, Inc., includes seven (7) models with inputs ranging from 80,000 Btu to 399,000 Btu. Model EL- _____, having a modulation input range of _____ Btu / Hr., shall operate on either Natural or LP gas.

The boiler shall bear the ASME "H" Stamp with a working pressure of 160 PSI and be National Board Listed. The boiler shall be used in a closed loop pressurized system and require a properly sized thermal expansion tank to meet local codes. The boiler shall be ETL Listed and exceed minimum efficiency requirements of ASHRAE 103 with an AFUE rating of up to 95.9% and up to 96.1 thermal efficiency.

The boiler cabinet shall be constructed of durable 18 gauge steel. The heat exchanger shall be constructed of 316 L stainless steel, built and tested in accordance with the latest edition of the harmonized ANSI Z21.13 test standard for the US and Canada. The complete heat exchanger assembly shall carry a 12 year limited warranty.

The boiler shall include a combination outlet fitting designed with multiple thread connections, oriented to simplify and allow connections for a Relief Valve, Temperature and Pressure Gauge, Low Water Cut-Off Probe (Optional), and Manual Reset High Limit - all in one fitting. The boiler shall have a connection size of 1" for the 80, 110, 150, and 220 models, 1 ¼" for the 299 and 301 models, and 1 ½" for the 399 model.

Gas supply shall be ¾" inside diameter for the 80, 110, and 150 models, and 1" for the 220, 301, and 399 models. Refer to gas piping sizing chart if larger sizes are required due to long distances and/or competing gas appliances.

The boiler shall have an **integrated digital control system** utilizing an algorithm to fully adjust firing rate while maintaining the desired output temperature of the boiler. Combustion gas and air are premixed prior to introduction to the stainless steel sintered burner using a low voltage gas valve and variable speed fan. The control uses pulse width modulation to send a command signal to the fan which adjusts the volume of combustion air and gas supplied to the burner.

The control is connected to a digital 2 line 20 character per line LCD display that provides information on the operation of the boiler. The display will show a fault code and narrative to aid in troubleshooting and also provide a means for adjustment of the operating temperature ranging from 50° - 190°F and differential temperature ranging from of 5° - 30°F. The control shall be set up to monitor outdoor temperature through an outdoor sensor and provide outdoor reset shutdown capability. The control shall feature a dry contact output to connect to an optional alarm monitoring device. To provide domestic hot water, an indirect fired water heater can be connected to the control which will automatically prioritize domestic hot water demands. The control shall also regulate up to (8) Elite Heating Boilers through a cascade system functioning as one boiler system. This allows for greater turndown ratios and systematic control to maximize efficiency. The control shall have a 0-10 volt input available to connect to a building management system.

The boiler shall also have the ability to accept optional controls such as a UL 353 Compliant Low Water Cut Off and Manual Reset High Limit Temperature Switch.

The boiler will have a sealed combustion system, taking outside air for combustion and exhausting the flue gas with a ULC-636 CPVC connector for 3" PVC or CPVC. The larger BTU models EL-299, EL-301, and EL-399 shall have a stainless steel adapter for 4" PVC or CPVC.

The boiler's total combined equivalent vent length, including fitting allowances for both intake and exhaust, shall not exceed 200 feet. The vent connections shall be located on the top of the boiler to allow for optional wall mounted installations.

Horizontal Venting shall be done as a balanced system only, thus requiring both intake and exhaust to terminate on the same side of the building.

Vertical Venting shall be done either as a balanced or unbalanced system. An unbalanced system shall ONLY be allowed when the exhaust is installed vertically and the intake horizontally. Both exhaust and intake must remain within the boiler's combined equivalent length. (Refer to boiler's installation manual venting section for additional venting requirements.)

CAUTION: Foam core pipe is NOT an approved material for either intake or exhaust piping.

The combustion chamber will be designed to drain condensation to a condensate collection container located at the back of the boiler. The condensate collection container will contain a float switch to monitor the condensate flow and have a clean out for periodic maintenance.

The boiler shall be in compliance with the NOx emissions limit set forth in SCAQMD Rule 1146.2. The manufacturer shall verify proper operation of the burner, the combustion and control systems, as well as all related safety functions, to ensure the boiler will operate based on its designed parameters before shipping. Complete operating and installation instructions shall be furnished with every heater as packaged by the manufacturer for shipping.

The **BOILER** shall operate at altitudes up to 4,500 feet above sea level without additional parts or adjustments.

Maximum unit dimensions shall be: Length _____ inches, Width _____ inches and Height _____ inches. Maximum unit weight shall be _____ pounds.

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