

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

**Guide Specification Sheet**

**Elite Heating Boiler ®**

The Elite Heating Boiler®, manufactured by HTP, Inc., includes (6) 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 UL/ULC listed (File # MH 27745) and exceed minimum efficiency requirements of ASHRAE / 103-1993 with an AFUE rating of up to 98% and low temperature efficiency of 98% based on ASHRAE 103 - proposed 2003 Low-Water Temperature Seasonal Efficiency (LWTSE). The EL-399 shall have a thermal efficiency rating of 96% as tested to BTS 2000.

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 ANSI Z21.13b-2002 and Canadian National Standard CGA-4.9a-2002. 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 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 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 U.L. 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 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 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.**