

Summit Hydronic Boiler

Date:

Bid Date:

Project #:

Location:

Project Name:

Engineer:

Model SMB

Contractor:

Prepared By:

Specification

Contractor shall supply and install (1) Laars condensing hydronic heating boiler(s).

The boiler(s) shall be Laars Summit Series Model SMB-_____, fully modulating, sealed combustion, low mass, Category IV (condensing) boiler(s) with a modulating input rate of between _____ BTU/hr (_____ kW) and _____ BTU/hr (_____ kW). The output shall modulate between a minimum of _____ BTU/hr (_____ kW) and a maximum of _____ BTU/hr (_____ kW) and the unit(s) shall have an efficiency of 90.5% AFUE. Unit shall be 120V, single phase, 12 Amps.

Boiler(s) shall be design certified to comply with the current edition of the Harmonized ANSI Z21.13 / CSA 4.9 Standard for Gas-Fired Low Pressure Steam and Hot Water Boilers. The unit(s) shall be designed and constructed in accordance with the ASME Boiler & Pressure Vessel Code, Section IV requirements for 160 psi working pressure.

Unit(s) shall be capable of sealed combustion operation. Exhaust and intake vent pipe lengths can each be up to 55 equivalent feet using 3" diameter material or up to 105 equivalent feet using 4" diameter material. Exhaust pipe material shall be CPVC schedule 40 pipe per ASTM F441 standard, or AL29-4C stainless steel certified to the current edition of UL 1738 or ULC-S636. Model 200 only may use PVC schedule 40 pipe per ASTM D1785, or PVC-DWV pipe per ASTM D2665, or ABS-DWV pipe per ASTM D2661.

Unit(s) shall have corrosion resistant waterways consisting of primary SB359 copper finned tube heat exchanger with secondary economizer heat exchanger constructed of type 304L stainless steel.

Boiler(s) combustion system shall be pre-mixed, forced draft, combustion and contain a variable speed fan, stainless steel burner, negative pressure regulated gas valve and hot surface igniter with independent flame sensing electrode. Boiler combustion efficiency shall remain constant through entire modulating range.

Modulation of the input shall be controlled by an on-board microprocessor (Boiler Control) and thermistor which sense water temperature, and vary the fan speed to adjust the gas flow to match the BTU/hr output requirements.

Boiler(s) shall have a built-in diagnostic control monitoring 5 discrete check-points with an eight- (8) event memory and a three- (3) character alphanumeric display for temperature readout and fault codes.

The boiler(s) shall have NOx level certified at less than 15 ppm.

Unit(s) shall feature factory piped internal mixing valve and an internal circulating pump with cast iron body with stainless steel impeller, which shall be capable of circulation within the boiler loop.

Unit(s) shall be suitable for installation on combustible flooring and with a minimum clearance of one inch on all sides.

Outer jacket shall be finished with a textured epoxy finish.

Unit(s) shall be covered by a ten (10) year limited manufacturer's warranty.

Boiler shall include as standard equipment the following controls and trim:

- 115/24 VAC class 2 transformer
- Manual reset high limit
- On/off switch
- Flue overheat switch
- Water differential pressure switch (flow switch)
- Negative redundant gas valve
- Pressure gauge
- 50 psi (345 kPa) A.S.M.E. pressure relief valve