



G115 RESIDENTIAL BOILER SPECIFICATIONS

- 1) There shall be provided and installed a quantity of ____ G115 Buderus sectional cast iron hot water boiler(s) with a total gross rating of _____ MBH each and a net IBR rating of _____ MBH each, suitable for forced draft or natural draft firing with fuel oil #2, natural gas or propane.
- 2) Boiler(s) shall be fabricated with GL-180M high silicon cast iron. They shall be of pressurized wet base, double wall, sectional construction with precision machined steel push nipples. Boiler(s) shall have a central return diffuser to allow proportionate water distribution over the entire length of the boiler.
- 3) Boiler(s) shall be constructed, tested and labeled in accordance with ASME Section IV and shall bear IBR ratings and the ASME stamp. Sections shall be labeled for 87 psig maximum working pressure rating.
- 4)
 - a) Boiler(s) shall be of a modified three pass design, suitable for forced draft firing and capable of achieving combustion efficiencies of 87 % for oil firing and 84 % for gas firing. Gross stack temperatures at full firing rate shall not exceed 414 °F.
 - b) Boiler(s) shall be equipped with adjustable baffles capable of adjusting flue gas stack temperatures in fixed increments totaling a 94 degree aggregate change.
- 5)
 - a) Boiler(s) shall be available as assembled unit(s) requiring only field piping and field control wiring connections.
 - b) Boiler(s) shall be individual sections that shall have tongue and groove construction to accommodate permanent pliable sealing strips and provide a positive seal for pressurized operation. The seal shall occur from the inside surface outward. Sections shall incorporate adjustable legs for proper boiler support and leveling. Boiler shall provide rear and top access for all connections and controls.
- 6) The design of the boiler and the geometry of the combustion chamber shall eliminate the need for refractory material or a combustion target wall. Boiler flue collector shall be cast iron construction for long life.
- 7) Access to boiler firesides for inspection and maintenance shall be through a fully insulated and jacketed door, field-adjustable for left or right hinging. The seal between the door and the boiler casing shall be a permanent dry gasket for repeated positive sealing.



- 8) Boiler(s) shall be furnished with heavy-gauge baked enamel high quality jacket with a full 3" fiberglass insulation on top and all sides and bottom, flanged water and control connections and a customized steel plate for mounting of an oil, gas or dual fuel burner approved for use by boiler manufacturer.
- 9) Hydronic accessories shall include a 30 PSIG ASME relief valve; a 2 ½" temperature & pressure gauge and a Honeywell L8148A1124 adjustable high limit aquastat.
- 10) The control system for the boiler(s) shall consist of the Buderus Logamatic R2107 furnished with supply and outdoor air sensors for reset control of the heating system. The control shall have night setback capability, display and easy adjustment of the heating schedule with indicator symbols for circulators, burner(s) and optional mixing valve operation. Provisions shall be available for modular expansion for control of a dual boiler system or single boiler equipped with two-stage or full modulation burner and a motorized 3-way or 4-way mixing valve. The control shall have a dynamic burner differential, built-in boiler protection for low return water temperatures and an adjustable responsiveness to outdoor temperature variations.
- 11) Boiler(s) shall have provisions on the front casing to permit flushing of the water side of the boiler for removal of any accumulated deposits inside the boiler's water passages.
- 12) Boiler(s) shall be capable of sustained operation under normal return water temperature without any means external to the boiler to temper or preheat return water. A single aquastat shall maintain a minimum water temperature of 104 °F at the boiler supply connection during burner operation by temporarily interrupting boiler flow. Under snowmelt conditions without a heat exchanger, the minimum supply temperature must be raised to 158 °F.