



TYPICAL SPECIFICATIONS FOR LCD HEATING BOILERS MODELS 400 - 2300

The Boiler shall be **RBI LCD** Model LB _____ having an input rating of _____ MBH and _____ MBH output. The Boiler shall operate on _____ NATURAL _____ PROPANE. The boiler shall operate at a minimum 84% (400-2300), 82% (2300) Thermal Efficiency.

The Boiler shall be designed certified and tested by International Approval Services. The Boiler shall meet the requirements of ANSI Standard Z21.13 and the Canadian Gas Association Standard CAN1-3.1. SCAQMD certified (sub 30 ppm NOx). The Boiler shall operate on negative stack pressure and Category I according to ANSI Standards or Class I according to CGA Standards. The Boiler shall operate on positive stack pressure and Category III vent material. A listed stainless steel vent must be used. The Boiler shall be approved for indoor or outdoor installation. The Boiler shall be approved for Sidewall, Direct Vent Vertical and Direct Vent Horizontal up to 35' equivalent length. Flue outlet shall be field convertible to allow venting from top or rear outlet of Boiler. Side air intake standard, rear intake optional on 750 - 2300 only.

COMBUSTION CHAMBER:

The combustion chamber shall be sealed and completely enclosed with high temperature ceramic fiberboard insulation. The burners shall be constructed of "4509 Uginox" stainless steel alloy and fire on a horizontal plane. The Boiler shall have two-speed integral combustion air blowers to precisely control the fuel/air mixture for maximum efficiency across the firing range.

HEAT EXCHANGER:

The heat exchanger shall be inspected and bear the A.S.M.E. Section IV seal of approval. The A.S.M.E. Section IV seal of approval will not be provided as standard for jurisdictions not requiring the A.S.M.E. Section IV seal of approval. The heat exchanger shall be a two pass design with maximum working pressure of 160 psi. The water tube shall be of straight 7/8" I.D., .064" minimum wall thickness; integral finned copper tube, 7 fins per inch, with a fin height of 3/8". The water tubes shall be set horizontally with heavy galvanized steel "V" baffles tightly secured above the tubes throughout the length of the water tubes. Each end of the water tubes shall be strength rolled onto a steel tube sheet. The headers shall be secured to the tube sheet by properly placed stud bolts, flange nuts and with the use of o'rings. Headers will be of cast iron construction. O'rings must be constructed of EPDM and Silicone, capable of withstanding temperature of 540° F/282° C. The use of red o'rings constructed of Neoprene and Silicone with temperature ratings of 250° F/121° C will not be allowed. The Boilers shall have a heat exchanger drawer guide rail so that the heat exchanger may slide out for ease of service and maintenance. A pressure relief valve of _____ lb/sq. in. shall be equipped with the boiler.

CONTROLS:

Boiler staging will be controlled by an on-off or two-stage set point control. A relay logic board will incorporate all relay functions and purge time delays. Standard control system will be a United Technologies Controls 600A Series spark-to-pilot proven ignition with full flame monitoring capability. Hot surface ignition systems of any type will not be permitted. The control panel shall have a master switch with an indicating light and sequential and diagnostic indicator lights. Standard controls shall include factory mounted: high limit control with manual reset, aquastat, low air and blocked flue pressure switches to monitor fan operation, inlet and outlet temperature gauges, flow switch, relief valve and 24 VAC control circuit.

FIRING MODE:

The firing mode shall be one of the following:
1. **STANDARD ON/OFF - FULL FIRE**
2. **2-STAGE - (MODELS 600 - 2300 ONLY)**

VENTING OPTIONS:

- 1. Standard Venting
- 2. Horizontal & Vertical Outside Air Venting
- 3. Thru-Wall Venting
- 4. Outdoor Venting

GAS TRAIN:

The gas train shall include an automatic pilot gas valve, pilot gas pressure regulator, manual gas valves (2), 'B' valve, redundant main gas valves (solenoid/diaphragm) and firing valve.

INDUSTRY STANDARD OPTIONS:

Industry standard options include:
1. Factory Mutual (FM)
3. CSD-1

PAINT FINISH:

GALVALUME METAL: The jacket panels shall be coated with a Galvalume finish to protect the primary steel from oxidation.