

**SAMPLE SPECIFICATION FOR RBI INFINITE ENERGY₂
BOILER MODELS – IB-399, 500, 750 & 1000**

The **Hot Water Supply Boiler** shall be **RBI INFINITE ENERGY₂** Model **IB** _____ having an input rating of _____ MBH and _____ MBH output. The **Hot Water Supply Boiler** shall operate on _____ NATURAL _____ PROPANE. The efficiency shall be up to 95.2%.

The **Hot Water Supply Boiler** shall be capable of full modulation firing to 12.5% (IB-399), 10% (IB-500), 6.7% (IB-750), 5% (IB-1000) of rated input at a 8:1 (IB-399), 10:1 (IB-500), 15:1 (IB-750), 20:1 (IB-1000) turn down ratio. The **Hot Water Supply Boiler** shall be designed certified and tested by CSA International. The **Hot Water Supply Boiler** shall meet the latest requirements of ANSI Z21.13/CSA 4.9 as listed by CSA International standards.

COMBUSTION CHAMBER:

The combustion chamber shall be stainless steel and shall be free of *Refractory Ceramic Fibers* that in high temperature application (above 1832°F / 1000 °C) can result in the formation of health dangerous Crystalline Silica (cristobalite). The **Hot Water Supply Boiler** shall be constructed with a heavy gauge steel jacket assembly pre-painted gray.

BURNER:

The burner shall be a premix, modulating design constructed of high temperature stainless steel with woven metal fiber providing equal distribution of heat throughout the entire heat exchanger. The burner shall be easily removed for maintenance without disruption of any other major component of the Boiler. A window view port shall be provided for visual inspection of the flame during firing.

HEAT EXCHANGER:

The **Hot Water Supply Boiler** shall be designed, constructed and inspected in accordance with ASME Boiler and Pressure Vessel code Section IV and bear the “H” Stamp seal of approval, and shall be National Board listed. The stainless steel heat exchanger shall be designed to drain condensation to the bottom of the heat exchanger assembly. Boiler shall have built-in condensate trap with neutralization and blocked condensate switch to allow condensation to drain from the assembly. The heat exchanger shall carry a maximum working pressure of 160 psi and be constructed of 316L stainless steel. A pressure relief valve of **50 lb/sq. in.** shall be supplied with the boiler.

CONTROLS:

Standard **Hot Water Supply Boiler** control shall be factory mounted control with plain English status display for set-up, operating status and diagnostics. Control sensors shall include: thermistors for sensing inlet and outlet temperatures, supply high limit control, flue gas high limit control, water flow sensor (Low water flow protection), relief valve, on/off switch, flue temperature sensor, low water cutoff connection, freeze protection, flue blocked protection, back flue protection, pressure sensor (Low water pressure protection), condensate blocked drain protection, fault history. The boiler unit features an exclusive on-board control platform allowing application versatility and using outdoor reset as standard. Supply voltage should be 120 volt / 60 hertz / single phase.

FIRING MODE:

Firing mode shall be full modulation 8:1 (IB-399), 10:1 (IB-500), 15:1 (IB-750), 20:1 (IB-1000) ratio.

GAS TRAIN:

Gas valve shall be a negative pressure gas valve with variable speed blower operation to precisely control the air/fuel mixture for maximum modulating efficiency. Gas valve shall operate in a safe condition with gas supply pressures as low as 3 inches of water column.

IGNITION MODULE:

The ignition control system shall be flame sensing with electronic supervision and high energy spark ignition.

VENTING OPTIONS:

1. Sidewall or Vertical Direct Venting with PVC, CPVC, PP(s) or Stainless Steel
2. Sidewall air inlet and vertical venting with PVC, CPVC, PP(s) or Stainless Steel
3. Room air and Sidewall Venting with PVC, CPVC, PP(s) or Stainless Steel
4. Room air and Vertical Venting with PVC, CPVC, PP(s) or Stainless Steel

Total combined air intake length should not exceed 120 equivalent feet (37 m). Total combined exhaust venting length shall not exceed 120 equivalent feet (37 m). Total combined intake and exhaust vent lengths should not exceed 120 equivalent feet (37 m).

INDUSTRY STANDARDS OPTIONS:

California Code Compliant
Massachusetts Code Compliant