·WHY ENERTECH?—









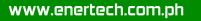








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## Kaldera Integral Another Green Technology

The first Filipino-designed biomass-fired boiler, it is a simple and tube design supported by two sets of outside suspension or gallows-frame with a girder on top, with bricks insulating the furnace. Waste heat conditions and the volume of waste heat gases vary with each different source or application. It is the belief of Enertech Systems Industries, Inc. that waste heat recovery systems have to be designed to meet the requirement of each individual industry. We have the capacity to supply units from 10 to 400 hp and design pressures of up to 200 psi.

The Enertech Biomass Fired Kaldera Integral Furnace Boiler incorporates a waterwall furnace in lieu of brick walls to increase efficiency. In this design where the boiler vessel sits on top of the furnace, a smaller area is required for the main boiler assembly, which is desirable when factory space is limited. Just like its bigger version the COMBI boiler design, converting from oil to biomass-firing using the Kaldera Boiler can drastically reduce fuel costs and the cost of investment is recovered in less than a year.

The biomass fired Kaldera is equipped with a reciprocating grate, a proven combustor for various biomass fuels, in which biomass is gently pushed down each step as it burns, until only ash remains at which point it is dropped into the ash disposal chamber, where it is continuously discharged out of the furnace by screw conveyor.



## **Product Features**

- Simple shell and tube boiler
- Capacity range of 10 to 400 Bo Hp up to 200 psi design pressure with either manual or automatic fuel feed system with bricks insulating furnace.
- Capacities from 1.5 to 10 tons per hour and up to 20 bars maximum allowable working pressure.
- Waterwalls on four walls of furnace to increase heat transfer through radiation.
- Brickwalls at the lower portions of furnace to maintain high furnace temperature.
- Waterwalls are of welded membrane wall tube panel design to prevent air intrusion.
- Reciprocating grates for efficient combustion of all types of biomass fuel.
   Fuel Options includes agricultural wastes such as rice hull/stalks, coconut shell/husk/stalks, corn cobs/stalks, and solid wastes such as wood chips, saw dusts.
- Choice of grate designs to suit budget and available fuel, such as pinhole grate, semi steep grate, reciprocating grate, and travelling grate.
- Waterwalls on four walls of furnace to increase heat transfer through
  Choice of manual, semi-automatic and fully automatic boiler operation.
  - Enertech Brain++ (Brain Plus Plus) Boiler Automation provides fully automatic operation of the boiler assuring fail-safe operation and reduced number of operating personnel.



## **Supply Options**

Pollution control equipment such as multi-cyclone dust collector, bag house, wet scrubber, electrostatic precipitator and other components that can help in decreasing black emission.

Civil works and design – boiler house, equipment foundation, turnkey basis.