REFERENCE SHEET

HEAT RECOVERY
BIOMASS
PRIMARY FUELS
SOLID RESIDUES
LIQUID & GASEOUS RESIDUES

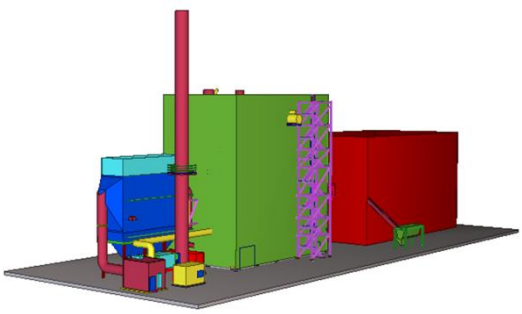
JFE Engineering Group
Standardkessel Baumgarte

BIOMASS POWER PLANT KAUAI HAWAII, USA

Standardkessel Baumgarte GmbH • Power Plants

BIOMASS POWER PLANT KAUAI, HAWAII, USA

Fuel	Fresh Wood
Low Heating Value (min./nom./max.)	7.0 / 10.2 / 12.3 MJ/kg
Fuel Throughput (nom.)	81,200 t/a
Rated Thermal Input	27.3 MW
Electrical Power Output	6.7 MW
Steam Turbine Inlet Pressure	77 bar
Steam Capacity	32 t/h
Steam Temperature	477 °C
Steam Pressure	79 bar
Feed Water Temperature	143 °C
Rated Flue Gas Volume, max. (excl. Rezi)	49,000 m³/h i.N.
FG-Temperature	120 °C
Type of Boiler	Natural Circulation
Year of Commissioning	2015



THE TASK

The Standardkessel Baumgarte Group is financing and constructing on the island of Kauai belonging to the US Federal State of Hawaii a biomass-fired power plant with a net capacity of 6.7 MW. The plant will be operated by a joint venture company, Green Energy Team LLC, Hawaii, with the involvement of the former Standardkessel Baumgarte Contracting GmbH (SBC) and the local partner Green Energy Hawaii LLC. The proven grate technology will be supplied by Standardkessel Baumgarte. The biomass-fired power plant is in future to feed electricity into the network of the local grid operator Kauai Island Utility Cooperative (KIUC). With this energy, approx. 8,500 households will be supplied and nearly 11% of the island's energy requirements will be met.

THE SOLUTION

To comply with the terms of reference Standardkessel Baumgarte supplied a biomass-firing plant with a pusher-type grate with natural circulation steam generator and a flue gas cleaning plant arranged downstream. The biomass is premixed in the fuel storage area and fed via the fuel conveying equipment to the feeding-in chutes of the biomass-fired plant. The proven firing and boiler conception is designed especially for the combustion of biomass. The generously dimensioned furnace with radiation pass arranged downstream ensures outstanding burn-out of the flue gases. The grate-firing system is supplied with combustion air via separate primary air/secondary air systems. The steam generator removes the combustion heat from the flue gas and produces superheated steam that supplies the steam turbine arranged downstream.

SCOPE OF SUPPLY

- Fuel Conveying System
- Firing System, Boiler, Flue Gas Cleaning System (incl. $DeNO_x$)
- Flue Gas Ducting, Stack
- Emission Measuring Unit
- Ancillary Plants
- Steam Turbine with Generator, Condenser, Cooling Towers
- BOP
- Switchgear Building
- Grid Feeder Station

ENGINEERING SERVICES

- Engineering incl. Obtaining Approvals from Authorities
- Erection and Commissioning
- Trial Operation

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