

- HEAT RECOVERY
- BIOMASS
- PRIMARY FUELS
- SOLID RESIDUES
- LIQUID & GASEOUS RESIDUES

BIOMASS CHP PLANT II ULM, GERMANY



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Fuel	Fresh Wood, Waste Wood A1 and A2
Low Heating Value (min./nom./max.)	7.0 / 12.0 / 15.5 MJ/kg
Fuel Throughput (min./nom./max.)	5.8 / 7.5 / 12.8 t/h
Rated Thermal Input	25 MW
Electrical Power Output	5 MW
Thermal Heat Extraction	7 MW
Steam Turbine Inlet Pressure	79 bar
Steam Capacity	28 t/h
Steam Temperature	480 °C
Steam Pressure	79 bar
Feed Water Temperature	105 °C
Rated Flue Gas Volume, max. (excl. Rezi)	48,000 m ³ /h i.N.
FG-Temperature	155 °C
Operating Approval	13. BlmSchV
Type of Boiler	Natural Circulation
Year of Commissioning	2012

THE TASK

Following the decision by FUG Fernwärme Ulm GmbH to decommission the two coal-fired steam generators at the location in Ulm in 2012, for the long-term safeguarding of the supply of district heat, the construction of a new combined heat and power station became necessary. Standardkessel Baumgarte in Duisburg secured, within the scope of this modernisation using environmentally friendly biomass technology on the basis of the German Renewable Energies Act (EEG), the order for the construction of the biomass-fired boiler plant including grate stoker furnace and flue gas cleaning system. As early 2004, Standardkessel Baumgarte supplied the first biomass-fired power plant for the Ulm location. The boiler plant is to generate 27.5 tons of superheated steam at 480°C and 79 bar per hour from solid biomass and with that to drive a turbine for electricity generation. Depending on demand steam is also to be taken off for the district heat network.

THE SOLUTION

In order to solve the problem, Standardkessel Baumgarte supplied an underfeed stoker-fired biomass plant with a natural circulation steam generator and a downstream flue gas cleaning system. The biomass is premixed in the fuel storage area and fed via the fuel feed device to the feed openings of the biomass-fired plant. The proven firing system and boiler concept is specially designed for the combustion of biomass. The generously dimensioned furnace with downstream radiation pass ensures excellent burn-out of the flue gases. The grate stoker furnace is supplied with combustion air via separate primary air/secondary air systems. The steam generator taps the heat of combustion from the flue gas and produces superheated steam that supplies the steam turbine arranged downstream. In addition heat for the district heat network is removed from the system.

SCOPE OF SUPPLY

- Firing System
- Boiler
- Flue Gas Cleaning System
- DeNO_x Plant
- Induced Draught Unit incl. Stack
- Emission Measuring Equipment
- Secondary Structures

ENGINEERING SERVICES

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

