

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

BIOMASS HEAT AND POWER PLANT HANNOVER-STÖCKEN, GERMANY



CHPP, HANNOVER-STÖCKEN, GERMANY



Fuel	Waste Wood (A3-A4),
Heating Value Grade (min./max./nom.)	10 / 16 / 13 MJ/kg
Fuel Throughput (nom.)	25 t/h
Rated Thermal Input	90 MW
Electrical Capacity	19 MW
Heat Output (max.)	89 MW
Steam Capacity	102 t/h
Steam Temperature	461 bar
Steam Pressure	71 °C
Flue Gas Volume Flow (nom.)	150,690 m ³ /h i.N.
Exhaust Gas Temperature (with FG-Condensation)	60 °C
Operation Permit acc.	17. BlmSchV
Type of Boiler	Natural Circulation
Year of Commissioning	2024

THE TASK

The project company BEH Bioenergie Hannover GmbH of Danpower GmbH, a subsidiary of enercity AG, is building a biomass power plant at the existing power plant site in Hannover-Stöcken. Standardkessel Baumgarte has been awarded the contract as general contractor for the supply, construction and commissioning of the entire plant technology for the CHP plant. The biomass power plant is to utilise approx. 200,000 tons of non-recyclable waste wood per year. With a combustion heat output of 90 MW, the power plant will feed up to 19 MW of electrical energy into the power grid and, with a correspondingly reduced electrical output, provide up to 80 MWth of heat to supply enercity's district heating customers.

THE SOLUTION

A proven air-cooled SBG pusher-type grate is used as the firing system. The SBG pusher-type grate offers decisive advantages with regard to the composition and range of waste wood fuels to be used. The design of the entire plant allows a very high degree of flexibility in order to meet all possible operating requirements. In addition to almost any combination of electricity and heat generation, the plant can also be operated with pure electricity generation or pure heating generation. In pure heating mode, the plant can extract a maximum of 89 MW of heat with a fuel utilisation ratio of almost 100 %. This is made possible by the planned flue gas condensation, which exploits the calorific value effect. The condensation heat of the moisture contained in the flue gas is made usable for district heating through the use of an absorption heat pump.

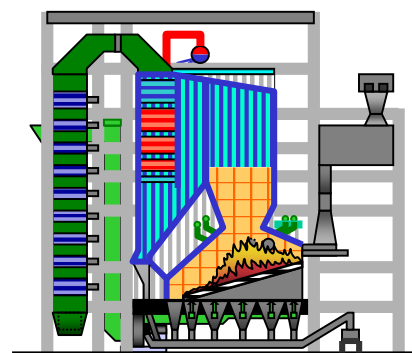
SCOPE OF SUPPLY

Turn-Key Biomass Heat and Power Plant

- Fuel system with Reception, Preparation and Transport
- Firing System / Steam Generator
- Water-Steam Cycle and District Heating System
- Steam Turbine / Generator, Heating Condensers and Auxiliary Coolers
- Flue Gas Cleaning, Flue Gas Condensation, Absorption Heat Pump
- Ancillary Plants

Services

- Engineering
- Supply and Construction
- Commissioning and Test Run



Design Example