

HEAT RECOVERY
BIOMASS
PRIMARY FUELS
SOLID RESIDUES
LIQUID & GASEOUS RESIDUES

CCP PLANT VAREL B8 VAREL, GERMANY



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Number of lines	1
Fuel	Natural gas H
Heating value	31.66 MJ/m ³ i. N.
Fuel Throughput	6,078 m ³ i. N./h
Rated Thermal Input	53 MW
Combustion air	Gas turbine exhaust gas as oxygen carrier
Gas turbine- exhaust gas temperature	556 °C
Gas turbine – exhaust gas volume flow (wet)	41.76 kg/s
Steam capacity	90 t/h
Steam pressure	90 bar
Steam temperature	480 °C
Feedwater temperature	105 °C
Exhaust gas temperature	135 °C
Design code	TRD – DIN/ EN
Year of commissioning	2007

THE TASK

The increased production capacity owing to the installation of an additional paper machine also required a performance boost on the part of the power center. The demands on energy supply within a paper and cardboard company – high electric capacity paired with high steam consumption – had to be taken into consideration where an enlargement of the plant by means of a new steam generator was concerned. In addition, the requirements for high dynamic load following capabilities (load changes up to 1 MW/s) had to be met and the boiler's part load performance at 100 % turbine output was to be optimised. The concept of a combined heat and power plant was again to be realized by using the patented CHPP SYSTEM HUTTER which had been patented by the company Friedrich Hutter GmbH.

THE SOLUTION

A natural circulation boiler with generous internal piping and supply lines was to be conceived in order to meet the targets. This led to a stable internal circulation as well as to the maintenance of the required dynamics. A process steam cooler was implemented in the flow-oriented turbine exhaust duct – totally in line with demands of the patented system.

SCOPE OF SUPPLY

- Steam Generator with Valves
- External Process Steam Cooler in the Exhaust Gas Duct
- Ripped- Tube Economiser
- Refractory Lining of Burner Muffles
- Boiler Feedwater System
- Feedwater Tank

ENGINEERING SERVICES

- Engineering
- Installation and Commissioning
- Trial Run

