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## BIOMASS POWER PLANT BEC TWENCE HENGELO, THE NETHERLANDS



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<b>Fuel</b>	Waste Wood (A1 - A4)
<b>Low Heating Value (min./max./nom.)</b>	10 / 16 / 13.4 MJ/kg
<b>Fuel Throughput (min./max./nom.)</b>	10.3 / 22.5 / 19.0 t/h
<b>Rated Thermal Input</b>	73 MW
<b>Electrical Power Output</b>	20 MW
<b>Steam Capacity</b>	80 t/h
<b>Steam Temperature</b>	465 °C
<b>Steam Pressure</b>	69 bar
<b>Feed Water Temperature</b>	130 °C
<b>Rated Flue Gas Volume</b>	111,500 m <sup>3</sup> /h
<b>FG-Temperature</b>	170 °C
<b>Operating Approval</b>	BVA
<b>Type of Boiler</b>	Natural Circulation
<b>Year of commissioning</b>	2007

### THE TASK

On the basis of the Dutch Act for the Promotion of Renewable Energies' (MEP), the company Twence planned the construction of a biomass-fired power station at the location of the waste from waste plant in Hengelo. In the new biomass-fired power plant, the percentage of waste wood obtained from the waste flows was to be converted into electricity in an environmentally friendly and efficient way and to be fed into the public grid.

The order for the construction of the biomass-fired power plant was placed with Standardkessel Baumgarte in October 2005.

### THE SOLUTION

The waste wood extracted from the waste flows is delivered and stored in a warehouse. A multi-stage conveying device conveys the fuel to the boiler. At the same time, metal and oversize material are separated.

The thermal part of the plant consists of a multi-lane underfeed stoker, a 4-pass vertical boiler with natural water circulation and a downstream flue-gas purification unit. The flue gas purification unit works on the principle of dry sorption and additionally includes an SCR system for the reduction of the nitrogen oxides.

The superheated steam generated in the boiler flows to the turbine/generator unit and produces electric current that is fed into the public grid.

### SCOPE OF SUPPLY

Biomass Power Station consisting of:

- Civil Works
- Fuel Transportation System
- Grate System
- Steam Generator
- Flue Gas Treatment Plant
- Water-Steam Cycle
- Electrical Instrumentation and Control System
- Auxiliary Equipment

### ENGINEERING SERVICES

- Engineering incl. Licensing Engineering and Engineering for official Permits
- Assembly and Commissioning
- Trial-Run

