

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

## CABERBOARD, COWIE SCOTLAND



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<b>Fuel</b>	Grinding dust, granules, wood chips
<b>Heating Value (min./nom./max.)</b>	9.2 / 13.5 / 17.6 MJ/kg
<b>Fuel Throughput Rate (nom.)</b>	5.6 t/h
<b>Total Rated Thermal Input</b>	21 MW
<b>Electrical Capacity</b>	-
<b>Steam Capacity</b>	27.5 t/h
<b>Steam Temperature</b>	201 °C
<b>Steam Pressure</b>	19 bar
<b>Design Pressure</b>	22 bar
<b>Feedwater Temperature</b>	105°C
<b>Flue Gas Volume Flow (nom.)</b>	25,000 m <sup>3</sup> /h i.N.
<b>Exhaust Gas Temperature</b>	180 °C
<b>Year of Commissioning</b>	1998

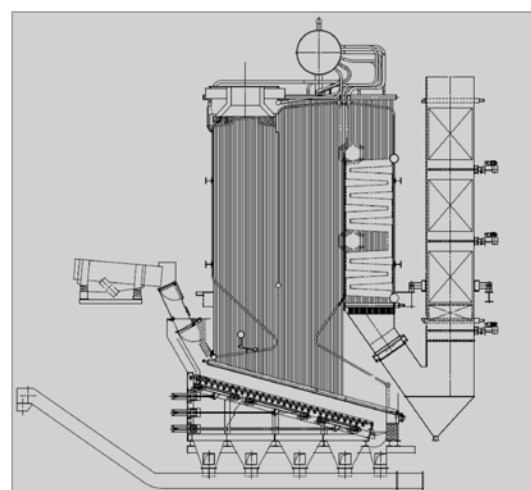
### THE TASK

For the chip board factory in Cowie, Caberboard planned the construction and operation of a biomass-fired plant for the low-cost generation of process steam for the chip board production plant. Process energy was to be obtained from waste wood and the residual materials left over from the production process in solid and dusty condition.

Standardkessel Baumgarte convinced the client by the combined firing system for solid and dusty fuels. The order was placed to Standardkessel Baumgarte in 1997.

### THE SOLUTION

The plant is constructed with the already frequently proven Standardkessel Baumgarte firing system and boiler concept that has been designed specially for the combustion of wood. The generously dimensioned furnace of the vertical boiler concept, as well as the downstream radiation part ensure outstanding burn-out of the flue gases. The convection passes arranged downstream accommodate the heating surfaces of the evaporators and economizers. The stoker firing system is supplied with combustion air via separate primary air/secondary air systems. The primary air is systematically fed in below the grate, the secondary air above the grate via secondary air nozzles into the combustion process. Additionally to the grate system a second combustion chamber in parallel to the main combustion chamber is foreseen to burn wood dust by a top mounted dust burner. Downstream the two combustion systems the flue gases are mixed before entering the common boiler part.



Exemplary Sketch

### SCOPE OF SUPPLY

- Pusher Type Grate Furnace with Fuel Feed for Solid Fuels
- Ignition and Auxiliary Burners
- Dust Burner for Wood Dust incl. Separate Combustion Chamber
- Boiler
- Auxiliary Plants
- Insulation
- Structural Steelwork and Platforms of The Boiler House

### ENGINEERING SERVICES

- Engineering
- Erection and Commissioning
- Trial Run