

The AET Biomass Boiler

The AET biomass boiler concept is based on 25 years' experience of steam generation and biomass combustion.

This Experience Has Been Amassed From A Large Number of Plants Which Have The Following Characteristics:

- | Very high availability
- | Steam data and steam quality suitable for turbine operation
- | High boiler efficiency
- | Fulfilment of strict emission requirements
- | Flexibility
- | Continuous operation at full load
- | Low maintenance costs
- | Long operating time (> 8000 hours) between shutdowns for manual cleaning of heating surfaces – this also applies for demolition wood.

These Characteristics Are Based on The Following Features:

- | Gas-tight and fully-welded water tube boiler
- | Very limited refractory in furnace
- | Tall furnace with long residence time
- | For waste wood, empty radiation pass for cooling the flue gas before superheater
- | Vertical flue gas pass to ease collection of ash
- | Unheated downcomers
- | Good, natural circulation even under extreme operating conditions
- | Effective steam separation in the drum.

The boiler pressure parts are designed in accordance with accepted European norms and standards. This applies to the selection of materials, calculations of wall thicknesses, production, and certification of welders as well as quality assurance of the finished product.

The furnace is tall and slim in order to obtain a long residence time and good turbulence resulting in good mixing of unburned gases and combustion air. This ensures efficient combustion with low emissions.

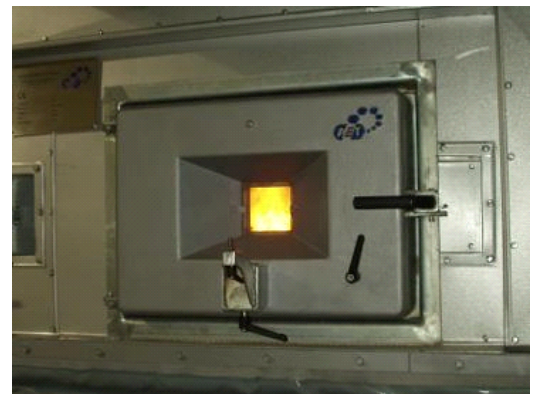
A tall furnace also ensures good circulation of water and steam in the panel walls.

Minimal refractory is used in the furnace to prevent ash deposits and slag formation.

From the furnace, the flue gas flows into the upper part of the radiation pass and continues towards the superheater passes, passing a bottom hopper and allowing coarse ash particles to be separated from the flue gas. The collected particles, containing unburnt material, are re-injected into the furnace.

The superheaters are arranged to allow flue gas and ash particles enough time to be cooled below the ash melting point before inlet to the superheaters and to allow ash particles to fall freely down through the heating surface.

The economiser is placed as a separate unit and is provided with heating surfaces consisting of plain or finned tubes.



A look into the furnace- the AET boiler concept



Installation of boiler super heater section



Rothes CoRDe Ltd is a biomass-fired cogeneration plant in Scotland fuelled by a whisky by-product and clean wood.

[Read more about Rothes CoRDe.](#)



The SODC Orléans cogeneration plant supplies district heating to 15,000 homes, equivalent to 27% of the city of Orléans.

[Read more about SODC Orléans](#)



In Landes, France, a 50 MW biomass-fired plant was successfully delivered to Cofely Engie (former GDF SUEZ) in May 2015.

[Read more about BES VSG.](#)



The Biolacq Energies project, in Lacq, is a biomass-fired CHP plant of 54 MW, that utilises forestry wood, and clean, uncontaminated residues from wood processing.

[Read more about Biolacq](#)

FOCUS ON

[> Read full Focus](#) [> Go to Archive](#)

Zignago Power s.r.l.–successfully producing Green Energy in Italy

The 49 MW Zignago Biomass power plant in Italy, owned and managed by Zignago Power s.r.l., belonging to the Marzotto family empire, has since its installation in 2013 been running with a very high availability (98.8%). The plant utilises wood residues and agricultural waste such as straw, miscanthus and maize. [>Read more](#)



www.aet-biomass.com // [Home](#) // [Technology](#) // [AET Biomass Boiler](#)

[> Cookies](#) // [> Sitemap](#) // [> Terms of use](#) // © AET

Aalborg Energie Teknik a/s Alfred Nobels Vej 21 F 9220 Aalborg East, Denmark Tel +45 96 32 86 00 aet@aet-biomass.com