A. P. Bioenergietechnik GmbH

The company A.P.Bioenergietechnik GmbH was founded in 1988 in Neumarkt and has the place of business in Hirschau/Oberpfalz since 1994.

The business aim of the company was the technical development, production and sales of combustion-technologies, which can be operated by all kinds of renewable biomass fuels, especially with straw and energy crops. So that ÖKOTHERM® -Systems are independent of any specific solid biomass fuel by reason of the basic concept.

Basic concept: Independence of any specific solid biomass fuel

Compact system C4 with 450 kW

The result of the development is a combustion system, where there occur no problems with slagging by burning fuels like straw, corn or miscanthus because of the low ash melting temperatures. The technology has been applied for a patent in 1992. In 1999 the biomass heating system, which has been sold and installed hundredfold under the trademark „ÖKOTHERM®“, has been benchmarked and awarded as the best system by the Bavarian Ministry of Agriculture in comparison to most foreign competitors.

No caking of slag in the firing system when burning crop stalk and corn fuels

Further awards are the “1.Price for the systems with the best emission values” as well as the “Solar award 2007” of the European Association for renewable energies EUROSOLAR.

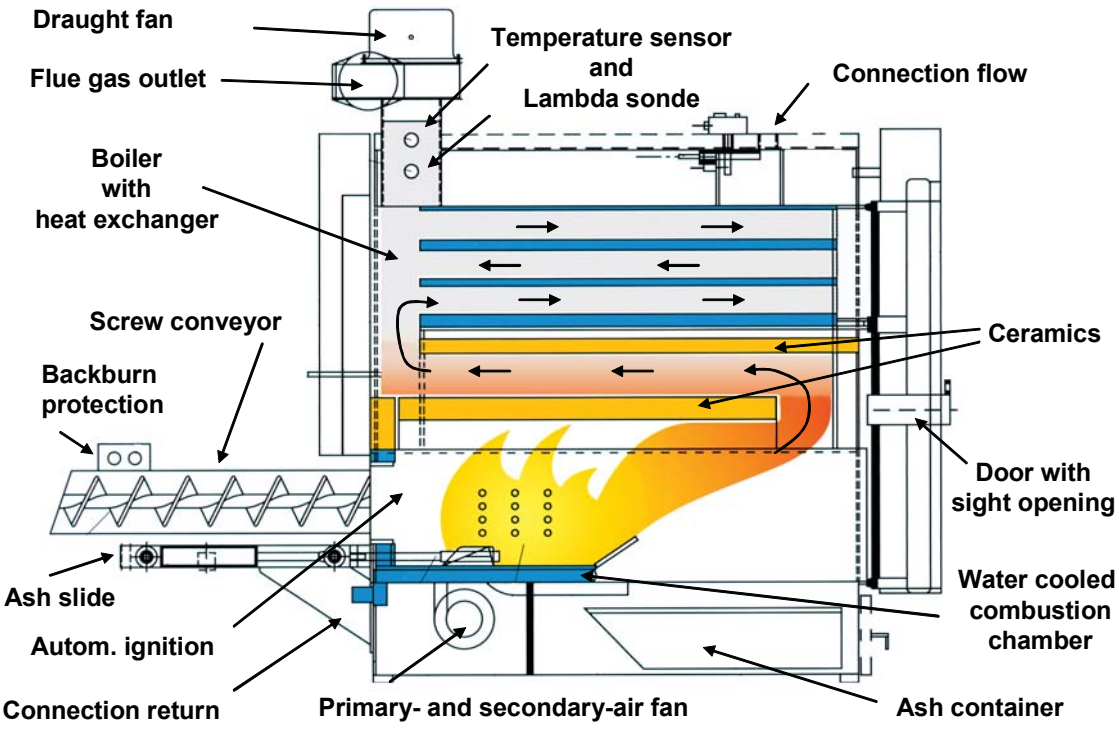
A.P.Bioenergietechnik GmbH cooperates since many years with famous universities, technology centres and institutes in Germany and international. In the year 2000, the Swedish university for agriculture (SLU) could be won as a project partner. At the associated Biofuel Technology Center (BTC) different crop stalk fuels in various mixture ratios were tested according combustion behaviour with several ÖKOTHERM® - heating systems as well as preparation by pelleting and briquetting. Topically, in cooperation with the University of Hohenheim we evaluate the combustion of fermentation residues of biogas plants.

The monastery Himmerod (Eifel) has recently decided about an independent energy supply with own miscanthus as biomass fuel and ÖKOTHERM® - heating systems. Near Göttingen a complete village plans to be heated by a local heat supply and our systems operated with straw.

Since more than 10 years ÖKOTHERM® - customers burn corn, miscanthus and crop stalks as fuel for heat production with positive experience.

At leading companies for heat contracting ÖKOTHERM® - systems are a solid part of competitive contracting quotations.

ÖKOTHERM® - Compact Biomass-heating system schematical construction



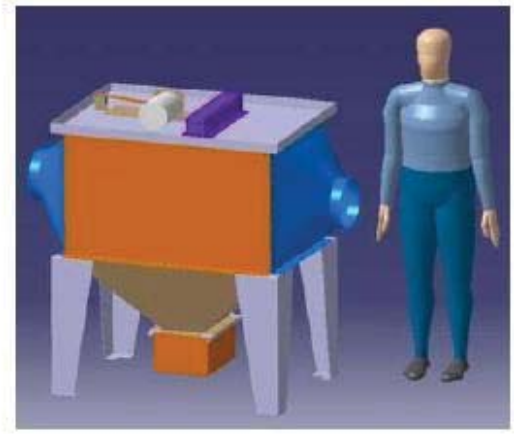
More scientific institutes like the FH-Amberg-Weiden, the FH Cologne, the University of Hohenheim, the ATZ-Technology Center in Sulzbach-Rosenberg, the ILK Dresden, CARMEN e.V. or the Agency for renewable resources (FNR) benefit our long lasting experience in the field of combustion of solid biomass and appreciate the good cooperation with ÖKOTHERM®.

In whole, more than 1.000 ÖKOTHERM® - biomass heating systems are installed worldwide. The trademark ÖKOTHERM® is internationally well-known for quality and highest combustion efficiency. ÖKOTHERM® - systems get exported to Sweden, Finland, France, Luxemburg, Poland, Bulgaria, Czech Republic, Hungary, Ireland, Ukraina and Switzerland.

ÖKOTHERM®- electric filter

Since years the A.P.Bioenergietechnik, the ATZ-Technology Center, the SLU Sweden and the FH Amberg-Weiden work together in research projects for minimisation of fine dust- and $N0_x$-emissions at small biomass combustion systems.

The result is an electric filter for systems until 150 kW which keeps the prospective required emission limit values at economic investment costs.



ÖKOTHERM®- electric filter

This electric filter is also rated for the use with grain combustion systems. Thus the salt-crusts, which adhere relatively high at the deposition electrodes of the filter when combusting grain, cause no problem for the dedusting equipment.

On combustion tests with an ÖKOTHERM®- biomass system and this electric filter, a pure gas dust concentration value below 50 mg/m³N could be achieved with grain fuel, with wood chips and wood pellets the values where below 15 mg/m³N.

A.P.Bioenergietechnik continued developing the filter system to a product which is ready for production. The introduction on the market of the ÖKOTHERM® - electro filter is in preparation.

Actually, a very promising research project „Evaluation and optimization of market-ready dedusting measures with good prospects for biomass combustion systems in the actual coverage of the 1. BImSchV“ has been applied.