



# Reference report



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## Six Loos boilers for biogas plant in Szarvas

In July 2011, Hungary's largest and most state-of-the-art biogas plant was put into operation. The project was implemented by r.e Bioenergie GmbH from Regensburg via its Hungarian subsidiary in close cooperation with the food processing company Gallicoop Pulykafeldolgozó Zrt based in Szarvas. Bosch Industriekessel was responsible for the innovative boiler technology in this outstanding project, supplying six Loos manufactured boilers and a WSM-V water service module to Hungary.

The plant produces approximately 12 500 000 Nm<sup>3</sup> of raw biogas annually from organic waste and energy crops. The waste heat, which accumulates in the process of generating electricity from the biogas, is used to produce heating and cooling for Gallicoop.

A combined heat and power (CHP) module and two Unimat UT-L boilers fired with LPG or biogas supply the heat required to operate the fermenters for biogas production. The second boiler serves primarily as a redundancy and covers peak load. The boilers are equipped with low-emission burners and integrated flue gas heat exchangers for maximum energy utilisation. Efficiencies of nearly 97 per cent can be achieved even at very low loads.

A gas line four kilometres long transports most of the biogas produced to the Gallicoop premises. Three further CHP modules transform the gas into electrical energy. To provide the process steam base load for poultry production, three Loos heat recovery boilers use the waste heat from the CHP modules. About 1820 kilogrammes of saturated steam can be produced per hour. An additional Loos steam boiler with an integrated economiser and two further steam generators already on site cover the peak load and at the same time ensure redundancy for the highest level of supply reliability. The Universal UL-S steam boiler features an output of 5000 kilogrammes of steam per hour and is fired with natural gas or biogas.

The Loos boilers were commissioned by Kazantrade from Hungary, a longtime partner of Bosch Industriekessel. The biogas plant will go into full-load operation this autumn. The EU has declared the complex concept to be trend-setting and eligible for funding.



The efficient Loos heat recovery boilers (on the left in the picture) at the Gallicoop food processing company as well as Hungary's largest biogas plant in Szarvas.