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Bosch boilers heat the town of Dunakeszi

Reference Report Bosch Industrial

Compact, energy-efficient,
reliable

District heating for the town of Dunakeszi

Around 40 000 people live in the town of Dunakeszi, which is situated 15 kilometres north of Budapest in Hungary. For many years, more than 2 300 households and eight public establishments of the town have been enjoying the benefits of the district heating supply provided by the company Dunakeszi Közüzemi Kft. The houses and other buildings have no smells from their own heating or costs for maintenance and cleaning, and everybody has more space. Further, the consumers don't have to fear cold houses or unheated schools and kindergartens. In order to maintain 100 percent supply and to optimise efficiency the energy supplier has undertaken comprehensive refurbishment.



Dunakeszi Közüzemi Kft. heating plant during the rebuilding phase.

The project

The measures include the modernisation of the complete boiler house. The local Bosch partner, Kazantrade Kft., offered the optimum solution for the renewal of the energy generators, including all consulting services and the commissioning of the boiler system. It consists of three Bosch heating boilers of the UT-L type. It was the high level of efficiency and reliability of the proposed system that was the deciding factor.

The previous three boilers from the 1970's with a total of 24 MW had since become over-dimensioned. The district heating network now operates more efficiently thanks to new, insulated piping systems, modernised transfer stations and other measures. The new boiler system was designed accordingly and has a heating capacity of 18.2 MW. Two of the natural gas powered heating boilers generate the base load together with an existing combined heat and power plant. The third heating boiler ensures the heat supply at peak load times. This boiler can be operated with both natural gas and light fuel oil, which offers additional reliability.

The heating boilers are equipped with condensing heat exchangers, which provide an even higher energy yield. They use the waste heat of the boilers efficiently to heat the return water in the network. The boiler efficiency is therefore around 98 percent. The modern burners also ensure a high level of efficiency: they are



Efficient in operation thanks to effective recovery of flue gas heat. The new boiler system saves nearly 10 percent fuel in comparison to the previous energy generation system.

fitted with fan speed controls, whereby the speed of the fan is adapted to the actual burner output – instead of running constantly at full load at all load ranges. This reduces power costs by up to 75 percent and minimizes the operating noise considerably. The customer, Dunakeszi Közüzemi Kft., also saw an additional benefit in the compact design of the UT-L type series, as well as in the fact that the system was delivered complete including all components and

accessories. Thanks to the pre-assembled equipment and insulation, valuable time and costs could be saved during installation. After the existing system had been dismantled and the new boilers had been brought in, only pipework had to be connected on site. Plug-in connections ensured that cabling work was also reduced. The control systems were tested on a virtual system prior to delivery, in order to ensure quick and efficient commissioning.



Previous boilers from the 1970's.



Quick installation and commissioning thanks to system technology.

The companies involved

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