



Technical Paper

Energy efficient pump components

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Improving Efficiency of a District Heating System by Modernizing the Pump Operation

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Summary

In the city of Constanta in Romania a district heating system had been installed in former years. It was designed with several booster/ transfer stations to distribute the delivered heat to a district each. The installed pumps were running at fixed, nominal speed, that means the different heat demand depending on the seasonal climate was adjusted by throttling the flow via control valves.

In 2004 there was a demand by the administration to reduce the power consumption of the system. One of the projects stipulated the replacement of the pumps to reduce their power consumption.

The result was the installation of speed controlled pumps, which offer the biggest amount of electrical energy savings by better operation. Additionally a state of the art automation system was installed to better control the complete district heating system including modern communication solutions to also optimize servicing of the system. This automation system required automated, intelligent pumps to have them incorporated in the whole control system. That was the demand to have the pumps also with a digital communication on the basis of a field bus.

The first installations were realized in 2006.

The paper describes the project, it's realization and the first results.