

Turnkey solutions with intelligent controls bring wastewater pumping stations up to date in Aggersund, Denmark

In Aggersund, Denmark, the local municipality decided it was time to update their 40 year old vacuum sewer system. Following investigation of new and alternative systems, they chose to replace the small well pits with Grundfos PUST prefabricated pumping stations fully integrated with monitoring and control using Grundfos Dedicated Controls.

The vacuum based system contained more than 60 small pits, each collecting wastewater from three to four houses. The decision to install such a system in the 1970's rested largely on the problems specific to wastewater collection in Aggersund – a high water table and risk of flooding. Maintenance had become timeconsuming, expensive, and working conditions often difficult.

As Operations Manager Lars Peter Jensen of the Løgstør Wastewater Treatment Plant explains, "Considering the social, environmental and cost issues, it was clear to us that the time was right to consider alternatives".

TOWARDS A MODERN WASTEWATER SYSTEM

At first, the town's engineers leaned towards a traditional gravity-based system, and also considered pressurised systems. However, a visit to a neighbouring municipality to see a project involving a number of pumping stations with a completely new type of control system convinced them of another possibility.

The Grundfos PUST prefabricated pumping station means the municipality could install a robust polyethylene pumping station

TOPIC:

Prefabricated Pumping Stations
with intelligent controls

LOCATION:

Aggersund, Denmark

COMPANY:

Aggersund Municipality

with pumps, pipes and accessories delivered on site and lowered onto a concrete foundation, in less than a day.

“Pumping stations that arrive on a lorry, ready to be off-loaded and installed, together with the superstructure, concrete foundation and all other necessary equipment couldn’t be easier for us, and is the perfect solution for a town like ours, with a high water table,” says Lars Peter Jensen.

The addition of Grundfos Dedicated Controls ensures complete monitoring and control of all pumping stations, and in this case with an important new addition to Dedicated Controls that really captured the imagination.

NEW CONTROL SYSTEM ENSURES INTEGRATION

The control system which generated particular interest in was the GPRS online system, which connects the individual units through a central SCADA system. The system also monitors alarms from the Grundfos IO111 sensor and MP204 motor protection unit, which allows the end user to instantly monitor the pump performance and protects them from damage.

Having this type of system can greatly reduce the total cost of a system by providing real time feedback, allowing for quick decisions to be made regarding preventative maintenance. In particular, the installation wizard and user interaction ensure user satisfaction.

“The system is very user friendly and easy to navigate, which means it is easy for the operators to use all of the functions. The user interface is fantastic and is as easy to use and intuitive as using a mobile phone,” explains Lars Peter Jensen. “I can’t think of a single situation concerning the daily operation of the pumping stations that the control system hasn’t had covered.”

ONE OF THE FIRST TURNKEY INSTALLATIONS FROM GRUNDFOS

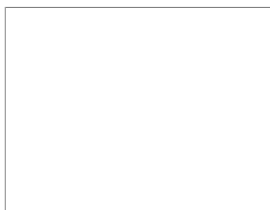
Based on the information from the consulting engineer, Grundfos calculated the pressurised pipes, pumps, and pit sizes for a total of nine pumping stations. The two larger pumping stations were each equipped with Grundfos SEV 80 6 kW pumps and the smaller seven pumping stations have SEG grinder pumps.

Aggersund is one of the first customers to receive a total turnkey solution from Grundfos. This was a standard system that included prefabricated tanks, pumps, valves, pipes, and accessories, to which was added Dedicated Controls, GPRS communication and breaker panels. Flexibility is built into these standard systems, allowing Grundfos to adapt a system for specific requirements.

Considering the flood risk in the municipality's coastal towns, Grundfos was able to supply a wastewater system that met the requirements for a complex project, to the satisfaction of the municipality.

"We have invested several million Euros in this project, so we had to be absolutely certain that we used a supplier whom we could trust. We already knew Grundfos from a local flood protection project, and we are very satisfied with the pumping stations that are now installed," concludes Lars Peter Jensen.

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