

Domestic pumping
stations using
SEG AUTOADAPT pumps
simplify wastewater
transport from housing
estates in Finland





The pumping station tank requires a minimum of effort for installation.



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In Kuusjoki and Perniö, Finland, the company *Kotalato, Tiskarla ja Lupaja Vesiosuuskunta*, a wastewater cooperative, was given the task of transporting domestic wastewater from private housing estates to the municipal waste water network. Finally the wastewater ends up in the municipal wastewater treatment plant, and is treated in accordance with government regulations.

Grundfos was chosen for this task, because the company, as a full-line supplier, could provide all the pumps and the tanks needed to fulfill the task. *Kotalato, Tiskarla ja Lupaja Vesiosuuskunta* will be operating with Grundfos' innovative and reliable wastewater solutions.

The situation – new regulations for treatment of domestic wastewater

Higher requirements for the purification levels of domestic wastewater mean that private households outside the municipal wastewater network need to find new solutions for how they treat their wastewater.

One option for fulfilling the new requirements is to build a wastewater network that transports the water to the municipal wastewater treatment plant. This option is possible when households are reasonably close to each other and the municipal wastewater pipeline is not too far away.

In Kuuskoski and Perniö, the private households agreed that the best solution for them is to build a wastewater network and therefore they established the *Kotalato, Tiskarla ja Lupaja Vesiosuuskunta* wastewater cooperative.

A second option was available to the housing estates, and that was to build own small-size purification plants and lead the wastewater there. This second option was not chosen due to the experimental nature of small-size purification plants for private housing estates.

The Grundfos solution

To fulfil the task of transporting the wastewater, the cooperative needed 446 domestic pumping stations and 36 network pumping stations that had to work together in an efficient and reliable way.

In addition to full line supplier, Grundfos was chosen because of the benefits provided by the innovative features of the SEG AUTOADAPT wastewater pump combined with the great suitability of fibreglass tanks for private housing estates. Furthermore, the benefits of the network pumping station design helped the customer's decision.

Grundfos will supply a total of 446 domestic pumping stations, each consisting of a SEG AUTOADAPT wastewater pump (in a range of different sizes) placed in a standard fibreglass tank of 1000 mm circumference and 2500 mm high. Each station includes a control box equipped with plug socket for the SEG AUTOADAPT pump to enable easy reading of runtime information from the pump.

The 36 Network pumping stations each include two SEG 3.1- 4 kW pumps, placed in fibreglass tanks of 1400 mm circumference and 3000 mm high. Each station is equipped with a control cabinet for the two SEG pumps

The domestic pumping stations will be installed for each housing estate owned by the members of the wastewater cooperative. The wastewater from each house is pumped via the domestic pumping station to the network pumping station, from where the wastewater is pumped to the municipal wastewater network.

Grundfos is delivering a standard package, which has proved to be the right solution for *Kotalato, Tiskarla ja Lupaja Vesiosuuskunta* due to the technical suitability of the products and the understanding Grundfos has for the needs of the customer. Grundfos met the needs of the customer in every respect.

The outcome

At present, 60 SEG AUTOADAPT wastewater pumps and tanks have been delivered, with the remaining domestic and network pumping stations under construction. Using the SEG AUTOADAPT wastewater pump resolves issues by making the operation of domestic pumping stations easier, for example by removing the extra hassle of external level control devices that add complexity and often cause problems for the customer.

"Projects of this kind are important, because the concerns today are greater than simply pumping wastewater. Increasing complexity and integration in installations and of course environmental concerns mean that the customer has far greater

focus on costs, reliability and impact than previously. We are proud we could resolve these issues together with Kotalato, Tiskarla and Lupaja Cooperative", says Ari Kuhalampi, Sales Manager, Grundfos Finland.

"The SEG AUTOADAPT wastewater pumps and the domestic and network pumping station solutions supplied by Grundfos are perfect for this project. Grundfos helped us find effective solutions to the issues we face with housing estates and local regulation. We are extremely satisfied with the solution Grundfos has supplied and we look forward to working together on future projects with our wastewater infrastructure," says Timo Korpinen, Managing Director, Kotalato, Tiskarla ja Lupaja Vesiosuuskunta.

Grundfos products:

➤ 446 domestic pumping stations, for each:

- 1 x SEG AUTOADAPT pump, in varying sizes
- 1 x Fibreglass tank size Ø1000 x 2500 mm
- Control box equipped with plug socket



➤ 36 network pumping stations, each including :

- 2 x SEG pumps 3.1 – 4 kW
- 1 x Fibreglass tank size Ø1400 x 3000 mm

Grundfos supplied:

- • Pre-sales consultancy
- Pumping station design
- Full-line supply of complete pumping stations
- Supervision of installation
- Commissioning

About SEG AUTOADAPT wastewater pumps:

With the adaptive intelligence of AUTOADAPT built into the SEG wastewater pump, all external sensors, switches and cables are removed from the tank. These are combined in a single pump that adapts automatically to conditions in the tank. This simplifies installation, commissioning and operation, and increases reliability.

Built-in functionality includes motor start-stop, motor protection and timed anti-seize test runs. Just one cable and plug is required for installation, and internal monitoring and alarms prevents the pump running dry. Data communication is available via open and interoperable networks.

The SEG AUTOADAPT range of wastewater pumps is specifically designed for pumping effluent and untreated domestic sewage in small communities or sparsely populated areas with no sewer systems or where gravitation systems are unsuitable. The SEG AUTOADAPT T range combines cost-effectiveness with maximum protection for the environment by facilitating the use of smaller pressure pipes for minimal investment costs.



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