

## 59 WANGEN pumps for underground wastewater treatment plant

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**WANGEN pumps supplied by FlowExperts Oy are part of a wastewater treatment plant in Finland.**

The growing number of inhabitants in the Helsinki metropolitan area and the treatment of more nutrient-rich wastewater required a new wastewater treatment plant to be built with a higher capacity and high-quality technology for the treatment process.

Blominmäki's modern wastewater treatment plant was commissioned in 2022. WANGEN pumps are key components of the plant's wastewater treatment process.



*The new wastewater treatment plant in Blominmäki has been built underground*

### **Built mainly inside the rock**

The new wastewater treatment plant of the Helsinki Region Environmental Services Authority (HSY) is located in Blominmäki, Espoo. The wastewater treatment plant, built mainly in caves inside the bedrock, has been designed and built for several years. Some of the operation buildings like the administration and maintenance buildings are located above ground. The underground plant built by YIT replaces the existing Suomenoja wastewater treatment plant, which was responsible for the wastewater of the area's 400,000 inhabitants.

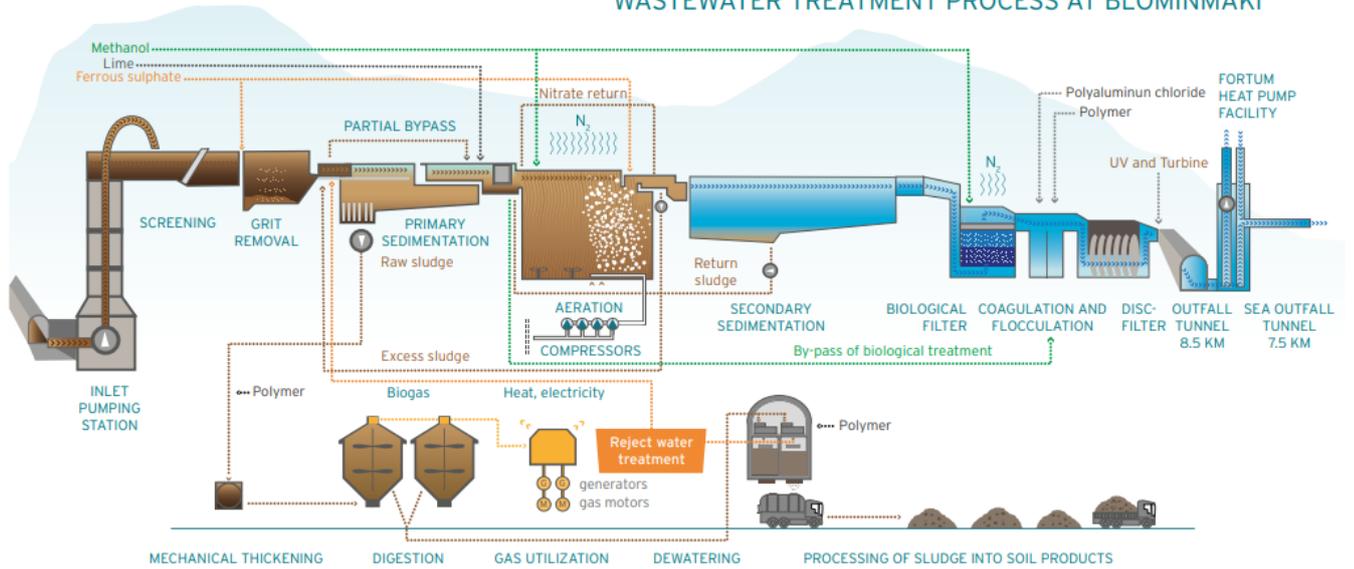
### **Strict targets**

In the treatment targets, the Blominmäki plant aims high to separate the nutrients that eutrophicate the water from the wastewater as accurately as possible. Phosphorus and organic matter are removed from wastewater by 96% and nitrogen by more than 90% - both values are lower than the EU and municipal recommendations for wastewater.

### **Reliable and environmentally friendly wastewater treatment plant**

The Blominmäki wastewater treatment plant is an example of a modern treatment plant that has invested in an efficient wastewater treatment process using technical design and high-quality technology.

### WASTEWATER TREATMENT PROCESS AT BLOMINMÄKI



The WANGEN pumps and Franklin Miller's Taskmaster® crushers supplied by FlowExperts Oy represent the latest excellence in the field of sludge handling.



WANGEN pumps in operation

The installment of low maintenance WANGEN pumps, ensures safe and cost-effective treatment of plant sludge. The plant is carefully designed for energy efficiency and the plant is able to utilize the energy generated in the wastewater treatment process, as well as biogas for its own use. In addition, all heat generated by the production of electricity and the use of large machines is collected. The smooth running WANGEN pumps are very energy efficient and ensure that sewage sludge is optimally conveyed and dried.

### Future needs anticipated

The Blominmäki wastewater treatment plant has been carefully designed with the growing needs of the future in mind. The capacity of the new plant is many times higher than the former Suomenoja water treatment plant, as the amount of wastewater treated will double to an estimated 150,000 cubic liters per day in a couple of decades. It is possible to expand the underground facilities of the wastewater to more than one million inhabitants, which is why the plant's capacity will be sufficient to treat the wastewater in the area for at least the next hundred years.

### For the most demanding operating environment



In the Blominmäki wastewater treatment plant project, YIT's Santeri Saarikko is working as the project manager for the machinery and process side. As an expert in the wastewater sector, Saarikko has been responsible for Blominmäki's plant design and technical equipment selection, among other things.

*YIT's Project Manager Santeri Saarikko examines WANGEN pumps together with Harri Österman, CEO and product manager of FlowExperts.*



Harri Österman is pleased with YIT's decision to install WANGEN sludge and polymer pumps for the new Blominmäki plant. Designed for biogas and wastewater treatment plants, WANGEN pumps are robust, reliable and virtually unblockable.

Harri collaborated closely with the project design team in order to select the most efficient pumps for the project. This included several site visits in order to get to know the plant and performing an installation inspection.

*Harri Österman, CEO of FlowExperts*

# FlowExperts

“FlowExperts Oy has a profound knowledge of the extensive WANGEN pump portfolio. We greatly appreciate their Pump selection expertise to meet the challenges of pumping thin and dewatered sludge while keeping CAPEX costs for the customer to a minimum. For over 12 year the company has successfully supplied our innovative pumps to the Wastewater Industry in Finland”, underlines John Booth, Regional Sales Manager at WANGEN PUMPEN.

## [All information on FlowExperts Oy](#)

### Overview of installed pumps:

#### **5% municipal sludge:**

- 2 pcs Wangen Xpress 64

#### **Liquid fat fractions, etc.:**

- 1 pcs Wangen pump type, Xpress 78 / 7,5 kW
- 3 pcs Wangen pump, KL50S 60.2 / 7,5 kW

#### **Glycol etc.:**

- 2 pcs Wangen pump, KL50S 60.2 / 7,5 kW

#### **0,5% Polymer :**

- 2 pcs Wangen pump, type KB22S type  
32.0L /1,1 kW
- 2 pcs Wangen pump type, Xpress 48 / 3,0 kW
- 5 pcs Wangen pump type, Xpress 48 / 1,5 kW
- 4 pcs Wangen pump type, Xpress 48 / 2,2 kW

#### **0,1% Polymer :**

- 4 pcs Wangen pump, type KB22S type  
32.0L/1.1 kW
- 4 pcs Wangen pump type, Xpress 48 / 2,2 kW

#### **4,0 %TS raw mix sludge:**

- 8 pcs Wangen pump type, Xpress 94 / 15 kW

#### **2,5 - 4,0 %TS raw mix sludge:**

- 4 pcs Wangen pump type, Xpress 64 / 7,5 kW
- 7.0 %TS Sakeutettu liete
- 4 pcs Wangen pump type,  
KL65S 101.1 / 11,0 kW

#### **4 - 5 %TS Digestive sludge:**

- 8 pcs Wangen pump type, Xpress 64 / 4,0 kW
- 6 pcs Wangen pump type, Xpress 64 / 7,5 kW

## Top quality for low maintenance and high performance continuous operation



The WANGEN PUMPEN Xpress range of pumps with compact design and very small footprint were particularly suited for this underground project with limited space availability.

[WANGEN PUMPEN Xpress video](#)

**Chemical dosing, mechanical and biological wastewater treatment, sludge dewatering and sludge drying: WANGEN PUMPEN** offer a comprehensive program of robust and highly reliable pumps, which satisfy requirements of wastewater treatment plants. In this way, we help plant operators to keep their wastewater treatment plant operating smoothly while keeping operational costs (OPEX) to a minimum.

Since April 2022 WANGEN PUMPEN is part of the Atlas Copco Group.

[www.wangen.com](http://www.wangen.com)

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