

# Xylem as total contractor for a new pumping station solution in Kristvallabrunn

A complete solution including a pumping station in Kristvallabrunn and a booster station in Granås



## Background

The existing pumping station in Kristvallabrunn was replaced with a new facility, while the existing pressure main was relined. The long transmission pipeline, combined with a reduced internal diameter, meant that an additional pumping station was required along the pipeline to handle high flow conditions.

The transmission pipeline between Kristvallabrunn and Nybro is approximately 7.4 km long and has a static head of 19.2 metres.

## Project Scope

In February 2024, Nybro Energi AB signed an agreement with Xylem for the delivery of a complete pumping solution. The project was delivered as a turnkey project based on a proposed solution, consisting of a new pumping station in Kristvallabrunn with dry-installed pumps, as well as a booster station located approximately halfway along the pipeline.

Final inspection was completed in November 2024. Xylem's scope of work included engineering, delivery, installation, and commissioning of two complete pumping stations.

### End customer

Nybro Municipality

### Client

Nybro Energi AB

### Contractor

Xylem Water Solutions Sweden AB

## The Challenge

The system was required to be dimensioned for a flow rate of 8 L/s, while the normal operating flow is significantly lower. Due to high friction losses in the long pressure main, the pumping station in Kristvallabrunn alone was unable to handle the design flow under peak load conditions. The solution therefore needed to accommodate varying flow rates, optimise pressure levels within the system, and ensure stable and energy-efficient operation without unnecessary wear on the equipment.

## The Solution

Xylem designed and delivered a proposed solution consisting of:

**Kristvallabrunn Pumping Station** – A new pumping station with dry-installed pumps, including a building with service facilities and a pump sump.

**Granås Booster Station** – A booster station with dry-installed pumps, housed in a building and located approximately halfway along the transmission pipeline.

At lower inflow rates, up to approximately 4 L/s, the pumping station in Kristvallabrunn is able to pump the entire distance to Nybro. At higher incoming flows, the variable-speed pumps increase their rotational speed, raising the system pressure and activating the booster station in Granås. This reduces the load on the pumps in Kristvallabrunn while increasing the total flow capacity of the system. The solution ensures stable operation, optimised capacity, and efficient energy use.

## The Result

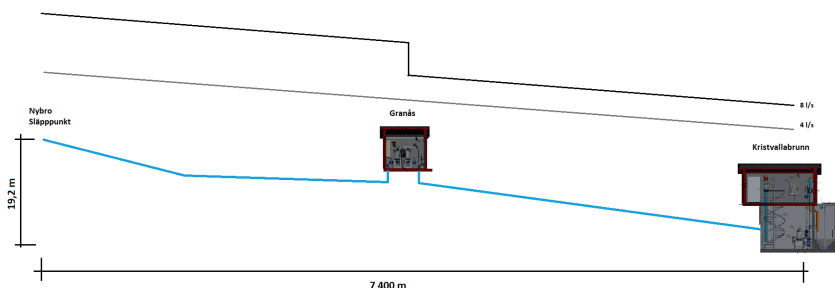
The completed facility enables reliable and efficient wastewater transfer under both normal and peak flow conditions. Through the integration of a booster station and intelligent control, increased capacity, improved operational reliability, and reduced mechanical wear are achieved. The project was delivered on schedule and provides Nybro Energi with a robust and future-proof solution for long-term, sustainable operation.



Dry-installed pumps in the new pumping station in Kristvallabrunn, designed for stable operation under varying flow conditions.



Dry-installed booster pumps in Granås that increase pressure and flow in the pressure main.



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