



GRUNDFOS SMART FILTRATION SUITE:

Grundfos and Colubris Cleantech collaborate on water reuse at a north German poultry meat processing plant

THE SITUATION

A poultry meat processing company in northern Germany required a water reuse system with a target water quality for reuse in cleaning equipment during meat processing.

Water reuse of difficult waters is a challenge, and purifying water quickly from treated wastewater became an additional problem. The reverse osmosis (RO) membranes were fouling at a rapid pace with specific CIP events, and excessive use of chemicals for inhibiting scaling led to the customer complaining about the operational costs. As a result, downtime started to be an issue since the water volume required for daily operations was not met.

THE SOLUTION

To resolve this, the company decided on a complete Colubris Cleantech water reuse solution. The plant included biological wastewater treatment, filtration, and RO. Treating wastewater in the meat industry is per se a challenge that only experienced companies like Colubris can manage, and Grundfos proved to be the ideal partner, providing the pumps, sensors, and technical expertise that eased the configuration of the systems.





Colubris Cleantech is a solution provider in three main areas: Water Solutions, Waste Solutions, and Bioresource Solutions. Their main goal is serving customers to help them effectively reduce impacts on the environment. The Water Solutions area focuses on reducing wastewater problems, reusing water, and purifying water.

Grundfos is increasingly a water treatment solution provider to industries facing operational problems with water reuse systems. One digital solution specifically targeting membrane filtration is Smart Filtration Suite. The suite covers microfiltration (MF), ultrafiltration (UF), nanofiltration (NF) and RO. The Grundfos suite is a real-time digital solution triggering dynamic pump execution signals from a slave PLC communicating to the master PLC at the plant.

THE RESULT

Since Colubris Cleantech is a close Grundfos partner, the customer was presented with the suite, and they committed for an initial test period of three months. The initial three-month test period was extended by a further three months until the decision was taken to make the solution a part of the daily operation for the coming three years. The water reuse system corresponding to the RO system (1500 m³/d) could improve operation in terms of higher efficiency in increased recovery, less CIP use, better CIP implementation, lower chemical consumption, and lower SEC (Specific Energy Consumption per m³ produced).

Operational costs were reduced by 29%, with an intriguing breakdown showing monetary savings for chemicals, energy, and membrane replacement by 61%, 21%, and 17%, respectively. The total yearly savings accounted for almost EUR 20,000, and the customer is paying less for chemicals, using less energy, and having enough water during cleaning.

The customer is more than satisfied, thanks to the Colubris Cleantech, Grundfos-powered solution for water reuse. This solution is needed by meat processing companies in Europe, which are challenged to improve their sustainability profile.

CUSTOMER BENEFITS

CLEANER	29% reduction in energy, chemicals, time, water
BETTER	Higher efficiency from increased recovery, less CIP use, better CIP implementation, lower chemical consumption, and lower SEC (Specific Energy Consumption per m ³ produced)
CHEAPER	EUR 20,000 total yearly savings, of which 61% from chemical reduction 21% from energy reduction 17% from membrane replacement



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