

Fieldbus-controlled Dosing

- ▶ **The largest dairy group in Europe, Arla Foods has built a state-of-the-art wastewater treatment system at Rødkjærsbro, Denmark.**

A steady and reliable flow of information

A steady and reliable flow of information is critical for the wastewater treatment system and essential for the factory's operation. A failure in the treatment process will bring cheese production to a very expensive standstill within 24 hours.

Digital Dosing's role in ensuring success

Grundfos Digital Dosing pumps are compatible with the Profibus network that ties the plant together. The wastewater system can then be monitored and controlled from anywhere. The Digital Dosing pumps respond to commands sent via the fieldbus network. Four sensors monitor phosphorus levels in the wastewater system and relay the information back to the controlling PC. If phosphorus levels rise above a critical point, the PC will automatically start a dosing pump, or increase dosages to compensate.

Reliable information and full control

With Grundfos Digital Dosing pumps and Profibus, Arla Foods have a solution that gives a reliable flow of information and full control over the whole system. Early warning signs are now seen long before critical levels are exceeded. At the same time the dosing pumps are so precise no matter how high or low the dosage that there is no waste of chemicals.



The system at Arla Foods

There are six dosing pumps altogether. Four of them, dosing ferric chloride, are controlled by phosphorus sensors, which are also connected to the network.

Two dosing pumps are used to stabilise the pH level of the wastewater as it enters the treatment plant. The pumps are controlled by a pH sensor, which is also connected to the system.



The Grundfos Digital Dosing Solution

6 x DME 48-3

Maximum capacity: 48 l/h

Maximum pressure: 2.6 bar

Profibus interface:

- Module for Profibus DP communication integrated in the Grundfos Digital Dosing pumps
- Pumps are delivered with 200mm network cable with IP65 M12 plugs as shown on the pictures
- All parameter values and operating status of the pumps are available via the network

Advantages at a glance

1. Remote monitoring and full control of the dosage ensures high operational reliability
2. The same high accuracy in all of the pump's operating range (0.048-48 l/h)
3. Output is shown and regulated directly in l/h or ml/h

