

A photograph of industrial machinery, likely a dairy processing plant. It features several large stainless steel vertical tanks and pipes. In the foreground, there are two electronic flowmeters with digital displays and buttons. One flowmeter is mounted on a vertical pipe, and another is on a horizontal pipe. The background shows more complex piping and structural elements of the plant.

**Meeting the demands of Industrial
Information Management**
SITRANS F M electromagnetic flowmeters

This was the case back in 1999 when the plans for Robert Wiseman Dairies' new plant in Droitwich near Birmingham, UK, were conceived. Meeting the requirements for cutting edge information technology was put in the hands of Tetra Pak, an experienced player in this field.

At Tetra Pak, the choice of system supplier fell on Rockwell Automation, thanks to successful experiences with their DeviceNet fieldbus communications. Tetra Pak chose to install SITRANS F M MAGFLO flow-meters, both for process plant control and utility management.

Case Study - 1999

food & beverage

When you build Europe's largest fresh milk and cream dairy on a green field site, you naturally want to make sure that it is equipped with state-of-the-art control systems, saving costs and supporting optimum information management.

SIEMENS

The companies

Tetra Pak, founded in Lund in Sweden in 1951, develops, produces and markets complete processing, packaging and distribution systems for food products. Since its foundation, the company has expanded its business to include much more than the packaging of liquid food products. Today, ice cream, cheese, dry foods, fruits, vegetables and pet food are examples of what can be packaged in Tetra Pak packages. By developing packaging, which preserves the nutritional value and taste of products, the distribution of these food products to the consumer has been greatly facilitated.

The range of processing equipment includes separators, heat exchangers, homogenisers, evaporators, aseptic processing systems and flow equipment. Tetra Pak is also deeply involved in plant automation.

European Milk & Cream Champion

The Robert Wiseman Dairy dairy in Droitwich, close to Birmingham, UK, is the largest fresh milk and cream dairy in Europe. It was designed for a production of 500 million litres per year.

Production started up in late March 2001, and at the time of writing - while commissioning had not been fully completed with some applications to be commissioned - the output was 900,000 litres per week. The Dairy was the first food factory in the UK to win an Integrated Pollution Prevention & Control (IPPC) licence.



Why SITRANS F M

21 SITRANS F M MAGFLO meters control the flow rate and monitor the volume in a variety of process plants throughout the dairy, thus ensuring reliable operation and reducing wastage. The utility management includes another 15 electromagnetic flowmeters to control the supply of chilled water, hot water, mains water and boiler feed.

"We know the SITRANS F meters from way back, and with the USM II platform they support DeviceNet, which was decisive in this case." Alan Dexter, Senior Automation Engineer at Tetra Pak, comments. Alan Dexter also points to the circumstance that Siemens Flow Instruments offered site support during installation and commissioning. An important part of this service was a training course with the participation of the Tetra Pak employees responsible for the installation, Robert Wiseman's site engineers and subcontractors carrying out the electrical installations.

"Undoubtedly, the course should be credited for the rather smooth installation. As a whole, it became a pretty straightforward job", Andrew Lyons, Senior Process Engineer at Tetra Pak, notes. He adds that the confidence in Siemens Flow Instruments was extensive, since they from the outset could prove that their DeviceNet option worked on the SITRANS F M flowmeters.

However, this was the first major project where 35 SITRANS F M MAGFLO flowmeters, controlling pumps and tank agitators, had been hooked up on the fieldbus. "In that way you might say we took a chance, but we have had lots of support from Siemens Flow Instruments, and I think it has been rewarding," Andrew Lyons states.

With the unique and flexible adaptor concept, one flowmeter fits nearly every process connection.

The Challenge

Both Tetra Pak engineers emphasize the importance of instrumentation in the information management chain. "The management requires more details than ever before, and instrumentation provides the basic data. Obviously, the quality aspect of the instruments installed is crucial," Alan Dexter says.

At the new Robert Wiseman Dairy, the heavy demand for information is not least due to environmental considerations. The plant was the first of its kind in the UK to get a licence from the national Environmental Agency - a status requiring extreme control and documentation as regards losses, use of utilities and effluents. The objective is to cut down the consumption of utilities to 60 percent of the industry standard.

"We are confident that the instrumentation and the DeviceNet fieldbus communication will be a reliable means to reach this goal," Alan Dexter maintains.

SITRANS FM MAGFLO, MAG1100 F with MAG 6000 transmitter. MAG 1100 F is specially designed for the food and beverage industry and was the first to pass the EHEDG hygienic test. MAG 1100 F meets all hygienic standards.

