

ABB drives help dairy to meet hygiene standards

Valio, the leading Finnish dairy producer, has two ABB general machinery drives ACS350 installed in the cleaning in place (CIP) system in its cheese dairy in Joensuu.

The dairy industry demands strict hygiene standards, and process tanks and pipelines must be efficiently cleaned and sanitised after each production run. CIP is a method of cleaning which enables equipment to be cleaned quickly and efficiently without the need to dismantle the equipment. The system includes various types of valves and pumps, such as wash pumps for circulating the wash solutions in the piping, and scavenge pumps to help return the solutions to the storage tank.

In recent years, the Valio cheese dairy in Joensuu has made substantial investments in technology. For example, a high degree of automation is used for control of the production processes as well as the cleaning operations. ABB drives have been used in numerous applications at the plant since the late 1980s.

The wash programmes, or wash recipes, for different types of CIP washes for cleaning and sterilising the process equipment, are stored in the plant automation system. The wash cycle times, cleaning solutions, flow rates and temperatures are optimised for each type of wash. A wash cycle involves a number of steps such as flushing, alkaline cleaning, acid cleaning and intermediate and final water rinses.

The ABB general machinery drives ACS350 are installed in the CIP10 and CIP11 wash lines for pipes. The drives control the centrifugal pressure wash pumps through a speed reference supplied by the plant automation system as a 4.20 mA current signal to the analogue input of the drives.

Matti Salmi, process manager for fresh cheese processes in Joensuu, explained: "The frequency converters installed in these wash lines control the pump speeds to maintain a constant pressure and flow rate in the pipes. It's important that the pressure and flow rate of the cleaning solutions passing through the pipes stay uniform throughout the wash cycle in order to remove all debris and soil completely."

According to Matti Salmi, the number of equipment breakdowns in the pipelines has significantly reduced with the frequency converters controlling the wash pumps. "With frequency converter control the speed of the wash pumps can be ramped up smoothly to the required rpm and in this way prevent damage, for example, on the numerous bleed valves in

the pipelines," he said. "Some of the bleed valves have very fast opening times and a sudden surge of wash solution against the valve would cause a hammer effect and finally result in a mechanical failure."

ABB general machinery drives are integrated with the process automation and programmable logic controllers at the plant. Mr Salmi commented: "The drives and PLCs communicate seamlessly, and it was very easy to integrate the drives with the plant automation."



ABB drives have helped Valio to achieve high levels of hygiene at its cheese plant in Joensuu, Finland

ABB, Finland 250

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Help with understanding FDA regulations

Decernis LLC has announced the release of FDA PLUS, a regulatory compliance information system for improving the searchability and transparency of Food and Drug Administration (FDA) regulations, actions and toxicity data relating to food contact substances and food additives. FDA PLUS is the result of a cooperative project over the past 18 months between Decernis and the FDA, and is a new component of the company's web-based gComply, an information system used by manufacturers, law firms, and governmental agencies to determine requirements applicable to food and industrial materials covering 70 countries.

FDA PLUS is intended to make it easier to find and address agency actions and data, and to compare them with other national requirements to assist businesses in understanding what they must do to reach a global marketplace. Determining a manufacturer's obligations with regard to requirements applicable to the safety of food additives and food contact materials in a global market is a complex task for a large company, but is even more challenging for small or medium-sized organisations. Such requirements may differ in procedure and substance between countries of use. In addition, these regulations are in flux, making it difficult to keep up with changes.

"We are delighted to have the opportunity to work with the FDA on this project, and believe that the results will provide tools to make better compliance decisions and at lower cost," said Pat Waldo, CEO of

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Decernis. "Our goal is to provide the systems that a company can use throughout the enterprise in order to reach global markets."

Decernis, Germany 251

Non-invasive temperature measuring

Loma Scientific has helped Pasta Reale, one of the leading manufacturers of organic soups and sauces in the UK, to reduce wastage by installing its Celsius non-invasive temperature measuring system.

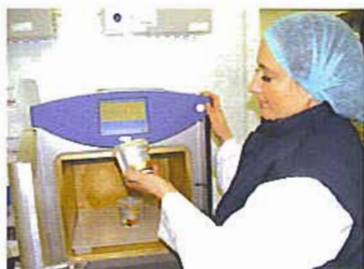
Pasta Reale handles around 750 tonnes of product per year, and has extended its production capabilities to include an extended Quality Customer portfolio. Temperature control is a critical part of the exceptionally high standards set at the company.

Prior to the installation of the Loma system, Pasta Reale used conventional probe and thermocouple product testing, which involved a high wastage of finished product, which was not redeemable. Another disadvantage with using probes is that they require daily calibration.

Infra-red systems were considered but rejected, as they are limited by their inability to measure beyond the surface of the product or packaging.

Stan Watts, project manager at Pasta Reale said: "Celsius monitors product temperatures at both the hot-fill stage and throughout the final product chill process. Using the on-line facility to read data through bar code identification and data recording programmes, the Celsius can monitor chill times, line trends and blast chill efficiency, enabling us to optimise the blast chill process with no wastage attributed. The

Loma Scientific's Celsius non-invasive temperature measuring system is in use at Pasta Reale in the UK



system has proved to be both accurate and reliable."

The Celsius system has a temperature range of -30°C to $+100^{\circ}\text{C}$ and an accuracy which is said to be $\pm 0.2^{\circ}\text{C}$.

Loma Systems, UK 252

High performance temperature calibrators

The accuracy of the JOFRA ATC-156B dry block temperature calibrator with reference sensor, which is used extensively in the food and beverage industry, has recently been improved, according to

manufacturers AMETEK Calibration Instruments.

The accuracy is said to have been improved to $+0.02^{\circ}\text{C}$ to $+0.01^{\circ}\text{C}$ when using the reference input. Temperature stability has also been improved on the unit from $+0.02^{\circ}\text{C}$ to $+0.01^{\circ}\text{C}$, and is now guaranteed for a full year. The units also feature a temperature stability countdown timer, which starts five minutes before the stability indicator comes on. This helps the user to know when to take readings from the sensor under test.

Accurate temperature calibration is important as part of HACCP and also ensures processes run at the optimum temperature (too low could compromise hygiene, and too high results in wasted energy and higher costs). Typical applications include aseptic filling of bottles, barrels and other containers, and cleaning of bottles and steel kegs.

AMETEK Calibration Instruments, Denmark 253

Product Recalls and Safety Warnings

Feb 14-21

Icelandic owned food giant Bakkover recalled a number of houmous products after *Salmonella* contamination was identified in two own brand products supplied to Marks & Spencer in the UK. Similar own brand products supplied to other retailers were also recalled.

Feb 21-28

Aldi Stores Ltd recalled several batches of its Romano Pasta Sauce Original 470g and Romano Mushroom Pasta Sauce 470g, from the UK and Ireland due to possible glass contamination.

Feb 28-March 7

The UK FSA announced that Suma Wholefoods had recalled a batch of 'Suma Green Pesto (Vegetarian)', following a single customer complaint of glass contamination.

The UK FSA announced a further recall of yoghurt products produced in unlicensed

premises. Following a previous recall of Moubon yoghurt dessert, enforcement officers discovered a similar product being made by Euroversal International Ltd/Midhai Ghar.

March 7-March 14

Netto Foodstores Ltd recalled several batches of its Minimum Cereal Bars (Cranberry and Apple) following a single customer complaint of contamination with rodent body parts found within the product.

Italian dairy company Parmalat recalled a batch of milk from sale in Paraguay, after hospitals in the Alto Parana region of Paraguay had been inundated with patients suffering from food poisoning. All appeared to have been struck down by illness after consuming pasteurised milk produced by a local unit of Parmalat.

(Taken from RSSL's Food e-news bulletins. To subscribe click on the appropriate button at: www.rssl.com/food-e-news)