

Data recording in food and beverage applications

Meet regulations, optimize performance, reduce costs

- Satisfies strict quality requirements
- Minimizes risk of product recalls and litigation
- Improves production through enhanced access to data



Food and beverage companies produce thousands of products everyday making tight control of production essential.

Introduction

With food and beverage companies producing and despatching thousands of products each day, the need to pick the best technology to help ensure high levels of product quality and safety is of paramount importance.

Tight control of food and beverage processing is essential to ensure that customers receive safe, high-quality products. The number of consumer product recall incidents is growing by between 20 and 25% each year across Europe as a result of tighter legislation and a growing fear of litigation.

The choice of controller or recorder for a particular process depends on the process itself and the level of sophistication required. Food regulators are not really concerned about the type of device or control scheme used. Their primary concern is to ensure that the resulting product is safe and that they can find out what went wrong should a problem arise.

Food processing is time and temperature sensitive, so being able to control these factors perfectly is vitally important. Previously, if there was a problem midway through the process, it would often fall to the operator to problem-solve on a case by case basis, potentially leading to waste and inconsistencies while increasing the margin for error. Now the technology has progressed to a stage where variables can be programmed in advance, with controllers effectively regulating production processes according to certain predetermined rules.

The application

Specializing in the manufacture of organic soft cheese, Somerset, UK based Daisy & Co regularly produces a range of special quality cheeses in batches to meet specific customer demands, using purpose-built equipment including a traditional pasteurizer set.

Daisy & Co had been using dedicated circular chart recorders for decades to trace and record process data such as hot and cold product temperatures and the heating medium temperature. However, due to the inherently humid and wet conditions of the dairy production environment, the instrument was showing signs of wear and needed to be either refurbished or replaced.

The problem

Food quality regulations require several parameters in the pasteurizer plant to be accurately recorded and the paper record/chart stored for several years. When the paper chart recorder and controller failed in the middle of a pasteurization run it resulted in the treatment process having to be stopped and the pasteurization process being put at risk. A replacement was needed urgently, so in a bid to resolve the problem as quickly as possible and restore the production process, Daisy and Co approached local ABB alliance partner A M Sensors Ltd for a solution.



The solution

AM Sensors responded immediately, loaning Daisy & Co a chart recorder while they considered what to do next. The initial priority was to get production back up and running, with a secondary aim of resolving existing operational, quality and accuracy issues. After being quoted for both a conventional replacement and an electronic ABB SM500F recorder, Daisy & Co, had no hesitation in selecting the SM500F videographic recorder.

Following installation of the SM500F, Daisy & Co is enjoying paper-free, transparent recording of its production and pasteurization processes. The pasteurization process was up and running with minimal disruption thanks to the dedicated intuitive controls, displays and windows-style menus. The easy to install system remains robust in a hostile environment, is extremely easy to use and produces easy-to-read reports via the free software supplied.

The SM500F enables Daisy & Co to continuously track what is happening in each process and allows it to conveniently store data for future reference. This move from traditional analogue circular chart recorder to digital recording and logging technology gives Daisy and Co access to a wider range of production data which can be used to ensure even higher levels of product quality.

What can ABB offer?

The SM500F is an electronic data recorder that can be installed anywhere, taking recording out of the control room and offering users localized access to operational data. In a highly regulated industry the recorder offers efficient and constant transparency whilst reducing incidents of wastage due to product irregularities.

The data can also be electronically archived and readily retrieved for future reference without the storage issues associated with paper-chart recorders.

Fully compliant with the FDA's (Food and Drug Administration) 21 CFR Part 11 regulations concerning electronic process data collection, the SM500F is ideal for any installation where local indication and recording of process conditions is needed. Typical applications for the device include cold storage, temperature and humidity monitoring, effluent monitoring, borehole abstraction and building management systems. Its fully sealed IP66 and NEMA 4X enclosure provides full protection against water and dust ingress making it ideal for hosedown and dirty applications.



Front-mounted pushbuttons allow simple selection of data, which is presented in a familiar Windows™ environment. Set-up and commissioning is also straightforward, with menus presenting options for setting and fine-tuning operating parameters. Added support is provided by an extensive context sensitive online help feature. As with other members of the SM recorder series, the SM500F can send email notifications whenever an alarm occurs to ensure that any potential problems are promptly addressed.

- Unique universal mounting capability
- 8 software recording channels
- Remote access and data retrieval
- Choice of displays - TFT or monochrome
- Quick and easy set up
- Install in the harshest of process environments

For advice on how instrumentation can help you comply with legislation and protect against legal action, email moreinstrumentation@gb.abb.com

ABB's SM500F is an electronic data recorder that can be installed anywhere.



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