

FOAM DETECTION & FOAM CONTROL

CASE STUDY

A custom automated foam control solution was implemented at one of Europe's largest cereal manufacturing sites, which produces thousands of tons of breakfast cereal every year for distribution.

BACKGROUND

Water and waste treatment are often carried out at large food manufacturing sites, and cereal is no different. Foamy, dirty overspills are a very messy occurrence, and clean-ups of such events are costly in terms of both time and money. Liquid overspills create health and safety risks by putting employees in danger of injury from slips and falls. Additionally, serious pollution can result if foam escapes into the environment.

The most common method of reducing and removing foam—and the risks it generates—is to dose the effluent or process with antifoaming chemicals, breaking up the foam as it forms and preventing it from rising to a troublesome level. This is usually done by dosing the chemical into the foaming process automatically, often either continually or on a timer basis. Chemicals are

“Having initially been skeptical as to just how effective Hycontrol’s foam control technology could really be, I’ve been very pleasantly surprised by the accuracy and reliability of the system. We’ve had to make a few minor adjustments due to changes in the foam density, but otherwise, it has proven to be very successful. THE BUDGET SAVINGS ON ANTIFOAM EXPENDITURE HAVE ALREADY COVERED THE EQUIPMENT COSTS SEVERAL TIMES OVER!”

usually added in quantities based on the maximum expected demand. While this does result in existing foam subsiding and being kept down, this method is not only an inefficient solution, but it can also create additional problems.

High costs, the negative effects of antifoam chemicals on their process, and the long-term detrimental effect that the disposal of these chemicals had on health and the environment led engineers at the cereal manufacturer to want to increase efficiency and control costs at their on-site effluent treatment plant.



**ANTIFOAM USAGE
ON THE TANK HAS
BEEN REDUCED BY
APPROXIMATELY
92%, SAVING
AROUND \$40,000
PER YEAR.**

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FOAM CONTROL MEASUREMENT AND
CONTROL SYSTEMS.**

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OUR SOLUTION

The manufacturer agreed to try a solution built upon Hycontrol's SureSense foam control system. A controller and two-meter-long probe were set up on one effluent tank, linked to control an antifoam dosing pump.

Hycontrol's high-sensitivity foam sensors are not modified liquid level sensors, but instead have been designed specifically to measure foam. This level of sensitivity means that the SureSense foam control system only doses antifoam when foam is present at a predetermined level.

The fact that the Hycontrol SureSense system is purpose-built for measuring foam is vital to its ability to avoid generating false readings due to build-up of foam and other substances on measurement probes. The system allows sensors to discriminate between the residual deposits of foam/product build-up on sensors which inevitably occur during normal operation, and the process foam which must actually be measured.

RESULTS

In the two years that the cereal manufacturer's foam measurement and control system has been in place, it has proven to be consistently reliable and accurate. Antifoam usage on the tank has been reduced by approximately 92%, saving around \$40,000 per year.

Clear benefits, financially and environmentally, were achieved through the use of a reactive system that doses antifoam only when it is required.