

# Food and Beverage Applications For ABB Adjustable Speed AC Drives

Adjustable Speed AC Drives help lower production costs for margarine producer

ABB AC Drives

## Background

The margarine market is highly competitive and production is one of the few areas in which costs can be reduced. Several features offered by ABB Adjustable Speed AC Drives are helping Paasivaara reduce such costs.

## A process under pressure

Margarine is made from an emulsion formed from a two-part mixture of water and fat. A proportioning pump ensures the right quantity of each part is mixed before the emulsion is pumped through motor-driven rotating cylinders where it crystallizes and cools.

At the end of a day's production, the emulsified margarine hardens. Attempting to start the motors leads to severe pressure peaks in the piping, as liquid margarine comes up against the hard emulsion.

These peaks cause mechanical breakdowns. Pumps become overloaded or blocked; pipes are stressed and fracture; and valve seals leak.

The result – an expensive and time-consuming maintenance program.

## Relieving the pressure

To overcome the pressure peaks; electricity supply surges; and heavy maintenance costs, Paasivaara Oy selected an ABB Adjustable Speed AC Drive to control the rotating cylinder's eight motors.

The Drive's soft-start feature means the motor's speed can be gradually increased, allowing fresh margarine to slowly break down the hardened emulsion, thereby avoiding pressure peaks. High inrush currents are also avoided, reducing stress on the electrical supply.



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With ABB AC Drive control, pumps, pipes, and valves experience less wear thereby increasing service life and reducing maintenance. Dynamic stresses are far lower with the smooth DTC control than with intermittent start-stop control. Pressure strokes, which wear pipes and other plant equipment, can be avoided, and the service life may even be doubled.

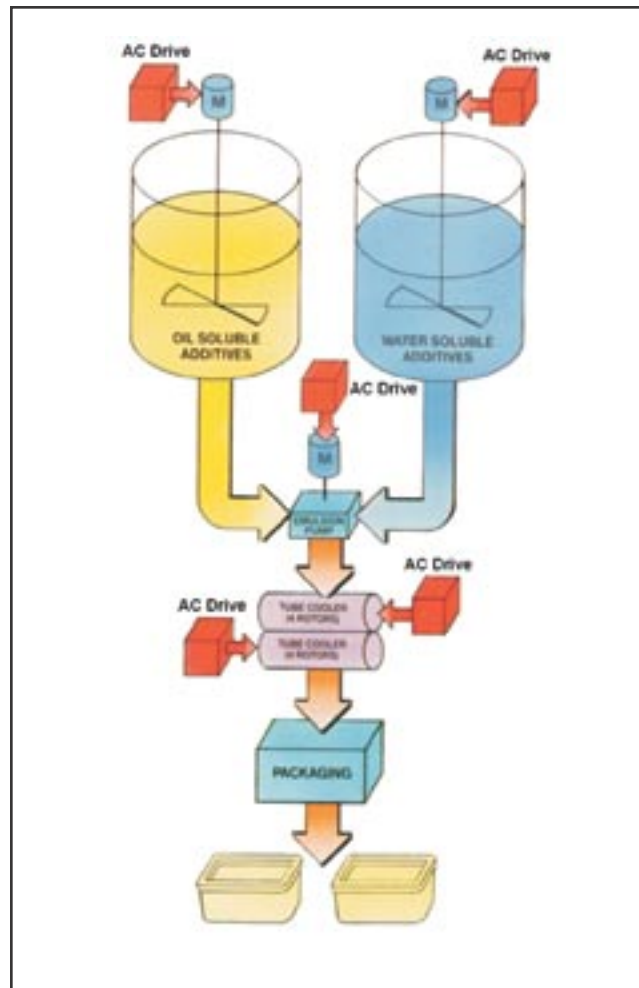
### User-friendly technology

Merja Teravainen, Project Engineer at Paasivaara Oy, comments:

“The number one reason why we purchased ABB Drives is the significant improvements speed control brings to our production technology, especially the reduction in mechanical stresses.

An important criterion for any production process, and highlighted at Paasivaara, is the need for technology to be user-friendly.

ABB AC Drives are easy for non-skilled people to operate and handle,” explains Teravainen. “The digital control panel clearly shows all parameter settings and operating data. Programming the Drive is quick and easy and even our inexperienced personnel were proficient in operating the unit after only a few hours training. With ABB Drives, you really know what’s happening.”



### Total Customer Satisfaction

The quality of ABB drives is backed by a company-wide commitment to total customer satisfaction. ABB’s 24-hour customer support line, plus an extensive sales and service network, provide a wealth of drives applications expertise and personalized assistance that will ensure your continued success.

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