

Food and Beverage Applications For ABB Adjustable Speed AC Drives

Adjustable Speed AC Drives improve
production for butter manufacturer

ABB AC Drives

Background

Products manufactured include butter, yogurts, cheese spreads, full cream milk powder and buttermilk.

Because the plant aims for economic processing of its raw material, production is concentrated in a few large units. The high demands this places on the dairy technique means the automated control of the reception and production processes is indispensable.

The company is a strong advocate of Adjustable Speed AC Drives, using them throughout its production processes. Each application harnesses different benefits offered by such drives.

ABB freezes costs

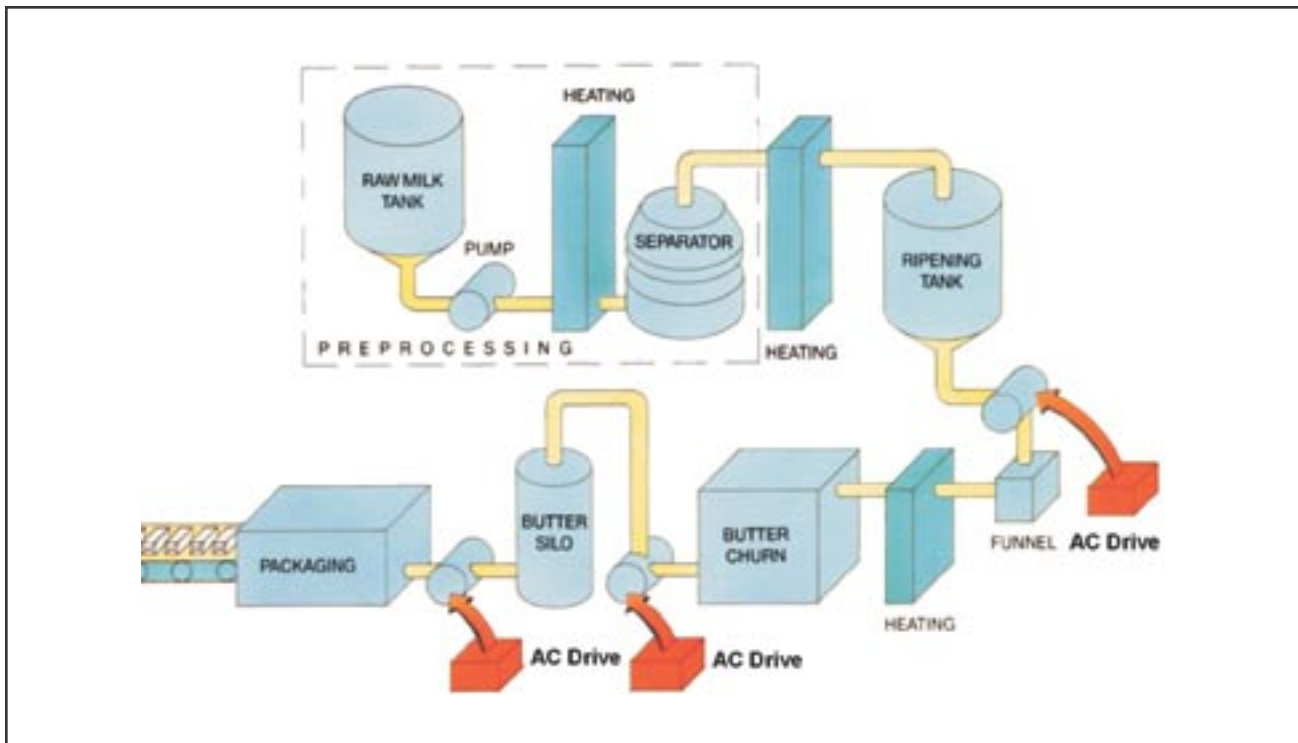
Maitojaloste's first ABB AC Drive was purchased in 1979 for use in its refrigeration scheme. It is still going strong today. The Drive was used to pump a constant stream of iced water to the various production processes in the plant.

The variable speed is adjusted by a signal fed back from a pressure level detector located in the iced water supply pipes.

When demand for iced water is high, the Drive can be connected to drive two 100 Hp AC motors in parallel so that the maximum flow rate of 200m³ per hour is achieved.

The advent of adjustable speed drives means it is now possible to continuously match system capacity to cooling load at all operating conditions. High efficiency and substantial energy savings are achieved.





Churning out the product

After passing through a ripening tank, the cream used for butter is pumped to the butter-making machines of butter churns. Maitojaloste has two large butter churns each manufacturing 5,000kg per hour of butter and a smaller churn producing 2,000kg per hour.

Until recently, butter flow, between the butter silos and the butter making machines, was controlled by a hydraulic system. Control was very coarse, inaccurate and demanded regular and costly maintenance. But more importantly, the hydraulic system was extremely dirty.

To overcome these drawbacks Maitojaloste is converting its hydraulic systems to AC Drives.

“Cream must be handled carefully, otherwise it separates and turns to butter too early,” explains Maitojaloste’s Electrical Engineer Matti Koskimaki. “Adjustable Speed allows us to adjust the speed so that this does not happen. It also helps avoid pressure peaks which build up when air enters the mixture during pumping.”

Two ABB AC Drives are presently undergoing tests at Maitojaloste. “The Drives are working extremely well. We have had no trouble with them at all,” says Koskimaki. “In fact, we will happily change our remaining four hydraulic systems over to Adjustable Speed AC Drives.”



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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