

Food and Beverage Applications For ABB Adjustable Speed AC Drives

Adjustable Speed AC Drives resolve
bottlenecks on a brewery production line

ABB AC Drives

Objective

A brewery wanted to increase its productivity. When the production processes were investigated, two problems were discovered on the can filling line.

Speed control of the can filler table was coarse, leading to inaccurate can filling. The amount of beer in the cans varied and the production speed could not be increased.

In addition, synchronization between the filler table and the discharge conveyor was poor.

ABB AC Drive increases productivity

The brewery resolved its problems by acquiring AC Drive Technology from ABB for controlling the speed of the filler table and the discharge conveyor motors.

The filler table motor speed is now controlled by a regenerative AC Drive and the speed of the discharge conveyor motor is controlled by a standard ABB AC Drive. Both drives are equipped with bypass units, allowing the electrical supply to be connected directly to the motors in case of a drive fault.

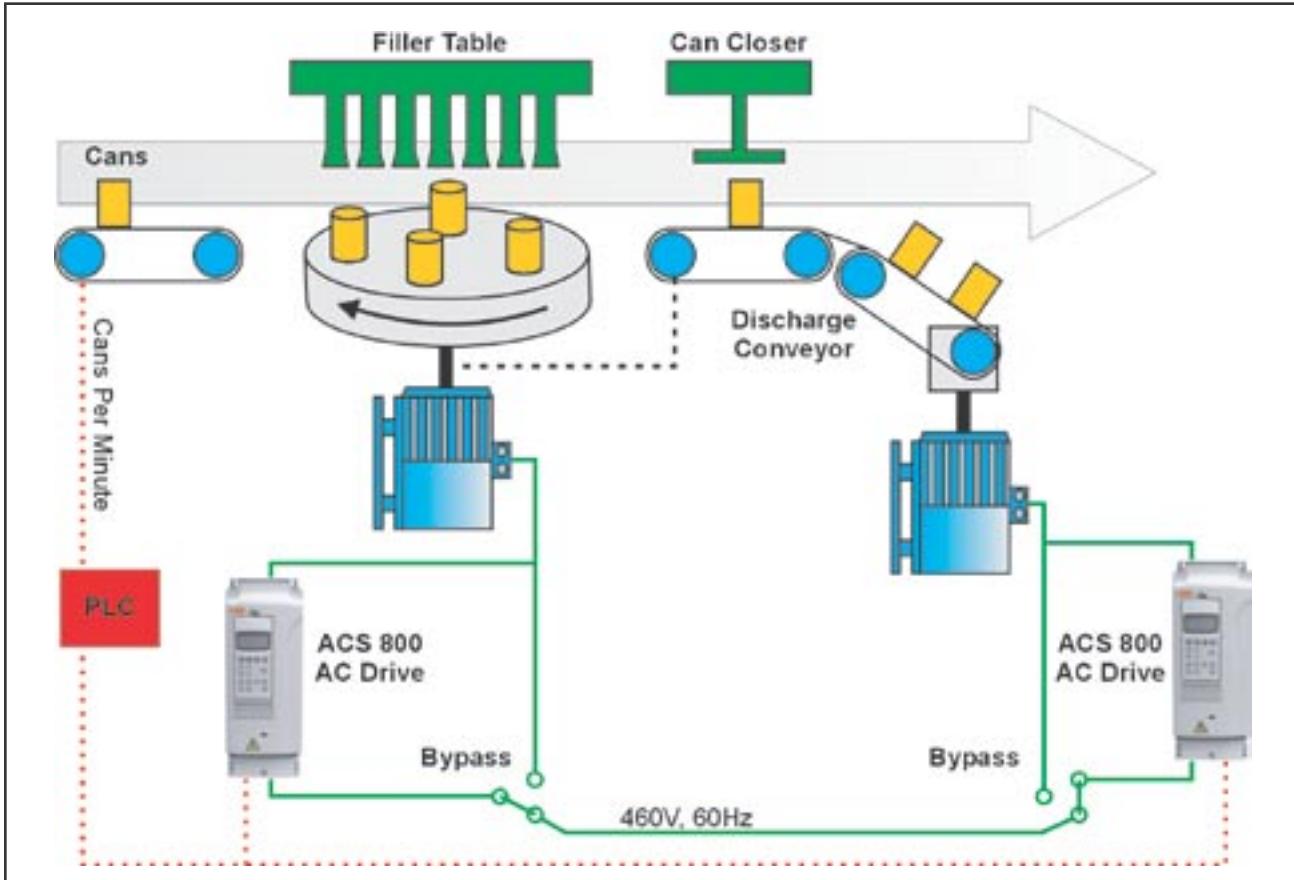
Programmable logic controllers (PLCs) monitor the number of cans on the filling table and the conveyor. A signal from the PLC is fed to the Drive, which then controls the speed of the filler table and discharge conveyor accordingly.

The AC Drive and PLC work well together by synchronizing the filler table and discharge conveyor speeds with one another.

The brewery's productivity has increased and the accuracy of the filling process has improved considerably.



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Reduced energy consumption

When the number of cans on the filler table decreases, the AC Drive receives a signal from the PLC, which slows the table motor speed. The energy generated by the rotating table's inertia is automatically fed back into the electrical supply network thanks to ABB's regenerative drive technology. In this type of system, the filler table's kinetic energy is efficiently utilized and energy costs are reduced.

Energy is also saved because the ABB AC Drives need no reactive power compensation. In addition, the Drives' power factor is very high, about 0.97, so their energy consumption is low.

Low maintenance and service costs

The ABB AC Drive controls the speed of AC squirrel cage motors, which are robust and reliable machines. As a result, maintenance, service costs and plant downtime are reduced and productivity is increased.



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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