

Case note

ABB drives' reliability proves critical for biscuit machine OEM



Biscuit machine OEM, Bake-O Nomic, turned to ABB because of its reputation as a supplier of highly reliable low voltage AC drives.

Located just outside Mumbai, Bake-O Nomic is one of India's leading original equipment manufacturer (OEM) of biscuit making machines, producing three fully automated biscuit production plants per year for sale mainly to Nigeria and other African markets.

Because biscuit making is a continuous process, with a number of stages feeding into each other, it is important that each stage is controlled at its own appropriate speed. All the machines, such as biscuit cutting, forming, ovens and cooling conveyors are linked to each other, accepting materials or part processed biscuits and passing them on to the next stage.

As each type of biscuit has a different baking time, the company needs a reliable and efficient way to vary the speed of the various parts of the process. An example is mixing, which is done in two stages. Shortenings and sugar are mixed at high speed and subsequently flour is added and mixed at a slow speed.

Reputation for reliability

One of the most reliable and energy efficient ways to control this sort of production line is through the use of low voltage AC drives. The company had tried locally sourced drives but had experienced many failures. It turned to ABB because of its reputation as reliable supplier and has now been using ABB drives for 10 years.

"We chose ABB because of its reputation in the market," explains Mr. Praful Dattaram Kale, owner of Bake-O Nomic: "ABB is renowned as a reliable supplier with a broad product range. Also, as a global player, we can benefit from its extensive service network. Should any of our equipment need repairing or maintaining as a result of a drive malfunction, then it can be fixed locally and efficiently."

ABB drives are used primarily on biscuit cutting and forming machines, mixers, ovens and conveyors. About 20 drives are used in a single biscuit making line, most of them below 5.5 kW, although for mixers, drives as large as 30 kW can be used. Above 0.75 kW, ABB general purpose drives are used, while below this power ABB machinery drives are used.

Most of the drives are under individual manual control, a method preferred by the company's customers, who need a fine speed variation depending on the requirements of the type of biscuits being produced.

As well as meeting the technical requirements, ABB benefits Bake-O Nomic through local support from Control Technics, a channel partner of ABB. Bake-O Nomic has used AC drives for energy saving, both electricity and fuel, in some blower applications in its own biscuit making plant set-up in Nashik.

Solved problems

- Reliable drives needed after locally sourced drives failed
- Efficient speed control to match different baking times

Solution

- About 20 drives are used for each biscuit line
- Most are below 5.5 kW though mixers can use drives up to 30 kW
- ABB general purpose drives are used above 0.75 kW, while ABB machinery drives are used below this rating

Benefits

- Correct speed is achieved by each part of the process, ensuring quality biscuits are produced to specific recipes
- Local support from ABB channel partner
- Reliable process control
- Synchronization of biscuit making machinery



Above 0.75 kW, Bake-O Nomic uses ABB general purpose drives. For smaller powers, ABB machinery drives are used.

For more information please contact:

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