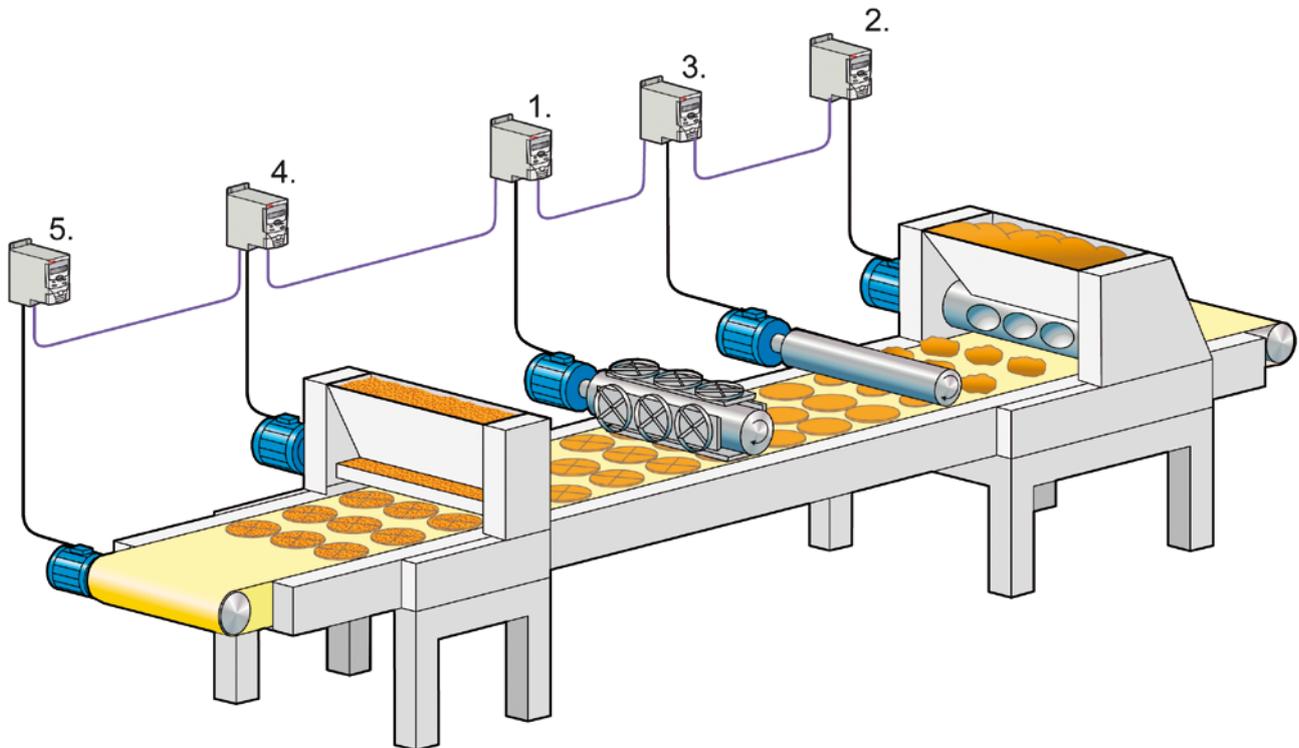


## Application note

# AC drives help to boost bakery roll plant efficiency



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### Application principle

Demands for increasing efficiency and capacity in today's markets have driven bakeries to introduce extensive automation into their production processes. Production of baked goods involves a sequence of interlinked operations, which starts with dough mixing and continues all the way through to the baking ovens and packaging.

The main operations in a roll plant include forming, rolling, stamping, seeding and setting. Low voltage AC drives can play a major part in enhancing the performance of these operations, ensuring that the right quantities of ingredients are used, and enhancing the quality of the end products. As the diagram shows, AC drives can be used at several points in a typical roll plant.

### Detailed description

In bakery lines – as in most other industrial processes – one of the individual operations sets limits to certain parameters, such as maximum speed and accuracy, for the entire production line. In roll plants this limit-setting operation is often the stamping machine, which cuts and shapes the dough.

The drive controlling the stamping machine is therefore designated as the master drive (1), and the other drives in the process operate according to the process feedback supplied by this master drive. The first step in the process is the division of dough into portions (2), which is done by a roller inside the machine. The dough is then shaped (3) before stamping. A seeding machine (4) can also be incorporated into the process before the dough enters the oven. An additional AC drive is used to control the entire conveyor (5) to ensure that the process speed is maintained at the optimal level.

### Maximizing process uptime

Low voltage AC drives can control all the different operations in the process. By connecting the drives together and operating them in a master-follower arrangement, the various process phases are synchronized. As a result, the speed of the entire process can be controlled by a single potentiometer. This makes for extremely easy operation of the production line, once the process as a whole has been fine-tuned.

AC drives provide several benefits, including considerable improvements in efficiency, energy savings, reduced equipment wear, and better overall cost-efficiency. Drives can help to:

- Increase production capacity
- Enhance end product quality
- Reduce energy costs
- Maximize process uptime
- Minimize operating and maintenance costs



AC drives help to maximize process uptime.

For more information please contact:

[www.abb.com/drives](http://www.abb.com/drives)

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