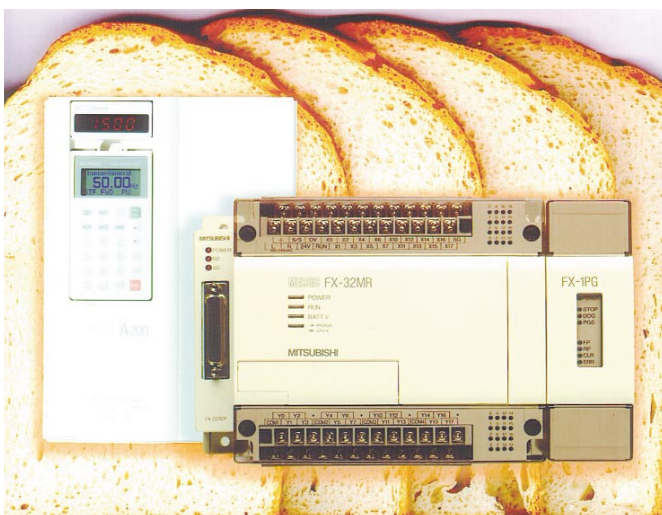


Industry: Food & Drink

Products Used: FX PLCs /// HMIs /// Drives

New control system for British Bakeries

British Bakeries' Greenford bakery is best known for its popular Hovis and Mothers Pride bread products. Like many other bakeries, the plant at Greenford was based on original 1980's production technology and needed upgrading to reduce down time, improve throughput and comply with changing food legislation demands.



The overall speed of the production process is dictated by the bake time which is determined by the recipe for the product being made. In the original plant the loosely linked speed control systems were difficult to set-up necessitating a full time attendant to be constantly on hand to deal with mismatches.

In addition, the use of d.c. brush geared motors in an environment where flour and oil are present in large quantities led to overheating and frequent motor failures. These factors and the difficulty of maintaining the original complicated one-off control system led British Bakeries to look for an improved control solution.

The chosen replacement control system for each of the bread production stages was a Mitsubishi FX PLC fitted with a Mitsubishi MAC12 HMI. Using these high speed automation products the re-designed plant could exceed the original maximum throughput of 8,000 loaves per hour by a factor of two. The new system also had other advantages such as more informed operator interaction of the stages, with the HMI able to display exact real-time user information, monitor alarms and provide error diagnostics.

Also the new control system enabled the easy replacement of the d.c. motors with a.c. induction types. These new motors are controlled by Mitsubishi Electric A240E frequency inverters which use more reliable and accurate discrete encoders for positioning feedback in place of the existing tacho generators.

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The new control system is easier to understand and maintain in-house

Paul Hargrove
British Bakeries

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Paul Hargrove of British Bakeries comments "The integrated synchronisation and product registration, especially during start up, has resulted in less waste, less mess to clean up and so releases the operator for other duties. Also the new control system is easier to understand and maintain in-house."

Application story first released February 1998 by Mitsubishi Electric UK