

Industry: **Food & Beverage / CPG**
Products: **Control Systems, HMI, Robots**

Robot integration delivers precision cake slicing

When automation OEM Newtech looked to design a new ultrasonic cutting machine for the bakery industry, it turned to Mitsubishi Electric for a fast, efficient, flexible and clean robotic solution. The result is an innovative machine design that can cut cakes to the highest levels of precision, working flexibly for different portion sizes and quantities, and eliminating problems of damaged product.

The challenge:
Precision cutting for a wide variety of cake sizes

Cakes, in particular, are notoriously difficult to cut reliably: machines tend to be time consuming to set up for different cake sizes, depths and portion numbers, whilst traditional cutting technologies can result in uneven, messy cuts and unacceptable levels of damaged product.

The solution:
A fully integrated robotic solution delivering excellent speed and reliability

The solution offered by Mitsubishi Electric was built around an RF13 13kg payload, six axis robot, mounted within a stainless steel cell. One of the fastest robots in its class, the RF13 is also highly dextrous, providing a highly flexible and compact working area.

The robot is controlled via the MELSEC iQ Platform, a multi-functional automation environment which incorporates Q series PLC control and uniquely, an integrated robot controller within the same rack. This

"Working with Mitsubishi Electric for the robot integration made the whole process easy, the high capability robot, combined with a full automation product offering, all with the same software package, made it simple to integrate the robot into the machine."

Steve Rawlinson
Managing Director
OEM Newtech



means that communication exchange between the PLC CPU and the robot controller is handled across the rack, increasing speed, data throughput and reducing robot setup times.

A CC-Link network is used to connect other machine control components such as a Mitsubishi Electric inverter drive and a dedicated Mitsubishi Electric WS safety controller providing a totally integrated machine control solution. A Mitsubishi Electric GOT2000 HMI provides a user interface where operators can select different cake recipes and set parameters such as product height, portion size, total number of portions and trim size.

The result:
Excellent performance and versatility

The robot integration forms the newest model in Newtech's robot range of machines, delivering the ultimate in flexibility for cake portioning within the bakery industry. The in-line format machine provides a compact, multi-product platform. The high-speed ultrasonic blade offers precision, clean cutting as standard, even on the most detailed of cake products.