

Bakery Improves Quality and Increases Production Speed Five-Fold with Automated Spray System



Problem:

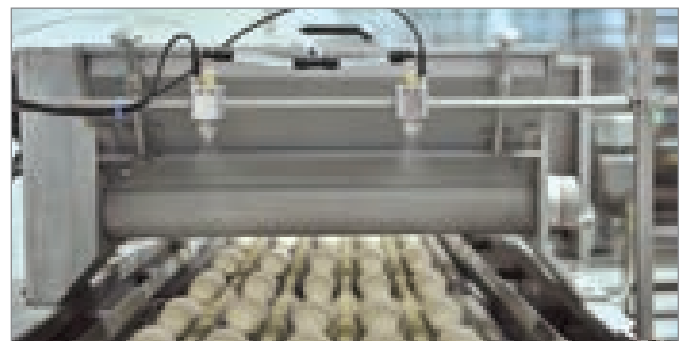
Geary's Bakeries, one of Britain's best known craft bakeries, needed to ensure that seed toppings would consistently adhere to baked goods. A key market segment for Geary's is sandwich production, which requires that rolls are sliced, buttered, filled and then repacked before sale. Ensuring that seeds adhere to the rolls throughout this process is an important measure of product quality.

Precise application of water is critical for proper seed adhesion. Too much water can cause the seed to sprout and too little water results in the seed falling off. Previously used automated systems hadn't worked consistently, often spraying too much or too little water. Because of quality concerns, Geary's had returned to the time-consuming, manual process of dipping each dough ball in water and then pressing it into seeds before proofing. With weekly demand for seeded rolls in excess of 200,000 and increasing, the bakery needed to increase production speed while maintaining high quality standards.

Solution:

An automated spray system utilizing Precision Spray Control (PSC) now applies the water, eliminating over- and under-application. The system applies a precise volume of water to the rolls and automatically adjusts the flow rate for variations in line speed.

Spraying Systems Co.'s solution uses a wall-mounted AutoJet® Model 1550 Modular Spray System with PulsaJet® automatic spray nozzles. The system's spray controller allows operators to conveniently set the delay time between detection of the leading edge of the baking tray and when the nozzles spray. The duration of the spray time for various baked goods is also easily set. Accurate control of these operating parameters ensures precise coverage of the rolls every time.





Bakery Improves Quality and Increases Production Speed Five-Fold with Automated Spray System – Continued

Results:

Using the AutoJet® Modular Spray System as a key component in its new seeding line, Geary's Bakeries has reached new levels of product consistency and can apply seeds five times faster. Geary's managing director says, "We can put a tray of 18 to 24 rolls through the new wetting/seeding line every 20 seconds – an average of 1 second per roll compared with 5 seconds when each roll was individually dipped."

The spray system, including a stainless steel pressure reservoir, two PulsaJet® nozzles and a controller incorporating Spraying Systems Co.'s dedicated software, was a small portion of the capital equipment cost for the new line. The payback on the total investment for the spray system plus the new conveyor and seed applicator was under three months.

A CLOSER LOOK AT THE SYSTEM

Two PulsaJet nozzles cover the width of the conveyor.



AutoJet Modular Spray System provides easy control of nozzles and cycle times up to 10,000 cycles per minute.

Precision Spray Control (PSC) involves switching spray nozzles on and off very quickly to control flow rate. This cycling takes place so quickly that the flow often appears to be constant. By adjusting duty cycle and cycling frequency instead of changing pressure to increase flow rate, spray angle and drop size remain consistent. PSC requires the use of electrically-actuated nozzles and an AutoJet spray controller.

The Benefits of Precision Spray Control

- Achieve a wide range of flow rates from a single nozzle at a constant pressure. By adjusting duty cycle and cycling frequency instead of changing pressure to increase flow rates, spray angle and drop size remain consistent
- Flow rate can be changed almost instantaneously
- Reduced clogging. PSC can maintain very low flows with larger spray orifices



Spraying Systems Co.®
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