Bakery Reduces Oil Usage by 75% with Automated Spray System, Saves US$36,000 Annually

Problem:

Embrescia Cookie Co. needed to improve the efficiency of its production line used to make toast for a variety of hors d'oeuvres. A precise volume of extra virgin olive oil was required on bread slices prior to toasting to ensure even browning but even application of the oil proved problematic.

The previous coating system used air atomizing nozzles with very low transfer efficiency. More olive oil was being sprayed into the air than was being applied to the toast. This was a significant waste of a key ingredient and caused safety concerns in the plant as the floors in the production area became very slippery.

Solution:

Spraying Systems Co.'s solution was an AutoJet® Spray Control Panel and a hydraulic PulsaJet® automatic spray nozzle with a FloodJet® flat spray tip. Using a PulsaJet nozzle eliminated the need for compressed air and also eliminated the misting and overspray problems.

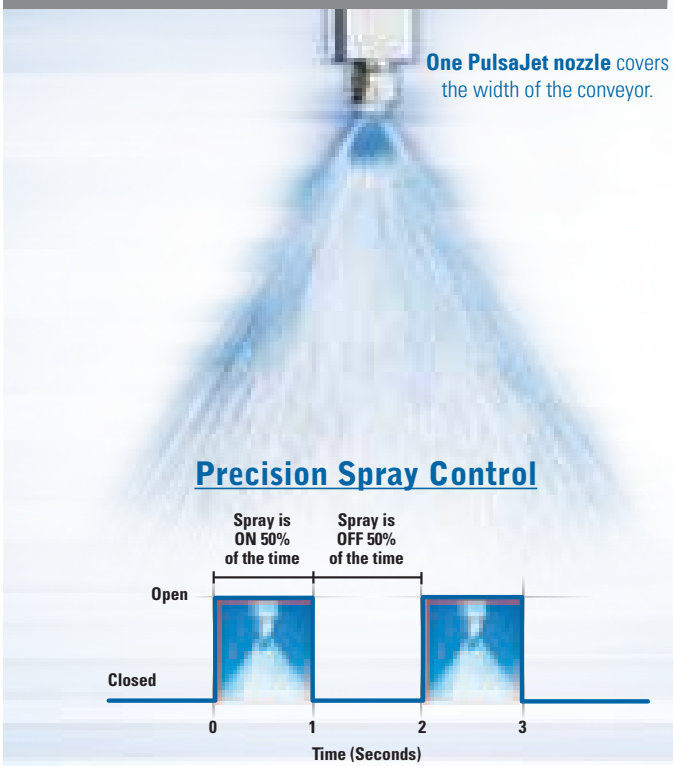
The automated spray system utilizes Precision Spray Control (PSC) to precisely control the volume of olive oil applied. PSC enables hydraulic nozzles to produce very low application rates by adjusting the electrically-actuated nozzles. The system also adjusts automatically for variations in line speed, completely eliminating over- and under-application of the oil.

Bakery Reduces Oil Usage by 75% with Automated Spray System, Saves US$36,000 Annually – Continued

Results:

The AutoJet® Spray System and PulsaJet® nozzles have enabled Embrescia Cookie Co. to improve the quality of their product while dramatically reducing olive oil consumption. Oil consumption has been reduced by almost 75% and workplace safety is much improved. The US$3,000 monthly oil savings generated a payback of just over one month on the investment in spray equipment.

A CLOSER LOOK AT THE SYSTEM



One PulsaJet nozzle covers the width of the conveyor.

AutoJet Spray Control Panel provides easy control of nozzles and cycle times up to 15,000 cycles per minute.

Precision Spray Control

Precision Spray Control (PSC) involves turning nozzles on and off very quickly to control flow rate. This cycling is so fast that the flow often appears to be constant. With traditional nozzles, flow rate adjustments require a change in liquid pressure, which also changes the nozzle's spray angle/coverage and drop size. With PSC, pressure remains constant enabling flow rate changes without changes in spray performance. PSC requires the use of electrically-actuated spray nozzles and an AutoJet spray controller.

Spraying Systems Co.®
Experts in Spray Technology

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