

# Case Study

SMALL FAMILY BUSINESS BOOSTS  
PRODUCTION 5X WITH NEW BETE  
SPRAYING SYSTEM

FOOD PROCESSING INDUSTRY

## FOOD COATING SOLUTION



In chip production, coatings such as flavorings, seasonings, and oils are applied before the frying or baking process. Manual application can lead to inconsistent quality, ingredient waste, and process inefficiencies. Automating this step can significantly improve both output and consistency, yielding higher-quality products with less waste.

### ► PROBLEM: MANUAL SEASONING METHOD CAUSING UNEVEN COVERAGE, WASTE, AND INEFFICIENCY

A fast-growing, family-run manufacturer of freshly baked, seasoned tortilla chips approached BETE seeking a more reliable, automated way to apply their secret, yogurt-like seasoning mixture to one side of the tortillas before the baking process. Their manual method, using a measuring cup for dosing and a spatula for spreading, resulted in uneven coverage and wasted ingredients. Because this process relied on human operators who naturally fatigued over time, it not only led to product inconsistencies but also made it difficult to keep pace with growing demand. To overcome these challenges, the company looked to integrate spray nozzles into the process. Turning to BETE, they needed a solution capable of applying the thick coating with finely textured ingredients while maintaining continuous, clog-free operation.



### ► SOLUTION: XAEF AIR ATOMIZING NOZZLES ENSURE UNIFORM APPLICATION OF INGREDIENTS

BETE engineers worked closely with the company to fully understand their existing setup. They sourced a test material matching the viscosity and texture of the seasoning mixture and conducted in-house trials to determine which spray nozzle could handle the product and prevent any buildup of the material. First, they tested air-actuated hydraulic nozzles, but these quickly clogged as seasoning built up. To find a better solution, BETE conducted further testing with XAEF air atomizing nozzles. The in-house trials were successful, and the chip producer invited BETE to validate the results at their facility. The XAEF provided reliable, uniform coverage of the spice mixture without clogging, and the customer was delighted with the results. BETE built and commissioned the spray system, consisting of a stainless steel spray bar and three 316 stainless steel ½" XAEF5050A nozzles to coat the tortilla chips.



# Results

Within months, the company was producing five times their previous output, enabling them to better meet rising demand and expand distribution. In addition to the significant increase in production, the implementation of the nozzle system allowed the manufacturer to introduce a new, smaller tortilla size as well as additional flavors, both of which would not have been possible under the former manual process.

Impressed with the results, they placed an order for another spraying system featuring Electric HydroPulse® automatic nozzles paired with BJ tips and the hygienic FlexFlow® 1012 precision spray controller. This system intermittently sprays two of their other flavors, including a mixture of cinnamon, sugar, and oil, onto their tortillas.



## ► BENEFITS OF SPRAY AUTOMATION:

- **Delivers consistent, uniform coating of ingredients**
- **Increases production and efficiency**
- **Significantly reduces product waste**
- **Provides reliable, clog-resistant performance for continuous operation**



**XAEF**  
Flat Fan  
Air Atomizing Nozzle



**HydroPulse® EHP**  
Food Grade Design  
Electrically Actuated Nozzle



## WHY CHOOSE BETE FOR YOUR FOOD INDUSTRY SPRAY NEEDS?



- ISO 9001:2015 Certified
- The ability to solve unique and complex process challenges
- Trusted nozzle design and manufacturing with consistent quality assurance

Top food processing companies depend on BETE's specialized spray technology for everything from precision coating applications to cleaning tanks.

50 Greenfield Street  
Greenfield, MA 01301 USA

800-235-0049  
413-772-0846

www.BETE.com  
sales@BETE.com