

AutoJet Fogging System Ensures Food Safety

Application:

A processor of fresh salads, quiches and frozen specialties needed an automated spray system to control the application of specialized cleaning chemicals in their facility. This spray application is critical to ensuring the safety of the plant's products.

Problem:

To ensure the cleanliness of the plant, rooms and production equipment within the facility were previously sprayed nightly with quaternary ammonia or a dilute chlorine solution using portable sprayers. This manual fogging process required significant labor and chemicals were applied inconsistently by different operators. If too little chemical was used, food safety was at risk. If too much chemical was used, the equipment had to be completely washed down before resuming production.

The automated fogging system needed to operate in dozens of zones throughout the plant, while providing independent control for each zone. Most importantly, the spray system needed to ensure accurate dilution and consistent application of the cleaning chemicals – factors critical to meeting stringent governmental regulations.

The AutoJet Technologies Solution:

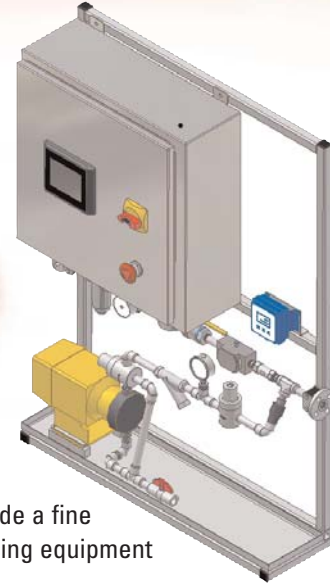
The AutoJet Fogging System is built around Spraying Systems Co. 1/4JH air atomizing nozzles, which provide a fine mist that evenly coats the processing equipment and all exposed surfaces in the spray zones.

A programmable controller in a NEMA 4 enclosure controls the operation of 47 air atomizing nozzles, which are mounted two feet below the ceiling. The nozzles are grouped into 25 zones and are positioned to provide coverage for all areas of the plant. Air and liquid flow are coordinated so that proper atomization of the cleaning chemicals is assured.

Control System



1/4JH Air Atomizing Nozzle



System Components

- **1/4JH Air Atomizing Nozzles** provide a fine mist that evenly coats the processing equipment
- **Control System**, including a programmable controller equipped with custom software, actuates the chemical pump, activates the various spray zones and monitors all system components
- **Regulation Packages** provide air and water to the nozzles at varying pressures and flows, depending on feedback from the control system
- **Chemical Metering Pump** provides cleaning chemical to be injected into the water stream. This dilution, measured in parts per million by volume, can be adjusted as necessary and varies based on seasonal requirements
- **3-way Valves** allow individual nozzles to be purged clean with compressed air to prevent dripping

Results:

Using the new system, multiple spray zones are activated with the touch of a button, eliminating the need for manual spraying. The status of any zone within the plant can quickly be checked and adjusted as necessary. Cleaning chemicals are injected into the water flow in precise concentrations and the consistent fog produced by the air atomizing nozzles ensures equipment cleanliness.

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