



SPRAY TECHNOLOGY SOLUTIONS FOR PET FOOD PROCESSORS



Spraying Systems Co.[®]
Experts in Spray Technology





IMPROVE PRODUCT QUALITY & CONSISTENCY WHILE MAXIMIZING PRODUCTION EFFICIENCY

Trends in pet humanization and expanded Food & Drug Administration (FDA) pet food guidelines are driving processors to meet standards similar to that of human food production. Manual application of palatants, antioxidants, and other additives at different stages of production can lead to errors and inconsistencies throughout the pet food production process that are only identified in the final product, generating high volumes of scrap.

There is a more efficient and cost-effective way to apply coatings, additives, mold inhibitors, and release agents while boosting production.

Automated spray systems are revolutionizing pet food processing by ensuring the proper volume of additive is applied uniformly and directly. The result is better quality products, minimal waste, lower operating costs, and increased production.

Food processing plants around the world depend on our spray technologies for applications ranging from coating and cleaning to tank washing and lubrication. Our experts help customers optimize performance while maximizing food safety. Spraying Systems Co. has been the world's leading manufacturer of spray nozzles for more than 85 years. With tens of thousands of standard products, we have the right nozzle for your application.

For a complete selection visit spray.com/petfood



CONSISTENT & ACCURATE ADDITIVE COATING



PRECISION APPLICATION OF RELEASE AGENTS



AUTOMATED TANK CLEANING



CONVEYOR & EQUIPMENT CLEANING & SANITIZING



AUTOJET® PRECISION SPRAY CONTROL

Precision Spray Control (PSC) systems provide exceptional accuracy and consistency with minimal waste by ensuring the proper amount of coatings and additives are uniformly applied. PSC systems automate flow rates by turning electrically actuated spray nozzles on and off to match pet food production line speed variations in real time. This cycling is so fast that the flow often appears to be constant.

Flow rate is typically controlled by manually adjusting spray pressure. However, adjusting pressure can dramatically change the spray angle and drop size. With PSC systems, the flow rate from a single nozzle can be varied without changing pressure. Flow rate changes are based on operating conditions, such as line speed and product weight in the tumbler/coater. The flow rate changes almost instantaneously to ensure the proper application rate.

BENEFITS:

- Ensures the proper volume of additive is applied uniformly and directly to meet strict pet food processing regulations and labeling requirements
- Consistent application of additives reduces the waste of costly additives and product scrap
- Reduces misting which decreases maintenance downtime and improves worker safety
- Easily integrate into existing product lines to avoid costly reconfiguration

IDEAL FOR:

- Application of coatings and additives
- Application of release agents to pans and dryer belts
- Application of mold inhibitors



PSC SYSTEM COMPONENTS:

- **Spray Controller** options range from very simple systems that provide on/off control and automatic air and liquid control to sophisticated systems that provide real-time monitoring of spray performance and automatic adjustments.
- **Precision Nozzles** are engineered to deliver very specific performance. Choosing the correct nozzles is critical. There is a wide range of hydraulic and air atomizing nozzles specially designed for the precise application of coatings, additives, release agents, and more.
- **Spray Manifolds** ensure proper fluid and air flow to nozzles as well as proper nozzle positioning to minimize quality problems. Manifolds can be used on a wide range of nozzles and are configured to meet application requirements.
- **Fluid Supply** – Stainless steel pressure pot with liquid level sensor and pressure relief valve are also available.





PRECISION COATING NOZZLES

We've got the solution for precision application of ingredients, oils, release agents and other coatings. In addition to a wide range of hydraulic and air atomizing nozzles, we offer automated spray systems to optimize spray performance. No matter what you're spraying, we've got you covered.

For a complete selection visit spray.com/nozzles



PULSAJET® AUTOMATIC SPRAY NOZZLES

PulsaJet electrically-actuated spray nozzles are extremely versatile and ideal for coating with a wide range of non-viscous and viscous coatings.

BENEFITS

- Automatic flow rate adjustment based on line speed*
- Reduced downtime and lower spray system costs – a single nozzle provides a wide range of flow rates*
- Extra low flow hydraulic atomizing eliminates the need for compressed air in many processes
- Minimal waste and mess due to high transfer efficiency
- Cycle speeds up to 15,000 cycles per minute to keep pace with fast line speeds
- Performance matched to your application – choose from several styles and dozens of spray tips
- **Use with an AutoJet® spray controller for maximum control and performance optimization**

AUTOMATIC AIR ATOMIZING NOZZLES

Our air-actuated air atomizing nozzles are ideally suited for coating and moistening where precision is important. Choose from dozens of set-ups, body styles and spray patterns.

BENEFITS

- Internal air cylinder provides controlled on/off operation up to 180 cycles per minute
- Optional clean-out needles minimize clogging
- Compact versions ideal for use in production area with limited space
- **Use with an AutoJet® spray controller for maximum control and performance optimization**

IDEAL FOR:

- Flavorings
- Mold inhibitors
- Oil
- Release agents
- Seasonings
- Water





PRECISION SPRAY MANIFOLDS

Spray manifolds play an important role in many coating operations by optimizing nozzle performance. Manifolds ensure proper fluid and air flow to nozzles as well as proper nozzle placement/positioning to eliminate quality problems. Spray manifolds also can reduce downtime by simplifying changeover between batches. Spray manifolds are available for use with a wide range of nozzles and are configured to meet application requirements.

For a complete selection visit spray.com/manifolds

- **63600 sanitary Pulsajet® spray manifolds** – constructed of 316L stainless steel, this jacketed manifold is designed for use with up to 18 hydraulic Pulsajet automatic spray nozzles. Nozzle spacing is user-specified. The jacket can be used for heating or cooling
- **63600 sanitary air atomizing spray manifolds** – same design as the 63600 sanitary Pulsajet spray manifold, this version is for use with 1/4J or 1/4 VMAU series air atomizing nozzles. A wide range of spray set-ups and versions with shut-off and clean-out needles ensures you get the performance you need

IDEAL FOR:

- Spraying release agents
- Applying coatings to products in pans, drums or on conveyors
- Viscous coatings requiring heating or cooling

ACHIEVE RESULTS WITH PRECISION SPRAY CONTROL

CONSISTENT APPLICATION OF ANTIOXIDANTS PREVENTS OXIDATION & IMPROVES QUALITY

An AutoJet 1750+ Spray Control System with Pulsajet hydraulic spray nozzles requires no compressed air and provides automatic adjustment of the application rate based on operating conditions such as changing line speed or the product weight.



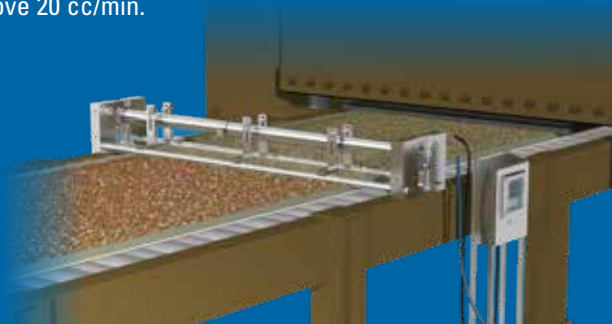
CONSISTENT & ACCURATE COATING OF FLAVORS & SUPPLEMENTS IMPROVES PRODUCT QUALITY

AutoJet® 1750+ Spray Control Systems paired with Pulsajet® nozzles ensure additives are applied only when product is present, adjusting rates based on product weight and alerting the operator of application problems or when tanks are low.



PRECISION APPLICATION OF RELEASE AGENTS ELIMINATES MISTING, PROTECTING WORKERS WHILE REDUCING SCRAP & DOWNTIME

Traditionally, air atomizing nozzles have been used to apply release agents resulting in messy, wasteful misting and high operating costs. PSC solutions that uniformly apply release agents and oils without the waste are the AutoJet ES2500 Electrostatic System for low flow rates 0.1-20 cc/min and the AutoJet 1750+ Spray Control System for flow rates above 20 cc/min.



TANKJET® TANK CLEANING EQUIPMENT

There's a TankJet tank cleaning for every tote, tank, vat or vessel. Options include tank cleaning nozzles, spray balls and high-impact tank cleaning machines. A few of the more-widely used products in food plants are featured here, but there are dozens more.

For a complete selection visit spray.com/tankcleaning

SANITARY TANK CLEANING EQUIPMENT

If your operations require sanitary tank cleaning, you'll find a solution in our TankJet product line. Self-draining, threadless designs that meet the requirements of 3-A Sanitary Standard 78, Spray Cleaning Devices Intended to Remain in Place, are available.



- **TankJet 78 and 78M tank cleaner for tanks up to 40' (12.2 m) in diameter**

New, turbine-driven tank cleaner provides high-impact 360° cleaning – more than 30 times the cleaning power fixed spray balls and 10 times the impact of most rotary spray balls. The unit retrofits existing spray ball installations and is easy to maintain – assembly/disassembly requires just a few minutes and no tools are required. A smaller version is available for tanks up to 25 ft. (7.6 m) and is suitable for use in milk, cheese, yogurt and food processing tanks and spray dry towers.

- **TankJet 27500 and 27500R for tanks up to 25' (7.6 m) in diameter**

Compact, constant speed nozzles provide up to four times the impact of conventional rotating nozzles. They feature a patented design that eliminates internal bearings and races. Ideal for sanitary applications.

- **TankJet 63225-3A spray balls for tanks up to 13' (4 m) in diameter**

Stationary, self-draining spray balls are ideal for sanitary applications. They feature polished 32Ra interior and exterior surface finishes.

The 3A symbol is a registered trademark of 3-A Sanitary Standards, Inc.

IDEAL FOR:

- Rinsing, cleaning and sanitizing tanks of all sizes
- Clean-in-place (CIP) operations



CONVEYOR CLEANING NOZZLES, GUNS & MANIFOLDS

Improve cleaning efficiency without compromising quality. We have a wide range of solutions to help shorten cleaning time, sanitize hard-to-reach areas, reduce use of costly chemicals and more.

For a complete selection visit spray.com/nozzles

VEEJET® FLAT SPRAY NOZZLES

- Eliminate manual cleaning and ensure thorough and consistent conveyor rinsing, cleaning and sanitizing
- These high-impact nozzles with narrow angle sprays remove even the toughest residues
- Available in a wide range of spray angles, capacities and materials
- Reduce downtime with QuickJet® quick-connect spray tips that can be changed by hand

CU150A GUNJET® SPRAY GUNS

- Clean without spreading contaminants
- Conserve water and chemicals
- Versatile high-impact, low-pressure performance
- Adjustable hollow cone to solid stream spray patterns
- Interchangeable orifice caps for quick and easy spray capacity changeover
- Designed for food plants with stainless steel and white corrosion-resistant outer cover
- Ergonomic design reduces operator fatigue



103990 MANIFOLDS

- Available in 36" or 48" lengths
- Support up to 23 nozzles with 2", 4", 6", 8" or 10" spacing
- As a single supplier for manifolds and nozzles, we eliminate integration and coordination problems and ensure optimal performance
- 103990F version meets food industry requirements

IDEAL FOR:

- General plant and equipment clean-up and sanitation
- Conveyor cleaning
- Equipment cleaning



**USE LESS, CONSUME LESS, WASTE LESS, & RISK LESS –
PUTTING SUSTAINABILITY INTO PRACTICE**

The shortlist of plant priorities includes productivity, savings, efficiency, product quality, and safety. That's not surprising. But did you know that increasing your plant's sustainability can help you achieve those objectives?

Every day, we help companies around the world reduce water, energy, and material use, decrease waste, minimize environmental impact, and improve worker safety.



Spraying Systems Co.®

Experts in Spray Technology

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