



## **AUTOJET® PRECISION SPRAY CONTROL SYSTEMS**

**STANDARD SYSTEMS AND COMPONENTS  
FOR FOOD APPLICATIONS**



*Spraying Systems Co.*  
Experts in Spray Technology



## PROCESS INTEGRATION

AutoJet Precision Spray Control can be used as an autonomous spray system or can be integrated into an existing process control system.

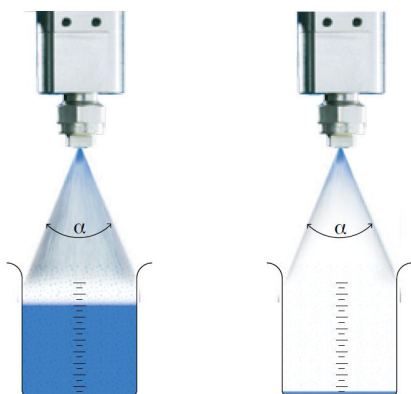
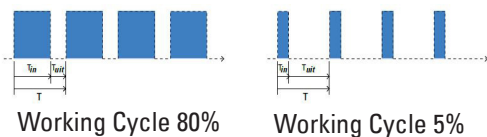
## HOW DOES IT WORK?

The PulsaJet® automatic nozzle, in combination with the AutoJet Precision Spray Controller can achieve very high cycling speeds.

Setting a duty cycle of 50% results in a corresponding flow rate of 50% of the rated flow for this nozzle at a given pressure.

This allows adjustment of the flow rate based on changing operating conditions such as:

- Belt speed
- Pressure fluctuations
- Moisture content
- Product change
- Recipes
- ... and much more

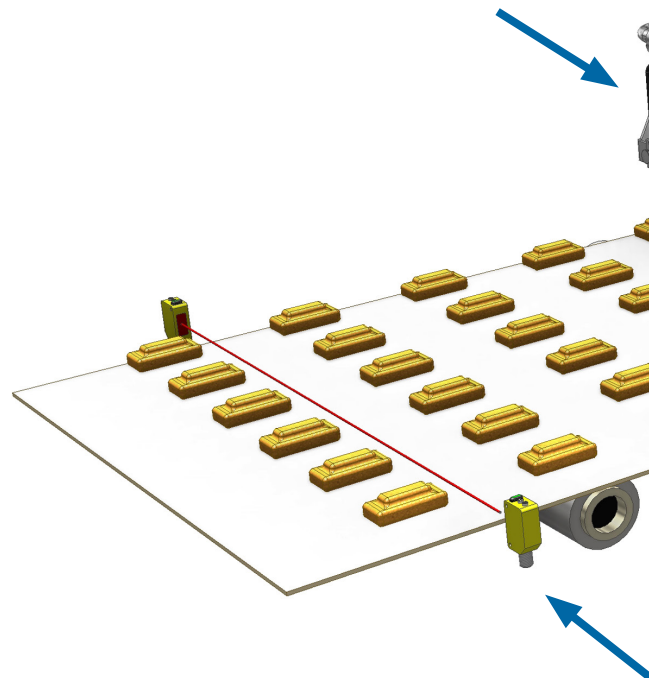


## PLUG-AND-SPRAY

AutoJet Precision Spray Control is designed for the PulsaJet automatic nozzles and contains all components and connections required for reliable “plug-and-spray”.

## SPRAY MANIFOLDS

Single, double-jacketed, or custom spray manifolds with adjustable pitch



## BENEFITS

- Fast response to changing working conditions
- Maintain constant spray angle and droplet size at variable flow rates
- Large turn-down ratio with a single nozzle
- Minimal misting
- Increased transfer efficiency
- Easy integration into existing process
- Eliminates use of compressed air
- Compact nozzle design

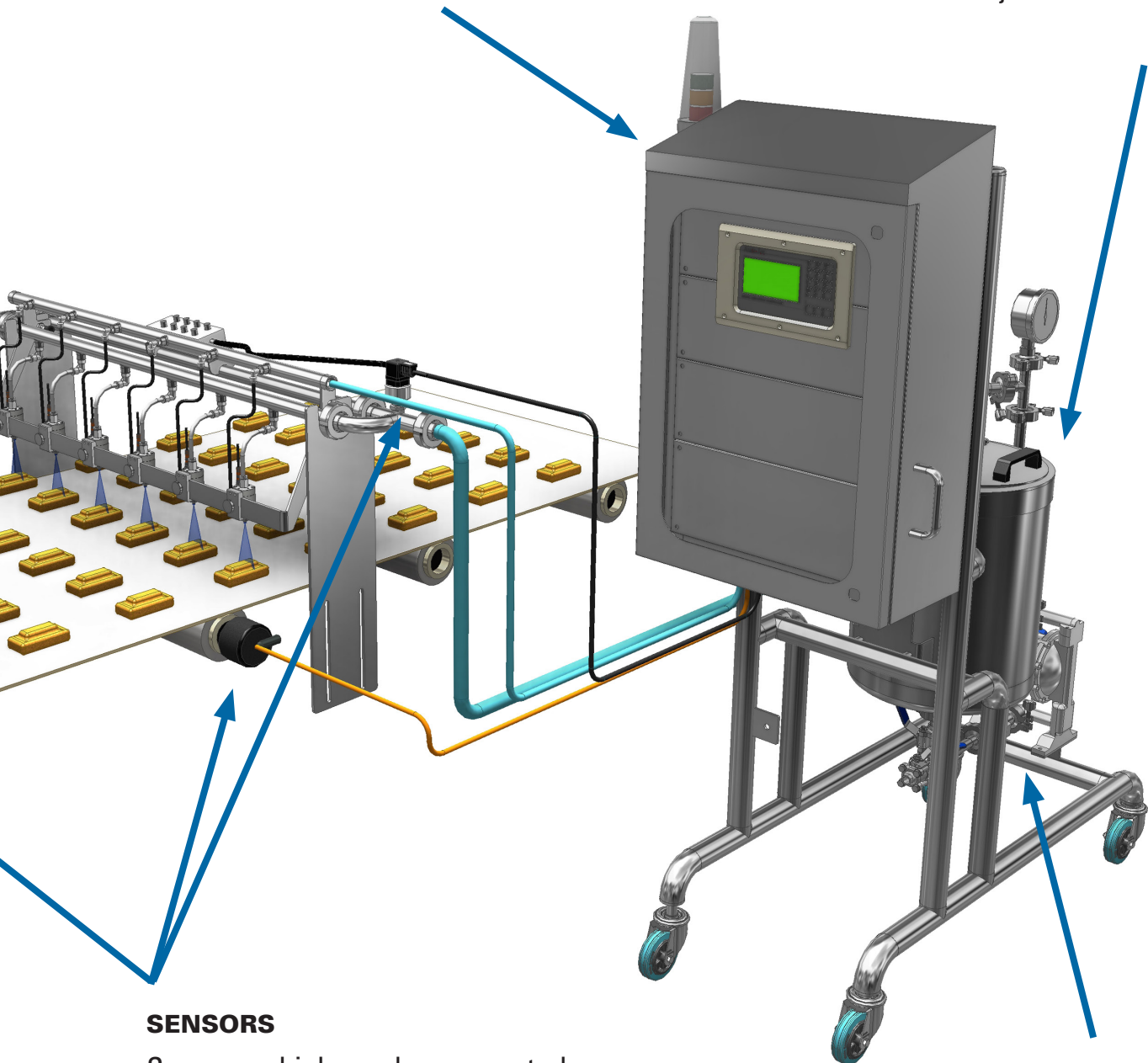


## ELECTRONIC CONTROL PANEL

AutoJet Precision Spray Control  
from simple spray processes to very  
complex applications

## STORAGE TANK

Single or double  
jacketed storage tank



## SENSORS

Sensors which can be connected:

- Pressure
- Speed
- Trigger
- Flow
- Temperature

## FLUID DELIVERY SYSTEM

Several fluid delivery systems  
are available:

- Pressure Tank
- Open Tank w/Pump
- Auto-refill





WITH PRESSURE TANK

### BA-20/30

#### Modular Spray System with 20 Liter or 30 Liter Tank and Basic Control

Ideal for coatings of non-viscous liquids using PulsaJet® spray guns. One external line speed signal (frequency) can be connected for automatic control of application rate.



- 2008+ food controller
- Manual regulator for tank pressure
- Manual refill
- Low level switch (as an option)
- PWM Modes:
  - Fixed working cycle
  - Grams per square centimeter

**Consumables:** Compressed air, electricity (230 VAC)

**Input:** Speed signal, trigger signal

**Output:** Signal for up to 16 PulsaJet spray nozzles

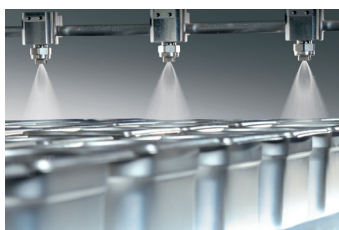
To combine with standard spray headers equipped with PulsaJet nozzles.



SEED ADHESION



FOOD SAFETY



RELEASE AGENT



GLAZING







## BA-2-50

### Modular Spray System with Double 50 Liter Tanks and Basic Control

Ideal for coatings of non-viscous or low viscous liquids using PulsaJet® spray nozzles. External line speed signals can be connected for automatic control of application rate.

- 2008+ food controller
- Manual regulator for tank pressure
- Double tank with manual bypass (as an option)
- Insulation of tanks (as an option)
- Manual refill
- Low level switch (as an option)
- PWM Modes:
  - Fixed working cycle
  - Grams per square centimeter



**Consumables:** Compressed air, electricity (230 VAC)

**Input:** Speed signal, trigger signal

**Output:** Signal for up to 16 PulsaJet spray nozzles



RELEASE AGENT



GLAZING



APPLYING BUTTER



SUGAR COATING



WITH PRESSURE TANK

## PH-30/50

### Modular Heated Spray System with PLC Controller and 30 Liter or 50 Liter Pressure Tank

Ideal for all kinds of coatings including viscous liquids using PulsaJet® spray nozzles or any other automatic spray nozzle by Spraying Systems. External line speed signals (frequency) can be connected for automatic control of application rate.



- PLC/2250+ Spray controller
- 30 liter or 50 liter pressure tank
- Electronic liquid tank pressure regulation
- Electronic atomizing air pressure regulation
- Temperature control (option)
  - Internal water heating circuit
  - External water cooling circuit
- Automatic refill (option)
- Analog level control (option)
- PWM Modes:
  - Fixed duty cycle
  - Grams per centimeter
  - Grams per cavity
  - Constant flow

**Consumables:** Compressed air, electricity (480 VAC)

**Input:** Speed signal, trigger signal, remote setpoint, etc.

**Output:** Signal for up to 8 PulsaJet spray nozzles, air atomizing spray nozzles, fault signal, etc.



RELEASE AGENT



GLAZING



APPLYING BUTTER



SUGAR COATING



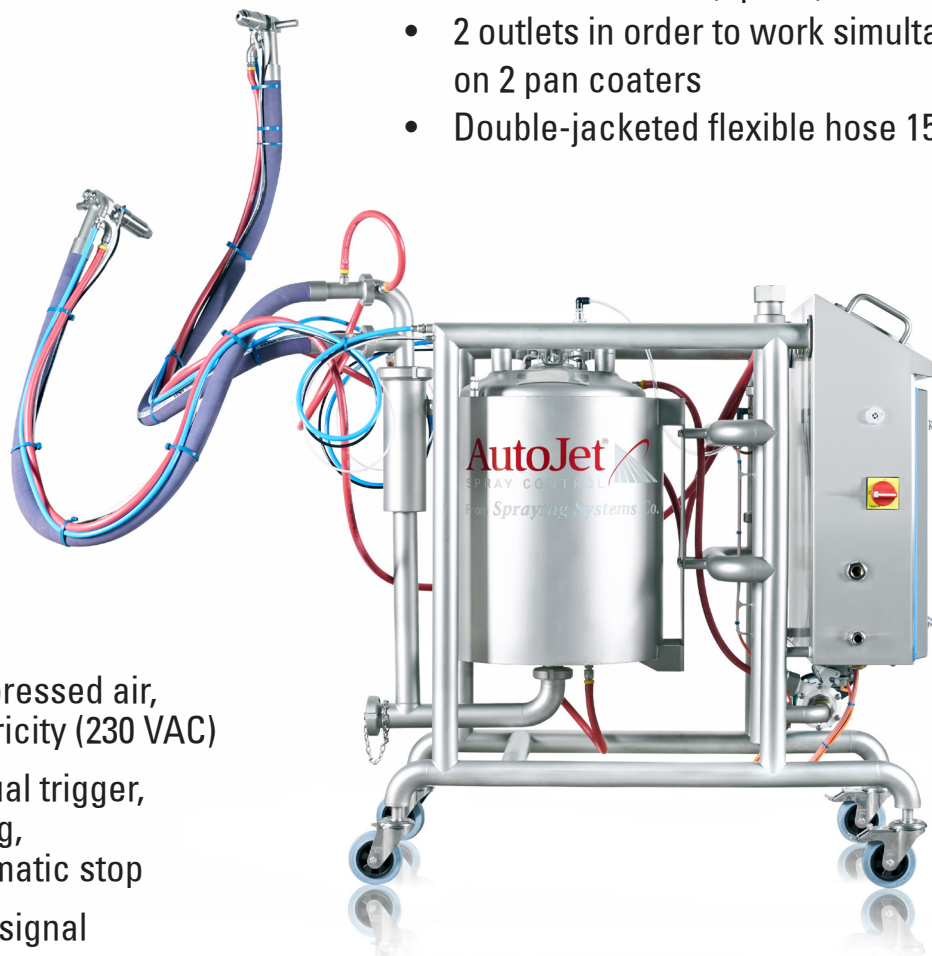




## BHC-50 Chocolate Pan Spraying System

The Pan Spraying System is used to coat nuts, almonds and other snack in a pan coater. Using the PSS instead of a manual feed typically helps to double the production rate.

- 250+ Spray controller
- 50 liter pressure tank
- Temperature control jacket for all components
- Integrated water heating unit
- Low level switch (option)
- 2 outlets in order to work simultaneously on 2 pan coaters
- Double-jacketed flexible hose 1500 mm



**Consumables:** Compressed air, electricity (230 VAC)

**Input:** Manual trigger, Timing, Automatic stop

**Output:** Fault signal

### Benefits:

- Shorter batch times
- Consistent product quality
- Scrap reduction



CHOCOLATE COATING



WITH PUMP

## BXD-50

### Spray System with Diaphragm Pump, 50 Liter Tank and Basic Control

Ideal for PWM applications with low-viscous liquids using PulsaJet® spray nozzles. Very common for ethanol or aroma dosing application onto bakery products before packaging.



- Open tank 50 liter
- Control panel:
  - 2008+ Controller
  - Manual air pressure regulation for pump
  - Manual liquid pressure regulator
  - Low level switch
- Diaphragm pressure pump
- ATEX rated version available
- PWM Mode:
  - Fixed duty cycle
  - Grams per square centimeter

**Consumables:** Compressed air, electricity (230 VAC)

**Input:** Trigger signal, speed signal

**Output:** Up to 8 PulsaJet spray nozzles, fault signal



RELEASE AGENT



ETHANOL/AROMA



FOOD SAFETY



SEED ADHESION







## PXD-50

### Spray System with Diaphragm Pump, 50 Liter Open Tank and PLC/2250+ Controller



Ideal for all kinds of coatings of low-viscous liquids using PulsaJet® spray nozzles or any other automatic spray nozzle by Spraying Systems.

The combination of external signals allows precise application rate control.

- Open tank 50 liter
- Control panel:
  - PLC/2250+ Controller
  - Electronic pressure regulation for pump
  - Electronic liquid pressure regulator
  - Low level switch
- Flow meter for liquid (option)
- Diaphragm pressure pump
- 1 flexible hose 1500mm
- ATEX rated version available
- PWM Modes:
  - Fixed duty cycle
  - Grams per square centimeter
  - Grams per cavity
  - Constant flow

**Consumables:** Compressed air, electricity (230 VAC)

**Input:** Trigger signal, speed signal

**Output:** Up to 8 PulsaJet spray nozzles, fault signal



RELEASE AGENT



ETHANOL/AROMA



FOOD SAFETY



SEED ADHESION





WITH SCREW PUMP

AUTOJET® MODULAR SYSTEMS

## PHM - AccuGlaze

### Egg Wash Coating System with PLC Control



Ideal for spraying glaze onto buns, croissants and any other bread.

- Recirculation of a liquid in an external cooled vessel
- Control panel:
  - PLC/2250+ Controller
  - Pump speed control
  - Liquid pressure sensor
  - Temperature sensor
- Temperature control with external water cooler (option)
- Hygienic design for easy clean down
- CIP option available

**Consumables:** Compressed air, electricity (230VAC)

**Input:** Trigger signal, speed signal

**Output:** Up to 8 PulsaJet spray nozzles, fault signal



GLAZING BUNS

GLAZING







## Chilled Storage Tank and CIP Add-On for Egg Wash Coating Systems

### Chilled Storage Tank with Heat Exchanger

- Double jacketed tank
- Heat exchanger to maintain liquid between 5 and 8 °C

### CIP for Screw Pump Glazing System

- Open tank 50 liter for cleaning liquid
- Diaphragm pump for CIP circuit
- Full featured software to control all CIP functions
  - Washing and rinsing
  - Draining vessel
  - Flushing all lines incl. screw pump
  - Flushing and draining the spray header
  - Activating and washing the nozzles

### CIP Add-On for Glazing System with Pressure Tank

- Open tank 50 liter for cleaning liquid
- Diaphragm pump for CIP circuit
- Full featured software to control all CIP functions
  - Washing and rinsing
  - Draining vessel
  - Washing and draining vessel with CIP nozzle
  - Flushing and draining the spray header
  - Activating and washing the nozzles



**Note:**

The cleaning liquid must be provided by the customer.

### Optional Cleaning Lance

- Using MiniRokon® tank wash nozzle



**Consumables:** Compressed air



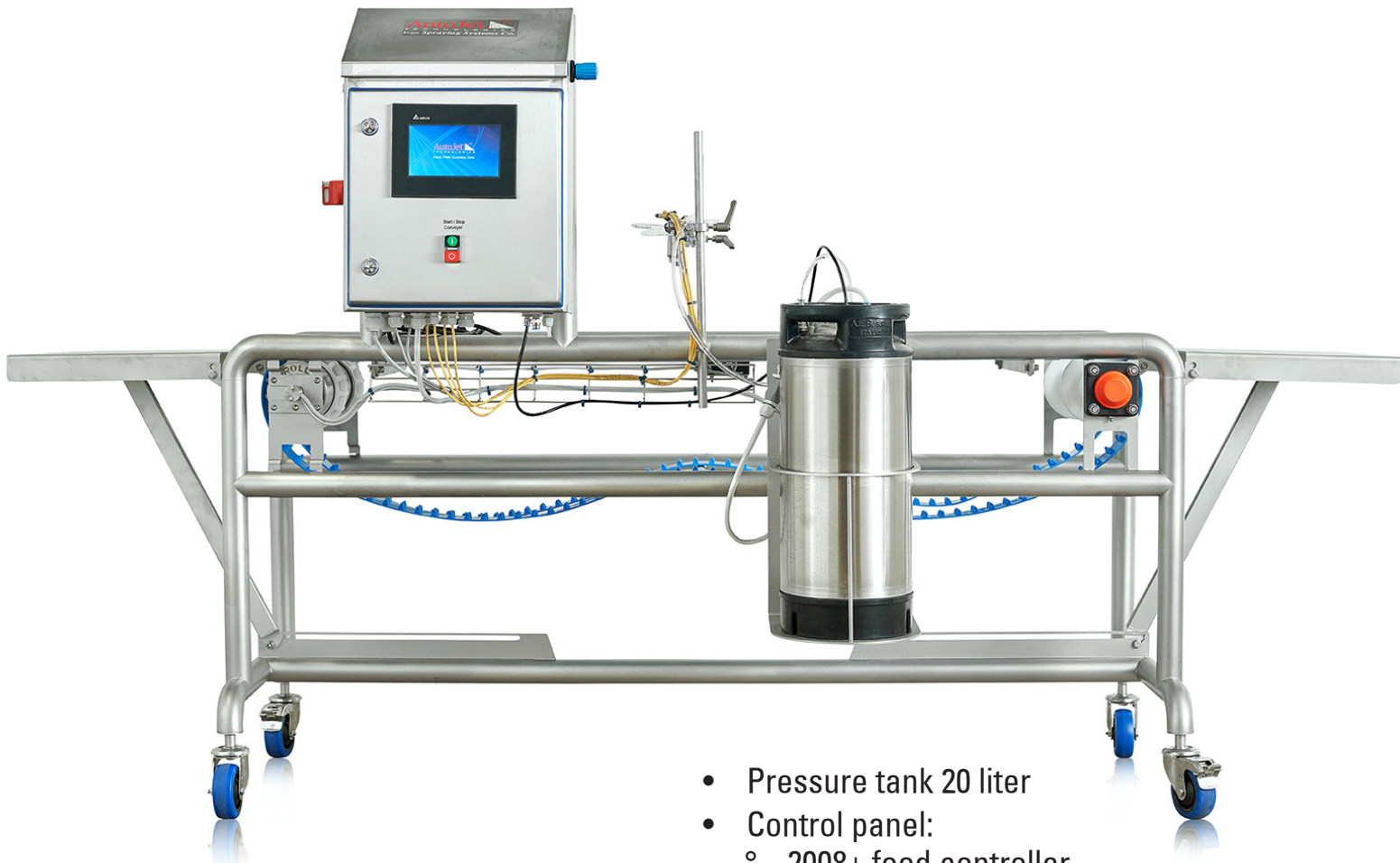
WITH PRESSURE TANK

AUTOJET® ACCUGLAZE

## BAV-20 AccuGlaze

### Autonomous Glazing System with Pressure Tank and Conveyor for Bakeries

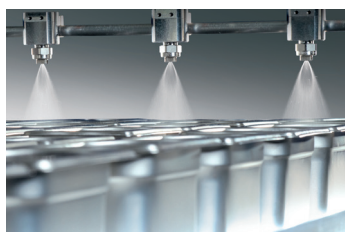
The AccuGlaze is a complete standalone machine with conveyor, spray header and controls. The integrated object detection and PSC control allows consistent application of glaze, sugar or any other low viscous coating liquid.



- Pressure tank 20 liter
- Control panel:
  - 2008+ food controller
  - Speed control for conveyor
  - Triggered by inductive sensor
  - Low level switch
- PWM Modes:
  - Fixed duty cycle
- Mobile hygienic frame
- Spray nozzle header with height adjustment
- Small footprint



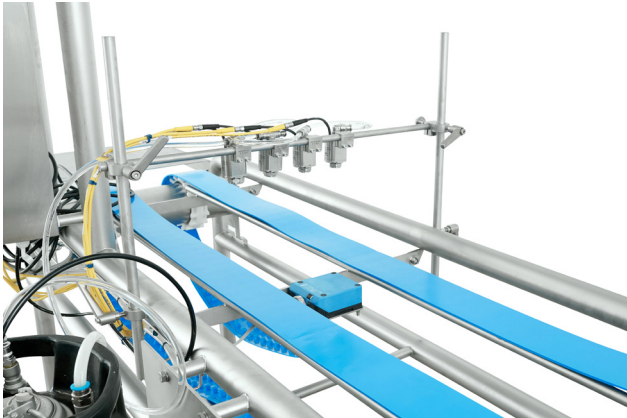
GLAZING



RELEASE AGENT







- Available for plate width:
  - 400mm
  - 600mm
- Hygienic design: easy wash-down
- Two folding plates for snap-in
- Configuration for plates (2 small belts) and objects (large belt)
- Conveyor belt without tension = safe operation

**Dimensions:** 400mm: 1500 mm (width) x 850 mm (working height) x 450 mm (depth) without feeding and recovering plates

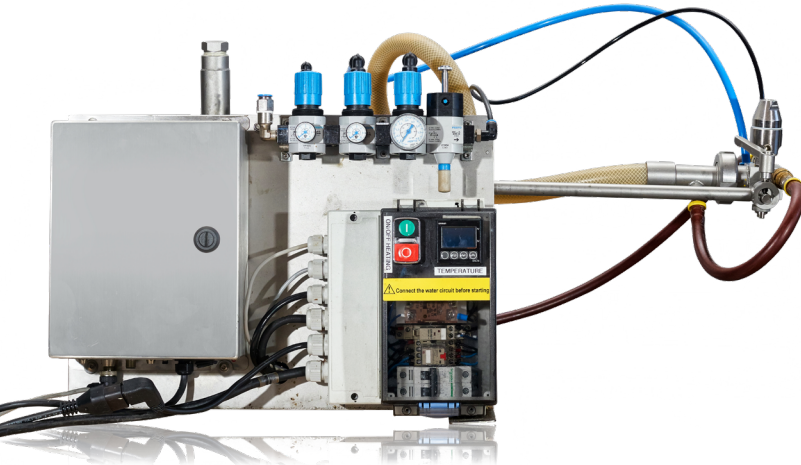
600mm: 2000 mm (width) x 850 mm (working height) x 650 mm (depth) without feeding and recovering plates

**Weight:** 400mm: 150 kg  
600mm: 180 kg

**Nozzles:** 400mm: 2 to 6 PulsaJet® nozzles  
600mm: 2 to 8 PulsaJet nozzles

**Consumables:** Compressed air (6 bar)  
Electricity 230 VAC



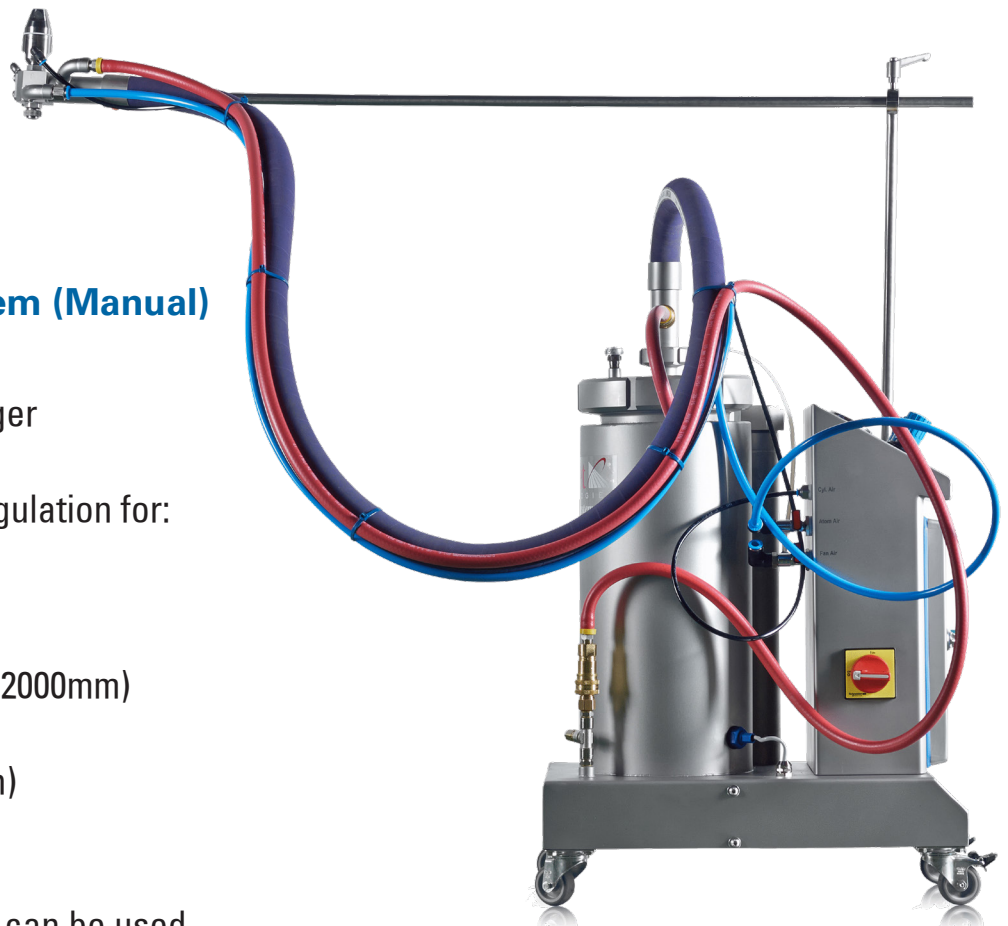


## BH-0.5 Micro Heated Spray System

- 0.5 liter pressure tank
- 1550+ controller for PWM and timing
- Water heating unit
- Manual air pressure regulation for
  - Liquid tank pressure
  - Atomizing air
  - Fan air
- DIN 25 connection
- Flexible jacketed hose (800mm)
- Jacketed 1/4JAU
- Jacketed VMAU (option)
- Jacket for PulsaJet®
- Can sit on a desk or table top

## H-5 Mini Heated Spray System (Manual)

- 5 liter pressure tank
- Manual pneumatic trigger
- Water heating unit
- Manual air pressure regulation for:
  - Liquid tank pressure
  - Atomizing air
  - Fan air
- Flexible jacketed hose (2000mm)
- Jacketed 1/4JAU
- Jacketed VMAU (option)
- DIN 25 connection



DIN 25 mounted spray heads can be used



**Storage Tanks**

- DIN, TriClamp, SMS Connection
- 19, 30, 50 and 70 liter options
- Pressurized or open tanks
- Single and double jacketed
- Level sensor
- Fixed, mobile or wall mounted



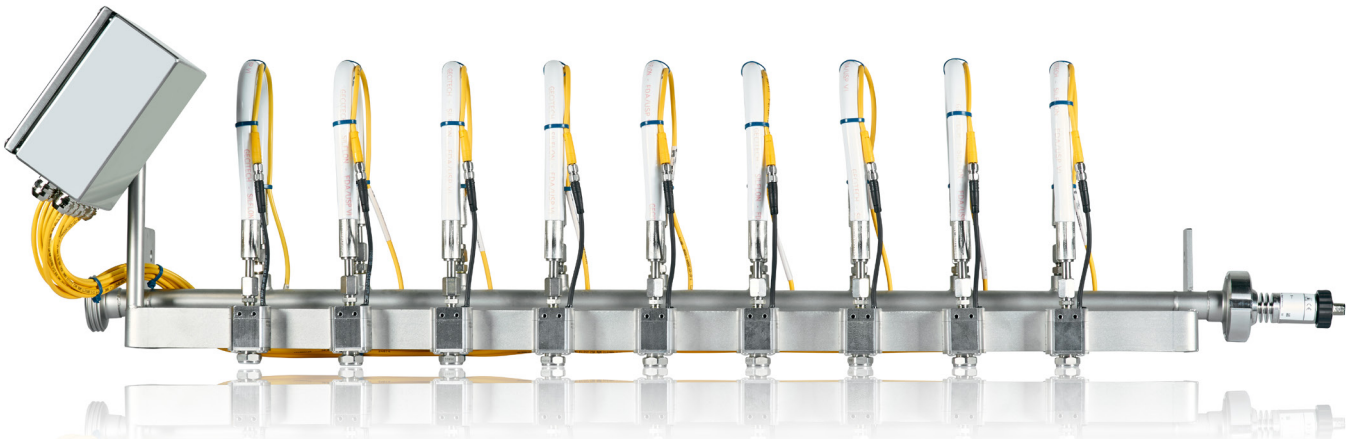
**Circulating Pump System**

- 12, 25, 50 and 70 liter options
- Open tank
- Low level switch
- For connecting to a fixed liquid supply line





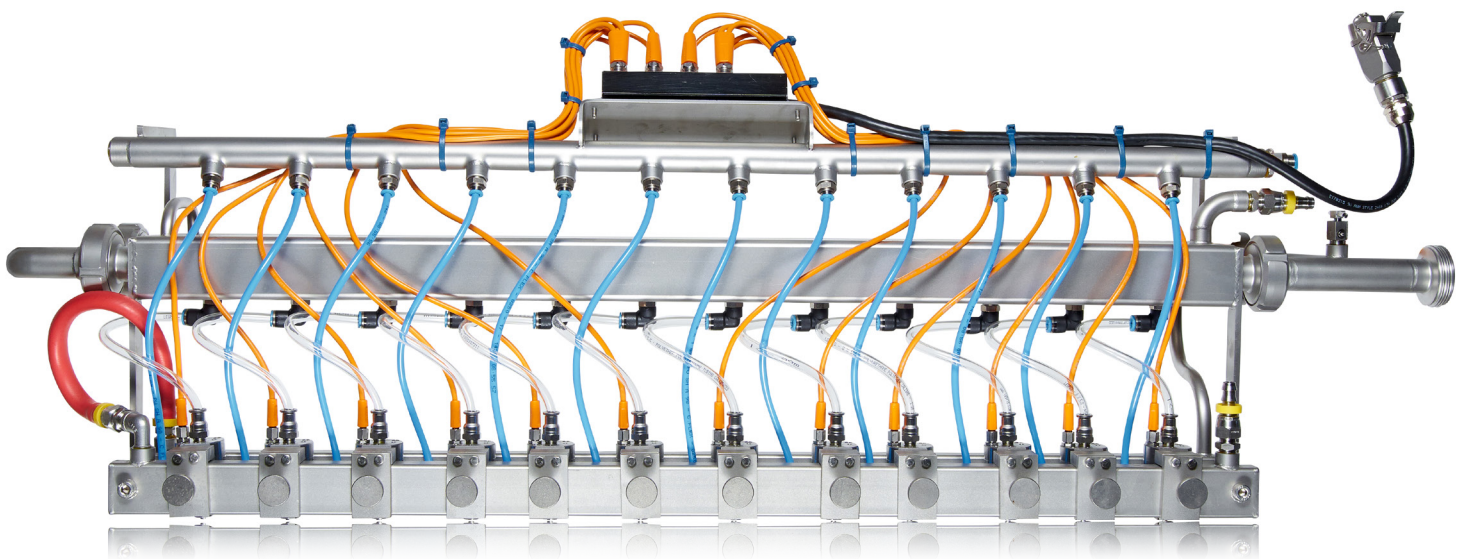
## The concept of spray headers grants ease of installation and hygiene



Manifold for Pulsajet® nozzles with variable spacing

### Manifold with variable spacing

- Easily adjustable nozzle spacing
- Hydraulic or air atomizing spray nozzles
- Non- or semi-jacketed
- PWM signal junction box
- Pulsajet zoning (option)
- Liquid connections in DIN (standard), TriClamp, SMS, ½"
- Easy cleaning
- Purge valve



Manifold for Pulsajet nozzles at variable pitch and semi-jacketed temperature control.  
For Pulsajet AUH and JJAU.



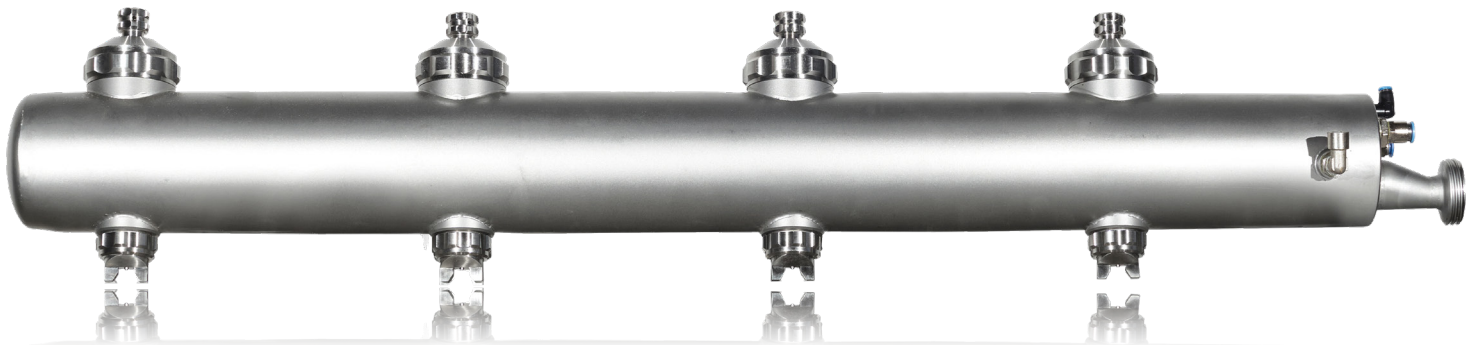
### Hygienic Manifold

- For antimicrobial applications using a single PusaJet® nozzle.
- Modular configurations, combine for coverage of 31 cm to 122 cm width
- 2 to 4 nozzles, 15cm spacing
- Thread or sanitary connection



### Jacketed Hygienic Manifold

- Compact design
- Integrated piping
- Jacketed header
- Hydraulic or air atomizing spray guns
- Liquid connections in DIN (standard), TriClamp, SMS, ½"



Hygienic manifold 63600A with VMAU air atomizing nozzles and temperature control.  
For 1/4JAU, 1/2JAU and VMAU (preferred) nozzles. Length from 500 to 6000 mm.



Hygienic manifold 63600 with PusaJet nozzles and temperature control.  
For PusaJet AUH and JJAU. Length from 500 to 6000 mm.



**PulsaJet® Nozzle Overview for Food Application:**

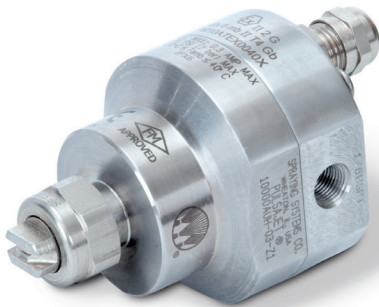
There are many versions of our PulsaJet spray nozzles, covering special needs for alignment of spray tips, ATEX or Food/Contact requirements. Here just an overview of some models:



PulsaJet with sanitary connections



PulsaJet with recirculation option



PulsaJet with ATEX certification

**Manifold with quick connectors**

- Quick connect option for non-heated header configuration







PulsaJet® with dovetail nozzle tips



Air Atomizing PulsaJet

### Various Spray Nozzles

Types :

- Pulsajet
- 1/4JAUH
- 1/4JAU
- VMAU

Jacketed or non-jacketed

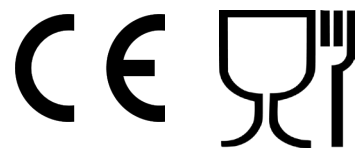
Mounted on DIN 25 for connection to a flexible hose

ATEX certified spray nozzle for alcohol spray system





The AutoJet® spray units are easy to integrate into existing production lines. They comply with CE directives of security, hygiene and food contact.



**Spraying Systems Co.®**  
Experts in Spray Technology

**AutoJet**  
TECHNOLOGIES  
From Spraying Systems Co.