



## PANELSPRAY® SYSTEMS

PRECISE RESIN, WAX, RELEASE AGENT  
AND MOISTURE APPLICATION FOR  
ENGINEERED WOOD PRODUCTS



*Spraying Systems Co.*<sup>®</sup>  
Experts in Spray Technology





# INCREASE PRODUCTION AND IMPROVE BOARD QUALITY WITH PRECISION SPRAY TECHNOLOGY

Applying the proper amount of wax or resin to wood chips or applying release agents or water to the mat, cauls or press belts is critical. Proper application can be challenging and result in inefficiencies that reduce production and increase operating costs.

The solution to achieving proper application in the blender and prior to press is our line of PanelSpray® Systems. These systems ensure the exact volume of fluid is delivered to the chips – even when operating conditions change and/or applying challenging liquids.

#### Four systems are available:

- **PanelSpray-RS** for PMDI or LPF resin application in the blender
- **PanelSpray-WX** for slack wax, tallow wax or e-wax application in the blender
- **PanelSpray-MS** for surface moisture addition prior to pressing boards
- **PanelSpray** for mixed release agent application on mats, cauls or press belts when using PMDI resins

All of our PanelSpray Systems use Precision Spray Control (PSC) to ensure accurate application with minimal waste no matter the type of fluid, volume or operating conditions.

The sections that follow detail how the systems work and the benefits PanelSpray Systems can bring to your operation.





## A BIT ABOUT PANELSPRAY SYSTEMS AND THE ROLE OF PRECISION SPRAY CONTROL

Precision Spray Control (PSC) ensures that fluids are applied consistently, uniformly and with minimal waste even when tonnage varies or line speed changes.

PSC uses an AutoJet® spray controller to turn electrically-actuated PulsaJet® nozzles on and off very quickly to control flow rate. The cycling is so fast that the spray often appears to be constant. Flow rate changes occur almost instantaneously to ensure the proper application rate even when operating conditions change.

PSC also enables a single PulsaJet nozzle to produce a wide range of flow rates without changing pressure. Because pressure remains constant, integrity of spray and coverage remain consistent. This also enables electrically-actuated hydraulic versions to produce very low flow rates – comparable to the flow rates achieved with air atomizing nozzles. Using hydraulic nozzles for wax, release agent and water application eliminates the need for costly compressed air and minimizes the misting and overspray problems associated with air atomizing nozzles.

### PSC BENEFITS:

- Reduces the use of costly resin, wax or release agents by applying only the needed volume with minimal waste
- Maintains optimal distribution, coverage and drop size even with significant variation in wood chip tonnage
- Increases production by applying the optimal amount of surface moisture to decrease time in the press
- Protects presses against sticking when making the transition to running full MDI products
- Application rate is maintained over a wide range of line speeds – very slow to very fast
- Eliminates the need for compressed air in most wax application and pre-press operations

SEE THE BENEFITS OF PSC: [spray.com/psc](http://spray.com/psc)

## HOW PRECISION SPRAY CONTROL WORKS

Electrically-actuated spray nozzles are turned on and off very quickly to control flow rate. This cycling is so fast that the spray often appears to be constant.



# IMPROVE CHIP COATING WITH PANELSPRAY® SYSTEMS FOR WAX AND RESIN APPLICATION

SPRAY MANIFOLD FOR PANELSPRAY-RS

Typically supplied by customer.

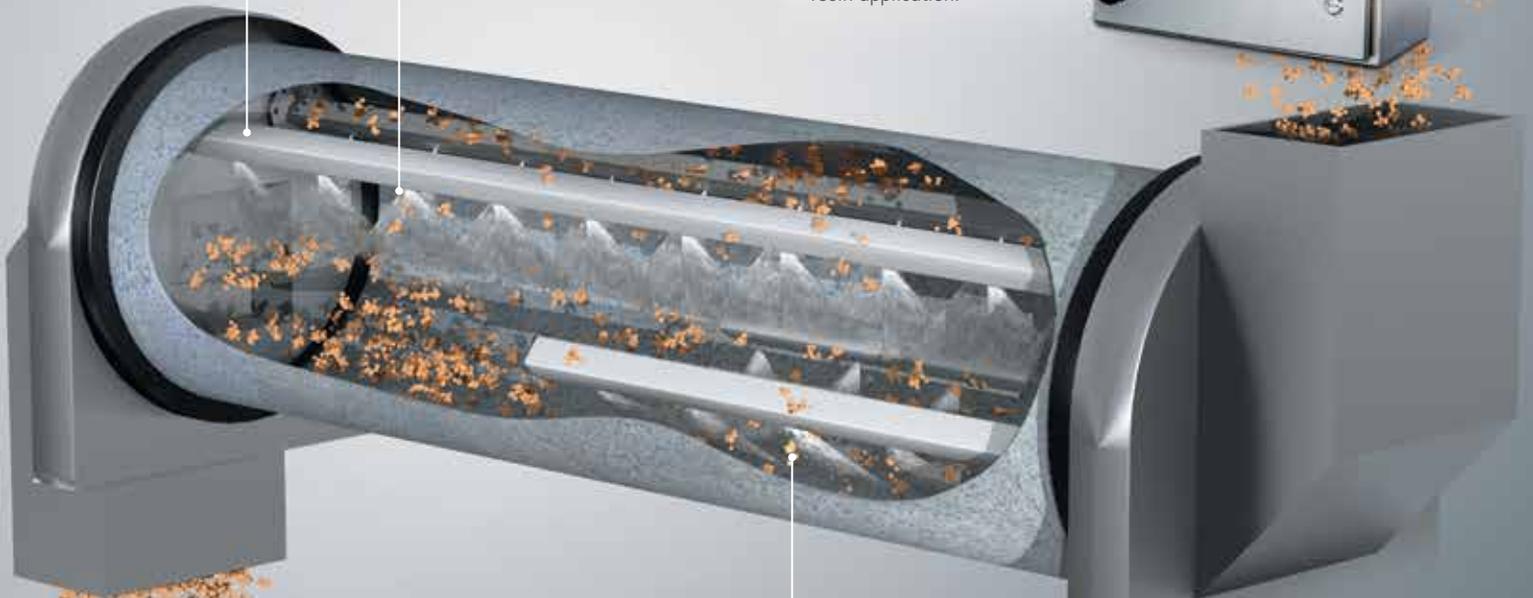


AIR ATOMIZING PULSAJET® NOZZLES FOR PANELSPRAY-RS

The nozzles produce very small drops and feature a wide turndown ratio to maximize operating flexibility.

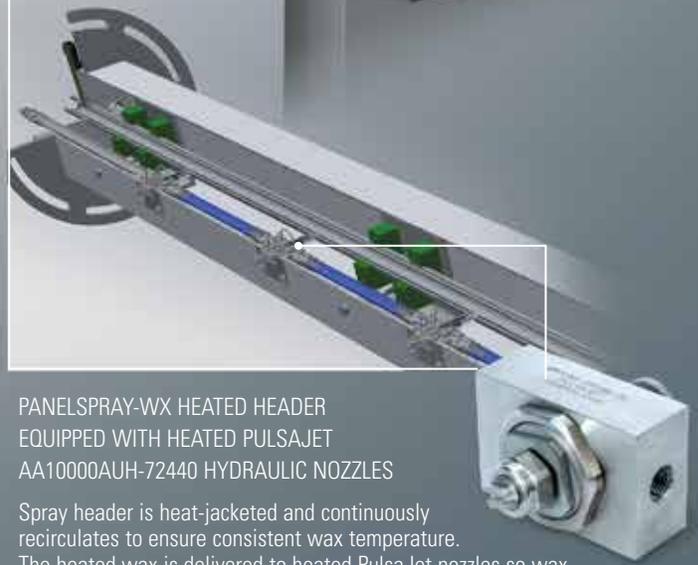
PANELSPRAY-RS SYSTEM CONTROLLER

AutoJet® Model 2250+ spray controller makes automatic adjustments based on changes in operating conditions to ensure optimal resin application.



AUTOJET MODEL 2250+ SPRAY CONTROLLER

Monitors and adjusts the level and pressure in the supply tanks, wax temperature and the application rate of the wax based on chip tonnage.



PANELSPRAY-WX HEATED HEADER EQUIPPED WITH HEATED PULSAJET AA10000AUH-72440 HYDRAULIC NOZZLES

Spray header is heat-jacketed and continuously recirculates to ensure consistent wax temperature. The heated wax is delivered to heated Pulsajet nozzles so wax temperature is the same in the tank and when it exits the nozzle tips.



## PANELSPRAY®-RS SYSTEM

### HOW IT WORKS

Suitable for use with both LPF and PMDI resins, the PanelSpray-RS system with PSC achieves optimal resin coverage through precise control of the application rate based on chip throughput. Over-application of costly resin is eliminated.

PulsaJet® air atomizing nozzles produce very small drops in a tightly controlled pattern. The nozzles also feature a high turndown ratio so a wide range of flow rates are possible without any change in spray performance.

Closed-loop system control, provided by the AutoJet® Model 2250+ spray controller, automatically adjusts the flow rate to maintain a specific volume of resin per weight of chip throughput.

PanelSpray-RS offers precise, automated control and dependable performance with minimal downtime.

### SYSTEM SPECIFICATIONS

Air atomizing PulsaJet® nozzles

PulsaJet spray headers or customer-supplied spray header

AutoJet Model 2250+ spray controller/delivery system with optional closed-loop control

Optional positive displacement pump with VFD and back pressure regulators

## PANELSPRAY-WX SYSTEM

### HOW IT WORKS

The unique PanelSpray-WX system with PSC is ideal for any wax requiring heat to flow. The temperature of the wax is maintained from tank to tip to ensure consistent spray performance. Precise temperature control also eliminates nozzle clogging and unscheduled, costly downtime.

Flow rate is automatically adjusted based on chip tonnage to ensure the proper volume of wax is applied.

Heated PulsaJet® nozzles, which require no compressed air, are supplied by recirculating, heated spray headers for tight temperature control.

PanelSpray-WX system control is provided by the AutoJet Model 2250+ spray controller. Flow rate adjustments are automatically made based on chip throughput. In addition, users can easily change the temperature to accommodate different types of wax or ambient conditions.

### SYSTEM SPECIFICATIONS

Heated hydraulic PulsaJet® nozzles

Heated PulsaJet spray headers

Heated 30-gallon pressure pot

Heat-jacketed hoses between pressure pot and spray header

AutoJet Model 2250+ spray controller with optional closed-loop flow control



# PANELSPRAY® AND PANELSPRAY-MS FOR PRECISION RELEASE AGENT AND SURFACE MOISTURE ADDITION



PULSAJET® SPRAY HEADER

PulsaJet headers, used in both the PanelSpray and PanelSpray-MS systems, are fabricated to meet press specifications. Header length, placement and nozzle placement on the header are customized to ensure accurate distribution across mats, belts or cauls.



PULSAJET HYDRAULIC NOZZLES

Nozzles provide precise application of release agent and/or moisture with minimal waste. PulsaJet nozzles are used in the PanelSpray and PanelSpray-MS systems.



PANELSPRAY CONTROLLER

System control is provided by Allen-Bradley PLC equipped with AutoJet® spray control.



PANELSPRAY-MS CONTROLLER

AutoJet Model 2250+ spray controller automatically adjusts the amount of moisture applied to the mat based on line speed.



## PANELSPRAY® SYSTEM

### HOW IT WORKS

PanelSpray System precisely applies water and release agents to mats, cauls or belts where MDI resin is used in the surface layers prior to entering the press. The water and chemicals are precisely mixed and then applied consistently and uniformly to prevent the mat from sticking to platens, cauls or press belts.

PulsaJet® spray headers equipped with PulsaJet nozzles precisely apply the release agent/water mixture to keep lines running without interruption.

An Allen-Bradley PLC with AutoJet spray control provides closed-loop system control. Flow rate adjustments are based on conveyor belt speed so the volume of liquid applied remains consistent. Flow rate adjustments can be made independently for each spray header.

Liquid recirculation ensures proper mixing of chemicals. Chemical concentrations can be adjusted via the control panel with a push of a button. The chemical concentration and flow rate are controlled separately for each header.

The System Integrity option checks each nozzle on the header for proper operation. If a reduction in flow is detected, the system generates an alarm in the control room and displays the location of the header with the fault.

In addition, the PanelSpray System includes an auto flush feature to clean nozzles and headers between spray cycles to ensure dependable operation and reduce maintenance downtime.

## PANELSPRAY-MS SYSTEM

### HOW IT WORKS

PanelSpray-MS applies additional moisture to the surface of the mat before it enters the press. The water is applied uniformly with minimal overspray. PSC ensures the application rate of the water remains consistent even when line speed changes. Even coverage helps reduce cure time and enables faster press cycles.

### SYSTEM SPECIFICATIONS

PulsaJet® nozzles

PulsaJet spray headers

AutoJet® spray control using Allen Bradley PLC

Optional System Integrity monitoring to detect nozzle flow problems

Two-channel liquid pressure regulation with independent chemical mixing for each channel

Independent control of mixing of release agent and water per header

Independent control of application rate per header

Three pumps

Zoning of nozzles

Auto flush/fill

Optional mat header height adjustment

### SYSTEM SPECIFICATIONS

PulsaJet nozzles

PulsaJet spray headers

AutoJet Model 2250+ spray controller

One- or two-channel liquid pressure regulation

Independent control of pressure at each header

Optional header flow meter

Optional zoning of nozzles

Optional auto flush/fill





## PANELSPRAY® SYSTEMS

**TO REQUEST A QUOTATION, PLEASE  
PROVIDE THE FOLLOWING INFORMATION:**

### PANELSPRAY-RS AND PANELSPRAY-WX:

- Blender length
- Blender diameter
- Tonnage range (max and min)
- Type of wax being sprayed
- Type of resin being sprayed
- Application rates or flow rates in lbs/hr or gpm
- Current spraying temperature of resin/wax

### PANELSPRAY AND PANELSPRAY-MS:

- Spray width
- Overall header length
- Line speed
- Mat thickness (min and max)
- Application rate range in ml/sq. ft
- MSDS sheets for resin, wax and/or release agents will be required

**CONTACT YOUR LOCAL SALES ENGINEER  
FOR ADDITIONAL INFORMATION.**



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