



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



# ENGINEERED WOOD: STAY AHEAD OF THE CURVE IN PRODUCTION EFFICIENCY, COMPLIANCE AND PROFIT

## AN INDUSTRY IN THE SPOTLIGHT

The engineered wood industry is changing. With recent media coverage raising concerns about the safety of flooring containing formaldehyde, more attention is on the industry than ever before. In response to customer demand and increasing regulation by government agencies such as the California Air Resources Board (CARB), some manufacturers have already transitioned from products using formaldehyde resins to those using safer MDI resins. Manufacturers that fail to put systems in place to work with MDI resins will eventually be locked out of the market. Spraying Systems Co., the world leader in spray technology, offers the best and most advanced spray technology to produce formaldehyde-free boards using MDI resins in an efficient, cost-optimized manner.

## WORKING WITH MDI RESINS

MDI resins offer several benefits in addition to zero formaldehyde emissions, including faster processing times and high moisture resistance. They do, however, present some challenges in application. Because MDI resins have a significantly different chemical makeup than UF and PF resins, special spray nozzles are required in blenders. MDI resins also tend to stick to pressing surfaces, necessitating the use of release agents.

## RISING TO THE CHALLENGE

Wax and resin can clog average spray nozzles, so they require special handling. PanelSpray-WX systems feature jacketed liquid lines and heated PulsaJet® nozzles to keep wax at a suitable temperature for spraying. PanelSpray-RS systems use air atomizing PulsaJet nozzles to spray MDI resins—eliminating the need for spinning disks. PanelSpray-RA systems are also available to accurately spray a mixture of water and release agents on mats, cauls or press belts, which is critical when using MDI resins.

## MINIMIZING COSTS

A typical plant spends millions of dollars each year on MDI resins and several hundred thousand dollars on chemical release agents. Since MDI resins are even more expensive than UF/PF resins, it is crucial that the equipment applying them be as precise and efficient as possible. Reducing consumption of these materials by even a small percentage can add up to big savings. The use of PanelSpray systems can significantly improve efficiency in multiple production areas.

In the blender, PanelSpray-WX systems have jacketed lines to keep wax heated all the way to the nozzle, preventing buildup on the nozzle, which can degrade blender performance. And for resin spray, PanelSpray-RS systems eliminate the need for expensive spinning disks, which require frequent maintenance, to distribute product. Both of these systems are more accurately controlled than other application methods and consume lower volumes of costly wax or resin.

## ACROSS-THE-BOARD SOLUTIONS

Spraying Systems Co. offers four PanelSpray® systems to improve efficiency and accuracy across a range of applications:

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





Further along the production line, PanelSpray-MS systems apply surface moisture accurately to prepare the board for pressing, ensuring peak throughput and quality board. PanelSpray-RA systems effectively mix and apply water and release agents on mats, cauls and press belts to keep production running smoothly, reducing downtime for maintenance and cleanup and increasing productivity. Precise application of release agents means conserving these expensive chemicals, which saves money in the long term. With PanelSpray systems, mills can produce CARB-compliant engineered wood products while improving production and optimizing costs.

## BENEFITS OF PRECISION SPRAY CONTROL

Each PanelSpray system is composed of an AutoJet® spray controller with application software and a spray manifold equipped with PulsaJet® automatic spray nozzles. The system uses Precision Spray Control to accurately adjust flow rate based on changes in chip tonnage or line speed. Electrically actuated PulsaJet nozzles turn quickly on and off to control flow rate—in fact, the spray often appears to be constant. Flow rate changes occur almost instantaneously even under changing operating conditions. Thus, Precision Spray Control ensures that fluids are applied uniformly and with minimal waste.

Precision Spray Control also enables a single PulsaJet nozzle to produce a wide range of flow rates without changing pressure. Because pressure remains constant, coverage remains consistent. Finally, this technology also enables electrically actuated hydraulic PulsaJet nozzles to produce very low flow rates—similar to those achieved with air atomizing nozzles. Using hydraulic nozzles for wax, release agents and water eliminates the need for costly compressed air and cuts down on inaccurate application and overspray.



## PANELSPRAY® SYSTEMS ARE IDEAL FOR MANUFACTURERS OF:

- OSB
- Particleboard
- MDF/HDF
- Other engineered wood products



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

## SPRAY MANIFOLD FOR PANELSPRAY-RS

Typically supplied by customer.

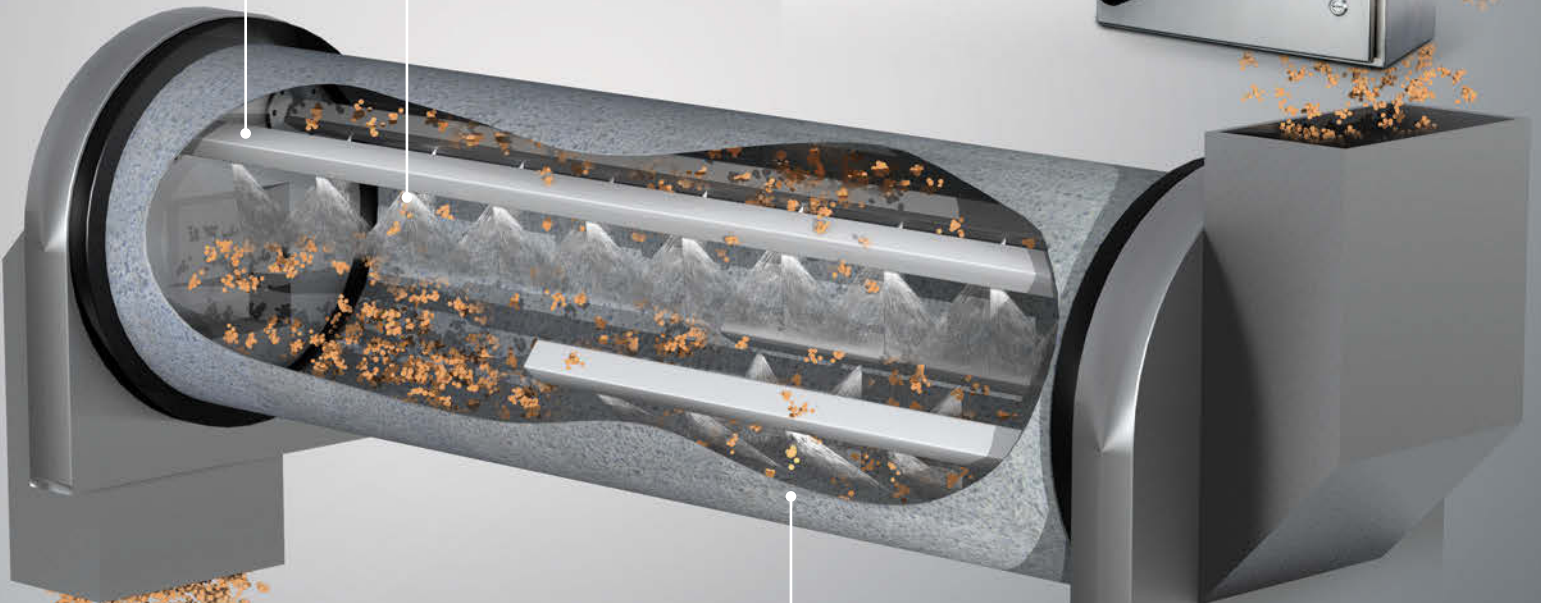


## AIR ATOMIZING PULSAJET® NOZZLES FOR PANELSPRAY-RS

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

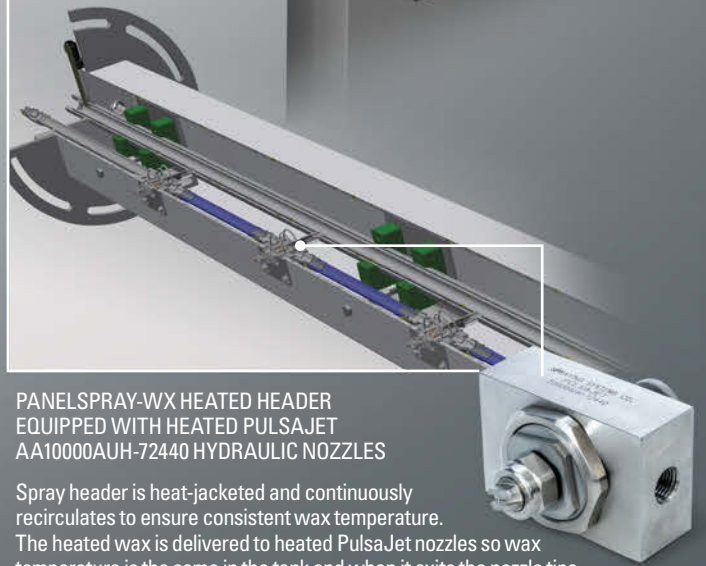
## PANELSPRAY-RS SYSTEM CONTROLLER

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 PalsaJet nozzles so wax temperature is the same in the tank and when it exits the nozzle tips.





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



PULSAJET® SPRAY HEADER

PulsaJet headers, used in both the PanelSpray-RA and PanelSpray-MS systems, are fabricated to meet press specifications. Header length, placement and nozzles 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-RA and PanelSpray-MS systems.



PANELSPRAY-RA  
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.





## THE NEXT PHASE IN ENGINEERED WOOD

With PanelSpray® systems, engineered wood mills can be at the forefront of changes in the industry.

- **Improve production versatility.** Painlessly convert to using formaldehyde-free MDI resins. PulsaJet® nozzles improve chip coating even with notoriously difficult MDI resins in blenders. They also ensure accurate application of release agents in the pressing section to keep production lines running.
- **Reduce waste.** Precision Spray Control delivers the exact amount of product right where it's needed. Using a lower volume of costly wax, resins and release agents results in minimal waste and less time spent on cleanup.
- **Achieve fast payback.** With reduced coating usage and increased production due to decreased maintenance downtime, an investment in PanelSpray systems pays itself back in efficiency and superior performance.

## AN EDGE IN THE MARKET

In a time of increased scrutiny of the engineered wood industry, PanelSpray systems allow mills to be confident that they are producing safe and compliant boards. And, with one or more PanelSpray systems in place, engineered wood producers make themselves more competitive immediately, as they are equipped to provide the formaldehyde-free products that customers and regulators demand—all while increasing production and optimizing costs. MDI resins are more than a trend in the engineered wood industry: they're the shape of the future. With PanelSpray systems, manufacturers can stake their claim in that future—offering better, safer products that boost appeal and profit.

### ABOUT SPRAYING SYSTEMS CO.

With 75 years of experience in the spraying industry, Spraying Systems Co. offers the best equipment and the most expert and dedicated engineers. Spraying Systems Co. is the partner that can take engineered wood production to the next level of safety, profitability and compliance.

### NEED MORE INFORMATION?



DOWNLOAD OUR PANELSPRAY SYSTEMS BULLETIN AT:  
[WWW.SPRAY.COM/PANELSPRAYBULLETIN](http://WWW.SPRAY.COM/PANELSPRAYBULLETIN)



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

North Avenue and Schmale Road, P.O. Box 7900, Wheaton, IL 60187-7901 USA

Tel: 1.800.95.SPRAY    Intl. Tel: 1.630.665.5000  
Fax: 1.888.95.SPRAY    Intl. Fax: 1.630.260.0842

[www.spray.com](http://www.spray.com)



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