

Auto Manufacturer Reduces Defects, Saves US\$300,000 with Automated Spray System



Problem:

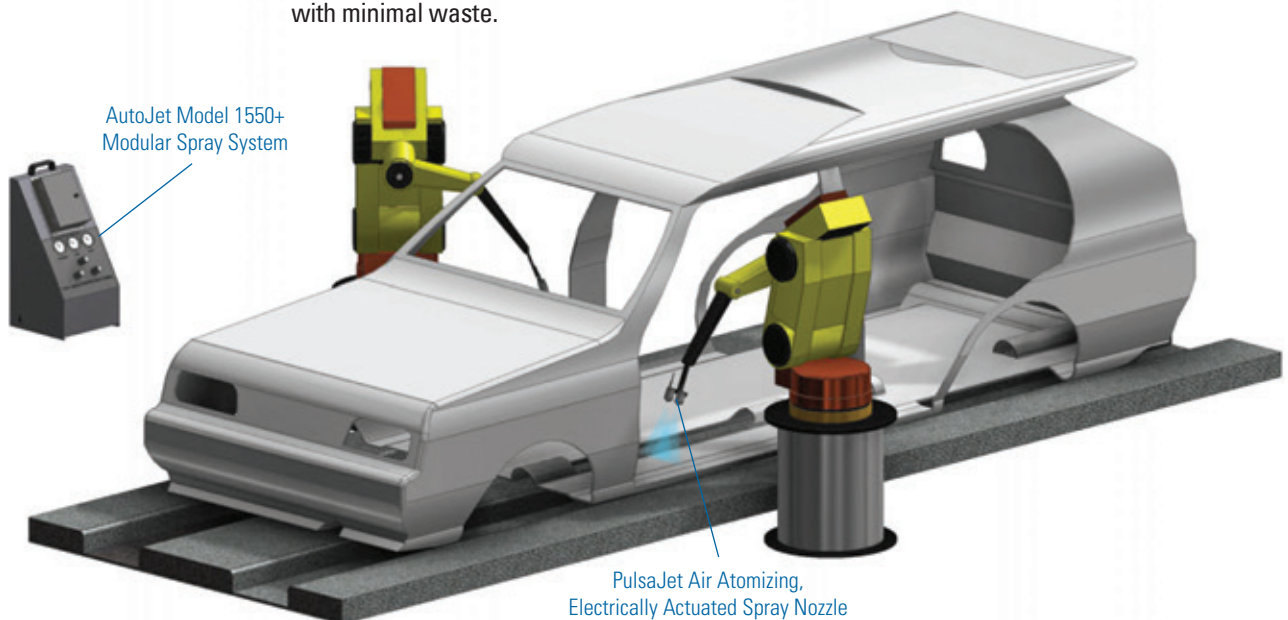
A manufacturer of automobiles needed to apply a misting of RO/DI water onto the floor pans of passenger cars and trucks to prevent dust from kicking up during the painting process. Applying the water manually with handheld spray bottles resulted in inconsistent coverage, sometimes causing dust to reach the exterior of the auto body. This not only inhibited paint from adhering to the surface but required transport to a body shop for repair.

The company required a spray solution that would use the same amount of water to consistently and evenly cover the floor pans and help reduce expensive rework.

Solution:

Spraying Systems Co. ran an on-site test with the AutoJet® Model 1550+ Modular Spray System to demonstrate its ability to control liquid flow and drop size. In partnership with a manufacturer of automotive painting equipment, four PulsaJet® AA10000JJAU air atomizing, electrically actuated spray nozzles were installed on robotic arms on either side of the production line. The arms entered the auto body through the windows to spray the floor pans. With a fine mist required to keep the floor dust at bay, Precision Spray Control (PSC) was used to generate low flow rates (1.3 to 2 gallons/hour [4.9 to 7.6 liters/hour]) and air and water velocities.

The AutoJet Modular Spray System was easily integrated into the OEM's equipment, providing complete, automated spray control of the nozzles and ensuring precise placement of the water with minimal waste.





Auto Manufacturer Reduces Defects, Saves US\$300,000 with Automated Spray System – Continued

Results:

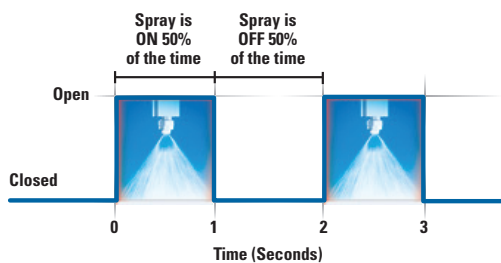
The AutoJet® Model 1550+ Modular Spray System helped the auto manufacturer increase daily production rate, reduce dust-related defects by 90% and reassign four employees to other tasks. Paint, RO/DI water and compressed air consumption all were decreased as were costs related to transporting and reworking rejected auto bodies.

The efficiency of the entire system provided by the OEM, including the AutoJet system and PulsaJet® spray nozzles, led to a savings of US\$300,000 for the company, allowing it to achieve a payback period of less than a year.

A CLOSER LOOK AT THE SYSTEM



PulsaJet electrically actuated spray nozzles achieve low flow rates and deliver water to the target with high efficiency



Precision Spray Control (PSC) turns electrically actuated PulsaJet nozzles on and off quickly to control flow rate. With traditional nozzles, flow rate adjustments require a change in liquid pressure, which also changes the nozzle's spray angle/coverage and droplet size. With PSC, pressure remains constant, enabling flow rate changes without affecting spray performance. This reduces the use of costly coatings by applying the proper volume directly on the cables.

AutoJet Model 1550+ Modular Spray System, which features liquid control for proper flow, ensures accurate placement of water to minimize waste



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