

Leading Non-Woven Products Manufacturer Saves Over US\$170,000 Annually with Spray System



Problem:

Fibrix, a leading manufacturer of non-woven products, needed to apply a binder coating to its HVAC filtration products. The spray system in place only provided a 60% transfer rate, generated a large amount of overspray and produced an excessive amount of misting. This process wasted valuable coating, created safety and environmental issues, required extra maintenance time and necessitated the installation of a costly mist extraction hood. In addition, the spray system could not be used for multiple products. In order to accommodate the coating-per-square-inch requirements, a manual change of spray tips was necessary. This required stopping the conveyor, creating a significant amount of downtime.

Solution:

Fibrix now uses an AutoJet® Model 2008+ Modular Spray System with Precision Spray Control (PSC). As the filtration product sizes change, PSC allows precise regulation of binder coating flow rates and eliminates the need for conveyor stoppage to manually change the spray tips. The system also includes a 96" (2438 mm) wide 98250 spray manifold equipped with nine hydraulic PulsaJet® AA10000AUH-104210 automatic spray nozzles. These hydraulic nozzles provide a larger drop size to minimize misting. The manifold and nozzles are operated by a Zone Control Panel. The panel allows the selection of all nine nozzles, for full-width coverage, or just the center seven or center five nozzles for narrower mat widths. This greatly reduces the amount of binder coating waste and labor to remove the excess.

PulsaJet nozzles

AutoJet spray panel

PulsaJet nozzles applying binder coating





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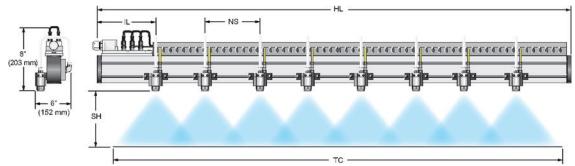
Results:

The AutoJet® spray system's reduction of overspray and elimination of misting provides Fibrix with a transfer rate increase of 35% and a 25% reduction in chemical costs. With conveyor stoppage down to a minimum, production is up 10%. The system eliminates spray-related safety and environmental issues and the need for the costly mist extraction system. The company's savings is US\$170,000 annually with a system payback period of only two months. Fibrix ordered three more systems and plans to add systems in the future.

A CLOSER LOOK AT THE SYSTEM



AutoJet Model 2008+ Spray Control Panel monitors preset variables to ensure accurate coating placement on the filtration product

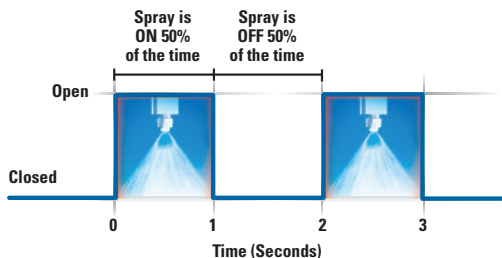


The 98250 spray manifold features a compact design with rigid aluminum structure. It can be configured with flexible lengths, a number of nozzles and variable nozzle spacing. Dual inlet ports can be used for liquid recirculation

PulsaJet® automatic spray nozzles provide accurate spray placement and excellent spray pattern integrity. Cycle speeds up to 25,000 cycles per minute are possible to keep pace with fast line speeds. PulsaJet nozzles can be used with a variety of spray tips to ensure the performance matches the application requirements



Zone Control Panel allows manifold mounted nozzles to be individually enabled or disabled based on the width of the product. This ensures proper spray application and minimizes overspray and waste



Precision Spray Control (PSC) involves turning nozzles on and off very quickly to control flow rate. This cycling is so fast that the flow often appears to be constant. With traditional nozzles, flow rate adjustments require a change in liquid pressure, which also changes the nozzle's spray angle/coverage and drop size. With PSC, pressure remains constant enabling flow rate changes without changes in spray performance. PSC requires the use of electrically-actuated spray nozzles and an AutoJet spray controller

For more information about Precision Spray Control, visit spray.com/psc



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