

Equipment Manufacturer Improves Product Quality and Saves CAD\$3500 Monthly with New Washing and Drying System



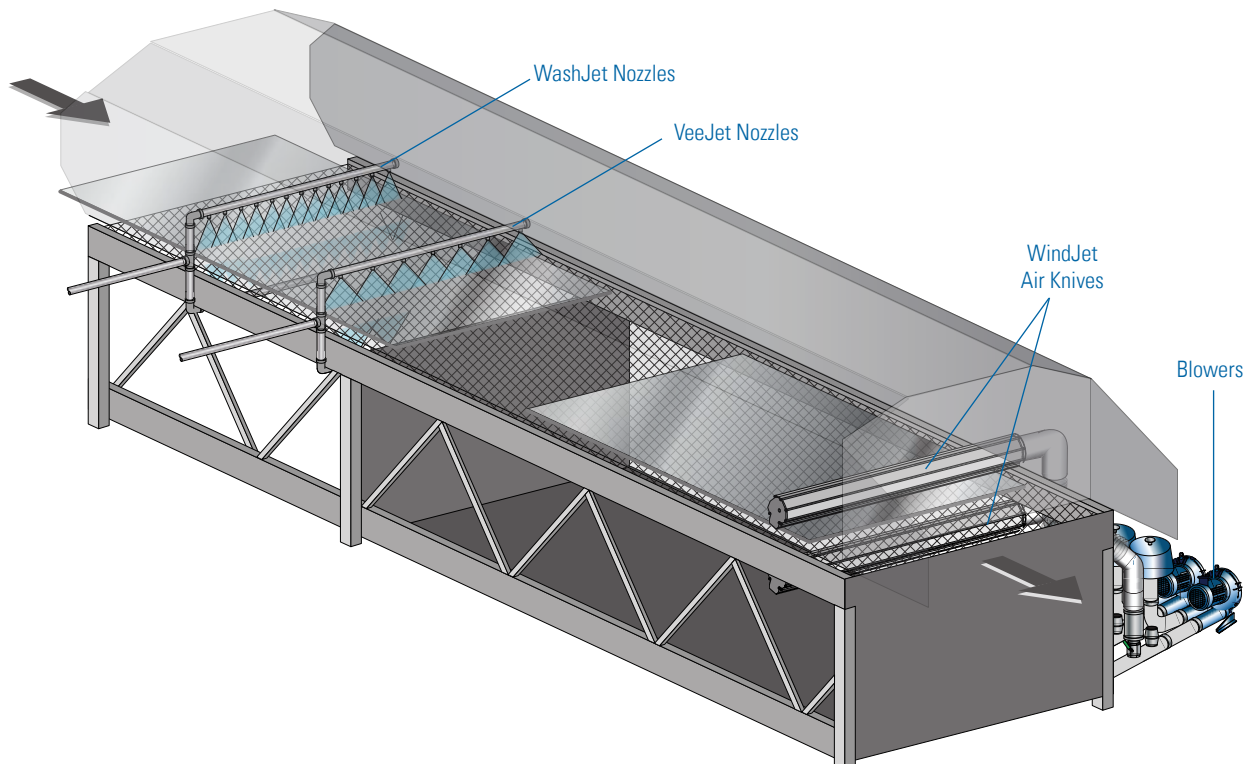
Problem:


Hydrep's Fluid Treatment Group was recently challenged to design a custom lubricating and cleaning machine for a customer manufacturing aluminum components. The customer needed to wash and dry aluminum plates after laser cutting. This process is critical because the plates are subsequently welded together – an operation that requires clean, dry surfaces.

The steel plates were previously washed manually with a pressure washer and dried with a compressed air gun, but this process was labor intensive and the results were poor. The steel plates were frequently dirty and often rusted after incomplete drying.

Solution:

Spraying Systems Co.'s solution was a series of washing, rinsing and drying headers. The first header includes 13 high pressure WashJet® nozzles which spray recycled water at 2500 psi (172 bar). The washing header is followed by a header containing seven VeeJet® nozzles which rinse the sheets at 800 psi (55 bar). Finally, the sheets pass between two 36" (914 mm) WindJet® air knives powered by 10 Hp blowers.





Equipment Manufacturer Improves Product Quality and Saves CAD\$3500 Monthly with New Washing and Drying System – Continued

Results:

The new washing and drying system designed by Hydrep has resulted in dramatic product quality and process throughput improvements for the customer. The number of rejected parts has decreased by 5% and product rework has been reduced by 20%. Using WashJet®, VeeJet® and WindJet® products has decreased operating costs as well – water use has been reduced dramatically and compressed air use has been eliminated. Significant productivity gains have been experienced since the new spray equipment has been installed and workers previously performing the washing and drying tasks have been reassigned. The company is saving approximately CAD\$3500 per month, providing a payback of less than three months on the new spray equipment.

A CLOSER LOOK AT THE SYSTEM



WashJet® spray nozzles (left) provide powerful cleaning performance. These nozzles produce a high impact spray and feature a maximum operating pressure of 3000 psi (207 bar). **VeeJet® nozzles** (right) with tapered-edge flat spray patterns are typically installed on a spray header. Overlapping spray distribution ensures uniform coverage. In this application, the entire steel plate is thoroughly rinsed as it passes under the header.

WindJet air knife packages use unique high-performance WindJet Air Knives and low-maintenance, direct-drive blowers to completely dry parts. The blowers produce clean, heated air, eliminating the need for costly compressed air.



Spraying Systems Co.®
Experts in Spray Technology

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