



Photos courtesy of Fuji Electric, Paxton Products-ITW Air Management, Republic Sales and Marketing and Spraying Systems.

Case Study: Fuji Electric



Fuji Electric Helps Apollo Metals with Sheet Metal Drying Applications

Apollo Metals (Bethlehem, PA), a manufacturer of custom plated sheet metals, needed a better solution for drying sheet stock material before final packaging to its customers. Improper drying could lead to marking and staining issues on the final product, which was unacceptable for Apollo. This made finding a drying technique that led to a quality finish critical.

The current process used large volume low pressure centrifugal fans and in-house designed and installed air knives followed by a series of electric heaters. The material that Apollo needed to dry had varying widths of sheet stock, which could be a cause of inconsistency. Also, operating conditions varied due to fluctuations in temperature and humidity conditions. Other variables include line speed and material width. The existing installed system provided Apollo with marginal quality, and under high humidity conditions, Apollo was required to slow production line speed to facilitate proper drying.

The Solution

Based on a previous relationship selling other products to Apollo, Fuji Electric (Saddlebrook, NJ) was asked to help with their drying issues. Fuji Representatives visited the site and became familiar with the company, taking down background information, sketches, customer desires and technical information. Fuji's air knife engineering team designed a complete system to meet all of the customer's requirements. The system consisted of a high-pressure centrifugal style blower and a combination of four air knives. The blower would provide 1,000 cfm at 52 inches of water. Airspeed at the air knife opening is 28,000 fpm. The air knives were mounted on existing stanchions in the customer's line and were positioned at an angle to the material to provide a sweeping effect. After initial installation and operation, Fuji Electric Sales and Engineering personnel visited the site to suggest specific adjustments to allow for onsite requirements.

The Result

Apollo experienced drying results that eliminated marking and staining issues and line speed was able to be returned to acceptable production levels. The Air Knife system accomplished its goals and Apollo was pleased with the final result and the overall project.

Good communication of project targets and goals led to successful technical solution. Throughout the design and installation, customer feedback allowed for system adjustments and changes which provided the final acceptable result.

Fuji Electric can provide complete Air Knife systems and/or individual components based on your specific requirements.

For more information contact Bill Maier, National Sales Manager for Fuji Electric Corp. of America, at (800) 421-3854 x 437.



Air Knife installation with product web and blower installation.



Close-up of air knives showing flexible hoses leading from blower plenum.

Images courtesy of Fuji Electric Corp. of America.