

Custom Dual Lane Washer w/Blow-off Cleaning >4,000 parts per hour

ITS Job Profile



Customer

This ITS customer is a premier manufacturer of household appliances and components. They manufacture products for both the consumer and distribution markets.

Project

This customer needed a new wash system to clean stamped steel components coming from two individual presses for the purpose of powder coating. Both product lanes were required to go through a single cleaning system. In addition to the powder coating cleanliness requirement, the project required 100% dry parts upon exiting the cleaning system.

Requirement

Provide a system to consistently remove paraffin based stamping lube from several different part designs and sizes. Parts were required to move through the wash system at a rate of **more than 4,000 parts per hour and be clean enough to powder coat and be completely dry.**

Specifications

Remove all paraffin based stamping lube from the parts to ensure that they could be powder coated without "fisheyes" and with complete part coverage. Remove all moisture from parts to provide a clean dry surface for powder coat adhesion.

Challenges

Prior to machine order, the system process and conveyor speed needed be tested and verified to show that parts were clean enough to be powder coated. Parts had to be processed through the wash system at a rate of speed that could keep up with their multiple press output rate. Parts from both presses were not always the same and had to be segregated so that they did not mix in the collection bins. In addition, due to the output height of the assembly line, the washer conveyor had to operate at a much greater conveyor height than normal.



The washer features a conveyor that is 55" high vs. the standard 39".



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ITS Solution

Provide a custom designed conveyor cleaning system with heated air blow-off for part drying. The cleaning system consists of two (2) individual conveyor belts or product lanes designed to segregate parts throughout the system and two (2) highly aggressive spray stages with a robust heated blow-off that can operate at temperatures up to 240°F. The blow-off delivers high velocity air through precision air knives to accelerate moisture removal and provide dry parts. In addition to the basic functional components of the cleaning system, a chemical monitoring system and oil coalescing system were integrated into the machine. All of this was operated with the use of a PLC and HMI for precision control of the entire system.

Keys to Success

- ITS state of the art lab facility with test cleaning and drying platforms.
- Process development by ITS engineering, Applications and Sales teams.
- Part analysis and chemical recommendations by ITS industry partner.

Results

Through a collaborative effort with our customer, and by utilizing the support and technological expertise of our industry partner, ITS developed a process and provided a cleaning system capable of repeatable results that exceeded all project requirements. In addition to the exceptional cleaning results this machine provided, ITS was able to supply a part drying solution that did not require ancillary heating. This design enhancement not only allowed the parts to be delivered to the powder coating process at the required clean and dry specification, but also minimized overall equipment operating costs. The ITS solution has helped this customer solidify its place in the industry as the premier household appliance manufacturer. ITS delivered a world class equipment solution by listening to the customer's needs and requirements, working closely with our industry partners and testing and validating all design concepts.



We look forward to partnering with you.
Contact ITS for a product proposal.
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