

Conveyor Washer with Automated Transfer Conveyor

ITS Job Profile



Customer

This ITS customer is the world's largest small engine producer for the outdoor power equipment industry.

Project

The customer was installing a new engine machining line that required a four stage cleaning system with automated exterior transfer conveyor with the capability to accurately deliver parts to several machining cells.

Requirement

Cleaning System - Provide a highly aggressive wash system to remove chips, particles and machining coolant from small engine blocks and sufficiently dry for shipping.

Transfer System – Provide an automated exterior transfer conveyor with a load station, part out-of-position sensing, five off-line pop up transfer stations and an unload station.

Specifications

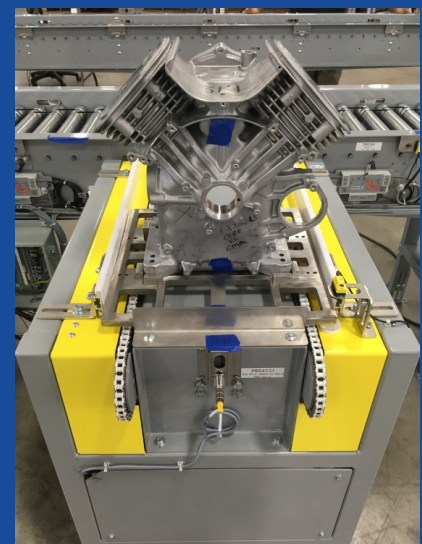
Spray wash parts to remove all chips, particles and machining coolant and force air blow-off parts to be dry upon exit. Outside of the cleaning system, transfer the parts using holding pallets on an automated conveyor loop. The conveyor loop delivers the parts off-line for robotic handling to machining centers and has both a load station and an unload station.

Challenges

- Sufficiently wash and dry complex parts with multiple machined surfaces and blind holes.
- Deliver parts to five off-line handling stations with repeatable precision for robotic interface.
- Design and integrate outside of the wash system an automated transfer conveyor with “smart part sensing” to provide “pause or pass” function at the off line handling stations.

ITS Solution

Provide a custom designed multi-stage conveyor cleaning system with forced air blow-off for part drying. The cleaning system consists of three (3) highly aggressive spray cleaning stages with a high velocity blow-off. Integrate a fully automated MDR exterior conveyor system with off-line pop up stations for use with part holding pallets for precise positioning.



Conveyor Washer with Automated Transfer Conveyor

ITS Job Profile



Machine Footprint	17'-0" Long x 5'-6" Wide x 5'-6" High
Washer Conveyor	Flatwire Belt
Machine Construction	Stainless Steel
Solution Pumps	End Suction Centrifugal (Horizontal) Stainless Steel
Production	2 Feet Per Minute – Variable Speed
Wash Stages	100 GPM @ 30 PSI
Rinse Stages	50 GPM @ 20 PSI Each
Solution Tank Sizes	3X's Pump Capacity - Each
Wash Filtration	Inline Bag Type
Tank Heating	Electric
Process Temperatures	Design @ 140° F
Spray Nozzles	Stainless Steel, Removable, V-Jet
Blow-Off Air	Pressure Blower, Multi-Hit Air Delivery @ 30" SP
Exhaust	Mist Eliminator
Electrical Controls	Allen Bradley PLC & HMI
Control & Diagnostics	System Function, Process & Alarms Display @ HMI
Remote Connectivity	Ethernet
Part Holding	Precision Machined Pallets
Exterior Conveyor	Motorized Drive Roller (MDR)
Conveyor Style	Zero Pressure
Accumulation Zones	49
Off Line Pop Ups	5
Sensing	Photo Eyes

Keys to Success

- Collaborative specification development between ITS and customer
- Joint concept development by ITS engineering, applications and sales teams
- Cooperative conveyor system function design and supply by ITS vendor partner
- Project execution by ITS project management, manufacturing and QC teams

Results

Through combined efforts with our customer, the experience and commitment of all ITS team members, and also the support and technical expertise of our vendor partner, ITS developed and provided a washer and automated transfer system capable of delivering consistent and repeatable process results that exceeded all project expectations.

We look forward to partnering with you. Contact ITS for a product proposal.
sales@itsllcusa.com • 414.672.7700