ATW
Assembly & Test Worldwide

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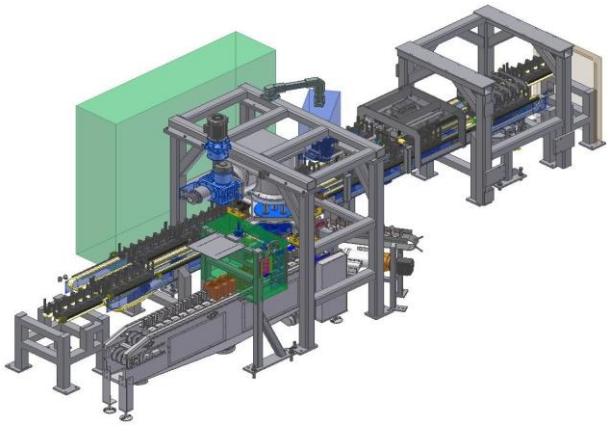
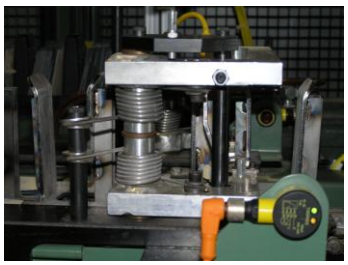
Battery Processing Project

This project represents one of ATW's Battery processing projects. The initial project held many challenges with respect to cycle time and OEE and a target of zero damage to all plates. The system is an integration of (7) major components with various buffering systems between them allowing each to run at various cycle times and still provide the desired target output for the cell. ATW's dedication to communication and project management throughout the project allowed for an on time delivery.



System Overview

- The seven major stations had varying process times and were supplied by various buffers to maintain an overall cycle time for the cell of 2 seconds.
- Transfers between lines are accomplished by P&F Conveyor, Cam driven rotary actuator and Bucket Conveyors to provide re-orientation and flexible placement capabilities.
- IPV stations were utilized to ensure plates were not damaged and that they were in the correct orientation before stacking.
- Reject handling was done automatically through the use of a reject conveyor.



System Values & Benefits

- Book Plate Count could vary from 5 to 21 plates
- One Plate Geometry
- Book Weights could vary up to 6 pounds
- Book Orientation – Verifies books are oriented correctly
- Multiple chassis' used to accommodate varying cycle times to achieve overall system cycle time of 2 seconds

System Highlights

- IPV Vision Station –inspects individual books for the correct plate count and arrangement.
- Book Aligner – device to preposition books on the bucket conveyor..
- Rotary Transfer Station – Cam driven indexer with 4 grippers used to automatically pick / place and transfer individual books between the bucket conveyor, P&F conveyor and reject conveyor.
- Magazine Indexer – Device used to index the magazine on the P & F Conveyor.
- Power & Free Conveyor (with Side Shuttles)
- Reject Conveyor – Off-line indexing conveyor used by the system to remove "bad" status books for salvage.
- 6-Book Tamper Unit – Automatic device used to pre-align plate lugs.
- Book Gatherer Unit – Device used to pre-position books within a magazine
- Re-introduction Station – Manual access point Operator Console – Includes a touch screen HMI for monitoring and controlling the system.