Slitter/Folder Rebuild

A Converting Case Study

The Application

A large plastic film manufacturer needed to improve the output of several of its slitter/folders and increase the quality of the finished rolls with minimal disruption to production in the finishing department. The end products, polypropylene and polyethylene, are widely used in the packaging and food industries.

Throughput on the machine had been negatively affected by unavailable parts due to the age of the machine. The outdated equipment also made it impossible to determine the amount of tension on the film, which resulted in inconsistent machine operation and roll properties.

The PCT Solution

PCT solution included using custom winder control logic in a Rockwell PLC for controlling film tension. PCT also provided a complete electrical and mechanical rebuild of the following:

- PLC enclosure
- Drive enclosure with new DC drives
- Touchscreen operator station with machine diagnostic displays
- Unwind operator station
- Three new DC motors
- New idler rolls and load cells to directly measure tension
- Revised taper tension control, allowing operators to create a softer roll as requested by their customers
- New base to mount the motors and rewind frame, improving stability of the machine

The PCT Solution

Upon completion of the project, PCT was able to provide the customer with correct tensions resulting in improved roll quality at increased speeds. The new control system allows the operators to store and recall customer specific “recipes” for tension settings.

This project solution was then applied to additional slitter-folder retrofits for the customer, and helped develop an ongoing team relationship between the two companies.

Customer Comments

According to the customer, “…PCT contributed to a 30% increase in production with a 25% reduction in rejects, and the operators love to run the machine (which is a real victory!).”