

APPLICATION SOLUTION: De-nesting Pallets

Product Family: Electric
Product Used: ERD Electric Linear Actuator
Product Type: Standard

Application Requirements:
Stroke: 300 mm (12 in)

Application Description:

Position adjustment for de-nesting pallets.

Challenge:

An OEM (original equipment manufacturer) of conveying equipment needed better position control in a de-nesting machine. Previous pneumatic actuators couldn't provide the position flexibility to run multiple sized products coming from various pallets. This limitation required workers to make mechanical adjustments, which added significant changeover time, resulting in production delays. Additionally, the OEM wanted to move towards an all Ethernet-based system with intelligent feedback from all the critical components. Finally, for safety reasons during a jam situation, the position needed to be held if the system was powered down.

Tolomatic Solution:

Tolomatic utilized the ERD electric cylinder with an acme screw and bronze nut to provide accurate, flexible positioning and quick change over times. Combined with the stepper drive and motor with EtherNet/IP, the actuator solution could be commanded over Ethernet to variable positions and provide the complete status information of the axis to the PLC. The bronze nut of the ERD provided a stable actuator solution that did not back-drive. In case of jams, the drive power could be removed and the keep-alive circuit on the stepper drive was able to maintain encoder position to safely allow operators to clear jams.

Customer Benefit:

- Adjustable, accurate positioning for a more flexible machine platform
- Safe machine design with the ability to maintain position when drive power is removed
- Ethernet communication for flexible position control and status information