DWFRITZ
PRECISION AUTOMATION

Solution Sheet

Surgical Auto-Loading and Inspection System

Challenge

A medical device manufacturer needed an automated system designed to place surgical staple cartridges into packaging and deliver the loaded packages into an in-line sealing system.

Solution

Designed around a customer-supplied Fanuc robot and frame, the loading system control was integrated into the customer's existing line control. The auto-loading system visually inspects cartridges during the placement sequence to verify orientation and compliance with the active job parameters. The project provided an opportunity to integrate an existing asset to load components upstream of the new inspection equipment.

A tray of components is manually loaded into one of two drawers while the robot, equipped with a pneumatic end effector, lifts eight staple cartridges from the other tray and places them into an articulated flipper/spreader fixture. The custom-designed transfer fixture adjusts their orientation and spacing before lowering them into thermo-formed blister packaging, which are indexing through the system to the customer's form-fill-seal machine. Once one tray is emptied, the robot begins processing the second tray, allowing continuous operation.

Result

Working within the parameters of the existing equipment and integrating the supplied robot and frame, the automatic system for loading surgical staple cartridges into thermo-formed blister packaging handles multiple sizes of cartridges at a rate of **4,800 pieces per hour**.

About DWFritz Automation

Established in 1973, DWFritz Automation provides world-class build-to-print manufacturing capabilities to clients, in addition to designing, building, and supporting engineered-to-order automation systems and high-speed, non-contact metrology products.