DWFRITZ
PRECISION AUTOMATION

Solution Sheet

Coating Application Tool

Challenge

A medical device manufacturer needed an automated system designed to etch and coat medical components.

Solution

The automated coating tool uses a combination of electrolyte and calibrated voltage to surface-etch and apply a proprietary coating to manufactured medical components. The automated process is completed within an interlocked, ventilated enclosure.

An operator loads parts into custom trays, where machine vision systems scan a barcode for process information. On tool startup, the robot automatically picks and sequentially places parts onto retractable studs on the first of two internal cassettes. The populated cassette ("A") is then inverted and moved into the ventilated process chamber, while the robot repeats the pick-and-place operation for the remaining cassette ("B").

Within the process chamber, an immersion actuator lowers cassette "A" into an electrolyte solution. The etch and coating process starts automatically, and runs according to the time and voltage recipe as determined by the barcode scan. Cassette "A" is then exchanged for cassette "B" at the pick-and-place side of the tool, where the robot transfers processed parts to the output tray.

Result

The operator loads and unloads part trays, maintains electrolyte and rinse solutions, and monitors operating status. Otherwise, the fully automated system etches and coats **240 parts per hour**, a rate limited by the client's custom designed process.

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.

800.763.4161 | www.dwfritz.com | info@dwfritz.com