

Ars Automation

Application notes

Case Study: Enhancing Electroplating Automation with Flexible Feeding Solutions



Industry insights

In the specialized field of electroplating, where Collini has implemented its automated system, the demand for innovative, precise, and optimized manufacturing solutions has become increasingly significant. The company was looking for a space-saving solution that would provide a fast and reliable way of hanging small and delicate parts on racks for the electroplating bath. Manually loading the racks necessitates considerable space and workforce because several racks need to be loaded at the same time. To tackle this challenge, our partner has now developed a fully automatic system for plating racks. The integration of our flexible feeding technology in this process enhances productivity and accuracy, while also significantly reducing space, operational costs and times.

Handled parts

This project addresses the intricate process of accurately positioning delicate and small parts for electroplating.



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The configuration

At the core of this line, there are four FANUC robots (LR Mate 200iD) dedicated to the task of loading parts onto empty hooks on racks. This operation begins with the bulk feeding of parts into a hopper, then conveying them to two FlexiBowl® 650 feeding devices. From there, the parts are located with a camera, picked by the robots, and then accurately placed onto the precisely measured rack hooks. A compact OXM200 profile sensor by Baumer, mounted on the robot arm, detects the exact position of each individual hook as it moves along the rack's length, relaying this information back to the robot's control system. The integration of flexible feeders and smart sensor technology marked a significant advancement in automating the electroplating process, ensuring precision and efficiency.



FlexiBowl® 650

Traditional Operating Mode

Results

The integration of the automated system resulted in a significant reduction in manual labor and optimized the use of available space. The flexible feeders ensure a smooth and continuous flow of parts, significantly reducing the chances of bottlenecks or interruptions. The dual robot cells facilitated the processing of 15 million parts per year, marking a significant leap in production capacity and efficiency. This project showcases how advanced technology can effectively address complex industrial challenges while paving the way for future developments in the electroplating industry.

Key points



Beauty & Cosmetics



Coating Process



FlexiBowl® 650



FANUC Robot



Delicate Products