PROFILE

NAME: Polymer Conversions
LOCATION: Orchard Park, NY
FOUNDED: 1979
WEBSITE:
www.polymerconversions.com

CHALLENGE

Polymer Conversions, a medical device/plastic injection molding contract manufacturer, needed an effective way to automate the process of inserting threaded brass components into plastic injection molded parts to enable operators to focus on more challenging tasks.

SOLUTION

Engineered Vision's Flex-Bot, powered with Epson's T3 All-in-One SCARA Robot, Vision Guide, and IntelliFlex™ 240 Feeding System, provides effective high-mix parts feeding automation and accurate assembly, freeing operators from repetitive tasks, so they can deliver high value with fast ROI.

Invigorating the Assembly Line with Automated Process for High-Mix Parts Feeding

Epson-Powered Flex-Feeding and Assembly System Solves Long-Time Manufacturing Challenge

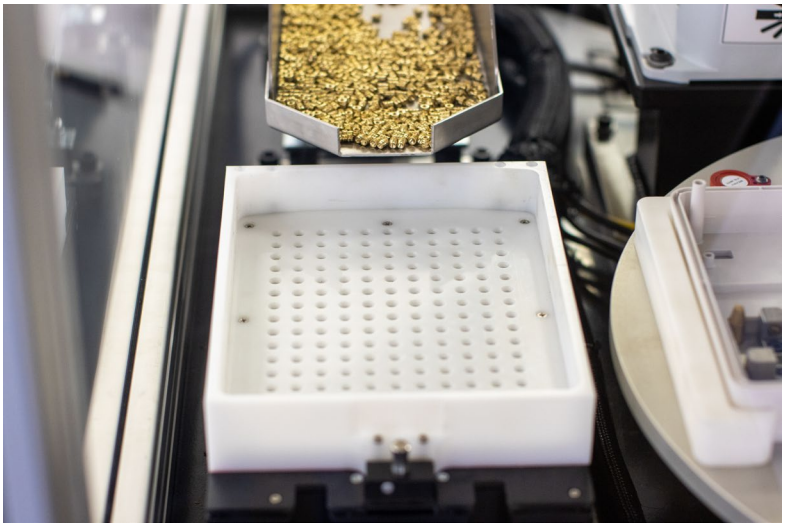
Polymer Conversions, a medical device/plastic injection molding contract manufacturer, needed a more efficient way to assemble parts that required placing threaded brass inserts into injection molded bosses. Operators were performing the assembly manually and found it challenging to complete it accurately and consistently because the threaded brass inserts are small, and the top and bottom diameters of the inserts are similar. Moreover, the work was repetitive and dull, and Polymer Conversions wanted to use its skilled operators more effectively.

The problem, however, was that the company had not been able to find an effective way to automate high-mix part feeding and encountered jamming issues with bowl feeding threaded brass inserts in past projects.

Exciting Innovation Fills Market Gap

Engineered Vision, an Epson AutomateElite[sm] Gold partner, solved the challenge of high-mix part feeding for Polymer Conversions – and many other contract manufacturers -- with the Flex-Bot turnkey flex-feeding and assembly system. Unlike ultra-high volume single part bowl feeders, the Flex-Bot system gives manufacturers the flexibility to accommodate multiple parts and orientation through robotic placement. The system is designed for versatility, effective for metal, plastic, or rubber assembly. It handles parts, from simple to complex, ranging from 5 mm to 40 mm, and leverages multi-axis vibration technology to optimize part control, singulation, and part flipping.

Engineered Vision chose Epson Robots solutions to create

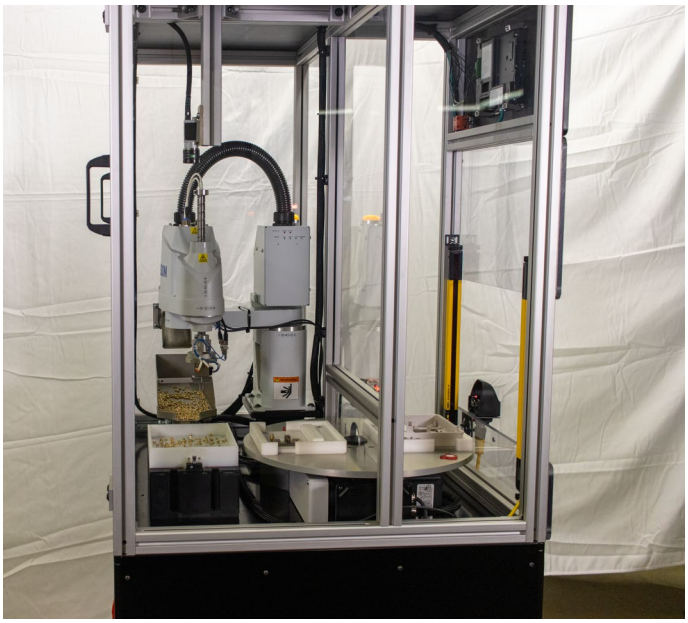


the Flex-Bot system. The nerve center of the Flex-Bot system is Epson's easy-to-use and award-winning T3 All-in-One SCARA Robot with built-in controller housed in the robot's base. The T3 is compact and lightweight, and offers a wide variety of integrated options, including Epson's Vision Guide and IntelliFlex Feeding System, allowing the Flex-Bot system to seamlessly and effectively facilitate parts singulation and placement.

Redefining Automation Efficiency

Flex-Bot is also fully integrated with the intuitive Epson RC+® Development Software which makes setup and configuration easy. When compared with other automation systems, the point-and-click interface of RC+ minimizes development time from weeks to only days.

> ***"Flex-Bot is a breakthrough solution, solving the challenge of high-mix part feeding. Our partnership with Epson Robots has enabled us to deliver greater value and versatility through Flex-Bot and other automation systems, and these innovations are helping our customers make progress toward a more efficient and productive future."***
>
> - SETH BREWER, HEAD OF BUSINESS DEVELOPMENT, ENGINEERED VISION



Flex-Bot, which can be used as a standalone system or integrated with existing equipment, offers contract manufacturers added benefits. Leveraging IntelliFlex's vibratory and smart auto-tuning technology, the system can quickly adapt to different parts and assemblies from job to job. The ability for quick parts changeover allows Flex-Bot to easily integrate into manufacturing lines that produce multiple products of different shapes and sizes.

In addition to high-mix part feeding, Flex-Bot can also be used for other types of assembly, kitting, tray loading, and material handling, providing added flexibility and value to users.

Setting a New Standard for Productivity

Even before deployment to full production, Flex-Bot has delivered promising results for Polymer Conversions. The company has recognized its ability to help improve product quality, and with Flex-Bot operating at an average cycle time of 33 seconds per 8-part placements, the company anticipates ROI within two years.

Flex-Bot has also been able to help Polymer Conversions meet one of its primary goals for the project: to free its operators from repetitive tasks. The easy-to-use operator interface has even inspired some enthusiasm for previously mundane work.

Additionally, Engineered Vision points out that partnering with Epson has given its team the ability to standardize with a hardware and software platform. This advantage has resulted in a 40 percent reduction in engineering hours required to develop a custom application -- and those savings are passed on to the customer.

With the Flex-Bot system, made possible through Engineered Vision's partnership with Epson, Polymer Conversions is demonstrating how robotics, machine vision, and automation technology can overcome challenges that contract manufacturers have faced for years. Cooperative solutions like will allows manufacturers to operate more efficiently and productively in the future.

"The Flex-Bot system provides the functionality and performance we need. And with Epson's RC+ Development Software, the user interface is very intuitive and easy to use. Our experience has been very positive, and we would definitely use Epson and Engineered Vision again for future automation applications."

- JERRY GORRELL, DIRECTOR OF ENGINEERING, POLYMER CONVERSIONS

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