

Ars Automation

Application notes

Case Study: Flexible feeding system for six-component hydraulic assembly



Industry insights

The manufacturing landscape is constantly evolving, and the assembly of hydraulic components has emerged as a sector with its own unique challenges. These components, which are essential for a broad range of industrial and consumer applications, require high levels of quality and fast time to market. For these reasons, the companies in this industry are striving to find flexible automation solutions that allow them to keep up with market trends and meet the stringent standards expected by both B2B and B2C customers.

Handled parts

In this case study, we will explore how a manufacturing company has improved its assembly process by implementing an automated cell equipped with flexible feeders. This system is designed to handle six different plastic hydraulic components, including valve bodies, caps, seals, and connectors, all on the same production line.



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The configuration

At the heart of the assembly line lie the FlexiBowl® feeder models 500 and 650, each fed by a motorized hopper to guarantee maximized operational autonomy. These flexible feeders seamlessly sort and orient the components, ensuring they are positioned for the next stage. Two KUKA robots pick and place the parts onto the assembly line. This system boasts a compact footprint, ensuring it seamlessly integrates into existing infrastructure and reducing the space required for operation.



FlexiBowl® 500 and 650

Traditional Operating Mode

Results

The adoption of this cell transforms the assembly process reducing walk-away time while simultaneously elevating both efficiency and quality. Its versatile functionality enables the precise handling of six diverse components without the need for manual interventions, thereby empowering operators to focus on higher-value activities. Additionally, the FlexiBowl® feeders' quick emptying feature facilitates swift changeovers between different types of hydraulic components, minimizing downtime and maximizing productivity.

Key points



Hydraulic
Industry



Assembly
Process



FlexiBowl®
500 and 650



KUKA
Robot



Six different
parts