

Ars Automation

Application notes

Enhancing Bolt Quality Inspection and Palletizing through Advanced Automation



Industry insights

In the metal fastener industry, evolving demands for precision and customization drive innovation. Manufacturers face the challenge of integrating advanced automation to increase efficiency and maintain quality amidst global supply chain complexities. Environmental considerations and market trends towards specialized applications also shape production strategies, necessitating agile and adaptable manufacturing processes. This case study explores the transformation of a manufacturing company's bolt quality inspection and palletizing process with a cutting-edge parts feeding solution.

Handled parts

The company faced a dual challenge: a wide array of bolt types to be processed and the constraints of a compact workspace. The diversity of the bolts, each with unique specifications, required a solution that could adapt quickly and accurately to different shapes and sizes, ensuring a steady flow of products without compromising on quality.



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The configuration

In addressing the challenge of inspecting and palletizing bolts, the decision was made to utilize the FlexiBowl® 650 parts feeder in its standard operational mode. This system was flush-mounted to be a space-saving solution and to integrate seamlessly into the existing production line. Its effectiveness lies in its ability to smoothly handle a variety of bolt types, ensuring a consistent and uninterrupted flow of components.

The addition of a collaborative solution from Universal Robots significantly enhances this setup. This cobot is specifically designed to work in tandem with human operators, creating a synergy that improves efficiency and accuracy. This integration results in a well-organized and compact robotic area, tailored for performing both quality inspection and palletizing tasks.



FlexiBowl® 650

Traditional Operating Mode

Results

The integration of the FlexiBowl® 650 and Universal Robot brought notable improvements to the company's operations. This setup increased productivity, as it allowed handling different bolt types continuously without needing frequent adjustments. This led to a higher rate of bolt processing.

Quality inspections became more accurate with the advanced vision system and precise robotic movements, significantly reducing errors and ensuring that only high-standard bolts were sent to customers.

The space-efficient design of the FlexiBowl® 650 improved the use of the limited workspace, allowing for more equipment and staff. Additionally, the Universal Robots' design for safe human interaction resulted in a safer and more collaborative work environment.

Key points



Metal industry



Quality inspection



FlexiBowl® 650



Universal Robots



Safe collaborative environment