

Ars Automation

Application notes

Case Study: a feeding solution to manage 10 different metal components simultaneously

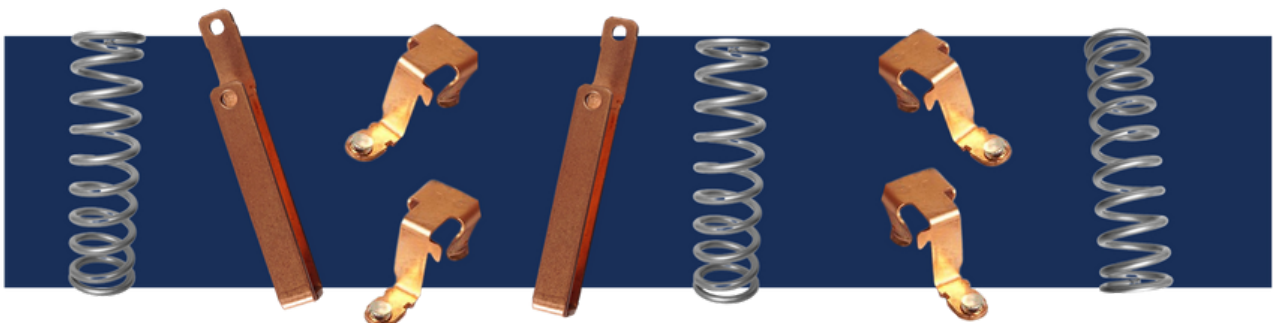


Industry insights

In the current competitive context, optimization and flexibility of production layouts are essential to stay in the market. We live in the era of Industry 4.0, characterized by constantly evolving processes to meet the changing needs of the market and new technologies. An optimized system allows to reduce waste, maximize efficiency, reduce production times and operating costs. Flexibility, on the other hand, allows the production line to be quickly adapted to introduce new products or respond to market variations.

Handled parts

Twenty different metal components.



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The configuration

In the project implemented by YK Robotics, two FlexiBowl® feeders with a five-sector disk were implemented, allowing the simultaneous feeding of ten different metal components. The use of the ABB 6-axis robot with an integrated vision system further increased the efficiency and precision of the process. The hopper arrangement is innovative: they were not arranged, as per the standard configuration around the FlexiBowl®, but an external parallel layout was chosen outside the feeder area. This choice has allowed a controlled and orderly unloading process, through the use of a conveyor belt that has ensured a constant flow of components, minimizing spaces.



FlexiBowl® 800

Multiple Parts Feeding

Precision and Efficiency

The true innovation of this system, however, lies in the possibility of making a quick change of production, bringing the single line to manage a total of 20 different components with only two FlexiBowl® and a robot. This strategy has led to an optimized production layout and a reduction in machine investments, eliminating the need to install single customized machines for each component type.

Results

The main strengths of the system are its high precision and reduced error rate, which guarantees a reliable and efficient production process, all while maintaining a reduced and flexible production layout for further future business developments.

Key points



Electronics industry



Assembly Process



FlexiBowl® 800



ABB Robot



Precise Insertion