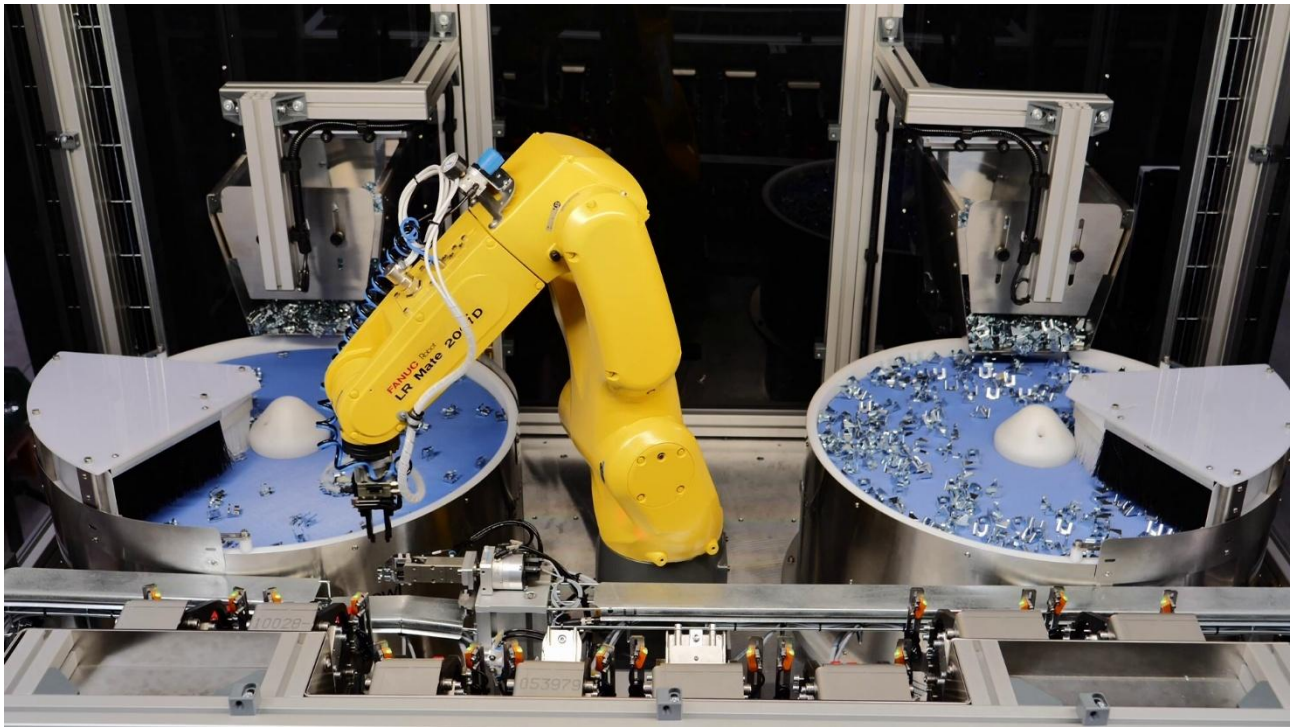


Feeding and Assembly of Metal Clips for Home Appliances



Industry

The **home appliance industry** is a complex sector that strongly feels the need to optimize productivity in order to respond quickly to market fluctuations.

Manufacturers require solutions that are not only **efficient** and **reliable**, but also **flexible** enough to handle product variations and shifts in production volumes.

At the same time, there is a growing demand for **compact layouts** that maximize space utilization without compromising the performance of production lines.

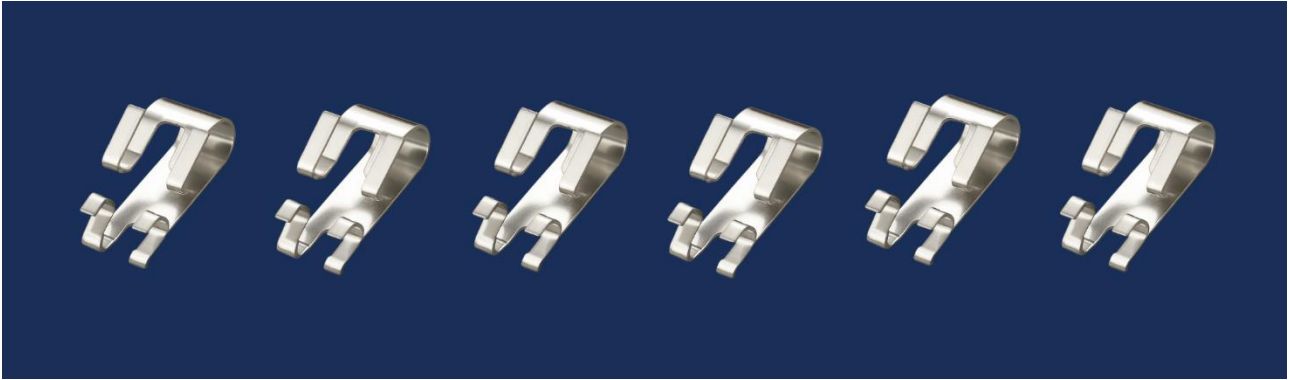
These factors make the choice of **automation technologies** a key element in staying competitive and meeting the ever-evolving expectations of end users.

Handled Parts

This application involves the **feeding and assembly** of small **metal clips**, which are particularly challenging due to their tendency to **overlap** and **get tangled**.

Their **irregular shape** makes traditional feeding systems unsuitable, as they are prone to jamming.

An additional challenge is posed by the **metallic surface** of the clips, which is a real test for **machine vision systems**, since its reflective nature makes it more difficult to **recognize** and **orient** the parts correctly.



Configuration

The solution includes the use of **two FlexiBowl® 650 units**, specifically designed to handle parts ranging from **10 to 110 mm** and weighing up to **170 grams**.

This model offers a **large picking surface**, essential for properly separating the clips while maintaining a **compact layout**.

A **FANUC LR Mate 200iD robot** operates between the two FlexiBowl® units, ensuring **fast and precise pick-and-place** of the metal clips.

Thanks to the integration of the **FlexiVision® system**, each clip is accurately identified and picked in the optimal position.

Subsequently, the robot places the clip onto a **linear track**, ensuring correct alignment and positioning for the next steps in the assembly process.



FlexiBowl® 650 Traditional Operating Mode

This configuration ensures **continuous and reliable feeding**, maximizes **productivity**, and supports **high process autonomy** with minimal manual intervention.

The **FlexiBowl®** plays a crucial role in the process: it separates the parts **uniformly**, avoids overlaps, and guarantees **continuous availability** for pick-up.

Results

The application led to a clear increase in **productivity** and **process reliability**, eliminating the risk of downtime caused by jamming from stuck clips.

The choice of **FlexiBowl® 650** allowed for the combination of an **extremely compact layout** with excellent handling of complex components, supporting the **flexibility** and **performance** goals typical of the **home appliance sector**.

Key Points



Home
Appliance



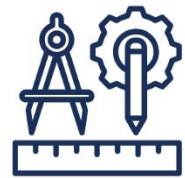
Assembly
Process



FlexiBowl®
650



FANUC
Robot



Compact
Layout