

# Ars Automation

## Application notes

### Case Study: How to improve COVID-19 tests Assembly Process



#### Industry insights

The medical and pharmaceutical industry has rapidly adapted to global challenges like the COVID-19 pandemic, thanks in part to the adoption of automated production systems. The complex and sensitive nature of pharmaceutical and medical products necessitates precise handling, particularly in sterile cleanroom environments. In this project, realized by our partner Dynamic Automation, a flexible automatic system was implemented to improve the assembly processes of tests for diagnosing the presence of the Covid-19 virus.

#### Handled parts

The Dynamic Automation client's main requirement was to efficiently handle three different products within one system, ensuring both operational efficiency and a smooth transition between components. A significant challenge was feeding complex, non-rigid components, which made orientation and detection difficult.



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### The configuration

The process initiates with the bulk feeder transferring parts into the FlexiBowl® 800 system, which then separates and pre-ori-ents the parts. Following this orientation, the Epson vision system identifies each part. Two Epson robots are then responsible for picking and loading these parts onto an external swivel unit, which further ori-ents them. Finally, the parts are moved to a high-speed airveyor system. An integral part of the FlexiBowl® system is its quick emptying feature, designed to streamline production changeovers.



## FlexiBowl® 800

### Traditional Operating Mode

### Results

This system offer precision in identifying, separating, and orienting components with complex geometries and non-rigid materials. The solution implemented by Dynamic Automation stands out for its versatility, reliability, and ability to drive cost reductions, significantly enhancing automation levels in the assembly of COVID-19 tests, achieving a feed rate of 35 parts per minute. Thanks to the FlexiBowl® parts feeding system, it is possible to manage three types of products on a single line while maintaining a compact and optimized layout. This design facilitates rapid production changeovers, a key factor in responding to dynamic market demands and maintaining high production standards. Overall, this project exemplifies how advanced automation can be effectively integrated into the medical and pharmaceutical industry, offering scalable and efficient solutions that meet both current and future challenges.

### Key points



Life sciences  
Industry



Assembly  
Process



FlexiBowl®  
800



EPSON  
Robots



Difficult orientation  
& detection