

How AccuPlace Automation Systems Solved Challenges in Medical Device Manufacturing During COVID-19 Testing and Vaccine Development

A research paper on the history of vaccines published by the College of Physicians of Philadelphia, reported that a vaccine normally can take anywhere between 10 to 15 years to create. Prior to COVID-19, the fastest vaccine – the mumps vaccine – took 4 years to develop. However, amid a global pandemic, time was critical for the medical industry and with global cooperation, advancement in science and market competition, a vaccine was successfully developed in under 1 year.

Adhesives, vial labeling and laboratory test kit labeling played a critical role during the development of the vaccine, as well as testing for the virus. High demands of medical device manufacturing equipment relied heavily on automation during this time. In fact, many of AccuPlace's machines were purchased to produce such complex test kits at incredibly high demand volumes.

The Challenge Posed: Production Inefficiencies

Medical devices and test kits are almost constantly in high demand and with a global pandemic such as COVID-19 applying pressure to develop a vaccine at record-breaking speeds – efficiency, accuracy and precision was vital to meet consumer and industry demands.

Using AccuPlace machines' automated application methods and patented technology to apply adhesives, improved production time, increased efficiency and reduced error on increasingly small parts and components required to assemble these complex test kits and labels.

Challenge Posed: Design Limitations

Over time, medical test devices have become more complex, smaller, thinner and with many parts and components. AccuPlace offers a variety of machines for pressure sensitive large or small labeling, as well as more complex assembly of die-cut adhesive placements and printing and applying these labels in order to meet the functional demands of today's medical test equipment.

Challenge Posed: Delicate Components

Medical devices contain many small and delicate components that can easily be damaged during assembly by air trapped in the adhesive label or label contamination. This can lead to damage of the device and impacts its performance and reliability. Applying adhesive components free of damage

during production helps reduce the kits malfunction. Our machine's have been engineered and developed to ensure that every label is accurately and precisely placed in order to produce a consistent test kit.

We know that prevention of error is a major contributor to the safety and reliability of high-volume and complex assembly systems in critical fields such as medicine, which more often than not, produce test kits using pressure sensitive adhesive components in high speeds and large quantities at a time to meet demands.

For over 30 years, our machines have been performing tasks that not only help with error reduction but they are able to do so at high speeds, high volumes, with high accuracy and precision every time.

