



COVID-19 Medical Kitting Solution Custom Designed & Built In 6 Weeks

EXECUTIVE SUMMARY

A custom-designed and built Southern IM7-16 Horizontal Form Fill and Seal Machine and Flighted Infeed Conveyor solution was created to package COVID-19 test kits into four-sided sealed pouches. In this system, COVID-19 test cassettes and desiccant pouches were hand-loaded onto a Benchmark Flighted Infeed Conveyor to be transferred in registration to the PowerPouch[®] machine for automatic loading. Test kit pouches were formed, filled, and sealed at speeds of 60-80 parts per minute.

Customer Challenge

Southern's PowerPouch[®] Packager was ideal for packaging COVID-19 medical test kits, but we had to provide a solution with a custom-designed, servo-driven feed system in six weeks instead of the normal fifteen week lead time. Our engineers, machinists, and assembly teams worked tirelessly to design, build, and deliver a custom solution: A PowerPouch[®] IM7-16 and Benchmark Flighted Infeed Conveyor system.

The Solution

Southern's IM7-16 HFFS machine, also known as the PowerPouch[®] machine, formed, filled, and sealed 4.0"W x 6.0"T four-sided seal pouches for a COVID-19 medical test kit application. This machine accepted COVID-19 test cassette and desiccant pouches from a hand-loaded Flighted Infeed Conveyor during the dwell portion of the cycle. The conveyor included 1.5" wide flights positioned on approximately 3.25" center and products were positioned with the short edge leading in each flight. Products were transferred in registration to the PowerPouch[®] machine for automatic loading.

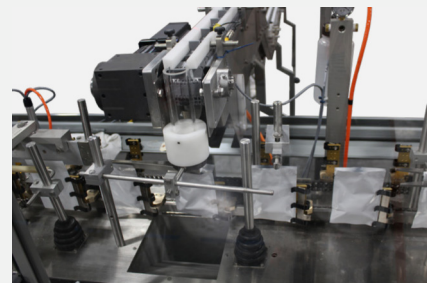
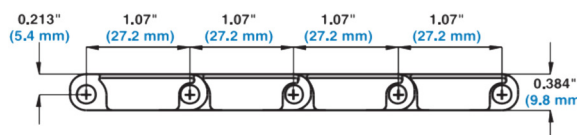
The PowerPouch[®] machine consisted of a film forming area, pouch making section, and bag clamp conveyor. Film was pulled through the pouch forming section with a set of coated film drive rolls. The pouch forming section of the machine folded the roll of film into a V-shape, sealed the sides, and cut the pouches for transfer in the bag clamp conveyor. A CodeTech Integra One Ink Jet Printer was integrated for a custom print vertical solution applied to the exterior of the pouch. The bag clamp conveyor held the pouches as they indexed through the loading area, top seal area and secondary operations. The 10 foot long by 10 inch wide Takeaway Conveyor was equipped with a collating and batching module. The module counted and shingle stacked the filled pouches, making for efficient downstream case packing.

FLIGHTED INFEED CONVEYOR

For this application, a synchronized Flighted Infeed Conveyor was used to carry and load the cassettes and desiccants. As the pouch former indexed, the conveyor followed, directing the product into the pouches fixtured in the loading zone below.

Intralox Series 900 Belting

Intralox-equipped conveyors help customers see an improvement in product quality and stability, while reducing overall downtime and maintenance costs. As the leading producers of plastic conveyor belting, Intralox provides high-quality, specialized solutions for every type of conveyor. Intralox belts last longer, resist stretch, and handle transfers with precision and ease. Benchmark's Flighted Infeed Conveyor featured Intralox's Series 900 Flat Top Belting allowing for simplified cleaning and maintenance, reduced risk of product loss or contamination, enhanced worker safety, longer belt life with less belt wear, and zero need for lubrication or tensioning.



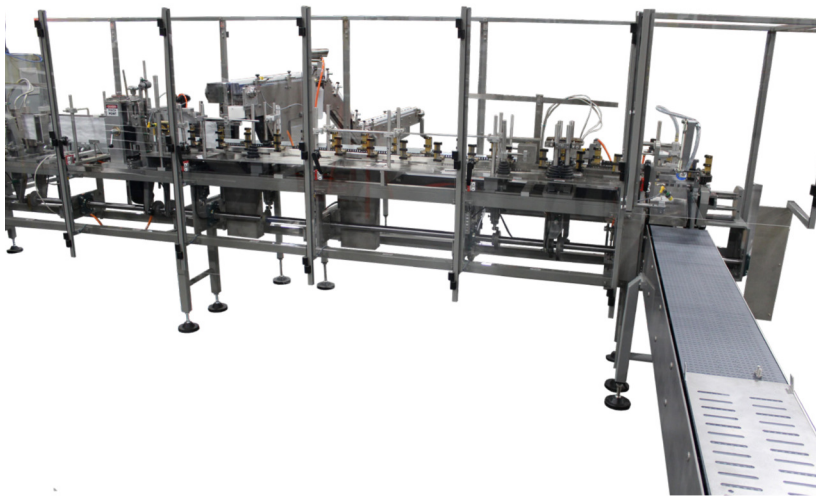
POUCH OPENING STATION WITH SPILL CHUTE



FLIGHTED INFEED CONVEYOR



INTRALOX[®] SERIES 900 BELTING



SOUTHERN POWERPOUCH IM7-16 & FLIGHTED IN-CLINE CONVEYOR WITH INTRALOX BELTING

Additional Highlights

- Smooth, closed surface with fully flush edges.
- Uses headed rods.
- Ideal for container handling, especially glass.
- HR nylon belts use short rodlets to hold the main hinge rod in place. The rodlets are made from the same material as the main rod.

RESULTS

In this scenario, Southern's IM 7-16 PowerPouch® machine was the ideal solution for making four-sided sealed pouches from a roll of web material and filling with COVID-19 test cassettes and desiccant pouches. This right hand configuration and customized solution, including the Flighted Infeed Conveyor, Ink Jet Printer, Bag Reject System, ethernet remote service capability, and Takeaway Conveyor allowed for a seamless solution to package COVID-19 test kits. The entire Benchmark team was dedicated to supporting our customer and helping provide desperately needed COVID-19 testing capacity. To find a solution for your pouch packaging line, call 706-208-0814 or visit www.southernpackaging.com.



BENCHMARK TAKEAWAY CONVEYOR WITH COUNTING SYSTEM



COVID-19 TEST CASSETTES

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