BELT TECHNOLOGIES, INC.

Precision on the Move

BELT TECHNOLOGIES ROLLS OUT CRITICAL SOLUTION FOR VACCINE PROCESSING AND PACKAGING CONVEYOR

PURESTEEL® BELTS PROVIDE A HYGIENIC AND DURABLE SOLUTION FOR CLEANROOM ENVIRONMENTS AND PHARMACEUTICAL PRODUCTION.

At the height of the COVID-19 pandemic, medical professionals and pharmaceutical manufacturers had to quickly distribute protective items such as masks and testing kits to delay the spread of the virus. The need for this rapid response was compounded upon the development of a vaccine, as massive quantities of liquid had to be quickly packaged and distributed across the globe. In 2021, a UK-based conveyor manufacturer was tasked with creating a turnkey, vaccine-packaging system that would facilitate a 17-fold increase in vaccine production—they relied on Belt Technologies to provide a solution that could be supplied with a short turnaround.

THE CUSTOMER

Located in Derbyshire, England, ISOMA was established in 1983 with an emphasis in the fields of process engineering and stainless steel fabrication for the dairy and brewing industries. Gradually, the company evolved into conveyor production for a variety of businesses, specializing in everything from stand-alone conveyors to turnkey systems that encompassed the entire product-handling process.

THE COMPANY:

Located in Derbyshire, England, ISOMA specializes in conveying systems that encompass the entire product-handling process.

THE SOLUTION:

ISOMA installed a total of nine of our PureSteel® belts throughout their packaging system, to convey horizontally and lift vertically..

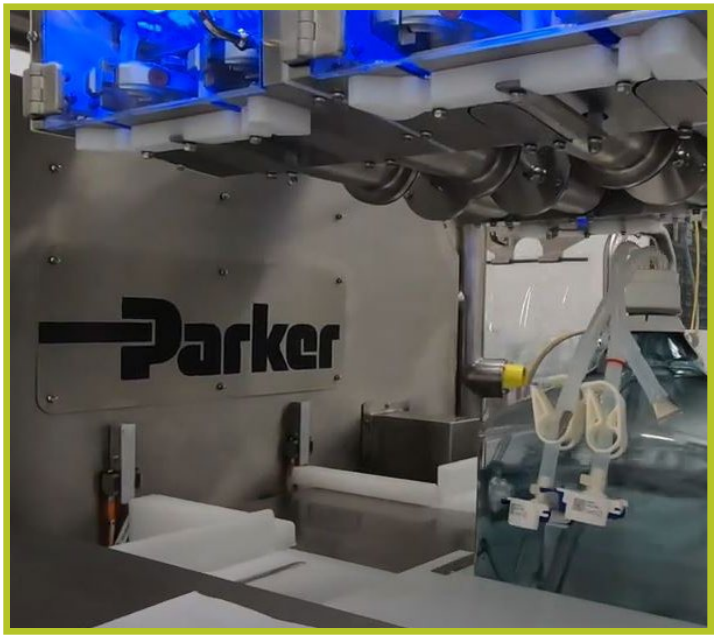
THE PROBLEM:

In mid-2021, ISOMA was chosen to create a machine that could expedite the packaging process of a newly developed COVID-19 vaccine, and needed belts that were both strong and hygienic.

THE RESULTS:

Not only was this job extremely successful in its own right, but it has allowed the customer to further expand their capabilities into the production of medical packaging machinery, creating new business opportunities.

THE CHALLENGE



In mid-2021, ISOMA was chosen to create a machine that could expedite the packaging process of a newly developed COVID-19 vaccine. Due to the nature of the task, the machine needed to be capable of operating within a temperature-controlled, cleanroom environment.

This specialized application environment led ISOMA to search for a unique belting solution to do the job. They initially encountered an issue with the design, as the plastic-tooth belts that they regularly incorporated into other operations were not suitable for two reasons: unsatisfactory hygiene and strength. As steel belts do not generate particulate and can resist corrosive cleaning, they determined our PureSteel® belts would address these issues and reached out to us for help.

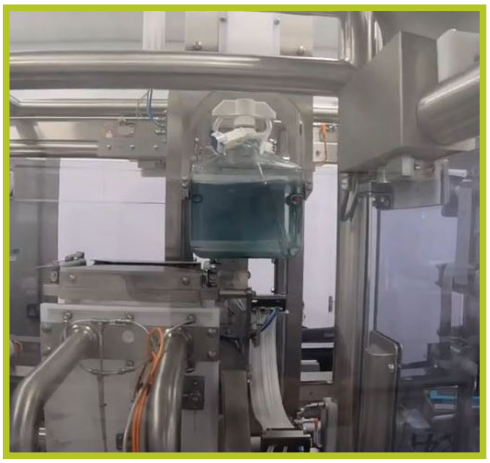
THE SOLUTION

ISOMA's completely custom auto-filling and bagging line consists of three major stages: filling 10-liter polyethylene-terephthalate (PET) containers with the vaccine, labeling the containers and then bagging them up for transport. We included a total of nine PureSteel® belts of six varying lengths throughout the system that could convey horizontally and lift vertically. The horizontal belts are used within the filling and labeling areas to push the containers forward and position them in the appropriate locations.

Further down the line in the bagging area, the system contains several timing pulleys and open belts that lift the containers, insert them into bags and station them at the end of the line. When full, each of the containers weighs 27 lbs. (12 kg), which is too great a strain for a belt made from plastic. Neoprene, rubber, plastic and similar materials are prone to stretching, which throws off the timing, accuracy and repeatability of the process. However, stainless steel has a high modulus of elasticity, giving our PureSteel® belts a high strength-to-weight ratio and making them virtually non-stretchable.

All the belts chosen for this project were created from austenitic stainless steel 316L. Due to this alloy's smooth, impermeable surface, there is no opportunity for the invasion of microbes or bacteria. The steel belts are also capable of withstanding freezing temperatures without damage, making them the ideal choice for this project. To ensure optimal accuracy, Belt Technologies also supplied patented timing pulleys to match the provided belts.

THE RESULT



Once the vaccine is bottled and bagged, it is transported to plants around the world and segmented into smaller vials, which are then distributed to pharmacies andother locations and provided to the general public. Without conveyor manufacturers like ISOMA, this expedited response to the COVID-19 pandemic wouldn't have been possible.

Our nine-belt order, which could normally take years to develop for such a complex machine, was turned around and supplied to ISOMA in just a few months. This partnership was ISOMA's first foray into the pharmaceutical packaging field. Not only was the job extremely successful in its own right, but it has allowed the customer to further expand their capabilities into the production of medical packaging machinery, and has opened up new business opportunities for them.