

High-Speed Cylinder Customized for Beverage Filling Application

For more than six decades, Nason has provided pneumatic and hydraulic pressure devices to a variety of industries. Over a decade ago, Nason took the knowledge gained from designing and manufacturing custom devices for quality, long life products and applied it to pneumatic and hydraulic automation products. Nason's expertise and customization capabilities are what drew a North American provider of pneumatic automation and motion control solutions, to work with Nason on a cylinder solution for part of a product rejection application in the beverage filling industry.



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Challenge

Nason and partners were challenged with finding a high-speed cylinder solution that would be incorporated into the design of a product rejecter. As beverages are filled within the manufacturing facility, each product has a specific fill level it must achieve. To ensure precision and accuracy, a product rejecter must be used to eliminate any bottle or can that does not meet the standard. To achieve this, a beam is used to judge the fill level of the containers as they proceed down the line. If the beverage is filled too low, then the device is triggered and the product is rejected from the batch.

Although product rejection technology is not new, the precision of the rejecter in the high-speed production line must keep up with the increasing demand in manufacturing. If the device does not activate and catch the product at the exact moment, then production can be interrupted, costing time and money. As part of the rejecter design, a customized cylinder is needed to keep the filling line moving. In this application, an automation solution that is precise, high-speed, and smaller – yet just as powerful – was needed.

Solution

Nason and team began to work together to develop a solution. Over a period of 12 months, the team was able to concept the design, create a prototype, conduct testing, adjust the specifications, and find the right combination for a customized, high-speed cylinder that had an edge.

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While this automation solution was custom, all cylinders designed by Nason have a compact design, yet provide the same level of power. Additionally, all Nason cylinders are made in North America, so lead times are shortened and quality is maintained.

Benefits of the Cylinder:

- Cost effective
- Uses less space
- Easily retrofits to existing applications
- Quality design, yet not overly high-tech
- Aesthetically pleasing within the rejecter



Result

Before the rejecter that incorporated Nason’s high-speed cylinder could be incorporated into the production line, it had to be able to pass the product rejection test. A typical test includes being able to reject 1,200 bottles or 2,200 cans in one minute without failing to repeat. The rejecter with the Nason cylinder incorporated was able to meet and exceed this requirement. While Nason’s cylinder is currently being utilized in just the beverage industry, there are other opportunities in medical and food applications.