

ACCURATE DISPENSING THROUGH THICK AND THIN

eVolve Machines is a manufacturer of vaping industry machinery, founded by veterans of the aerospace industry. The company engineers and manufactures equipment for filling vaping cartridges and THC gummies.

Challenge

For greatest efficiency and accuracy, cartridges need to be filled through an automated process rather than by hand. However, existing large-batch automated filling machines fill large quantities of cartridges, creating problems with spillage and potentially wasting large amounts of expensive product. Manual filling is no better, as it too presents problems with spillage, as well as dosage accuracy.

eVolve needed to create a manufacturing solution to automatically fill smaller batches of cartridges, without spillage and waste. In addition, the solution needed to overcome inherent difficulties with some liquid THCs, including strict manufacturing temperature requirements, high viscosity, and stickiness, all of which can vary from manufacturer to manufacturer.

To overcome these challenges, eVolve was looking for a filling mechanism that could guarantee accurate dispensing reliably, no matter the variation of ingredients. They turned to a local authorized Nason distributor for help.

“Nason was very responsive and easy to work with. I’d recommend them to anyone – as long as they’re not a competitor!”

– **BOB YDENS**
FOUNDER, EVOLVE



eVolve’s Raptor cartridge filling machine uses a custom Nason pump cylinder for accurate dispensing regardless of temperature or viscosity.

Solution

Initially, several different components were evaluated for the dispensing mechanism, including check valves. But it became evident that a pump cylinder would be the best solution for the application. The requirements for the cylinder included:

High accuracy with specific liquid volumes

Ability to function regardless of viscosity

Not impacted by temperature

FDA approved

And, importantly, a high degree of reliability

While eVolve had hoped to source an off-the-shelf solution to save time and money, it became evident that there was no existing pump cylinder that met all of their requirements.

Nason stepped in and created a custom solution, modifying an existing pump cylinder design to create a solution that perfectly matched eVolve's needs. Nason's engineers were able to meet all of the design challenges in a short period of time – and at a cost very comparable to off-the-shelf components from other manufacturers.

Result

eVolve is now using these custom cylinders in 3 different versions of The Raptor cartridge filling and capping machine, and order volume has begun increasing year over year. In addition, eVolve has turned to Nason for another custom cylinder solution for an upcoming new product.



CUSTOM PUMP CYLINDER

- High liquid volume accuracy
- High viscosity tolerance
- Temperature independent
- FDA approved