

You can see the difference in a



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Summary

A thorough and reliable foam management system is extremely important for maintaining a clean, sanitary filling environment. Most protein, fat, and “all-natural” based products have struggled with foaming issues for decades. Ideas and solutions have been attempted with little success until now.

The Problem

It’s sticky, unsanitary and messy. It compromises your product’s shelf life and threatens your filler’s performance. It covers the necks of your bottles and dries up in the threads under your caps, forming mold. It creates a sticky layer on your equipment and in your filling environment, forcing you to stop production and clean up the messy debris.

Of all the filling technologies on the market, gravity fillers are commonly ideal for foamy products. Fogg fillers remove foam from the filled bottles and push it back into the filler bowl where it has time to dissipate, however some product foams do not dissipate as fast as they are created. As the foam continues to accumulate, rising to the top of the filling bowl, it is eventually expelled from the lid of the filler, creating a challenge for cleaning and maintenance crews.

Unfortunately, most electronic platform fillers (i.e. mass-flow, mag-flow and net weigh) do not have a way to deal with these foamy products. Over the years processors have devised different recipes to help reduce it, without much success. New designs, ideas, and concepts have been structured to alter not only the product, but also the filling bowl design. Different product inlet methods, unique paddles, temperature variations, different spray techniques, ultrasonic approaches, UV light formulas and electrical current techniques have all been attempted in a number of different ways, but without any significant advancements.



Fogg’s early 1960 design of the Foam Management System

Overall, foamy products fill slowly, requiring very large filling machines for the task. Some packaging companies are willing to incorporate “anti-foam chemicals”, which usually takes care of the issue without much additional equipment. These chemicals will break down the surface tension of the product so the foam bubbles will not form, however the drive today to go “all natural” and eliminate the anti-foam agents and extra chemicals leaves both beverage and filler manufacturers with a huge challenge.

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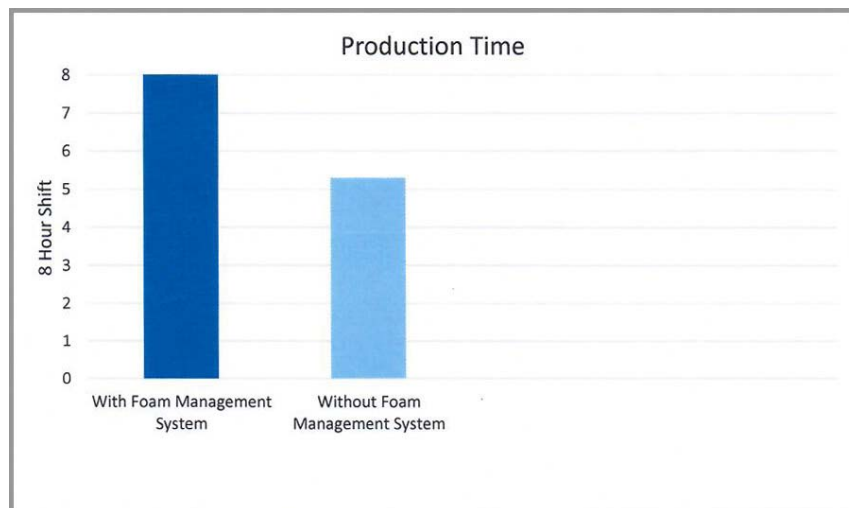
The Solution

Fogg Filler Company, a leader in technology development, has put a great deal of effort over the years into preventing the formation of foam in the filling process from the start. Since the 1960's Fogg has created several patents, and patent attempts, to eliminate the issue of product-specific foam; many of which have worked successfully, yet only on a narrow range of products, until now.

In 2015, Fogg designed a Foam Management system to handle a wide range of high-foaming products with ease. Depending on each individual filler's needs, the Foam Management System can be adjusted to extract foam from almost any vessel – revolving, or stationary. Fogg's new foam management solution can be modified to extract foam from inside the bowl or up to one inch away from the exterior of the bowl. A primary, horizontal vacuum, along with a secondary vertical vacuum have been designed to span the height of the bowl and extract all foam and condensation from the outside.

This Fogg patent-pending method uses a combination of techniques allowing a variety of foams to be consumed with little to no changeover. The Foam Management System can be added to nearly any tank or gravity filler. Filling environments are now cleaner than ever as troublesome product foam is extracted and disposed of just as fast as it appears.

Like all Fogg technologies, CIP (clean in place) cleaning automation is of utmost importance. The Foam Management System has built in CIP hardware, minimizing operator cleaning time for maximum "up time" and minimum cost.



Comparison of production time maintained during an 8 hour shift while filling with a foamy product. Without managing the foam, production time is lost while stopping the machine to clean up the foam.

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Conclusion

As rules and regulations for sanitation in the packaging environment become more complicated, bottle filling companies continue to struggle with maintaining a clean, sanitary environment. High-foaming products make this a challenging feat. With a Foam Management System, designed specific to each filler's bowl, foam can now be extracted before it even interferes with production, turning this complicated issue into a simple fix.



Fogg's Foam Management System