

# San Juan Seltzer Brews Up Safety During Expansion

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When San Juan Seltzer launched its first production run in 2018, it became part of the spiked seltzer growth explosion and quickly secured its place as a dominant craft spiked seltzer.

With more than 60 years of cumulative beverage industry experience on the team, San Juan Seltzer was able to master the phenomenal growth.

“What started as an occasional brew, quickly became brewing all the time,” says Frank Commanday, technical director, at San Juan Seltzer. Commanday has over 30 years of practical experience in the beverage production industry and has been with the company since its founding.



*San Juan Seltzer team proud of their seltzers produced with VAC-U-MAX.*

With production nearly doubling each year, it wasn't only the frequency of brews that increased; volume increased 3-fold. It was soon apparent that manual loading the cane sugar into the brew house mixing tank bag-by-bag was no longer practical.

With larger batches, a single fermentation run required just over three tons of cane sugar to produce the alcohol base for its spiked seltzers. “Manually loading 50-pound bags into tanks at that volume is just not workable,” said Commanday. “Not only is it inefficient and labor intensive, it is also potentially dangerous. Lifting and twisting risks back injury.”



*Vacuum conveying system conveys powdered sugar continuously to mixing tank below.*



When seeking an automated solution, the seltzer producer had three primary considerations. First and foremost was addressing the health and safety of workers manually lifting 50-pound sacks of sugar from a pallet up a flight of stairs to another worker on the platform, who had to open each sack and dump it into a mixing tank. The second was to free up personnel to perform other tasks. The third was to eliminate the need to bring pallets of sugar through the brewing area, where they impeded access to tanks, hoses and other equipment.

“Tried and true is the way to go,” says Commanday about choosing equipment. “First you look at the most common methods for a given operation, and then apply it to your process to meet operational goals and budget.”

In breweries, automating transfer of malted grains is commonly achieved with the use of low-cost augers. Commanday, however, discovered that augers could not handle granular sugar effectively, so he looked to the most common method of transferring granular sugar: it is vacuum conveying.



*Remote 7.5 HP vacuum pump located in mechanical room.*



*Bulk Bags with vacuum wand replace stair climbing and manual dumping of (30) 50lbs bags, twice per day.*

“I contacted VAC-U-MAX because it’s the original vacuum conveyor manufacturer”, said Commanday. “It has been around since the 50’s, with venerable, mature technology.”

With more than 65 years experience in developing customized conveying systems across a wide range of industries, and testing over 10,000 materials, Belleville, NJ-based VAC-U-MAX has been at the forefront of innovative mechanical and pneumatic design with many firsts. Its systems perform sophisticated operations with little human assistance, delivering flexibility, integration and efficiency.

With a history of working with major food and beverage manufacturers such as General Mills, Kraft Foods, and Kellogg Company, as well as many smaller specialty producers, the

vacuum conveyor manufacturer has extensive knowledge in the design and construction of sanitary conveying systems that meet FDA and USDA standards.

Vacuum Conveying (aka pneumatic conveying) uses suction to transfer dry bulk materials and powders, gently and automatically through a tubing network easily installed within a facility.

Versatile, small-footprint vacuum conveying systems easily integrate with existing processes by routing conveying lines between floors, through partitions, around machinery, and can easily be re-routed to “accommodate process modifications.

Vacuum conveying systems include a pick-up point where material enters into the conveying system; convey tubing that transfers material between equipment; a vacuum receiver (aka filter receiver), which serves as an intermediate holding vessel for materials; a vacuum source that powers the system; and a control panel that tells the system how to operate.

Sanitary and hygienic vacuum conveying systems have the same five basic components as standard conveying systems but are constructed with materials and fabrication techniques that meet Current Good Manufacturing Practices (cGMPs).

The pick-up point is the most customized component in a vacuum conveying system and is dependent upon the type of container that holds the transfer material. This dictates whether the pick-up point in a conveying system is a wand, a bag dump station, a bulk bag unloader, or a feedbin.

After choosing a VAC-U-MAX system to automate the process of discharging sugar into the mixing tank located the brew house area, with the pickup point in an



*Simple controls start/stop the convey sequence from remote ingredient room.*

adjacent room, Commanday chose the best alternative to 50-lb bags for its process.

Automating manual materials handling with vacuum conveyors provides users with wider variety of bulk containers to best fit their unique process and budget.

The seltzer company could have stuck with its 50-pound bags and added a bag dump station as the pick-up point but doing it this way still required manual handling of 50-pound bags which the company wanted to eliminate completely.

For the seltzer manufacturer, 2000-pound flexible intermediate bulk containers (FIBCs), aka supersacks, were the most economic and efficient way of storing and transporting sugar for its process. With 2000-lb supersacs, Commanday had the option of suspending the supersacks from a customized bulk unloader with a rotary valve metering the sugar into the vacuum conveyor.

Bulk bag unloaders provide an easy, clean and economical way to discharge the entire contents of bulk and semi-bulk bags, especially when the material is less than free flowing. VAC-U-MAX customizes each bulk bag unloader to integrate with a customer's process.

In situations where space and/or cost are considerations, the use of a wand, inserted into a supersac (moved into position with a pallet jack or forklift), provides the simplest solution.

Commanday opted for the most inexpensive, low-tech method, using a stainless-steel wand to draw sugar from the top of the supersacs into the vacuum conveying system.

"A single operator holding onto the wand is far better than having two people lift, carry, load, open, and dump 120 50-pound bags," says Commanday.

While automating the loading cycle with the vacuum conveyor did shave a little time from the process, the real savings came in terms of labor. "I suppose you could say that it takes half the time now since it only requires one operator and not two," says Commanday. "But the best part is, is that you don't have people ruining their backs or having to contend with pallets blocking the production area, so the VAC-U-MAX system is far more efficient overall."

"I also really liked and appreciated the service that I got with VAC-U-MAX," says Commanday.

After nearly two years in service Commanday emailed the conveyor manufacturer with questions about his "beloved VAC-U-MAX." Although it had been performing well, caked sugar had accumulated around the filters and the vacuum gauge read 4" of suction with out a load, indicating some blockage of the filters.



*Vacuum system conveys and cleanly discharges 2ft<sup>3</sup> batches of sugar every minute into the mixing tank.*

The solution was simpler than he anticipated. The filters are cleanable in-situ with warm water and then left to dry. "Those seven filters are robust, they aren't going collapse, they don't need to be changed all the time, and they are efficient," says Commanday. "It will be a long time before we need to replace them."

When asked about the reason he referred to the vacuum conveying system as the company's "beloved VAC-U-MAX," when inquiring about the filters, Commanday explained, "The VAC-U-MAX system has been a real work-horse. It is robust, low maintenance and very simple to use."

