

TAKING CONTROL

Malt Products Corporation ditches its external toll dryers for an in-house vacuum belt dryer that brings efficiency and flexibility to its production process and improves the quality of its malted barley extracts.

MAYA NORRIS MANAGING EDITOR

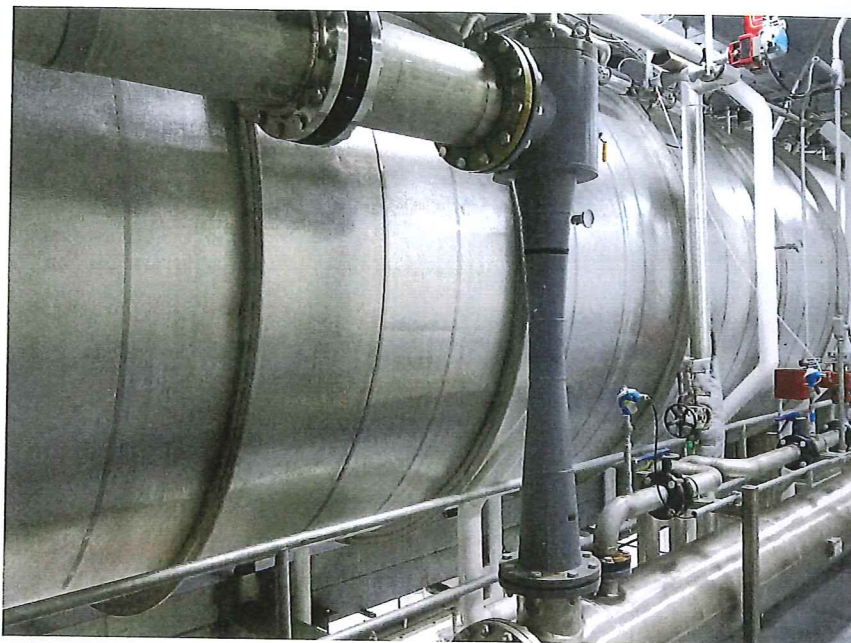
MALT PRODUCTS CORPORATION (MPC) recently invested \$15 million in a state-of-the-art vacuum belt dryer to produce its dry malted barley extracts — and the company is already reaping the benefits. The new vacuum belt dryer has delivered efficiency and flexibility to MPC's production process and improved product quality.

MPC installed the 58-foot-long Bucher Dryband vacuum belt dryer from Bucher Unipektin last year. It was the culmination of MPC's five-year, \$50 million expansion of its Dayton, Ohio, manufacturing facility, expanding to 114,000 sq ft from 60,000 sq ft. The plant produces and distributes a variety of natural sweeteners, including oat extract and agave nectar, for a global market. It manufactures about 100 million lb of liquid sweeteners and 30 million lb of dry extract sweeteners annually.

MPC uses its new vacuum belt dryer to create dry malted barley extracts. After it converts malted barley into syrup, the liquid is transferred to the vacuum belt dryer. Swiveling nozzles uniformly distribute the liquid onto the belts that convey the liquid through six chambers or zones with heating and cooling plates. The liquid enters the first four zones, where the product is heated, before the last two zones cool down the liquid — a process that pulls the moisture out of the product. The vacuum system quickly removes the evaporated moisture. The resulting dried product, known as a cake, is then taken to a mill for grinding. After the product is ground, the malted barley extract is inspected by metal detectors and packaged.

Parting ways

Using the vacuum belt dryer has allowed MPC to optimize and streamline the production process for its malted barley extract by cutting ties with spray drying tollers. Previously, the company used toll spray drying services out of state to process its syrup into malted barley extract. The burdensome procedure required a lot of advance planning for MPC, which had to schedule and reserve the vendors' spray dryers and services at least three months in advance. And even then, the spray drying vendors sometimes couldn't meet MPC's deadlines if they fell behind schedule with another customer.



In addition, when MPC received unexpected orders for malted barley extracts, the tollers often didn't have the capacity to accommodate MPC's last-minute requests.

"We were at their mercy," says Jim Hochberg, vice president of Malt Products Corporation. "Anytime you outsource something, you are going to end up waiting an indiscriminate amount of time to get your product back depending on how busy the service provider is at that moment."

"The reason why Malt Products decided to get a dryer was [to] have more control of the process and be much more fluid," he says. "Now that we have the process in-house, it's much more efficient time-wise, and it gives us more flexibility."

On its own terms

MPC can now produce malted barley extract much more efficiently and cost effectively with the vacuum belt dryer at the plant. Because it no longer has to wait three or more months for tolling services, MPC can produce dry malted barley extract at any time and at its own pace. In addition, it can fulfill unanticipated orders easily, especially because changeover time is minimal.

Malt Products Corporation uses its Bucher Dryband vacuum belt dryer to gently process malted barley syrup into malted barley extract with low temperatures. Photo courtesy of Malt Products Corporation.

DRY PROCESSING SOLUTIONS

"With the toll process drying, when we send a load of product out, we can't change it midrun," says Troy Smedley, maintenance superintendent. "So if we get a bunch of orders for a dark malt versus our lighter malt products, now we can stop production, make the dark malt out of our light malt products and switch right into dark malt and start producing it in a day or two."



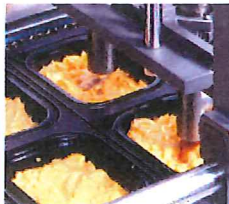
Lasagne, macaroni and cheese, burrito's, fish, meat and poultry with marinades, sauces, chili, soup, chunky stew, deli salad, dips, salsa, gravy, beans... you name it!



meat sauce pasta salad in form fill



chunky marinara sauce for lasagne



macaroni and cheese ready meal



burrito filling and sauce topping



blue added pesto on chicken



cup filling and sealing with salsa



kidney beans in bag fill and seal

HINDS-BOCK
FILLING • DEPOSITING • SYSTEMS
hinds-bock.com 1-425-885-1183
THE MIDDLEBY CORPORATION

In addition, MPC has significantly reduced its transportation costs by using its in-house vacuum belt dryer. The company previously drove eight to 10 trucks to deliver its malted barley syrup to various out-of-state toll dryers, costing MPC between \$15,000 and \$30,000 that month, depending on how far the trucks traveled.



Malt Products Corporation's \$50 million plant expansion included installing a 58-foot-long vacuum belt dryer. Photo courtesy of Malt Products Corporation.

The vacuum belt dryer also produces a better product than a spray dryer, according to MPC. Because the vacuum belt dryer operates by reducing the pressure in its chambers, moisture is evaporated from the product at far lower temperatures than spray drying. This eliminates oxidation and prevents damage to critical functionalities of the original syrup, including antioxidants, essential amino acids, minerals and vitamins. This gentle process also helps retain flavor, aroma and color of the malted barley extract. And it better controls the maillard reaction for a more consistent final product color.

"Any time you expose something to higher heat, you are changing it. You're altering it," Hochberg says. "We're able to retain the integrity of the flavor and characteristics of the liquid as it changes into the powder by drying under vacuum at lower temperatures." **PFW**

Bucher Unipektin
www.bucherunipektin.com/en