A ‘sift’ in flour processing

Easy-to-clean and service pneumatic sifter with centrifugal screener yields high-quality flour for baker.

For Gourmet Baker, a Canadian producer of baked desserts, it is the power of fine flour that separates its strudel, Danish pastries, puff pastries, croissants and cinnamon rolls from competing brands. The company consumes about 80,000 lb. of flour per week at its plant in Winnipeg, MB.

The company had relied on an older screener to remove unwanted materials and generate fine flour. That houses a 30 mesh stainless steel cylindrical screen mounted on a central shaft fitted with helical paddles. A 3hp (2.2kW) motor rotates the paddles, which accelerate the speed at which on-size flour passes through apertures in the screen and is discharged into a pneumatic line below it, explains Helgason.

Oversize debris is ejected through the back end of the cylinder into a sealed, quick-release receptacle. A pneumatically actuated diverter valve sends sifted flour to a hopper that feeds a triple-action dough mixer for the pastry line or one of three roll bar horizontal mixers. Gourmet Baker isn’t a stranger to the Kason technology; it purchased a similar Kason mixer 14 years ago, which is dedicated to its strudel line, says Helgason. Each sifter processes approximately 75 lb. of flour per minute.

The sifters are easy to clean and service, with two ports on top and a hinged access port and cantilevered shaft at the discharge end, from which the screen can be removed in less than 10 minutes. “We have had no contamination of the flour and no problems at all. We perform preventive maintenance once a month and inspect the internal screen once a week,” says Helgason.

The flour is mixed in the hoppers with water, yeast and other ingredients to produce dough, which is manually cut and fed by a conveyor to an extruder to produce a continuous sheet. Measured amounts of filler are added, and the dough is cut and shaped to obtain the final product, which is frozen and bulk-packed in boxes for shipping. Less than 10 percent of Gourmet Baker’s output is sold under its own name. The balance is purchased frozen and unbaked by wholesalers, supermarkets and restaurants throughout North America.

Gourmet Baker turned from an older screener designed for sugar to the Kason centrifugal sifter, which produces fine flour while eliminating debris, and can be maintained easily.

Source: Kason.

“We sift all of the flour we use in the process as part of our regulations and food safety practices,” says Chris Helgason, maintenance manager for Gourmet Baker. However, the screener was originally designed to sift sugar.

“It did not work well for our flour. The screen would break and could have contaminated our product with metal. And the pre-sifted flour commonly contained paper and oversized chunks of unknown debris,” adds Helgason. The company attempted to upgrade the old screener at one point, switching to a basket design with a 30 mesh screen. “The design of the screen basket was poor and not reliable. It was a food safety issue as the basket would break up under the high rotational speed,” says Helgason. (The company must use a 30 mesh screen, the standard required by its food safety auditor, the British Retail Consortium.)

The company looked to a Kason Centri-Sifter Pneumati-Sifter centrifugal screener to resolve its flour issues. The unit has two 70,000-lb. capacity silos equipped with rotary airlocks that feed a pneumatic conveying system that delivers flour to the sifter. The unit is a horizontal machine.

For more information:
Henry Alamzad, Kason Corp., 973-467-8140, info@kason.com