

Technical Article Series

Drum sifters save time and improve quality for food processor.

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UFL Foods Inc.

is one of Canada's foremost suppliers of food ingredients, innovation and technology. The company has six manufacturing plants, three R&D laboratories and offices from Vancouver to Halifax. Based in Toronto, Ontario, the company has an ongoing customer-oriented policy of improving quality and reducing production costs.

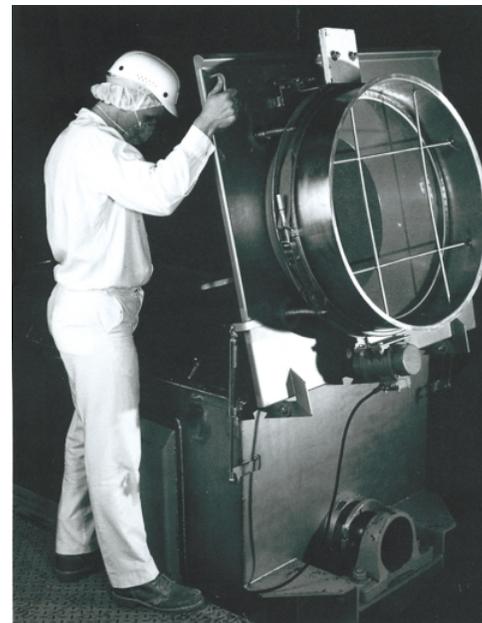
From its six factories, the company markets about 8000 blends of ingredients used in turn as intermediates or end products by food processors. Typically, UFL draws from several of more than 2000 ingredients in inventory to meet customer needs. The formulations include a variety of granular food ingredients such as salt, sugar, milk powder, flour, spices and many others which are marketed for domestic uses and worldwide export.

To respond more quickly to customer orders and provide a high quality product, UFL Food plants are ridding their mixer's loading hatches of stationary sieves and replacing the sieves with nine Kason Drum Sifters to break soft lumps and exclude coarse trash including hard lumps. The result has been a reduction in batch (load mix -discharge) time from about 45 minutes to 20 to 25 minutes for a huge time savings. Quality is improved by the Kason Drum Sifters' ability to scalp with smaller mesh (0.05 inch) openings and at higher rates. Besides ensuring that no foreign material gets in the blend, the sifters help improve yields by breaking lumpy material.

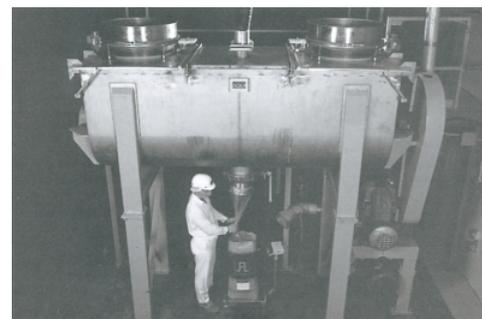
Rather than mount these 30 inch diameter Kason Drum-Sifters on drums, UFL Foods mounts the Kason Drum Sifter on a mixer's hinged cover. Both sifter and cover are modified to suit. On larger mixers (ribbon blenders), UFL mounts a Kason Drum Sifter at each end so loading time is cut by a factor of two. Altogether nine of these sifters are used in UFL Foods' plants in Toronto, Montreal and Edmonton.

While mounting these sifters, professionals from UFL Foods, A. & M. Process Equipment, and Separator Engineering collaborated to overcome several challenges. The team secured the sifter from sagging on the springs when the hatch cover (with sifter) tilted up. Air pistons were installed to prevent a tilted cover from accidentally closing. Also, special easy-to-clean seals were installed between the circular clearance opening in the stationary cover and the sifter's vibrating conical discharge chute to prevent any tools or parts from vibrating to the edge and dropping into the mixer where they could contaminate the product or damage the rotor. Food ingredients larger than the openings of the 16 mesh stainless steel woven wire screens are either vacuumed or manually lifted from the screen, according to Plant Manager Tim Husted.

The flow rate through the Kason Drum Sifters varies with the flowability of each ingredient, but rates of 5600 pounds per hour of evaporated salt with a 28 mesh tensile bolting cloth (TBC) screen or 5000 pounds per hour of hard wheat flour with a 20 mesh TBC screen can be expected with a 24 inch diameter unit, according to reports from the Drum Sifter manufacturer. The 30 inch diameter units in use at UFL Foods have twice



UFL Foods mounts 30" diameter Kason Drum Sifter on hinges rather than leaving them on the opening. One man can tilt the sifter and hatch cover.



Two Kason Drum Sifters mounted on top of ribbon blender ensure food ingredients are properly sized before being mixed with different ingredients. Oversize ingredients are lifted off the screen or vacuumed from it. By using two "mixer top sifters," ingredient loading time is cut by a factor of two.

the capacity of the 24 inch diameter units.

The Kason Drum Sifters operate many times during every daily shift, according to Husted. To ensure high purity for every product, workers remove overs and wash the Kason Drum Sifter and mixer in place whenever a formula change is required.

To protect the screens from accidental damage, the Kason Drum Sifters incorporate four criss-crossed rods in the top frame. By adding this protection, employees need not worry about inadvertently dropping boxes or other containers onto the fine mesh.

In service since March 1989, the first units have won the hearts of the UFL Foods personnel from President Percy Gitelman to the operators who use them. After Gitelman and Husted felt satisfied that the Kason Drum Sifters are useful, safe, and serviceable, six more, which they refer to as Mixer-top sifters, were ordered.

The Kason Drum Sifter is available as an 18, 24 or 30 inch diameter unit which is powered by either an electric or compressed air motor. Optionally, a variable speed frequency controller enables operation from 1800 to 3600 rpm, but more typically a 1/12 hp motor (115V, 1 phase, 60Hz) 3600 rpm is standard. Screens with mesh openings ranging from 0.0014 to 2 inches are available.

Materials: Frame: carbon steel and 304 stainless steel are standard. Other materials available to meet specific requirements. Screen: 304 stainless steel and nylon are standard. Other materials are available on request.

Optional designs: Sanitary versions and dust-tight units have been manufactured to ensure cleanliness and dust containment.