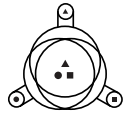


SCREEN

tips

News and application reports on screening, sifting, scalping, dewatering, and fluid bed drying, cooling, moisturizing



kason

FROM KASON CORPORATION

VOL. 17, NO. 1

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Ultra-High capacity in-line pneumatic screener allows rapid cleaning, screen changes

A new PNEUMATI-SIFTER vibratory separator employs twin screening decks for in-line pneumatic scalping of up to 60,000 lbs/h (27,200 kg/h) of bulk material, and an Air-Lift device that allows rapid disassembly, cleaning, inspection and screen changes.

The chambers above the top screen and below the bottom screen are connected by a central bypass chute, causing on-size material entering the central chamber to reach the bottom outlet via two pathways: upward through the top screen then downward through the chute; or downward through the bottom screen. Oversize material is ejected through a spout at the periphery of the lower screen.

The upper and lower screens are readily changed, or the entire unit disassembled for thorough wash down, by loosening all quick-disconnect clamps and the band clamps that connect housing sections, then activating the Air-Lift device to separate the sections as required.

A tangential inlet along the horizontal centerline of the central chamber prevents material from impacting screens at 90 degree angles. Gradual changes in flow stream direction are said to minimize breakage of oversize foreign material and subsequent material contamination, and reduce screen breakage significantly.

The unit is equipped with "ball tray" anti-blinding devices to dislodge near-size particles from apertures in the upstream side of upper and lower screens, and is intended to remove oversize particles from plastic resin, flour, starch, sugar, and numerous food and chemical products gently, at ultra-high rates. Applications include loading and unloading of trucks and railcars, and conveying of material between process or storage areas.

Offered in 48-in (1220mm) and 60-in (1525mm) diameters, the twin-screen machines are available to 3-A, FDA, BISSC and other sanitary standards.

Circular separator helps package powdered milk at high rate



Powder dumped manually from paper sacks into a bag dump station located on a 10-ft (3m) high mezzanine, falls into the Kason 48-in (1220mm) diameter low-profile FLO-THRU circular vibratory screener for scalping of bag scraps.

BREVARD, NC—Transylvania Vocational Services (TVS, Inc.) needed to unload 55-lb (24.9 kg) bags of dry powdered milk having various densities, convey it, and package it in 2-lb (0.9 kg) bags at a rate of 90 lbs/min (40.8 kg/min).

The solution consisted of a 48-in (1220mm) square bag dump station through which two workers unload powder that falls into a 48-in (1220mm) diameter low-profile FLO-THRU circular vibratory separator from Kason. The separator scalps paper pieces from cut bags containing the powdered milk product. The powder falls from the screener's discharge outlet into a 25 cu ft (0.71 cu m) capacity floor-mounted hopper. A 15-ft (4570mm) long flexible screw conveyor, at a 45 degree incline



Releasing upper or lower quick-disconnect clamps and activating the Air-Lift device provides rapid access to either screen for inspection, cleaning or replacement.

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Centrifugal screener ups production of polymer concrete by 75 percent

BERWICK, PA—Output of 35-75-lb (15.9-34.0 kg) bags of polymer concrete at Castek, Inc. jumped 75 percent after replacing a rectangular vibrating screen with a centrifugal sifter to remove lumps arising when sand-silica powder is sprayed with liquid plasticizer.

Previously, a 1 x 2-ft (25.4 x 50.8mm) rectangular vibrating screen sifted at a rate of 4000 lbs/h (1814 kg/h). Frequent screen blinding required the operator to continually scrape off and push the soft lumps of semi-sticky powder through the screen. Screens failed often while the uncovered screening chamber exposed the operator to dust.



CENTRI-SIFTER centrifugal screener fits into tight space. Access door allows quick inspection, cleaning and screen changing. Slide gate valve (rear) controls flow rate of powder discharged from the blender into the screener.

The Kason CENTRI-SIFTER® centrifugal screener sifts 4000 lbs (1814 kg) in 12 minutes, and is fully enclosed to prevent dusting. The operator no longer needs to tend the screener, and instead assists a second operator in loading, unloading and verifying bag weights at the pneumatic bagger capable of bagging a 4000-lb (1814 kg) batch in 15 minutes.

Fits into Tight Space

The sifter sits on a narrow 20-ft (6096mm) high mezzanine below a 20-ft (6096mm) high, 7000-lb (3175 kg) capacity pneumatic blender and above a surge tank of same dimensions that feeds the bagger at ground level.

Lumps of powder as large as 2-in (50.8 mm) form in the pneumatic blender as liquid plasticizer is sprayed into the mixture of fine and abrasive silica sand.

The free-flowing, friable granules are abrasive, with unevenly shaped particles ranging from fine to 1/16-in (1.6mm). Bulk density is 100-lb/cu ft (1600 kg/cu m), angle of repose 60 percent.

The powder flows from the bottom of the blender through a boot and 8-in (203mm) slide gate valve into the centrifugal sifter. The operator controls flow by adjusting the slide gate valve, then can leave the sifter unattended.

In the CENTRI-SIFTER screener, rotating helical paddles impart centrifugal force to the particles, propelling them continuously against and through a perforated plate cylindrical screen. The delumped powder falls through the center of the separator into the surge tank. A 5-mesh stainless steel screen breaks even the smallest lumps, with no waste exiting.

Requires Minimal Cleaning, Maintenance

Tony Krisanda, production manager, says all particles go through the screen, leaving it clean, and requiring minimal cleaning or maintenance. An easy access door with quick-release clamps allows quick inspection, cleaning or changing of screens.

The sifter's 2-ft (50.8mm) high by 3-ft (76.2mm) wide frame and specially-mounted motor allow it to fit on the mezzanine.

Krisanda says he tried delumping with a lump crusher/shredder on hand in the plant, but the sticky material lodged in the unit's revolving fingers. He also rejected a circular vibratory separator because it would be too large for the limited space.



4000 lbs (1814 kg) of sand-silica powder sprayed with liquid plasticizer in pneumatic blender is delumped in 12 minutes using a CENTRI-SIFTER® centrifugal screener.

During Castek's evaluation of the sifter, Chris Dugan, of Separator Technology, Brown Mills, NJ, sent powder samples to Kason's laboratory, which successfully screened them at the desired production rate.

The centrifugal screener runs intermittently according to customer orders. Krisanda estimates if production were steady, the unit would pay for itself in less than three months.

Produces High Strength Polymer Concrete

Castek produces 35-75-lb (15.9-34.0 kg) bags of high-compressive-strength polymer concrete for patching and concrete rehabilitation in roads, bridges, airport runways, and parking decks. Also produced on this line is a 1/16-in (1.6mm) thick flooring compound whose production requires total elimination of lumps. The company is a subsidiary of Transpo® Industries, Inc.



A 4000-lb (1814 kg) batch of polymer concrete is bagged in 15 minutes.

Ultra-simple, durable, low cost screeners at your door fast



With big, sophisticated, high capacity screeners getting all the press, you may not realize that Kason also shines at the simple end of the spectrum. Nowhere will you find basic screeners for basic tasks that are more rugged, more competitively priced or shipped faster than at Kason. Diameters from 18-60-in (460-1524mm). Immediate price quotes too!



Performance, price and availability

What else could you want from a replacement part?



Maintaining the performance of your Kason vibratory or centrifugal screener at the lowest possible cost-per-operation-hour is a simple two-step process:

- 1) Perform all scheduled maintenance
- 2) Specify genuine Kason replacement parts.

Kason knows precisely what performs best on your specific machine, stocks many standard parts for quick shipment, and has whatever it takes to make special parts on extremely short notice—all at highly competitive prices.

LAST LOOK FOR TWO YEARS

New alternating-year schedule boosts importance of upcoming Powder Show for attendees

The 2002 Powder Show begins a new alternating year schedule, so if your two-year plan calls for screeners or fluid bed dryers/coolers, see the latest in the industry's broadest line of equipment at the Kason booth. In addition to industry standards on display, this year's exhibit features:

- 1) The recently introduced CENTRI-SIFTER centrifugal sifter with hinged end cover and three-bearing cantilevered shaft allowing quick removal, inspection, cleaning and replacement of paddle and auger ideally suited for food, dairy and pharmaceutical applications.
- 2) The all-new mini CENTRI-SIFTER centrifugal sifter for pharmaceutical applications
- 3) A new batch sifter



- 4) Kason's award-winning circular vibratory fluid bed dryer/cooler/moisturizer
- 5) VIBROSCREEN® vibratory screener with quick-release clamshell lid
- 6) In-line screener for pneumatic conveying systems
- 7) Automatic lubrication system for gyratory motors.

See them all at booth 20068.

Catalog of screeners, processing equipment

A new condensed catalog entitled "Screening and Processing Equipment for Bulk Solid Materials and Slurries" outlines an extended range of vibratory screeners, centrifugal screeners, static sieves, fluid bed dryers/coolers/moisturizers, spheroidizers and pellet coaters manufactured by Kason Corporation.

Descriptions cover applications, principle of operation, size range, capacities, and key features for each of 23 product classifications.

The VIBROSCREEN circular vibratory screeners covered include units for classifying, sifting, scalping, dedusting, delumping and dewatering of particles from 5cm to 25 microns (500 mesh), and include units for screening in-line with pneumatic conveyors.

The CENTRI-SIFTER centrifugal screeners described offer high capacity sifting, scalping, delumping and dewatering and, in configurations for in-line operation with pneumatic conveyors, for scalping and de-agglomerating of free-flowing materials.

Cutaway and system photographs of fluid bed dryers/coolers/moisturizers illustrate how circular vibratory process-



ing units achieve higher efficiency at lower cost, in less space, with faster cleaning than traditional rectangular designs.

Ultra-high capacity CROSS-FLO static sieves shown include units for scalping coarse, free-flowing dry solids, and units for clarification of waste streams.

Equipment for specialized process applications includes vibratory spheroidizers that combine powder with binder to produce spherical particles, and pellet coaters that coat sticky pellets with powder for shipping purposes.

Request "Condensed Catalog, No. CC02" from your nearest Kason office or Kason representative.

Dryer/separator cont. from page 1

transports the powder through an interior plant wall to a filler and vertical form-fill-seal packaging machine in the adjacent room.

"The flexible screw conveyor was the easiest method for conveying in this confined space," says Hendrik Colijn, consulting engineer on the project.

Becky Alderman, TVS director of operations, in describing the large components needed to meet the 90-lb/min (40.8 kg/min) flow rate, explains, "We super-sized the line. A 10-hp (7460 watt) motor drives the flexible screw conveyor to draw the high flow of powder through its 6-in (152mm) diameter." Charles Merrill, food operations manager, adds, "We need the high throughput to satisfy our contract requirement of packaging 16 million lbs (7.3 million kg) per year."

Built to 3-A dairy standards, the system operates in a temperature- and humidity-controlled clean room required for

USDA dairy certification. Temperature is maintained between 70-72°F (21-22°C); humidity between 27-35 percent for the dry product (2.5-3 percent moisture). "Moisture over 3 percent causes trouble for the packaging machinery," Merrill says.

Timed Bag Dumping

To avoid overloading the system and discharging milk powder from the screener as waste, workers must avoid dumping bags too rapidly. TVS trains workers to stop or resume dumping when a light is activated by high-level sensors located at the flexible boot connecting the separator to the hopper, and atop the flexible screw conveyor, and a low-level sensor in the floor hopper. "The sensors and training of workers have decreased waste tremendously," Merrill says.

TVS operates the packaging line on two shifts and cleans on the third shift. The VIBROSCREEN FLO-THRU separator is vacuumed according to 3-A standards. "The screen usually stays clean with minimal material remaining," Merrill says.

Based on the success of this new line, TVS plans to add a sister unloading and packaging line that will blend milk powder and other ingredients. The system will incorporate another circular vibratory separator and two flexible screw conveyors.

TVS is a non-profit community rehabilitation program providing employment and employment services to adults with disabilities or other barriers to employment.



On-size powder is discharged from the Kason screener through a floor hopper into a flexible screw conveyor that transports the powder through an interior plant wall to a filler and vertical form-fill-seal packaging machine in the adjacent room.

Pharmaceutical sifter cleans-in-place



Clean-in-place spray heads allow hands-free steam cleaning of Kason's VIBROSCREEN vibratory separator. Intended for pharmaceutical and other sanitary applications, the screener is configured with one gap-free screening deck. Five clean-in-place spray heads are required for this configuration: one for the upper chamber and two heads each for the central and lower chambers.

Quick-disconnect clamps allow two-minute disassembly of all steam supply hoses, clean-in-place spray head fittings, and separator body sections for inspection or screen changes.

The screener is offered in diameters from 18-100-in (460-2540mm) in all-stainless construction finished to FDA as well as 3-A, USDA, BISSC and other sanitary standards.

Accessories available include ultrasonic and mechanical anti-blinding devices, and automatic long-term lubrication systems for gyratory motor bearings.

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