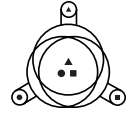


# SCREEN

# tips

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



**KASON**

FROM KASON CORPORATION

VOL. 19, NO. 1

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## Fluid bed dryers, coolers, moisturizers for on-site trials



Kason circular vibratory fluid bed processors in smaller sizes are now offered on a rental basis for drying, cooling or moisturizing trials at customer facilities, it was announced by Henry Alamzad, President.

"Kason now maintains an inventory of fluid bed dryers, coolers and moisturizers in smaller sizes desired by customers for process engineering and pilot plant evaluations," says Alamzad, adding, "Short and mid-term rentals enable customers to engineer new products and processes, and to specify higher-capacity fluid bed equipment that meets full scale production requirements with certainty."

The exclusive, circular configuration of Kason fluid bed processors enables entire systems including heater/cooler/moisturizer, blower and dust collector to be self-contained on frames with casters, ready to plug-in and run, offering pilot plants fast set-up, compactness, mobility and flexibility not practical with rectangular units that are two- to three-times larger and heavier at equivalent capacities.

Cleaning time is cut by more than 50 percent due to the reduction in interior seams, and accessibility afforded by a quick-disconnect housing.

## Reducing particle size range improves fertilizer quality

For a professional grade lawn fertilizer to yield quality results, its chemical components must be blended thoroughly and remain uniformly distributed until the time of application, despite variations in the bulk density and particle size of ingredients. The fertilizer blend must also be free of large particles, agglomerates and foreign matter to prevent plugging of small orifices in spreading equipment, which can leave unfertilized streaks on golf courses and professionally managed lawns.

Randy Nandory, EC Grow, Inc. production manager, says, "In recent years, EC Grow has transformed good products into professional grade products." Quality improved as the company replaced four 96" x 96" (2438 x 2438mm) static sieves with four Kason low-profile 72" (1829mm) diameter Flo-Thru Vibroscreen® circular vibratory separators that screen granules down to a 75 percent smaller size (0.125" [3.175mm] instead of 0.5" [12.7 mm]),

producing a finer, more uniform product. The vibratory screeners also prevent the separation of blended products that previously resulted from wide variations in the bulk densities of ingredients.

### Static sieves caused screen blinding

Vibratory action enables the Kason screeners to match the static sieves' 120-ton/hour capacity using the finer mesh screens without screen blinding or segregation of blended ingredients. Previously, oversize fertilizer particles caused screen blinding that required operators to remove, clear and re-install the screens. The static sieves also caused separation of ingredients having disparate bulk densities, with urea (nitrogen compound) at 48-50 lb/cu ft (768-800 kg/cu m), phosphates at 54-56 lb/cu ft (864-896 kg/cu m), potassium at 70-75 lb/cu ft (1120-1200 kg/cu m), and trace minerals as high as 90-lb/cu ft (1440 kg/cu m).

cont. page 4



Two 72" (1829mm) diameter Kason low-profile Flo-Thru Vibroscreen® circular vibratory separators are mounted on holding bins that discharge urea, phosphates and potassium granules into bagging machines below. Screeners prevent separation of ingredients having disparate bulk densities to produce a uniform fertilizer product.

## **Kason certified to ISO 9001:2000**

Kason Corporation has received ISO 9001:2000 quality system certification for its Millburn, NJ, manufacturing plant.

"Kason is the only major U.S.-based screener manufacturer to be ISO-certified," says Christopher Stone, VP Manufacturing, adding, "The system has yielded the highest attainable quality at lower cost through improved materials monitoring, vendor screening, personnel accountability and other measures since its implementation at the USA manufacturing facility in March 2001."

Recent ISO 9001:2000 standards contain a variety of upgrades, among them a greater emphasis on the role of top management and of customers in continual monitoring and improvement of the quality management system.

## **PARTING SHOT OF OUTBOUND EQUIPMENT**

### **Baker's dozen of batch sifters**

This order of 13 batch sifters is bound for a leading baked goods producer for scalping of agglomerates, bag scraps and other oversize material from manually added ingredients.

Operators will dump 50 lb (22.7 kg) bags of major ingredients and pre-weighed amounts of minor ingredients into the batch sifters, each of which will be mounted atop a blender, enabling the company to produce 13 of its numerous recipes simultaneously.

All screens are of 430 stainless steel due to its magnetic properties, enabling a downstream magnet to remove any metallic fragments in the event of a screen failure.



*Kason batch sifters are offered in diameters of 18", 24" and 30" (450, 600 and 750mm), with a single imbalanced-weight gyratory motor, minimizing weight for easy repositioning while providing ample capacity for typical batch requirements.*

### **3-A Centrifugal Screener disassembles rapidly with no tools**

A new 3-A Dairy Accepted Centri-Sifter® centrifugal screener introduced by Kason features a hinged end cover, self-securing screen cylinder and removable three-bearing cantilevered shaft/paddle/feed-screw assembly, allowing tool-free disassembly for rapid, thorough wash-down.

External roller bearings are located at the motor end of the shaft and on a hinged cover at the overs discharge end for maximum support and vibration-free operation. When the end cover is hinged open, the shaft/paddle/feed-screw assembly becomes a cantilever supported by a third, externally mounted roller bearing located between the motor-end bearing and material feed point, allowing an operator to slide the screen cylinder and the entire shaft assembly from the machine.

Stainless steel rods projecting longitudinally from the downstream end of the screen cylinder flange press against the interior side of the hinged end cover when it is closed, locking the screen in place without the need for threaded studs and nuts, and allowing insertion and removal of screens in seconds.

Also specific to the 3-A design is a one-piece shaft/paddle/feed-screw assembly that is continuously welded, ground and polished, eliminating unsanitary crevices and threaded fasteners, and allowing rapid removal without tools.

The new sifter is intended for food, dairy and pharmaceutical applications requiring thorough wash-down, as well as general chemical applications involving frequent screen changes/inspections or runs of multiple materials with no cross contamination.

Dry or moist bulk solid material is gravity-fed into the feed inlet and redirected into the cylindrical sifting chamber by means of a feed screw. Rotating helical paddles within the chamber continuously propel the material against the screen, while the resultant, centrifugal force on the particles accelerates them through the apertures. In addition to sifting and scalping of dry bulk materials, the screener can break up soft agglomerates and/or dewater moist solids or slurries. Oversized particles and trash are propelled through the end of the screen cylinder into a discharge spout.



## Genuine Kason centrifugal sifter parts shipped fast

Kason replacement parts for any make or model of centrifugal screener meet or exceed the performance of aftermarket parts and parts of other OEMs, maximizing uptime while minimizing cost. Choose from wire mesh screens, synthetic screens, heavy duty profile wire (wedge wire) screens and perforated plate screens, as well as motors, bearings, seal rings, gaskets and anti-blinding devices. All are available for quick shipment, with rush service available on special and custom orders.

For a highly competitive price quotation call 973-467-8140 (ask about Kason's "blanket order" discount pricing on screens), or e-mail [partsales@kason.com](mailto:partsales@kason.com)



Virtually any component of any make or model of centrifugal screener is available from Kason.

Replacement parts for circular vibratory screeners are also available.



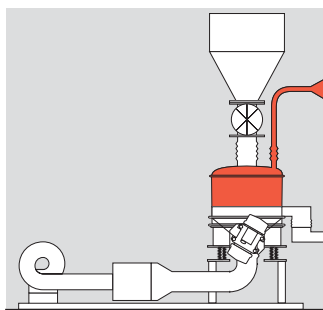
## De-dust, scalp, de-lump or agglomerate while fluid bed processing

The unique, circular configuration of Kason's Fluid Bed Processors allows them to de-dust, scalp, de-lump or agglomerate bulk solid materials that are being dried, cooled or moisturized, according to William Zhao, Chief Engineer. "Kason Fluid Bed Processors equipped with accessories for de-dusting, scalping, de-

lumping or agglomerating obviate the initial and operating expense of stand-alone equipment and improve product uniformity while conserving valuable floor space," he says.

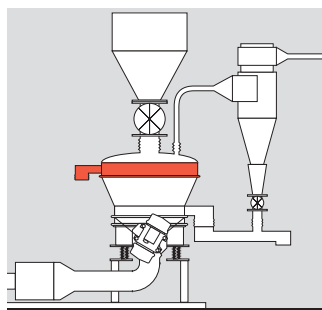
The red portions of the diagrams below indicate de-dusting, scalping, de-lumping and agglomerating

options available on Kason Fluid Bed Processing Systems. Note that all incorporate a blower for heated, cooled or moisturized air, a fluid bed processing chamber, a material feed source, a cyclone separator and discharge spout.



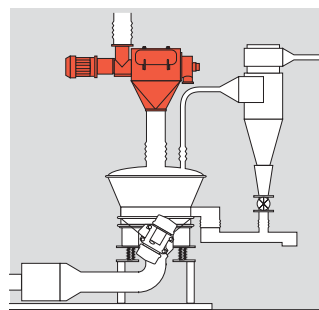
### DE-DUSTING

For drying, cooling or moisturizing applications that also require de-dusting of the material, cylindrical exhaust plenums can be specified (instead of tapered plenums that reduce air speed), causing fluidized dust to be drawn from the fluid bed chamber into a cyclone or other dust collection device, eliminating the need for a separate de-dusting screener.



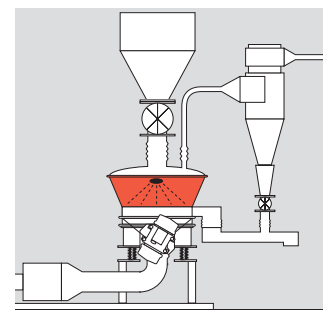
### SCALPING

For scalping of oversize particles from material before it is dried, cooled or moisturized, the fluid bed chamber can be fitted with an integral, top-mounted screening deck that derives its vibratory motion from the fluidizing bed's gyratory motors, significantly reducing the initial and operating costs of a stand-alone screener, while preserving floor space.



### DE-LUMPING

Many materials that require fluid bed processing tend to form agglomerates that can reduce drying/cooling/moisturizing efficiency and/or uniformity of the finished product. In these instances, Kason Fluid Bed Systems can be equipped with integral Centri-Sifter centrifugal screeners for continuous de-lumping of incoming material.



### AGGLOMERATING

Kason Fluid Bed Agglomerators employ a spraying system within the fluid bed chamber that introduces moisture to powdered material as it is fluidized, causing particles to form agglomerates on a controlled basis. Fluid bed drying, cooling or moisturizing can be employed concurrently to condition the material, maximizing physical characteristics of the agglomerates as well as production efficiency.

## **New brochure on Fluid Bed Drying, Cooling, Moisturizing, Agglomerating**



Illustrations and cutaway photographs detail how circular fluid bed configurations increase operating efficiency, cut cleaning time, and reduce cost relative to traditional rectangular designs.

Supply-side, fluid bed, and exhaust-side components are listed along with a schematic of a complete system with explanation of fluid bed principles.

Diagrams explain how fluid bed processors can be accessorized to de-dust, scalp, agglomerate or de-lump materials as they are being dried, cooled or moisturized.

Included are drawings of eight models ranging in diameter from 18" to 84" (457 to 2134mm) for laboratory to high-volume applications.

Self-contained mobile and skid-mounted models are shown complete with fluid bed processor, heater/cooler/ moisturizer, blower, controls and accessories.

For a copy call: 973-467-8140 or e-mail: [info@kason.com](mailto:info@kason.com)

### **Production of fertilizer granules**

Urea, phosphates and potassium granules delivered by bulk transport trucks are stored in 50-1000 ton holding bins. Ingredients are weigh-batched according to product recipe, and transferred to one of three 250 cu ft (7075 l) capacity blenders where pesticides, pre-emergents, broadleaf or dust control agents are applied.

Each blended batch is conveyed to any of four 6-ton capacity holding bins through the top-mounted 72" (1829mm) diameter low-profile circular vibratory separators. The bins feature honey-combed mixing baffles that promote blending as particles descend to each discharge spout.

The circular vibratory screeners scalp agglomerated particles, wood, metal, plastic and other foreign material larger than 0.125" (3.175mm), while on-size particles fall through the bottom outlets into the holding bins and bagging machines below.

During humid summer months, the hygroscopic fertilizer tends to agglomerate and blind screen apertures, a problem rectified using an anti-blinding ball tray assembly in which elastomeric balls bounce between the

upper operating screen and lower ball support screen, dislodging granules from screen apertures.

### **Circular separators prevent segregation**

Unlike the static sieves which caused the material to pile on the screens and segregate, the low-profile Flo-Thru circular vibratory separators employ two externally-mounted imbalanced-weight gyratory motors that cause on-size particles to pass through the screen in a vertical straight-through path at high rates with no segregation of ingredients.

### **Fits in restricted overhead space**

The low-profile units also solved an overhead space restriction problem, being the only screeners that could fit within the 60" (1524mm) gap between the ceilings and holding bins. Two externally mounted motors (as opposed to one motor mounted beneath the screening chamber) reduce the unit's height to 36" (914mm) versus 72" (1829mm) for a conventional separator of equivalent diameter.

Having tripled in size, EC Grow has added three low-profile screeners since purchasing its first Kason unit in 1994.



*Low-profile 72" (1829mm) diameter Flo-Thru Vibroscreen® separator fits in 60" (1524mm) space between ceiling and holding bin that receives on-size material. Oversize particles >0.125" (3.175mm) exit through side discharge spout.*

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