

# Processing

SOLUTIONS FOR THE PROCESS INDUSTRIES

## FOCUS powder show, p6

### New BSP feeder models and controls on display at Powder Show



A new generation of feeder controls, new additions to the Bulk Solids Pump feeder line, and Pneumatic Conveying Systems (PCS) solutions will be on display at the Powder & Bulk Solids Show May 9-11 at the Donald E. Stephens Convention Center in Rosemont, Ill. The booth will feature a special hands-on controls display that will allow visitors to try out all of the operator interface options for the new K-Tron Control Module (KCM) feeder controls. The newest additions to the Bulk Solids Pump feeder line — the BSP-135 (pictured) and BSP-150P — will also be introduced. The BSP-135 features three feeding ducts and will replace the BSP-125, which had two ducts, extending the feed rate range to 155 cubic feet per hour. The newly expanded PCS Pneumatic Conveying (PCS) Line (formerly called Hurricane) will also be showcased in a fully operational demo including three operating vacuum receivers showing the variety of materials that each model can handle.

The newly enhanced KT12 Micro Feeder, designed for processors requiring feed rates as low as 20 grams per hour will also be on display. **Booth 1117.**

**K-Tron Process Group**  
856-589-0500, [www.ktron.com](http://www.ktron.com)

Circle 710

INTERNATIONAL  
**Powder & Bulk Solids**  
CONGRESS & EXHIBITION

### Solenoid valve for water treatment

High-pressure and high-flow pilot-operated solenoid valves features PTFE bellows seal, pressure ratings to 140 PSI and Cv's to 80. Designed for water purification and chemical treatment systems the valve is now available in PVC, CPVC, polypropylene and PVDF, and in 1/2" through 3" sizes. **For more information on Water and Wastewater Treatment, go to page 24.**



**Plast-O-Matic Valves, Inc.**

973-256-3000,  
[www.plastomatic.com](http://www.plastomatic.com)

Circle 711

### Leak-proof instrumentation tube fittings

High-quality double ferrule instrumentation grade tube fittings provide leak-proof and torque-free seals at all tubing connections. The new tube fittings reduce the chance of hazardous and expensive leaks in instrumentation, process, pneumatic, hydraulic, gas and other tubing systems. **For more information on Piping, Tubing, Hoses & Fittings, go to page 42.**



**Brennan Industries**

888-331-1523, [www.brennaninc.com](http://www.brennaninc.com)

Circle 712

## FEATURE ARTICLE

A crucial step to ensuring quality and streamlining production is starting the manufacturing process off properly. For Green Bay-based Enzymatic Therapy, one of those crucial first steps involves selecting the right sieving equipment to remove any agglomerates, oversize particles or contaminants from incoming raw dry materials, while still complying with FDA standards. To learn which Powder Show exhibitors' vibratory screeners the dietary supplement manufacturer selected, as well as the impact they had on production, turn to **page 22.**



### Slide gate valve to be introduced at Powder Show

The new heavy-duty slide gate valve handles non-abrasive to abrasive powders, granules, and pellets; isolates pressures up to 5 bars (75 psig) depending on size; will not leak to atmosphere or across valve; contains a displacement pocket that reduces/eliminates material packing as the blade closes; and is maintenance-friendly. Its unique features include a self-adjusting blade and clevis, and a self-adjusting seal bonnet cartridge. Vortex HDP® Slide Gate. **Booth 2836** at the Powder Show. **For more information on Valves, go to page 30.**



**Salina Vortex Corporation**

[www.vortexvalves.com](http://www.vortexvalves.com)

Circle 713

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How Macleod Pharmaceuticals successfully conveyed its powdered

antibiotics in a dust-free environment



When Macleod Pharmaceuticals expanded to a new range of antibiotic products, it needed to fit a bulk solids mixer, conveyor and filling machine in a confined area, and reserve enough space for boxing, taping and labeling operations.

The company's antibiotics are typically comprised of seven or eight powdered ingredients that are manually dumped from fiber drums into a 25 cubic-foot ribbon blender mounted on load cells. Weight gain information on a display enables operators to dump the required amount of each material.

After a mixing cycle, the powder is gravity discharged into the U-shaped charging adapter of a 3-inch diameter flexible screw conveyor manufactured by Flexicon Corporation, Bethlehem, Penn.

The conveyor consists of a flexible steel screw enclosed in a tube that is driven by an electric motor. As the screw rotates, it propels material through the tube and self-centers, providing sufficient clearance between the screw and the tube wall to prevent product damage.

It transports the powder about 11.5 feet at a 45-degree angle, into a surge hopper atop the filling machine that dispenses drugs into a variety of containers.

Products are made in campaigns, each of which typically lasts two weeks and involves the manufacture of several batches of a single product.

The screw is the only moving part contacting material, and can be removed rapidly between product changeovers for sanitizing of the screw and the tube's crevice-free interior.

Macleod selected a flexible screw conveyor to fit within the limited space and prevent contamination of the product and plant environment.

"We ruled out other types of conveying systems that allowed the escape of dust, which must be avoided in the case of antibiotics," says Giovanni Parrinello, vice president of pharmaceutical operations, adding, "The Flexicon unit is dust tight, and allowed us to curve the conveyor tube to fit the restricted space between the blender and filler.

"To ensure the conveyor would transport our antibiotic powders efficiently," he continued, "Flexicon



ran them in its test laboratory on a full size flexible screw conveyor configured to simulate our application."

He said Flexicon engineers also solved design problems specific to his application by orienting the charging adapter horizontally instead of at an angle, and fabricating a flange that attached tightly to the blender's valve to discharge powder directly into the charging adapter with no exposure to the atmosphere.

Due to a ceiling height restriction, the conveyor's discharge adapter also needed to be oriented as close to horizontal as the curvature of the conveyor tube would allow.

"While we were suspending the discharge adapter, complete with its 192-pound motor, from the ceiling, we had one of the Flexicon engineers on the speakerphone. He entered the data into his AutoCAD and calculated the adapter angle that corresponded to the curvature of the conveyor," Parrinello says.

Because this is a new manufacturing site for products that will be packaged in a new container size, U.S. Food and Drug Administration (FDA) approval is required before commercial products can be produced, as is also the case with drugs for humans. In anticipation, Macleod has been running pilot batches and practice runs to validate the system.

To view the flexible screw conveyor used in this application live, stop by the Flexicon booth at the Powder & Bulk Solids Show, **Booth 1005**.

**Flexicon Corporation**  
888-353-9426, [www.flexicon.com](http://www.flexicon.com)

Circle 500