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Kruger Packaging invests $C250M in Trois-Rivières mill

KRUGER PACKAGING LP WILL INVEST $C250 million to convert its Trois-Rivières mill's PM10 newsprint machine to manufacture 100% recycled lightweight linerboard.

The project has received $190 million from the Québec government which includes an $84-million loan to finance the cost of the conversion and $106-million participation, through Investissement Québec, in a new company that now combines all of Kruger's Containerboard and Packaging activities. The Québec government owns 25% of the new company which has assets over $600 million.

Over the next 20 months, PM10 will be completely modernized to incorporate some of the most advanced containerboard manufacturing technology. Once it is up and running in 2017, it will produce

See **KRUGER** page 7

Guests at the Kruger PM10 announcement included: (L to R) Philippe Couillard, Premier of Québec; Joseph Kruger II, Chairman of the Board and CEO, Kruger Inc.; Julie Boulet, MNA for Laviolette; Jean-Denis Girard, Minister for small and medium enterprises, regulatory streamlining and regional economic development and Minister responsible for the Mauricie region. *Photo: Kruger/Éric Massicotte*

Watson-Marlow Qdos metering pumps increase mill up-time, ease maintenance

A GERMAN PAPER MILL REPORTS IMPROVEMENTS after switching from diaphragm pumps to peristaltic Qdos models from Watson-Marlow Fluid Technology Group, Falmouth, UK.

The mill produces fine paper and corrugated board base papers for packaging and uses over 400 pumps including lobe and progressive cavity types. However, peristaltic pumps offer simple operation and long maintenance intervals; they are also dry-running and self-priming.

These factors lead the mill to choose the Qdos pumps to replace maintenance-heavy diaphragm types to dispense small amounts of the agent used to control foaming when starch was transferred from the storage tank to two tanks ready for treating the board's top and back layers. The only wearing component in

Qdos pumps is the patented ReNu pump head which can be replaced as a unit. The mill also uses peristaltic pumps for dye dosing. **PI**

Watson-Marlow Fluid Technology Group, www.wmftg.com

FastInfo #201

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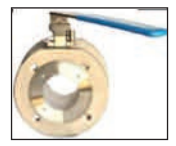
PRODUCT OF THE MONTH

Fig. 305 B isolation ball valve from Trans-valve doesn't leak

BIRMINGHAM, AL-BASED Trans-Valve's patented Figure 305 B transmitter isolation ball valve is bubble-tight, quarter turn, corrosive resistant, has a true 3-in. full port and is "installer friendly."

The company says the 305 B offers benefits include: no multiple-stroke ratchet-type device; not prone to leakage; can be purged/instrument calibrated; no special mounting fasteners required; the only valve of its type with a full 3-in. port. Its single purge/calibration port is easy to use.



Only eight standard hex head cap screws and two gaskets are required for installation either as a knife gate retrofit or a standard 3-in. ANSI 150 # four-bolt flange pattern.

The 305 B has a 316 SS body, ball, stem and MNPT plug for the purge/calibration port. The 305 LT, based on the 305 B and recommended for use with chlorine, has a 317 L SS body and Grade 5 titanium ball, stem and MNPT plug for the purge/calibration port. **PI**

Trans-Valve, www.trans-valve.com

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INSIDE @ A GLANCE

ISSUE HIGHLIGHTS:

CASE STUDY

Munson screen classifying cutter aids alternative energy research at University of Maine

Since 1983, the Orono-based University of Maine's Process Development Center (PDC) has served the paper industry with leading-edge, collaborative pulp and paper research for companies throughout the US. Recently, the PDC expanded its scope into bioplastics, solid and liquid biofuels, nanomaterials and other technologies.

The process lab — originally part of the university's forest and paper industry program — houses a virtual "mini" paper mill with a broad range of processing equipment. The PDC employs 12 and is self-sustaining by virtue of its contract work with multiple clients. While the lab's primary work is still focused on the paper industry, new projects target alternative energy and recycling involving paper, wood, carpet, plastics and other materials.

"Most of our work is by word-of-mouth from paper and chemical companies who have a problem and need to address their process," said Mark Paradis, the PDC's group leader of engineering. "Our equipment is flexible and can be adapted in order to provide these companies with a proof of concept."

Size reduction plays key role

The PDC is well equipped to work with a range of raw materials including wood, bark, herbaceous crops and agricultural residuals. Available processes include extraction, pulping, bleaching, papermaking, coating and finishing. To facilitate its process work, the lab requires efficient capabilities to downsize materials into uniform particles.

At the outset, the lab used a hammer mill — a conventional size-reduction method employed for decades — which was inefficient and failed to produce consistently-sized particles because of its crushing and pulverizing action. The PDC replaced it with a Screen Classifying Cutter model SCC-10 from Munson Machinery, introduced by Munson's New England representative Armac Inc., Lynnfield, MA. "We specified that unit because it efficiently reduces materials into uniform particle size with a lower energy requirement than the hammer mill," said Paradis.

The PDC leased the SCC for two years ago before purchasing it. The unit proved effective at cutting hard, soft and fibrous materials into controlled particle sizes with minimal fines at high rates for post-usage. It features a proprietary helical rotor design with dozens of cutter tips attached to a helical array of staggered holders called "interconnected parallelograms" to continuously shear oversize materials against twin, stationary bed knives.

Unlike conventional granulators containing a small number of angled rotor blades that slice materials into strips in scissor-like fashion, the SCC is configured with cutter tips along the entire shaft, with no gaps between tips, making total contact with the product. As a result, the material is cut into uniform particles with minimal fines or imperfections and with little to no heat generation.

The rotor design is said to generate six times greater force per inch with each cut than conventional knife-type cutters of equivalent horsepower, contributing to uniform size reduction and reduced energy use.

Alternative energy is primary target

In one $1.65-million alternative energy project, perennial grasses and hay are being pelletized to make compressed biofuel pellets. Grass pellets are said to have the potential to establish a new bio energy industry in Maine, creating a valuable crop for Maine farmers and reduced energy costs for residents. Several companies have expressed interest in operating biofuel production facilities and licensing the technology.

The SCC plays a key role in the initiative funded by the Maine Technology Asset Fund. The cutter takes one-quarter of the hay or grass bale and reduces the material to 1/8 = in. (3.2-mm) particles.

Similar biofuel projects are underway in the Northeast and Midwest involving pelletizing of corn stalks and conversion of hay bales into fire logs.

In another project, a University of Maine chemical engineering professor is developing a biodegradable golf ball partially composed of lobster shells. Here, the SCC-10 cutter reduces the shells to powder form.

The PDC is also working to develop cellulose insulation as a replacement for fiberglass in residential construction. Here, the center has developed unique systems to clean and process recycled newspaper and cardboard before it is reduced. Both Munson's SCC cutters and its attrition mills are being considered as size reduction solutions. The attrition mill granulates by means of a disk rotating against a circular grinding plate, producing particles within a relatively narrow size spectrum down to 200 mesh. It is employed primarily for reduction of fibrous materials, but is also suitable for friable products. Paradis said the PDC is leaning toward the attrition mill because it can produce a fibrous, fluffy, "cotton candy" type of product with an excellent R-value.

The SCC-10 requires minimal maintenance, according to Paradis. **PI**

Munson Machinery Co. Inc., www.munsonmachinery.com
University of Maine; www.umche.maine.edu

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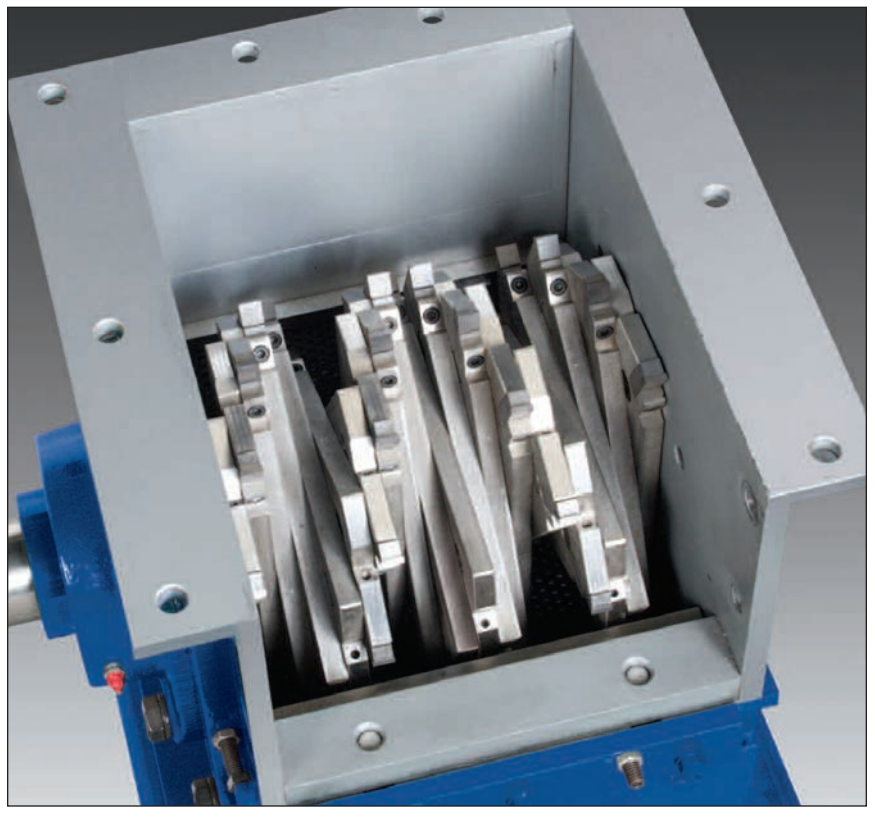

The Munson SSC-10 screen classifying rotor (left) contains dozens of cutter tips (right) attached to a helical array of staggered holders to continuously shear oversize materials against twin, stationary bed knives with minimal fines or imperfections and little to no heat generation.