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**BOEHRINGER INGELHEIM ROXANE, INC. ELIMINATES DOWNTIME
WITH MULTISORB STRIPPAX® SORBENT PACKETS**
Overall Packaging Efficiency Improves by 20 Percent

Boehringer Ingelheim Roxane, Inc. (BIRI), a subsidiary of Boehringer Ingelheim Corporation a global leader in the development, manufacture and marketing of innovative pharmaceutical products, was experiencing challenges with its moisture prevention system. Inconsistent desiccant packet lengths and punched hole irregularity between desiccant packets caused significant downtime of its pharmaceutical packaging line.

BIRI turned to Multisorb Technologies and its StripPax® sorbent packets for a solution. Used with its APA-2000 dispensing equipment, manufactured by Active-Pak Automation (APA), a division of Multisorb, the new sorbents have helped to eliminate downtime completely, and have improved packaging efficiency by 20 percent.

Maintaining Success

BIRI, the manufacturing arm of Boehringer Ingelheim and Roxane Laboratories, Inc. started out in 1885 as Columbus Pharmacal, a small regional pharmaceutical manufacturer based in Columbus, Ohio. More than one hundred years later, BIRI and Roxane now employ approximately 910 people and manufacture over 350 different formulations of pharmaceutical products.

The key to BIRI's success is its ability to manufacture unique, high quality products to meet consumers' needs in special markets. To support this strategy, BIRI manufactures unit dose packaging tablets, capsules, and oral solutions for hospital pharmacies and home care use.

As a packaging engineer at BIRI, Julie Rink continuously keeps up to date on the most effective moisture protection systems to ensure BIRI maintains its reputation of providing quality pharmaceutical products. Protection against moisture is critical for pharmaceutical

stability, particularly for sensitive drugs. Of BIRI and Roxane's 350 different formulations, 45 require desiccant technology.

"Certain medications are prone to moisture-induced degradation," says Rink. "Without proper desiccation, pharmaceutical products can stick together, react with ambient moisture inside the package, or experience unwanted microbial activity – all of which result in reduced shelf life."

Speeding It Up

Roxane was already using a silica gel based desiccant packet in its packaging line, but inconsistent packet lengths and variation in the punched holes between packets used for cutting registration caused difficulty when running on automatic dispensing machinery. As the company's existing APA-2000 dispensing technology operates in "fail safe" mode, it rejects out of length packets, avoiding cutting them open and contaminating the line. However, frequent operator intervention to remove improperly manufactured packets from the dispenser resulted in significant downtime.

After evaluating the available solutions to BIRI's packaging challenge, a team lead by Rink and manager of production maintenance Sascha Kellermann, decided to make the switch to one-gram StripPax[®] silica gel packets from Multisorb Technologies. In combination with the APA-2000 dispenser, the switch to Multisorb StripPax helped increase line speeds from approximately 75 units per minute to almost 95 units per minute, an improvement of over 25 percent. Downtime has also drastically improved, decreasing to nominal amounts. "Since we've switched, downtime has been almost completely eliminated," said Kellermann. "The time spent on maintenance is negligible, if at all."

The combination of increased speeds combined with the elimination of downtime has enabled an overall packaging efficiency improvement of 20 percent. "The accuracy of indexing Multisorb's StripPax allows us to run higher quality products at faster speeds,"

says Kellermann. “We're planning to convert all products that require a desiccant to StripPax,” adds Rink.

StripPax are compact, durable sorbent packets with high moisture adsorbing capacity, and take up limited space. The consistency of length and the translucent seal between desiccant packets provides for an accurate cut every time.

One StripPax sachet dropped into each bottle provides sufficient desiccation for BIRI's current bottle sizes, a dispensing technique referred to as a “single drop.” If a larger package size were developed, multiple drops would be considered for added moisture protection. “With a larger size, a double-drop would provide the additional barrier against moisture degradation,” said Kellermann. “The small profile of StripPax would allow us more desiccation without much adjustment to the packaging line.”

Cost Benefit

With a product line of over 350 different formulations, keeping costs under control and ensuring reliability are vital to BIRI and Roxane. Although various options for desiccation are available, the team did not consider switching to another method of moisture protection besides a sachet. “We can achieve the line strength we need with the sachet while keeping costs down,” Kellerman explains. “It was an economic choice as well as a quality choice.”

Multisorb's commitment to provide customers error-free and on-time delivery as well as consultative support proved to be especially valuable to BIRI. “We worked closely with the technical experts at Multisorb while we were converting to StripPax, and were impressed with how quickly they responded to our needs,” explains Rink. “Multisorb's technical knowledge is impressive, and they really have a vested interest in our satisfaction. The team was able to help us reduce the quantity of desiccant we use, helping to further reduce costs.”

Linking Up

Initial conversations between Roxane and Multisorb took place in November 2004 at PACK EXPO International. By December of that year, the conversion to StripPax was complete – an approximate four-week turnaround time. “I was able to bring samples of the components for Multisorb to evaluate on site,” said Kellermann. “They came back very quickly with concrete information for us.”

“We’ve achieved excellent results from our partnership with Multisorb,” concludes Kellermann. “Multisorb has helped us reduce costs, decrease downtime, and increase line speed. We look forward to working with them in the future.”

For more information about Boehringer Ingelheim Roxane, Inc., contact Sascha Kellermann, PO Box 16532, Columbus, OH 43216-6532, Tel: +1 614-276-4000, ext. 2622; Email: skellerm@col.boehringer-ingelheim.com; or visit www.roxane.com

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