

# Cutting Desiccant Inefficiency

*A sorbent switch results in reduced downtime and improved overall efficiency.*

Proper desiccation is crucial to medications that are prone to moisture-induced degradation. But it is also vital to a company's overall efficiency and product quality that desiccant use creates only minimal operational downtime.

"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," explains Julie Rink, a packaging engineer at Boehringer Ingelheim Roxane Inc. (BIRI), the manufacturing arm of Boehringer Ingelheim and Roxane Laboratories Inc.

BIRI was experiencing problems with its moisture-prevention system. It was using a silica gel-based desiccant packet in its packaging line, but inconsistent packet lengths made this product incompatible with its dispensing technology. The company's existing APA-2000 dispenser operated in "fail-safe" mode, meaning it would reject out-of-length packets to avoid cutting them open and thus contaminating the line. Such rejection frequently required an operator to intervene to remove improperly manufactured packets from the dispenser, resulting in significant downtime.

Rink, along with production maintenance manager Sascha Kellerman, led the team that evaluated BIRI's desiccant problem and decided to switch to the 1-g StripPax silica-gel sorbent packets from Multisorb Technologies (Buffalo, NY).

The new sorbents from Multisorb



The APA-2000 dispenser, when combined with StripPax sorbent packets, helped increase line speeds from approximately 75 units to almost 95 units per minute.

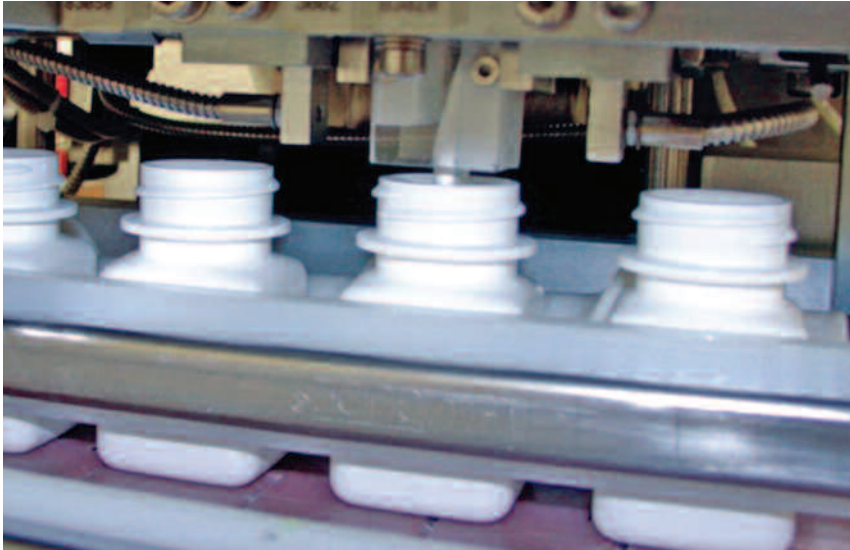
have helped to reduce downtime to nominal amounts, according to BIRI. The switch, combined with the APA-2000 dispenser—which is manufactured by Active-Pak Automation, a division of Multisorb—helped increase line speeds from approximately 75 units to almost 95 units per minute, an improvement of more than 25%.

"Since we've switched, downtime has been almost completely eliminated. The time spent on maintenance is negligible, if at all," says Kellerman.

The combination of increased speed and reduced downtime has improved overall packaging efficiency by 20%. "The accuracy of indexing Multisorb's StripPax allows us to run higher-quality products at faster speeds," says Kellerman. "We're plan-

ning to convert all products that require a desiccant to StripPax," adds Rink.

StripPax units are compact, durable sorbent packets with high moisture-absorbing capacity. They also take up minimal space. The seal contains an integral sensor window, which is designed to ensure consistent placement and accurate cutting. One StripPax sachet dropped into each bottle provides sufficient desiccation for BIRI's current bottle sizes. This dispensing technique is referred to as a single drop. If BIRI decides to increase its package size, multiple drops would be considered for added moisture protection. "With a larger size, a double drop would provide the additional barrier against moisture degradation," says Kellerman. "The



The desiccant feeder drops a single 1-g silica-gel sachet into each bottle, providing sufficient protection against moisture.

small profile of StripPax would allow us more desiccation without much adjustment to the packaging line.”

Initial conversations between BIRI and Multisorb took place in November

2004 at Pack Expo International. Approximately four weeks later, the conversion to StripPax was complete. “I was able to bring samples of the components for Multisorb to evaluate

on-site. They came back very quickly with concrete information for us,” says Kellerman.

Protection against moisture is critical for pharmaceutical stability, particularly for sensitive drugs. BIRI has 350 different formulations, 45 of which require desiccant technology. With such an extensive product line, keeping costs under control and ensuring reliability are vital to the company.

“We can achieve the line strength we need with the sachet while keeping costs down,” explains Kellerman. “It was an economic choice as well as a quality choice. Multisorb has helped us reduce costs, decrease downtime, and increase line speed.” ■



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