

SPOTWATCHER IS RX FOR PRODUCT DEFECTS

By Karen Hanna

PUTTING A BAG in a bottle may sound easy, but doing so according to pharmaceutical specs is no small feat.

To meet rigorous regulations, some companies in the pharmaceutical industry have turned to Intravis, which has paired a new clamping conveyor alignment station with its SpotWatcher cameras to check for product defects.

According to Intravis Inc. spokeswoman Erika Owens, an extrusion blow molder that makes products for the pharmaceutical industry has recently adopted the new technology to ensure defect-free products. The European company uses Spot-Watcher to inspect bags within bottles. As part of its process, it creates a bottle, then blows a bag into the bottle, which is then filled with a pharmaceutical product.

"The bags are blown up inside the bottle," Intravis Inc. CEO Andreas Mueller explained. "During this process, the bag can get wrinkles, which may lead to holes or to improper deflating later on." That can allow air to come into contact with the bag's contents, potentially tainting them.

The Rx? A specially designed, bag-in-bottle inspection package using SpotWatcher, Intravis' 360-degree bottle-inspection camera equipment. The new system has been available for just a few months.

First, Mueller said, a special alignment station prepares the bottles for the system's 15 cameras. While SpotWatcher has been around for about 15 years, he noted certain bottles can be tricky to inspect.

"Certain bottle types, mainly round bottles, are losing their orientation while they are traveling downstream on conveyor systems," Mueller said. "...certain features can't be inspected anymore because of the unoriented object." The new alignment station's camera identifies incoming bottles and provides data to the mechanical clamping conveyor so that it can orient them correctly for further inspections.

Software that evaluates the images triggers the clamping conveyor to re-orient each bottle until it is positioned correctly, according to a case study prepared by Gerd Fuhrmann, president of Intravis GmbH, Aachen, Germany, the parent company of Intravis Inc.

Once that's done, the bags get their own turn before the cameras. The SpotWatcher system inspects the bags to be sure they're defect-free. If there is a deviation, the system can trace it back to the place in the process where it occurred. Specially made for pharmaceuticals, the bags have two layers — a rigid outer wall with slits or holes to allow for ventilation, and an inner layer that allows no ventilation. The design allows the bag with the contents to collapse as it's emptied. "The two crucial questions to be answered are: Are the



Intravis Inc.

Intravis checks for product defects by pairing a clamping conveyor alignment station with its SpotWatcher cameras.

cuts deep enough so that the ventilation openings fulfill their purpose? Does the inner bag remain undamaged after the cut?" Fuhrmann wrote in the case study. Other possible defects include signs of stress whitening, bubbles or the detachment of the dual bag layers.

Designed according to customers' needs and available as clean-room technology, SpotWatcher is ideal for monitoring bottles and containers made of PET, PE and PP. It can be used to check for a number of bottle features such as shape, color, wall and layer thickness and neck characteristics, as well as defects such as holes, burn spots and streaks. It boasts inspection speeds of as many as 20 objects per second. Mueller said typical systems usually have six to eight cameras, but systems for the pharmaceutical industry can have as many as 18.

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