

## CaseHistory

# Up all Night

*Form-fill-seal machinery keeps catheter packaging lines running 24/6.*

By Daphne Allen  
Editor

**H**igh-volume packaging operations need workhorses. For Smiths Medical, running packaging lines 24 hours a day, six days a week has demanded robust and reliable form-fill-seal machinery. The company packages about 2 million catheters a week, amounting to about one hundred million catheters a year.

Originally part of Johnson & Johnson's subsidiary, Ethicon, Smiths Medical is seeing increased demand for its products after launching a protective catheter system. "The product eliminates nurse exposure to needles," reports Leo Raboin, senior manufacturing engineer. "In addition to creating demand in the United States, the catheter is getting some new attention in Europe."

Two of Smiths Medical's form-fill-seal machines are Model 8000 MH machines originally purchased in 2001 from Mahaffy & Harder, now known as Ossid. "The machines are rugged enough to run continuously, and they run very well. We use them to package about 80 work-in-progress codes within six main categories of products," explains Raboin. "Within those categories we have multiple subcategories, representing different process configurations."

The Model 8000 machine is constructed of stainless steel and features a modular design, reports Jack Albinson, sales manager for Ossid. It can reach high production rates of up to 30 cycles per minute.



With so many product and process configurations, Smiths Medical had originally searched nationwide for form-fill-seal machinery that could be changed over easily. Raboin found the 8000MH "very easy to open and get into," he says. Users can change rolls of film without stopping the machine. "I like this feature a lot," says Raboin. Also, "Web detection ensures that the bottom stock remains centered accord-

ing to machine direction thanks to dual spindles. Our other machines do not have it." Changeovers typically involve a top-stock or labeling content change, he says.

If required, the machine "can be opened enough to allow us to get in and handle maintenance," he adds. "After shutting the machine down to change processes, it is very forgiving when putting it back into production," he says.

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As accessible as the machine is, Raboin appreciates the “password-controlled levels of machine access, such as engineering and technician levels,” which limit what each operator can change.

Details Albinson: “This model uses an Allen Bradley PLC for machine control and an Allen Bradley PanelView for operator interface or HMI.”

Even though changeover has been eased, Raboin says that his team’s main focus is keeping the machines running. “Whenever a machine is down, our goal is to get it back up as soon as possible. We have certain directives that our technicians have to follow, and, if needed, we then get our tooling department involved. If all that doesn’t get the machine up and running, they call me,” he recounts. “I have gotten very few of those calls.”

Raboin attributes the increased machine uptime to a unique sealing system design. “The machines use urethane rubber inserts dovetailed into metal dies that hold them in place. The rubber then transfers the heat to the top and bottom stock for sealing. These unique inserts are very easy to change when compared with the traditional sealing die parts that were attached through adhesive. They make life a lot easier for us.”

In addition, an exclusive clip chain feature allows users to adjust web widths and could facilitate zero edge trim. Ossid claims that eliminating or minimizing edge trim could “add up



to thousands of dollars of savings in packaging materials every year.” Trim options include rounded corners, peel flaps, and contour trim.

Model 8000 machines use three servo drives for the primary machine motions, providing a very quiet opera-

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tion that uses very little compressed air, Albinson says. “Since compressed air is costly to produce and this packaging machine uses very little compressed air,

Smiths Medical obtains a cost savings from less air consumption used to operate the machines day in and day out, compared to using pneumatically operated packaging machines.”

Raboin says that his lines have been running so well, sister facilities in Italy are looking to his U.S. operation in order to replicate what “we have done here with our packaging.”

With a new catheter system now in development, Raboin says that Smiths Medical is approaching the possibility of buying another form-fill-seal machine. “Mahaffy & Harder was originally very good to work with, and we have had no major problems. Since Ossid acquired the company, Ossid has been here to observe our machines in operation, and their engineering service support has been good,” Raboin says. “We have had such a good experience we would like to go back.” ■

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