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CASE STUDY

Cardinal Health Solves a Unique Packaging Challenge with Autobag®

Flexible, Automated Packaging System Provides Custom Solution for New Pharmacy Dispensing System



When Thomas Tudor of Cardinal Health, Inc. set out to design and engineer a bagging mechanism for an integrated medication dispensing system called Pyxis Homerus®, he called on Automated Packaging Systems to provide the custom packaging solution.

Tudor is Manager of the Machine Automation Group for Cardinal Health and was actively working on an engineering project to upgrade the company's centralized pharmacy system. "Our customer was taking an automated process and adding a manual step by removing individual patient medications dispensed into a drawer and placing the medications in a zip-lock bag. They would take the printed label off the drawers and attach it to the bag," says Tudor. "The new system dispenses the individual patient's medications into one printed bag that is sealed instead of placing the medications into multiple drawers." These fully integrated systems would serve large central pharmacies supporting major health institutions.

Cardinal Health, with the support of Automated Packaging, developed the iBundle portion of the Pyxis Homerus centralized pharmacy dispensing system. Pyxis Homerus integrates medication storage, retrieval, unit dose packaging, bar coding and delivery of patient medications into a complete system. The unit is networked to a centralized computer system for individual patient information. Multi-tasking capabilities enable packaging to occur simultaneous with dispensing, while bar code information is printed directly onto each individual Autobag poly bag. A 24-hour supply of patient medications is then automatically collated into a single bag. This new system eliminates manually filling delivery bags and effectively replaces the old pharmacy cart that health care institutions used to push from room to room.

Benefits of the new automated system include a significant reduction in staff required to support a centralized pharmacy operation. "Some customers have gone from eight or ten pharmacy technicians down to two," says Tudor. The system will dispense up to 1000 medications per hour, 300 different medications, and up to 20 medications per bag. Most pharmacy orders are pulled overnight in a five to six hour period. Inventory costs are reduced and security issues are enhanced with this automated procedure. Everything about the patient order is pulled and packaged automatically with comprehensive information stored in the bar code and printed directly onto the poly bag package for enhanced security. The in-line printing operation reduces costs by eliminating the need for a separate label printing and insertion operation. Bags are sealed with easy-open perforations on two sides to accommodate returns and restocking. The bar code on the delivery bag contains the patient ID number and can be used for processing drug returns.



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Tudor says his biggest challenge in designing the Pyxis iBundle system was the six-month time frame he had for development. "One of the biggest reasons we went with Automated Packaging Systems was their expertise in providing flexible, custom-engineered packaging solutions," says Tudor. "The Custom Engineering and Integration group at Automated Packaging was great. They are experienced experts who easily understood my application and worked closely with me to provide a solution unique to my requirements. I knew their product quality was excellent, and was pleased to discover that their system integration capabilities were outstanding."

Operating at speeds approaching 30 bags per minute, the Autobag OneStep™ Print-n-Pack systems have no problem keeping up with automated insertions, as they operate as fast as the system can pull orders. With the printer positioned near the bag indexing location, the ability of the OneStep to print patient information just prior to loading ensures that individual patient medications are placed into the correct bag. The small footprint was a big advantage since it had to be physically built into a comprehensive, turnkey system. There were some modifications required to fit the custom infeed, which utilizes a vision counter system to verify the number of medications before they drop into the bag. The operator interface was moved to the rear of the unit for accessibility, but easily integrated into the overall Pyxis system because all job data storage and setup parameters are PC-based.

Cardinal Health also uses genuine Autobag Bag-on-a-Roll products for premium quality and reduced scrap. Automated Packaging Systems offers a total systems approach with its Autobag Systems Advantage™ program, which includes the bagging machine, bag materials, and full service support with preferential pricing and performance guarantees. "I can't imagine a better organization to work with in terms of quality, service and integrity," explained Tudor.

Cardinal Health has seen rapid market acceptance of its new Pyxis Homerus automated pharmacy dispensing system and expects sales to grow significantly because of productivity and patient safety improvements. Cardinal Health is committed to revolutionizing the way medication and supplies are distributed within health care facilities. The Pyxis Homerus automated dispensing technology allows health care providers to streamline their operations, reduce costs, save time, and enables pharmacists to direct more energy toward clinical solutions, resulting in high quality patient care.

Automated Packaging Systems has been designing and manufacturing original Autobag systems and products for more than 40 years. With more than 25,000 packaging systems in operation and a national service organization of more than 30 Field Service Engineers, Automated Packaging Systems delivers a total systems approach for ultimate customer satisfaction.



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