

pam-pac Blister Packaging

In the blister packaging world, industries look to reduce changeover times, downtime, and total production costs, just as they do in other branches. Since blister packs are mostly used for goods in the medical or food industries, this type of packaging must adhere to the Good Manufacturing Practice (GMP) guidelines when producing and handling these goods. The Indian packaging machine manufacturer pam-pac, a specialist for machines for consumer goods and pharmaceuticals, follows these demands consistently, last but not least because of their special know-how. Using B&R servo drives, pam-pac has reduced changeover times from one day to one hour.

Pam-Pac Machines Pvt. Ltd. (pam-pac), a joint venture between Associated Capsules Group, India, and IWK Verpackungstechnik, Germany, specializes in manufacturing blister packaging machines for the pharmaceutical industry and cartoning machines for the consumer goods industry. Companies in 40 countries, including the USA and Australia, are among pam-pac's customers. At their production facility in Talegaon near Pune in the Indian state of Maharashtra, pam-pac produces blister packaging machines that rank among the most efficient and flexible in the world.

Two pieces of foil are sealed together when making blister packs. The temperature and pressure inside the packaging machine cause one seal layer to be forced onto another seal layer (cover foil) to form a friction-locked bond. The goal of this type of sealing is to provide a tight bond between the blister tray and the packaging cover. Medicines which have been sealed in this way are protected from both dust and perspiration. The foil is also used to imprint the company name, expiration date of the medicine, and the name of the medicine. A special foil compound is also used to make the packaging child-safe so that the medicine package cannot be forced open inadvertently.

The BQS, a completely servo-controlled pam-pac blister packaging machine, is used for both PVC-ALU and ALU-ALU blisters. The BQS is equipped with five servo drives which connect the main drive as well as the filling, printing, foil transport, and punching units.

Servo Drives Make Manual Changeovers Unnecessary

One of the basic requirements of the entire procedure is having the plastic wrap pulled through the individual processing stations at a constant speed. The assembly used for transporting the wrap is equipped with a servo drive from B&R's ACOPOS series which runs synchronously with the main drive via an electronic gear unit. The gear ratio is determined by the width of the forming station.

ACOPOS servo drives have also been implemented in the printing and punching unit on the BQS machine, which has been able to shorten adaptation times. Unlike mechanical drives, the gear ratio can be changed very easily via an HMI interface when setting up the machines. Using servo drives basically makes exchanging the mechanical drives unnecessary. In addition, avoiding mechanical fluctuations results in better print quality from the printing unit.

More and more attention is being paid to the quality of the printed product and the company information. Exact printing characteristics, similar to the security features on paper currency, should be able to prevent medication from being faked. To



The rotary cutting station and blister pickup assembly can be seen on the right side of the image. They are driven by the servo motor and synchronized with the speed of the foil. This pickup assembly drops the blister pack at 45 degrees if the blister contains empty tablets or at 90 degrees if it is OK.

exactly control the position of the printing job, each servo drive responsible for conveying the PVC packaging contains a registration mark controller. This registration mark controller ensures that product and company information are always imprinted in the same position on the aluminum foil and that a product's blister packs are also always punched at the correct time.

The same is true for the BQS punching assembly used to cut the blister packs

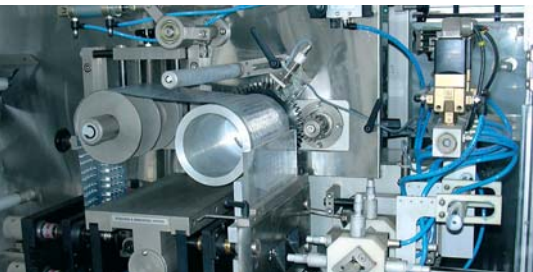
Features of the Automation Market

More and more international corporations and machinery builders are currently investing in India. Entry into the WTO, which makes international trading conditions substantially easier, will force company decision-makers to establish subsidiaries or to enter into joint ventures. A high educational standard, a good knowledge of the English language, and low labor costs are additional positive factors for developing in this area. Despite the low wages, machine manufacturers see enormous potential in innovative automation solutions by substantially increasing production efficiency while improving product quality. In this extremely price-sensitive market, taking advantage of these types of chances is an important factor in gaining a competitive edge.

into the required lengths: Before servo drives were implemented, a time-consuming gear exchange process had to be carried out.

To ensure quality control, a camera system monitors the filling phase. Congested filling stations sometimes cause one or more of the blisters in the blister pack to remain empty. The camera system detects these kinds of incorrectly filled packages and sorts them out automatically after they are cut.

“Using B&R servo drives on our foil transport, printing, and punching assemblies has allowed us to reduce the adaptation time of our BQS machine from one day to one hour,” explains Mr. Ekambaram, Deputy General Manager for Manufacturing and U. Nagarajah, Manager of Electronics & Maintenance



Front view of the pam-pac BQS (Blisterpack Quickchangeover Servo) machine with the main operating terminal and the Industrial PC.

at pam-pac. For the end-user, this means less downtime and reduced personnel costs. This way, higher initial machine costs for the end-user, which result when using servo drives, pay themselves off in just a matter of days. [a](#)