

# Hits the spot

Reliably glued cartons for Unilever

The size of the hall is impressive. Equally impressive is the speed at which Unilever produces and packages Cremefine products at its factory in Kleve. Now the gluing process for the outer carton has been optimised.



Things are busy in the production halls of Unilever Deutschland Produktions GmbH & Co. OHG in Kleve, Germany near the Dutch border. Unilever produces and packages a number of their delicious products here including Rama Cremefine for cooking, whipping and adding a touch of refinement. The aseptic bottling line installed specifically for this purpose produces 500 bottles per minute. The bottles arrive in the plant as blanks. The purple closure comes ready to use. In the first step finished bottles are blown from the

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blanks. Then they are sterilised in a special procedure and rinsed out with a sterile water. In the next step the bottles prepared in this manner are filled with various sterile Cremefine products in a dispensing machine with a 50-head capacity and a closure is placed on the bottle. This ultramodern production method makes it possible to guarantee a minimum shelf life of up to 26 weeks for products.

After the bottles leave the bottling machine they move into the packaging hall. Sleeves are placed on the bottles here and the bottles are packed in cartons. Next they are placed on pallets. From there they go directly and fully automatically to special refrigerated lorries which transport goods to a central storage facility.

## New sealing concept ensures Less wear

One of the many important steps on the way from blank to pallet is the gluing process. Unilever chose the MiniBlue II from the MiniBlue application head series of Nordson Deutschland GmbH, Erkrath, Germany for this process.

The new MiniBlue head is used for the final packaging of cartons. The head contains a new Saturn S P switching valve, which ensures extremely short switching times. Stefan Langels, Application Development Specialist ED, explains: "The new MiniBlue II

provides a longer service life of about 100 million switching operations. The module we used previously was similar, but it had a different sealing concept. With the new solution, seals are no longer subject to rubbing. Thus there is also no possibility of wear on the piston edge".

The patented sealing concept is friction-free and prevents leaks. The new solenoid valves also no longer require an additional external switching amplifier. Optional insulation also provides measured energy savings of about 50 percent and significantly lowers surface temperatures, which helps reduce costs and increase workplace safety. To this may be added other advantages such as higher availability times for machines, longer operating times and lower expenses for replacement parts. With a width of just 16 mm, MiniBlue II modules are the thinnest on the market according to the manufacturer and will fit into even the most compact packaging machines.

Unilever has integrated them into a SchubertTLM packaging machine. Thorsten Schoofs, master electrician at Unilever, explains: "Our requirements for the new module were mainly related to sturdiness and sensitivity to splashed water. Neat glue application is also very important for us.



These tasty products are bottled and packaged in the Kleve plant.

Photo: Unilever

There must be no spray or stray threads of glue. And of course the cycle speed must also be maintained. All of these criteria were met by the new Nordson module".

### Schubert TLM machine

The TLM consists of three modules: the erector module, filling module and sealing module. Cartons are removed from the magazine with a vacuum system. The erector tool forms two cartons. Four glue modules are installed at this point. The glue heads are controlled by a distance measuring system of the robot, which makes it possible to define the glue length. When the carton has been formed, it runs thru vacuum transporters to the filling robot. The robot removes the bottles as they run in a grouping chain, 12 per cycle, and places them in the waiting carton. Up to 44 cartons are filled per minute. After the carton is filled it moves onto the next gluing station where the lid is glued on. Then it is closed in the sealing robot and moved out of the machine.

This is followed by antislip gluing, also performed with a Nordson device. Langels comments: "Spray application occurs at this point. The adhesive is swirled through the air, resulting in a spiral that is applied to the carton. This serves to make units more secure on the pallet.

Now the cartons can be placed on top of each other without slipping on the pallet".

Both gluing stations are supplied from just one tank system (also from the glue specialist Nordson). Competitors' gluing systems require two gluing devices for this process. Langels continues: "The gluing device has eight channels, so a single gluing system is sufficient for the Schubert machine". The automatic filling system also makes it possible to install the gluing system on the machine from above, which means it is protected from splashed water during cleaning tasks. When the large storage container is full, the tank is filled automatically if necessary.

Three Nordson applications are currently in use at Unilever. Two in the Schubert packer for closing cartons and as a spray application to make pallets more secure and another for four-pack closure caps.

### Bag-in-Box up to 10 l

Cremefine products have been Rama's umbrella brand since 2004. Unilever bought the Rama Cremefine factory in Kleve in 2005. In addition to Cremefine products in 250-ml to 300-ml bottles, other products are also produced and packaged here, such as 200-ml cups, 1-litre and 0.5-litre four-packs, and 10-litre bag-in-box units for bulk buyers. All these products are produced at the Kleve location for shipment out of the country as well. Depending on the country, these products have their own design and in some cases even different names.

On the way to becoming one of the most important manufacturer of branded goods in the world, Unilever looks back at a long history marked by many important events. The company has been active in Germany for more than 75 years as a manufacturer producer of traditional brands.

Angela Wiegmann ■▶

### Advantage

The new adhesive application heads provide:

- A longer service life of about 100 million switching operations.
- Neat glue application.
- The automatic filling system also makes it possible to install the gluing system on the machine from above, which means it is protected from splashed water during cleaning tasks.
- Both gluing stations are supplied from just one tank system.

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