

# Enormous time savings

**FLEXIBLE FILLING SYSTEM FOR BABY CARE PRODUCTS** Rapid format change-overs, short set-up times, and convenient cleaning are some of the characteristics of the new bottle filling system that was put into service recently at baby care manufacturer Gewo's plant in Baden-Baden, Germany. Its most unique feature is Rationator's automated bottle unscrambling system "Bottlemat gently".

Photos: Gewo



Gewo has been producing and filling premium baby care products for about 12 years.

"40% of consumers buy baby care products even though they don't have any children," says Aleksander Petrovic about this steadily growing customer segment. Petrovic is a managing director of Gewo GmbH, a major private label manufacturer that has quietly and unobtrusively turned into the No. 3 in the German market for baby care products. Gewo stands for quality: in the past two years alone, 21 baby care products received the top rating from Ökotest, Germany.

Gewo is part of the Swiss Geistlich Group; a family-owned stock corporation that produces cosmetics, pharmaceutical drugs and substances, as well as adhesives. The cosmetics business has been housed in Baden-Baden for 60 years, and over the past 12 years, the focus there has been on developing and producing premium baby care products. They are produced on behalf of drug store chains or big box retailers, and have one thing in common: they are all some kind of liquid. Creams, lotions, bath additives, wash gels or skin care oils are filled either into bottles, plastic tubes, aluminum tubes (from 20 ml to 250 ml) or jars (from 20 ml to 250 ml). "The only product we don't manufacture for this target group is powder. It's not a good fit with our liquid cosmetics," says Petrovic.

The private label business has been growing steadily over the years - not just regarding the number of products, but also in volume. That is why the team around A. Petrovic decided early last year to invest in a fully-automated bottle filling line in order to increase production capacities. The Baden-Baden company wanted to continue its cost-efficient production despite its frequent product and batch change-overs.

They selected Rationator, Germany. The reason that the Hillesheim-based manufacturer received the nod was not

because Gewo's main competitors also use the same supplier for filling. Or because Gewo has been manufacturing with the supplier's machines since 1987. "What was more important for us than anything else was flexibility. Baby care is relatively small in volume, which is why the savings are greater the more you can reduce set-up times. As a private label manufacturer, we often have to change product or container. That's where Rationator simply makes us faster," explains Petrovic.

The distinguishing feature here is the so-called 'Ratilight puck system' that is used to guide the bottles individually on their way through the filler to the capper in standardized, injection-molded plastic transport 'pucks.' The advantage of these 'pucks'? "The machine does not have to be set-up each time for different bottle sizes. To the system, it looks as if it is only working with one size. So it can be set up faster and, above all, more safely, for each new size," explains Peter Schindel, sales director at Rationator.

Transporting bottles in the transport 'pucks' has yet another advantage. P. Schindel says, "More, and more, cosmetics product manufacturers are starting to use unusual bottle geometries. For a while now, asymmetrical bottles

The Robomat has a special feature: an automated CIP (Cleaning-In-Place) cleaning system.



Photos: Rationator/vr

have been all the rage. They tend to tip over quickly. So, our 'pucks' provide just the right support."

### A first for Bottlemat

The line, which replaced two older ones, was installed in two stages – first, in November, the filling and capping system, and at the end of December/early January the bottle unscrambler was added. The Bottlemat is a new development that got its first play in Germany at Gewo.

The empty containers that are supplied in bulk get to the pre-sorter of the Bottlemat via an elevator. There, the bottles are first sorted lying on their narrow sides, and then guided to the inserter, with their opening pointing to the front or back. Then the bottles are transferred using the Bottlegrasp suction grippers that do not require change parts, while a camera detects the bottles' position and orientation. It also makes sure that the bottles are inserted into the transport pucks right side up as the vacuum is turned off. This was especially important for Gewo, "some bottle necks are embossed, and that side has to remain in the

front," says Petrovic.

But the Bottlemat does not only make sure that bottles get to the filler or capper oriented correctly; it can also reliably sort a wide range of bottles. And in this function, the part-free change-over concept of the machinery manufacturer continues: Thus, if bottles are changed over from 200 ml to 500 ml, the Bottlemat does not require a part change-over.

Next, the bottles get to the Robomat filler, nicely lined up. The filler's special feature is its automated CIP (Cleaning-In-Place) cleaning system. This linear filler has eight filling positions and is equipped with 1 l-metering cylinders. P. Schindel explains, "The piston metering system used at Gewo is widely used in the cosmetics industry, but we also offer flow metering systems. However, the piston filler has the advantage that the operating personnel can select and/or set the filling speed exactly and appropriately for the product with the help of the servo drive. This allows even very sensitive products to be filled optimally." Rationator has continued to develop its transport 'puck' technology over the past years, and consequently, the machines have become even faster and safer. P. Schindel: "Especially in the cosmetics sector, flexibility require-

ments have soared. The Gewo system is designed for bottle sizes from 50 ml up to a Liter – and everything can be filled on one and the same line!" According to the manufacturer, machine output is 100 cycles/min., depending on container size and product characteristics. Petrovic says, "We run the 1000 ml-bottle of bath additives, for example, at 70 cycles."

Bath additives in the morning, baby oil in the afternoon, and lotion the next morning – on average, there is a product change every 1 to 2 shifts. And a product change-over



The linear filler has eight filling positions and is equipped with 1 l-metering cylinders.

requires that every time, the entire machine must be cleaned. While this took up to four hours for the old machine, the times have been reduced considerably with the new servo-controlled filler with its autoCIP system. P. Schindel explains, "The filler changes from the filling to the cleaning position without mechanical conversions – this is a feature that I have not seen from any other supplier. The entire cleaning process is automated, and all it requires is pushing a button. In addition, the process can be optimized and stored for each product so that the cleaning results are reproducible."

Fast and cost-effective change-overs in size are also supported by the last module in the line, the Robocap DP servo capper. The capper can use screw caps as well as push-on closures and comes with a sorting and feeding system for pump closures - automated processing of metering pumps was a special request from Gewo since they used to have to be put on the bottles by hand.

The decisive factor for Gewo was, in addition to the line's speed, its flexibility with regard to bottle shapes and sizes, as well as the different closures. Petrovic sums it up like this, "For us, this machine has been the right choice!"

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The empty containers that are supplied in bulk reach the pre-sorter of the Bottlemat via an elevator (left).

Change-over concept without change parts: If bottle size is changed over from 200 ml to 500 ml, the Bottlemat does not require any change parts.