
Subject: RHODIUS Mineralquellen invests in a third KHS canning line

Number of characters: approx. 15,200 (with spaces and without boiler plate)

Title

Growing together

Subheading

Third KHS canning line: RHODIUS Mineralquellen clearly expanding

Teaser

With what's now its third canning line from KHS RHODIUS is doubling its capacity in this container segment. Despite the difficult general situation the mineral water bottling plant and contract filler continues to pursue a clear growth strategy – for both itself and its customers. This is also being facilitated by optimization of the returnable glass line installed in 2020.

Main text

The beverage can has something of a tradition in the Brohl Valley in Germany's state of Rhineland-Palatinate: this is where, back in 1977, RHODIUS Mineralquellen und Getränke GmbH & Co. KG became the first mineral water bottling plant in Europe to fill its water into tinsplate containers – on a system supplied by Dortmund engineering company KHS. Back then a genuine pioneering achievement, the investment was to pave the way for a story of success lasting more than 25 years.

When a deposit was introduced on cans in Germany in 2003, the market at first collapsed. Having advanced to become the market leader in canning, unlike many of its competitors RHODIUS decided to continue to trust in this segment and technology and turned to contract filling to better utilize its little used capacities. Within a few years it was able to compensate for its initial losses, with the share of its total output attributable to contract filling successively increasing to around 50%, with this

reaching an impressive 90% for cans. Both major and less well-known brands are filled here, with RHODIUS' customer base of almost 100 clients heavily fragmented. The same applies to its portfolio that numbers over 150 different products. In 2016 a second KHS line with a rate of up to 50,000 cans per hour was installed to meet the growing demand. Flexibility and hygiene are writ large here: the frequent product and format changeovers on both canning lines have to be as efficient as possible regarding filling and secondary packaging.

Enabling growth

RHODIUS continues to focus entirely on the beverage can with its growth strategy. At the beginning of 2023 the family business invested around €15 million in order to double its capacities with a third KHS line; a maximum total of 200,000 containers per hour can now be processed, making outputs of around one billion cans a year possible. "We've experienced very strong growth together with our customers," says managing partner Hannes Tack. "We now produce round the clock on every single day of the week. Our aim is to enable our customers to also grow in the future." So that these customers can draw extensive benefit from the expertise accumulated by RHODIUS and receive the greatest possible support, a dedicated sales and service team has been set up in Burgbrohl that exclusively caters for the requirements of its contract clients. Positioned as can filling experts, under its motto of "CANformation" the company consistently plays its trump cards of technology, product quality and diversity or sustainability at its annual Can Day customer event, for example.

Spatial challenge

During the planning and realization of the latest investment a number of challenges arose. One of the biggest of these was the amount of space available at the company site which can't easily be enlarged here in the narrow confines of the Brohl Valley. "The new system was to be fitted in an old, dark room where a decommissioned glass line first had to be dismantled before the production shop could be renovated," remembers Gerd Bodenheimer, senior sales manager at KHS,

when he looks back to the start of the project. “As we had to make use of every last centimeter of space right up to the ceiling to store the empty cans, we relied on our innovative 3D planning system right from the word go – also at the offer stage.” To this end, laser scans were made of the existing building fabric to record the actual situation as accurately as possible. “One advantage of this method is that we have greater planning security because all interferences or anything in the way can be accounted for in the 3D layout – in this case this was a support, for example, that we had to plan and build the palletizing system around. What’s most important, however, is that with the help of our 3D line design facility we can check the machine ergonomics and operating concept together with the operators in advance so as to ensure a smooth process later on.” One of the many other details is that the finished packs then have to be transported nine meters up across two floors by two spiral conveyors before they can be palletized.

In addition to the huge diversity of products and packaging styles, further challenges lay primarily in the company’s high quality demands and in the ecological and economic sustainability targets for the new line. KHS provided solutions for each of these aspects to give RHODIUS the flexibility, quality and level of performance it needs to meet its ambitious objectives. “The new line processes up to 99,000 cans per hour – twice that of our previous machinery but with the same number of personnel. This naturally makes it much more efficient and helps us to combat the increases in cost that we’re currently confronted with here in Germany,” states Tack.

“The line satisfies our special hygiene requirements with the hygiene room in the filler/seamer area on the one hand and with double purging with gravity and vacuum drum rinsers on the other. This gives us the assurance that the containers really are clean before they’re filled.”

In-built alcohol module

One feature that the family business in its eighth generation is especially pleased about is the alcohol module built into the mixer that KHS offers as an option for new

machines. This development enables high-proof alcohol to be added to the beverages directly in the mixer. This in turn considerably takes the load off the syrup room where alcoholic products previously had to be prepared. This procedure requires a certain amount of manual activity and – in the higher-proof range especially – risks measurement results being imprecise at the end of the mixing process. “The alcohol module makes the line technically very interesting,” Tack claims, going on to explain that “It gives us a consistently high quality that enables exact measurement results to be recorded every ten seconds or these to be automatically corrected if there’s just the tiniest deviation.” If, like RHODIUS, you also fill high-proof mixed beverages for the African market, for example, this is very important.

As a beverage producer that’s already climate-neutral in production, the traditional company pays particular attention to energy efficiency that provides a number of both ecological and economic benefits, as Tack emphasizes. “Sustainability plays a key role for us. This is why when we invest we make sure that the technologies used consume as little energy as possible. Particularly where this aspect is concerned, our KHS line is right up to the minute – especially with the energy-intensive machines like the pasteurizer or filler/seamer unit.”

The plant engineering also leaves nothing to be desired when it comes to the secondary packaging. “Whether in beverage mixing or with the packaging diversity our customers call for, we’re not scared of complexity,” Tack states. This isn’t surprising, as with the modular, fully automatic Innopack Kisters WSP packaging machine he has a piece of technical equipment at his disposal that knows no bounds when it comes to packaging variants, however great or diverse the range; from boxes through trays and shrink film to wrap-around cartons, where the pack is enclosed in cardboard, it can process them all. The latter is particularly relevant for exports as it gives the sensitive containers good all-round protection. The packaging and palletizing section especially was planned together with KHS to give RHODIUS the utmost flexibility, allowing further options to be exploited in the future. “We’re always

open to new ideas,” says Tack. “The layout permits one to two extra packers to be integrated.” One feasible option here would be Nature MultiPack that turns beverage cans into packs using just dots of adhesive or a TopClip topper made of cardboard. More and more of his customers and end consumers believe it’s important to cut down on the amount of packaging material used, especially plastic film.

Sophisticated logic programming

From the packer the multipacks travel to the palletizing center where they’re combined to form palletizable layers with the help of two Innopal RG robots. These are then stacked by a space-saving Innopal PB HS palletizer so that subsequently they can be safely packed for transportation. Incidentally, here the output from all three canning lines runs to a communal speed loader system through a belt control with direct pickup. “This requires sophisticated logic programming and a solid physical connection,” Tack explains. “KHS has excellently mastered both of these.” The goods travel from the production plant to the logistics facility in the middle of town – which has also long reached the limits of its capacity. Help is on hand, however: by the fall of 2023 a new logistics center with almost 25,000 square meters of hall and office space and a direct link to the superhighway will have been finished.

How do these considerable investments tie in with the current tense economic situation? Tack admits that the general state of the economy has worsened as a result of the Russian war of aggression against Ukraine and that spending power is on the decline compared to last year owing to inflation. In the long term he expects RHODIUS’ success story to continue, however. His optimism has proved him right in the past. “The pandemic and its repeated lockdowns failed to have a negative impact on the overall demand. Far from it: sales in the food industry have positively boomed.”

Basic trust

Nevertheless, when far-reaching decisions regarding company expansion are to be made, the 40-year-old doesn’t rely on his gut feeling. “For us, it’s essential that we

keep to a well-prepared strategy that we verify and question both internally and externally. We use both our own expertise and that of our customers for this. And we also have an advisory board we discuss larger investments with.” There’s never a 100% guarantee of success, however, which is why in the end a certain amount of luck is always involved.

Tack counts his trust in as well as the solidity and authenticity of his company’s relations with technology partner KHS among the basic prerequisites that cement the success of a new project. “We’ve been working together as partners in a solution-oriented manner for many years and can discuss all challenges very openly and on an equal footing. This makes us feel understood as customers and that our requirements are taken seriously.” Sometimes, of course, less pleasant topics also need to be clarified. In this context Tack mentions the worldwide shortfalls in the delivery chain that affected the timing of the new line despite all of KHS’ efforts to find alternative solutions. Vice versa, there are also lots of happy shared experiences that create a special bond – such as when, after months of working together on the project, the new canning line at RHODIUS achieved a brilliant acceptance rate of 95% during its very first test.

Line optimization increases overall equipment effectiveness by up to 10%

RHODIUS and KHS not only successfully work together in the canning segment; moreover, the client is extremely satisfied with the returnable glass line also installed in Burgbrohl in 2020. On this line the mineral water bottling plant fills and packages up to 20,000 containers per hour in many different formats and crates. At the same time RHODIUS services a sizeable product portfolio. “This enormous range of processed formats, packs and products makes the glass line very complex,” says Roger Schwarz, line optimization auditor for KHS. “It’s thus a good idea to subject the line to a full audit on a regular basis. RHODIUS commissioned us as their reliable service partner to do so at the end of 2022.”

During the line audit the KHS team of four included all components – some third-party machines – in its overall observations. To this end, the specialists from the Dortmund systems supplier worked closely together on site with RHODIUS' personnel and the manufacturer of the inspection and labeling technology. The team completed their holistic analysis of the line in just three weeks. The resulting list of measures formed the basis for optimization. Over the next few months the format-dependent infeed belt controller programming and format-dependent settings on the packer lane guides were improved, among other features. "This enabled us to boost the overall equipment effectiveness for all formats, with this even increasing by 10% with respect to the 0.75-liter mineral water bottle," says Marcus Müller, engineering manager for the returnable glass line at RHODIUS, confirming the success of the operation. In view of this impressive result, further line audits at the bottling plant may not be long in coming.

RHODIUS and KHS: 50 years side by side

The beverage bottler from the volcanic hills of the Eifel and the engineering company from Dortmund enjoy a close partnership that has grown over many decades. Since purchasing its first KHS canning line in the 1970s, RHODIUS now has three of these plus a PET, keg, BIB and returnable glass line. Chiefly relying on just one technology partner is a strategic decision: "KHS has us convinced when it comes to project planning, installation and commissioning," claims RHODIUS managing partner Hannes Tack. "And in ongoing operation KHS gives us the greatest possible line availability. Focusing on a single supplier also simplifies day-to-day operation for our technical personnel who work with uniform GUIs, very similar machine functions and a supply of spare parts, for example." Communication is very much simplified by the business contacts having known each another for years, so that the systems provider is extremely familiar with RHODIUS' needs and requirements.

In return, KHS also benefits from its proximity to the bottler. "With such an innovative customer, we can explore new avenues together," explains KHS senior sales manager Gerd Bodenheimer. "For us, RHODIUS is almost like a playground where

we can test and further develop our prototypes.” The two companies are also geographically close: Burgbrohl is more or less bang in the middle of four of KHS’ five German plants in Dortmund, Bad Kreuznach, Kleve and Worms. Distances are therefore short when other beverage producers are to be shown a reference project installed for this model customer.

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Photo captions

Innofill Can DVD

With a capacity of up to 99,000 cans per hour the KHS can filler is state of the art.

Filler/seamer

The filler/seamer unit is protected against soiling by its own hygiene room.

Innopro Paramix C

RHODIUS is perfectly equipped to mix up to 150 different products with its KHS mixer that includes an alcohol module.

Packaging

The packaging and palletizing area has space for additional secondary packaging alternatives.

Innopack Kisters WSP

The modular, fully automatic Innopack Kisters WSP packaging machine knows no bounds when it comes to packaging variants.

Palletizing center

In the palletizing center the output from all three RHODIUS canning lines is turned into packs that are ready for dispatch and can be safely transported.

Beverage cans

A beverage can pioneer for almost 50 years, RHODIUS has long filled not just its own but also many other brands into tinplate containers.

RHODIUS and KHS

Old friends: RHODIUS boss Hannes Tack (right) with Gerd Bodenheimer, senior sales manager at KHS.

Returnable glass line

In 2020 RHODIUS invested in a returnable glass line from KHS. The system supplier's experts have now audited and optimized the line – with impressive results: the overall equipment effectiveness has been increased by up to 10%.

Fact check RHODIUS

About RHODIUS Mineralquellen

Now in its eighth generation, RHODIUS' co-packing product portfolio covers a wide range of beverages: from mineral water and soft and energy drinks through wine, wine-based beverages, beer and mixed beer beverages to alcoholic mixed (ready-to-drink) beverages, hard seltzer and bitters. Its huge variety of packs and packaging is also reflected in its own brands and licensed brands from other companies: from its premium RHODIUS and regional Vulkanpark-Quelle Eifel mineral waters through cult licensed brands afri cola and Bluna, Maya Mate and Kicos to hip brand My Mate in cooperation with famous DJ Robin Schulz, RHODIUS caters for a wide regional, national and international consumership. In 2022 the company achieved a turnover of €140 million through sales amounting to over two million hectoliters. Professional production and smooth operation are ensured by 358 employees.

About the KHS Group

The KHS Group is one of the world's leading manufacturers of filling and packaging systems for the beverage and liquid food industries. Besides the parent company (KHS GmbH) the group includes various subsidiaries outside Germany, with production sites in Ahmedabad (India), Waukesha (USA), Zinacantepec (Mexico), São Paulo (Brazil) and Kunshan (China). It also operates numerous sales and service centers worldwide. KHS manufactures modern filling and packaging systems for the high-capacity range at its headquarters in Dortmund, Germany, and at its factories in Bad Kreuznach, Kleve, Worms and Hamburg. The KHS Group is a wholly owned subsidiary of the SDAX-listed Salzgitter AG corporation. In 2022 the KHS Group and its 5,002 employees achieved a turnover of around €1.291 billion.

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