



Technologies

SMARTCAN FILLER/SEAMER BLOCK BY KHS/FERRUM

Come together

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The high-tech can fillers from KHS and powerful seamers by Swiss engineering company Ferrum have been a harmonious team for decades. Ensclosed in their new filler/seamer block, they've now grown even closer.

CAN

PHOTOGRAPHY / ILLUSTRATION

Roth und Schmid Fotografie

COVER PHOTO

Also visually now an item: the filler and seamer sections of the combined SmartCan block by KHS/Ferrum.

Whereas in the past chiefly beer and carbonated soft drinks were filled into cans, for some time now there's been an ever stronger trend for canned more sensitive products such as iced tea, plant-based drinks, juices, smoothies, near-water products or alcohol-free beers and mixed beer beverages. This development means that beverage fillers' hygiene requirements are also becoming more discerning, demands their technology partners are meeting – among them systems supplier KHS and specialists like Ferrum. With their SmartCan filler/seamer block by KHS/Ferrum, for the first time the two companies have now effected a seamless union of their respective machines that boast an optimized hygiene concept and jointly provide more flexibility, greater efficiency and simple operation.

Wealth of innovations

With regard to its successful and popular can fillers the Dortmund machine and systems manufacturer has many new features to offer, especially in the medium and high capacities, that have already proved themselves on its modular filling platforms for PET and glass bottles. Instead of using conventional cams and rollers, the bell guides are now pneumatic, for instance. This makes for a smooth filler silhouette that's quicker and easier to clean. A similar effect is created by the use of PTFE as a sealing material that can be cleaned easily and very effectively. The expansion joints on the bell guides enable water lubrication to be completely eliminated, resulting in improved hygiene and a lower consumption of cleaning media. Furthermore, using PTFE more or less completely rules out flavor carryover from one product to another. This gives beverage producers more flexibility in their production planning.

One absolute highlight is the special design of the clean room in the filler section of the block that has raised jacket plates along one side. On the other the housing features a much smaller product room around the filler carousel, enclosing it in a ring like a donut. This reduces the volume of the hygiene zone by about 40% and ensures an optimum, targeted flow of sterile air through the sensitive area.

Other than you might expect with this much smaller design, operators nevertheless have plenty of room to work, states Manfred Härtel, filling product manager for KHS in Bad Kreuznach. “We don’t use any tight-fitting cladding that’s difficult to access. Each section of the filler that may call for manual intervention during maintenance, overhauls or format changeovers can be easily reached.” The aim is to cut the amount of manipulation by hand down to a minimum; after all, it’s people who pose the biggest risk to hygiene. Nowadays you usually work with closed paneling where filter fans supply sterile air to the sensitive filling section and protect the open cans from ‘impure’ shop air, he explains. As many functions as possible have also been automated – from clearly defined cleaning cycles and automatic CIP caps to the aforementioned bell guides.

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Manfred Härtel (left), filling product manager at KHS, and Marc Zubler, head of Sales and Product Management at Ferrum Packaging, are very pleased with the successful product launch.



Manfred Härtel
Filling product manager for KHS

»SmartCan by KHS/Ferrum constitutes the first seamless union of our machines – with optimized hygiene, more flexibility, greater efficiency and simple operation.«

Would you like to find out more about our SmartCan filler/seamer block by KHS/Ferrum? Then visit [khs.com](https://www.khs.com) for further information!

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Improved hygiene

For the first time on the further developed filler the belt and feed screw drives are separate to enable different forms of lubrication. This allows the contact pressure on the empty, often very thin and – without lids – rather instable aluminum cans to be regulated individually and especially gently, minimizing the axial and radial load. The improved can flowgate has a similar effect; this prevents individual containers from being damaged or dented by sudden stops.

Finally, the hygiene of the wiring on the new filler platform has also been optimized, Härtel adds. “The power cables that are led out from each servodrive to the control cabinet have now been encased in closed pipes. This naturally further enhances the excellent hygiene of the entire block.”

The seamer was redeveloped specially for the joint block system. The further developments made here also serve to avoid possible soiling. “The greatest step taken here was to implement the product room in a closed, hygienic, stainless-steel design,” says Marc Zubler, head of Sales and Product Management at Ferrum Packaging. “With this new concept we were able to make the product room much smaller. This shortens the cleaning time and reduces the amount of cleaning media needed. Merging the filler and seamer to form a single unit also gives us a smaller machine footprint.” The new sloped plate is also of an advantage as it facilitates the runoff of liquids. The same applies to the new can transfer unit based on a horizontal toothed gear setup instead of the previous stopped chain. This ensures that no splash water can enter the open can. With its open design and lack of guides, the construction is easier to clean and thus also convincing when it comes to hygiene.



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The greatest progress made on the seamer was to implement the product room in a closed, hygienic, stainless-steel design.



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The special design of the clean room, the pneumatic bell guides and using PTFE as a sealing material improve hygiene and lower cleaning media consumption.

Flexible block system

Zubler considers another plus to be the flexibility of the block system, for which Ferrum also developed a number of new features and automated several functions. Examples include recipe-specific height adjustment, seaming cam adjustment and a quick-change system for format parts that's much easier to handle and thus shortens conversion times by up to 30%. Moreover, all machine settings can be made from the floor and, as with the filler, large doors that can be opened ergonomically give optimum access.

Cans with a diameter of between 50 and 73 millimeters and a height of 88 to 200 millimeters are processed. "In view of the expected further reductions in material through lightweighting, we've increased the number of stations from twelve to 14 to reduce the load on the cans so that these can be seamed without damage," Zubler stresses. "The filler/seamer block we're presenting at drinktec for the very first time has a maximum output of 108,000 cans per hour. In the future we're planning on expanding our concept to cover higher capacity ranges."

A further major boon of the SmartCan by KHS/Ferrum is its simple operation on the KHS ClearLine HMI that constitutes a joint intuitive user interface for both the filler and seamer for the first time. Both units can be connected up to the KHS ReDiS remote diagnostics system as an option through a shared link that in an emergency grants fast access to the machines, enabling faults to be analyzed and remedied without an engineer having to be physically present.

All told, considering the long list of shared elements in the block these machines are extremely well coordinated with one another. Accordingly, Manfred Härtel and Marc Zubler are very pleased that what belongs together has finally come together here – in all respects.

Any further questions?

Marc Zubler

Ferrum Packaging AG, Schafisheim, Switzerland

+41 62 889 1392

marc.zubler@ferrum.net

Manfred Härtel

KHS GmbH, Bad Kreuznach, Germany

+49 671 852 2644

manfred.haertel@khs.com