

Re:think Food Tech at Anuga FoodTec 2024

New drive technology, new business philosophy, new intelligence: GEA's separator innovations enhance dairy production efficiency

Düsseldorf, March 4, 2024 – The dairy industry faces huge challenges: surging energy costs, the climate crisis, consumer trends and a shortage of skilled labor. Integrated solutions are critical to overcoming these hurdles. In view of this, the innovative solutions presented by GEA at the Anuga FoodTec 2024 trade show will center on the water and energy consumed by a key technology for dairies – separators.

“Sustainability, connectivity, digitalization – we are stepping up to the plate, addressing these issues with tailor-made solutions,” confirms Christian Becker, Product Manager Separation Dairy at GEA. “Our customers need centrifuges that not only deliver maximum efficiency using minimal resources but are also able to function regardless of the operators’ skill level. Centrifuges have to become intelligent to work more sustainably and, going forward, autonomously.” The GEA separator innovations presented at the Anuga FoodTec trade show are helping dairies move in this direction.

Consistent output and low-energy drives for bacteria removal

Equipped with the latest drive generation, the [GEA ecoclear i](#) bacteria removal separator is ideally suited to small to medium-sized dairies. These businesses require cost-effective, service-friendly solutions that enhance dairy product quality and extend shelf life. Removing bacteria and spores from milk and whey is crucial for minimizing production losses and reducing waste, contributing to a more sustainable and profitable industry. The key innovation is the integrated direct drive. It transmits the drive power directly to the bowl, considerably reducing energy consumption. Nor does it require any transmission, belt or coupling, which might reduce efficiency and be subject to wear and tear. Both spindle and engine are mounted in a drive cartridge and, as a modular exchange unit, can be easily maintained on site. The new integrated direct drive is now also available for the GEA ecocream i skimming and GEA ecoclean i clarifying separators.

Low running speeds reduce energy consumption by 40 percent

When weighing up capital expenditure against operating costs, high electricity and water prices are tipping the balance toward the latter. The sustainable line of GEA's [MSI skimming separators with GEA EngySpeed](#) is catalyzing a paradigm shift in separator design. In place of smaller yet higher-speed centrifuges, which are still standard in many places, larger bowl volumes are now coming to the fore. For dairies, this means the same clarification area at lower speeds and using less power. Maintenance intervals are likewise extended – particularly for the drive assemblies – because the lower mechanical load causes significantly less wear on the drive. The EngySpeed system reduces the energy consumption of GEA's MSI series milk skimmers by up to 40 percent. Rule of thumb: 10 percent lower speeds translate to 20 percent lower energy consumption.

Christian Becker cites the example of a medium-sized dairy from one of the target markets Poland: “If we go one machine size up for standardizing 25,000 liters of milk per hour, we require around 39

percent less energy. At approximately 6,000 operating hours per year, EngySpeed would save the dairy some 65,000 kilowatt hours per separator and, subject to the energy mix on site, reduce CO₂ emissions by up to 43 tons.¹ Depending on electricity prices, the larger centrifuge would pay for itself within two to four years.”

Digital process control enhances energy efficiency

Digitalization – from real-time monitoring and service assistance to self-learning, AI-based plant optimization – is also spurring more sustainable production processes. Dairy products represent a critical area where individual AI solutions are already generating tangible added value for customers.

For the dairy industry, GEA is launching its [KPIInsight digital assistance system for separators](#) as a new product in the GEA InsightPartner family. While conventional condition monitoring solutions consider centrifuge condition, KPIInsight gives an overview of the milk and whey centrifuges’ performance. A clearly organized dashboard provides a real-time overview of process efficiency based on key parameters, such as production volumes, energy consumption, discharging and CIP cycles. Trend analyses covering a 30-day period indicate anomalies and process discrepancies, to which operators are able to respond immediately.

“KPIInsight makes it possible to optimize dairy separation processes faster and smarter,” says Product Manager Sales Thomas Veer, GEA Business Unit Separation. “Our advanced data analysis identifies correlations between events that influence centrifuge performance. Thanks to our intuitive dashboard, these analyses are easy to follow. In this way, we enable dairies to operate their separators with consistently high output levels, increase separator availability, balance energy and water consumption and at the same time reduce product losses.”

¹ Based on the greenhouse gas emission intensity of electricity generation in Poland (2022): [Greenhouse gas emission intensity of electricity generation — European Environment Agency \(europa.eu\)](#)

[Link to download high-resolution images](#)



Image 1: GEA launches the GEA ecoclear i bacteria removal separator as a skid for small to medium-sized dairies. Its chief energy saver is the service-friendly direct drive housed in the drive cartridge. Source: GEA



Image 2: Larger bowl, lower speeds: The EngySpeed system significantly reduces the energy consumption of GEA's MSI series milk skimmers. Source: GEA

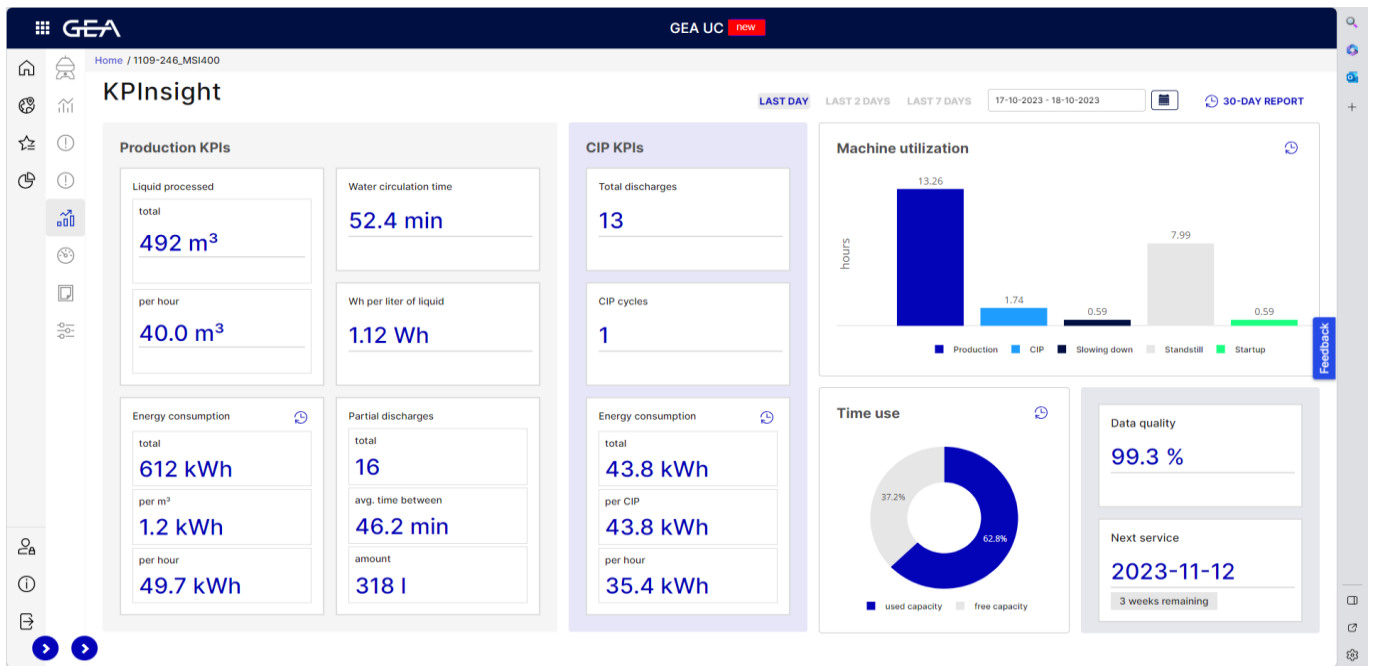


Image 3: KPIInsight dashboard: The tool monitors process performance parameters for milk and whey separators. It identifies unusual process conditions and unused productivity potential. Source: GEA

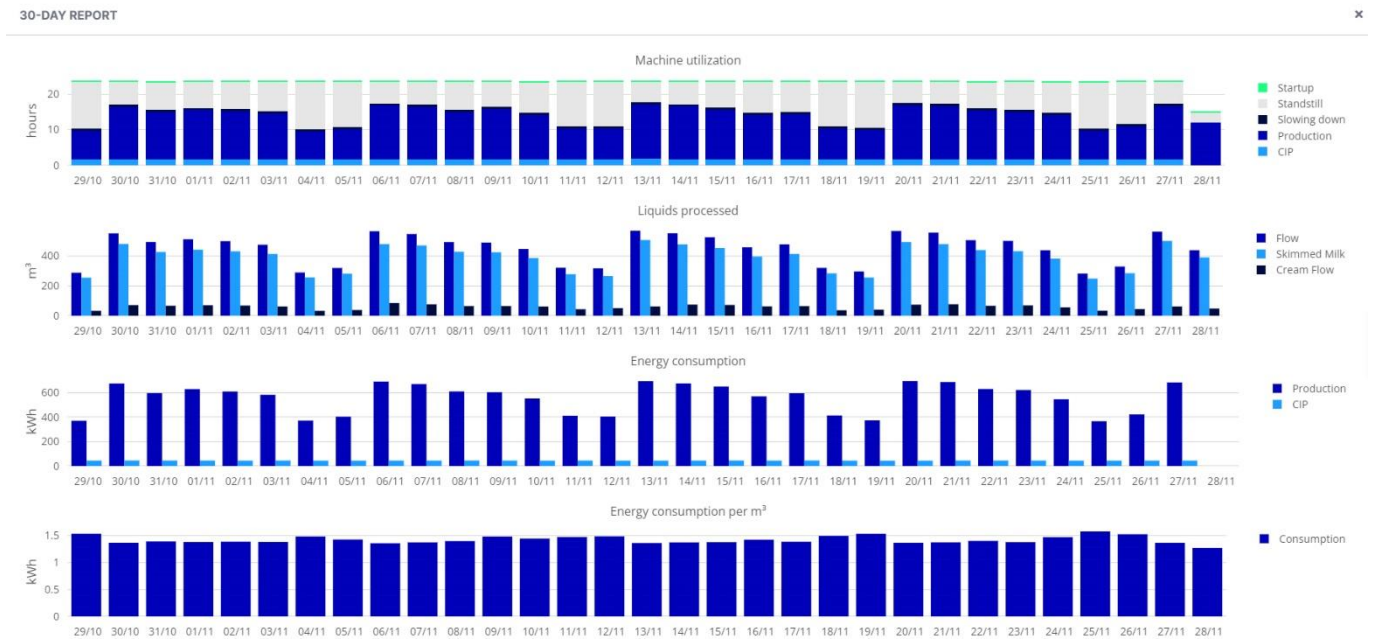


Image 3: KPIInsight dashboard: Trend analyses covering a 30-day period indicate anomalies and process discrepancies, to which operators are able to respond immediately. Source: GEA

NOTES TO THE EDITORS

- About the new sustainable line of GEA's MSI skimming separators: **GEA EngySpeed – for resource-saving dairy processing**
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About GEA

GEA is one of the world's largest suppliers of systems and components to the food, beverage, and pharmaceutical industries. The international technology group, founded in 1881, focuses on machinery and plants, as well as advanced process technology, components, and comprehensive services. With more than 18,000 employees working across five divisions and 62 countries, the group generated revenues of more than EUR 5.1 billion in fiscal year 2022. GEA plants, processes, components, and services enhance the efficiency and sustainability of production processes across the globe. They contribute significantly to the reduction of CO₂ emissions, plastic usage, and food waste. In doing so, GEA makes a key contribution toward a sustainable future, in line with the company's purpose: "Engineering for a better world".

GEA is listed in the German MDAX and the STOXX® Europe 600 Index and is also among the companies comprising the DAX 50 ESG and MSCI Global Sustainability and the Dow Jones Sustainability World Indices.

More information can be found online at [gea.com](https://www.gea.com).

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