

Innovations at Anuga FoodTec

GEA launches new live product monitoring sensor system for homogenizers

- Real-time monitoring with GEA NiSoMate: Continuous inline control of the consistency and quality of liquids during the homogenization process
- Early detection of potential quality problems allows immediate intervention to minimize waste
- User-friendly interface: Intuitive operation and easy-to-understand data visualization for simple integration into existing production processes

Duesseldorf (Germany), March 11, 2024 – GEA introduces NiSoMate, a sensor-based technology for product control during the homogenization process. Liquids are continuously analyzed inline for their consistency and quality in real time. This enables direct adjustment of system performance, such as homogenization pressure, resulting in more efficient use of energy in the production process. By implementing this new sensor technology, traditional sampling methods are bypassed, significantly saving time. The patented GEA NiSoMate will be showcased for the first time at this year's Anuga FoodTec, which takes place from March 19 to 22, 2024, in Cologne, Germany.

Comprehensive solution for measuring all parameters

The GEA NiSoMate inline quality monitoring system combines dedicated, perfectly matched sensors. These are bundled in a single unit that is installed directly on the homogenizer. With high-precision measurement accuracy, the homogenization effect on the respective liquids can be displayed in real time without touching the product. The sensor system employs an ultrasound-based “beamforming array” technology that was specially engineered by GEA homogenization experts for this purpose. The system allows physical product properties such as density, consistency change and dilution to be derived. These parameters can be read by an external process control which can then take appropriate actions. Consequently, operators can monitor the process directly on the production line and adjust the performance of the system accordingly, without having to wait for laboratory samples results. The GEA NiSoMate also eliminates unnecessary detours, product waste or over-setting of high pressure, resulting in significant overall resource savings.

A booster for flexibility

With the GEA NiSoMate, users can also achieve their overall production goals much faster, especially when processing new types of liquids. In addition, pre-configured recipes can be used and set for a faster process flow once an in-situ fingerprint has been analyzed for the respective starting product. This enables faster development of new recipes and therefore faster production of new products, offering a competitive edge, especially in food, new food and pharmaceutical applications.

Since the new technology combines several sensors in one system, it ensures a more accurate, reliable and robust product evaluation. The collected data can be transferred to existing monitoring systems and dashboards and used for further analysis and process optimization.

Appropriate modules have been predisposed in the system for the integration of AI, which in the future will allow self-optimization of the plant and process.

The GEA NiSoMate can be used in all GEA homogenizers – from laboratory units to large industrial plants – and is also available as a retrofit for existing plants.

Trade fair highlight: Expert lectures on the new system

Attendees at Anuga FoodTech can gain deeper insights into the new technology from GEA homogenization expert and Product Manager Annachiara Tonelli, who will discuss GEA NiSoMate in detail at 9:30 a.m. on Thursday, March 21, 2024, on the main stage of the trade show.

Klick [here](#) to download high-resolution images



The GEA NiSoMate inline quality monitoring system measuring the homogenization effect and deriving physical product features such as density, change of consistency, dilution. Source: GEA

NOTES TO THE EDITORS

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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, the group generated revenues of about EUR 5.4 billion in more than 150 countries in the 2023 fiscal year. GEA plants, processes, components and services enhance the efficiency and sustainability of customer's production. 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 on the German MDAX the European STOXX® Europe 600 Index and is among the companies comprising the DAX 50 ESG, MSCI Global Sustainability as well as Dow Jones Sustainability World and Dow Jones Sustainability Europe Indices.

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

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