**GEA: High-temperature heat pump for Südzucker subsidiary Tiense Suiker for the economical use of industrial waste heat**

**Duesseldorf (Germany), February 21, 2025 –** GEA has delivered and installed a new high-temperature heat pump to the Belgian sugar producer Tiense Suiker, a company of the German Südzucker Group. The official opening of the plant took place on February 19, 2025 in the presence of the Flemish Prime Minister Matthias Diependaele, Hans-Peter Gai, Chief Operating Officer of Südzucker Group, Philipp Schlüter, Chief Operating Officer of Südzucker Zucker Division, Jan Ingels, Director Factories Tiense Suiker, Kai Becker, Chief Executive Officer of GEA Heating & Refrigeration Technologies, and from the European Heat Pump Association, Sonia Bianconi and Francesca Genovesi as well as other guests of honor from the companies involved and the associations and institutes involved.

**With GEA high-temperature heat pump technology, industrial waste heat is brought to temperatures of 135 to 160 °C and utilized**

The new GEA technology enables industrial waste heat to be brought to temperatures of 135 to 160 °C and utilized. Using natural refrigerants - in this case pentane - and powerful compressors, fossil fuels can be replaced in industry and district heating. High-temperature heat pumps are an important building block for decarbonization, as they generate process heat sustainably and energy-efficiently.

**The new high-temperature heat pump from GEA ensures an annual reduction in CO₂ emissions of 3,000 to 3,500 tons per year.**

Until now, industrial heat pumps with a medium output (500 kW to 10 MW) have mainly been limited to flow temperatures of around 95 °C. With the new high-temperature heat pump , GEA is making an important contribution to the decarbonization of the sugar production process at Tiense Suiker. The new high-temperature heat pump from GEA ensures an annual reduction in CO₂ emissions of 3,000 to 3,500 tons per year.

**GEA and Tiense Suiker selected partners of the EU-SPIRIT project**

GEA and Tiense Suiker are selected partners of the EU SPIRIT project. Tienske Suiker's and GEA's separate applications to the EU were ultimately successful and were selected for SPIRIT by a commission of experts. The EU program aims to promote the use of industrial heat pumps throughout Europe and thus introduce sustainable technologies for heat treatment in industry. By increasing the use of industrial heat pumps that treat and use surplus heat, companies can not only reduce their operating costs but also reduce their environmental footprint and contribute to achieving the EU's climate targets. SPIRIT is funded by the Horizon Europe framework program, the EU's research and innovation program that supports science and industry in developing sustainable and innovative solutions to global challenges.

**GEA's challenge at Tiense Suiker: decarbonization of the sugar refinery process**

In industrial sugar production, sugar is obtained from sugar beet or sugar cane through extraction, evaporation and crystallization. Boilers generate the steam required for this. Traditionally, fossil fuels are used to heat the boilers. Tiense Suiker's long-term goal is to completely decarbonize the sugar refinery process. The first step towards achieving this goal is to participate in the SPIRIT project and integrate a GEA high-temperature heat pump into the heart of the production process. The integrated technology is a steam generation with pentane as a natural refrigerant and a screw compressor. This technology

uses vacuum steam with a temperature between 75 °C and 92 °C from the evaporation plant as a heat source to generate steam with a temperature of around 139 °C and an output of 4 MW.

**Scientific support from renowned scientific institutions**

GEA is working with renowned partners from science and associations to implement the high-temperature heat pump at Tiense Suiker. Project partners include the Danish Technological Institute (DTI), a leading research and technology company, the Netherlands Organization for Applied Scientific Research (TNO), the European Heat Pump Association (EHPA) and TLK Energy GmbH (TLK) from Aachen, Germany, to provide software and support with system simulation. All of these project partners are currently working closely together and will continue to do so in the future, analyzing data and findings on the high-temperature heat pump at Tiense Suiker. This partnership and the pooling of expertise, findings and analyses is what makes this project so informative for all those involved and also highly interesting for future high-temperature heat pump projects in other industries and sectors.

**Background information:**

**GEA's project partner: Tiense Suiker**

Tiense Suiker is part of the German Südzucker Group and is a Belgian company in Tienen, 50 kilometers from Brussels. Tiense Suiker specializes in the production of sugar products and is one of the leading sugar producers in Europe. Tiense Suiker produces various types of sugar, including granulated sugar, powdered sugar, sugar cubes and specialty sugar products for industrial applications. The company sources its sugar mainly from sugar beet grown by local farmers in the region. By working closely with the farmers, Tiense Suiker ensures sustainable and high-quality sugar production.

**Photos:**

Photo 1:

Ein Bild, das Kleidung, Person, Mann, Schuhwerk enthält.

KI-generierte Inhalte können fehlerhaft sein.

Photo 1, caption: The starting signal for the new GEA high-temperature heat pump was given by Flemish Prime Minister Matthias Diependaele (3rd from left), Hans-Peter Gai, Chief Operating Officer of Südzucker Group (3rd from right) and Kai Becker, Chief Executive Officer of GEA Heating & Refrigeration Technologies (right), among others. (Photo: TienseSuiker/Steven Massart)

Photo 2:

Ein Bild, das Maschine, Im Haus, Industrie, Fabrik enthält.

KI-generierte Inhalte können fehlerhaft sein.

Photo 2, caption: The new high-temperature heat pump from GEA ensures an annual reduction in CO₂ emissions of 3,000 to 3,500 tons per year. (Photo: Tiense Suiker/ Steven Massart).

Photo 3:

Ein Bild, das Kleidung, Person, Arbeitskleidung, Warnkleidung enthält.

KI-generierte Inhalte können fehlerhaft sein.

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Photo 3, caption: True partnership: The GEA team worked closely with Tiense Suike on site: Paul le Gros, Senior Application Engineer, Christian Brandt, Application Engineer and Sebastian Schultze, Team Lead Application Engineering (from left to right). They were joined by their GEA colleagues Nick van den Broek, Application Engineer and Carl Kosemans, Commissioning Engineer. (Photo: Tiense Suiker/ Steven Massart).

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.

Further information can be found on the Internet at gea.com.

If you do not wish to receive any further communications from GEA, please send an e-mail to pr@gea.com.

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