

Tankcontainer Magazine discusses Klinge's role in the tank container market with third-generation CEO Allan Klinge and Marketing Lead, Elina Klinge.

Keeping your cool

TCM: What are Klinge Corporation's founding roots?

AK/EK: Klinge Corporation's original parent company was a Danish company founded following the Second World War and acted as agents for US companies such as Continental, Union Carbide and York International/York Borg Warner, delivering the first reefer containers to Maersk Lines.

In 1984, Klinge Corporation in York, Pennsylvania was formed out of the transport division of York Borg Warner and the production of equipment continued for some time in both Denmark for standard box reefer equipment and in the US, and other locations in Denmark, for more specialised transport equipment.

Eventually, the business was transformed to focus solely on the special equipment production in the United States, including the focus on tank container heating and cooling equipment.

TCM: What is the company's main business activity now?

AK/EK: The company continues to focus on manufacturing high quality and robust transport refrigeration solutions with a focus on the service and support of that equipment worldwide. The company also offers integrated power generation equipment, telematics for remote monitoring and support, and specially designed products for custom applications.

TCM: Which market segments does Klinge serve?

AK/EK: Klinge's primary market segments currently centre around four different areas: equipment for pharmaceutical supply chain (mostly Ultra-Low -70°C dual-redundant temperature equipment); tank container temperature control equipment for cooling and heating of bulk chemical and food products; the provision of special dual-redundant and explosion-proof systems for dangerous goods transport; and quick thawing equipment for the meat processing industry.

Other specialty applications - such as cooling systems for MRI magnets, military equipment, stationary tank cooling/heating units, and even systems designed specifically for Antarctica - are also provided by Klinge.

TCM: How much of the business is focused on tank containers as opposed to, say, reefers and other units?

AK/EK: The tank container market represent approximately 30-35% of Klinge's total business. Klinge's fiscal year ending April 2023 was a record year in terms of the amount of equipment produced for the tank container market. Even though there has been a general reduction of production in the tank container market over the latter part of 2023, Klinge's sales remain strong for the specialty markets we serve and the timing has also proven good to be able to undertake some projects for upgrades of existing tank containers for Klinge's customers, as well as customers looking to improve and extend their existing fleets.

TCM: How does Klinge truly differentiate itself from its competitors?

AK/EK: Klinge's products are intended to be ultra-reliable and easy to service around the world, no matter where they will travel. We focus on simple, yet elegant, design and are constantly modulating our designs to incorporate customer feedback and demand.

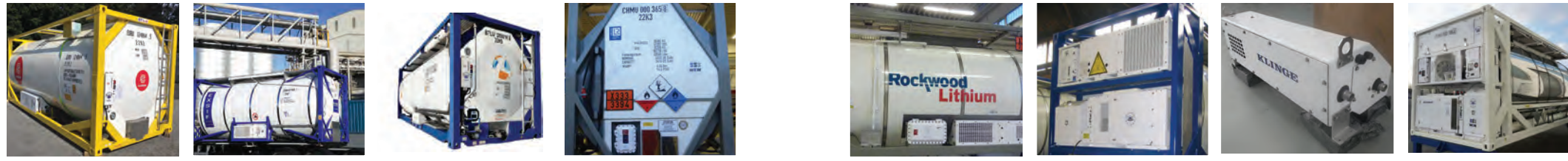
Klinge is the sole provider worldwide of such products as dual redundant reefer/heating tank equipment, where one system will be a back-up for another in case of an alarm condition - the units constantly switch to even out the component run-time and check that both systems are fully functional. Klinge has also spent years developing independently certified explosion-proof reefer equipment for flammable gas usage and recently started to offer these systems with a heating option.

Our ability to quickly provide service and support around the world through our network of experienced service partners is also paramount to the success of our customers and, ultimately, of Klinge.

TCM: How many tank containers have been fitted with Klinge equipment?

AK/EK: Currently, approximately 3,000 Klinge tank container systems are fitted.

TCM: Which mediums are usually used in Klinger cooling systems? →



AK/EK: Klinge typically uses R-452A refrigerant gas or R-404A refrigerant gas in markets where R-452A is not yet readily available. [R-452A has a Global Warming Potential (GWP) of 45% less than R-404A]. Newer systems are also being developed with R-134A with drop-in replacement for lower GWP options. Ultimately, the industry appears ready to shift to R-1234yf, but we will need to see what is practically supportable in the marketplace over the next few years.

TCM: Can Klinge equipment be fully synchronised with 'smart' telematics?

AK/EK: Yes, Klinge can integrate with any number of providers and also makes its MODBus protocol available for easy integration with any provider.

Information which can be provided include set point (including remote set point changing), cargo temperature, alarm condition, and - in the case of dual-redundant systems - whether the primary or secondary system is active. We have also recently developed with one vendor an optimised tank container telematics system that, in addition to GSM, has a satellite fallback for visibility in areas with no cellular coverage as well as also providing visibility onboard vessel. This system also includes solar power cells for charging when not directly under power.

TCM: Have labour shortages and raw material increases affected the business?

AK/EK: Though labour shortages did have an impact from time to

time, Klinge was less affected than most due to the great team we have here at our facility which help to ensure a pleasant and productive work environment with interactive engagement between all employee groups.

The move to a 4-day work week for our production team, and 4½-day working week for the rest of our team, also provided a great incentive for team members to join Klinge and for those already here to stay. It has been incredibly well-received and provides our team with the necessary time to recharge and spend time with family and friends on the weekends.

TCM: What are the company's most important R&D themes?

AK/EK: The most important trends continue to be sustainability with a focus on lower GWP refrigerants and overall system efficiency, reliability, and reduction of the size and weight of the systems in order to allow larger cargo loads to be shipped in tank containers. Klinge is proud to provide some of the lightest units in the industry, resulting in increased product loads per shipment and overall reduced carbon dioxide footprint per litre of product transported per kilometre.

Klinge is also working on a new design for 26,000 litre tank containers to allow for even more cargo to be transported per tank container. The expected release date of this design is Q2 2024.

TCM: Where are Klinge systems manufactured?

AK/EK: In our York, Pennsylvania facility in the United States, conveniently located just a few hours from the major ports of Baltimore, Philadelphia, New York and Norfolk.

And while we do manufacture the units in the US, it is important to note our European roots and note that about 50% of our business is still exported outside from the US. For our tank container business, in particular, exports are usually on the level of approximately 85% for this market. Excellent global service support is therefore critical.

TCM: What are the key trends in temperature controlled tank containers?

AK/EK: The key trends in the market continue to be the overall focus on sustainability, as mentioned above, as well as visibility for the end customer in terms of telematics. There is a continued focus on serviceability and weight reduction of the temperature control systems. There has also been an increasing demand for explosion-proof systems as dangerous goods safety regulations tighten around the world.

TCM: What key trends in the tank container market impact Klinge heating/cooling systems?

AK/EK: The key trends currently for Klinge have been the large growth and development of the lithium electrolyte and semi-conductor/microprocessor supply chains over the past few years, new requirements for explosion-proof systems for flammable liquids, and Klinge's continued move into other existing supply chains, such as the transport of juice concentrate. ■

Biographies

Allan Klinge is the CEO at Klinge Corporation and plans, develops, implements and evaluates the organisation's administration function and performance. Allan is also responsible for directing, managing and coordinating all sales and marketing activities for Klinge Corporation. He coordinates efforts between the sales and engineering departments; leads the development and implementation of marketing initiatives and helps to identify, design and implement new market opportunities, products and plans. Allan joined Klinge Corporation in 2007. He previously worked at a research firm in Washington, DC.

Elina Klinge moved from Germany to the United States in 2021, ultimately joining Klinge Corporation in 2022 as the Marketing Lead for Klinge where she executes marketing initiatives. Elina is responsible for the development of new markets for Klinge equipment - including tank container systems - through online outreach, social media and Klinge's ongoing online optimisation efforts. She previously worked for more than 15 years in the public sector in Germany

