

UN portable tank for helium (Helicon).

Highest safety and efficiency standards.



Cryogenic excellence for the efficient and secure transport of helium.

-269°C

At this temperature, liquid helium boils off at the slightest increase in temperature.

One of the world's most valuable rare gases, helium supplies are both limited and finite. As demand for this gas rises to support new electronics and medical applications, efforts to conserve it are becoming more urgent. Transport is a key link in the conservation chain, especially as this rare gas often has to be transported over long distances and different climate zones.

At a temperature of -269°C, liquid helium boils off at the slightest increase in temperature. High-performance UN portable tanks offer the ultimate levels of insulation efficiency and are thus essential to slow down this boil-off process. Today, very few companies have the knowledge and experience required to master the logistical challenges involved in designing containerised liquid helium tanks to the highest safety and efficiency standards for trouble-free, cost-effective delivery worldwide with no losses over long periods of time.

Proven expertise

For more than ten years, we have been specialising in UN portable tanks for helium (known as Helicons). Building on our long-standing expertise in cryogenic technologies, these containers are specifically designed for zero losses during transport while ensuring the best safety and efficiency performance.

They optimise the transportation of liquid helium and ensure smooth delivery anywhere in the world – by sea or road.



Liquid helium containerised tank. Designed for trouble-free transport around the world.

At a glance

- More than ten years' experience in the Helicon business
- Several decades of experience in the manufacture of cryogenic equipment
- Over one hundred years of experience generating and handling industrial and cryogenic gases
- All stainless steel design
- Low OPEX
- Easy handling for the operator
- Manufactured at Linde's Schalchen plant with rigorous quality control combined with German fabrication quality
- Compliance with all relevant design codes and approvals
- Full service offering from specification definition to after-sales support
- Several locations for maintenance and service



Made entirely from stainless steel.



Easy handling for the operator.



Performance.

Our containers use a liquid nitrogen (LIN) shield between the inner and outer vessels to ensure that very little heat reaches the liquid helium. This minimises the pressure build-up in the helium vessel. As a result, our containers can transport liquid helium for at least 40 days and depending on operating conditions even over 60 days.

Highlights

- Helium holding time: ≥ 40 days to reach 5.7 bar (g)
- Start conditions: 10% ullage liquid helium at 0.2 bar (g) and 2% ullage nitrogen. Reference ambient temperature is 20°C

Ease of logistics.

To support the growing number and diversity of helium applications worldwide, our tank containers are designed for ease of logistics. Suited to both road and sea transport, they ensure that our customers can get the helium they need, where they need it – quickly and with ease.

Highlights

- Designed for road and sea transport
- Container frame size 40" ISO 1496-3
- Tare weight 15800 +/- 250 kg (34833 +/- 552 lb)
- Built to fit a 40' gooseneck trailer

Design codes and approvals.

To ensure the highest possible safety standards for both road and sea transport, our tank containers comply with all relevant design codes and standards. For consistently high performance levels, we also have rigorous quality assurance processes in place – based on ISO 9001 certification, ADR as well as ASME incl. U Stamp.

Highlights

- ADR/EN
- ASME/DOT
- IMDG
- CSC
- TIR
- Declaration of conformity according to TR CU 010/2011
- Certification of conformity according to TR CU 032/2013



Manufactured at Linde's Schalchen plant with rigorous quality control.



Made from stainless steel, designed for robust performance.

Helium vessel.

Reflecting our vast experience in the design and operation of cryogenic equipment for the broadest application spectrum, our helium vessels are built to withstand the most rigorous transport challenges while complying with all relevant safety standards.

Nitrogen vessel.

Over the decades, we have gained vast experience in the design and delivery of nitrogen-based cooling insulation solutions.

Highlights

- Approx. 1310 kg (2888 lb) at 98% filling ratio
- MAWP at 0.7 bar (10 psi), operating pressure 0.3 bar (4 psi)
- Pressure regulation set to maintain the operating pressure of 0.3 bar

Outer vessel.

Made entirely from stainless steel, the outer vessel and complete frame of our helium containers are designed for robust performance, ease of handling, low operating costs and minimal maintenance effort.

Highlights

- Material: all stainless steel for long lifetime and ease of maintenance
- Compliance with all relevant safety regulations
- Painting in accordance with EN ISO 12944
- Resistant at extreme ambient temperatures

Full service offering.

Looking beyond the delivery of Helicons, we can also support you with a broad range of services. These extend from the definition of specifications through procurement right up to delivery, cool-down of helicons and after-sales support. We can even assist you with operation improvements and maintenance as well as periodic inspections at our manufacturing yard.

Engineering excellence

All Helicons are manufactured at our Linde Engineering Schalchen site in Germany. Schalchen has been manufacturing premium-quality plant components and modules for the past 60 years. With over 800 engineers and skilled workers, Schalchen also offers field installation and advice on operation. A specialised service crew is also available for immediate and professional service provision.

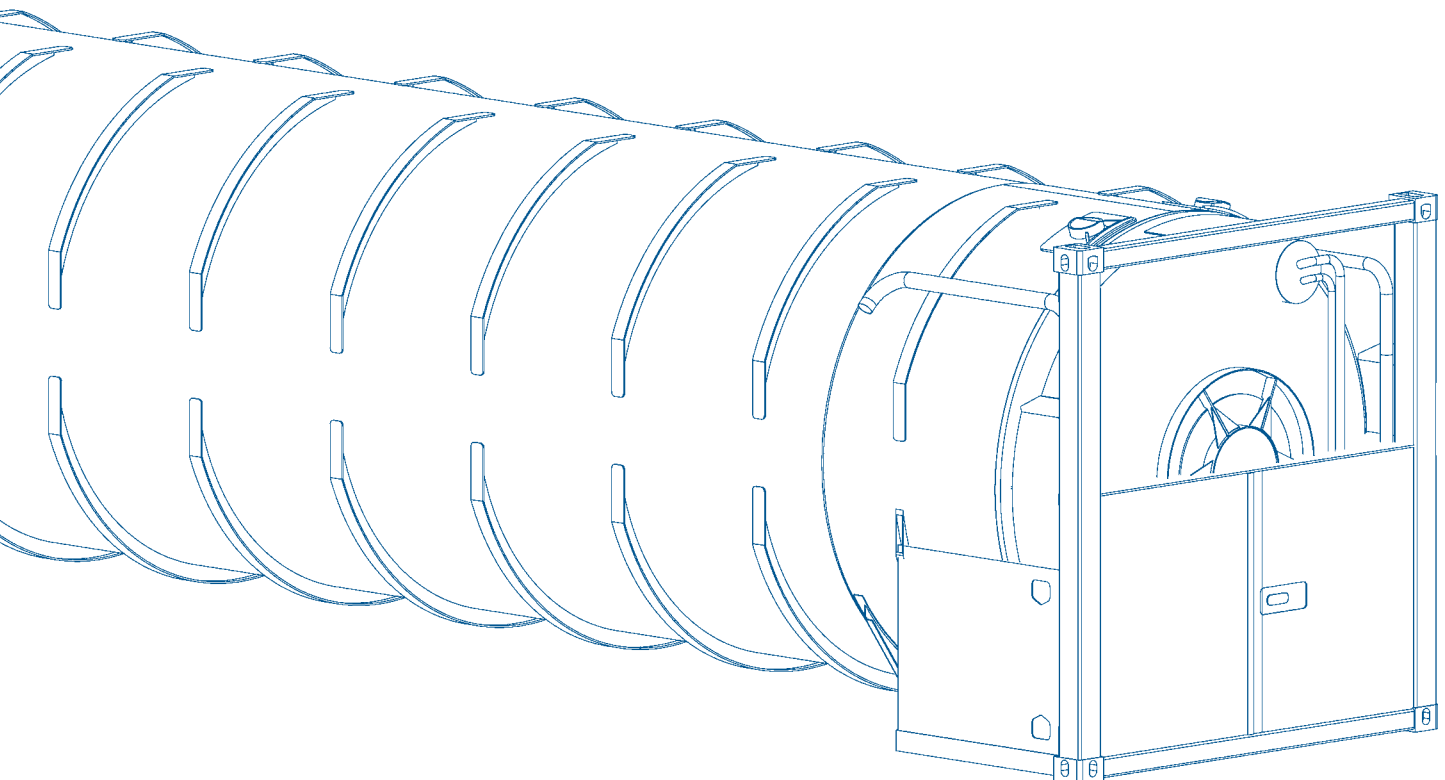
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Schalchen plant.

Collaborate. Innovate. Deliver.

Linde's Engineering Division is a leading player in the international plant engineering business. Across the globe, we have delivered more than 4,000 plants and cover every step in the design, project management and construction of turnkey industrial facilities. Our proven process and technology know-how plays an indispensable role in the success of our customers across multiple industries – from crude oil, natural gas extraction and refining to chemical and metal processing.

At Linde, we value trusted, lasting business relationships with our customers. We listen carefully and collaborate closely with you to meet your needs. This connection inspires us to develop innovative process technologies and equipment at our high-tech R&D centres, labs and pilot plants – designed in close collaboration with our strategic partners and delivered with passion by our employees working in more than 100 countries worldwide.

From the desert to the Arctic, from small- to world-scale, from standardised to customised builds, our specialists develop plant solutions that operate reliably and cost-effectively under all conditions. You can always rely on us to deliver the solutions and services that best fit your needs – anywhere in the world.

Discover how we can contribute to your success at www.linde-engineering.com

Get in touch with our component manufacturing team:

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Core competencies at a glance

Plant engineering

- Air separation plants
- LNG and natural gas processing plants
- Petrochemical plants
- Hydrogen and synthesis gas plants
- Adsorption and membrane plants
- Cryogenic plants
- Carbon capture and utilisation plants
- Furnaces, fired heaters, incinerators

Component manufacturing

- Coldboxes and modules
- Coil-wound heat exchangers
- Plate-fin heat exchangers
- Cryogenic columns
- Cryogenic storage tanks
- Liquefied helium tanks and containers
- Air-heated vaporisers
- Water bath vaporisers
- Spiral-welded aluminium pipes

Services

- Revamps and plant modifications
- Plant relocations
- Spare parts
- Operational support, troubleshooting and immediate repairs
- Long-term service contracts
- Expert reviews for plants, operations and spare part inventory
- Operator training