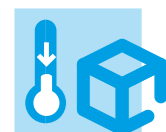


Our services for your cryo-logistics

SALE & RENT



The company Gebr. Thomaidis GmbH realizes with our engineering your cryogenic trailer made to your needs.

Optimized to your requirements

- Goods handling with forklift or ants
- Maximum storage capacity
- Maximum personal protection
- Energetically optimized
- Your specific requirements and wishes

SERVICE LOW TEMPERATURE LOGISTICS



The company Gebr. Thomaidis GmbH realizes your low temperature logistics in Europe & Asia. Thomaidis organizes your complete cold supply chain for the temperature range -40°C to -110°C. The technology used is fail-safe, simple and future-proof.

The refrigeration technology is powered by redundant diesel generators in mobile operation and in stationary operation via the terrestrial connection.

SERVICE CONCEPT EMERGENCY SOLUTION



Due to the technical complexity of your existing cryogenic infrastructure an increased risk of failure due to its technical complexity is given.

To ensure the preservation of your temperature and cost-intensive goods the company Gebr. Thomaidis GmbH offers a service concept for your emergency situations.

This includes the provision of emergency cryogenic storage capacities.

Within a few hours, several units can be pre-conditioned to your required temperature and be on site promptly. There our solution can be operated with a terrestrial power supply or in diesel generator operation to cool your goods efficiently and long-lasting.

FUTURE-PROOF
Through the use of ambient air as refrigerant for the main storage room, our solution is unaffected by political regulations.

FLEXIBLE
Diesel generator operation for cooling during transport and terrestrial operation for stationary cooling. Unique temperature flexibility: At the push of a button, the temperature can be continuously adjusted from -40°C to -110°C can be realized.

LOW MAINTENANCE
The air refrigeration technology is low-wear, low-vibration and working pressures are max. 1 barg. These factors result in a long-lasting refrigeration technology.

READY FOR USE EVEN AT EXTREME AMBIENT TEMPERATURES
Due to the active cooling of the engine room, operation is possible even at extreme outside temperatures.

TEMPERATURE STABLE
Mobile cooling is provided by means of redundant diesel generators. Since only diesel is required for cooling, a high availability of the cooling system and high temperature stability is guaranteed.

LARGE TRANSPORT CAPACITY
18.5 m² / 43.5 m³
Exclusively Cryogenic storage room area without sluice and machine room.

INTEREST AROUSED?
CONTACT US!



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R729 Cryo-trailer
-40°C to -110°C for mobile storage



Mobile Cryo-trailer
The CryoCargo110

with air (R729) as refrigerant for flexible use from -40°C to -110°C



FOR ENZYMES, HORMONES, VACCINES
AND OTHER TEMPERATURE-SENSITIVE SUBSTANCES

For the transportation of enzymes, hormones, vaccines and other temperature-sensitive substances, a cryogenic supply chain is required.

There are various solutions on the market to realize this supply chain. Dry ice, liquid nitrogen, transport boxes or most recently a trailer developed as a cryogenic storage room.

In this brochure we present a mobile low temperature trailer for your logistical challenge for the temperature range -40°C to -110°C and highlight the advantages & disadvantages of the transport solution and the technology behind it.

THE CRYOCARGO110 IN DETAIL

The cryogenic trailer is a high quality mobile cryogenic storage, including a storage system, safety-, loading and unloading concept. The trailer consists of special insulating panels, with PU foam, which are mechanically stable enough for extreme temperatures and provide sufficient insulating effect for the low temperature range. For the main storage area, we used Mirai Intex's flexible cold air chillers, which realizes flexible the temperatures from -40°C to -110°C (optionally up to -160°C).

ENGINE ROOM

The engine room is located in the rear part of the trailer. Inside there are a the cold air machine, the intake ducts to cool the motor of the cold air machine, the control cabinets for the control and regulation of the storage room and its components and another refrigeration system for cooling the machine room are installed there. This ensures operation even at above-average outside temperatures and keeps the temperature in the machine room at 25°C.

MAIN STORAGE ROOM

The cryogenic storage room can only be accessed via the airlock. Integrated there are temperature sensors, low-temperature LEDs, pressure equalization valves, a ceiling duct that transports the cold which transports the cold air to the end of the storage room, and a snow catcher unit are integrated. The constant introduction of new cold air and the extraction of the air from the storage room creates an air roll in the room, which ensures a high temperature homogeneity.

AIRLOCK SYSTEM

The airlock system limits the ambient air as well as the humidity that enters into the main storage room during loading and unloading. With which we achieve a clear view and reduce the formation of ice fog and ice, ensuring safe handling for the personnel.

LIGHTING

Proven low-temperature LEDs are used for the lighting, which illuminate the room, introduce a low heat load into the storage room and reduce operating costs.

GENERATOR OPERATION

Generator operation allows high availability of mobile refrigeration due to the developed infrastructure of diesel. Pre-conditioning of the storage room is also possible in the event of an emergency.

TERRESTRIAL OPERATION

The trailer can also be connected to a three-phase network to ensure operation on site. You need a 400V/63A mains, which is usually used in the industry. This allows your goods to be cooled continuously and constantly.

SAFETY CONCEPT

The safety concept includes a dead man's switch, a battery buffer for the lighting and a non-slip floor. The dead man's switch is a proven concept to ensure personnel safety and can optionally be connected to your plant protection or your control room.

CONTROL

The turnkey solution is controlled by an industry proven S7 1200 (Siemens). Optionally, the system can be equipped with a predictive maintenance software and tracked. This further increases the reliability.

DEHUMIDIFICATION

Unlike conventional refrigerated trucks, we do not have an evaporator in the storage room and thus also eliminate the thermal de-icing of the evaporator, which introduces a high heat load into the storage room and would strongly influence the temperature stability. Our solution uses a purely mechanical principle, which increases the energy efficiency and availability. increasing the temperature homogeneity.

REFRIGERANT

A special highlight is the oil-free cold-air refrigeration machine which which uses only R729 (ambient air) as a refrigerant, without a classic thermal de-icing process, which continuously realizes the required storage room temperatures in the range of -40°C to -110°C.

TEMPERATURE HOMOGENEITY/ CONTROL ACCURACY

The control accuracy amounts to + - 0.5K with a temperature homogeneity of approx. + - 2.0 K over the entire storage room.



ENERGY EFFICIENCY

Together with the Technical University of Karlsruhe, we have prepared a study which shows that cold-air technology is more effective than LN2, two-stage and three-stage cascades (burnable as well as chemical) below a storage temperature of > -40°C the air refrigeration is more efficient than the technologies mentioned above.

QUALITY CONTROLS

An important part of the cryogenic storage is the compliance with the temperatures, constant monitoring and the reporting system to the operator as well as the end customer. Together with you we realize the desired quality and monitoring tasks.

Gebr. Thomaidis GmbH

THE COMPANY

The company Gebrüder Thomaidis GmbH is an international Logistic company, founded in 1992 and located in Frankfurt. It is still managed by the entrepreneur Mr. Thomaidis. The fleet consists of approx. 90 tractor units and approx. 350 trailers of different types. The company Gebrüder Thomaidis GmbH transports all kind of goods all over Europe, but especially from and to Greece.

Refolution Industriekälte GmbH

THE COMPANY

We are Refolution, the engineering company for sustainable industrial refrigeration technology. We offer consulting, planning and product development in our core competences refrigeration technology, process engineering and special plant engineering.

STUDY:



WEBSITE:



WEBSITE:

