Liquid Nitrogen Plants - LINIT

Linde CryoPlants Ltd.
Introduction
Linde CryoPlants Ltd. is a subsidiary of The Linde Group based in UK.
The Linde Group is a world leading gases and engineering company with around 50,500 employees in more than 100 countries worldwide. Linde have supplied more than 3,000 air separation plants and maintain the highest standards of service.

Linde CryoPlants Ltd. located in the UK design, manufacture, install and maintain a range of cryogenic air separation plants that provide high purity nitrogen.

Comprehensive services that ensure a high level of client and customer care include:
- A world-wide network of Linde offices or agencies
- Teams of plant designers and consultants
- World-wide aftersales services
- Erection and start-up services
- Full product training
- Plant maintenance contracts

Concept
The LINIT liquid nitrogen plants are factory tested modular units that are simple to install worldwide. Plants operate unattended, switching on and off automatically to supply high purity liquid nitrogen into a tank in response to liquid level sensors in the tank.

The liquefaction technology used is turbine technology similar to that used for all Linde air separation plants. The miniature turbine used in LINIT is gas lubricated and consequently maintenance free permitting a simple non-specialised maintenance program for all LINIT plants.

The LINIT design concept has been used for over 25 years. Several hundred plants have been supplied in locations ranging from the high Andes of South America, the semi-humid conditions of Africa and India and the remote isolated scientific research station at the geographic South Pole.

Our supply
We supply LINIT plants both directly and via international consultants into educational and agricultural projects funded by the world’s major aid organisations and to many industrial sectors, including:
- Cylinder filling
- Automotive industry
- Electronics industry
- Vaccine storage centres
- Animal breeding centres
- Astronomical observatories
- Scientific research centres
- Beverages industry
**LINIT plant features**
- Modular design for easy installation on simple foundations
- Factory cold-test before despatch to demonstrate production rate
- Automatic unattended operation
- Auto re-start after a power outage
- Start up by means of a simple touch screen at the central control panel
- Control system based upon plc controller
- Annunciation of safety device in event that plant operation is stopped
- Suited to continuous or intermittent operation
- Purifier eliminates any need for defrosting
- Operates under all climatic conditions
- Fully air cooled as standard
- Requires only an electrical supply
- Atmospheric air provides the cold box refrigerant, no requirement for helium gas
- Purity ranging from 99.5 % to 99.995 %
- Product pressure ranging up to 5 barg
- Maintenance-free cryogenic turbine permits simple plant maintenance

**LINIT models**

<table>
<thead>
<tr>
<th>Plant models</th>
<th>Liquid production rate (up to)</th>
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<tbody>
<tr>
<td>LINIT 25</td>
<td>35 litres per hour</td>
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<tr>
<td>LINIT 50</td>
<td>65 litres per hour</td>
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<tr>
<td>LINIT 100</td>
<td>130 litres per hour</td>
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**LINIT process**
Atmospheric air is filtered and compressed before carbon dioxide water and residual hydrocarbons are removed in an air purification unit. The air then passes into the cold box where it is cooled and liquefied by a maintenance-free gas lubricated turbine. The liquid air is distilled in a distillation column to yield pure nitrogen gas which is condensed in a condenser to yield pure liquid nitrogen at pressures up to 5 barg and with a purity ranging from a standard 99.5 % to 99.995 %. The liquid nitrogen transfers automatically into a storage tank.
About Us.

Linde CryoPlants Ltd., a subsidiary of The Linde Group based in UK, specialises in the manufacture of compact air separation plants. Such plants are designed to meet the needs of our customers in a variety of different industries.

The core product of the portfolio centres on a range of nitrogen generation plants. Linde CryoPlants standard designs are containerised which help reduce installation time and cost at site. Thermal losses in the production process are overcome by the use of an in house designed and manufactured expansion air brake/turbine or liquid injection, depending on the plant type selected. Such plants are economical and enjoy an excellent reputation for reliability and quality. Linde CryoPlants also manufacture a range of dedicated liquid oxygen producing plants that are designed with the needs of a hospital installation or alternatively those of a dedicated cylinder filling station in mind. Once again these plants are containerised and use the same in house design of expansion brake turbine. In addition, Linde CryoPlants Ltd. manufactures a range of dedicated liquid oxygen plants that are designed with the needs of both research and industrial users in mind, these plants also use the same in house design of expansion brake turbine.

Linde CryoPlants have enjoyed considerable success in the sales of their product range worldwide and welcome discussion on your application to see how we can become your preferred partner of choice for your air separation needs.

ENQUIRIES:
Should you wish to enquire about Linde plants, please visit our website or contact us at the following address:

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