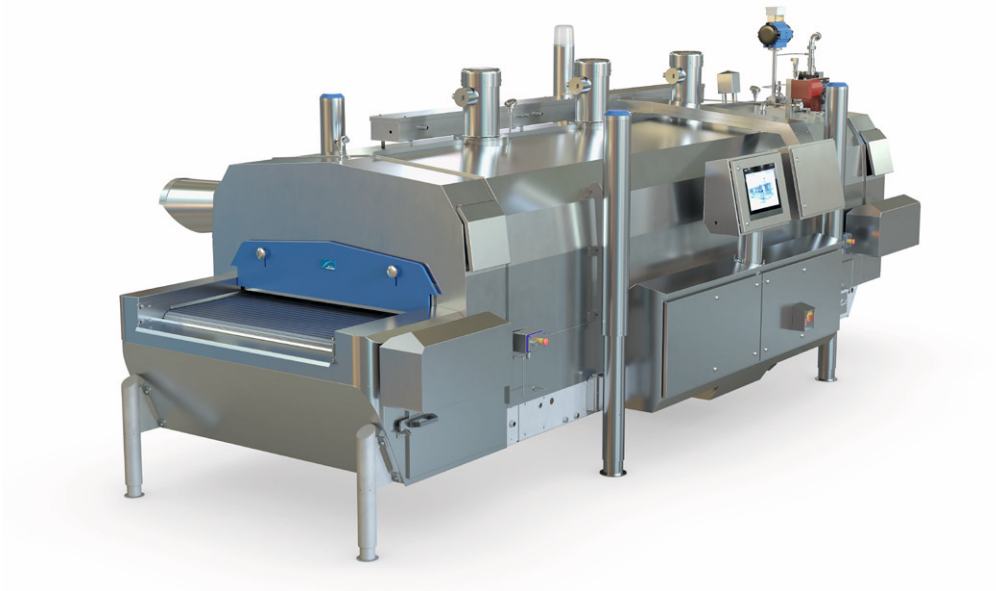
CRYOLINE® TI. Cryogenic Impingement Tunnel Freezer.



Concept

The CRYOLINE® TI is a powerful and economical cryogenic impingement freezer. This patented technology utilizes not only cryogenic gases but also high-velocity convective airflow to achieve rapid chilling and freezing of food products. Combining cryogenic and impingement technologies, Linde has achieved heat transfer rates that are nearly twice as fast as traditional modular cryogenic freezers. The best-in-class heat transfer rates provide users with the option to either increase production capacity or reduce the overall required length, due to a smaller freezer footprint.

The CRYOLINE TI is suitable for a diverse range of food products, including meat proteins, seafood, pasta, bakery products and prepared foods. The freezer is designed for medium to large production capacity. Based on Linde's CRYOLINE platform, the freezer is safe, accessible for fast and reliable sanitation, and can be expanded to satisfy growing production requirements. Linde's industry-leading CRYOLINE TI platform, combined with a patented technology, will rapidly freeze, seal in moisture, and reduce dehydration losses by up to five times that enabled by mechanical methods and by up to three times that enabled by conventional cryogenic freezers.

Refrigerant

The CRYOLINE TI employs nitrogen as the cryogenic medium for an instant crust freeze to lock in natural flavor and moisture.

Operation

The CRYOLINE TI freezer is designed to deliver a strong freezing impact within a small production space. Upon entry into the freezer, the food product is instantly crust-frozen with liquid nitrogen spray. The product is conveyed through the freezer on a customized stainless steel belt and is exposed to a high-pressure cryogenic cold-gas flow. The CRYOLINE TI uses powerful motorized blower-wheels and impingement plates instead of traditional fan blades to increase the static pressure and the overall velocity of the airflow. The patented design eliminates unsymmetrical freezer conditions. This ensures a consistent freezing quality from start to finish and from one location to the other.

The CRYOLINE TI can be controlled via the built-in touch screen. The main menu displays the current product, motor speeds, safety status, machine messages, selected operational mode and the freezer temperature, and provides access to other screens and menus. In the event of a fault, the operator is given specific information about the cause of the fault in the message display area.

Recipes can be entered into the unit's computer by accessing the recipe screen, where the user can store and recall the operational parameters of all product types.

Hygiene

CRYOLINE® TI is designed for ease of use and low maintenance with minimal cleaning effort. CRYOLINE freezers are designed for ease of sanitation, starting with the freezer's sloping floors and center trough drainage. All internal components are made of stainless steel or polyethylene. Modules are fully welded, ground and finished. The freezer top lifts vertically via an electric screw jack, providing full access to the tunnel for sanitation. Control panels allow storage of up to one year's operating parameters for quality assurance tracking and traceability.

Model range

The CRYOLINE TI is available in 1250-mm belt width with a base freezer of 5 meters overall length. The freezer can be expanded by 3-meter sections to an overall length of up to 14 meters.

Standard configuration

- → Cryogenic tunnel freezer
- → Blowers/fans in combination with impingement plates for accelerated gas movement
- → Increased product quality
- → High production capacity
- → Elimination of downtime associated with mechanical freezers
- → Reduced overhead and unit cost
- → Hygienic design – less water and time required for cleaning
- → Fully welded construction
- → Control panel for quality assurance tracking
- → Low maintenance

Options

Central exhaust

Technical data

CRYOLINE® TI

Usable belt width	1250 mm
Max. product height	50 mm
Exhaust diameter	300 mm, optional central exhaust 150 mm
Height closed	2190 mm (± 100 mm leg adjustment)
Height open	3042 mm (± 100 mm leg adjustment)
Overall width	2473 mm
Height (top of belt)	950 mm ± 100 mm

Model name	CRYOLINE® TI 1250-5	CRYOLINE® TI 1250-8	CRYOLINE® TI 1250-11	CRYOLINE® TI 1250-14
Overall length	5628 mm	8628 mm	11628 mm	14628 mm
Number of hoods	3	5	7	9
Freezer weight	3400 kg	5100 kg	7000 kg	8900 kg
Electric supply (A) at 400 VAC, 50–60 Hz 3P+PE 2 exhaust / 3 exhaust	57/65	87/95	117/125	147/155
Electric supply (A) at 480 VAC, 50–60 Hz 3P+PE 2 exhaust / 3 exhaust	46/53	72/79	98/105	124/131

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