



Top performance and maximum hygiene
– the spiral freezer of the future.

CRYOLINE®XF



Compact, efficient and easy to clean. The new, all-benefits-in-one high capacity spiral freezer.





Meeting tomorrow's challenges

Hygiene, efficiency and safety are crucial factors for success in today's highly competitive frozen food industry. As one of the world's leading industrial gases and engineering companies, Linde has decades of experience in this sector. Always keeping up with the latest market developments, we're able to offer you a broad range of cutting-edge freezing equipment and corresponding services at very reasonable prices.

In terms of hygiene, efficiency, performance, and safety, Linde has now set a new benchmark for spiral freezers: the CRYOLINE®XF is a whole new generation of freezing equipment providing the highest customer confidence with the best heat transfer technology available on the market. We are committed to assisting you in achieving your goal of producing safe, quality food products at the best overall value.

The CRYOLINE®XF is unbeatable for freezing a wide range of quality food products: from meat proteins to bakery products, and more! It is suitable for the most difficult high-temperature and moist products such as cooked poultry, seafood and prepared meals. CRYOLINE®XF spiral freezers also provide high capacity using minimum floor space. Advanced technology

maximises the efficiency while reducing the overall machine size: it delivers two to three times the heat transfer rates of typical spiral freezers available on the market, eliminating energy waste and boosting cryogen efficient power-on-demand.

Safety features

With the CRYOLINE®XF, you can fully concentrate on your core business instead of worrying about hygiene, cleaning costs or health and safety in the workplace. The CRYOLINE®XF has a broad array of active and passive safety features that gives you peace of mind, with the safety lockout feature and confined spaces kept to a minimum, it helps you avoid potential hazards and risks.

Hygienic design

Meeting or even exceeding the latest, very strict food hygiene regulations, the CRYOLINE®XF is designed to ensure food safety and sanitation simplicity. Made from laser-cut stainless steel, with sloped, solid surfaces, rounded corners and polished welds that simplify wash-down, it enables total accessibility to all internal parts and areas, saving time and money when cleaning the

CRYOLINE®XF. Moreover, the freezer has an optional self-cleaning belt washer system. CIP ("clean-in-place") optional.

Through its sophisticated construction and hygienic design, the CRYOLINE®XF minimises food contamination risks by facilitating your daily cleaning activities and thus allows for a very high level of food safety.

Standards

The design of the CRYOLINE®XF supports methods for verifying and certifying hygienic design principles and was designed using the following standards:

- NSF/USDA 3-A dairy standard
- BS 14159 standards
- EHEDG

Advanced technology for modern demands. Top freezing action meets maximum food safety.

Small dimensions

With a footprint much smaller than that of standard comparable-production spiral freezers, the CRYOLINE®XF is the perfect freezing technology when you have limited floor space at your disposal. Its significantly reduced dimensions have been made possible by its powerful cross-flow technology and its innovative, streamlined design to eliminate dead space.

The CRYOLINE®XF not only saves valuable space in your production room, its reduced size also contributes to the freezer's superior cryogenic efficiency: since there is less space and less metal to cool down, there are also less steady-state energy losses.



Approximately 60% less required space, 30% less floor space, 35% less height than standard spiral freezers: the CRYOLINE®XF is small and compact, but highly efficient.

High-velocity airflow: the two parallel blowers/fans are a powerful contribution to the outstanding performance and heat transfer rate of the CRYOLINE®XF.



High performance and efficiency

In spite of its small dimensions, the CRYOLINE®XF spiral freezer is built for relatively large production capacities. The machine owes its high product yield to its advanced cross-flow blower technology, which effectively locks in product moisture by creating a high heat transfer rate: using very cold cryogenic gas as the coolant, this innovative technology creates a high-velocity cryogenic airflow, resulting in superior convective and evaporative heat transfer.

The CRYOLINE®XF delivers two to three times the heat transfer rate of commercial spiral freezer technology, making it up to three times as powerful. In terms of overall efficiency, an improvement of 5 to 10% compared to standard spiral freezers can be expected.

Cost savings

Contamination of food processing equipment can cause unnecessary and high costs. The CRYOLINE®XF combines superior operational reliability with improved hygienic design, leading to tangible cost savings in terms of your day-to-day cleaning activities. By purchasing a hygienically designed freezer like the

CRYOLINE®XF, you can save between 25 and 50 % of these costs over the lifetime of the machine. Plus, thanks to its precision engineering and low-maintenance design, cleaning and labour time required are minimised and up time of the machine is maximised.

Technical data CRYOLINE®XF 700

Voltage	238-500 V, 50/60 Hz
Liquid connection size	1"/25.4 mm NPT or VJ
Vapour connection size	½"/12.7 mm NPT
Exhaust system	
Number of connections	3 (1 in-feed (10"/250 mm), 1 out-feed (10"/250 mm) and 1 central (10"/250 mm))
Belt washer connections	
Fitting size	1"/25.4 mm NPT
Belt	
B48-12/16-16	Grid-style belt with mesh overlay
B72-12/16-17	Standard option
Usable belt width	28"/710 mm
In-feed height (top of belt)	32"/810 mm (± 50 mm leg adjustment)
Out-feed height (top of belt)	85"/2,160 mm (± 50 mm leg adjustment)
Max. product height	3,5"/90 mm
Freezer dimensions	
Height	10.5 ft/3,200 mm (± 50 mm leg adjustment)
Freezer width	13.2 ft/4,024 mm closed, 16.8 ft/5,120 mm door open
Overall length	21.2 ft freezer – 24.2 ft in/out-feeds – 6,460 mm freezer – 7,370 mm in/out-feeds 27.3 doors open – 8,320 mm doors open
Freezer weight	Approximately 18,000 lb/8,200 kg
Note:	All data subject to change.

Optimal support for your success. Innovative technologies for demanding tasks.



CRYOLINE®XF – its key benefits at a glance

- Improved hygienic design, freezer meets high food safety demands
- Easily accessible and easy to clean (tangible cost savings)
- Optional self-cleaning belt washer system, rotary spray nozzles
- CIP-ready (freezer designed for “clean-in-place” application)
- Broad array of active and passive safety features included
- Space-saving dimensions through innovative engineering
- Advanced cross-flow blower technology enhances performance
- Up to three times the heat transfer rate of standard spiral freezers
- Higher cryogenic efficiency
- Broad range of food products can be processed
- Less space and metal to cool down means less steady-state energy and cool-down losses
- Adaptive: easy to configure with standard bolt-on family freezer options: immersion, interlocking shallow-pan immersion and integrated infeed conveyor
- Effective lock-in of flavours and moisture
- Low cooking losses due to very fast freezing action
- Compatible with all CRYOLINE® equipment

Linde – your reliable partner

Linde is fully aware of the demanding challenges that food manufacturers are facing today. Our response to these challenges is based on entering into synergetic partnerships with our clients. That way, we can synchronise our technical knowledge and share with you our passion for engineering in order to achieve the best possible solutions for our mutual success.

Working with Linde is easy and convenient. As your reliable partner, we listen carefully to your concerns, evaluate your requirements and closely cooperate with you to identify improvement potentials that enable us to develop market-driven, efficient and profitable technologies that help you stay competitive in a constantly changing, fast-paced market.

Would you like to know more about the CRYOLINE®XF spiral freezer and our broad range of other freezers and services for the frozen food industry? Simply get in contact with the nearest Linde sales office – our experts are available for consulting and will be happy to help you.

Getting ahead through innovation.

With its innovative concepts, Linde is playing a pioneering role in the global market. As a technology leader, it is our task to constantly raise the bar. Traditionally driven by entrepreneurship, we are working steadily on new high-quality products and innovative processes.

Linde offers more. We create added value, clearly discernible competitive advantages, and greater profitability. Each concept is tailored specifically to meet our customers' requirements – offering standardised as well as customised solutions. This applies to all industries and all companies regardless of their size.

If you want to keep pace with tomorrow's competition, you need a partner by your side for whom top quality, process optimisation, and enhanced productivity are part of daily business. However, we define partnership not merely as being there for you but being with you. After all, joint activities form the core of commercial success.

Linde – ideas become solutions.