
CRYOLINE® CS. Compact self-stacking spiral freezer.



Introduction The CRYOLINE® CS is a new generation of compact, high-capacity spiral freezers. This first cryogenic self-stacking spiral freezer is built with the smallest footprint possible and based on a new technology to make a more efficient and cost-effective freezer. The 8-sided form minimises the space around the belt, thus achieving the highest possible cold gas speed. The nitrogen supply and gas balance is controlled by a state-of-the-art automatic system.

The very low operating temperatures, achieved by using liquid nitrogen ensure very fast freezing that preserves the quality and the shape of the product and keeps the weight loss to a minimum. Cryogenic freezing is normally most economical at low to medium volumes, but with this spiral, it is also suitable for high volumes or when high quality is needed. Additionally, this system offers a high level of hygiene and safety combined with low consumption and easy operation.

Process Overview The spiral acts as a heat exchanger, in which the liquid nitrogen is sprayed directly on the product, thus efficiently extracting heat from it. The generated cold gas is circulated around the products and then extracted by the exhaust system. The exhaust system in the CRYOLINE® CS is adjustable, which means that the gas can be fully utilised before leaving the spiral, which guarantees a very low gas consumption and low running costs. In the spiral design, the working environment has been given the utmost importance. This has been secured by choosing a low noise fan and by carefully insulating all points through which a contact to the very cold nitrogen could occur. The spiral is easy to operate by means of automatic control devices. It is cooled down and ready for operation in less than twenty minutes.

Typical products

- Meat patties
- Whole fish or fish fillets
- Pies
- Ice cream
- Pastries
- Pizza
- Ready made dishes
- Pasta
- Shellfish
- Cakes and baked products
- The spiral can also be used as a cooling unit

Features and benefits

- All stainless steel construction meeting food grade standards
- Door safety system ensures all doors are closed before cryogen injection
- 2 operating modes:
 “normal mode” requires freezer doors to be shut in order to activate sealing system, start the belt and activate liquid nitrogen injection system
 “cleaning mode” the central fan and belt can be active

Standard features

- Stainless steel mesh belt
- Drive motor with variable speed control
- Various in-feed sections for different feeding systems
- Liquid nitrogen supply system with spray manifold, frequency-controlled circulation fan and exhaust fan
- Pneumatically sealed doors
- Side-mounted control panel with automatic gas supply controller and temperature readout
- Stainless steel sandwich panels with CFC-free insulation
- Emergency shutdown switches and alarm warning
- Stand with adjustable feet

Technical data

	CS 80 mm height	CS 110 mm height
Overall length	4000 mm	4000 mm
Overall width	2450 mm	2450 mm
Overall height	3100 mm	3100 mm
Net belt width	320 mm	320 mm
Belt length	110 m	83 m
Max. product height	60 mm	90 mm
Effective belt area	32 m ²	22.5 m ²
Number of belt tiers	16	12
Retention time	9–90 min	6–60 min
Total weight	3900 kg	3500 kg
Power demand*	24.2 kW	24.2 kW

* Normal consumption with 380–460 V, 3 phase, 50/60 Hz supply

Optional extras

The Cryoline® CS has the option of operating with different link heights.

Treating food better

Our dedicated team of food experts are available to discuss your individual requirements.

Contact

Please contact us for further information on our range of products and services for the food industry.

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