

# Freezing & Cooling Equipment

## CRYOLINE® CS

### Compact Self Stacking Spiral Freezer



The CRYOLINE® CS is the new generation of compact, high capacity spiral freezers. It is built with the smallest footprint possible, and based on new technology to make a more efficient and cost effective freezer. The 8-sided form is made to secure minimum space around the belt, and to gain the highest possible cold gas speed. The nitrogen supply and gas balance is controlled by a state-of-the-art automatic system. This means less idle consumption compared to existing spiral freezers.

The CRYOLINE® CS is suitable for freezing a wide range of products including meat patties, whole fish or fish fillets, pies, ice cream, pastries, pizza and ready made dishes. Of course the spiral can be used also as a cooling unit.

The very low operating temperatures, using liquid nitrogen, gives a very fast action that preserves the quality and shape of product and keeps the weight loss to a minimum.

Cryogenic freezing is normally most economical at low to medium volumes, but with this spiral also for high volume and when quality is needed. There can also be other considerations that indicate the requirements of the high benefits when using cryogenic freezing.

#### Hygiene

The freezer can be opened up completely for cleaning and inspection, by opening all doors. This gives full access to all parts of the freezing section. That together with the all-stainless-steel design ensures that the freezer satisfies the highest demands in the food industry.

#### Standard outfit

- The unit is delivered fully assembled and pre-tested with:
- Stainless steel mesh belt
- Drive motor with variable-speed control
- Side-mounted control panel with easy-to-use switches, automatic gas-supply controller and temperature readout
- Made of sandwich panels with non freon polyurethane insulation with inner and outer stainless steel facing
- Fully welded construction
- Infeed with curtain and outfeed with breakaway
- Liquid Nitrogen system with spray manifolds, circulation fans and exhaust fan
- Emergency shutdown switches, flash light warning when the freezer is opened or no liquid nitrogen supplied, and a safety system at closing all doors of the spiral
- Stand with adjustable feet

### Operation

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 cold gas generated is circulated around the products and the 28 m<sup>2</sup> belt, the gas is then extracted by the exhaust system. The exhaust system in the CRYOLINE® CS is equipped with a controller monitoring the situation in the spiral. This system ensures that the gas will be fully utilized before leaving the spiral. This ensures a very low gas consumption, and low running cost. In the spiral design the working environment has been given the utmost importance. This has been secured by choosing extremely low-noise fans, and by carefully insulating at 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. The spiral is chilled down and ready for operation in less than fifteen minutes.

### Special features

Pneumatic sealing

The freezer doors are equipped with pneumatic sealing. The purposes are:

- To prevent nitrogen from escaping from the freezer enclosure.
- To lock the freezer doors

When all the freezer doors are closed and the switch "Sealing" is activated, the seals inflate and seal the doors. When the seals are inflated the doors cannot be opened. When the switch is deactivated, the seals are slowly deflated and the doors can again be opened.

### Technical data CRYOLINE® CS

Nominal capacity	kg/h	1.000		
Overall length	mm	2.500	closed	4.400 doors open
Overall width	mm	3.360	closed	4.400 doors open
Overall height	mm	3.120	closed	3.550 roof open
Net belt width	mm	320		
Product height max.	mm	90		
Effective belt area	m <sup>2</sup>	28,80		
Number of belt turns		11		
Retention time	min.	9 – 30		
Total weight	kg	2.500		



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Our experts are available for consultation.