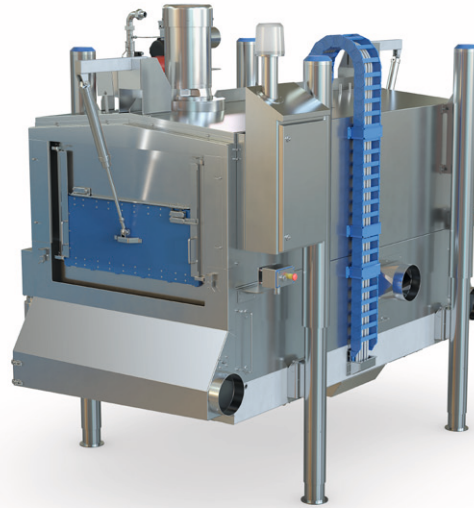




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## CRYOLINE<sup>®</sup> RC. Rapid Crust Freezer.

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**Concept** The CRYOLINE<sup>®</sup> RC is a specialized semi-batch crust freezer built for freezing the surface of larger pieces of food products prior to portioning using methods such as slicing or dicing. The patent-pending CRYOLINE RC technology uses high-velocity gas to rapidly freeze the product surface. In addition, an innovative gas flow path promotes the formation of a uniform crust across the surface, which optimizes use of the nitrogen cryogen. Designed with upstream and downstream control handshake capability, the CRYOLINE RC provides products with consistent crust characteristics. The consistent crust leads to higher yield and reduced downtime. Also, the control handshake can be used to reduce the need for manual handling at all steps from freezing to slicing. The CRYOLINE RC is best suited for crust freezing pre-cut deli meat such as ham, sausage, and cooked meat, or portioned whole cuts such as pre-cut steaks. Cryogenic freezing allows very short dwell time with just-in-time operation with the slicer, resulting in space savings. Proper crust freezing helps to preserve product quality by reducing the risk of tears, crumbling and miscuts, while also increasing portioning accuracy due to the firmer product structure.

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**Refrigerant** The CRYOLINE RC technology employs nitrogen as cryogenic medium, which provides the maximum rate of heat transfer.

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**Operation** The CRYOLINE RC technology generates high-velocity gas flow, parallel to the product's transfer pathway, resulting in a very high rate of heat transfer while providing uniform crust freezing across the surface. By channeling high-velocity gas between products, it increases the heat transfer rate of general-purpose tunnel freezers by up to 1000%. This fast heat transfer produces a freezer with a small footprint, a short dwell time, and highly efficient crust freezing.

Within the CRYOLINE RC, the gas flow is generated with a centrifugal fan and funneled through tight spaces between products. This funneling creates high-velocity gas, which effectively takes heat away from food. In addition, liquid nitrogen is also directly sprayed into the gas stream to maximize the rate of heat transfer. The nitrogen continues to circulate for a given dwell time before exiting the system through an exhaust vent.

The CRYOLINE RC has a touchscreen HMI (Human Machine Interface) which can be placed within 4 m of the freezer. The HMI can be used to specify the number of products per batch, freezing temperature, dwell time, transfer speed and fan speed. In the event of an error, the HMI displays information about the cause of the error. Recipes can be stored and loaded for product lines with multiple product types.

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**Hygiene** All CRYOLINE freezers are built for optimum hygiene and sanitation. The CRYOLINE RC enables the customer to sanitize easily and safely while maximizing productivity due to less downtime for cleaning and maintenance. All internal components are made of stainless steel or polyethylene and designed with sloped surfaces, rounded corners, proper drainage, and polished welds. Additionally, the CRYOLINE RC features an electrically driven top-lifting design which ensures full access and separation of mechanical components for cleaning internal surfaces.

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**Standard configuration** The fully assembled and pre-tested freezer is delivered with the following features:

- Stainless steel belt
  - Belt drive motor with variable speed control
  - One blower/fan for horizontal gas movement
  - Fan motor with variable speed control
  - Control panel and stand-alone HMI
  - Fully welded construction with stainless steel
  - Liquid nitrogen spray manifold
  - Exhaust system for central and scavenger connections
  - Emergency stop switches, alarm strobe light, and audible alarm
  - Four electrically driven screw jacks with adjustable feet
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- Benefits**
- Rapid heat transfer, optimized use of cryogen
  - Improved slicing yield with consistent crust
  - Semi-batch product handling, synchronized with slicer operation
  - Control handshake harmonized with upstream and downstream processes
  - Reduced manual product handling
  - Sanitary and hygienic design

#### Technical data

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Overall length	2200 mm (+490 mm with exhaust plenum)
Overall width	1893 mm
Overall height (closed)	2497 mm
Overall height (open)	3597 mm
In-feed and discharge height	1182 mm from ground
Product length	350 mm–1800 mm
Product width	Up to 800 mm
Product height	Up to 220 mm
Electrical supply (A) 380 VAC	32 A
Electrical supply (A) 480 VAC	29 A

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