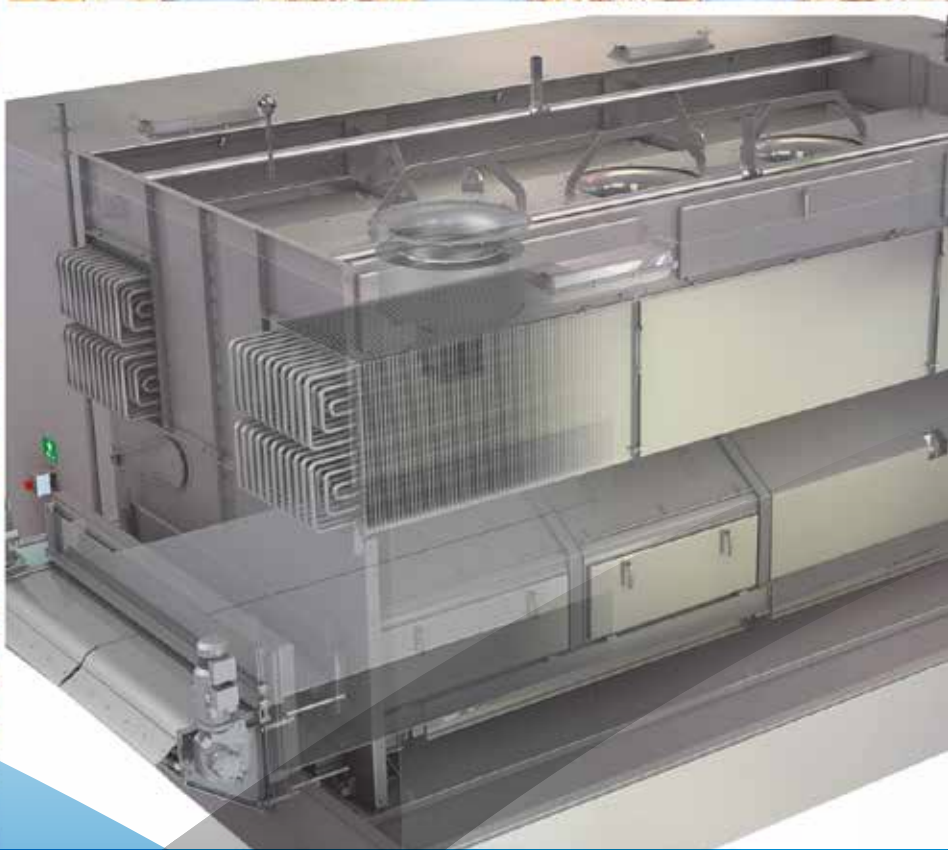


# FRIGOSCANDIA

## **ADVANTEC™ Impingement freezer**

Perfect freezing & chilling



Airflow technology that delivers  
quality and profit

FREEZING



[jbt.com/foodtech](http://jbt.com/foodtech)



# Fast, food-focused and cost-effective

## – Get unique benefits today



Frigoscandia pioneered impingement freezing in the 1990's because food processors needed a cost-effective alternative to cryogenic freezing of hamburger patties.

Delivering all the quality, speed, throughput and flexibility – at half the cost – impingement technology has quickly proved itself as the most efficient, food-focused method to:

- Freeze a wide range of thin or flat products, including high-value IQF products.
- Crust freeze and stabilize soft food and sticky confectionery before further processing.
- Improve throughput, yield and hygiene in deli-product slicing and
- Rapidly super-chill raw meat products for safer chilled distribution.



# Airflow technology

## That delivers quality and profit

Achieving rapid heat removal without otherwise affecting the product, our patented Frigoscandia ADVANTEC™ impingement airflow technology excels – both at freezing and chilling. Dehydration is minimized. Yield is maximized. Taste, mouthfeel and product quality are assured.

### Superior handling, unrivalled flexibility

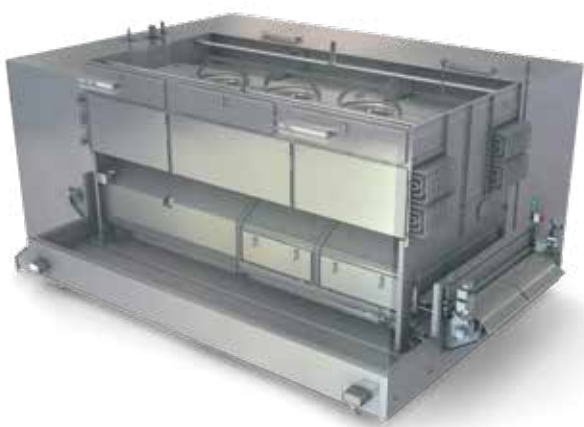
The ADVANTEC technology uses a unique straight belt that moves food product through the freezing zone without wrinkling or deformation. Product shape and appearance are preserved. The result is superior quality, all the time, every time. Custom-designed to quickly and efficiently freeze flat products up to 25 mm thick, and to chill and crust freeze products up to 200 mm thick, ADVANTEC impingement freezing is tailored to rapidly and cost-effectively freeze or chill each product you produce.

### Developed to match your process needs

Our engineers are quick to adapt impingement airflow technology to suit the specific requirements of an ever-growing range of food products and processes:

## Frigoscandia impingement freezers

### ADVANTEC™



Setting the standard in impingement freezing and chilling, the ADVANTEC impingement freezer is a further development of the highly successful FPF. It is the ideal means to quick-freeze small and thin products with minimal dehydration, the gentlest product handling and highest product quality.

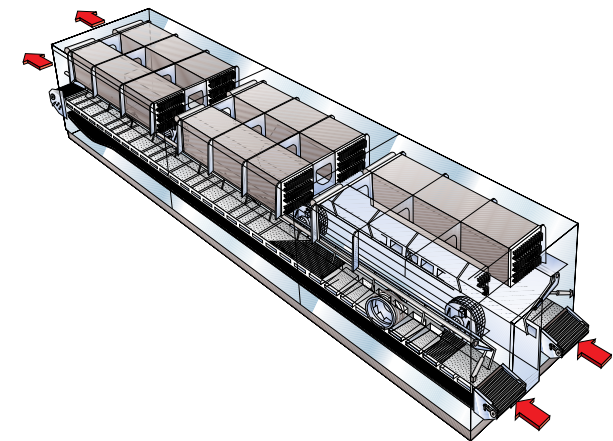
### ADVANTEC™ Compact Chiller (CC)

New! Perfect surface stabilization for deli processors



The ADVANTEC CC impingement freezer is the perfect modular 'plug-and-play' in-line production resource for small- and mid-sized processors who for instance need a faster, more cost-effective way to surface-stabilize or rapidly chill their product prior to slicing operations.

### Flat Product Freezer (FPF)



The Flat Product Freezer is a standard configuration for high-capacity formed products. It uses impingement airflow technology to deliver cost-effective, food-focused, high-capacity freezing for thin, flat products.

### Performance

- The fastest, most cost-efficient way to freeze delicate, thin products up to 25 mm thick, and to chill products up to 200 mm thick.
- Maximum yield. Dehydration less or equal to cryogenic freezing.
- Modular design makes it quick and easy to expand your production capacity as your customer demand grows.
- Optimized air velocity through the evaporator, maximizing heat transfer, frost pick-up and performance.
- Rapid cool-down and warm-up. Hygiene-by-Design™ construction ensures quick turnaround without compromising thorough cleanliness.

### Hygiene

- Stainless steel freezing area, with rounded corners and sloped surfaces, to eliminate risk of bacteria build-up.
- Fully accessible freezing zone and evaporator coil are designed for easy, efficient defrosting, cleaning and maintenance.
- Fully seal-welded 'bathtub' floor is entirely stainless steel, providing an easily drained, hygienic surface.
- Elevated construction ensures effective cleaning around and beneath the machine.
- Complete visual inspection of all surfaces, to eliminate risk of unseen hygiene hazards.

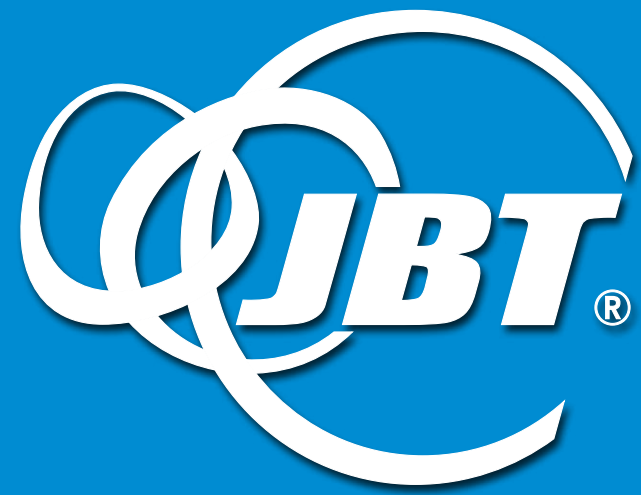
### Flexibility

- Modular design enables easy expansion and rapid reconfiguration.
- Single- and double-belt alternatives, with variable belt speeds and directional controls, ensure maximum processing flexibility.
- State-of-the-art touch-screen controls – to match your processing needs precisely, and simplify operators' control of the process.

### Reliability & Safety

- Stable, user-friendly LINK® control system – easy for the operator to use, and easy for maintenance and management to extract information from.
- Greater commonality with upstream- and down-stream equipment.
- Component standardization, ensuring fast, cost-effective parts replacement.
- Two-step operator commands at control panel.





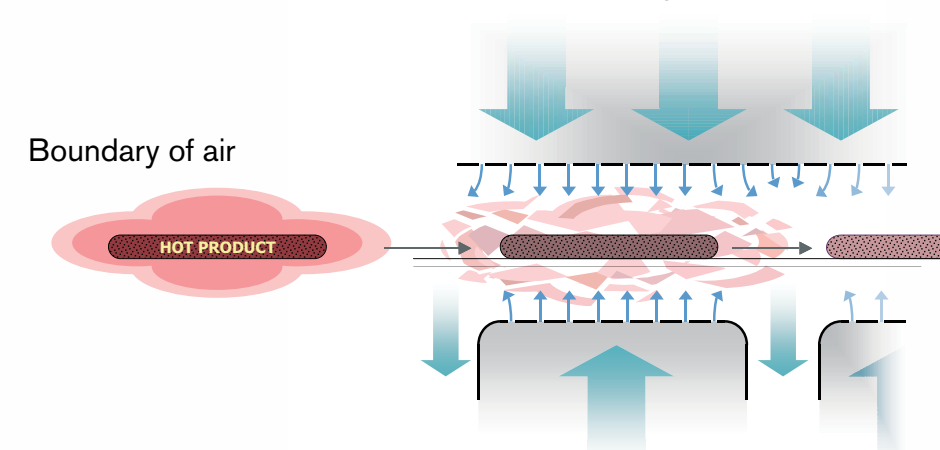
# ADVANTEC™

## Perfect freezing & chilling

### What is impingement?

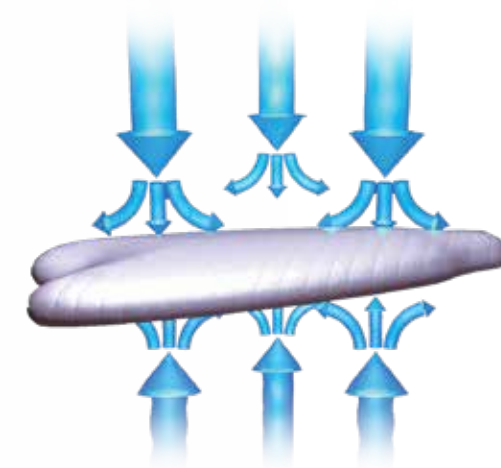
Impingement technology is the best choice for food-focused freezing or chilling of a wide range of high-value food products.

#### Patented Impingement Technology



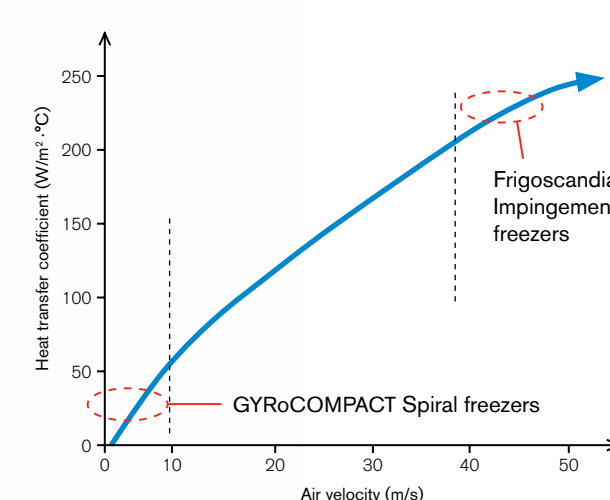
Thousands of high velocity jets of air are directed at the top and bottom surfaces of the product.  
These air jets blast away the boundary layer of air that holds heat around the product, resulting in extremely fast freezing times.

#### Factors that determine retention time

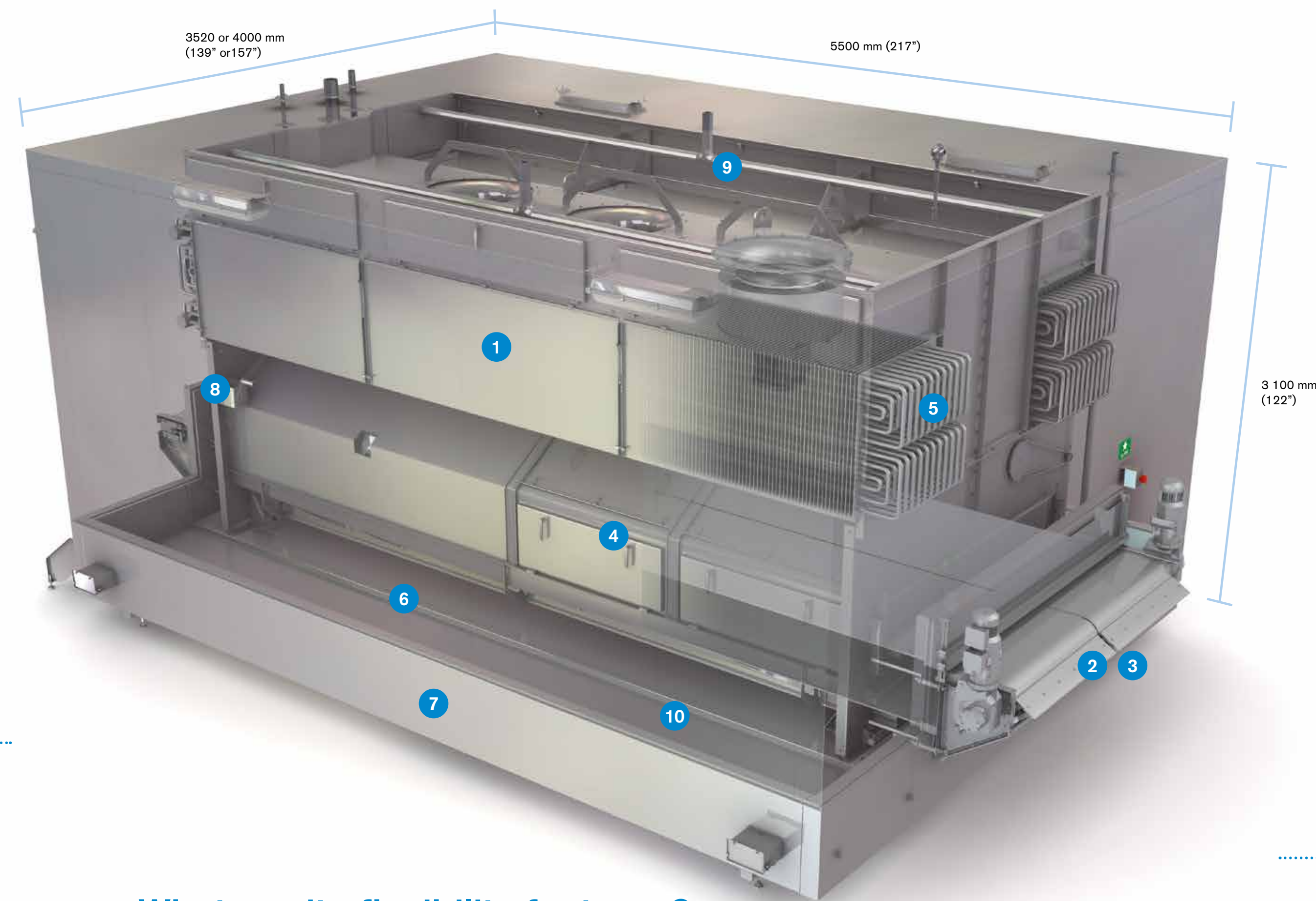


- True impingement means no thermal boundary layer.
- Retention time depends on heat conductivity in the product.
- Product thickness plays an important role. The natural limit for freezing applications is about 25 mm (1").
- Beneficial effects of cryogenics are matched or exceeded, but at much lower cost and higher flexibility.

#### Heat transfer



- Valid for vertical airflow
- Double-sided action
- Optimised technology to reach acceptable power consumption



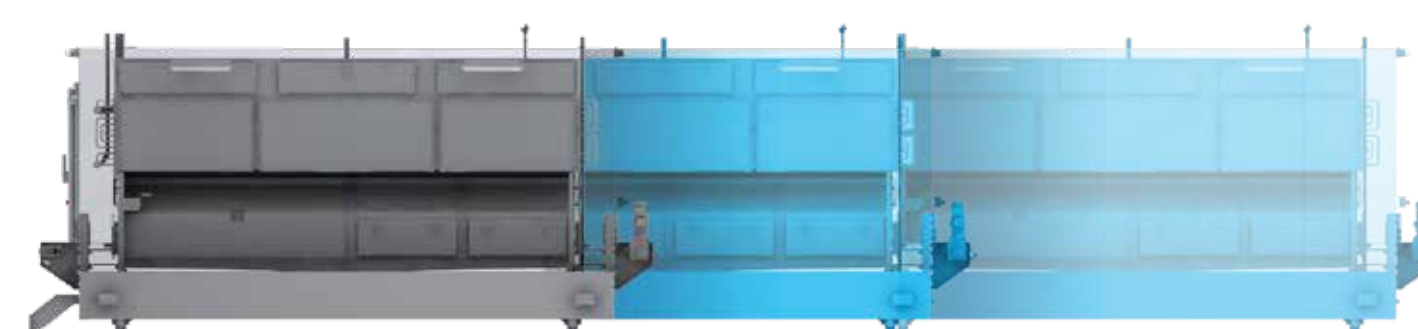
- 1 Patented impingement airflow ensures fast, efficient freezing and very low dehydration.
- 2 Single- or double belt configuration with variable belt speeds.
- 3 Variable belt directions available for up to 2 module freezer length without modification.
- 4 Fan air pressure is contained – doors can be opened during production for inspection.
- 5 Galvanized steel evaporator coils (optional stainless steel tubes with aluminum fins) are effective and easy to clean.
- 6 Easy cleaning- and inspection access to all areas of the freezer, for maximum hygiene.
- 7 Modular design facilitates easy relocation.
- 8 Stainless steel construction facilitates thorough cleaning.
- 9 Optional cleaning systems available.
- 10 Interior floor is entirely stainless steel, fully seal-welded to form a bathtub-like hygienic enclosure.

### What are its flexibility features?

Impingement technology offers you maximum processing flexibility at the same time it enables you to quickly expand, reconfigure or relocate your processing layout. You can also:

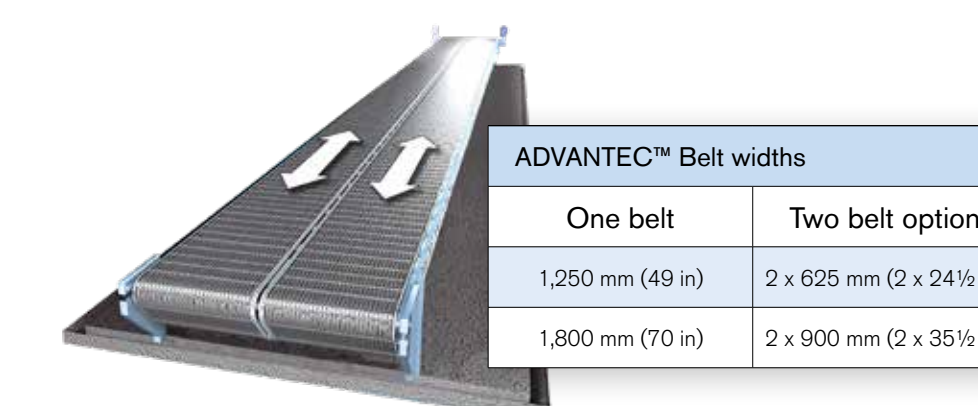
- Convert batch operations to in-line processing.
- Increase your capacity and throughput on existing spiral lines.
- Explore entirely new applications, like chilling and surface stabilization.

#### Modular design keeps your options open



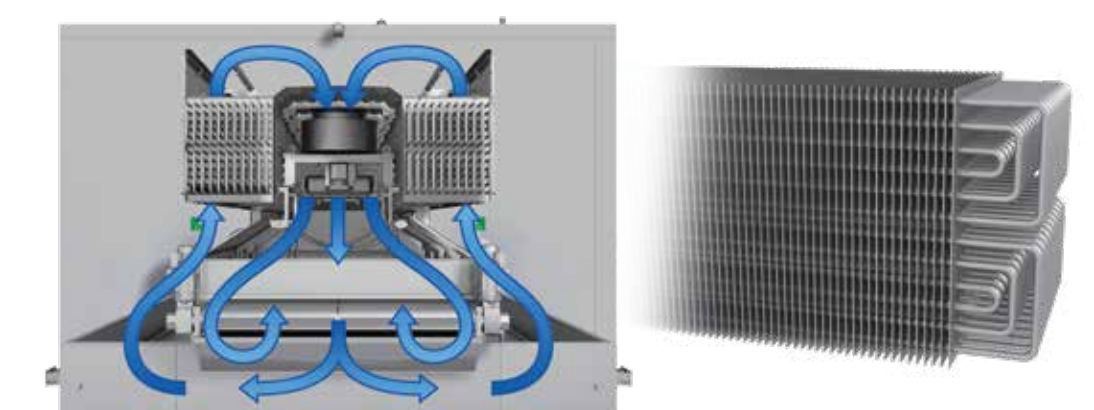
- Modular design gives flexibility to expand operation by adding extra modules to the existing one.

#### The belt that delivers throughput and flexibility



- Multiple belt widths to choose from.
- Straight belt assures optimum efficiency and use of freezing area.
- Two parallel belts offer greater flexibility:
  - Independent speed control, to simultaneously freeze products with different thicknesses.
  - U-configuration, for entry and exit of product from same end.
- Direct airflow over the product means the belt can be loaded up to 90%, to achieve higher throughput

#### Impingement technology ensures economy and hygiene



- 'Dry side' fans minimize snow build-up, extend production uptime, and deliver greater freezing capacity and reliability.
- Evaporator construction optimises air velocity and maximizes heat transfer and performance. Rapid cool-down and warm-up.
- Galvanized steel evaporator coils (or optional stainless steel tubes with aluminum fins) are effective and ensure easy cleaning and defrosting.
- Full visual inspection of all surfaces, to eliminate risk of unseen hygiene hazards.



# Matching your product needs.



Quick, cost-effective freezing of high-volume, high-throughput flat products.



Freezing a wide range of thin or flat products, including high-value IQF products.



Rapidly super-chilling raw meat products for safer chilled distribution.



Crust freezing and stabilizing deli products, to improve throughput, yield and hygiene in slicing operations.



Stabilizing soft food and sticky confectionery before further processing.

## WE ARE YOUR SINGLE SOURCE FOR PROFITABLE PROCESSING SOLUTIONS

JBT is a leading provider of integrated food processing solutions. From single machines to complete processing lines, we enhance value and capture quality, nutrition and taste in food products. With a local presence on six continents, JBT can quickly provide our customers and partners in food processing industry with the know-how, service, and support needed to succeed in today's competitive marketplace.

**FRIGOSCANDIA**

**STEIN**

**DSI**



**SCHRÖDER**  
THE SAME SIDE OF FOOD

**XVISION**

**FTN ON**

**Proseal**

**PRIME**  
Simple Solutions for Meat Processing



jbtprotein blog



jbtc.com

### Europe

John Bean Technologies AB  
Rusthållsgatan 21, Box 913  
SE-251 09 Helsingborg  
SWEDEN  
Phone: +46 42 490 4000  
info-europe@jbt.com

### Asia

John Bean Technologies  
159/26 Serm-Mit Tower, Room no. 1602-3  
Sukhumvit 21 Road, Klongtoey Nua Sub-district  
Wattana District, Bangkok 10110, THAILAND  
Phone: +66 2257 4000  
infoasia-jbtfoodtech@jbt.com

### Latin America

John Bean Technologies  
Máquinas e Equipamentos Industriais Ltda.  
Av. Eng. Camilo Dinucci 4605  
14808-900 Araraquara, São Paulo, BRAZIL  
Phone: +55 16 3301 2000  
latinamerica.info@jbt.com

### North America

JBT Corporation  
1622 First St.  
Sandusky, OH 44870  
USA  
Phone: +1 419 626 0304  
process-solutions@jbt.com



We're with you, right down the line.™

[jbt.com/foodtech](http://jbt.com/foodtech)