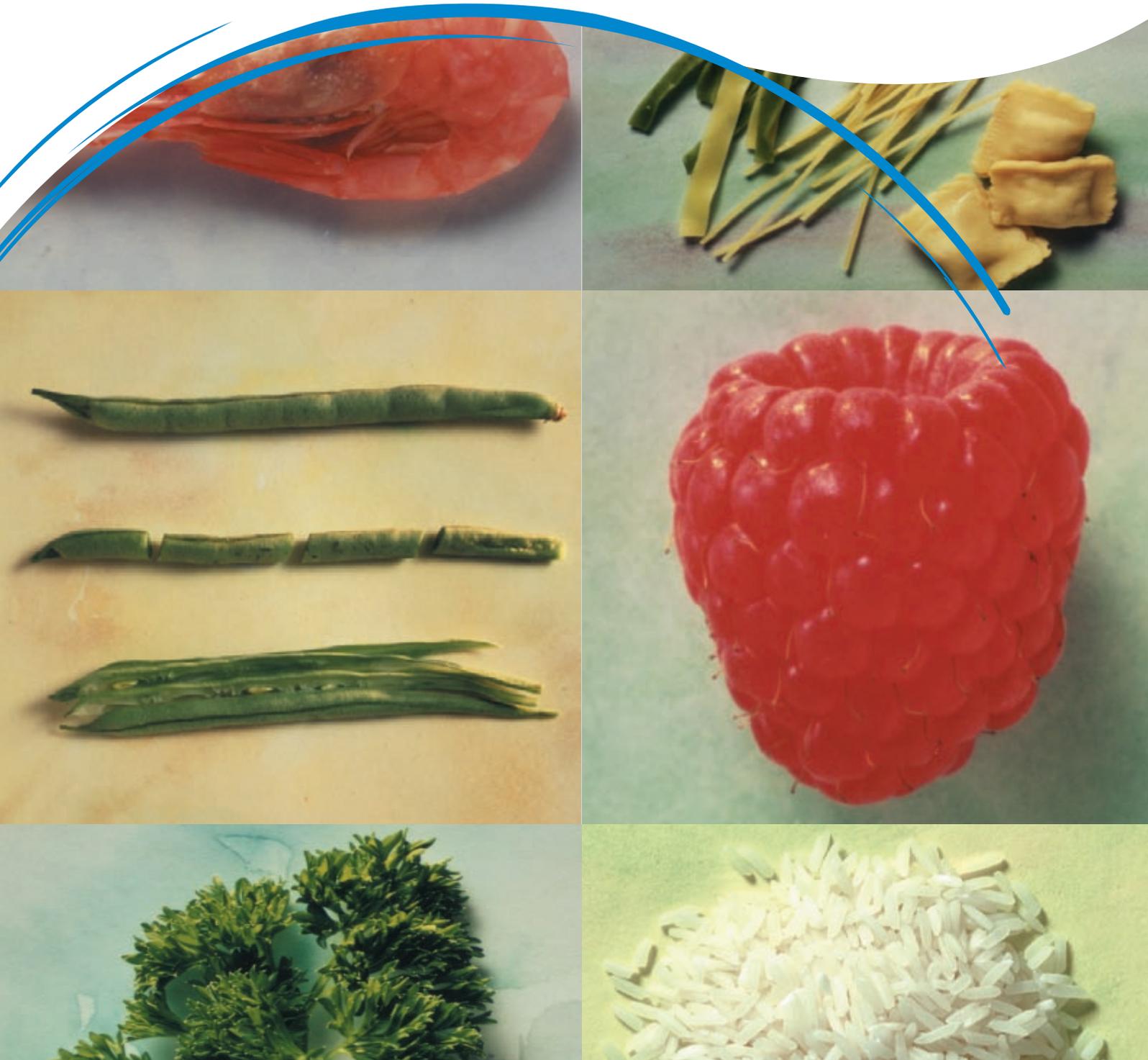


Frigoscandia FLoFREEZE[®] M

Perfect freezing for IQF products



Fresher than fresh – your path to profitable processing

We pioneered Individual Quick Freezing technology, installing the world's first IQF freezer on a process line in Sweden in 1962. Since then, several million tons of fresh food product have been successfully and profitably frozen in FLoFREEZE® freezers.

Quality and productivity, without compromise

The FLoFREEZE M freezers give you quality that builds your reputation and profit that drives your growth. Providing true fluidization, they individually quick-freeze even the most difficult products (see table), while simultaneously fulfilling the industry's toughest requirements for hygiene, economy and user-friendliness. Features such as Air Defrost System (ADF) and quick program changeover extend production runs and maximize your uptime.

Controlled airflow

The secret of our IQF freezing is that we use a bed of supercooled air to suspend and separate solid food products, while simultaneously freezing them.

The specially designed IQF track evenly distributes and directs air towards the product. Controlled turbulence at the start of the freezing process speeds up heat transfer and ensures fast, gentle crust freezing when the food product is most fragile. Crust freezing locks in product moisture before the final core freezing, as well as preserving product weight, appearance and IQF quality.

Unrivalled flexibility. Satisfied consumers.

Superior quality is what you get for every application.

We have perfected the FLoFREEZE IQF airflow-, pressure- and conveyor technology so you can achieve optimal, food-focused freezing. Two independently controlled belts, and precise control over a range of airflow characteristics, give you maximum flexibility.

Fluidize difficult products such as cooked rice. Use belt agitation to successfully separate wet and sticky products, and conveyor to transport heavy products. With the unique optional pulsator, which provides extra levitation, you can get optimum results with fragile, sticky products like berries, which defeat most IQF freezers.



Crust freezing instantly seals the surface of each product, promoting smooth production and minimizing bruising before core freezing. This is the key to value-added quality as well as high throughput and uptime.

Even the most difficult products are handled gently, and frozen without destroying appearance, thanks to the dual freezing zones and divided pressure chamber. True fluidization means that, right from the start, products are individually frozen – to ensure the final consumer hassle-free thawing of a 'fresher-than-fresh' product.

Hygiene-by-Design™

The FLoFREEZE was designed from the start to be extremely easy to clean, and to keep clean. This is the cornerstone of our Hygiene-by-Design philosophy.

The IQF track conveyor is made of dirt-repellant polymer, while all vital interior metal parts are stainless steel. All surfaces, including the floor, are smooth and self-draining, to ensure the efficient, thorough removal of food debris during cleaning.

Matching your needs

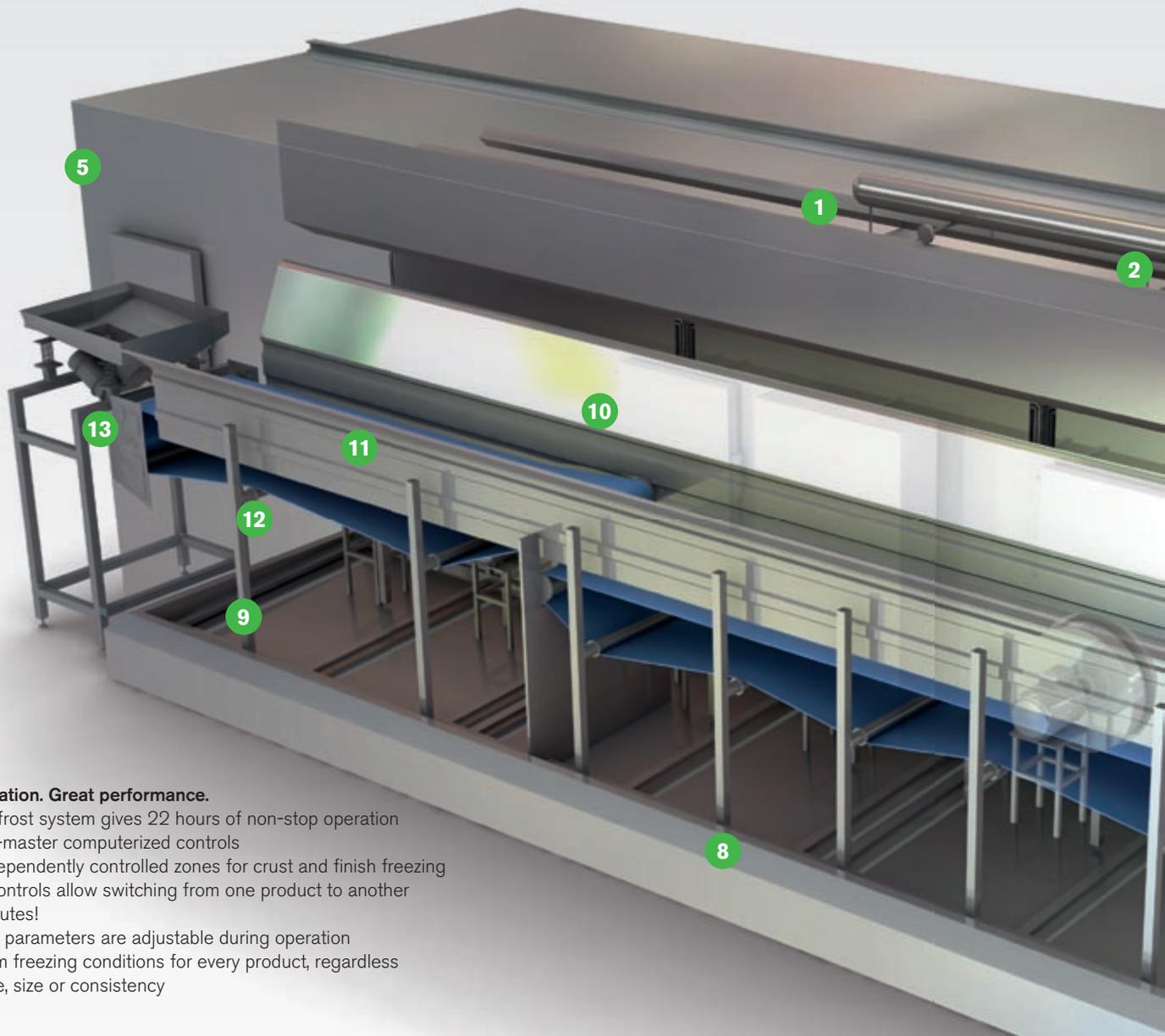
The FLoFREEZE IQF freezer is tailored to fulfill any product requirement, with capacities ranging from 5 tons (11,000 lbs) to 15 tons (33,040 lbs) per hour (calculated as peas).

Optimized operating parameters can be preset for different products, as shown in the table overleaf. This means that you can switch from one product to another at the push of a button.

Technical data					
Examples of Products – capacity in kg/hr (lbs/hr) for each FLoFREEZE IQF freezer model					
	M2	M3	M4	M5	M6
Peas, sweet, green	5,000 (11,000)	7,500 (16,500)	10,000 (22,000)	12,500 (27,500)	15,000 (33,040)
Broccoli, cut, 30 mm	3,500 (7,700)	5,250 (11,550)	7,000 (15,400)	8,750 (19,250)	10,500 (23,120)
Brussel sprouts, whole, 25–40 mm	4,250 (9,350)	6,375 (14,025)	8,500 (18,700)	10,625 (23,375)	12,750 (28,100)
Carrots, sliced, straight, 6 mm	4,000 (8,800)	6,080 (13,376)	8,000 (17,600)	10,000 (22,000)	12,000 (26,430)
Carrots, diced, 10 mm	4,250 (9,350)	6,375 (14,025)	8,500 (18,700)	10,625 (23,375)	12,750 (28,100)
Cauliflower, florets, 20–50 mm	3,750 (8,250)	5,625 (12,375)	7,500 (16,500)	9,375 (20,625)	11,250 (24,780)
Sweet corn, cut	5,000 (11,000)	7,500 (16,500)	10,000 (22,000)	12,500 (27,500)	15,000 (33,040)
Green beans, cut, 13–30 mm	4,250 (9,350)	6,375 (14,025)	8,500 (18,700)	10,625 (23,375)	12,750 (28,100)
French fries, crinkle-cut 13 mm, +40 °C	3,500 (7,700)	5,250 (11,550)	7,000 (15,400)	8,750 (19,250)	10,500 (23,120)
French fries, crinkle-cut 13 mm, +15 °C	4,000 (8,800)	6,080 (13,376)	8,000 (17,600)	10,000 (22,000)	12,000 (26,430)
Potatoes, diced, 10 mm	4,250 (9,350)	6,375 (14,025)	8,500 (18,700)	10,625 (23,375)	12,750 (28,100)
Cherries, pitted, –2 °C to –4 °C	4,000 (8,800)	6,080 (13,376)	8,000 (17,600)	10,000 (22,000)	12,000 (26,430)
Strawberries & raspberries	3,500 (7,700)	5,250 (11,550)	7,000 (15,400)	8,750 (19,250)	10,500 (23,120)
Shrimp, peeled/cooked, +5 °C 110–220 pcs/kg (50–100 pcs/lb)	3,000 (6,600)	4,500 (9,900)	6,000 (13,200)	7,500 (16,500)	9,000 (19,820)
Ham, diced, 10x10x13 mm	3,250 (7,150)	4,875 (10,725)	6,500 (14,300)	8,125 (17,875)	9,750 (21,470)
Poultry, diced, 10 mm	3,500 (7,700)	5,250 (11,550)	7,000 (15,400)	8,750 (19,250)	10,500 (23,120)
Farfalle & tortellini pasta	2,750 (6,050)	4,125 (9,075)	5,500 (12,100)	6,875 (15,125)	8,250 (18,170)
Mozarella cheese, –4 °C to –18 °C, shredded	4,750 (10,450)	7,125 (15,675)	9,500 (20,900)	11,875 (26,125)	14,250 (31,380)

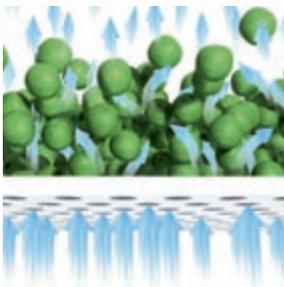
Optional Features					
	M2	M3	M4	M5	M6
Agitator	standard	standard	standard	standard	standard
Pulsator	optional	optional	optional	optional	optional
Air Defrost System	standard	standard	standard	standard	standard





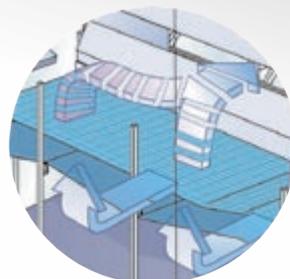
Easy operation. Great performance.

- ADF defrost system gives 22 hours of non-stop operation
- Easy-to-master computerized controls
- Two independently controlled zones for crust and finish freezing
- Touch controls allow switching from one product to another – in minutes!
- Process parameters are adjustable during operation
- Optimum freezing conditions for every product, regardless of shape, size or consistency



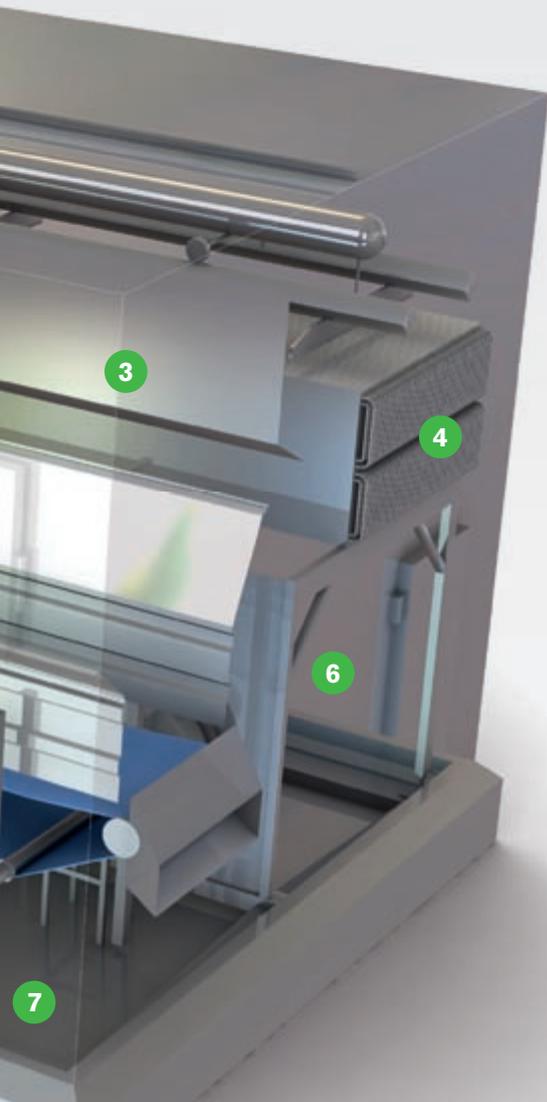
IQF at its best

Suspending them in a bed of supercooled air, our IQF technology allows food particles to freeze without sticking to each other. It is the method of choice for freezing seasonal fruit and vegetables, as well as french fries, diced meat and poultry, shrimp, pasta and cooked rice.

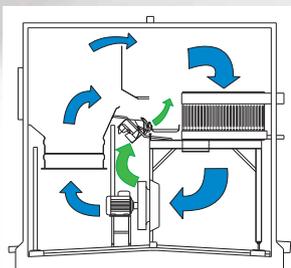


Pulsator

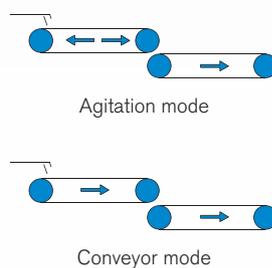
This patented technology pulsates the airflow through the IQF track to increase the degree of IQF (95–100 %).



- 1 Sequential Defrost System (optional) thoroughly defrosts evaporator without stopping production, allowing up to 6 days of continuous operation
- 2 Patented Air Defrost System (standard) uses powerful airblasts to remove frost from coils, ensuring unobstructed airflow and permitting up to 22 hours non-stop production
- 3 Air Guide enhances temperature equilibrium as well as freezing efficiency and hygiene
- 4 Continuous evaporator fins resist residue build-up and are easy to clean with the incorporated evaporator rinse
- 5 Touch-screen controls for user-friendly operation
- 6 Post-evaporator chamber is large and easily accessible, for rapid, efficient cleaning and maintenance
- 7 Hygienic enameled or stainless steel insulated enclosure
- 8 Hygienic elevated floor-to-wall joint
- 9 Sloped stainless steel insulated floor for fast, complete drainage
- 10 Adjustable air bypass hatches provide optimal airflow through the belts for all applications and operating conditions
- 11 Unique pulsator maximizes IQF effect as it steers airflow through the IQF track, delivering optimum results for fragile, sticky products like berries
- 12 IQF track and split pressure chamber ensure stable fluidization. Two independently controlled belts and the split pressure chamber direct airflow where it is best needed, to first qualitatively crust-freeze, and then quantitatively core-freeze the product. The track can also run in agitation or conveyor mode, ensuring optimum food-focused IQF for each product
- 13 Extended belt rinser (optional) cleans the first belt without raising freezer temperature, enabling you to extend the production run



Air Bypass Hatches
Adjustable to provide optimal airflow through the belts for all applications and operating conditions



IQF Track
Offers stable fluidization. Made of dirt-repellant polymer which is easy to keep clean, with two independently controlled belts and two separate pressure chambers. The IQF track can also be run in agitation or conveyor mode, to ensure optimum IQF.



We are your single source for profitable processing solutions

JBT FoodTech can provide you with portioners, freezers, and everything in between – including process control, food product development assistance, operator training and a full range of customer support alternatives.

Our Food Technology Centers have served leading processors in development of many of the world's most popular food brands. Learn how to increase your processing potential by contacting your JBT FoodTech representative or by visiting our website.

www.jbtfoodtech.com



www.jbtfoodtech.com

North America

JBT FoodTech
1622 First St.
Sandusky, OH 44870
USA
Phone: +1 419 626 0304
Fax: +1 419 626 9560

Asia

JBT FoodTech
20 Harbour Drive
#04-02 PSA Vista
SINGAPORE 117612
Phone: +65 67766 220
Fax: +65 67766 229

Europe

JBT FoodTech
Rusthällsgatan 21, Box 913
SE-251 09 Helsingborg
SWEDEN
Phone: +46 42 490 4000
Fax: +46 42 490 4040

Latin America

JBT FoodTech
Av Eng Luis Carlos Berrini, 1461
9th Floor – Brooklin
04571-903 Sao Paulo BRAZIL
Phone: +55 11 3055 1010
Fax: +55 11 3055 1030