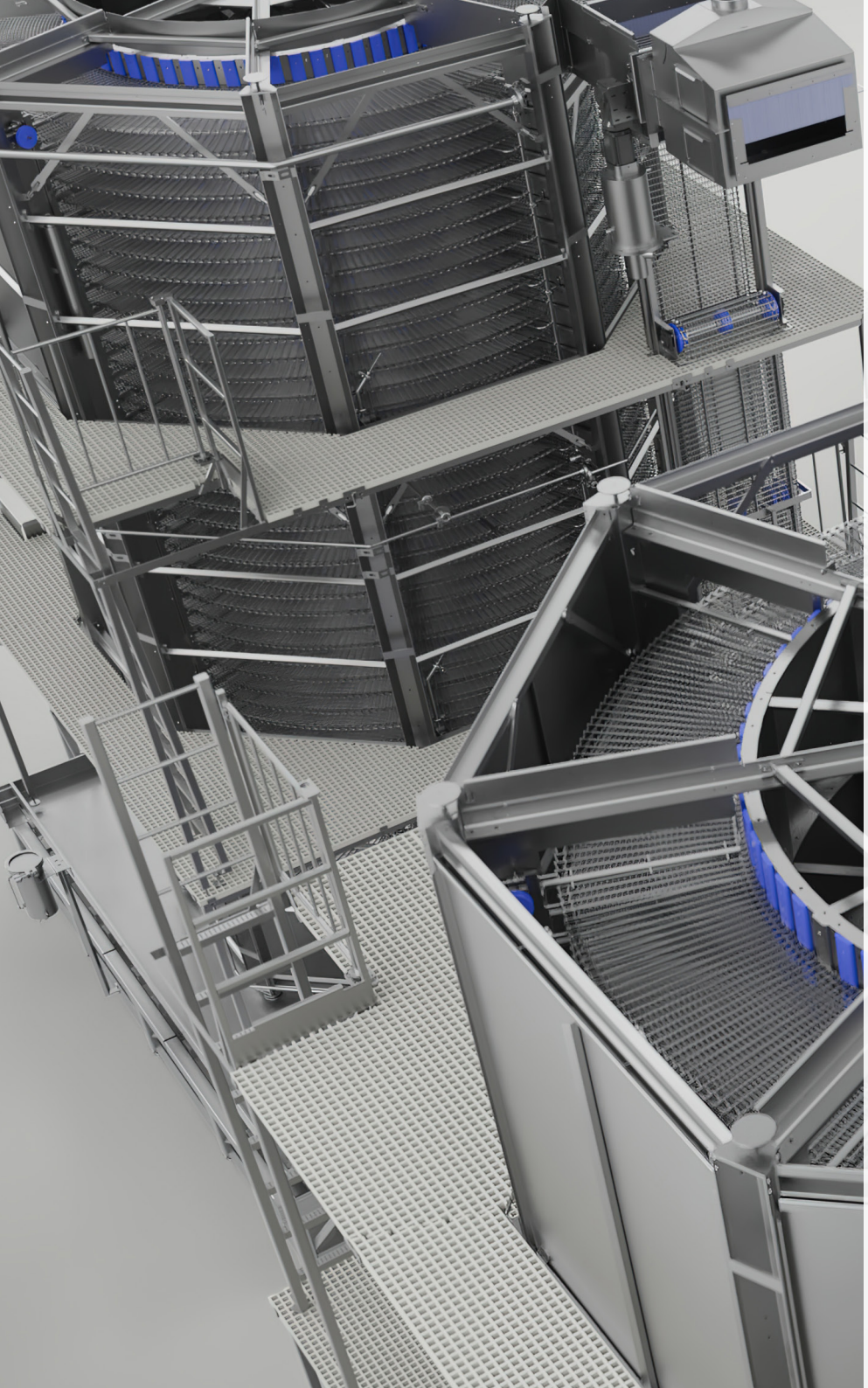


spiral & tunnel solutions

mechanical IQF for maximum food quality

DSI DANTECH

we are DSI Dantech

our solutions allow you to **optimize your production** while sparing the environment

We offer the global food industry the full range of IQF mechanical technology – from freezing to cooling and heating of quality food.

We partner with food suppliers and manufacturers to supply our customized solutions. We excel in faster freezing, cooling, and heating, our running time is longer, and our processing costs are lower. This results in higher yield, better preservation, and optimal product quality.

freezing, cooling & heating solutions

table of **contents**

solutions

mechanical IQF freezing

IQF – or individual quick freezing – is a method to freeze or cool separate food items very quickly. It is also a method that guarantees high food quality, food safety as well as the preservation of size, taste, and cell structure. The principle behind mechanical IQF is fast and cold air circulation that flows horizontally and is guided over individual items to freeze or cool them very quickly.

savings

minimize energy consumption

Our solutions are based on a standard mechanical refrigeration cycle, and our smart design ensures the fastest possible air speed over the product and the fastest freezing time on the market.

This results in a higher yield and better product quality – at the same time, our solutions are up to 25% more energy efficient than alternative mechanical IQF freezing solutions.

faster freezing

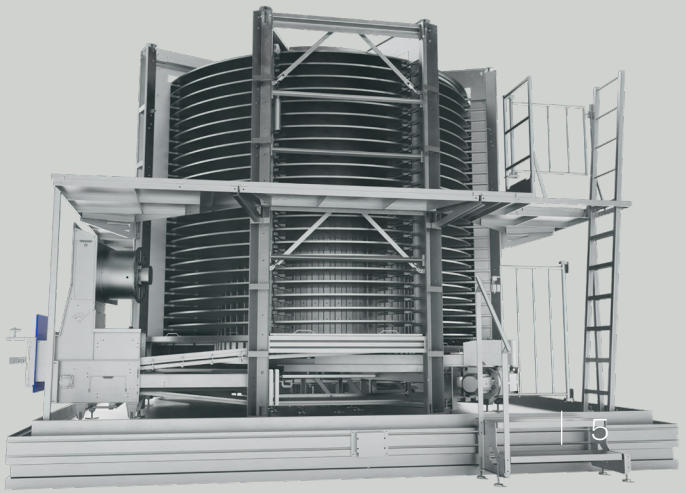
sustain **food quality**

Fast freezing is preferable to sustain product quality, as it prevents the formation of large ice crystals within the food. Ice crystals are a natural effect of freezing. Small ice crystals have little effect on food, whereas large ice crystals destroy the cell membrane structures and affect the shape, color, smell, and taste.

The fast freezing also has a positive effect on the natural occurring yield reduction and saves you 0.3%-1.5% compared to other mechanical IQF solutions on the market.

customize your solution

we recommend **mechanical IQF** for **large scale** and **high-volume** productions



spiral freezer

flexible freezing for **changeable** products

Our Spiral Freezer is available with single, double, and triple drums and can freeze food in IQF form and on trays or in boxes. Ideal for products that requires a long retention time, or fragile products & sealed products.

The freezers operate with the energy saving principle of rapid linear airflow known as Horizontal-flow®.

This system offers great savings in terms of reduced energy consumption and ensures a rapid and uniform freezing. It also provides superior flexibility to freeze shifting products. With this system in place, products on the conveyor belt are constantly being "hit" by the continuous circulating air flow ensuring a rapid and uniform freezing within a minimum of time.

The Spiral Freezer is the only freezer on the market that requires defrosting only once a week without sequential defrosting, even with products registering an inlet temperature of 80°C.

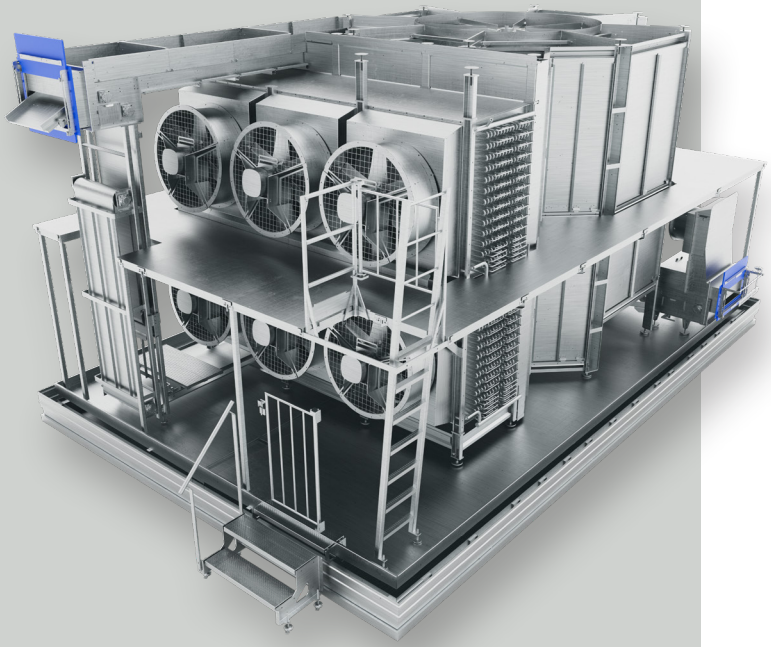
optimized design & manufacturing

Our Spiral Freezers are manufactured in a compact design using only high quality stainless steel components. Our freezers are designed with an open design ensuring easy cleaning, maintenance and long life without corrosion as well as meeting the strictest cleaning requirements.

Capacity from 250kg/h and up to 20t/h with more than 900 different configurations suiting most applications across the food industry. The spiral freezers are high on efficiency, low on maintenance costs, and customizable to meet specific customer's specifications.

reducing **kW** consumption with **less** defrost

- Lowest cost per kg of frozen product
- Lowest kW consumption
- Small carbon footprint
- Improved product quality
- High product yield
- Minimal product dehydration
- 7-day non-stop production capability
- Easy to maintain and keep clean



industries

solutions **suitable** for

- fish & seafood
- meat & poultry
- fruit & vegetables
- ready to eat
- baked goods
- dairy
- further processing
- plant based food
- ice cream
- pet food
- non-food

punctuality is an indication of competence

Model	Length		Width		Height (W/O Platform)		Spiral drum diameter		Belt Width		Effective Belt Width		Tier pitch		Number of tiers	Maximum product height		Height of freezer inlet from door	Height of freezer outlet from door		Refridgeration Supply to Evaporator	Suction Temp at Evaporator		Air temperature		Performance installed fan motors
	mm	ft	mm	ft	mm	ft	mm	ft	mm	ft	mm	in	mm	in		mm	in		mm	ft	kW	C°	F°	C°	F°	kW
MOD03	6800	22	4300	14	4150	14	1600	5	457	1,5	389	15			**16**	**107**	4,2		3750	12	**210**					16
MOD06	6800	22	4300	14	5850	19	1600	5	457	1,5	389	15			**26**	**107**	4,2		5450	18	**310**					24
MOD12	7500	25	5400	18	4150	14	2300	8	660	2,2	575	23			**16**	**107**	4,2		3750	12	**256**					28
MOD15	7500	25	5400	18	5850	19	2300	8	660	2,2	575	23			**26**	**107**	4,2		5450	18	**460**					35
MOD23	8850	29	5400	20	5350	18	2700	9	787	2,6	702	28			**23**	102	4		4940	16	**455**					46
MOD26	8850	29	6100	20	6850	23	2700	9	787	2,6	702	28			**32**	102	4		6470	21	**620**					64
MOD30	9750	32	6100	23	4150	14	3200	11	914	3	819	32	170	6,7	**16**	102	4	**2,8**	3750	12	**350**	-40	-40	-35	-23,8	42
MOD34	9750	32	6800	23	6350	21	3200	11	914	3	819	32			**29**	102	4		5960	20	**635**					80
MOD39	11200	37	6800	28	4150	14	4200	14	1067	3,5	914	36			**16**	102	4		3750	12	**400**					55
MOD43	11200	37	7600	28	4650	15	4200	14	1067	3,5	914	36			**19**	102	4		4260	14	**480**					65
MOD48	11400	37	7600	29	4150	14	4200	14	1117	3,7	1022	40			**16**	102	4		3750	12	**495**					60
MOD51	11400	37	8600	29	5850	19	4200	14	1117	3,7	1022	40			**26**	102	4		5450	18	**755**					98

***Coolant for all models is Ammonia R717**
**Voltage (kW) 3x400V / 50HZ
*** Refridgeration Circulation Rate - Pump System 4-5 Times Circulation

maximum product quality

With higher air speed the product is evenly exposed on every level and frozen within a minimal time. As a result, the product quality is preserved which ensures that even delicate products can be optimally processed. The fast freezing time pays for itself preserving the product's quality, reduces dehumidification and therefore reduces weight loss which results in a higher yield. This relieves your cost structure immensely.

best **value** for money

When you combine benefits like the lowest cost per kilogram produced product with the longest up time and lowest down time, you will get the best value for your money. Add the longest running time in between defrosting, with less water consumption and chemical usage, and you will achive an overall better CSR footprint and the best cost of ownership.

spiral carton freezer

60% faster freezing for higher **product quality**

Our Spiral Carton Freezer is specifically designed for food packed in carton boxes or on trays with long retention times. It consumes up to 50% less energy and freezes up to 60% faster than other blast and conventional carton box freezers on the market. This has a positive effect on your product. Fast freezing equals smaller ice crystals and less destroyed cell structures. The result is better product quality, a nice and natural color, and less product loss after defrosting.

The Spiral Carton Freezer can be fully customized to fit your production, e.g. with single, double, or triple drums

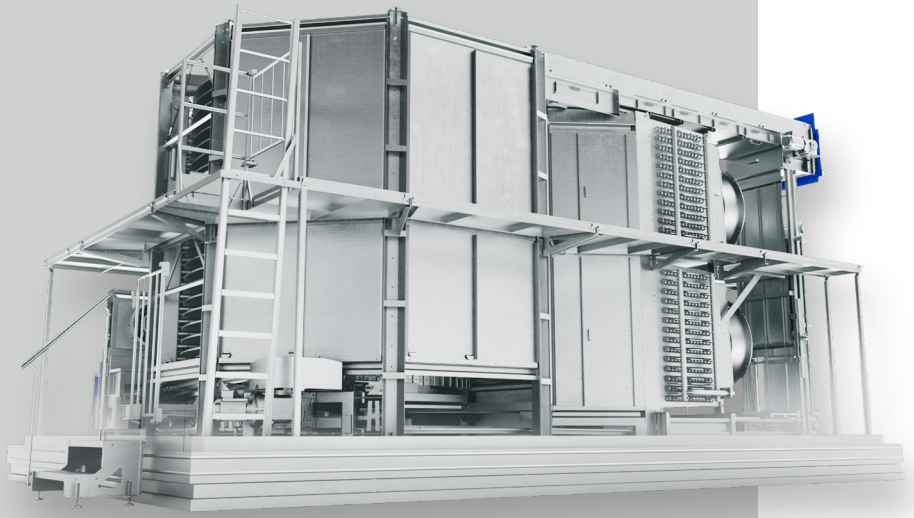
You are guaranteed the highest product quality with small ice crystals for better shape, color, smell, and taste.

reducing **kW** consumption with **less** defrost

- Lowest cost per kg of frozen product
- Lowest kW consumption
- Small carbon footprint
- High product yield
- Minimal product dehydration
- 7-day non-stop production capability
- Easy to maintain and keep clean

possible **configuration**

Spiral Carton Freezer can be setup in a single drum, double drum and triple drum configuration. We offer a large range of standardized Spiral configurations and also fully customized solutions upon request of the customer, to meet all freezing requirements.



industries

solutions **suitable** for

fish & seafood

meat & poultry

spiral oven

efficient cooking with **controlled** heating

Our Spiral Oven “TasteMaster” is designed for food that requires controlled heat and an efficient cooking time. It offers you ultimate temperature control and quick and uniform cooking – and it consumes less energy than other ovens on the market. TasteMaster can be used for products in various sizes and is equipped with a fully raiseable stainless steel SS316 hood that makes the spirals easy to maintain and clean.

The TasteMaster comes as a double drum version. It has the option of two separate chambers and temperature zones with different air speeds. The second chamber provides a hot and dry treatment for a crisp surface. Both drums are individually equipped with dew point sensors.

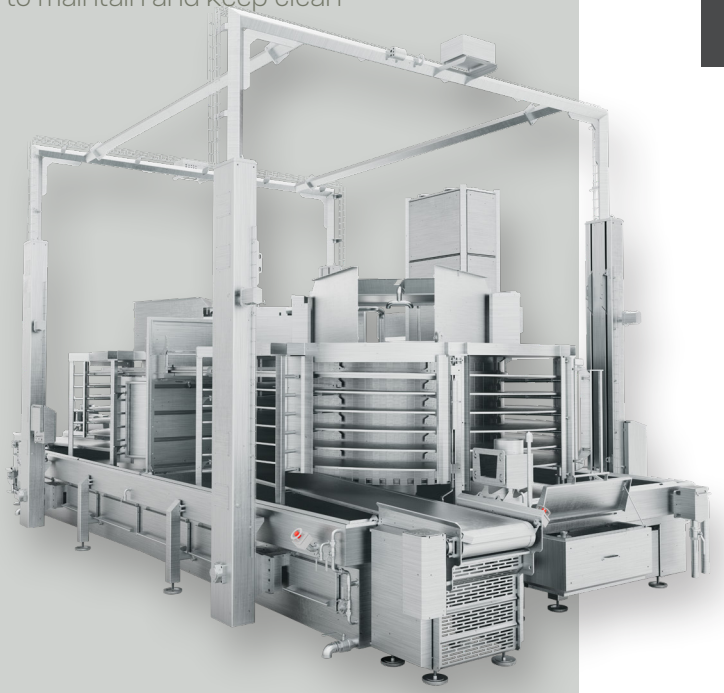
optimized **operation** and product **quality**

Double spiral hot air ovens works with a tried-and-tested and energy-saving system of steam pasteurization in combination with thermal oil roasting. At low steam pressure, steam is sprayed separately, for each cylinder, into the interior of the convection oven.

Furthermore, each chamber/drum is provided with an individual heater battery which is connected to a central thermal oil circuit. In this way, for each chamber you can set the ideal operating point for your product via dew point sensors and you’ll receive an end product providing for both an optimum yield and an ideal degree of browning, while remaining nice and juicy. Accurately controlled and high air velocity, provides a homogeneous product appearance combined with the fastest possible processing times.

reducing **steam** and **kW** consumption

- Lowest cost per kg of cooked product
- Lowest kW consumption
- Lowest steam consumption
- Small carbon footprint
- High product yield
- Low product weight loss
- Quick and uniform cooking
- No cold spots
- Low freight costs
- Easy to maintain and keep clean



industries

solutions **suitable** for

- fish & seafood
- meat & poultry
- further processing
- plant based food
- pet food
- non-food

spiral sous vide

improved **food safety** for **vacuum** packed food

Our Spiral Sous Vide is designed to ensure food safety and handle vacuum packed products that require homogeneous cooking at an accurate temperature.

The Spiral Sous Vide consumes less energy per kilogram cooked product than any other sous vide systems on the market. It gives you 7 days of non-stop production as it only requires defrosting once a week. On top of that, the Spiral Sous Vide uses significantly less water and has a minimal cooking time. In all, our spiral sous vide will offer you savings of up to 70% in manpower, handling costs, and water consumption.

cooking **safety**

The Spiral Sous Vide can be used for a large variety of vacuum packed products, that require a homogenous cooking and accurate cooking temperature.

The Spiral Sous Vide system designed by DSI Dantech has also eliminated the possibility of water contamination in the case of a packaging leak and ensures better food safety measures than other conventional systems.

reducing **kW** consumption **weight loss**

- Lowest kW consumption
- Lowest water consumption
- High product quality
- 7-day non-stop production capability
- Uniform and efficient cooking
- Low risk of contamination & handling costs
- Less manpower
- Easy to maintain and keep clean
- Combine with our Spiral Conditioner for a complete system

industries

solutions **suitable** for

- fish & seafood
- meat & poultry
- ready to eat
- further processing
- plant based food
- pet food

spiral pasteuriser

precise, **homogenous** and **high yield** cooking

Our Spiral Pasteurizer is designed for products that require accurately controlled heat to eliminate pathogens and extend shelf life. The solution is based on a proven and energy-saving technology, and consumes less energy per kilogram cooked product. The Spiral Pasteurizer uses no water – only steam and air, reducing the quantity of water, wastewater, and carbon footprint. Ensuring the finest product quality.

The Spiral Pasteurizer is designed with a special flow that ensures precise, homogeneous, and high yield cooking ensuring very fast heating and low steam consumption. Injecting steam with different valves on various levels of the drum. This ensures a homogeneous temperature and humidity control in the complete drum chamber. A dew point sensor at every height level ensures easy adjustments to achieve the required f-value and shelf-life quickly.

structure & **safety**

Spiral Pasteurizer is made of stainless-steel SS 316 - including frames, in-feed/outlet conveyors and guide plates. Additionally, it has double layer metal strips and steam suction pipes at in/outlet minimizing air/moisture leaks and entering the machine. Designed with wear strips for low friction and durability, it ensures long parts and belt life. All parts are carefully selected to ensure maximum lifespan.

Emergency breakers mounted next to in-feed conveyor. For full personnel security. Electronic / Mechanical product height sensor preventing any loading of too high products.

low **carbon footprint** and extended **shelf life**

- Lowest cost per kg of cooked product
- Lowest steam consumption
- Small carbon footprint
- Quick and uniform tempering
- 360° steam distribution
- No cold spots
- Easy to maintain and keep clean
- Combine with our Spiral Cooler or Spiral Freezer for a complete system

industries

solutions **suitable** for

- fish & seafood
- meat & poultry
- ready to eat
- further processing
- plant based food
- liquids & fluids
- pet food
- non-food

spiral proofer

steady and **uniform** proofing

Our IQF Spiral Proofer is especially suitable for proofing bakery products such as pastry, croissants, and other types of dough products. It is designed for a precise and fast proofing with its temperature-controlled environment. It is available with single and double drum configurations.

The Spiral Proofer uses less energy per kilogram of cooked product than any other proofer on the market and has an extraordinarily low carbon footprint.

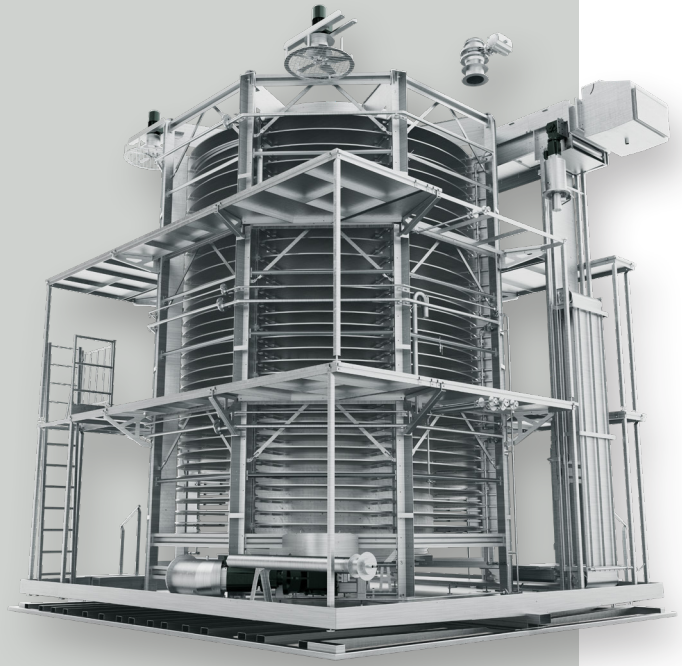
less **kW** consumption and **carbon footprint**

- Lowest cost per kg of cooked product
- Small carbon footprint
- Precise and steady proofing
- Easy to maintain and keep clean

temperature control

The products are fed to the belt at the lower in-feed end, and then raised via the rotating drum. Simultaneously the product passes through the temperature controlled environment and well controlled airflow.

The Spiral Proofer is available in both Single and Double Drum configurations.



industries

solutions **suitable** for

ready to eat

baked goods

spiral conditioner

zero **weight loss** sustain **product quality**

Our IQF Spiral Conditioner is especially designed for the conditioning of loins, bone-in loins, bacon blocks, tuna loins as well as blocks of fish and chicken. It is also suitable for many other frozen products prior to processing, such as portion cutting and slicing.

The special patented design of our Spiral Conditioner ensures zero weight loss of the product during the conditioning process from -18°C to approx. -3°C. The process also sustains product quality with no burned spots. On top of that, the Spiral Conditioner ensures zero risk of bacteria growth and operates at a very low power consumption that reduces the production cost/kg dramatically.

reducing **kW** consumption and **cost** per kg

- Lowest cost per kg of tempered product
- Lowest kW consumption
- Small carbon footprint
- No product weight loss
- No free water hence
- No risk of bacteria growth
- Quick and uniform thawing
- Easy to maintain and keep clean

uniformity & **accuracy**

The product is fed to the belt at the lower in-feed end, and then raised via the rotating drum. Simultaneously the product passes through the temperature controlled environment and airflow. The principle of the airflow ensures that the product receives a uniform process within a minimum of time thus making certain a good quality finished product.

Spiral Conditioner improves and ensures accuracy with up to 2 - 3 % of a portioning line, additionally maintains form and shape during the portioning process. Conditioner can be used as the overnight storage to keep products chilled until production is ready.

The outlet temperature at -2 °C results in zero product weight loss and no free water on surface.

industries

solutions **suitable** for

- fish & seafood
- meat & poultry
- pet food

effective and **fast** freezing for higher **yield**

Our Ultraflow® Tunnel Freezer has an extremely fast freezing time and a long operating time without defrosting. This is possible due to a very effective and fast principle of impingement airflow, where the air flows over the food from the top and bottom–similar to the principle of an aircraft wing–under the "Coanda effect" and forms a streamline coating. The food is then completely encompassed by cold air and gently and evenly cooled from above and below. A process that keeps food cells and structure in good shape, creates smaller ice crystals and improves product quality.

The Ultraflow® Tunnel Freezer is available in two versions. The Ultraflow® Max is an encapsulated tunnel freezer within a full cabinet, whereas the Ultraflow® Super Hygiene has a hooded cabinet that can be raised for easy access and cleaning.

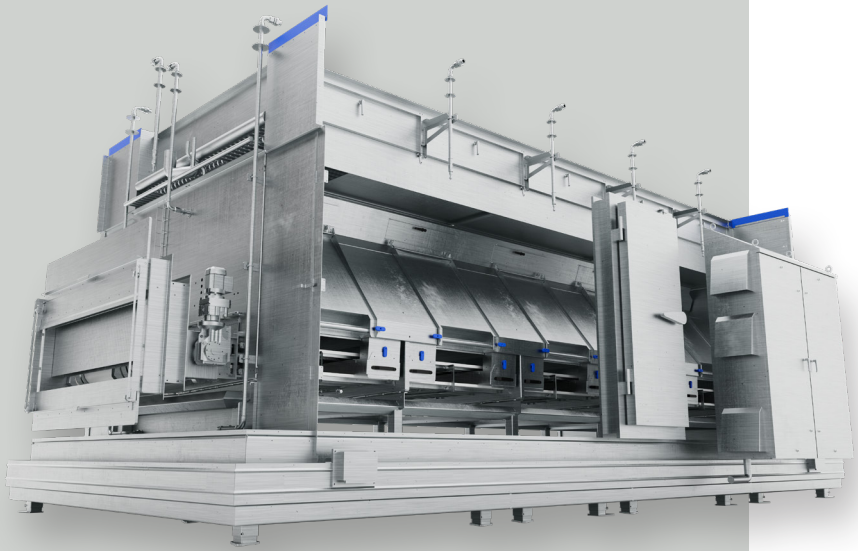
Use the Ultraflow® series for products that needs fast freezing before portioning, such as pork loin, topside, or tenderloin. When the surface is frozen fast, it is possible to ensure a better cut quality with constandt weights. This reduces the giveaway and increases the product yield.

airflow principle

The Ultraflow® Tunnel Freezer operates with the very effective and fast principle of impingement airflow. This is based on the innovative airflow made by DSI Dantech that freezes the products with rapid speed. The air is directed from a pressure chamber through small nozzle outlets on the top and bottom of the product. This results in very high air speeds being achieved and ensure an extremely rapid heat removal from the product.

longer **operation time** with less **defrost**

- Low cost per kg of frozen product
- Low kW consumption
- Small carbon footprint
- Improved product quality
- High product yield
- Minimal product dehydration
- Easy to maintain and keep clean
- Quick installation time
- Crust freezing capabilities



industries

solutions **suitable** for

- fish & seafood
- meat & poultry
- fruit & vegetables
- ready to eat
- liquids & fluids
- baked goods
- dairy
- further processing
- plant based food
- ice cream
- pet food
- non-food

ultraflow super hygiene tunnel freezer

super **hygiene** for **minimum** of cleaning

The Ultraflow Super Hygiene is designed for freezing both IQF food and products placed on trays. It comes fully assembled and requires a minimum of installation. The freezer is supplied with electrical hoist motors to lift the fully welded stainless steel insulated top cover, which reveals the interior of the freezer for easy cleaning and maintenance. Furthermore, the Ultraflow Super Hygiene does not require a concrete foundation or any other foundation.

With a simple change in air plates, the freezer is easily adaptable for both high speed vertical airflow, called Ultraflow® and a conventional high speed horizontal airflow, called Horizontal-flow®.This provides great flexibility to minimize the cost of freezing. However, the capacity will vary depending on the type of airflow, product loads etc.

horizontal-flow®

The Ultraflow Super Hygiene uses belts to lead food products past the conventional high velocity airflow Horizontal-flow®. The system ensures that a constant and effective airflow is maintained, by blowing the air horizontally over the belt and past the product and then continuously blowing through the evaporators. A process that keeps food cells and structure in good shape, creates smaller ice crystals and improves product quality.

Unlike the Ultraflow® Easyclean version; the Horizontal-flow® Easyclean version does not have the option of running both airflows (Ultraflow® & Horizontal-flow®). The freezer can be used as a stand-alone unit or as an integrated part of a fully automated processing line.

The Super Hygiene Series comes with either a Single Belt or Twin Belt version. The Twin belt version will give its user the flexibility to run two different products at the same time. Also, you can choose between several different belt options.

easy **access** and **adjustable** airflow

- Easy access for cleaning & maintenance
- Modular design for minimum installation
- Adjustable Airflow type (Vertical & Horizontal) to suit all types of products
- Easy relocation of the unit after installation
- Up to 48-hour operating time before defrosting is required
- Less weight loss when freezing products
- Less water and kW consumption
- Improved product quality
- Crust freezing capabilities

industries

solutions **suitable** for

- fish & seafood
- meat & poultry
- fruit & vegetables
- ready to eat
- liquids & fluids
- baked goods
- dairy
- further processing
- plant based food
- ice cream
- pet food
- non-food

ultraflow max tunnel freezer

perfect **all-round** frost edge of **individual product**

The Ultraflow Max Tunnel is designed for freezing both IQF food and products placed on trays. Crust freezing/hardening of products prior to portion cutting or slicing is also one of the applications of the Ultraflow Tunnel Freezers. Depending on the application, the Ultraflow® is available in a Single or Twin belt version.

Due to the impingement technology, the airflow around the product is at a very high velocity, resulting in a rapid heat transfer. Hence reducing the freezing/retention time significantly which results in lowering the running costs. Reduce freezing costs in terms of energy consumption and electricity costs, and increase product yield.

Our Ultraflow Max® is installed on site and can optionally be finished with stainless steel panels. A foundation is not required as our system comes with a stainless-steel platform.

optimized **design**

In its core, the The Ultraflow Max Tunnel freezer works the same way as the Ultraflow Super Hygiene. The main difference is that the Max does not have an exterior that can be hoisted, but is rather encapsulated in a stainless steel foundation.

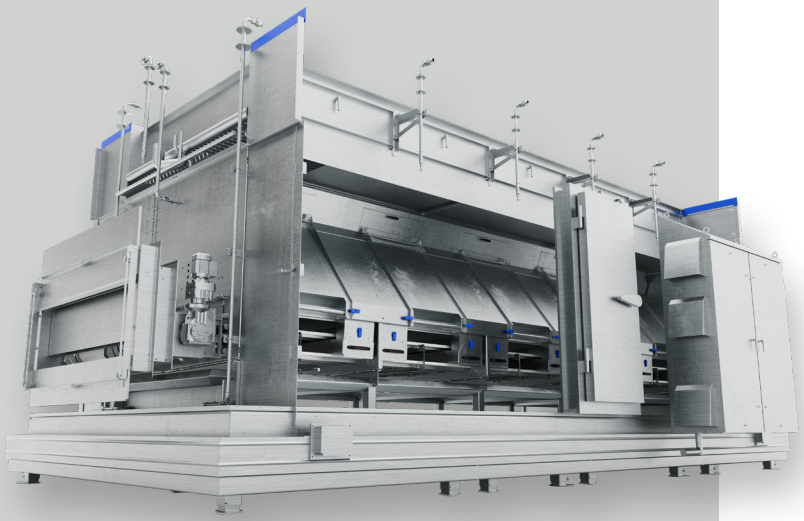
airflow principle

The Ultraflow Max Tunnel version has the option of running either with a Ultraflow® airflow or with a Horizontal-flow® airflow.

Both the Ultraflow® and the Horizontal-flow® airflow together with the ultra low temperature ensures a quick and homogenous freezing within a minimum of time. Thus ensuring the best quality of finished product, with an equalized core temperature of min. -18°C. A principle that keeps food cells and structure in good shape, creates smaller ice crystals and improves product quality.

impingement technology with less **defrost**

- Modular design for minimum installation
- Adjustable Airflow type (Vertical & Horizontal) to suit all types of products
- Up to 48-hour operating time before defrosting is required
- Less weight loss when freezing products
- Less water and kW consumption
- Capacity based on the number of installed modules
- Twin Belt and Single Belt Configurations models available
- Crust freezing capabilities



industries

solutions **suitable** for

- fish & seafood
- meat & poultry
- fruit & vegetables
- ready to eat
- liquids & fluids
- baked goods
- dairy
- further processing
- plant based food
- ice cream
- pet food

technical data of mechanical ultraflow max tunnel freezer

punctuality is an indication of competence

Model	Length		Width		Height, Operation mode		Product Infeed Height		Retention Time (min)	Refridgeration Supply to Evaporator (kW)	Suction Temp at Evaporator		Air Temperature		Refridgeration Circulation Rate	Refrigerant	Fan Power Installed (kW)	Voltage
	mm	ft	mm	ft	mm	ft	mm	ft			°C	°F	°C	°F				
500TB	6050	19'11"	3050	10'						60							30	
1050SB	6050	19'11"	3050	10'						60							30	
750TB	6050	19'11"	3550	11'8"						80							30	
1550SB	6050	19'11"	3550	11'8"						80							30	
500TB	11550	37'11"	3050	10'						120							60	
1050SB	11550	37'11"	3050	10'	3100	10'2"	1175	3'10''	4-20 min. **	120	-40	-40	-35	-31	Pump 3-4 times	Ammonia R717	60	3 x 400V / 50 HZ
750TB	11550	37'11"	3550	11'8"						160							60	
1550SB	11550	37'11"	3550	11'8"						160							60	
1850 SB	11550	37'11"	3850	12'6"						190							60	
1850 TB	11550	37'11"	3850	12'6"						190							60	

Ultraflow® series

On the selected belt, the product is led past the high velocity impingement airflow called Ultraflow®, which is a turbulent vertical impingement airflow that blows the air stream directly on to the product and then the air stream will change direction, becoming a combination of Vertical and Horizontal airflow, before returning back to the evaporators.

Horizontal-flow® series

On the selected belt, the product is led past the conventional high velocity linear airflow called Horizontal-flow®, which blows the air horizontally over the belt and past the product and then continuously blowing through the evaporators.

tunnel crust freezer

initial **crust** freezing for **hardening** surface

Our tunnel Crust Freezer is designed for the initial IQF freezing of the outer layer of food prior to deep freezing, pressing, slicing, or portioning. The Crust Freezer is utilized for products that require “surface freezing”. Crust freezing means that the surface is solid frozen to make a crust around the product, while the core will remain at the same temperature as before entering the Crust Freezer. A great way to keep food cells and structure in good shape, create smaller ice crystals and improve product quality.

This is highly beneficial for products that are susceptible to belt marks once fully frozen; crust freezing will harden the product’s surface before entering a deep-freezing machine to avoid these marks and maintain the original shape of the product.

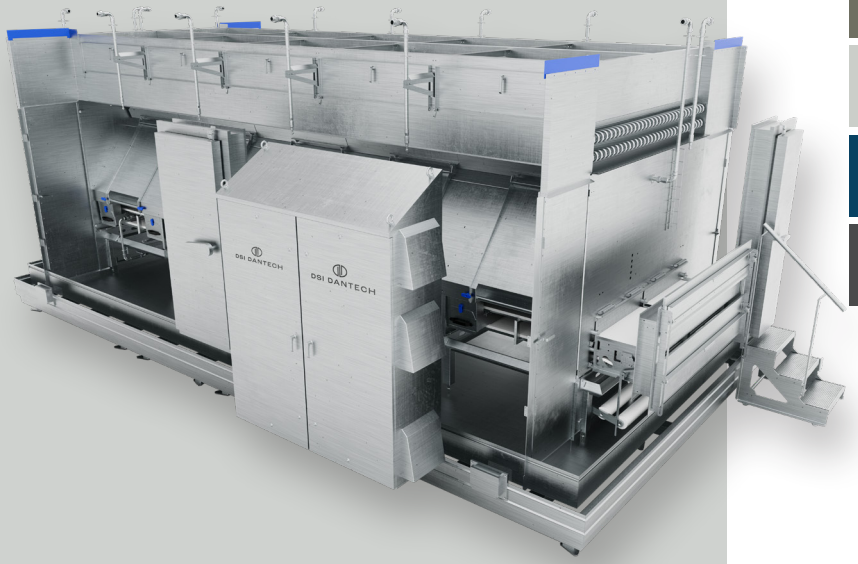
Crust freezing is also applicable for products that undergo portioning, as the crust allows for better slicing with cleaner cuts. Furthermore, crust freezing can also be utilized for small products that tend to stick together, by crust freezing these products the customer avoids having their products stick together.

optimized **design**

The Single Crust Freezer is a fully assembled series, which offer our customers a cost effective and time efficient method, in terms of installation time. The belt is continuously cleaned by special scrapers mounted above the belt. The scrapers are mounted at the belts return side at the freezers inlet. The unit is equipped with a pneumatically controlled quick release system for easy cleaning and maintenance. The Single Crust Freezer can be used as a stand-alone unit or as an integrated part of a fully automated processing line.

reducing **freezing times** and **kW** consumption

- Lowest cost per kg of frozen product
- Lowest kW consumption
- Small carbon footprint
- Improved product quality
- High product yield
- Minimal product dehydration
- Longer product shelf life
- No belt marks
- Better portioning efficiency and cleaner slicing
- Easy to maintain and keep clean
- Twin Belt and Single Belt Configurations models available



industries

solutions **suitable** for

- fish & seafood
- meat & poultry
- fruit & vegetables
- ready to eat
- liquids & fluids
- dairy
- further processing
- plant based food
- pet food
- non-food

single/double/triple belt freezer

quick and **homogenous** freezing and chilling

Our Belt Freezer is suitable for IQF-freezing of small products, and is a tunnel freezer with one, two, or three plastic modular or stainless steel mesh or plate link belts on top of each other. The food is led past a velocity airflow called Horizontal Flow® that blows ultra-low temperature air above and beneath it. This ensures a quick and homogeneous freezing within a minimum of time. The freezer is very easy to maintain and clean – and can run up to 72 hours without defrost and without sequential defrost.

The Belt Freezer can also chill and dry foods after cooking and before vacuum packing.

double belt tunnel freezer

The Double Belt Tunnel Freezer is specially designed for individual freezing of small items. The 2-belt system gives the advantage that the product is firstly crust frozen on the top belt and is then transferred gently to the slower running lower belt, where the products undergo a "full freeze", reaching an internal core temperature of -18°C.

triple belt tunnel freezer

The Triple Belt Tunnel freezer is a further development by DSI Dantech, inspired by conventional tunnel freezers. It works similarly to the Double Belt Freezer, where the top belt is used for crust freezing and the middle and bottom belts are utilized for fully freezing the products. The Triple Belt Freezer configuration is beneficial for customers looking to reduce their carbon foot print or for those who have a high capacity freezing requirements.

reducing **kW** consumption - with less **defrost**

- Lowest cost per kg of frozen product
- Lowest kW consumption
- Small carbon footprint
- High product yield
- Minimal product dehydration
- Easy to maintain and keep clean
- Long operating hours (defrosting only required once a week)
- Small space requirements

industries

solutions **suitable** for

- fish & seafood
- meat & poultry
- fruit & vegetables
- ready to eat
- liquids & fluids
- baked goods
- dairy
- further processing
- plant based food
- pet food
- non-food

D-freeze compact

quick freezing before **portioning**

Our D-freeze Compact is designed for the meat & poultry sector – specifically for products that need fast freezing before portioning, such as pork loin, topside, or tenderloin. When the surface is fast frozen, it is possible to ensure a better cut quality with constant weights. This reduces the giveaway and increases the yield.

The D-Freeze Compact requires minimal space; it only takes up 3.5 m x 3 m and can crust freeze up to 1,500 kg/h. On top, loading and unloading are done at the same side to save space as well as manpower.

The D-Freeze Compact freezers are also equipped with uniquely designed evaporators with varying fin spacing, which allows the unit to operate for up to 18 hours before defrosting of the evaporator is required. This combined with the low-pressure loss over the coil results in very low running cost of the freezer.

increased **flexibility**

By glazing various meat product surfaces with or without bones, a better cut quality is achieved with more consistent weights. This reduces the give-away and increases the yield. With the double belt design, the independently regulated belts can simultaneously freeze two different products with different durations.

reducing **energy** and saving **space**

- Lowest cost per kg of frozen product
- Lowest kW consumption
- Small carbon footprint
- High product yield
- Minimal product dehydration
- Easy to maintain and keep clean
- Less manpower required for operating machinery
- Small space requirements
- Twin Belt and Single Belt Configurations models available

industries

solutions **suitable** for

fish & seafood

meat & poultry

hardening tunnel

re-freezing of **glazed** products

Our Hardening Tunnel is designed for refreezing products that have been glazed –such as shrimp, shallops, and prawns.

The Hardening Tunnel ensures a fast and even refreezing of the glaze layer before entering a final equalized freeze. This creates an evenly coated frozen layer that is maintained throughout distribution and until the product is ready to eat.

Additionally, DSI Dantech offers a standard range of Hardening Tunnels, as well as providing tailor made solutions to match any customer needs. Hardening Tunnels (also known as Re-Freezers) are commonly used for freezing products after the glazing process in order to remove heat from products and ensures adequate temperature for proper storage.

quick and **even** re-freezing of the glaze layer

- Lowest cost per kg of frozen product
- Lowest kW consumption
- Small carbon footprint
- High product yield
- Minimal product dehydration
- Easy to maintain and keep clean

increased **flexibility**

All DSI Dantech Hardening Tunnels can be connected to any of our standard range glazing equipment, as well as being adaptable for any type of IQF Freezer or any existing customer lines.

industries

solutions **suitable** for

- fish & seafood
- meat & poultry
- further processing

maxi-cook in-line steam cooker

precise, **fast** and **homogenous** cooking

Our Maxi-Cook In-Line Steam Cooker is designed for precise, quick, homogeneous, and high yield cooking of normal as well as fragile food and is one of the most energy efficient cookers on the market today. The cooker handles both IQF food placed directly on the belt or food packed in trays.

The steam cooker uses up to 30% less energy than a traditional steamer and has up to 1.8% better yields. It features belt speed, pressure hood, and individual temperature-controlled cooking zones that ensures the cooking yield is kept at the highest possible level. The cooker hood is fabricated with reinforced stainless steel skin inside and outside and has a high density insulation that results in minimal heat loss.

energy **efficient** and high **yield** cooking

- Lowest cost per kg of cooked product
- Lowest steam consumption
- Lowest kW consumption
- Small carbon footprint
- High product yield
- Low product weight loss
- Quick and uniform cooking
- No cold spots
- Low freight costs
- Easy to maintain and keep clean

better control **time** & **temperature**

Our cookers all features electronic temperature control for higher yield. A traditional cooker will take 180 seconds at a 93 temperature to cook for example shrimp and lose 13% weight. Where as our Maxi-Cook takes 165 seconds at the same temperature only to loose 11%. This results in way better yield.

industries

solutions **suitable** for

- fish & seafood
- meat & poultry
- ready to eat
- liquids & fluids
- further processing
- plant based food
- pet food
- non-food

technical data of mechanical maxi-cook in-line steam cooker

punctuality is an indication of competence

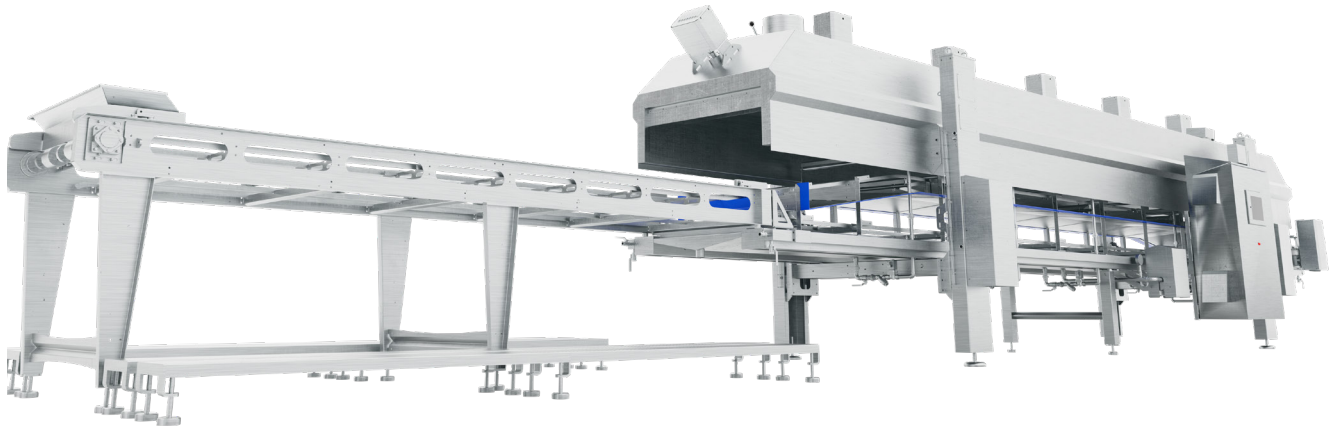
Model	Length		Width		Height, Cleaning mode		Height, Operation mode		Belt width		Steam Consumption (saturated steam)		Belt Speed	Min. Steam Pressure	Voltage
	mm	ft	mm	ft	mm	ft	mm	ft	mm	in	kg/hr	lbs/hr			
IL-SC 500 MC	7650	25'	2200	7'	2900	10'	2300	8'	900	36''	300	661	30 to 300 seconds / cycle	7 bar	3 x 400V 50Hz / 3 x 480V 60Hz
IL-SC 750 MC	9650	32'	2200	7'	2900	10'	2300	8'	900	36''	375	827			
IL-SC 1000 MC	11650	38'	2200	7'	2900	10'	2300	8'	900	36''	550	1213			

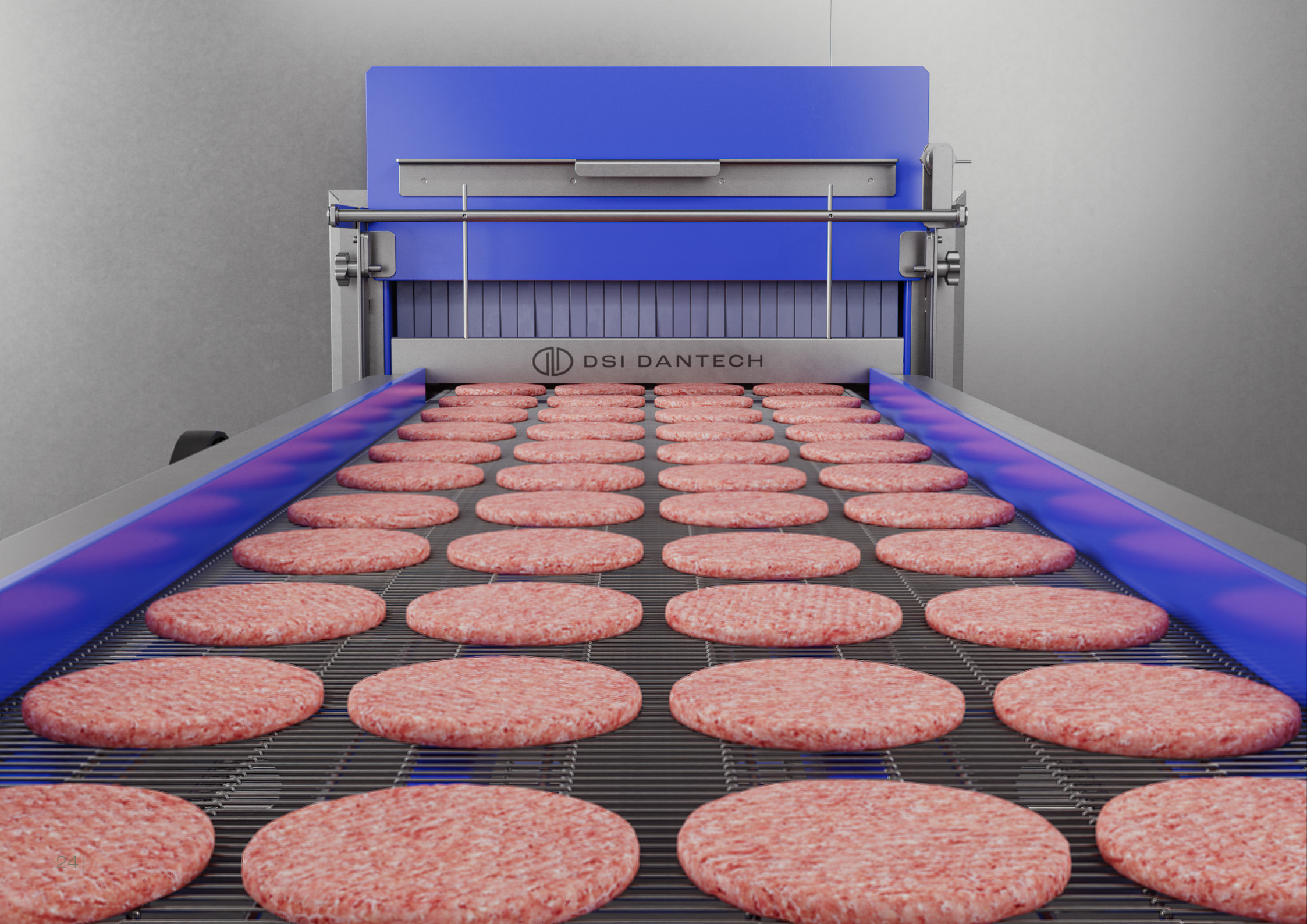
control panel

Controls for belt speed, cooker on/off, washing system. All from the same touch screen panel

Also includes features such as recipe program, alarms, data logging

Aligned with Future Blues components.

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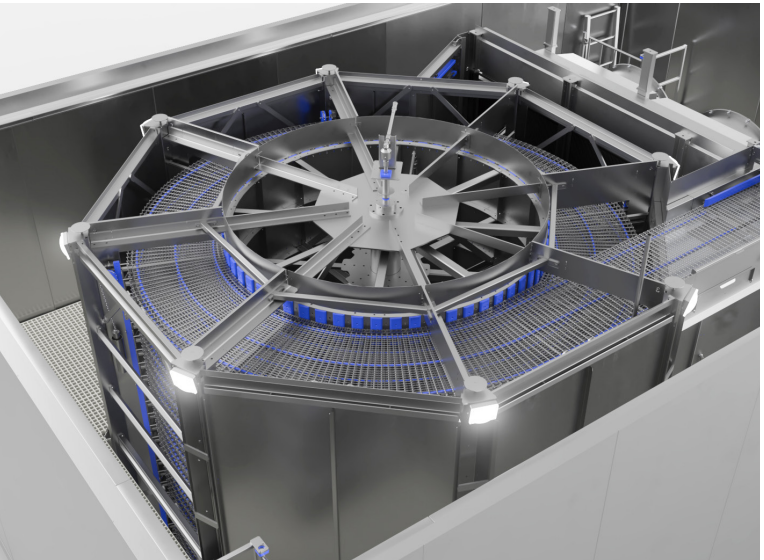


customized solutions

mechanical IQF freezing for your production

A mechanical IQF freezing system uses a recirculating refrigerant with an air cooler that exchanges heat from the air circulating within the freezer to reduce the temperature of the food. All of our solutions are customized to fit your production line(s) and can use CO_2, ammonia, or other common refrigerants.

Our mechanical IQF freezing solutions freeze 20% faster than other solutions on the market. Our design has a special airflow that is facilitated superior Freezing. This results in a lower Delta T and much colder temperatures – which, of course, allow products to freeze much faster.

We recommend mechanical IQF freezing for large scale and high-volume productions of both raw and finished goods. The starting cost for a mechanical IQF freezing solution is higher than a cryogenic one, but for large-scale productions with high-volume products, it will break even rather quickly due to the extremely large freezing capacity and the efficient, cost-effective, and energy saving mechanical IQF technology.

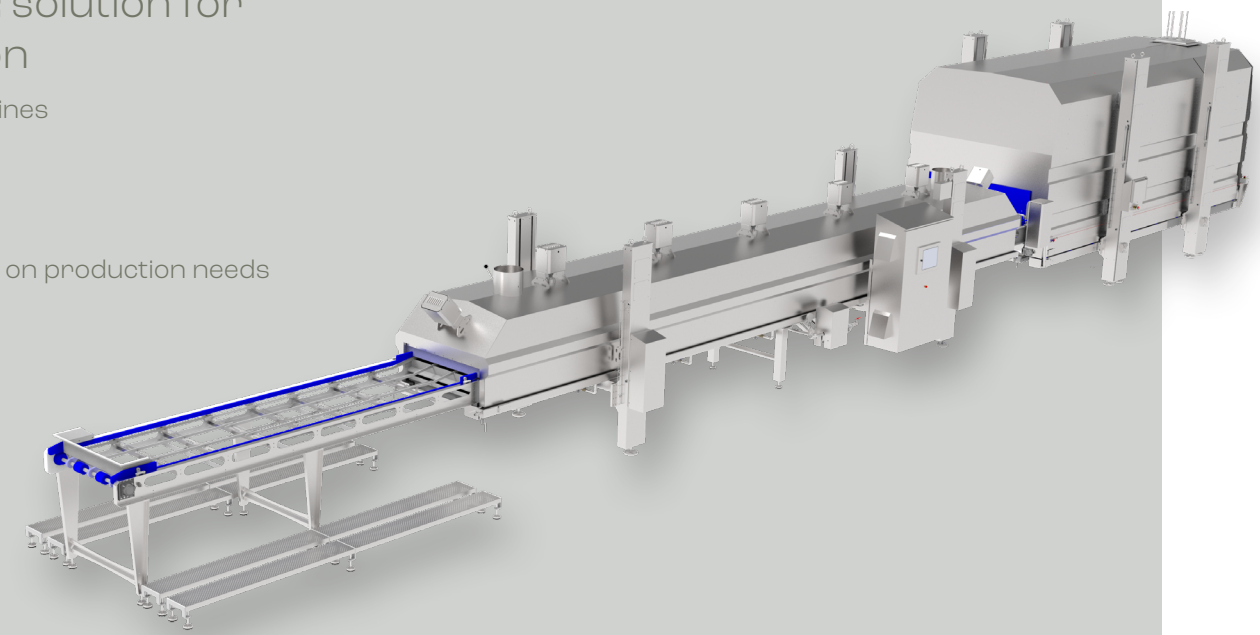
space saving equipment for **streamlined production**

Maximize production efficiency and minimize production costs with automatic auxiliary equipment and handling solutions. Automating your production will also have a positive effect on safety, hygiene, and labor costs.

Customized auxiliary equipment is designed to streamline your production in a highly hygienic and efficient manner. The range of equipment includes conveyers, vertical take-down conveyors, hoppers, feeders, coolers, dip glazers, chillers, and cleaning in place systems.

hygenic and **efficient** solution for streamlined production

- Can be integrated with existing lines
- Small carbon footprint
- Space saving
- Quick installation
- Easy to maintain and keep clean
- Wide range of equipment based on production needs
- Customized solutions



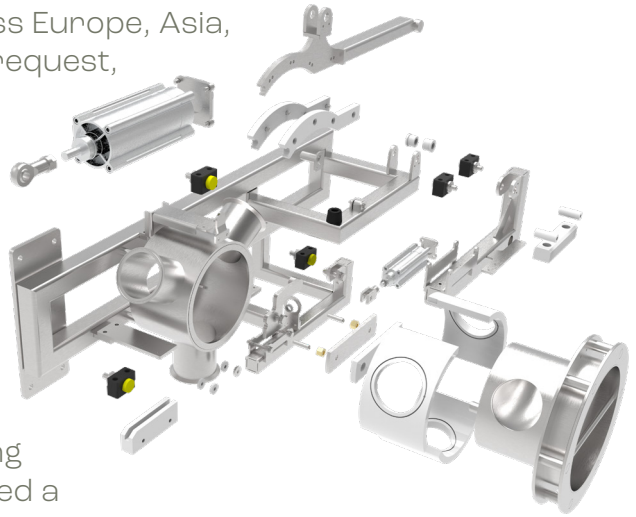
industries

solutions **suitable** for

- fish & seafood
- meat & poultry
- fruit & vegetables
- ready to eat
- liquids & fluids
- baked goods
- dairy
- further processing
- plant based food
- ice cream
- pet food
- non-food

service on **demand**

We offer worldwide service and support to prevent and minimize downtime in your production. Our global setup across Europe, Asia, and the US allows us to respond very quickly to any request, both onshore and offshore.



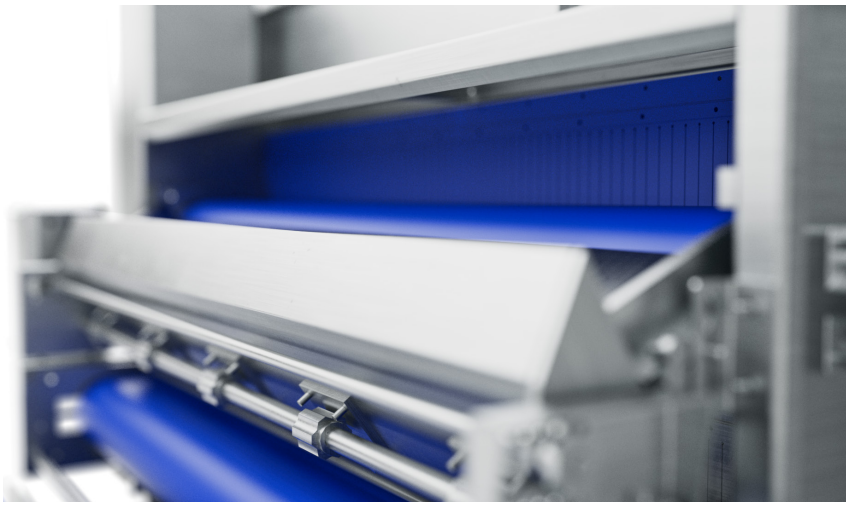
To keep your down time to a minimum, we offer worldwide 24/7 support. We provide continued support throughout the lifetime of your thermal solution, from technical maintenance and repair services to high-quality spare parts and tailor-made spare part kits as well as individual service contracts.

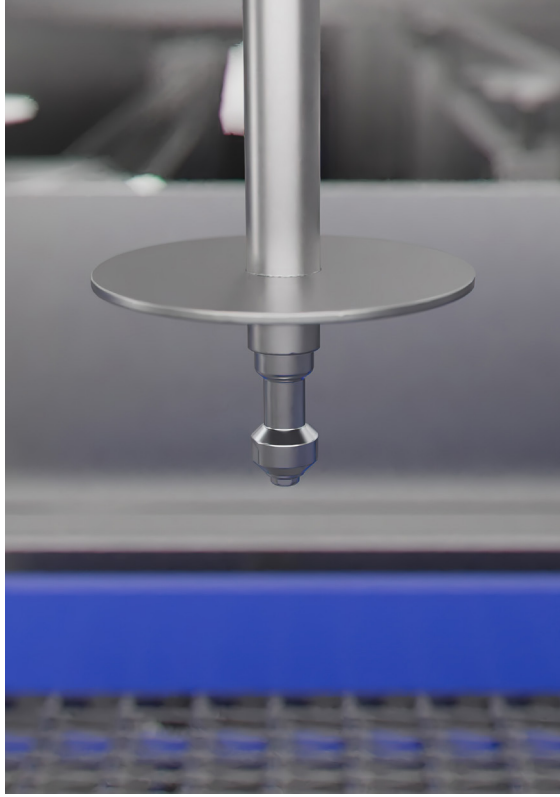
We can also help you optimize your solution to prolong its lifetime and usability. Whether your equipment need a renovation, expansion, or a rebuild to suit your needs, we can assist you.

our role

quality, **safety** and **optimization**

We are only one part of the value chain, but we are a quite important one, and we are here to leave a mark on the food industry. We believe in food quality, we prioritize food safety, and we promise you honest guidance, so you can base your investment on real data and solid industry knowledge.





sustainability and savings

our **commitment**

We are committed to protecting our environment. We supply the food industry with thermal treatment that spares the environment. We collaborate with our customers to produce solutions that reduce their environmental footprint, minimize food waste, and sustain the quality of food.

We deliver mechanical, cryogenic, and plate solutions for freezing, cooling, and heating to the global food industry. As such, we are only one part of the value chain, but we are an important one. We play an active role in minimizing our customers' environmental footprint by reducing energy, water, and chemical consumption.

contact

let's talk about your **opportunities**

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