

VALUE-ADDING SOLUTIONS IN FOOD PROCESSING

# VISION

#2



We are  
running  
24/7  
thanks to  
JBT

Mr Ahmed Sallakh  
NABIL FOODS

20  
19

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VISION is JBT's customer magazine.  
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### JBT future-proof Nabil Foods

Nabil Foods mission is to feed the Middle East region with their high-end variety of chilled and frozen food products. JBT plays the important role of keeping Nabil Foods up and running 24/7 while ensuring production schedules are met and delivering a high quality and consistent product output.





# 24-25

## JBT'S ADVANTEC™

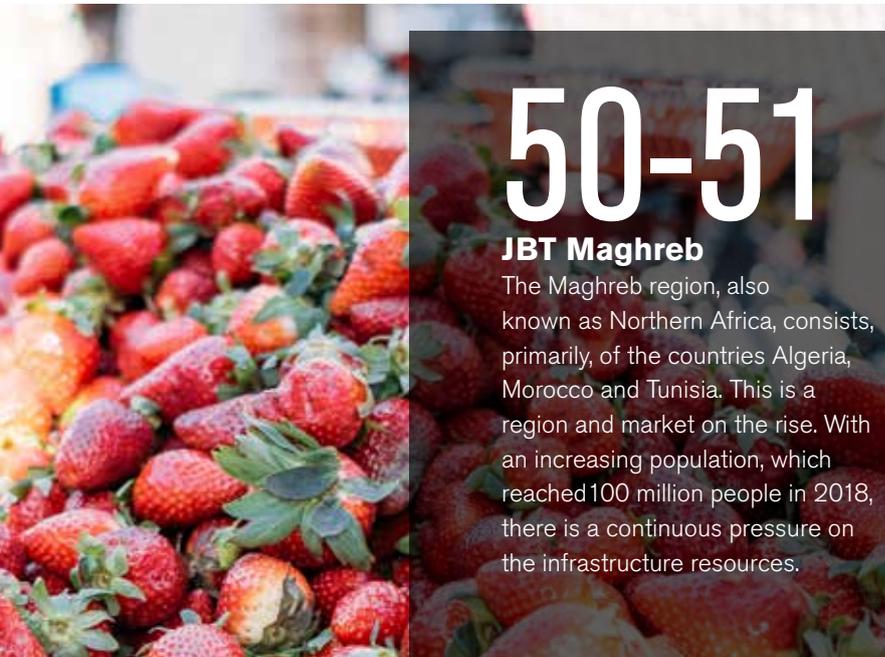
Being able to achieve thin slicing of meats without a resulting loss in yield is a key requirement for many processors serving the ready-to-eat market, but until recently this was not always simple to achieve. However the recent introduction of Surface Stabilizing technology as part of JBT's ADVANTEC™ series of impingement freezers has gone a long way to making thin slicing a relatively straightforward – and speedy – process.



# 34-37

## Sustainability Advantages of HPP foods

The growth of High Pressure Processing (HPP) is driven by consumer demand for fresh taste without chemicals or preservatives.



# 50-51

## JBT Maghreb

The Maghreb region, also known as Northern Africa, consists, primarily, of the countries Algeria, Morocco and Tunisia. This is a region and market on the rise. With an increasing population, which reached 100 million people in 2018, there is a continuous pressure on the infrastructure resources.



**With a global team of the brightest minds in the industry, we're reshaping the food processing landscape of tomorrow and delivering processing power.**

There is no such thing as a stand-alone piece of equipment. Each process directly impacts the performance of the others... up and down the line.

Whether we are talking product quality, food safety, line expansion, cost reductions or new products, the right process at the right time is paramount.

Our secondary and further processing solutions are born on your plant floors, from your feedback and for your needs.

**Put our solutions to the test.**

### **Our Vision**

To be the most trusted partner in the global food production equipment industry, by providing best-in-class customer experience and value through the lifecycle of our differentiated technology solutions

### **Our Mission**

Empowered people helping our customers to efficiently produce great food with innovative and sustainable processes

### **Bob Petrie**

President of Protein Europe, the Middle East and Africa

# COMMITTED TO GROW

2019 has been a continued year of growth and investment for JBT. We remain focused on developing and improving our market - leading solutions to enable our customers to achieve even higher levels of efficiency in their operations. This work is targeted at improving automation to address increasingly challenging labor situations in most markets, as well as yield improvements, capacity enhancements, and improved designs to address the ever-increasing demands from our customers for higher levels of hygiene.

**“We remain fully committed to helping our customers**

Beyond these important areas, we have increasingly turned our attention towards sustainability, which continues to be a major theme for most of our customers. We remain fully committed to helping our customers make better and more efficient use of the world's resources, to feed a growing population that is demanding higher-quality, more sustainable food. We are supporting this important trend by ensuring our equipment is able to better utilize energy and water during operation, by offering equipment with improved uptimes and increased capacity (in some of the industry's smallest footprints), and by supporting all of this with our world-class Customer Care and service programs.



“As consumer demand for healthier, higher-quality food grows and the automation trend in food production drives investment, JBT is there, delivering innovative solutions worldwide”



On the topic of service and support, JBT is continuing to invest in our iOPS platform that enables our trained technicians and experts, with the permission of our customers, to remotely monitor and diagnose equipment in operation. Through iOPS, we can provide valuable insights to our customers, allowing us to recommend preventative maintenance to improve overall equipment uptime and reliability. We also offer our PRoCARE service contracts which provide our customers with the peace-of-mind they need to make the optimal use of their production equipment, underpinned by the firm knowledge that JBT certified service technicians and technical support are there to support them.

Our vision over the next five years includes continued investments in new products and technologies (driven by customer-back innovation), as well as enhancements to our Customer Care solutions (iOPS, PRoCARE, and others). Moreover, as we have done over the past six years, JBT will undoubtedly continue to grow our family of brands and products through our strategic acquisition program, as part of our continuing strategy to provide more full-line solutions for our customers.

We wish to thank all our loyal customers around the globe for placing their trust in JBT. We recognize how important our equipment and services are to our customers' operations and we take very seriously our role in enabling their operations. Here's looking to an even stronger 2020 and beyond!



**Paul Sternlieb**  
EVP & President  
Protein JBT Corporation

# JBT - A SAFE PLACE OF WORK

**A**t JBT, safety starts in-house, with our people. Nothing happens without the commitment of our people. Health and safety, diversity and development, ethics and transparency – these human priorities form a rock-solid foundation for long-term success. At JBT, we care for our people, so our people can care for you.

## Culture of Safety

Health, Safety and Environment (HSE) is top priorities for JBT and the backbone to every function of our organisation. It includes our

people, processes, facilities and equipment. Ewa Snäckerström, HSE and Facility Manager at JBT EMEA says. "We actively promote a positive safety culture throughout the whole company to spread awareness, integrity and engagement to actively think, behave and work in a safe way. This mindset also spreads to our customers in the form of products and services provided. In every aspect in the development of a solution from JBT you can rest assured that great considerations have been taken in regard to operating safety, sustainability and ethics."

## How to know we're getting it right?

HSE performance is deeply rooted and fully integrated in all JBT business areas. Being proactive with safety is key. Ewa explains, "we aim for 'ZERO Recordable Accidents' and believe the way to reach this is by ALL JBT employees being fully committed and continually reporting near misses, unsafe acts and conditions. As well as this, we use other proactive initiatives and measures that are continuously monitored by the company against set targets."



She continues to explain that beside targets for number of proactive reports, the management team performs safety audits on customer sites and findings are monitored and closure efficiency is measured. "The safety audits help us determine how effective our safety programs are."

**How our safety commitment spreads to you**

We are committed to a long-term partnership with our customers and know what central role safety has within our customers operations. Our installation- and service team members all have a high safety awareness level. Jean-Francois Moreau, Installations Manager at JBT says, "Safety first, is definitely our motto and our team will always make sure we comply with the strictest safety rules of JBT and of our customers".

He continues. "Prior starting any work at customer site we have constructive discussions with our customers on how to handle any situation in a safe way without impacting the course of the installation process too much." Jean-Francoise also emphasizes that if a situation occurs involving a high safety risk, they will stop the work until a safe solution is found. We also actively react and talk to non JBT contractor or even customer staff to warn them if they are involved in dangerous practice. This helps to spray our commitment to safety outside our own walls in a positive way."

"After all, talking about safety should be as natural as talking about the weather!" Ewa concludes.

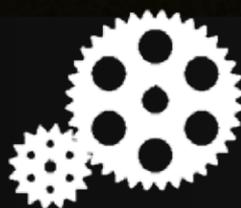


# AT JBT, SAFETY IS ALWAYS NUMBER 1

Regular inspections and preventive maintenance are important factors for safe operations.

Thanks to planned care of your equipment, you can rest assured that your equipment is safe to operate.

Food safety is further assured by our consumables that we offer as a part of the PROcARE® package.



## PROcARE

PROcARE is our branded service level agreements, and your guarantee to correct serviced and maintained equipment.

# CUSTOMER CARE WITH GREEN GLASSES ON

## “What good, can we do for you?”



**Stewart Linford**  
Customer Care  
Livingston

**T**o JBT Customer Care, CSR means providing great products and services with the minimal environmental footprint. We do this by manufacturing equipment that runs for years and years. We then support this with the most knowledgeable customer care organisation throughout the equipment life cycle. Our focus on CSR doesn't end with the sale of a piece of equipment. We are committed to a long-term partnership with our customers and to help improve our environment with new and better green solutions, saving energy, lowering costs and reducing our carbon footprint.

JBT's customer care services ensure that even old equipment receives

high quality maintenance and greener upgrades that lower costs while helping the environment, so you get the most value out of the equipment, as well as minimize your environmental footprint.

Our service agreement program P<sup>R</sup>oCARE<sup>®</sup> is about making sure your equipment is producing the highest quality products to give advantages over competitors. P<sup>R</sup>oCARE starts where new equipment commissioning ends and this is the beginning of a close partnership with our customers. When the equipment is new, we start with additional training options for maintenance and operational training for your staff. In conjunction we're there for inspecting and operational checks for your equipment on a

regular basis, making sure your production is optimized at the lowest costs. We've seen an increase in customers asking for help with planning and managing their long-term operational maintenance costs and a drive for more green efficiencies. We are therefore including Capex reviews into some agreements to help plan future up-grade or new equipment replacements. This means we are walking the line together with the customer, discussing near and long-term requirements for training, maintenance, upgrades and finally leading into new equipment that benefits their operation. This helps our customer have accurate budgets in place when a larger investment is required, Stewart Linford explains. Stewart works in the West Service Region based in Livingston and sees the demand from UK and International customers. It's a win-win situation with no unpleasant costly surprise stoppages, operational and maintenance costs controlled and maximizing the operational life for the equipment.

**Green upgrades**

Our solutions allow our customers to minimize their environmental impact also by maximizing operating efficiency and productivity. We offer upgrade kits and solutions that are designed and engineered to maximize operating efficiency while minimizing environmental impact. What's good for you is also good for the environment.

Stewart again; If we can calculate a theoretical pay-back related to energy saving, it's usually an easy conversation with our customers. Everyone wants to minimize their environmental impact and saving energy also saves money. Air Defrosting kits that increase production time while reducing the number of wash cycles, fan upgrades that increase production while maintaining or lowering energy costs and inverter systems that allow optimum production while reducing running costs are all such examples taken from our equipment upgrade programs.

Another example could be product change-over or that the original equipment is no longer suitable to provide the required product quality. With the flexibility that comes from JBT equipment and with the continuing improvements, there are opportunities to upgrade existing equipment for suiting new and different product needs, keeping your investment operational for many more years with new efficiencies and sustainable solutions.

Ask us about energy saving upgrades for your equipment next time you have JBT on the line. Maybe you even have a "green budget" or idea you would like to share?

**The JBT consumables program**

Our consumables are developed to answer stringent food safety requirements and temperature extremes. Especially developed for our equipment, but suitable for all – tested and proven. By using JBT consumables you protect your investment while helping protect the environment too.

Formula lubricants give the perfect cocktail for safe, smooth operation and maximized uptime while our Formula clean program ensures the highest cleaning standards while preventing unnecessary wear for your equipment - plus correct and safe cleaning. We perform and offer cleaning audits to assure the cleaning process is completed in the best way possible, this is extremely important for food safety and important to not use unnecessarily strong or too much chemicals, that add costs and damage your investments.

Again, no-one wins if too much money is spent on this, resulting from insufficient training, the wrong type of chemicals and volumes used or unplanned cleaning interventions. At the very least customers have unnecessary business and environment risks at higher costs,

*You know it's never a goodbye after purchasing a product from JBT - it's a "good buy" with a partner you can call and rely on for life.*



**Partnership**



**Responsible conduct**



**Reduced environmental impact**

# JBT FUTURE-PROOF NABIL FOODS' STRONG POSITION IN THE MIDDLE EAST

**“JBT, sole supplier of coating, frying, cooking and freezing equipment for over 15 years**

**N**abil Foods mission is to feed the Middle East region with their high-end variety of chilled and frozen food products. JBT plays the important role of keeping Nabil Foods up and running 24/7 while ensuring production schedules are met and delivering a high quality and consistent product output.

Al-Nabil Food Industries Co. Ltd. (Nabil Foods) is the largest producer of chilled and frozen food products in Jordan and holds a significant and growing share of the market. Their high-end products include a wide range of beef and chicken burgers, chicken strips and nuggets, cold cuts, ethnic foods, ready meals, desserts and they are sold to retail, catering, hotels and quick service restaurant (QSR) customers across the entire MENA region. In Jordan, the company is a onestop-shop supplier to the largest and leading QSR customers.

#### **History of Nabil Foods**

The company started as a small family business in 1945 by the Rassam family. Since then, Nabil Foods has evolved into a full institutional company with over 850 employees. Even though Nabil Foods has grown and taken in new partners they stay true and passionate about delivering premium, healthy and home-cooked style products to the





“From our family to yours”, is one of Nabil Foods slogans and for Ahmed Sallakh, CEO at Nabil Foods it means caring about what they produce.



families of Jordan and the broader MENA region. “We want to be in each and every meal and we do not sacrifice on quality,” Ahmed Sallakh, CEO at Nabil Foods says. Dedicated to only using the best, state of the art technology in the food processing industry Nabil Foods has relied on JBT as sole supplier of coating, frying, cooking and freezing equipment for over 15 years.

**Drivers behind good partnership**

When seeking partners, Nabil Foods choose top of the line machinery for production reliability and food safety. According to Sallakh, JBT meet this requirement and delivers extra value through a mutual profit partnership and a service team with good response time and ongoing customer service. He gives an example. “We recently had a breakdown which needed to be quickly resolved in order to continue production and to deliver on time. JBT was able to mobilize a service engineer from Egypt and within 24 hours the engineer was at the Nabil factory in Jordan. JBT understood the customer need for sending a technical engineer on time. Moreover, they resolved the issue swiftly and with confidence.” According to Sallakh this is the most important driver for a good partnership; the after sales service. “We are very pleased with JBT and the direction of our partnership.



The machinery is performing at its best, but as important, is the support from JBT's after sales service. We are able to run 24/7 because of JBT." Ramzi Khatib, COO at Nabil Foods adds, "you can't easily find the same excellent service on the market compared to the one JBT provides."

### Investing in performance

Backed up by the confidence of successful running performance, Nabil Foods is now expanding production with a new cooking line from JBT to reach their next capacity goal. The new line consists of JBT's latest technology and state of the art contact cooking and impingement oven solution for cooking and roasting of chicken fillets. The searing technology of the contact cooker sets the surface of the product to seal the natural juices inside the product prior to entering the continuous oven. The impingement oven's cooking time and the number of overcooked products is greatly reduced while delivering a yield increase of up to 4%. Khatib says "We were intrigued by the yield advantages this innovative combination of machines could provide to us and by "the guarantee of a continued home-style appearance and juicy taste that is unmatched."

### Faced with unplanned downtime

Nabil Foods production site in Amman, Jordan operates more than ten production lines 24/7 all year round with high line utilization figures. Given its increasing volumes and market demand there is no room for any unscheduled downtime or lengthy overhauls. "Our key concern is disruption to production". We are currently delivering double digit sales growth and we need to keep our leading position in the market and this means we can't afford any production slow down", Sallakh stresses. Unexpected delays can be significant, while every gain in efficiency and reliability makes a huge positive difference. JBT's PRoCARE Service agreement is about making sure equipment and production performs to the optimum level, while minimizing unplanned downtime. In 2018, Nabil Foods was faced with

# “We are able to run 24/7 because of JBT

several downtime challenges following postponement of the renewal for their PRoCARE service agreement with JBT. The significance of this postponement became evident during the year of 2018 when Nabil Foods suffered a number of technical issues and breakdowns due to lack of preventive maintenance. The production line had gone from proactive to reactive without the regular inspections, timely replacement of worn parts and the lack of training of staff. The unplanned downtime hours quickly started to eat into their revenue and lines' efficiency figures.



Loading and sorting of chicken fillets to be seared in Formcook Contact Cooker prior fully cooked in Double D Revoband Continuous Protein Oven.





Ahmed Hussein, Engineering Manager at Nabil Foods in front of JBT's Double D Revoband Continuous Protein Oven cooking Chicken Nuggets.

**When there is no room for downtime**  
 In early 2019, Nabil Foods contacted JBT to renew the PRCARE service agreement in order to resolve their production issues. Since renewal, unplanned downtime hours have fallen by 48% compared to 2018. Now, service has gone back to being proactive and effective: worn parts are replaced before breakdown, resulting in reduced downtime, improved reliability and lower cost of ownership. Ahmed Hussein, Engineering Manager at Nabil Foods explains "JBT came in and supported us swiftly, thoroughly, and with patience, knowledge and generosity to resolve an array of challenges we were facing and to continuously develop our equipment and internal engineering services. We appreciate finding real professionals, who offer a personalized service response and who have fluent understanding of our products. Fundamentally, they have become a key partner for our organization, and from my standpoint, I couldn't have expected better."

*Thanks to JBT, Nabil Foods unplanned downtime problems are now in the past."*

[www.nabilfoods.com](http://www.nabilfoods.com)

Nabil Foods show room host a test kitchen where they offer cooking classes and tech different ways of preparing their products. >>



**PRoCARE® covers all**

Everything comes together in PRCARE. It can be considered as the frame of our relationship to a specific customer. Depending on the organisation, the production uptime requirements, seasonal variations or other requirements, we build a customized agreement together. Regular inspections and training are part of PRCARE and depending on the equipment we can include a range of parts, kits, oils and detergents, remote support in different levels and extended warranties and spare part discounts.

With PRCARE you minimize the amount of unexpected costs, production disruption and are well prepared and ahead.



# JBT MIDDLE EAST MARHABA



We listen to  
our customers  
and build  
win-win  
business

Burj Khalifa in Dubai is the  
tallest building in the world



## **Rabie Rawand – Area Sales Manager ME**

*Where is the added value for customers if they consider JBT as their main supplier?*

“JBT is committed to provide customers with high performing equipment that delivers quality and reliable products to the final consumer. To meet that commitment, we listen to our customers and build win-win business relations by providing the right solution and guide them through the project. We want our clients to succeed because that is a reflection on JBT.”



## **Waleed Saleh – Service Manager MEA**

*What is the secret to excellent customer service?*

“I believe that the most important, in delivering good service, is to acknowledge customer needs, that is my focus and always my priority in my “to do list”. If there are issues to be resolved, we face them together with the customer and ensure the proper corrective actions are taken. With an excellent team of experts in our back offices we can deliver on our promises.”



## **Majid El-Achkar – Project Manager in ME**

*How does JBT prepare customer to ensure a smooth equipment installation and start-up?*

“Every customer and production facility are unique and have their own set of specific requirements. We, project management, work in close contact with sales to ensure accurate process and procedures early on by reviewing and determine customers technical needs. We visit customers multiple times during project start up to discuss and sort out all aspects of the installation as it is important for us that the customer is well-prepared.

I feel we have the full scope, a perfect match of outstanding equipment and dedicated support for our customers. We want to grow together.”



# EMIRATES FLIGHT CATERING INVEST IN JBT'S COOKING LINE

JBT equipment are contributing to the unsurpassed quality levels of the world's largest in-flight caterers: Emirates Flight Catering. After 15 years of running spiral freezers, Emirates Flight Catering is now adding a state-of-the-art protein cooking line from JBT. The new line is an important step to secure capacity and remove any risks for production delay, while at the same time increasing product yield by 3-4%.

Emirates Flight Catering (EKFC), part of The Emirates Group, are the exclusive providers of all in-flight catering and support services to over 100 airlines from its catering units at Dubai International Airport, one of the busiest airports in the world.

At their 10,000 m<sup>2</sup> frozen meal production facility in Dubai, Food Point, they prepare the Economy Class in-flight meals for Emirates airline. The facility operates two production lines 24/7, 365 days a year using JBT's Frigoscandia GYRoCOMPACT Spiral Freezers which at a minimum freeze 100,000 meals a day and have a capacity of 52 million meals per year.

#### **Emirates Flight Catering does not compromise on quality**

EKFC are known for the high-quality of meals served and the many meal variations offered to customer airlines.

**“Quality  
is the  
heart  
of what  
we do**



# Emirates Flight Catering



EKFC serve 400 different types of meals every year, with a recipe change over every quarter. Neil McFadden, Senior Manager of Food Production describes the key drivers of their business, “It is very simple, it’s quality and consistency –we, as a business must be able to produce on time, every time, on a daily basis with the same quality and consistency – that what’s important. Our appetite for perfection is at the heart of everything we do.”

Even though reducing cost is an important focus for the company it is clear that they will never compromise on quality. “We go with premium suppliers and the latest technology, that’s why we turn to JBT,” he continues. “But it all comes down to relationship and mutual trust, something our partnership with JBT is built on. I know that the people at JBT are always looking after our interests, they follow up and are focused on win-win for both sides. This is the reason why we agreed to look into JBT’s range of cooking solutions in the first place. We know that the people at JBT will care for our equipment and support us every step of the way. The support we get from the local after sales service team is excellent. The highly-skilled JBT service team is always on standby if we need them, even during holiday periods. We highly appreciate the transparency between us and JBT,





“  
It all comes  
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with JBT is  
built on

the consistent quality outcome of the products and the high-performing and reliable equipment. The freezers we have from JBT have run perfectly for 15 years.”

#### Great opportunity for growth

Neil McFadden explains that EKFC are constantly looking at innovation and ways to improve their productivity and product quality at their food production facility Food Point. The next step is to fully utilize the facility’s potential and expand beyond the core focus of their in-flight catering business. “We are actively looking at the local food service sector exploring every potential opportunity and because of this expanded focus we see the volumes going up each month.” Muhammad Tariq, Assistant Vice President of Engineering at Emirates Flight Catering adds. “There is a great opportunity for growth in other food service sectors and our goal is to go from our current 5% of non-airline production and reach 30% over the next 5 years.”

#### Cooking tests helped seal the deal

To keep up with the increasing volumes and commercial growth EKFC are now adding a protein cooking line from JBT. The new line will consist of JBT’s unique combination of contact cooking and impingement oven solution. For this combination, JBT’s Formcook® Contact Cooker use upper and lower heating plates to fry the product on both sides simultaneously to seal the natural juiciness and natural fats inside the product with the excellent result of minimizing cooking losses in next step of cooking. The Double D® Revoband Continuous oven offers a unique controlled airflow to impinge and steam cook the product with the result of uniform temperature and excellent roasting surface. The combination of machines guarantees the quality consistency of the finished product across the whole batch while creating a home-made appearance product.

The decision to go with JBT’s cooking equipment was made after Muhammad Tariq and a number of

EKFC food experts visited JBT’s food technology centre in Livingston, UK for cooking tests. “We spent three days in the technology centre testing and comparing yield of our products with really impressive results. What really impressed me was the customised approach, the flexibility and willingness to understand our needs and the dedicated time to test and prove a concept,” he explains. By configuring the equipment for EKFC’s needs they could maximise their production footprint which was the key to success in this project.



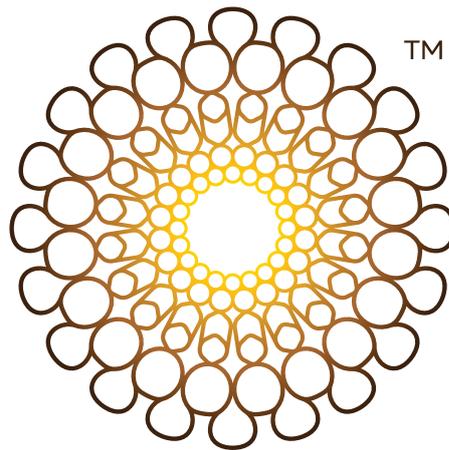
**EKFC in collaboration with Expo 2020 Dubai**

EKFC is one of the selected catering suppliers at Expo 2020 Dubai and during its period EKFC will produce over 5 million meals. The collaboration with Expo 2020 is further evidence of EKFC's expansion outside of its core flight catering business. This major event runs for a six-month long period and is targeting trade, innovation and products from around the world, the event expects to attract 25 million visitors from every corner of the globe.

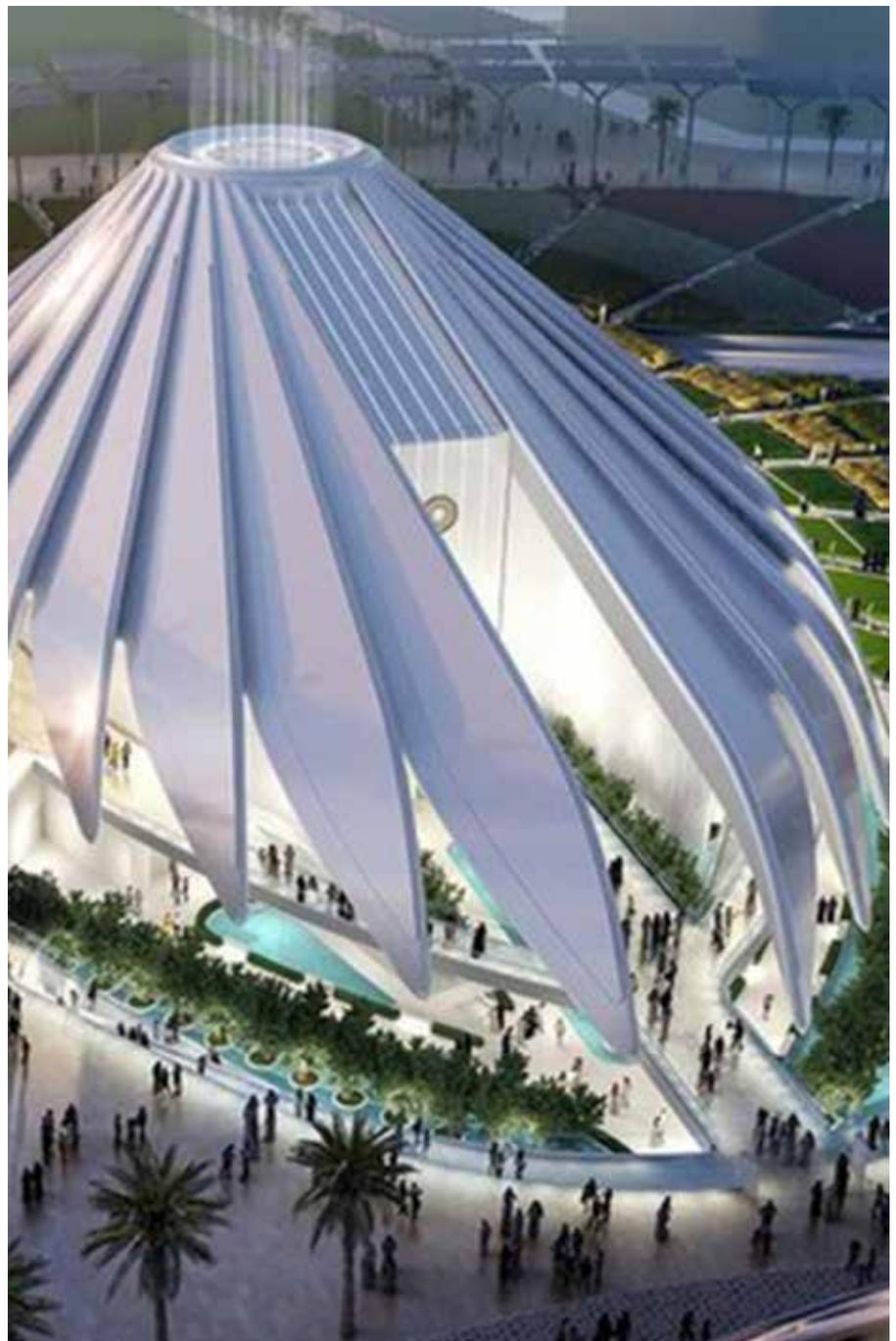
In response to Expo 2020 and the future demands in the food service sector EKFC is in the process of acquiring top performing cooking and frying equipment from JBT. The new investment involves two new high-performing multiple-purposes cooking units, one continuous cooking line and one frying line all tailored for EKFC specific needs.

"I look forward building on our initial success and expanding the capabilities of our food production facility," Muhammad Tariq of EKFC says. He sees JBT as a progressive company with the latest and innovative technologies that meets the market needs. "They know my concerns for saving cost and share new options to help productivity and train us on how to run the machines more efficiently and inline with our sustainability goals. We believe in this partnership and want it to continue to grow."

[www.emiratesflightcatering.com](http://www.emiratesflightcatering.com)



**EXPO  
2020  
DUBAI  
UAE**



# JBT'S COATING & FRYING SOLUTIONS



**Q**uality, Capacity, Reliability and Repeatability: JBT's consistency in coating & frying solutions

Breading for poultry, fish and vegetable snacks is big business, but for processors to make an impact on the market, consistency in the quality of the breading is equally as critical as the meat, fish or vegetable contained within. JBT's full range of coating and frying solutions are designed with

quality, capacity, reliability and repeatability with superior efficiency in mind.

A quality product results when the process is applied consistently to the products time and time again. The JBT equipment has the flexibility to process a wide range of products and can be adjusted to achieve maximum product quality and line capacity, according to Bart Kivits, JBT Coating and Cooking Applications Manager.

The JBT Stein® product line has a long legacy within JBT and its roots go back more than 50 years with a vast experience in coating, frying and cooking applications.

Kivits singles out three of the Stein brands high performing coating and frying solutions: The Stein ProMIX™ Automatic Batter Mixer; the Stein 5-Star HomeStyle™ Breeder; and the Stein M-Fryer™. All three solutions were designed to deliver quality, capacity, reliability and repeatability.



The **Stein ProMIX Automatic Batter Mixer** is a fully automatic continuous mixer. The ProMIX is the first step toward delivering a quality product. The ProMIX is designed to maintain a consistent viscosity and temperature and offers repeatable control.

The **Stein 5-Star HomeStyle Breeder** is a heavy-duty breading machine for hand coated product appearance. Capable of handling the most demanding coating materials used for this application while delivering unsurpassed reliability and consistency at high capacities.

The **M-Series THERMoFIN® Fryer** delivers maximum output and operating economy with great product and process flexibility. The M-fryer's key features combine to provide customer benefits like superior product quality, cost effective frying, flexibility, food safety, and operating safety. The PLC control ensure a repeatable setup of the machine. The CoolHeat® of the THERMoFIN heat exchanger produce gentle heat transfer for maximum oil life with minimal cost. The M-fryer's advanced oil management system provides food processors the competitive advantage they need in a constantly changing market.

JBT coating and frying solutions are typically used by customers in the poultry, seafood and processed food industries, in the latter case for frying and coating a wide variety of vegetable-based appetizers, including onion rings, cheese sticks, mushrooms, cauliflower and veggie patties.



# FRIGOSCANDIA FLOFREEZE® A SWEDISH INVENTION



“ Put our solutions to the test. Contact your local JBT office

Do you remember when frozen fruit and vegetables came as one big block – you had to either use the entire block or use a saw-blade or similar to be able to portion it. If you do remember, you were probably born before the invention of Individual Quick Freezing (IQF) and the introduction of the first IQF freezer - the Frigoscandia FLoFREEZE. One of the most important milestones in frozen food convenience and product quality. For the producer – more yield, flexibility and a higher overall quality. To the consumer – the flexibility to one strawberry or one pea at the time. Something we all take for granted today.

Needless to say, we are very proud of this invention that was the kick off of the freezer business that started

as Frigoscandia and now is a JBT brand of world class freezing technology. Since the 1960s, when we first invented the individual quick-freezing process, we have continuously enhanced the functionality of our IQF freezers with the aim of making it possible for you to apply true fluidization to a wider range of product, with longer uptime and greater throughput.

True fluidization gives you premium IQF results, and thus the best return on your investment. But is not a one-size-fits-all process.

With nearly six decades of IQF experience, we have identified the factors that give the best results for each food product. We continuously improve our technology to success-

fully achieve those results. At the same time, we design our freezers to give you continuous performance, operating economy and low energy consumption when you need it most. Thanks to the flexible design, we can quickly and effectively configure each performance factor to precisely match the throughput requirements of your food product and process.

The secret of successful IQF processing is the carefully controlled freezing sequence. It protects product quality and maximizes yield while ensuring true IQF results and long production runs.

JBT's patented true fluidization technology is the best way to achieve premium prices for your IQF food products.

# JBT'S ADVANTEC SYSTEM MAKES THIN SLICING SIMPLE

**B**eing able to achieve thin slicing of meats without a resulting loss in yield is a key requirement for many processors serving the ready-to-eat market, but until recently this was not always simple to achieve. However the recent introduction of Surface Stabilizing technology as part of JBT's ADVANTEC™ series of impingement freezers has gone a long way to making thin slicing a relatively straightforward – and speedy – process.

JBT has also launched the Super Chilling application for the ADVANTEC range; an innovation that enables warm products to be cooled quickly without jeopardising product quality.

According to Stefan Paulsson, JBT's Director of Value Stream & Global Product Line for Cooking & Linear Freezers, both applications have been introduced to meet the needs of processors seeking practical, effective solutions for ready-to-eat products.

"Surface Stabilizing, also known as crust freezing, is ideally used with delicate or sticky products such as deli meat where you are looking to cut it into very thin slices," explains Paulsson. "This can be quite hard, but if you freeze the surface around it,

then you can cut it very thin without suffering any yield loss and you will get a much nicer slice surface as well."

Likewise, Paulsson says Super Chilling can be employed by processors who want to quickly cool warm products without freezing them. "Super Chilling freezes the surface of the product, before the temperature is evened out, resulting in a chilled product that has quickly been taken from warm to cold. The key to proper Super Chilling is a highly efficient Impingement freezing, a slower method like blast freezing would create quality issues due to the slow freezing process".

## **Quick freezing**

The story of the ADVANTEC Impingement Freezer range can be traced back to the Frigoscandia Flat Product Freezer (FPF), a system which was created in the 1990s to offer a more cost-effective solution than cryogenic freezing for meat patties.

Launched in the year 2000, the Frigoscandia ADVANTEC Impingement Freezer was introduced with the aim of being more suitable for a broader market and a greater range of applications and products.

"Impingement freezers are good for quick freezing of thin products and fast freezing times means higher product quality," says Paulsson.

"ADVANTEC uses impingement sheets, which are sheets of metal with multiple holes. Through this, a jetstream of air hits the products at high speed, so it cools and freezes the product extremely fast. This compares to many competitors who use air-knives instead, where you only freeze the product when it's actually underneath the air-knife. Using the ADVANTEC impingement system, products are continually exposed to cooling air. In fact, the ADVANTEC is, by far, the most cost-effective way to freeze thin products up to 25mm thick, and to chill products up to 200mm thick."

As well as being faster and more effective than the air-knife solution, Paulsson adds that ADVANTEC's metal sheets are more hygienic and easier to clean than a series of air-knives. Bottom-line, the ADVANTEC Impingement freezers delivers exceptional freezing performance for thinner products or surface stabilization prior to portioning of protein food products.



“

## Airflow technology that delivers quality and profit



### Flexible solution

Now sold worldwide, ADVANTEC is available in two different belt widths – 1250mm and 1800mm – and one to four separate modules, meaning customers can have ADVANTEC in the length and width required for their needs.

JBT also markets the ADVANTEC Compact Chiller, a smaller unit, which is particularly suited to surface stabilization where companies are looking to freeze product surfaces to achieve thin slices.



### What is it good for?

- 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.
- Stabilizing soft food and sticky confectionery before further processing.
- Crust freezing and stabilizing deli products, to improve throughput, yield and hygiene in slicing operations.
- Rapidly super chilling raw meat products for safer chilled distribution.

# HYGIENE BY DESIGN WITH JBT FREEZERS

**M**ore than ever, food producers and processors must be extremely vigilant about hygiene in their daily production.

Today's demands are not only tougher, they're coming from everywhere. At JBT, our range of equipment are all designed to match the toughest hygiene demands, while being flexible and easy to handle. A perfect example is JBT's Frigoscandia product, the GYRoCOMPACT® self-stacking spiral which is the industry benchmark for performance, operating economy and above all, hygiene.

## **A unique self-stacking belt**

At JBT Frigoscandia we start on the drawing board, designing equipment with built in hygiene and cleanability features. When designing our freezers, we design to minimize all unnecessary surfaces and use as little material as possible to avoid dirt-traps. The Frigoscandia GYRoCOMPACT spiral freezer's unique design is one example of continuous development with focus on hygiene. The Frigoscandia self-stacking belt builds up a self-contained product zone reducing the structural parts, which means less surfaces to be cleaned, less wasted water and less detergents consumption. With the self-stacking belt design there is no stationary rail support structure which can be found in the other types of spiral freezers which results in collected debris and is almost impossible to

clean. This kind of problems have for a long time been overcome with the Frigoscandia self-stacking belt.

## **A freezing zone 100% cleanable**

The JBT Frigoscandia self-stacking belt forms a self-contained freezing zone 100% cleanable. The freezer is designed with slopes for good drainage, and the corners of the fully welded floor are made with cut angles in order to avoid traps for food residues. Several levels of enclosures give a great accessibility throughout the enclosure, without compromising compactness and allowing to use steam sanitizing.

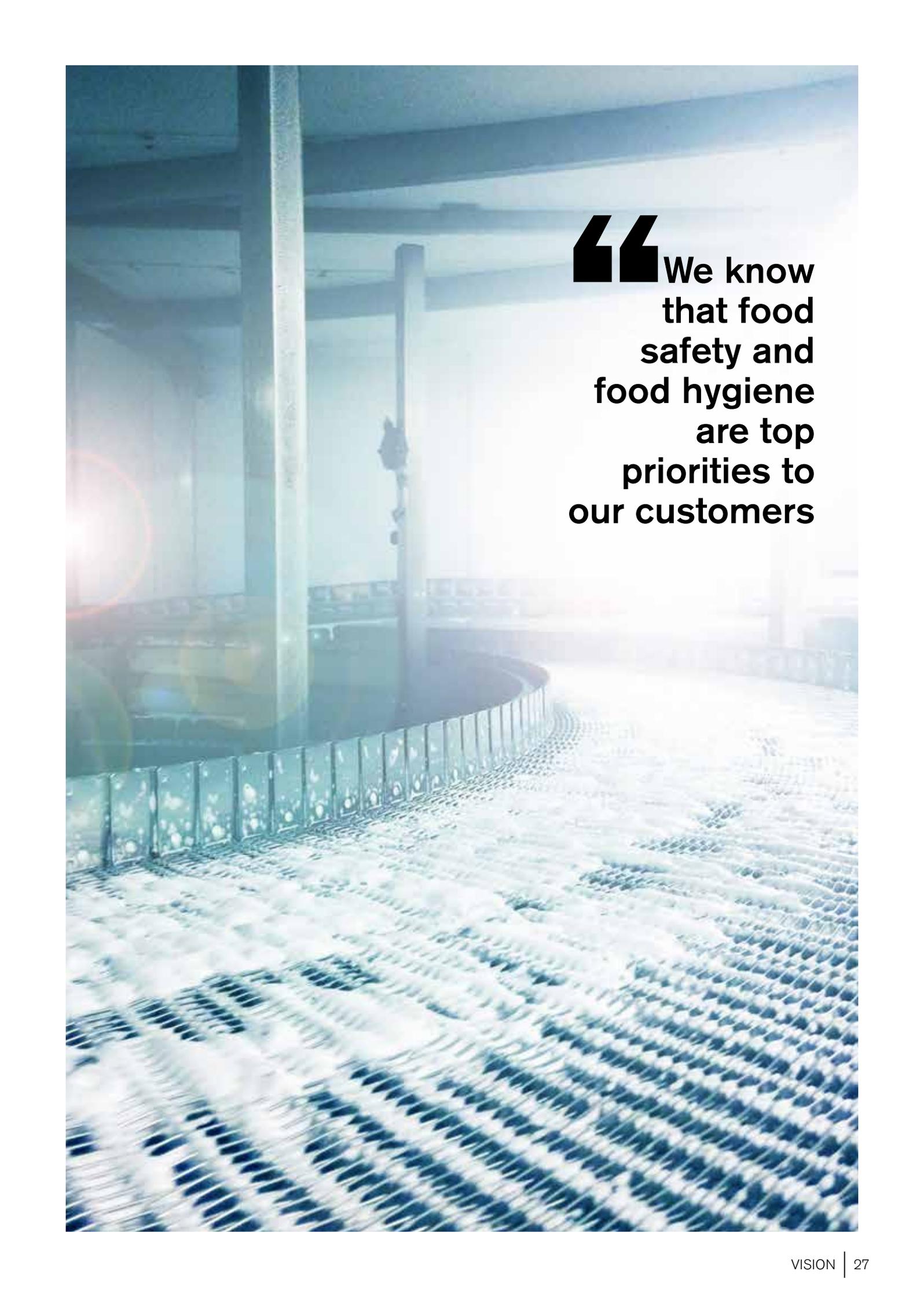
The FRIGoDRIVE® drive mechanism for the belt stack keeps the floor almost clear and easily accessible for cleaning. The whole drive system is only supported by a set of stainless-steel legs, minimizing belt tension and wear. Because the structural elements are limited, any friction points are consequently avoided. The evaporators, accessible from all sides, are made in stainless steel and aluminum as standard with vertical continuous fins, for fast and thorough cleaning. The four levels of modular cleaning systems match any production requirements. These systems will give you shorter cleaning times, lower use of water, chemical and energy consumption, less maintenance, consistent results and, last but not least, peace of mind!

## **Setting the standard for tomorrow**

In a changing world, safety and food quality have become the most important keywords in the food supply chain. Compare the support framework of a GYRoCOMPACT spiral with a conventional spiral, and you'll see the hygiene, performance and energy-savings advantages. Because it's modular, it will match your processing needs, at the same time it gives you freedom and flexibility to grow your business in the most cost-effective way.

Our sales and development teams and our Food Technology Centre's welcome you to come and make tests on your own products. Call your JBT sales representative today to book a visit and to learn how we can answer your hygiene needs.



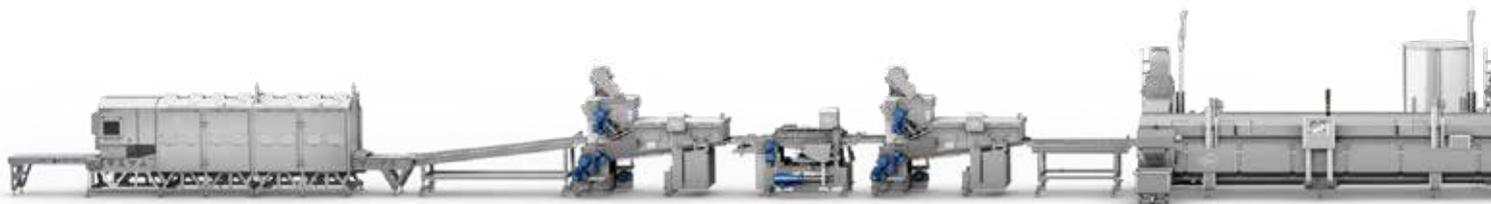


**“We know  
that food  
safety and  
food hygiene  
are top  
priorities to  
our customers**

# MORE EXPERTISE UP THE LINE - BETTER PRODUCT DOWN THE LINE

Whether you need stand-alone food processing equipment or integrated in-line systems, JBT can provide customised solutions at every stage, including injection and marination, portioning, coating, frying, cooking, baking, freezing, chilling and proofing. Here is a selection of equipment from the JBT portfolio.

For more details on the full product range please speak to your JBT representative.



#### DSI™ 800 S Series, Portioning System

Designed for high volume portions, the DSI 800 S has eight moving cutters making it one of the most compact waterjet portioning systems available. The system delivers groundbreaking functionality and versatility in a compact, cost-effective and easy-to-use package, and will integrate seamlessly with the DSI Adaptive 3D Portioning System.



#### XVision™ CCPX™ Pack™ 1408

Designed for detecting foreign matters through foil packaged products as case ready products, ground meat, hotdog sausages, tray products, ready-to-eat products, pork, bacon, produced and baked goods among many others.



#### Formcook® Contact Cooker

The Formcook Contact Cooker features two solid, non-stick cooking belts which run between hot plates. The cooker is excellent for browning and searing of flat de-boned, whole muscle, minced meat products or bacon. It will also restrict excessive height expansion of products during cooking. The cooker's non-stick belt can also easily handle products that are heavily marinated, wet or sticky.



#### Stein M-Fryer™

With its efficient oil management system, small footprint and THERMoFIN® heat exchanger, the Stein M-Fryer is engineered specifically to match the needs of global convenience food processors. It provides superior, uniform product quality and consistency, cost-effective production, excellent process flexibility and verified process and product safety.

**FRIGOSCANDIA**

**STEIN**

**DSI**





**Stein TwinDrum 600 Spiral Oven**

A compact and versatile two-zone cooking system for a wide range of applications, the Stein TwinDrum Spiral Oven can cook, roast and steam-cook a wide range of applications, while maintaining low running and maintenance costs. The oven features diagonal airflow for even temperatures across the belt, enhanced hygiene, and can process up to 4 tonnes of product per hour.



**Double D Revoband Continuous Protein Oven**

Providing excellent results on a wide range of products, the Revoband Continuous Protein Oven combines continuous automatic high volume processing with accurate temperature and airflow control, to produce maximum yield. The oven can be combined with the Double D Infrared Sealing and Searing Unit and the Revoband Searer/Grill-Marker to provide in-line solutions for ready meal components.



**Double D Searer/Grill-Marker**

With its rolling bars and adjustable burners, this unit is designed to enhance a wide range of finished products, both in taste and appearance. The units can be stand-alone or integrated with JBT's range of continuous cookers and ovens. The units offer food processors a whole host of new options for added value products.



**Avure™ AV-M**

Avure Technologies provides high pressure processing (HPP) systems to increase food safety and extend shelf life. Avure's latest development, the Avure AV-M enables food producers to buy the machine size that fits their current production needs, and then expand quickly as their demand for their product grows.



**Frigoscandia ADVANTEC™ Impingement Freezer**

Delivering all the quality, speed, throughput and flexibility at half the cost of competing technologies, impingement freezing has quickly proved itself to be the most efficient, food-focused method to freeze a wide range of thin or flat products, including high-value IQF products.



**Frigoscandia GYROCOMPACT® Chilling and Freezing Systems**

Delivering high-volume product throughput in a small footprint, Frigoscandia GYROCOMPACT Spiral Freezers have become the industry benchmark for quality, hygiene, operating simplicity and reliability. Thanks to its modular design, we can exactly match your food product and processing needs.



**Frigoscandia FloFREEZE® IQF Freezer**

Providing true fluidisation, FloFREEZE IQF Freezers individually quick-freeze even the most difficult products, while simultaneously fulfilling the industry's toughest requirements for hygiene, economy and user-friendliness.



**Schröder IMAX Injection Technology**

Schröder's high performing injectors are designed to deal with a wide variety of products, including red meat, poultry products and fish, and can be modified to inject special brine recipes or challenging ingredients.

# WHERE WE PUT OUR LISTENING INTO ACTION

**B**eing a major player in international trade comes with challenges and serious responsibilities. At JBT we are fully aware of this and ready to shine in this modern business arena. For us this is our natural habitat and we feel comfortable supporting customers from all areas of the food industry. As a leader in the food industry, we focus on customer needs. By listening carefully and supporting them, we create sustainable win-win relationships.

## **Expertise and JBT-equipment ensuring high standard cooking applications**

Our Food Technology Centres (FTC) play an important role in this customer relationship. We have two fully equipped tech centres in Europe for Protein processing application tests. The longest established is in Helsingborg, Sweden and was one of the first centres capable of providing equipment demonstrations to develop new product ideas and enhance existing processes. The other one is located in our newest manufacturing facility in Livingston, UK. The site moved from its original UK headquarters in Broxburn in 2017 to a new 8,000m<sup>2</sup> manufacturing site in Livingston which over doubled the size of manufacturing and tech centre footprint. The FTC brings a wealth of expertise and the installed equipment ensures high-stand-

**“We  
create  
sustainable  
win-win  
relationships”**

Food Technology Centre Livingston



The Livingston site is only 10 miles from Edinburgh Airport making it easily accessible both for the many visiting customers and co-workers who travel from all over the world to test new recipes, or to train on JBT's equipment.



ard cooking applications. Currently the Livingston FTC house is equipped with selected JBT cooking equipment, including the Formcook® Contact Cooker, Double D® impingement cookers and searer/grill-markers.

#### **The full experience**

We offer our customers the full experience of how our systems work. It's possible to run through and test their own products, thereby proving the high-quality end result. In this way we can simulate production, conduct research, as well as optimize and develop new applications and products using the latest processing solutions and knowledge from JBT. The centre offers a unique opportunity to introduce our customers to the services and products that make JBT so special. Adding to the full experience is the opportunity to present our modern and high technology manufacturing facility where our guests can get a very good impression of the production floor with machines under construction.

#### **Always on the lookout for the next level**

In the FTC we are constantly improving the quality of our food processing. For example, final yields on hot air versus steam cooks, or experimenting with different cooking methods. We also experiment with different coating methods to maximize on product flavour and appearance while achieving highest yields. Our ovens also make it possible

to slice directly onto the belt, or if needed can test most products with the workshop at hand to manufacture a rig or template that we may need to achieve our test goals.

By January 2020 we can also perform inline contact cooking and hot air impact tests without manual transfers.

#### **FTC, development and training facility**

While the Livingston site focus on application development we're also a training facility, both for internal new employees and external customers. Within the facility, JBT has an excellent and comfortable meeting room right next to the FTC. To facilitate our customers, they can visit the production warehouse, meet key personal like design engineers to exchange ideas on special items or discuss delivery schedules with operations.

All this in the overwhelming landscape of hospitable 'Bonnie Scotland', close to Edinburgh Airport and Scotlands capital Edinburgh, a beautiful historic city worth visiting.



# JBT'S NEW FOOD SAFETY CHAMPION!

**Q**uality control plays a big role in protecting your brand. The XVision™ FlexScan™ is a completely new flexible food inspection technology for contaminant detection in wet production environments. It will allow customers to achieve tailored levels of performance to meet ever changing and more complex detection criterias. With the ability to quickly update detection technology, customers will have the ability to become more efficient, bring in new business and seamlessly adjust to new regulations.

## Key advantages

Dino Carbone, Division Product Manager for JBT XVision, says that Low - Cost of Ownership is a result of the innovative modular design is one of the advantages offered by the system. "Customers are able to replace key components of the machine, so there's no need for expensive technical support," he says. "It's completely plug-in and go."

However, cost is far from XVision's only advantage. The system, continues Carbone, delivers excellent detection performance being capable of identifying stainless steel – the most common metal contaminant found in production facilities – with three times more accuracy than standard metal detectors. Crucially, XVision is also simple to

operate, with the emphasis on making it as straightforward to use as possible. "We've really taken a lot of the complexity out of the operation," says Carbone. "Once the machine is configured, it's less likely the end user will have problems with the settings." We have even included an FSQA (Food Safety Quality Assurance) layer which walks you through a series of contamination tests to validate and document FlexScan detection performance at pre-set intervals set by the user. With all data brought together with iOPS FlexScan becomes an integral window and collection point for critical operations and maintenance data

## Reputation protection

XVision is capable of identifying metals, stones, calcified bone, glass and other contaminants across a wide range of products from raw protein directly on the belt, bagged or pouched foods, frozen foods through to ready meals, case ready and heat and eat foods.

Hygienic design inside and out – Taking design to a new level FlexScan has been designed to be super hygienic. With robust construction, sloped surfaces and minimal parts removal, FlexScan can handle the rigors and high pressure sanitation of most challenging wet environments. Taking it a step further, to protect your products from harmful bacteria



“Three times more accuracy than standard metal detectors

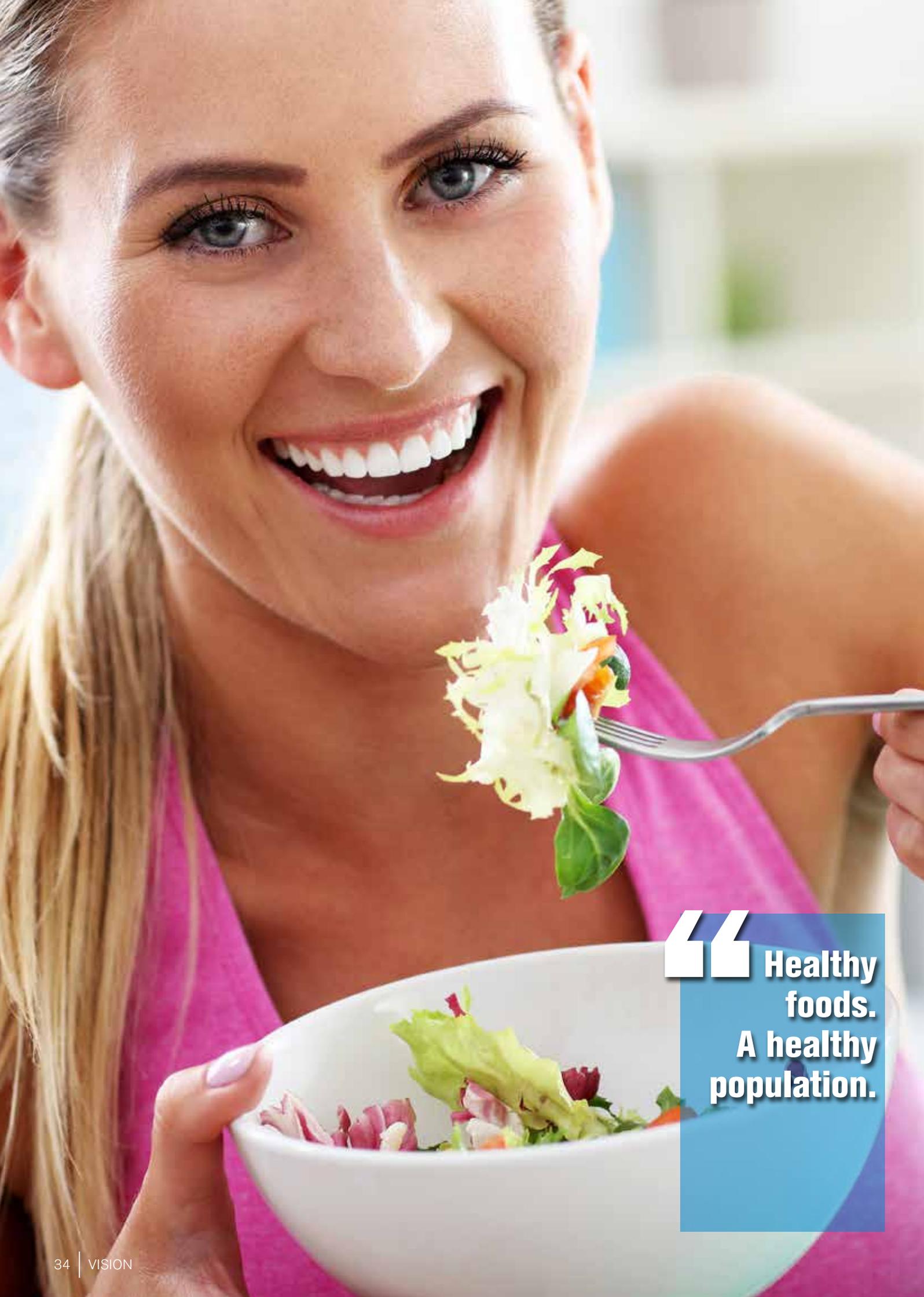


contamination, FlexScan has the ability to open all cabinet covers and wash down internal mechanical enclosures which often trap food particles where bacteria can develop and grow. “We are seeing an increasing level of interest from customers in XVision because of both its versatility as a technology and its ability to protect brands against recalls or even lawsuits, which can be very costly and damaging to reputations,” adds Carbone.

The right system configuration for any product and line placement - The XVision FlexScan unit is sized to fit after or before most portioning, freezing, marination or deli equipment from JBT and other manufacturers. We have several multi-lane intelligent rejection systems available for both raw and packaged product to minimize waste and rework.

Contact your local JBT representative or [Sales@XVision.com](mailto:Sales@XVision.com) for more details.





“Healthy foods. A healthy population.”

# SUSTAINABILITY ADVANTAGES OF HPP FOODS

**T**he growth of High Pressure Processing (HPP) is driven by consumer demand for fresh taste without chemicals or preservatives. But that's not the only reason why food processors and retailers choose HPP. Sustainability means meeting today's needs without compromising the ability of future generations to meet theirs.

## **Extend shelf life. Curb food waste.**

HPP prevents costly waste and food losses with its expanded shelf life capabilities. Coupled with the reduction of spoilage is the improvement of quality afforded with the longer shelf life. HPP products do not exhibit product deterioration as microbiological shelf life nears. This allows manufacturers to reduce the costs associated with distressed products and more importantly, deliver a higher quality product to consumers. With HPP's improved shelf life capabilities, manufacturers reach wider markets, and reduce waste volume and the associated costs: disposal cost, energy cost and increased resource cost of food production.

As processing and packaging technology has improved, so has the product sustainability from increasing the shelf life of food and beverages. HPP further extends shelf life, especially for products with rapidly declining food quality. This benefits consumers, producers and retailers.

## **Healthy foods. A healthy population.**

Healthy, nutrient-rich foods and beverages help avoid negative health impacts and associated medical costs. Low quality foods provide lower nutritional value to consumers, which can negatively impact health, well-being and productive capability of those consuming such foods. The performance-to-impact ratio becomes lower as nutritional value is lost. HPP helps products retain their natural vitamins and healthy nutrients after prolonged refrigeration.

## **Use Fewer Ingredients. Gain a Clean Label.**

Green light for clean labels. HPP allows food processors to reduce or eliminate ingredients added solely for preservative effects, including chemicals that inhibit bacterial growth. Reduced ingredient usage means eliminating the environmental impacts associated with sourcing those ingredients.

A simpler ingredient list also help food processors achieve "clean label," which appeals to an increasing segment of the population that seeks healthy, natural choices in convenient foods and beverages. By cutting preservatives, producers eliminate environmental impacts of sourcing those ingredients, and manufacturers health problems linked to common additives.

Finally, while precise benefits are largely unquantified at this point, some common preservatives are linked to

chronic health problems. Improving health reduces the environmental burden associated with treating serious illnesses and diseases. HPP can contribute to a healthier population and reduced environmental impact.

## **Reduce Energy Consumption**

Reduced energy requirements lessen HPP's global warming potential compared to other methods. Continuing advances in HPP equipment cycle time and productivity are further reducing energy requirements.

The potential for HPP to create longer shelf life refrigerated or chilled foods with high quality, nutrition and safety also opens the door for some popular food items to be moved from frozen to chilled processing and distribution, and reduce energy consumption.

*Avure HPP processed products from one of US's leading clean label food producers; Perfect Fit Meals (PFM)*





# ABOUT JBT AVURE HPP TECHNOLOGIES

JBT Avure enables producers to implement High Pressure Processing, HPP, with the fastest, most reliable equipment. From installation and maintenance of equipment systems to recipe and package development, Avure helps producers increase food safety and extend shelf life while providing consumers with nutritious, natural, flavorful food. Avure HPP equipment is used to treat the majority of all HPP-protected food around the world.

More information is available at  
[www.avure-hpp-foods.com](http://www.avure-hpp-foods.com)



# WHY NIKAS GOES FOR AVURE HPP

**P. G. NIKAS** is a cured meat food producer in Athens, Greece and have been an important supplier of cold meat products to the local retail market for over 50 years. NIKAS has established its place around the family table's in Greece; offering tasty, quality and innovative products. Their vision is to create unique cured and processed meat products based on GOOD quality and top safety. This vision is the reason why Nikas decided to invest in Avure HPP (High Pressure Processing) solutions.

Mr. Giorgos Giatrakos, Operations Director at Nikas, describes how Avure HPP solutions meet their company's requirements for advanced production equipment while at the same time utilizing new technologies to enhance the quality assurance of their products. Avure HPP offered an upgrade in terms of a large-diameter product vessel which allowed Nikas to get greater throughput for each processed application compared to their previous HPP machine and with the benefit of remaining in the same floorspace.

Since Nikas installed the Avure HPP equipment the application production time has been significantly reduced due to the increased pressure set limit (6000 bar). Furthermore, the high technology HMI software gives the opportunity to configure tailored programs for each product category according to the product's attributes which enable maximum efficiency.

HPP is a recognized process to increase the microbial safety of foods and improving the shelf life of foods. Mr Giatrakos emphasizes how HPP minimize product complaints and product returns from the market due to product's microbiological deterioration. In addition, HPP improves the organoleptic characteristics of products like sliced meat and sausages throughout their shelf life, by eliminating the presence of microbes from possible contamination during the production and packaging processes. All of this enhance the marketing value of the products by using a recognized technology, which is considered by the consumers to guarantee the hygiene and safety.



[www.nikas.gr](http://www.nikas.gr)



**Customer demands for clean label, preservative-free foods continue to grow.**

**JBT's unique HPP technology meet the need without impacting flavour profiles.**



# COMPARISON BETWEEN TUMBLING AND MASSAGING

**M**assage technology allows for higher protein activation and thus improved product yields

In the production of cooked ham products, the first step in the process involves treating the meat parts with brine after selecting the initial material. In most cases, the brine is inserted by means of brine injectors.

Brine injection involves injecting the required amount of brine very precisely into the meat parts. Some other products undergo brining, which means the pieces of meat are submerged in the required amount of brine where they then need time to absorb it. In both procedures, the subsequent processing of the muscle fiber structure is crucial to the quality of the final product. The effectiveness of the water retention and protein activation is determined here and, concomitantly, the quality of the slice cohesion. In industrial production, two processes are used for this stage of production.

In the case of the commonly known tumbler technology, a big drum rotates horizontally on guide rollers. Flat

baffles lying on the inner walls of the container cause the pieces of meat to fall and produce a gentle movement. This movement is also frequently referred to as “rumbling”.

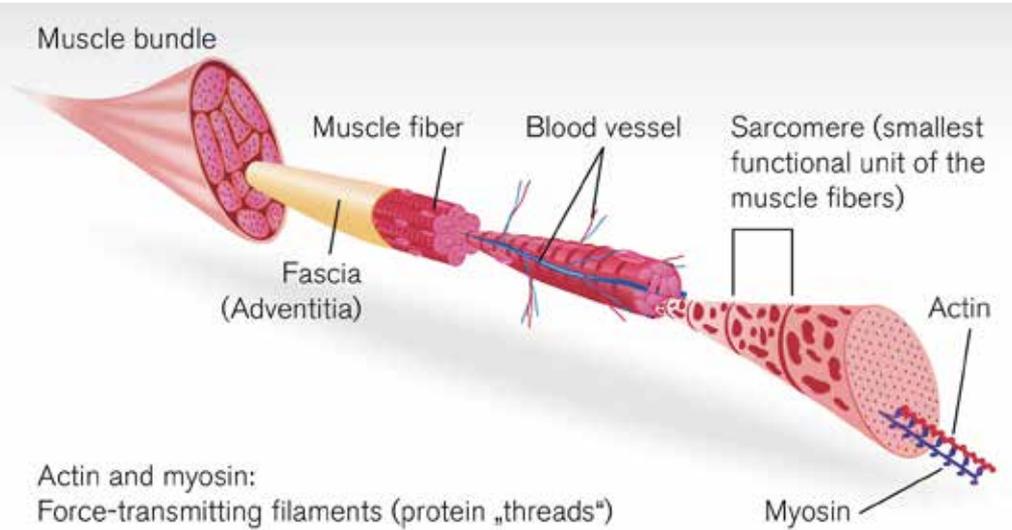
The massage process takes a completely different approach. Here the container has a fixed construction with an internal, rotating shaft.

Large, spiral-shaped paddles are mounted on this shaft and move the product around its axis. Since these paddles move within the meat mass and, unlike the tumbler, there is not just contact between the product and unit at the outer edge, each individual muscle is actively touched. This principle of the vacuum massage system was already introduced and patented in 1986 by Dr. Iyimen, the owner of MYAC Maschinenbau AG. As a result of the close cooperation with Helmut Schröder, the patent was later taken over by Schröder Maschinenbau KG. The company's current Max massage units are available in sizes ranging from 600 to 6000 kg nominal fill volumes. Massaging particularly established itself as the most effective technology for bone-free products such as traditional cooked ham to the

point that it is used by around 70% of the German meat industry today.

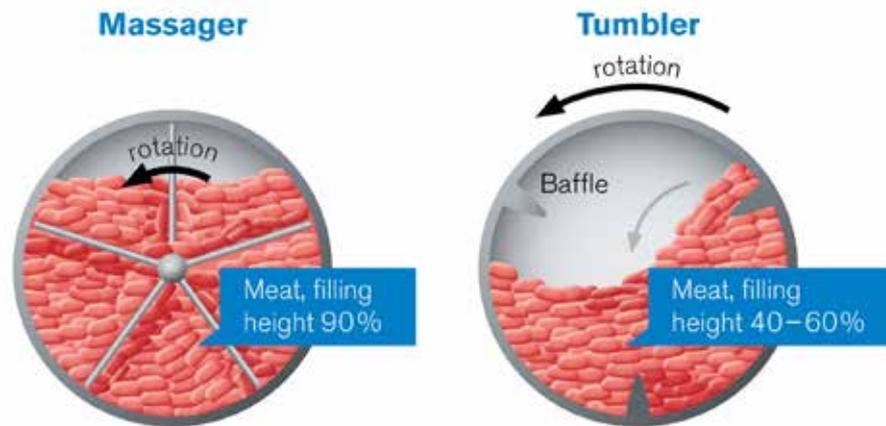
Compared to the tumbler, whose fill volume (depending on the design) lies typically at 45–55%, the massage unit achieves 85–90%. This gives rise to crucial advantages: on the same floor area of one unit, almost double the product amount is processed. What is more, thanks to the high fill level, the headspace above the product is reduced to just 10–15%, which is only one-third of the free, unused volume of a tumbler. Besides the fact that the massage unit processes twice the amount of meat, the vacuum is built up in a considerably shorter time and thus saves on costs. During operation, the vacuum in the container is continuously at 50 mbar (less than 5% of the normal pressure or atmospheric pressure). The thermal plate used for cooling allows product temperatures of up to 1 °C during operation. Thanks to the 90% fill level, the product has a large, effective contact surface with the cooled vessel container wall. Due to the strong mixing action of the paddle, the temperature in the interior of the product is quickly and effectively reduced.

Processing of the native muscle fiber structure of the raw material is crucial for the sensory quality and economic aspects of the resulting meat product, such as cooked ham product.



Actin and myosin: Force-transmitting filaments (protein „threads“)

A massage unit has a much higher usable volume than a tumbler and therefore requires significantly less space.



In contrast to the passive curing technology of a tumbler, the brine is incorporated actively into the muscle by a Schröder Max massage unit. Technologically speaking, the salt in the brine cause the muscle fiber to swell. This is intensified by the vacuum in the MAX massage container. The high pressure achieved by the large paddle and the above-mentioned high fill level provides a direct, active input of mechanical energy right into the core of the individual muscle. At the coldest possible temperatures of below 2 °C, an intensified solution of fibrillar proteins is produced, which is also usually called protein activation – the key to optimal water retention as well as a higher yield at the slicer. In

practice, a distinction is made between the extramuscular and intramuscular slice cohesion in the finished product.

►The *extramuscular* cohesion is recognizable by the cut's slightly sticky surface at the end of the massage process. It is responsible for the good cohesion of several meat parts.

►The *intramuscular* slice cohesion can be felt by a slight stickiness in the middle section of the cut/core of the product. It is responsible for a very firm slice.

The demonstrably better results achieved using massage technology show that products showing higher

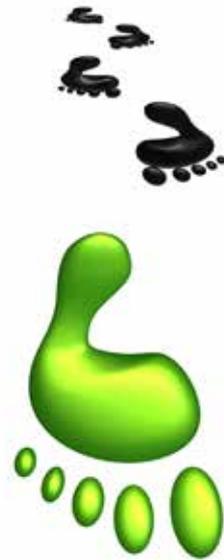
protein activation within a shorter period of time, so better product yields can thus be achieved. The increased slice firmness of the product can be measured by a higher slice yield.

By binding fewer spatial and temporal resources, massage technology can achieve the highest possible profitability.

**Author: Peter J. Danwerth, Schröder Maschinenbau GmbH & Co.KG**



# CUT YOUR CARBON FOOTPRINT WITH FTNON'S DCC TECHNOLOGY



**F**TNON's DCC blanching technology is becoming more and more popular and is used by food processors all over the world. Not only big corporation companies like Nestlé and Pepsico but also many smaller food processing companies.

The revolutionary DCC™ (Dynamic Cloud Control) steaming technology, is a method which considerably improves the energy efficiency and steaming effectiveness of the process. DCC enables to measure, in a unique way, the bottom condensation phase of the steam cloud. This way it is possible to control and keep a 100% steam environment inside the machine without almost any steam losses. The result is reduced carbon footprint for the food processing industry. Carbon footprint is tied to the amount of carbon dioxide (CO<sup>2</sup>) emitted from an activity or organization, the carbon footprint is a fast-growing component across industries and a main topic when talking about the climate change challenges the world is facing.

## Applications

The DCC technology can be used for belt blanchers but also for screw blanchers. This means that a large amount of food products can be treated with this technology. This can

be fish or meat but also all kind of vegetables. It can be used for herbs, fruits and pasta products but also for ready meal production. From a food processing point of view, the main benefit of using steam over water heating is that the product heats up more rapidly. This way, the outside of the product is sanitized without having the heat moving deep into the product. Also, the system will sanitize itself.

The DCC can be used for small capacity with blanchers for 400mm wide to 3M long but also for high capacity systems up to 4m wide and 40m long.

## Hygienic design

Next to the energy saving effect and low carbon footprint FTNON has designed the blancher according to latest hygiene regulations like FSMA. The blanchers are very easy to clean which allows for quick change over times and makes it ideal for the ready meal industry.

Hygiene becomes more and more important because no-one wants to take any risk during food production. For the last 5-7 years FTNON have learned about bacteria and how to avoid them during production. This knowledge is integrated in the machine design.

Since the DCC systems have almost no steam losses there is also no need for energy consuming extraction hoods or systems. This means less burden on the factories air circulation systems and no smell outside the factories which becomes very important these days now urbanisation starts directly outside the factory gate.

## DCC Success Stories

Real life examples where the FTNON's DCC Steamer have helped customers reach their sustainability goals:

► *A family business, based in Belgium, specialized in ready meals for schools. Freshness, quality, sustainability and innovation are central to everything this family business realizes. In the ready meal segment they decided to improve its yield and product quality by introducing FTNON's most advanced DCC Belt steaming system in three production locations. After extensive tests with FTNON's pilot DCC steamer, end-products showed better taste and colour, as well as an improved product quality in general. Lower energy consumption here is extra.*

► *A German company saved 35% on oil, 70% on steam, and at the same time doubled the capacity using a DCC steamer.*



With all the attention on sustainability we should not forget the primary purpose for steaming. The primary purpose of steaming is to improve shelf life. Furthermore, it is possible to improve the organoleptic properties, like taste, bite, smell and texture.

**Author: Wilco Fauth,**  
**Business Development Director at**  
**FTNON**

**Additional applications are:**

- Inactivation of enzymes
- Inactivation of bacteria
- Compression of cooking time
- Improvement of product quality
- Gelatinization of starch
- Sanitizing / Disinfection
- Thawing



DCC Belt Steamer in cleaning position



DCC Belt Steamer for potatoes and vegetables

# JBT INTRODUCES PROSEAL, ENVIRONMENTALLY-FRIENDLY PACKAGING SYSTEMS

**J**BT has announced completion of the acquisition of Proseal UK, an innovator in environmentally-friendly packaging systems with a manufacturing presence in Europe, the US and Australia.

Proseal is the leading manufacturer of tray sealing equipment for a range of protein food products including categories such as Red Meat, Pork, Poultry, Fish, Seafood, Ready Meals

and produce categories such as Soft Fruit, Fresh Produce, Prepared Produce, Sandwiches, and Snack Foods. Proseal has been at the forefront of developing systems that improve product shelf life whilst minimizing the use of plastic at the same time.

With machines capable of handling 240 packs a minute, the Adlington, UK-based company has experienced strong growth in export markets through the design, manufacture, assembly and servicing of high-quality

tray sealing systems and turnkey production line solutions. Used predominantly for food packaging applications, Proseal is continuing to drive growth by developing systems that deliver important sustainability benefits through food preservation techniques and reduced energy consumption.



## **WASTE NOT**

### ***Tray sealing's vital role in reducing food waste***

Globally over one third of food produced goes to waste – an area larger than China is used to produce food that is never eaten. Much of this ends up in landfill where it rots and releases methane, a powerful greenhouse gas.

Packaging's role in helping to minimise food waste is already significant. The food tray, for example, while meeting the need for convenience for today's busy consumers, also provides suitable protection from factory to retailer to home – for example, grapes sold in top-sealed trays rather than loose bunches can typically reduce waste in stores by over 20%. In

addition, the tray's ability to inhibit and control the ingress or egress of gases and moisture reduces deterioration to extend shelf-life.

The flexibility of the tray sealing format itself offers the ability to seal an almost limitless variation of different tray shapes or sizes and this includes recent innovations such as snap packs, where one part of the pack can be separated and used while the other part of the pack remains sealed and intact, this leaves the other half of the produce remaining in its purposely engineered environment, protected for later consumption.

For a tray to deliver these benefits to maximum effect, an efficient sealing system is vital. Proseal tray sealers offer a variety of preservation

techniques and seal formats such as gas flush, hermetic shrink, vacuum gas, skin pack, skin plus and skin deep, to provide extended shelf life for individual product requirements.

Equally important, as part of Proseal's future-proofing strategy, all GT platform models are able to have these seal process capabilities added and removed in line with current market demands. This provides valuable assurances that enable food manufacturers to respond to latest trends without the need constantly to invest in new equipment.

Proseal tray sealers, filled with leading-edge technology and control systems, are able to stop operation should they detect a misaligned, mis-filled or overfilled tray, and their



# WELCOME TO OUR NEW JBT BRANDS

ability to connect with upstream and downstream equipment means that should an error occur elsewhere on the line, the line can be stopped immediately. In these ways, lengthy downtime is prevented, and product can be retrieved for rework and repacking, thus preventing unnecessary waste.

For packaging to be truly sustainable, it must deliver its protection and preservation capabilities while using the minimum amount of material possible. The move from clam shell and clip-on lid packs to top-sealed trays for soft fruit and other fresh produce has led to material savings of up to 45%.

Proseal tray sealers can also cope with the lighter weight trays that are now being introduced and as manufacturers explore alternatives to plastic, they have the ability to seal other materials such as pulp, board and foil. One recent example of Proseal's dedication to exploring alternative packaging is the joint development of HALOPACK® board-based MAP-capable food trays, produced from 100% recycled and sustainable cardboard. The trays feature a barrier that enables them to extend product shelf-life, compared to conventional carton-board tray options which are not capable of being

made air-tight, and in this way provide another way to reduce food waste.

A further sustainability benefit of Proseal tray sealers is their efficient operation. The company's unique Eseal® technology delivers excellent seal reliability to maintain effective food protection and preservation while achieving a 92% reduction in energy usage.

There are many causes of food waste and many solutions. Proseal tray sealing technology will continue to play its part in minimising food loss and waste throughout the supply chain.

**Author: Amy Johnston,  
Brand Manager at Proseal**



Model - GT0e - Up to 36 packs/minute



Ready Meal Halopack  
Simply-Good-Sesam-lachs



# PRIME IS NOW PART OF THE JBT FAMILY!



*Simple Solutions for Poultry Processing*

**J**BT Corporation acquired Prime Equipment Group Inc. Prime Equipment is a manufacturer of turnkey primary and water re-use solutions to the poultry industry, with headquarters in Columbus, Ohio.

“The acquisition of Prime advances our goal of becoming the preferred provider of full-line solutions for poultry customers with the addition of Prime’s primary processing capabilities,” said JBT Chairman, President, and Chief Executive Officer Tom Giacomini.

Founded in 1992, Prime Equipment Group started, and is still run by, the Gasbarro family, which has owned and operated poultry plants and poultry-processing businesses for more than 65 years. Prime is based in Columbus, Ohio, USA and develops, manufactures, sells, and supports the world’s most logical, durable, and flexible poultry processing systems available on the market today.

## **“Simple solutions for poultry processing”**

Prime’s goal is to deliver what poultry processors worldwide have come to expect and deserve; simple equipment that increases yield, preserves product quality and reduces labor dependency. Prime’s tagline “Simple solutions for poultry processing” means finding the most straightforward, efficient and reliable way to automate processes in poultry plants, to produce the best end results for poultry processors.

## **Accelerate the European presence**

“Prime’s latest technologies address pressing needs in the poultry industry in the areas of automation and water re-use which will further strengthen our customer relationships,” said JBT Executive Vice President and President, Protein Paul Sternlieb. “Prime’s revenue is primarily concentrated in the U.S., and we look forward to leveraging JBT’s global reach to accelerate the deployment of the automation and water technology for growth outside the U.S.”

For more information about Prime equipment, contact Regional Sales Manager, [Christ Van Zantvoort](mailto:Christ.VanZantvoort@JBTC.COM) at; [Christ.VanZantvoort@JBTC.COM](mailto:Christ.VanZantvoort@JBTC.COM)



VBS-6 Vertical Bird Washer  
Traditional bird brushes are proven at helping reduce microbial hits



Gizzard Machines



**“ Proven, efficient and effective solutions from THE global leader in turkey processing equipment**



**“**How our  
Corporate  
Social  
Responsibility  
commitments  
spreads to  
you



# A GOOD INSIDE SHOWS ON THE OUTSIDE

In every aspect in the development of a solution from JBT you can rest assured that great considerations have been taken in regards of sustainability and ethics.

When you buy your machinery from JBT you know that it has been developed and manufactured in a responsible way. And you know that you get a piece of equipment that utilises the latest scientific advances in technology to minimise your environmental footprint.

But it doesn't end there. Our solutions and processes come with a commitment to constantly improve their impacts in the areas of CSR. Whether it is by developing more energy efficient drive lines, decreasing consumption of water and chemicals or offering training and support to create more sustainable work flows.

Our focus on minimising the environmental footprint of our business does not end with a closed deal on a piece of equipment. We are committed to long-term partnerships with our customers.

JBT's customer care services ensure that even old equipment receives high quality maintenance and machine upgrades so that you are getting the most value out of the equipment and realise more operational savings. We offer upgrade kits and solutions that are designed and engineered to maximise operating efficiency while minimising environmental impact.

# JBT MAGHREB

# “ The Maghreb region takes off



From left, Kalid Saou, Sales Manager, MEA and Roland Collet, Regional Sales Manager MEA.

**T**he Maghreb region, also known as Northern Africa, consists, primarily, of the countries Algeria, Morocco and Tunisia. This is a region and market on the rise. With an increasing population, which reached 100 million people in 2018, there is a continuous pressure on the infrastructure resources. The growth opportunity is tremendous, but with the sensitive economic and political situation also fragile at the same time.

Kalid Saou, Area Sales Manager in the Northern Africa describes what the local food processors are requesting from their equipment suppliers. “We see a need for support with food processing knowledge and product know-how to build food processors confidence. The clients are looking for reliable suppliers who can assist them and serve as sound-boards in their investment projects.” JBT supports the region from a long experience of delivering profitable solutions to the food processing industry cross the globe in terms of deep application knowledge, tailored solution concepts, technical advice, productivity recommendations, Customer Care service and much more. Roland Collet, Regional Sales Manager for Middle East and Africa has been supporting the region for a long time and continuously strive to guide and support his clients. “With more than 40 years’ experience in the food industry I’m devoted to share my know-how with customers and help them achieve the very best quality product.”

### **Bread-loving Algeria**

The main food processing projects in Algeria are mainly related to bread, ready meal (pizza), poultry and freezing fruits and vegetables. The Algerians love bread; the French baguettes are extremely popular and most of the Algerian dishes are centred around flat bread served with mixed meats, fresh herbs and vegetables. This makes the bakery industry a steady growing market, a market where JBT’s renowned Frigoscandia GYRoCOMPACT® Spiral Freezer offers key advantage in terms of performance, compact design and with the capability to freeze up to 70,000 proofed croissants an hour.

### **The home of fruits and berries**

Morocco remains stable politically and economically. With the advantage of a strong geographically position they are the preferred supplier of Europe’s imported fruit and fish products. The country benefits from a wide range of sectors such as fruit, meat and poultry. The seafood segment is also huge in Morocco, it is placed at the thirteenth world rank in term of fisheries resources, mainly for pelagic and cephalopods. Quick Freezing and Glazing of fish products are an excellent way to protect the product from dehydration and miss-colouring during storage. By refreezing the glazed products in JBT’s Frigoscandia ADVANTEC™ freezer the yield improves and stabilize the products surface.

Most renowned and productive business is fruits where the production of berries in Morocco in 2018 represents

about 197,000 ton with a 50% of the volume dedicated to the frozen market. JBT brings great value to this segment through our pioneered Individual Quick Freeze (IQF) technology. Our versatile Frigoscandia FLoFREEZE® IQF Freezer is especially developed to ensure gentle handling of sensitive or sticky products such as fresh berries.

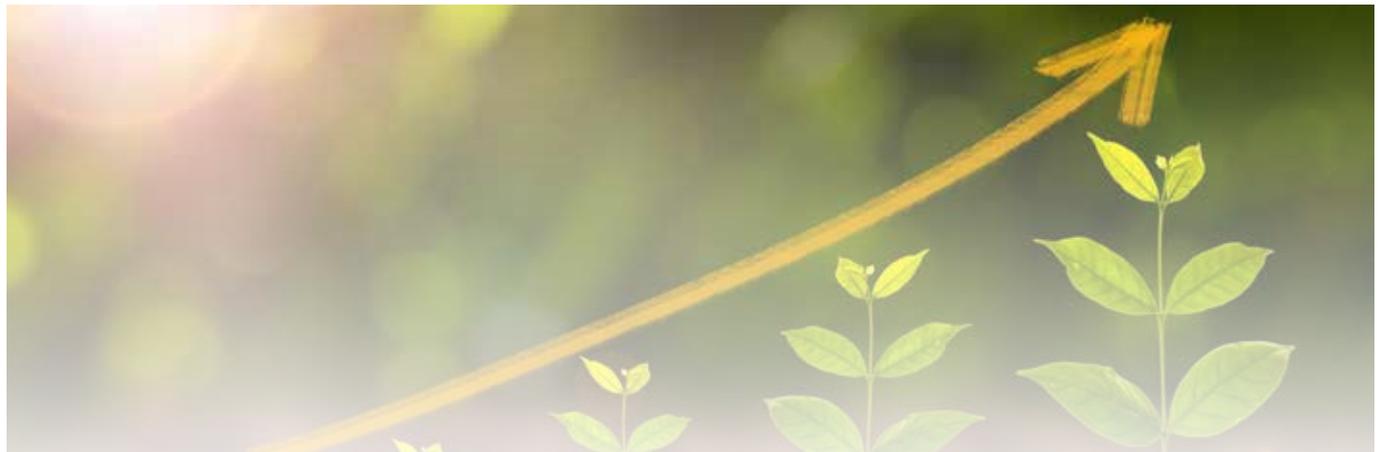
### **The reference market of the region**

Tunisia is one of the most progressive countries of the Maghreb region in regard to consumption pattern and seen as the regions reference market. Example of well-established food processing products are poultry, fish, bakery and dairy products. For further processed poultry products Tunisia is the most advanced country in the Maghreb region. Poultry processors are searching for combination of processes to produce exactly the required taste, texture and appearance of their finished products. JBT can provide all of these processes so that the finished product exactly meets our customers’ requirements. JBT have an extensive and high-performing range of coating, frying, cooking and freezing equipment which can be integrated to produce flexible in-line processing solutions.

As the Maghreb region takes its next steps in expanding their trade- and market position JBT stands by ready to support with technical expertise and value-adding processing solutions for our highly valued customers.

# GROW WITH US

We are a company with continuous growth and we want our people to grow with us. Nedjada Ribic and Majid El-Achkar are two of JBT's many employees who have developed in their roles and taken on new rewarding challenges within the company. Read about their personal development and what they think about working at JBT.



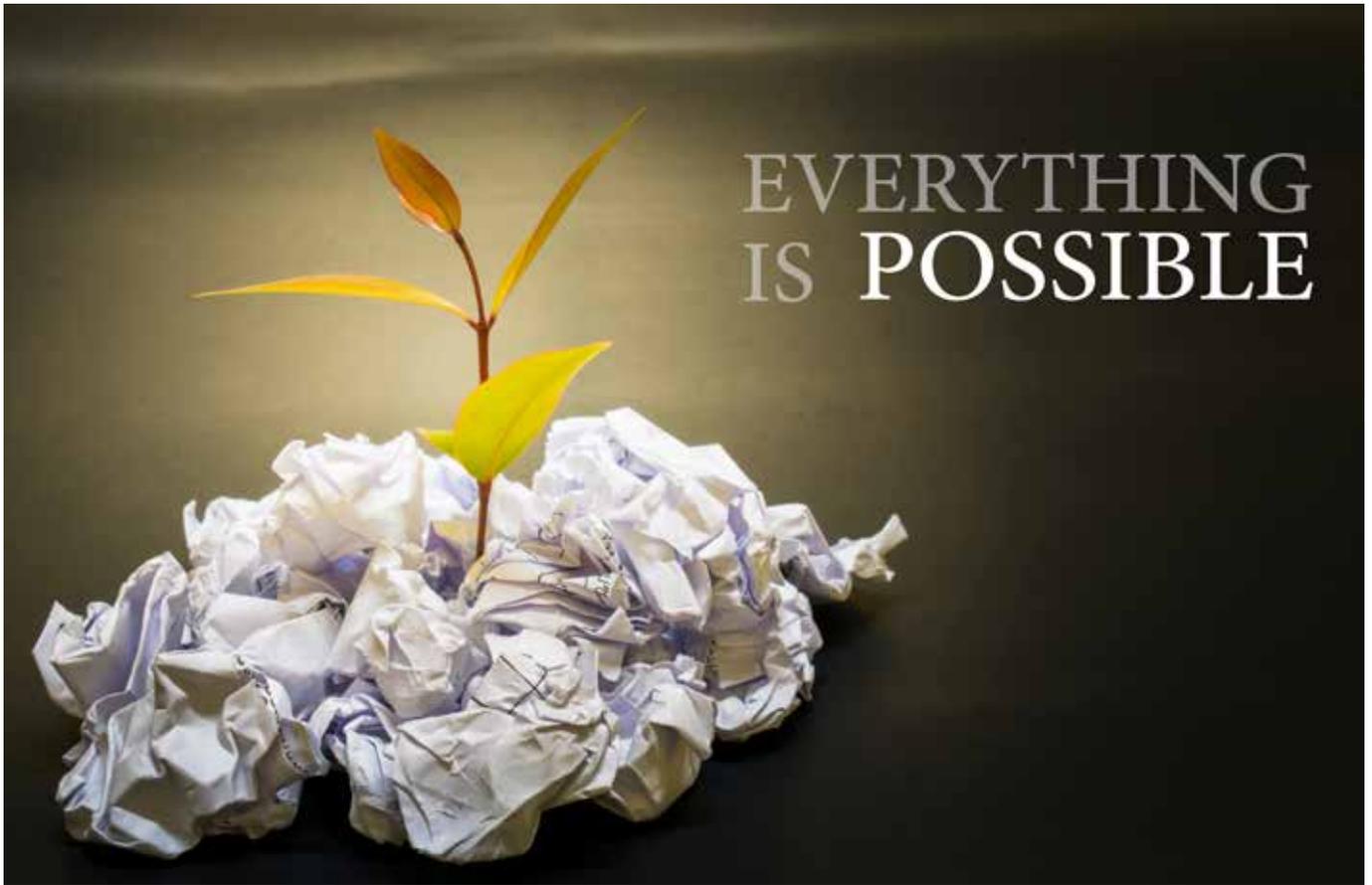
## NEDJADA RIBIC MECHANICAL ENGINEER IN SWEDEN



Nedjada, a newly graduate, started her career in JBT as a design engineer in the Mechanical Design team, where she worked with customized order design for about one and a half year. She has now moved on to be part of the Research & Development (R&D) team with the exciting task of developing new ground-breaking machinery and solutions for the food processing industry. She has always had a technical interest and been good at math. She decided to study for a bachelor's degree in Mechanical engineering because of the focus on the technical design. She soon realised that it was the computer-aided product development that had caught her interest. She studied for the master's degree and a week before finishing her exam she signed for a job with JBT.

*"There are great opportunities for personal development here and to change positions within the company. I've seen a lot of colleagues been given the same opportunity as me to grow within other departments such as R&D, Project management, Customer Service and in some cases even higher positions than they had before.*

*I feel very lucky to have found such a good workplace and colleagues. It's been challenging, educational and fun!" -Nedjada*



EVERYTHING  
IS POSSIBLE

## MAJID EL-ACHKAR PROJECT MANAGER IN THE MIDDLE EAST

Majid has been with JBT for eleven years and has previous experience working as a Mechanical engineer with military vehicles and as a consultant within the food industry. He has a master's degree in mechanical engineering with a focus in product development. Majid started his career in JBT as a design engineer in the Mechanical Design team in Sweden.

Today Majid works as a Project Manager in the Middle East. He leads projects from start to finish and works with the entire company's product portfolio. The Project Manager role includes customer contact on different levels, collaboration and contact with many of the JBT's various departments as well as the external customers.

*"I have worked at JBT for eleven years and never had a boring day. My motivation has always been new exciting tasks, challenges and to work freely within in my role. This is something I feel characterizes JBT! I have designed machines with innovative solutions providing our customers with the most customized and highest performing solutions in the market. I have travelled and got the opportunity to see incredible things. JBT operates in an exciting and fast-pace industry, an industry in constantly development, which itself is a big motivator for me."*

*"The best thing about working at JBT is that there are always opportunities to develop. I also enjoy working with customers in an industry that always requires our enthusiasm and drive to deliver high quality and competitive solutions to our customers."* **-Majid**



# JOIN A WORLDWIDE LEADER IN FOOD PROCESSING

## **JBT, where you want to be**

John Bean Technologies (JBT) is a leading global technology solutions provider to high-value segments of the food processing industries. We design, manufacture, test and service technologically sophisticated systems and products for our customers.

## **Journey with JBT**

The diversity of our global and multinational team allows us to develop and support a wide variety of products and technologies. We offer careers in engineering, sales & marketing, operations, manufacturing, as well as other fields. With approximately 5,800 employees and sales/service offices in more than 25 countries, our global presence will only continue to grow.



## **Our Commitment**

Whether you're a university student seeking an internship, an experienced professional or a skilled tradesman, we offer exceptional career building opportunities. Our talented, diverse workforce is what allows us to provide the very best products and services to our customers. We value our people and encourage brainstorming, collaboration, and continuous improvement, while enjoying a challenging and exciting work environment.

**Apply at:** [jbt.com/foodtech/about-us/careers/search-and-apply](https://jbt.com/foodtech/about-us/careers/search-and-apply)

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## LET'S KEEP IN TOUCH!



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LINKEDIN



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BLOG



# AROUND THE GLOBE

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