

MEATING POINT

magazine

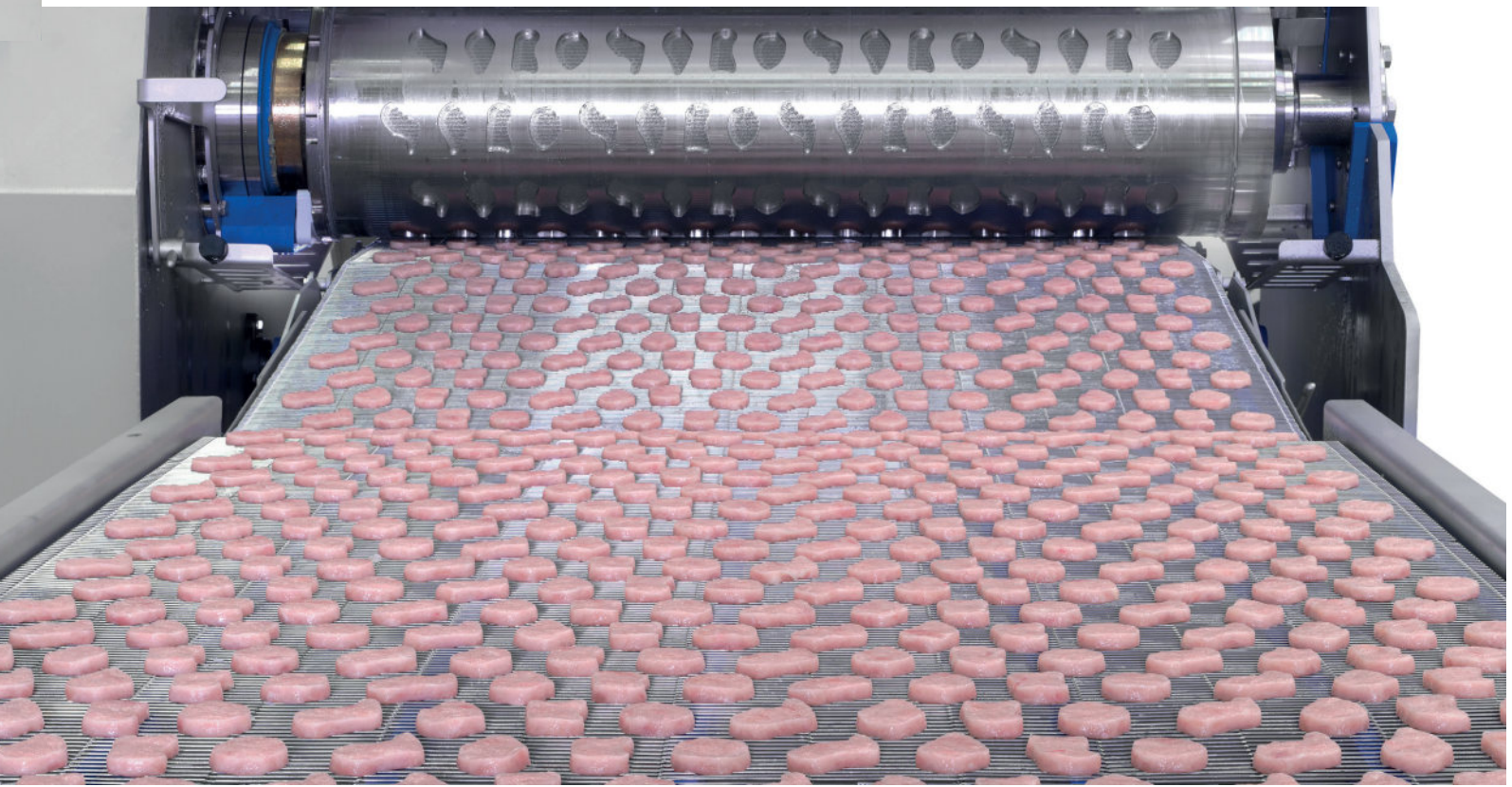
SUSTAINABLE TECHNOLOGY, PROCESSING & PACKAGING



THINKING ABOUT TODAY
AND TOMORROW

SAVING ON MAINTENANCE COSTS
WITH DIGITAL SERVICES

TRANSFORMATIONAL
PLANT MEAT



Chicken nuggets



Veggie fish fingers



Chicken schnitzels



Plant-based fillets

GEA raises the bar in drum forming with GEA MaxiFormer 1000

GEA MaxiFormer raises the bar to 250.000 chicken nuggets per hour. Its patented step filling system and unique drum design ensures maximum shape retention, weight accuracy and knock-out control, using only air to release the products. The drum former is designed for high volume production of virtually any kind of 2D and 3D shaped products with maximum meat structure retention. We invite you to take the next step with us!



[gea.com/contact](https://www.gea.com/contact)

Dear reader,

The world's largest annual trade show for poultry, meat and feed industry opens its doors on Jan.24-26, 2023 at the Georgia World Congress Center in Atlanta. With an anticipated 500,000-plus square feet of exhibits showcasing the latest and most innovative solutions and services for the poultry and egg, meat and animal food industries, IPPE 2023 is expected to bring thousands of industry leaders from more than 110 countries. The trade-fair reflects the evolution of the animal food, meat and poultry markets, representing expansion into other proteins, vertical growth and crossover solutions. With its extensive range of solutions the fair draws industry leaders worldwide who are committed to business development, implementing best practices, updating operations and remaining competitive.



Jenny Smart

This edition of the trade-show is special as the International Poultry Expo is celebrating 75 years of trade show excellence to the poultry and egg industries. Sponsored by U.S. Poultry & Egg Association (USPOULTRY), the first poultry convention was held in Atlanta in 1948 and attended by 200 poultry leaders. The event begun its run of steadily growing and expanding year-after-year to become what is today's annual International Poultry Expo. As the largest annual trade show in the U.S. focused 100% on all aspects of the broiler, turkey and egg industries, the International Poultry Expo expanded to incorporate other areas of related production and processing. In 2007, the American Feed Industry Association signed an agreement to join the International Feed Expo with the International Poultry Expo. In 2013, the International Poultry Expo expanded again with the addition of the North American Meat Institute's International Meat Expo. The International Production and Processing Expo (IPPE) is now the umbrella name for the three integrated shows.

Don't miss the opportunity that IPPE 2023 provides - a full week of education, new innovations and engagement opportunities with key industry players, making this the "Must-Go" event for 2023!

Our IPPE Preview is on pages 10-21.

With this final issue of the magazine for this year, we would like to thank you sincerely for your trust and the pleasant cooperation. Our team wishes you a Merry Christmas and a Happy & Successful New Year!

Enjoy your read!

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OPTIMUM HYGIENE CONDITIONS IN FOOD PROCESSING FROM FILLING THROUGH TO PACKAGING

First-class hygiene conditions are a must in food production and are becoming increasingly important, particularly in the processing of easily perishable food. The comprehensive Handtmann hygiene concept ensures consistent, flawless hygiene conditions from the filling process through to packaging with systems in hygienic design, cleaning programmes, an integrable UVC degermination module as well as automation options and digital monitoring functions.

Handtmann systems are consistently designed and constructed according to the latest principles of hygienic design. All edges and surfaces are rounded, there are no dead spots where material can accumulate. Smooth external surfaces and angled or curved surfaces, e.g. on the machine frame, the hopper's pivot bearing and the arm lifting device, guarantee fast water drainage. Small gap widths, short seal lengths and few edges ensure that there are no dirt traps, the cleaning work needed is also reduced and a high level of hygiene is guaranteed. All systems are suitable for complete and thorough cleaning procedures with high-pressure cleaners.



Cleaning with high-pressure cleaner

VF 800 with UVC degermination module



Yet another important hygiene feature in the production process is the automatic interim cleaning of the hopper during product changes. The hopper is hereby cleaned by a spray head in a programme-controlled process. This option, which can also be used for pre- and final cleaning, facilitates efficient product changes and reduced idle times, coupled with a high level of hygiene. The automatic feed system cleaning programme which enables the feed system to be cleaned with warm water, further optimises hygiene standards. With water temperatures of up to 90 °C, hygienic cleaning results can be attained without much work on the part of the operator. The digitally verifiable cleaning quality generally ensures consistently high cleaning standards.

The emergence of the coronavirus has taken the subject of hygiene in food processing to a new level.

In this context, Handtmann VF 800 vacuum fillers offer an optionally integrable UVC degermination module for degerminating the ambient air. In addition to bacteria, yeasts and spores, it efficiently inactivates in particular UV-sensitive viruses (e.g. influenza, corona) in the ambient air. To this end, the air drawn in to cool the VF 800 vacuum fillers is guided to the integrated UVC degermination module, where viruses and airborne germs (e.g. listeria or spores from ageing chambers) are effectively inactivated. The spread of viruses and other airborne germs can thus be reliably prevented using the UVC degermination function.

Handtmann automation options in addition contribute to hygienic production conditions. Standard automation solutions, such as grouping, feeding and depositing products into a wide variety of packaging formats, are included.

www.handtmann.com



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Bringing together high quality & cost saving innovation

Formshrink® is perfect for packing of high volume, uniformly shaped retail applications such as whole poultry.

Features & benefits

- ◀ CEFLEX - CE and REDcycle™ compliant
- ◀ Labour cost reduction - no trussing needed
- ◀ Less plastic - no tray needed
- ◀ Clean and hermetically sealed packs
- ◀ Retail ready attractive product presentation
- ◀ Easy open tab
- ◀ No metal clips for metal detection
- ◀ Vacuum or gas (MAP) formats



Formshrink® Less is more

Conventional Tray



Formshrink®



Formshrink® offers 80% packaging weight reduction.

Case study

Country: **Poland**

Application: **Retail whole chicken (Lidl)**

67% Labour reduction

Before

Packing method	Shrink Bags
Labour	6 persons
Output	40 chickens/min

After

Packing method	Formshrink®
Labour	2 persons
Output	40 chickens/min



www.krehalon.com

sales@krehalon.com

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ECO-FRIENDLY, ENERGY SAVING, HYGIENIC: EFFICIENT SANITISATION WITH MICROWAVE AND RADIO FREQUENCY SYSTEMS BY SAIREM

SAIREM a world-leading specialist in microwave (MW) and radio frequency (RF) industrial solutions based in Lyon, France. The company's innovative systems are suitable for either decontamination of ingredients such as powders, spices, peppercorns, flours, and nuts etc. or as disinfestation of plant-based food and ingredients such as, cereals, soft wheat and many more. Responding to client needs, the French company has developed highly efficient processes to produce ingredients that are healthy, clean, and fully compatible with the requirements of organic farming certification.

Chemical Free Destruction Of Potentially Contaminated Ingredients

Decontamination with SAIREM RF and MW systems enable the

complete destruction of mould, yeast, and bacteria, without the use of toxic chemical products. The use of not allowed gas was one of the most cited reasons for product withdrawal in Europe the last years. This is a major advantage for food processors and suppliers serving the health -and environment- conscious consumers of today. SAIREM's systems are ideal for superfood trend products and ingredients to produce plant-based protein alternatives. Valuable ingredients such for example nuts are treated with extreme care, therefore resulting in a high-quality end product and reduction of 4-5 Log. The efficient RF and MW process, which only lasts a few minutes, ensures that each ingredient is quickly and uniformly brought to the required temperature. As the processing time is so short, there is no

alteration of the physical, chemical, and organoleptic properties - all product characteristics are perfectly preserved. Other successful applications include peppercorns (3-4 Log reduction) or maize starch powder (6,87 Log reduction).

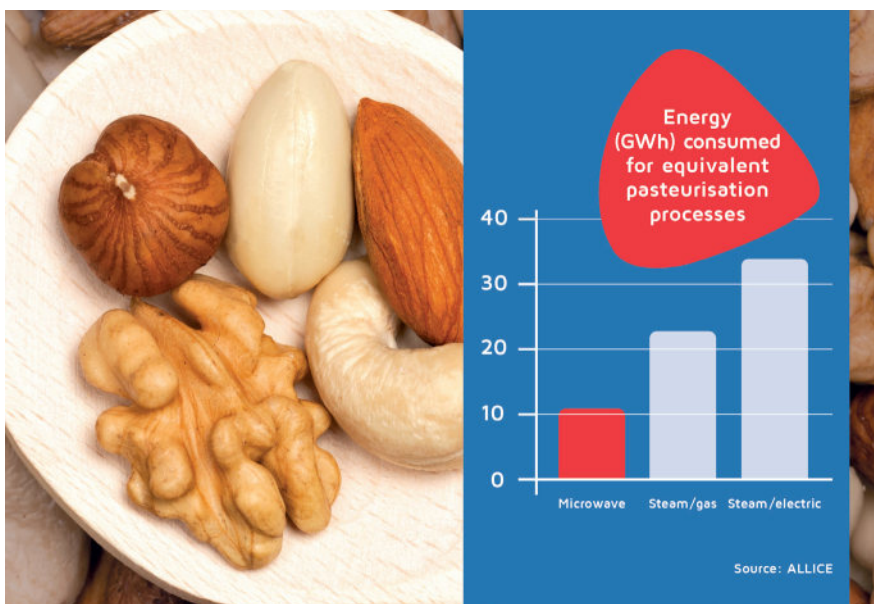
RF and MW Technology for Disinfestation from Egg to Insect

Many high-quality ingredients are exposed to the risk of contamination by parasites, and in particular larvae, moths, and beetles. By the implementation of SAIREM's RF and MW technology, parasites and micro-organisms are deactivated by short, homogenous exposure to a microwave field in a temperature-controlled processing cavity. For example, products such as dates, whose high sugar content makes them particularly vulnerable to moths and beetle larvae, the speed of the process ensures perfect disinfestation while preserving all organoleptic properties.

SAIREM assigned French technical institute ARVALIS to conduct a study on the effectiveness of weevil eradication by applying SAIREM's microwave heat treatment. The treatment tested had excellent disinfestation results of adult weevils and their offspring.

Fast, Energy-Saving, Cost-Efficient

The low maintenance and cost-effective SAIREM systems can



SAIREM's MW and RF technology is 100% electric and therefore produces no CO2 emissions and consumes 50% less energy compared to traditional heat treatment processes.



Sylvain Tissier, Business Development Manager at SAIREM

process large amounts of product either in batches or in a continuous process in tunnels or the patented tubular system. MW energy efficiency and volumetric heating keep power consumption at a lower level than that of other processing technologies. As SAIREM’s MW and RF technology are 100% electric solutions, they have no CO2 emission and consume 50 % less energy compared to traditional heat treatment processes.

SAIREM Equipment: Innovation and Versatility in Action

Not only does this equipment provide a speedy, efficient process, it has the added advantage of being very compact with a small floor footprint that saves space. It is extremely user-friendly, offering easy loading and unloading as well as a colour touch screen HMI, and a USB and ethernet connection for remote control. Apart from daily cleaning, there is

no need for regular maintenance, and it complies with all hygiene regulations and standards.

Sylvain Tissier, Business Development Manager at SAIREM, explains: “SAIREM systems are extremely versatile and efficient. They can be used for sanitising in the role of decontamination and

disinfestation. We have designed them to provide fast and effective processes, ensuring high-performing, cost-saving results.”

SAIREM offers standardised systems as well as systems specifically adapted to customer requirements.

www.sairem.com

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INTERNATIONAL POULTRY EXPO CELEBRATES 75th ANNIVERSARY

The International Poultry Expo is celebrating 75 years of trade show excellence to the poultry and egg industries. Sponsored by U.S. Poultry & Egg Association (USPOULTRY), the first poultry convention was attended by 200 poultry leaders in Atlanta in 1948, with suppliers exhibiting in the halls of the convention hotel in the early years. From there, the event began its phenomenal run of steadily growing and expanding year-after-year to become what is today's annual International Poultry Expo.

From the beginning, USPOULTRY leaders recognized the importance of continuing education and technological advancements to keep up with the rapid changes occurring in the industry.

This is demonstrated through the International Poultry Expo, the world's largest gathering of poultry industry leaders and the most comprehensive display of the latest technology, equipment, supplies and services used by poultry and egg companies. As the largest annual trade show in the U.S. focused 100% on all aspects of the broiler, turkey and egg industries, the International Poultry Expo expanded to incorporate other areas of related production and processing. In 2007, the American Feed Industry Association signed an agreement to join the International Feed Expo with the International Poultry Expo; and in 2013, the International Poultry Expo expanded again with the addition of the North American Meat Institute's International Meat Expo.

The International Production & Processing Expo (IPPE) is now the umbrella name for the three integrated trade shows, and IPPE is one of the top 30 largest events in the United States. With an anticipated 500,000-plus square feet of exhibits showcasing the newest and most innovative products and services for the poultry and egg, meat and animal food industries, IPPE 2023 is expected to bring thousands of industry leaders from more than 110 countries.

The International Poultry Expo is one of the main sources of funding for USPOULTRY, whose mission is to progressively serve member companies through research, education, communication and technical services. Association membership includes producers

and processors of broilers, turkeys, ducks, eggs, and breeding stock, as well as allied firms. Funds generated from the International Poultry Expo are reinvested into programs and services that benefit all segments of the poultry and egg industries.

Poultry Market Intelligence Forum to Examine 2023 Industry Market Trends and Challenges at IPPE

U.S. Poultry & Egg Association (USPOULTRY) will host its annual Poultry Market Intelligence Forum. The event will provide insight into the current markets for chicken, turkey and egg products around the world, in addition to addressing factors that may affect these markets in 2023. This year’s forum will be held from 9 a.m. to 12 p.m. on Wednesday, Jan. 25, 2023, and is free for all registered IPPE attendees.

The program will include speakers sharing their expert perspectives on tumultuous market conditions, regulatory issues and other challenges facing the U.S. and international poultry and egg industries. The speakers will also address how these industries are positioned to overcome these challenges. The speakers and topics of discussion are as follows:

Industry Experts to Present Topics on Market Management During the Opening Session of 2023 Latin American Poultry Summit

The 2023 Latin American Poultry Summit will kick off with a session on market management, presented by two renowned poultry industry experts and followed by a



panel discussion. Sponsored by the International Poultry Expo (IPE), part of the International Production & Processing Expo (IPPE), and the Latin American Poultry Association (ALA), the Latin American Poultry Summit is organized into four tracks to provide in-depth information in each area.

Paulo de León, director of Central American Business Intelligence (CABI), will open the Summit with his presentation, “Chicken as the Leading Protein in the Market.” León is an industrial engineer who graduated from the Universidad del Valle de Guatemala. He holds a Master’s in Applied Macroeconomics and Financial Economics degree from the Pontificia Universidad Católica de Chile. He will be followed by Dr. David Gastelum, an independent director and previously commercial director of sales and marketing for Bachoco SA de CV. Gastelum is a graduate of the Faculty of Veterinary Medicine of the

National Autonomous University of Mexico. He will share insights into “Marketing Trends and Their Role in the Egg Sector.” Registration is open for the Latin American Poultry Summit and the 2023 IPPE.

WATT Global Media is a supporting partner of the Latin American Poultry Summit.

International Poultry Scientific Forum (IPSF) to Discuss Research Developments

With a rich history built on more than a century of poultry domestication and study, the modern poultry industry continues to expand its knowledge and mastery of avian care and finding innovative areas of research that help increase the overall success of the industry. These research developments and related topics will be discussed at the International Poultry Scientific Forum (IPSF), held in conjunction with the 2023 International Production & Processing Expo (IPPE) in Atlanta.

Sponsored by the Southern Poultry Science Society (SPSS), the Southern Conference on Avian Diseases (SCAD) and U.S. Poultry & Egg Association (USPOULTRY), the IPSF will present research information on a variety of industry topics, such as environmental management, nutrition, physiology, pathology and avian diseases. The one and a half-day forum will begin Monday, Jan. 23, 2023, and continue through Tuesday, Jan. 24. The pre-registration fee is \$80 through Jan. 6. Beginning Jan. 7, the cost is \$140. Students may register complimentary by uploading a copy of their valid student ID.

www.ippexpo.org

Domestic and Global Drivers 2023
 Nan-Dirk Mulder, senior global specialist animal protein
Rabobank

2023 Washington Update
 Christian Richter, principal
The Policy Group

The Modern Consumer: Understanding and Influencing in 2023 and Beyond
 Steve Lurch, president
Story Arc Consulting

REX-TECHNOLOGIE TO EXHIBIT ITS VACUUM FILLER & PORTIONING SYSTEMS



UFM 300

The various models of the UFM 300 series are the ideal forming machines for all fresh meat and convenience food products.

Optional UV sterilisation for the FB 300 conveyor belt guarantees the highest possible level of bacterial eradication thus enhancing hygiene standards, giving machine suitability in high risk environments.

The water spraying unit prevents the product sticking to the blade or conveyor belts.

UFM 300-1 - A Single-Row Dumpling Shaper

The uncomplicated and automated way to shape dumplings. The form cutter mounted directly to the conveyor belt guarantees exact

portioning and the form roller beneath creates the ideal shape. The form rollers are available in various diameters for a range of dumpling sizes.

UFM 300-2 / 300-3 / 300-4 - The Industrial Dumpling Forming Solution

These provide an uncomplicated and automated way to shape dumplings. The filling flow divider separates the portions into several rows.

UFM 300-5 - The Perfect "Home-Made" Burger

The portions are pressed into perfect "home-made" burgers via the form belt with optimal dimensional stability.

UFM 300-6 - The Universal Shaping Wizard

The UFM 300-6 is the universal solution for hamburger and dumpling production in combination with the REX filling machine.

UFM 300-7 - The Flexible Solution for Cevapcici

The UFM 300-7 is a flexible solution for Cevapcici, croquettes, sticks

and all extruded and precisely portioned products.

UFM 300-8 - The Form Genius

The UFM 300-8 is the optimal solution for the production of minced meat blocks and meatloaf.

RVF 436 - Vacuum filler



The All-Rounder for all Sizes of Business

The REX RVF 436 is as suitable for the smaller or medium-sized meat-processing operations as it is for larger, highly specialised companies. Its smooth surface, hygienically designed, space-saving machine housing, is self-supporting and made entirely of stainless steel. The machine's modern design allows us to fulfil the highest standards of hygiene, reducing the daily cleaning effort.

The reinforced model of the large rotary vane conveyor system guarantees highest portioning



accuracy for a maximum service life. The vacuum filler does not crush or smear the product ensuring the product is transported gently throughout the filling process. The rotary vane conveyor system is available with eight, 12 or 14 vanes, alternatively also with blind vanes. A simple pressure levelling piston ensures highest portioning accuracy.

Thanks to the newly developed lifting device, the hopper of the **RVF 400** - available in different sizes - can be filled simply and without any mess.



The impressive standard 12" touchscreen control makes the machine easy to operate, thanks to its large-sized control elements. Both the RVF 436 and the RVF 436 S are designed to be suitable for all applications, e.g. for operating clipping machines, REX hanging lines and attachments.

The tried-and-tested "REX Servo drive" rounds off the innovative control concept. The optional case holding device makes it easy to twist artificial and natural casings.

www.rex-technologie.com

INTERNATIONAL **IPPE** Booth C - 11005



Online auction machinery for the food industry in Kapelle (NL)



Stay tuned!
 In 2023 many interesting auctions will follow
 Scan here to sign up for the newsletter

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MECHANICAL SEPARATION EXCELLENCE



LIMA are specialists in the manufacturing of meat-bone separators, deboners and grinders-desinewers with a world presence through a network of more than 70 distributors.

As IPPE show is about to kick off in Atlanta, LIMA company is looking forward to breaking new record numbers in terms of visitors and results, with high-quality contacts in the Americas.

Distributors from all continents will bring to LIMA's stand many

interested meat processors from the poultry, beef, lamb and fish industries.

LIMA as a World Leader in Mechanical Separation will Exhibit:

Meat-bone separators for poultry for the highest quality of mechanically separated meat at high yields.

LIMA RM 200 S, is a medium-sized LIMA meat-bone separator. With its compact size and low electrical consumption, it enables to reach yet a substantial capacity, up to 1500 kg / hr input capacity in chicken carcasses and is perfectly sized for chicken meat-bone separation.

Moreover, LIMA has achieved a tremendous success with its NEW range of Grinders - Desinewers GD/GDM specifically developed for poultry bone-out raw materials:

trimmings with or without wishbones, deboned thigh and drumstick meat.

This NEW technology enables to produce a very high-quality ground - desinewed poultry meat in terms of texture & color at very high yield. This recovered meat is NOT a mechanically separated meat but a true ground and desinewed meat produced out of bone-out meat cuts or trimmings.

Other main advantages of LIMA's Grinders-Desinewers GD/GDM: very high yields from 85 to 99 %, optimized C/P ratios, low temperature increase, very hygienic design and very low maintenance costs.

The range of more than 70 LIMA models can process from 100 to 20 000 kg/hr of raw product.

www.lima-france.com



MAREL'S VISION OF TRANSFORMING POULTRY PROCESSING

To effectively meet consumer demand in today's industry, Marel understands food processors need to be efficient and adaptable to changing trends. The challenges faced by poultry processors in the Americas drive Marel to develop automated, robotized and digitalized solutions. The aim is to improve raw material utilization, throughput and sustainability while decreasing labor dependency. At IPPE 2023, Marel will showcase how some of the most forward-thinking solutions can tackle

these issues and unleash the full potential of poultry processing businesses.

Nuova-i

IPPE 2023 will see Marel's American launch of the Nuova-i intelligent eviscerator. Optimum performance, highest hygiene and uniform, compact viscera packs are the results of the technological innovations in Marel's new Nuova-i eviscerator. Nuova-i is easy to operate and control, and self-adjusts all settings

according to the recipe entered via the HMI display. In this way, quick flock adjustments are automated. Nuova-i can also measure its own performance. Integrated SmartBase



Nuova-i

software makes for a connected solution, and provides real-time machine health insight.

1000mm Convenience Line



RevoBreeder

More and more customers ask poultry processors to produce an increasing variety of end products in high volumes. Marel's 1000mm convenience line solutions respond exactly to that demand by creating a multitude of perfect end products,

no matter if it's about nuggets, schnitzels or homestyle coated wings. For every situation, Marel configures a tailored line solution that provides a fully automated, repeatable process resulting in superior quality, highly consistent products. The perfect start could be the RevoPortioner 1000, followed by a coating line including flour and batter applicators and of course the RevoBreeder in drum mode or flat mode. The process can be finalized by the GoldFryer and ModularOven.

RoboBatcher Flex

Producing flawlessly styled retail trays with virtually no giveaway becomes an easy job when using Marel's RoboBatcher Flex. Intelligent software coordinates the cut-up

line feed with the requirements for each tray. Advanced software enables the Robobatcher Flex to request products by weight and quality, increasing product



Robobatcher

utilization. RoboBatcher can pick and pack breast fillets, tenderloins, drumsticks and legs.

www.marel.com

INTERNATIONAL **IPPE** Booth C - 13209

kp Elite®

Unique, recyclable MAP solution

kp Elite® offers this modified atmosphere packaging (MAP) solution for fresh protein that delivers end-to-end sustainability. This award-winning product is made with up to 100% recycled PET (rPET), which is recyclable, highly efficient, reduces food waste and extends shelf life.

Include kp **Tray2Tray®**



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Sustainable protection of everyday needs

GIVEAWAY AND LABOR COSTS

Cabinplant A/S, global supplier of tailor-made food processing, weighing, and packaging solutions and a CTB Inc. subsidiary, displays the fully automatic multihead weigher MHW SF Extreme for sticky ingredients at IPPE 2023 in their US hometown of Atlanta, GA.

Fully Automatic MHW Extreme: Weighing/ Packaging of Extremely Sticky Products

The Multihead Weigher SF Extreme from Cabinplant solves the problems of sticky ingredients in

The changeover of the SF Extreme is down to 5-10 minutes, allowing for the production of small batches with frequent changes in recipes and portion sizes. Products like ready-to-eat meals can be packed in plastic trays, standing bags, etc.

Boosting Productivity, Reducing Labor Costs

The MHW SF Extreme reduces the needed operator resources by 60-70 per cent due to the high degree of automation, and thanks to the compact design it fits into most existing production lines.

“The MHW SF Extreme brings a significant productivity boost to automated plants for fixed-weight products containing extremely sticky product mixes and can reduce labor force vulnerability significantly”, states Michael Falck Schmidt, Sales Director at Cabinplant, and he continues:

The solution meets the booming convenience food market and the retail industry’s demand for fixed-priced and portioned products without passing on the bill for the giveaway to the producers.

Multiple Target Weighing Adds Flexibility

The MHW with screw feeding functionality facilitates single or multiple weighing and targets problems with ingredients of uneven weight. Cabinplant’s multiple target system can be set to work with one, two or multiple weighing targets of products in the finished packages.



Nothing sticks and stops with Cabinplant’s MHW SF Extreme – ideal for portioning of fixed weight ready-to-eat meals and processing of small batches with frequent changes in recipes and portion sizes.

Highlights at IPPE 2023:

- Multihead Weigher with unique patented screw-feeder technology for weighing of sticky poultry meat
- New generation multihead weigher: The fully automatic MHW Extreme facilitates weighing and packaging of sticky products, ideal for fixed weight labelling without costly giveaway
- Multibatcher - innovative food weighing technology that reduces giveaway and labor costs significantly when it comes to weighing and batching sizable portions (box packing)

ready-to-eat meals from automated plants. It combines the company’s well-known screw-feeder combination weigher with an innovative scraper/ weighing pan design and a revised processing solution for easy filling/ packaging of the food into trays on the conveyor belt.

The SF Extreme fully automates the dosing and packaging of fixed-weight portioning of sticky ingredients such as diced vegetables, onion rings, rice, pasta, tuna fish, mayonnaise, yogurt, etc. The solution has a remarkably high weighing accuracy, thus minimizing giveaway.

For example, the solution simultaneously can weigh 1.0 lbs and 3.0 lbs packages. This also helps reduce giveaway dramatically because products that do not fit 1.0 lbs packages are instead used for 3.0 lbs portions. This solution offers greater flexibility than before.

Cabinplant Multibatcher: Box Packing in the Fast Lane

The Multibatcher is an automatic high-speed solution for weighing/packing of sizable portions of up to 75 lbs. It is the first batcher based on combinatorial weighing and an alternative to conventional batching with high tolerances and manual processes. The Multibatcher has the potential to reduce both giveaway and costs through precision and speed.



The Multibatcher is an automatic high-speed weighing and batching solution for large portions up to 75 lbs, that reduces give-away and labour costs significantly.

The raw materials are weighed into partial portions in pans which are combined into batches with giveaway down to 0.25-0.7%. This is a remarkably prominent level of accuracy compared to solutions like batching based on the top-up principle.

“The Multibatcher provides

significant savings. The giveaway can be reduced with up to 2000 lbs of meat daily for a processing line running two shifts and based on 3.5 oz or less giveaway per portion”, says Michael Falck Schmidt, Global Sales Director at Cabinplant.

The Multibatcher processes up to 15 batches per minute in batches of 1-75 lbs. The solution is tailor-made and can be fitted into existing packing lines or used as a stand-alone unit. The solution is suitable for large high-value products, including meat, meat by-products, and poultry products where the reduction of give-away will have a significant impact on the bottom line.

www.cabinplant.com

INTERNATIONAL **IPPE** Booth C - 12733

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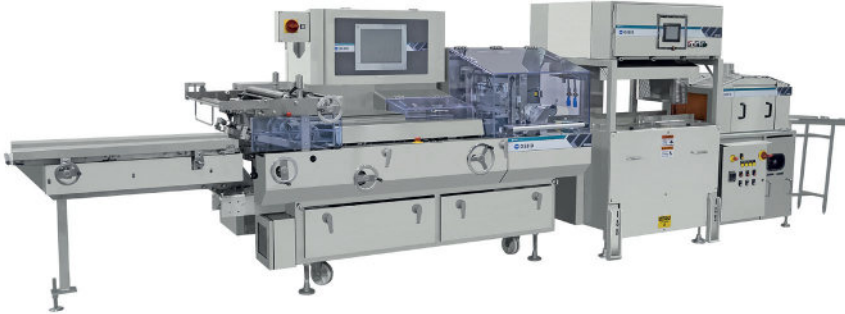
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OSSID AND SEALED AIR TEAM UP TO DELIVER A SUSTAINABLE POULTRY PACKAGING OPTION



Ossid is bringing the heat to IPPE with the best in tray overwrapping, tray sealing, weigh price labeling, and thermoforming machinery for the meat and poultry industries, including its headlining NextGen 500E Tray Overwrapping Stretch Shrink Wrapper with a new sustainable film option.

Ossid will be demonstrating the NextGen 500E, along with a variety of other packaging machinery. The NextGen 500E is Ossid's leak resistant end seal overwrap packaging machine. Designed with a small footprint to maximize floor space, the 500E comes with a gripper chain system to produce tightly wrapped packages at speeds up to 60 packages per minute. The NextGen 500E reduces maintenance time and rework while increasing productivity.

An exciting development for IPPE is pairing the NextGen 500E with a new sustainable film option from Sealed Air. This film uses recycled content to secure food while reducing virgin plastic usage by 30%.

Also on display is Ossid's NextGen 2115 Weigh Price Labeler, which can handle up to 150 packages per minute. Utilizing WYSIWYG label design, the WPL has an

interface that allows the end user to view a projected model of the end result while the label is being created. Furthermore, the machine is modular in design, allowing for short lead and delivery time, and is National Type Evaluation Program (NTEP) approved. The line will be integrated with a Sesotec metal detector.

IPPE attendees will see Ossid exhibiting several other packaging machines engineered for the meat and poultry industries, including several packaging solutions from Reepack. Ossid is the North American master distributor for Reepack, a ProMach brand and leading manufacturer of tray sealers, thermoformers, and other food packaging machinery.

Ossid's 500Si High-Speed Stretch Overwrapper produces tightly wrapped, PVC case ready packaging at speeds of up to 120 trays per minute. The 500Si can handle a variety of eco-friendly film and tray materials and is ideal for packaging red meat and pork products.

Looking to reliably package whole birds? Then the Reepack RV 620 Vacuum Chamber is a must-see at the show. The RV 620 is a semi-automatic machine available in

tabletop or wheeled-frame model. Store and select up to nine automatic programs for quick turnaround on high-quality vacuum packaging.

The ReeForm E10, designed for both small and midsize companies, features a stainless-steel design for easy sanitation in washdown environments. The E10 will be demonstrating flexible packaging applications with a pick and place robot from fellow ProMach brand Quest, an industry-leading manufacturer of industrial automation solutions.

For smaller production needs, the Ossid 500im Tray Overwrapper is an intermittent motion version of the NextGen 500E. This cost-effective end-seal overwrap machine produces tightly wrapped case-ready packages at speeds up to 35 packages per minute.

The ReeTray 30 Semi-Automatic Tray Sealer is ideal for small to medium size processors as it can perform three types of sealing on one mobile stand semi-automatic machine: ambient tray sealing, modified atmosphere packaging (MAP), and vacuum skin packaging (VSP) applications. This user-friendly machine features a chambered system for packaging products in lidding/VSP trays, as well as flat cardboard (VSP skin on board applications). Quick and easy tooling changeover makes this unit a great lab or low production test market machine.

www.ossid.com



MATRIX TO EXHIBIT ITS PROTEIN PACKAGING SOLUTIONS

Matrix is an industry-leading manufacturer of vertical form fill seal machines, operating widely throughout the food industry and poultry/protein markets.

The Matrix solutions in action are reliable vertical form fill seal and pre-made pouch packaging machines designed to handle egg products, individually quick-frozen (IQF) foods and other select products within the poultry/protein markets. Matrix will be exhibiting its MVC-300 Premier and Pacraft TT-8D-N.



MVC-300 Premier

The MVC-300 Premier is a servo-driven continuous box-motion bagger with a 95% stainless steel sanitary design to optimize hygienic packaging in poultry/protein applications.

The MVC-300 (which stands for Matrix Vertical Continuous Motion / 300 mm Wide Jaw) uses a continuous-motion, high-speed jaw system that is unique from other vertical form fill seal machines because the film never stops. The jaw system cuts the film and provides just enough dwell time for the three bag seams to properly seal. This innovative feature allows users to achieve higher fill rates, making the MVC-300 Matrix's most advanced vertical form fill seal machine.

A newer feature to the MVC-300 Premier is remote diagnostic and connectivity control. These advantages allow remote diagnostic, training, and maintenance assistance without danger of facility firewall compromise. Additionally, users can connect the machine and HMI to update code or fix issues - negating the need to remove the PLC.

Finally, the MVC-300 offers fast, efficient changeovers with its Autopro Automatic Changeover System. This valuable feature does all the heavy lifting by eliminating manual adjustments such as hand cranks and thumb screws in favor of precision electronic motion control to effectively remove time-consuming adjustments during changeover.

Pacraft TT-8D-N

Matrix is the North American distributor for Pacraft, and its TT-8D-N pre-made pouch filler/sealer, which is designed for a wide variety of applications in the poultry/protein packaging industry. Its pouch formats and product types include flat, stand-up, retort and press-to-close pouch styles. With performance that seals up to 55 pouches per minute, pouch sizes between 4.72" to 10.23" (120 - 260mm), and length between 5.11" to 15.74" (130 - 400mm), the TT-8D-N provides users with several options to best fit their application.

Matrix has a strong commitment to sustainability, both in its machines and in collaborating closely with its customers to develop packaging solutions that meet their sustainability goals. Matrix machines can run several green film materials, including compostable and recyclable films.

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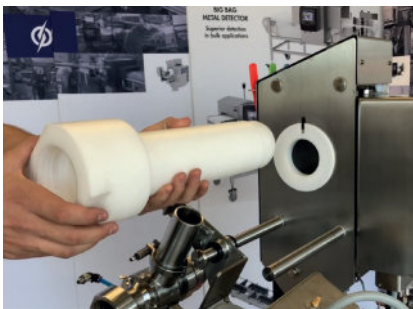
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ULTRA-HYGIENIC DELRIN PIPELINE TUBE UNVEILED AT IPPE 2023

To address the unique inline metal detection and hygiene requirements in the meat, fish, poultry, dairy, plant-based and condiment processing industries, Fortress Technology will unveil how its ultra-hygienic Pump Pipeline Metal Detector is addressing both cross contact and metal contamination at International Production & Processing Expo (IPPE) 2023 (Booth C-12318).

With meat and poultry processing compliance demanding the highest levels of sanitation, the new Fortress Pump Pipeline Metal Detector features an ultra-hygienic, food-safe Delrin removable plastic tube. Constructed with no metal ends, it is completely clear of bacteria-harboring crevices. Also included are customized Delrin wrenches stored on the machine to loosen and tighten threads without damaging the pipe. IP69K-rated and USDA compliant, the slimline machine, which is fitted



A single piece of ultra-hygienic removable Delrin tube on the Meat Pump eliminates crevices that may harbor bacteria.

to a mobile frame for maximum flexibility, also features a unique rail mounted reject valve design for fast removal of pipe for cleaning and reassembly.

¹ Depending on the application

By optimizing hygiene standards, the Fortress Pump Pipeline machine helps to prevent cross contact contamination and the spread of bacteria in industrial meat processing environments that could cause consumers to get sick. Designed specifically for sausage and red meat patty applications, the reduced system length takes up less space between other machinery, including stuffers and clippers. The machine can also be used to inspect pates, broths, gravies and sauces, as well as viscous pet food.

Its mobile frame is easy to roll out. A Clean in Place mode is also available. In less than three minutes, operatives can blast high pressure water jets through the system, eliminating bacteria and product residue to prevent cross contamination. Not being fixed to ceilings or frames enables easy reconfiguration on upstream processing lines. Being a balanced system mitigates the risk of the machine tipping over when being maneuvered around. To accommodate facilities with sloped floors, adjustable casters enable easy correction of pipe angles.

To enhance workforce safety, an extension pipe on the reject output helps to prevent injury during sanitation and maintenance. Featuring ergonomic electric powered height adjustment controlled via the HMI, the unit, which is three foot in height and length¹ also includes an automatic air dump when the

valve is disassembled, as well as a visible stop pushbutton to halt production.



The Meat Pump Pipeline is designed to inspect high-viscosity meats, including sausages and meat patties

For cleaner, accurate, labor and waste saving machine testing, Halo automatically runs performance verification tests, challenging the center of the pipeline metal detector aperture without the mess of inserting and retrieving test balls. An optional manual testing process comprises a test ball insertion and retrieval kit to prevent contaminating product with the test samples.

Sophisticated data capture and Contact Reporter Software documents the numerical value of signal strength for each reject event and replaces paper records documenting performance verifications. Satisfying the most stringent meat, poultry and food processing Quality Assurance mandates, including GFSI/SQF, BRC and HACCP.

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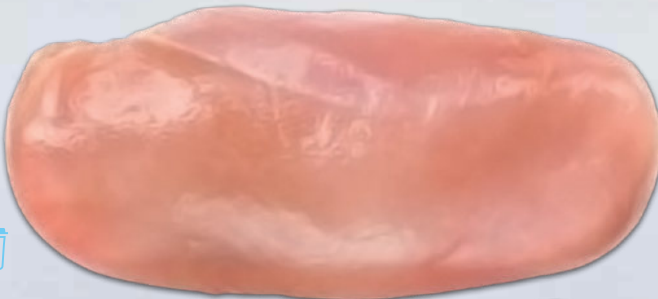
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THINKING ABOUT TODAY AND TOMORROW

Energy Efficient Production - Seydelmann Eco+ Model Series



High efficiency cutter K 60 AC-8 eco+

Energy costs are playing an increasingly important role in product costing and with rapidly rising costs, profit margins are melting away at the same pace. It is time to put production equipment and production processes to the test in order to identify and exploit savings potential. This way, the enormous price increases can be absorbed and a pass-on to the end consumer - with the risk of shrinking sales - can be avoided.

In addition, the issue of sustainability and thus also energy consumption in production is increasingly coming into the focus of consumers and financing providers. The introduction of an energy management system (EMS), including appropriate certification, pays off on many levels. It enhances the image and thus contributes to a better starting position in terms of sales, labor market and financing.

The new Seydelmann eco+ model series was developed with the inclusion of all consumption-relevant areas.

Frequency-Controlled Drives

Modernization of production machines offers enormous savings potential, especially if outdated versions of drives are still installed there.

By using modern energy-efficient motors and frequency converters, energy savings of up to 40 percent can be achieved while improving the quality of the end product. These result from lower connected loads and the avoidance of current peaks when starting or switching the speeds.

An additional positive effect of the frequency-controlled drives is variable speed adjustment and thus precisely coordinated cutting speeds for perfect product quality.

Optimum Motor Power

Depending on the use of the machine, i.e. depending on the product portfolio, adapted motors with correspondingly reduced power can also be installed. This further reduces the energy consumption and thus also the power consumption.

The cutting area, cutter knives and their recommended use and bowl geometry are optimized for low energy consumption.

Waste Heat

In simple terms, electrically driven motors convert electricity into motion and heat. Although the efficiency of the electric motors

used is up to 98 percent, the remaining two percent also leads to heating of the production rooms and higher energy consumption of the cooling systems. For example, a 100kW motor with this maximum efficiency still emits two kilowatts of heat energy, against which the air-conditioning technology then has to work. The remedy here is to discharge the warm exhaust air to the outside or to use water-cooled motors.

Heat exchangers allow the dissipated engine heat to be used for other production areas or processes where heat is required.

Production Technology

Technological process changes are always subject to case-by-case consideration, but offer enormous savings potential. For example, energy savings of up to 50% can be achieved by using a cutting drum instead of classic cutting set parts in the grinder.

The cutting drum ensures efficient separation of hard parts and foreign bodies such as plastic particles or foil residues. Compared to conventional cutting sets, the system, which consists of a perforated drum and an extended



Cutting Drum

working screw, enables a higher throughput and thus hourly output with lower temperature input. In addition to the existing E 130 and G 160 sizes, it is now also available in the U 200 outlet size. The system operates without contact and therefore without metal abrasion. The service life is significantly longer than that of soft separators or the usual grinding sets.

Another way of exploiting savings potential is to optimize entire production processes by specifically adapting machine combinations. For example, it can make sense to produce boiled sausage with a combination of cutter and Konti-Kutter in order to reduce machine running times and thus energy consumption by up to 45% - while maintaining product quality, of course.

Vacuum-Cooking-Cutter K 204 AC-8 and Konti-Kutter KK 140 AC-6



Recipe Control

Automatic machine controls, such as the Auto-Command series, allow an automated production sequence with preset consumption- and product-optimized speed and running time. This not only ensures consistent product quality, but also helps to further reduce energy consumption.

The Auto-Command also records all relevant data, such as power consumption and energy consumption, thus supporting the

energy management system and helping to identify and optimize energy-intensive processes and products.

Process Media

At first glance, process media - except for superheated steam for cooking processes - do not play a major role in energy consumption, but they do when considering the energy balance, sustainability and on the financial side.

Cooling gases are very energy-intensive to produce and costly to purchase. The supply bottlenecks of recent times have not only driven up costs, but have also clearly shown that optimal economical

use makes sense. By intelligently linking temperature measurement directly in the product and in the exhaust system with the measured power consumption of the machine, the quantity used and the application time can be optimally matched to each other - i.e. maximum cooling with minimum gas use. In Mixers and Mixer-Grinders, the amount of gas required can be reduced even further by means of nozzles embedded in the bottom of the

hopper, compared with gassing from above.

In most production plants, water is not a significant cost factor, but it must be included in an overall consideration of the energy balance, since on the one hand the pure provision of water consumes energy, and on the other hand the generation of hot water is also a factor. In addition to the water used directly for the manufacture of products, particular attention must be paid to the cleaning of machines, equipment and production rooms. A well thought-out hygienic design, such as closed machine bodies, embedded covers with hygienic closures, sloping polished stainless steel surfaces, optimum accessibility to all relevant areas and the avoidance of dead spaces - to name just a few examples - reduce the consumption of water and cleaning agents enormously and thus, in addition to saving energy, also contribute to reducing the burden on the environment and improving sustainability.

Consulting

There is not one solution which is suitable for every customer. Therefore, it is important to take a close look at each situation.

In response to the current energy crisis and the associated exploding energy costs, Maschinenfabrik Seydelmann KG offers all customers and interested parties an individual consultation on energy saving for existing or planned Seydelmann machines.

The machines used and the entire production process are examined in order to identify measures that can be implemented in the short, medium and long term.

www.seydelmann.com

TRANSFORMATIONAL PLANT MEAT

By Henk Hoogenkamp, Protein Applications Expert

The transformational journey from animal protein nutrition to plant protein nutrition is a long and winding road. It has taken years of trial and error to create a plant-based meat analog product that is almost indistinguishable from animal meat. The science and technology are not quite there yet, but a little progress is made every day.

Let's not forget that plant-based meat and -milk are in the very early stages of the global protein transition. Still a steep improvement in terms of taste, texture, nutrition and craveability will be needed to win over a significant portion of consumers.

The road to concoct a "veggie burger" that is juicy and flavorful with the right bite and texture is not easy to navigate. Fortunately, with the arrival of cellular biotechnology, major development hurdles that once seemed unsurmountable, can now be successfully taken. In fact, assembling certain compounds and ingredients from plants allows a level playing field when compared to the traditional formulated and processed meat products.

The mission of the entrepreneurial-driven plant-based meat alternative companies is to improve human health, positively impact climate change, conserve natural resources, as well as reduce animal suffering during the slaughtering cycle.

Slowing Down

During the 2015-2020 years, sales of plant meat alternatives enjoyed

steady growth, and promising consumers to end the factory-scene slaughtering animals and a "save-the-planet" health halo.

Jumping a few years forward to 2023, the exponential growth in sales of plant-based meat products has halted. The consumption of



plant meat foods remains mostly an occasional choice with only 10 percent of consumers eating these vegan or vegetarian foods weekly.

At this stage it is difficult to explain why the double- and triple digit growth rates have sputtered, and now show a deceleration. Although plant protein prices of soy-and pea protein have increased substantially in the first months of 2022, more branded plant meat products are now sold on promotion. This is a strong indicator that plant meat companies are trying to keep market share.

The reasons why consumers are cooling on plant meat products

can be the lingering effects of Covid, the influence of inflationary pressure or simply that they are not ready to make long-term commitments to give up on eating meat or fish altogether.

In terms of economic hardship caused by geographical political uncertainties like war, energy crisis, looming food supply issues and rampant inflationary grocery bills, shoppers have the emotional tendency to return to conventional behaviorally induced food purchasing patterns. In this sense, it comes as no surprise that the animal>plant protein transition has come to a standstill or even decline.

In the US, 2022 saw a purchasing decline of nearly all categories of plant nutrition ranging from plant yogurt, burger alternatives, and plant-formulated cheese. The most expensive plant alternatives show the steepest decline in sales. An added complexity is that plant-based nutrition is losing some of its hyped glory now that increasing number of consumers associate these products with unfamiliar and hard-to-understand labels. Also, the drive to help the environment and "planet health" has lost many consumers' interests and this "social media" issue is largely moved to the back burner.

The Need to Diversify

To meet country-specific regulations, plant-meat companies such as Beyond Meat, Impossible Foods, and Nestle have various product iterations. For example,

co-manufacturing facilities for Beyond Meat burgers in Canada, and also in China and the Netherlands, may use formulas different from their US flagship product. Impossible Foods has a co-manufacturing arrangement with OSI and this brings the advantage of quickly branching out and conquering the world with plant-based nutrition.

To secure supply and costs of its core protein ingredient, it is likely that the large “plant meat” companies such as Impossible Foods, Beyond Meat, Morning Star Farms (Kellogg’s), and Nestle’s Garden of Eatin’ would forge closer relationships with their plant protein suppliers. Moreover, it can be expected that these companies would want to diversify the plant protein options in their products to minimize dependence on just one crop. At this moment, both soy protein and pea protein are clearly the plant proteins of choice with some other emerging options -such as barley protein, mung bean, fava bean, rice protein, and chickpea protein- gaining momentum.

The plant-meat companies are both striving to build more sales, as well as aggressively reducing costs to get its products at the same level as animal-derived meat. In the plant-meat industry, marketing costs often equal the manufacturing costs. Ultimately the marketing costs will become less as the younger generation of consumers will likely increase consumption volume. To reach this goal will be important not only

to reduce or end the need for animal-slaughtering by 2040, but also for optimizing cost efficiency for quick-service restaurants.

in the US in 2021, with lots of fanfare, only to walk away from the experiment a few months later due to disappointing sales.



Pizza Hut & McPlant

McDonald’s made a U-turn after introducing the McPlant Burger

Despite an influx of external headwinds like heavy inflation, a bearish stock market and supply chain issues, both Impossible Foods and Beyond Meat continue to

roll out new plant meat entrees. For example, Impossible Foods introduced a series of ready-to-eat plant-protein formulated convenience meals, while Beyond Meat linked with Pizza Hut Singapore introducing an alt-protein Italian sausage crumble plant-meat pizza.

The Changing Perception

Nearly all the current portfolios of plant meat foods mimic the original meat products. Obviously, the main reason is that consumers recognize the original shapes of -for example- a beef burger or chicken nugget, and thus prefer to look for an alternative with a similar shape and appearance. It is likely that in the future completely new creative plant

based eating is gaining more exposure, probably with the help of the fashion and entertainment industry, which endorses a lifestyle in an inspirational and modern way. Plant-meat foods are appealing to a much larger segment of consumers who have started to make food choices based on organoleptic preference, health, and environmental concerns.

Consumers have multiple motivations to embrace a plant-based diet, driven by personal and planetary health with considerations for wellbeing, environment, sustainability, as well as personal convictions like religion or animal welfare.

It is interesting to know that the Baby Boomer generation (born 1946-1964) will most likely

Consumers at Turning Point

Most of the people who purchase plant-based meat products are meat eaters. This category is universally termed as “flexitarians”. It is a definite sign of the times that even traditional German meat companies have now joined the market for plant-meat alternatives. Alternative proteins have gained momentum by marketing the idea to omnivores i.e., flexitarians who are proactively trying to eat less meat, yet without scarifying the experience of eating real animal meat. The bottom line is that the successful plant-meat products deliver an identical or close match of the traditional animal-derived product.

A new type of consumer is emerging, and this category can be identified as “flexitarians” whose motivation to purchase plant-based meat options is not necessarily due to more people switching to strict vegetarian or vegan diets. Instead, the flexitarian consumer views plant-meat alternatives not as a replacement for meat, but as an occasional and acceptable nutritious and tasty option.

True veganism appeals to surprisingly only a few people. The true growth of meat substitutes or plant-based meat comes mainly from flexitarians. The latter group consciously eliminates or reduces animal meat from their daily line-up of food and plans for it only a few times each week. When flexitarians explain the reduction of their



foods will be designed that move away from the traditional forms of meat product appearance.

Although there is no set definition of a plant-based diet yet, plant-

be the first and last generation that consumes meat every day. Rising health awareness and shifting dietary preferences will generate increased demand for plant meat alternatives.

meat consumption, health is the most cited reason, followed by environmental and animal welfare concerns. Religious reasons are the least cited for cutting back on meat consumption. Eating much smaller portions of meat is the most popular way to reduce meat intake. Especially the “flexitarians” choose to eat smaller portions by substituting them with vegetables or eliminating meat altogether from some meals and eat “plant-meat” foods instead.

The flexitarians are a rapidly growing consumer segment aiming for transformative change, albeit often driven by psychologically and emotionally inclined aspects associated with animal welfare. Germany and the UK have the highest penetration of flexitarian consumers driving the market for plant protein forward. Also, young, and adolescent girls going through puberty often decide spontaneously to stop eating (red) meat.

Health of Environment?

Is it the personal health or the concern for climate change that is the main driver behind the increasing number of people in developed countries actively reducing their meat intake.

Some surveys indicate that health is still the main reason. Some scientific studies demonstrate a connection between high processed meat consumption and several degenerative chronic diseases. A lot of people aged 30 and below are influenced by social

media platforms and pressure from peers who do not think it is cool to be a carnivore. An increasing number of people is influenced by the constant barrage of anti-meat publicity from the media raising concerns about climate change.

Climatarians

Within the plant-based food consumer preferences, a new sub-group is trending in the form of “climatarians”. These are truly worried about environmental issues, hence are conscious of the impact of the globalization of food production and consumption on planetary health. Within this context, climatarians profoundly believe that regionalization of food production and consumption is the way forward in delivering food products to the market.

Grass = Gas

Humanity needs to feed a fast-increasing global population, and

the planet should not be burdened with more livestock to meet the fast-growing demand from a fast-growing global population. Besides the unfathomable amounts of feed, water, and land needed, cattle methane emissions need to be curtailed.

In terms of ecological food sustainability, industrial scale feedlot meat production is probably one of the world’s largest environmental problems. Reducing meat consumption will free up vast amounts of animal feed, land, and water. Beef is generally considered the worst part of the meat pyramid because of its very inefficient feed-to-meat conversion and the use of huge amounts of clean water during the outgrow cycle of the animal.

However, to be fair, a significant number of cattle grazes on non-habitual unproductive agricultural land, and as such, contribute to the maintenance of main parts of the geographical infrastructure. ✓

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ADM ANNOUNCES GLOBAL TRENDS SET TO DRIVE NUTRITION INNOVATION FOR 2023

New research based on ADM’s far-reaching global network highlights trending focus areas for consumers around the world.

A global leader in human and animal nutrition, unveiled its third annual outlook on the global consumer trends that will shape the food, beverage and animal nutrition industries and drive market growth in the years ahead.

Dissecting the intersection of health and well-being, sustainability and food security, ADM has identified eight spaces that detail consumers’ evolving behaviors, attitudes and aspirations. The eight areas serve as anchor points to inspire innovation, ushering in a new wave of products and services for 2023.

“Often interconnected, these key themes are permeating throughout consumers’ choices, demands and expectations of brands,” said Brad Schwan, vice president of marketing for ADM. “The desire for a healthy mind, body and soul, as well as the global community and planet, is manifesting in proactive and decisive conscientious consumption across categories. As consumers look to prioritize what is most important to them, they want nutrition brands to do the same. Companies that can nimbly evolve alongside consumers are poised for success in the coming year and beyond.”

Below are the eight global consumer trends identified by ADM that

are powering purposeful design and ingenuity for human, animal and pet nutrition and throughout supply chains.



Balanced Wellness

Emotional, mental, physical, even spiritual health are increasingly seen by consumers as being intertwined, and as important as each other. Consumers are adopting a synergistic approach and making intentional and mindful choices about how they eat and spend their time to address energy levels, disease prevention and overall mood and feeling. Globally, 79% of consumers believe that supporting their mental health has a positive effect on their overall health and wellness¹. Plus, 48% of global consumers plan to address their mental well-being over the next year, making the issue among their top concerns after immune function, digestive and heart health².

Expanded Protein Choices

More than half (52%) of global consumers now consider themselves flexitarians, incorporating both animal-based and plant-based or other alternative proteins into their diet¹. Within that 52%, nearly two-thirds are defining their eating style as “trying to use more plant-based foods,” leading to more demand for expanded protein options¹. As technology natives Gen Z and Gen Alpha grow up, acceptance of applying scientific advancements to make our food will continue to become more commonplace, and practices like cellular agriculture, precision fermentation, hybrid products, and those with insect-based protein, are likely to flourish.

Proactive Personalization

What works for one person’s wellness may not be ideal for another’s. A “one size fits all” strategy for health and eating has fallen away in favor of tailored, “better for me” approaches. In fact, 63% of global consumers say they are interested in food and drink products that are customized to meet their individual nutritional needs³. On top of that, 55% of global consumers say they are willing to spend more on functional foods that can support their health goals¹. Additionally, these personalized solutions would ideally integrate into one’s lifestyle and take taste and culture preferences into consideration.

Trust and Traceability

From soil to table, consumers want to know where their food comes from, who made it and precisely what ingredients are included. They want to know how the product was produced and if the conditions of its production were humane. Some headway has been made in garnering consumer trust, with research showing that 42% of global consumers have become more trusting of environmental claims made by products and brands in the last two years⁴. This need for transparency is borne not only from food safety concerns but also from a desire for connection with the food and the communities that grow or make it. As such, consumers are looking to support companies they perceive as honest and authentic and that utilize technology like QR codes or blockchain to allow the traceability of products and ingredients to their origins.

people and animals involved in every aspect of production. Almost 30% of global consumers have actively boycotted a product or brand because of its ethical credentials, and 40% seek out brands that guarantee farmers have been treated in an ethical manner⁴. Ensuring workers' and farmers'



pets, branded health ingredients are highly sought-after, with more than 60% of global cat and dog owners saying that branded health ingredients for their pets are important⁵. This increasing personification of pets is leading to a holistic approach to pet care, with mental well-being, gut health, exercise and diet considerations all being made in conjunction with one another.

Experiential Eating

Increasingly, global consumers are getting more adventurous with their food, as 74% express a desire to try new flavors from around the world and 63% report they like to be experimental when cooking⁶. While seeking out new and interesting flavor profiles, eaters also want to engage with fun and playful brands as part of the experience. If those brands can encourage participation through co-creation and virtual experiences, loyalty can be won with the sense of community it creates and the entertainment it provides.

Earth-Friendly Production

Globally, 49% of consumers claim to have changed their diet in the last two years to lead a more environmentally friendly lifestyle⁴. They're also demanding a higher standard from the companies they purchase from regarding their environmentally conscious practices. Consumers are greatly focusing on reducing their own food waste⁴, and they will expect the same from the brands they support. Consumers want proof of environmental rebuilding and restoration, as well.

livelihoods, employing inclusivity and diversity methods throughout the organization, and keeping products affordable and accessible to the end user are all important considerations to modern consumers when making purchasing decisions.

Modern Pet Parenting

For many, pets are part of the family, and their nutritional and emotional needs are being treated on par with their owners. In light of this, many pet parents require that their pets' food be made from the same ingredients as their own. Plus, as consumers pay increased attention to the well-being of their

From health and wellness for both people and their pets, to environmental considerations and elevated consumption occasions, these eight trend spaces present opportunities for innovative forward-thinking companies to meet the evolving needs of consumers today. ADM is at the forefront of each of these areas, supporting brands in creating novel offerings as a leading full-service supplier coupled with a deep pantry of ingredients and solutions, a global team of trend spotters, technical experts, scientists and more.

www.adm.com

Social Impact

Using their voices and their purchasing power, consumers are demanding that companies practice fair and humane treatment of the

¹ ADM Outside Voice!

² FMCG Gurus, Prebiotics Report, 2022

³ FMCG Gurus, Personalized Nutrition Report, 2021

⁴ FMCG Gurus, Route to Sustainability Report, 2022

⁵ FMCG Gurus, Pet Care Health Report, 2022

⁶ FMCG Gurus, Flavors, Colors & Textures Report, 2021

JUCARNE RELIES ON PRODUCTION SYSTEMS FROM PROVISUR TECHNOLOGIES FOR ITS ISLAND SUPPLY OF MEAT



Davina Cabrera del Rosario with her father, Juan Cabrera, President, and Owner of Jucarne

Jucarne S.L. produces meat for the Canary Islands using food processing equipment from Provisur Technologies. Provisur’s innovative defrosting chambers, injectors, tumblers for marinating, and the highly efficient Lutetia® cooking chambers ensure that Jucarne is ideally equipped to produce a wide range of products. In addition, Provisur’s comprehensive customer service allows Jucarne to provide efficient and reliable meat production on the island.

Canary Islands meat producer Jucarne S.L., based in Gran Canaria, operates under special conditions: all raw material for production is delivered to the island frozen. The company produces an extensive range of meat products of around 800 different items and supplies

the regional food retail trade as well as the hospitality industry on the Canary Islands. The products are sold in supermarkets under Jucarne’s own-brand label, but also under trademark brands. Jucarne cooperates with all major retail chains and some of the products are exported to the African continent. “Due to our island location and the special conditions associated with this, we need reliable, high-performing processing technology, especially for defrosting,” says Davinia Cabrera del Rosario from Jucarne Management.

A Partnership Based on Trust for over a Decade

For more than a decade, the Canary Islands meat producer has

trusted the production equipment of Provisur Technologies, a wholly owned subsidiary of CC Industries (CCI). Provisur is a world-leading supplier of innovative industrial food machinery and integrated production systems that can process a wide variety of foods. Provisur unites a number of well-known brands under one umbrella. Among them is Lutetia®, a global leader of reliable defrosting technology. “About a decade ago during the SIAL food fair in Paris, the outstanding quality of Lutetia® equipment persuaded us to invest in this brand. We have been using Lutetia® ever since and have been impressed by its excellent performance, reliability, and yield,” says Antonio Falcon, Commercial Manager at Jucarne.

Lutetia® Defrosting Chambers: Fast and Gentle

Two Lutetia® defrosting chambers, enabling fast defrosting of frozen meat, are in use at Jucarne. They operate with Lutetia’s® patented cold convection technology. This controls the surface temperature of the product and optimizes



Lutetia® Defrosting chambers



No loss of quality nor yield after defrosting chicken breast

heat delivery to ensure faster thawing and excellent food quality and safety. The system provides rapid air circulation that renews the boundary layer and accelerates heat transfer, regulating both heat supply (air, water, steam) and cold supply (air, water). Ambient and surface humidity is maintained by steam injection and spraying water. This reduces product dehydration. The process, which is gentle on even the most fragile products, shortens the thawing time from between 24 and 96 hours to just 4 to 12 hours whilst at the same time improving yield.

Salting, Steaking and More: Full Flavour and Aroma with Lutetia® Injectors

The range of equipment at Jucarne is complemented by two Lutetia® machines for salting, steaking, and adding aromas or brine. This adds flavour to the products. The two injectors are suitable for products made from pure muscle meat, bone-in and boneless products. They are high-precision instruments that can be regulated to always inject the desired solution in the right quantity for each type of product. Their new, enhanced design represents a quantum leap in terms of hygiene.

Efficient, Uniform Marinating with the Lutetia® Vacuum Tumbler

Jucarne also has a Lutetia® vacuum tumbler to marinate meat products. This is used by the Canary Islands company to refine fresh meat such as chicken and pork cutlets. The standout features of the tumbler include continuous vacuum and fully automatic cycle control. A unique helical guide plate provides smooth rotation suitable for all processed products and ensures homogenous results. The system perfectly regulates the interaction of vacuum, temperature, mechanical action, and time, ensuring efficient processes and optimum product quality. Lutetia® tumblers can be used for thawing, marinating, rehydrating, steam cooking or dry cooking, PRO activation, steaking, liquid, and traditional smoking, drying and many other applications.

Lutetia® Cooking Chambers: Reduced Cycle Times and Maximized Throughput

When sausages or hams are on the agenda at Jucarne, the versatile Lutetia® cooker is used to efficiently produce products of consistent quality. Lutetia® cooking equipment can be configured for dry, wet, and vacuum cooking. Jucarne uses steam to cook its products.



Tumbling Pork Loin

For this purpose, the plant has a powerful ventilation system that achieves perfect air exchange and uniform temperatures. This reduces cycle times during cooking and ensures efficient processes. It also prevents product drying, so that sausages and hams of uniform high quality emerge from the cooking process.

Excellent Customer Service: Tailored and Comprehensive

Due to Provisur’s versatile systems, Jucarne considers itself optimally equipped to produce its huge range of very different meat products - from chicken breast to pork cutlets to black pudding and much more. “Six days a week the systems are in operation at our plant to manufacture a wide variety of products. In addition to ensuring reproducible, uniform results and a high level of food safety, system reliability is particularly important to us due to our island location. From the outset, we had a very collaborative relationship with Provisur. This included personal consultations during which our needs were attended to, and solutions implemented. Provisur’s high level of reliability and service, in combination with the ready availability of spare parts, which is immensely important to us, has resulted in smooth work processes,” explains Davinia Cabrera del Rosario. Antonio Falcón Delgado adds: “In addition, cost control is and remains an important factor that ensures the survival of a company. Energy efficiency plays an important role in this. A company like ours with a wide array of machines needs to meet all these requirements. This is crucial for success these days.”

www.provisur.com

SAVING ON MAINTENANCE COSTS WITH DIGITAL SERVICES

By Dr. Fabian Fahlbusch, Head of Global Content Management, Busch Vacuum Solutions

Saving 70 percent on maintenance costs and receiving a 30 percent subsidy: How Emsland Frischgeflügel GmbH succeeds with its new vacuum system from Busch Vacuum Solutions and why its technicians can now sleep soundly on weekends.

Johannes Kohne and his colleague look attentively at the large screen in his office. What they see is the current performance data of all their vacuum pumps. “Everything is running smoothly,” says the Technical Manager of Emsland Frischgeflügel. Each pump’s data is available in real-time on the tablets of all 60 company technicians. This means that they always know the system’s current condition and can intervene if something does not run properly. Just a few rooms down, the 36 MINK vacuum pumps from Busch Vacuum Solutions are purring away. Very reliably, they supply the site’s transport system with vacuum. This ensures that waste from meat production, as well as ready-to-eat products, can be transported from Point A to Point B safely, effectively and hygienically by pneumatic suction conveying.

Quality Right from the Start

“We don’t throw anything away; everything is processed - for human consumption or as high-quality animal feed,” emphasizes Kohne. The unconditional quality standard applies throughout the entire company: in their vacuum



Photo: Emsland Frischgeflügel

Johannes Kohne, Technical Manager, keeps an eye on the performance data of all vacuum pumps on the large screen in his office.

supply and products, as well as working conditions and animal welfare.

That’s why Emsland Frischgeflügel keeps an eye on the entire process chain - from feed to meat processing. In addition to three compound feed plants, the Rothkötter group also includes a hatchery and two chicken slaughtering and cutting plants. Franz Rothkötter laid the



Photo: Emsland Frischgeflügel

Emsland Frischgeflügel processes chicken pieces from the wing to the fillet for food retail and further industrial processing.

foundation for the compound feed plant in 1959. In 2003, Franz-Josef Rothkötter built the production facility in Haren, Emsland. Around 2,500 employees process chicken pieces from blade to fillet for food retail and further processing in various weight and packaging units.

Funded by the German Federal Government

At the beginning of 2022, Kohne had the old vacuum system with oil-lubricated rotary vane vacuum pumps exchanged for the new MINKs. The advantages of Busch claw vacuum pumps are obvious to him: thanks to their dry operating principle, they do not require operating fluids in the compression chamber and operate nearly maintenance-free. Kohne calculates, “Not only have we saved an unbelievable amount of time tending to the systems,

but we have also saved 70 percent of maintenance costs. Specialists spending hours cleaning pumps and changing oil on the weekend is now a thing of the past!" What's more, thanks to the state-of-the-art IE4 motors that drive the MINKs, around 274,500 kWh of energy can be saved in one year. Another advantage was the 30 percent of the purchase costs that Emsland Frischgeflügel was refunded from the Federal Office for Economic Affairs and Export Control (BAFA), which supports the conversion to state-of-the-art, energy-efficient technologies in Germany. Busch experts helped with the application for the reimbursement.



Completely networked, thanks to OTTO, the digital services from Busch.

temperature is - we didn't know all that before. And now, thanks to OTTO, we even have it on our tablet via the app," says Kohne enthusiastically. "And thanks to the excellent cooperation between our IT department and Busch experts, the installation in our system has also worked extremely well." Emsland Frischgeflügel has also signed an Active Service Contract for maintenance with Busch and trusts the vacuum specialists from Maulburg for maintenance. Through targeted, predictive maintenance, excessive wear and premature failure can be prevented. And in the event of a problem, Busch technicians can also connect to the system remotely.

cleaning process at the end of the production shift. Based on the data that is permanently sent to the cloud, standard cycles are calculated. These are used to align with the actual pressure profile to detect deviations in advance, allowing company technicians to act ahead of time. "We want to fix the problems before they actually arise," explains Kohne.

Fit for the Future

Other central vacuum systems from Busch are also in use at Emsland Frischgeflügel in Haren. They provide additional transport systems with vacuum. 25 special oxygenated versions of the MINK vacuum pumps are used for packaging under protective gas with an elevated oxygen level (MAP). All 135 existing pumps will be retrofitted with the IoT kit in the near future. In its sister company in Wietze, Lower Saxony, all pumps are already fitted with OTTO. "Then our vacuum supply is state-of-the-art and we are fully digital. It was the right decision to modernize and digitalize our plants together with Busch! For us, OTTO is both convenient and profitable," Kohne says enthusiastically.

www.buschvacuum.com



Photo: Busch Vacuum Solutions.

A vacuum system from Busch Vacuum Solutions provides Emsland Frischgeflügel GmbH's transport system with the required vacuum.

OTTO - Digital Services from Busch

But that's not all! Kohne also took advantage of digitalization for the changeover and had all 36 MINK pumps fitted with OTTO, the digital service innovation from Busch. In other words, they permanently send performance data such as pump temperature, vibrations, and inlet pressure to the cloud, which can then be accessed via PC, tablet or smartphone. "How high the transmission oil temperature is, whether the inlet pressure is constant, how high the exhaust air

Reliable and Fail-Safe

Reliability and fail-safety are crucial for Emsland Frischgeflügel, as otherwise, manufacturing would come to a standstill and - in the worst case - allow food to spoil. On the processing lines, all cut chicken pieces fall through collection hoppers into dedicated vessels. A ball valve opens every six minutes and the contents are extracted. Busch MINK claw vacuum pumps provide the vacuum required for extraction, transport and the

PERFECT BURGER PATTIES EVERY TIME



The X39 X-ray Inspection System

Bell Food Group, based in Switzerland, is one of the major processors of meat and convenience products in Europe. The company has been the exclusive meat supplier in Switzerland, for an international fast-food chain for a number of decades.

An x-ray inspection solution at Bell's Oensingen site in Switzerland checks the customer's burger patties for a wide range of foreign bodies, plus product errors and visual defects, such as patties joined together, holes, dents and product flakes.

Increased customer requirements and demands in terms of quality assurance and production capacity gave Bell the push to rethink the configuration of their production line for burger patties. Bell decided to dismantle the previous line, carry

out a hall conversion and replace individual production line components as part of modernisation measures.

State-of-the-Art Product Inspection

"I think x-ray inspection is currently the ultimate extra that we can offer our customers when it comes to detecting foreign bodies in the burger patties," says Niki Berger, who is responsible for the quality management of fresh goods at Bell's Oensingen site. "Along with metallic contaminants, it can detect various additional foreign bodies that are commonly found in meat, including bone and cartilage, as well as stones, high-density plastic or glass. The Mettler-Toledo X39 x-ray system also provides a whole range of other options for checking the patties for product errors and visual defects".

Automated Product Integrity Checks

The X39 casts a strict x-ray eye over well above a million patties a week - most of these being the three standard products, which vary in terms of size, form and weight. Ueli Schönenberger, in charge of patty production at Bell, says: "We used to remove patties that were broken or had holes in them from the belt by hand or separate them manually before packaging. With the x-ray inspection system and its integrated control laser, we can now detect and visualise faulty products automatically and reject the relevant patties without manual intervention".

In addition, the line manager defines the tolerance limits for visual defects. The system will inspect for edge defects, flakes on the top or bottom of the patties, as well as holes, cracks and dents.

Detailed Error Indication

Depending on the variant of burger patty that Bell is producing, the x-ray system will inspect between three and six lanes. If a visual defect is detected, the relevant patty is rejected using multi-lane air nozzles. This significantly reduces the volume of patties rejected in comparison to simpler x-ray system variants that reject the entire batch from production.

"In practice, this means we can first define and save the tolerance parameters for individual reasons for rejection," says Ueli Schönenberger. "Then we can get an extremely detailed picture of how many patties were rejected as the result of foreign bodies such as bone and cartilage or as the result of visual defects. We can therefore reject the patties into different disposal containers, depending on the cause of the error. An image of each individual rejected patty is saved in the image library so that we can analyse exactly where and how the problems occurred".

Once the patties enter the x-ray system its integrated control laser checks if the patties have been separated properly. If the spacing between two patties falls below the minimum spacing of five millimetres, these patties are rejected through a failsafe reject flap and returned directly to the production line in preparation for



Bell Food Group manufactures burger patties for some of the worlds most recognisable fast food chains.



The X39 can inspect and reject non-conforming burger patties in a multi-lane format.



rework. This minimises product loss and reduces wastage costs.

Meeting Audit Requirements with Complete Documentation

Standard settings for tolerance limits are saved in the X39 software for each patty product variant.

“For additional safety measures, once an employee logs into the system, any changes that they are able to make have already been pre-defined depending on their role within the business,” says Niki Berger. “All changes that the employee then makes are documented. A further benefit is that this data is available to us together with the inspection results data in digital form. This simplifies not only our internal processes for further process optimisation, but also the quality management documentation for our customers.”

The majority of product settings for each patty variant was validated after just over half a year and saved in the X39. Employees

therefore only have to select a product from the product library in order to run the inspection process, based on the pre-approved product data. While employees can carry out calibrations and rectify simple defects, line managers have further access options that enable them to carry out additional settings changes on the x-ray system.

Harsh Washdown Environment

The X39 x-ray inspection system installed on the burger patty production line is IP69-rated and is therefore suitable to undergo intensive daily cleaning processes. The infeed and outfeed belts in the x-ray machine are subject to particular stresses. While the deep-frozen patties tend to slide

at belt transition points, the tension of the infeed belts can slacken under the hard water jet pressure in regular washdowns, making readjustment necessary.

Niki Berger sums up “All in all the x-ray technology provides us with enormous benefits in terms of quality assurance, and ensures our customers receive perfect-looking burgers”.

www.mt.com/xr-X39-pr

+43 664 44 33 22 1
www.tichytrading.at



When required, reject confirmation sensors can be pulled out and cleaned, ensuring all products not meeting the pre-defined standards continue to get rejected from production.

PUT A FREEZE ON YOUR ENERGY COSTS: HOW SELF-STACKING FREEZERS CAN BECOME YOUR NUMBER ONE INFLATION-FIGHTER



freezers consume up to 60% less electrical power compared to their drum freezer at a comparable product-throughput,” he says. “This particular example equated to an annual saving potential of more than €300.000. This might sound too good to be true, but it was the customer’s daily operation figures that provided the proof and reason enough to approve a freezer-replacement because of the fast return of investment.”

System-Wide Savings

However, JBT self-stacking freezers don’t just make a difference when it comes to energy savings, they also make a positive impact on other utilities - such as water consumption - as well as factors as basic as manpower and time.

Due to its minimal design, the GYRoCOMPACT has up to 12 tons less installed material compared to a traditional freezer system, meaning there is significantly less area to clean.

Food processors across Europe are facing cost pressures arguably as never before and making savings are now essential to the survival of many businesses. Investing in a JBT Frigoscandia GYRoCOMPACT® self-stacking spiral freezer is one of the quickest ways of making significant savings in energy, water and manpower while at the same time becoming more efficient.

In fact, customer data indicates that a self-stacking spiral freezer can save up to 60% in energy compared with traditional drum freezers.

For Europe’s food companies, 2022 to date has delivered a perfect storm. Soaring inflation and utilities costs have put many processors under huge pressure in an industry where margins are often tight and retailers continue to demand low prices.

In such an environment, the ability to make savings whenever possible is crucial, and one of the simplest ways is replacing inefficient

freezer units with alternatives that enable companies to substantially reduce costs.

JBT Frigoscandia’s GYRoCOMPACT self-stacking spiral freezer comes with some significant advantages. As Jan Grundmann, Sales Manager at JBT, explains, the GYRoCOMPACT straight away delivers energy savings once installed, thanks to its effective, efficient design.

“In a recent meeting with a customer who runs both systems, the customer’s data-records uncovered that their GYRoCOMPACT-



“On traditional freezers, many of our customers suffer from product residues remaining on the belt-support-frames that requires a lot of additional cleaning,” Grundmann continues. “As we simply have less material, fewer corners and surfaces, we ensure a 100% cleanable product-zone on the GYRoCOMPACT, which requires far less time and far fewer people to maintain optimal hygiene.”

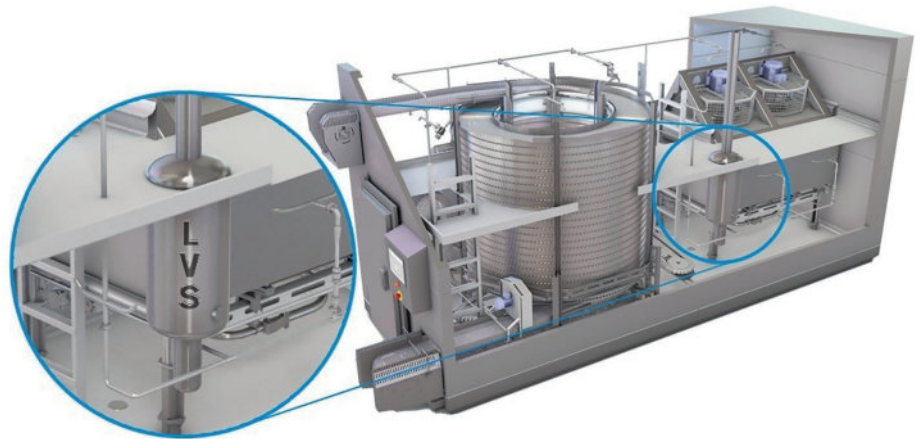
In fact, a GYRoCOMPACT typically only requires about 20% of the manual cleaning resource that’s needed for a traditional system, leading to significant savings on manpower, time and water consumption. “There are customers reporting up to double the cleaning time, three times the water consumption and three-five times the number of cleaning staff for their drum-freezers compared to their GYRoCOMPACTs,” says Grundmann.

Helping Fight Against Inflation

JBT engineers’ understanding of the advantages of the self-stacking freezer versus a traditional drum system were reinforced by the experience of one major European customer over recent months.

The customer, as Grundmann explains, previously had JBT freezers only, but took a decision to invest in a competitor drum unit several years ago.

30 years. This gives you an idea of the situation if a customer felt compelled to replace a drum freezer after only five years,” Grundmann adds.



However, product related and technical issues soon became apparent and forced the customer to review this decision.

The final “GO” to replace the freezer with a GYRoCOMPACT again was taken based on the substantial cost-saving potential found in the freezer, which turned out to be the largest across the entire processing line, leading to it becoming an integral part of the customer’s fight against inflation.

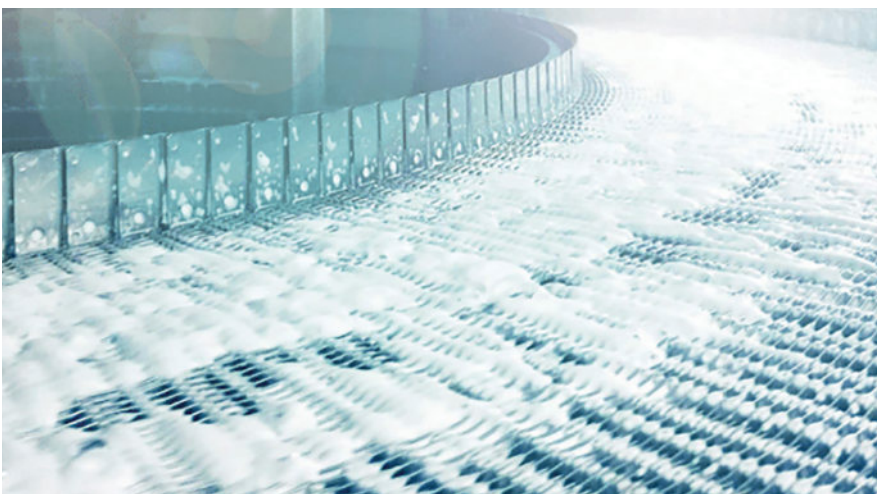
“In many cases, customers don’t replace JBT freezers even after

LVS Delivers Additional Savings

The GYRoCOMPACT can be complemented by the LVS (Low Volume System), an add-on unit developed to improve refrigerator efficiency, which is up to 20% more efficient than traditional pumped refrigerant systems. The LVS’s patented dry suction system delivers more capacity from the compressor and enhanced evaporator performance, all of which adds up to greater freezer performance.

In a traditional pumped refrigeration system, pressure drops cause temperature losses of between 3-5°C; with an LVS, customers only lose 0.5°C, even over long piping distances.

Adding to the savings generated by the GYRoCOMPACT, the LVS can deliver a further 15% in energy savings in refrigeration compared with traditional systems.



www.jbtc.com

FRESHLY PACKED FOR THE RETAIL INDUSTRY

High-Speed and Digitalization Cleverly Combined in Everyday Production.

At the Olen/Belgium site, Plukon produces fresh poultry products as well as convenience food for retailers, wholesalers, and the food service industry throughout Europe. The Plukon production plant in Olen has approximately 190 employees working on a total of 6 production lines at the site. The customers of retail, wholesale as well as food services are convinced of the unique, large product individuality. This is reflected in a large number of individual products, adapted to the wishes of the customers. The great variety of products is well received, but in return also demands maximum flexibility in the production process. Especially at the end of the production process. Different packaging formats, packaging films, label formats and label prints must be combined at top speed and, if possible, without changeover times during product or batch changes.

For fully automatic weighing and labeling technology, Plukon relies on the new generation ESPERA NOVA weigh-price labelers in addition to the classic ESPERA



machines. It convinces with unique machine features as well as with digital technologies. Adapted to the product diversity in the plant, all ESPERA systems can label goods both in checkweigher operation and with classic weight-price labeling. With up to 140 packs per minute, the new NOVA generation achieves a labeling accuracy of +/- 1mm. Even large labels can be applied precisely to a product pack. Both, for the label on the top and for the label on the bottom of a pack.

When changing products, the printer position as well as the position of the product centering automatically adjusts. This enables smooth and fast transition of different pack formats and label positions.



If the settings are assigned once to a product and stored in the product program, the settings are made completely automatically. On the one hand, this saves time during product changeovers, but also increases process quality compared to manual settings by the production team.

In addition to unique machine features, the new NOVA generation also offers digital functions that make everyday production easier. The remaining service life of the thermal head of a printing system is analyzed by the machine in real time and shown on the display. The same applies to the wear of other components such as motors or tooth-belts. Maintenance measures can thus be better planned, and downtimes reduced.

For Plukon, both, the automated functions and the new digital tools are an absolute added value for production. After all, in addition to the reliability and longevity of machines, the reduction of downtime is also an important factor for operational success.

www.plukon.com





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ALL-ELECTRIC FLOW WRAPPER ENABLES 37% ENERGY SAVING

The IMA ZERO project has yielded a ground-breaking innovation: the world's first all-electric flow wrapper. By replacing energy-intensive pneumatic applications with highly efficient linear actuators on the new Delta WW OF-HSX, IMA ILAPAK's engineers have succeeded in designing a flow wrapper that uses on average 37% less power than a conventional machine. Users of this revolutionary full-electric flow wrapping platform can expect to see a return on their investment within 18 months through a combination of energy savings and improved performance.

Sustainability has long been a priority and fundamental value at IMA, prompting the launch of the IMA ZERO sustainable development programme in 2019. This group-wide sustainability initiative, coupled with rising costs faced by all manufacturing sectors, provided the context for the development of the new all-electric flow wrapper.

Tony McDonald, Sales and Marketing Director at ILAPAK UK, says: "From conversations with our customers it is clear that rising costs are their number one concern. All manufacturing sectors are facing crippling input costs and pressure to reduce their environmental footprint. Our new all-electric flow wrapper responds directly to both of these challenges. The beauty of this proposition is that the savings and payback can be projected with a high degree of accuracy. And for the majority of mid to high-speed flow wrapping



The new Delta WW OF-HSX full-electric flow wrapper uses on average 37% less power than a conventional machine.

applications, the calculations provide a very compelling case for investing in this platform."

On the new Delta WW OF-HSX, the most energy-intensive pneumatically driven functions - pressing, gusseting and cutting - are electrically driven. This has eliminated the use of compressed air from these applications, resulting in a massive 94.5% reduction in the amount of energy required for air usage. As an example, on a 170ppm line operating two-shifts per day for 300 days a year, the Delta WW OF-HSX consumes just 1500kWh compared with 27,400kWh for a conventional flow wrapper to perform these applications.

Non-energy intensive functions remain pneumatically actuated, as the cost of replacing the pneumatic cylinders with electric components would not be justified by the minimal energy savings accrued. To this end, the Delta WW OF-HSX has a small onboard high efficiency compressor, eliminating the need for an external compressed air source.

The full-electric platform also makes a considerable difference to the

machine's overall performance and efficiency - the speed limitations of a standard flow wrapper stem from the pneumatic response, which starts to become unreliable at speeds of above 120 cycles per minute. The Delta WW OF-HSX, by contrast, runs comfortably at 170ppm, which is over 40% faster than its conventional counterpart. Changeover times are also reduced as no mechanical or manual adjustment is needed. By operating at a higher speed, the flow wrapper uses less energy to produce the equivalent volume.

The flow wrapper's performance isn't just enhanced in terms of speed, but also in terms of the quality of the pack that is produced. Thanks to the electrical actuators, the machine's movements are precision controlled - giving greater repeatability and accuracy over operations such as gusseting and film cutting.

The cumulative effect of the efficiencies afforded by the full-electric flow wrapper is a total energy saving of 37% versus an equivalent conventional machine. In comparative testing, over one year (300 days of two-shift production), the energy consumption of the

electric machine was calculated at 43,000 kWh compared with 69,500 kWh for a conventional machine. When the higher capi-



Users of this revolutionary full-electric flow wrapping platform can expect to see a return on their in-vestment within 18 months

tal cost is taken into account, the electric machine will pay for itself in less than 18 months.

Nicola Ragno, R&D and Technical Director for IMA ILAPAK, says: "This has been one of the most exciting projects to come out of IMA's Sustainable Development Programme, and we are looking forward to presenting this to the marketplace. When we set out on this journey to build an all-electric machine, we knew that switching to electric actuators would reduce energy usage but

we weren't sure whether the costs of an all-electric platform would be recouped through the savings. The solution that we have ended up with has surpassed our expectations in terms of how quickly it pays back through reduced energy consumption and improved performance - and interestingly, the higher the operating speed, the shorter the payback period."

All Delta 6000 OF (Open Frame) machines can be upgraded to the all-electric platform.

www.ilapak.com

MONDI SEALS MONO-MATERIAL BACON PACKAGING

- *Mondi has collaborated with Austrian bacon producer Handl Tyrol to provide a new mono-material polypropylene (PP) high barrier packaging solution for bacon*

- *The eye-catching 'wood effect' film ensures safe vacuum packaging and offers excellent protection to prevent food waste*



Mondi, a global leader in sustainable packaging and paper, has helped Austrian food company Handl Tyrol to wrap their bacon in an eye-catching solution that will contribute to

a circular economy by keeping materials in circulation.

The mono-material polypropylene (PP) film is recyclable in existing recycling streams for mixed polyolefins and keeps the bacon fresh, providing a 'second skin' that seals securely with both a high-barrier top and bottom film. The packaging has been designed to look like a wooden chopping board, providing instant on-shelf appeal and brand recognition. Working closely with Handl Tyrol, Mondi employed its collaborative EcoSolutions approach to ensure the packaging is best for the manufacturer, product, end user and environment. The mono-material PP packaging was also shortlisted for the Green Packaging Star Award 2022.

Daniel Maier, Head of Procurement, Handl Tyrol says: "This packaging is certainly eye-catching, while providing excellent product protection. It works within existing recycling guidelines for retailers

across Europe and is a great example of more sustainable packaging with no compromises: it still provides the highest level of food protection which of course is always our priority."

Jan-Mark Wilke, Business Development Manager, Fresh Food for Consumer Flexibles, Mondi says: "33% of the world's food is lost or wasted every year - and this accounts for 7% of GHG emissions. Sustainable packaging can play a vital role in minimising food waste. It reduces the environmental impact of the food industry by preventing food from spoiling before it reaches the table. With our mono-material PP packaging for Handl Tyrol, we have been able to deliver another fresh food packaging solution that protects the product effectively and can be recycled into existing recycling streams for mixed polyolefins. On top of that, it has an impactful design that incorporates the packaging and reflects the consumer use."

www.mondigroup.com

AUTOMATED PACKING OF WHOLE CHICKEN WITH KREHALON FORMSHRINK® MATERIALS:

The Ideal Solution for Retail-Ready Fresh Poultry Packs!

60 - 70% Reduction in Labour Cost and Higher Output

Businesses of all shapes and sizes can take advantage of the labor, material and cost-saving automated packaging solutions.

For whole birds the (Thermo-) Formshrink® principle is ideal to save labour and other costs.

Recently poultry productions in Poland, Australia and USA changed from traditional packing in clipped bags with 6-8 workers on a line and an output of 35-40 chicken/minute, into an automated Form Shrink solution with only 2-3 people and a stable 40-60 chicken/minute output.



the chicken shape including an easy tear-open tab. A shrink tunnel shrinks the packs as a second skin around the products.

ROI calculations - Cost per Pack with main cost components: labour, equipment and materials show a potential of 20-30% cost saving per pack of Formshrink® versus Shrink Bags.

Retail presentation:

The printed image on top- and bottom web will always be in the same position on the chicken.

Unlike with labels, the printed material forms nicely around the product enhancing the retail presentation.

The packs are clean and hermetically sealed, which prevents blood drip in the shelves of the supermarkets. An easy-tear open tab is included for consumer convenience.

Sustainability:

There are savings on plastic per pack because there is no need for



a tray and the material usage in the Formshrink® principle is more efficient than using bags.

The weight reduction in plastic material versus Shrink Bags with clips is around 25% and versus flow wrap + tray it is around 80%

Materials are also available in CE quality (CEFLEX - EU) and in REDcycle (Australia) quality. www.krehalon.com



How Does the Formshrink® Principle Work?

The machine forms a thermoformed pocket in which the whole birds are placed (no trussing needed). There are 4-6 birds placed per cycle and the machine runs 8-12 cycles/minute. Vacuum and sealing are both taking place in the same station which guarantees a hermetically sealed pack. The packs are then contour-cut around

THE ROLE OF HEAT EXCHANGERS IN MEAT PROCESSING

By Matt Hale, International Sales & Marketing Director,
HRS Heat Exchangers

The utilisation and valorisation of waste and co-products continues to be a top priority for many food manufacturers for both economic and environmental reasons, and meat processors are no different. Meat and poultry processing operations frequently produce a range of different by-products and leftover materials, many of which are turned into meat, blood and bone meals used as commodity products or as components in animal feed.

However, there is a growing awareness of the fact that much of this material is a rich source of high-value edible protein, with numerous potential products and uses. In recent years we have seen increasing demand for a range of solutions to help process bone, skimmings' blood and blood plasma, fats and oils, gelatine, mechanically deboned meat (MDM) and edible protein components. These solutions range from individual heat exchanger components through pre-engineered to complete processing solutions. The common driver for these installations is to produce products with better quality, at lower cost and with less waste and lower energy consumption.

Heat exchangers may be used for a range of purposes, including heating, cooling, pasteurisation, sterilisation and even evaporation. Materials such as meat slurry, MDM, minced meat and viscera. have a high fouling potential (which limits heat transfer), but also need

delicate handling to preserve their integrity. To enable this scraped surface heat exchangers are usually the most suitable option when handling meat products.

In one installation, the HRS RHD Series, which uses a rotary scraping action, was used to help keep poultry trimmings and elements such as chicken necks, beaks and feet below a specified temperature of 4 °C. The thick, viscous nature of the material means that a

this phenomenon does not occur. To ensure efficient and reliable operation with these difficult products, HRS adapted the internal scraper configuration to achieve the high performance necessary, while implementing a heavy-duty gearbox to withstand the higher torques required to keep the product moving. A glycol cooling system reduced the temperature of the product from 23°C to just 3.5°C in a continuous pass, with a total retention time around 4

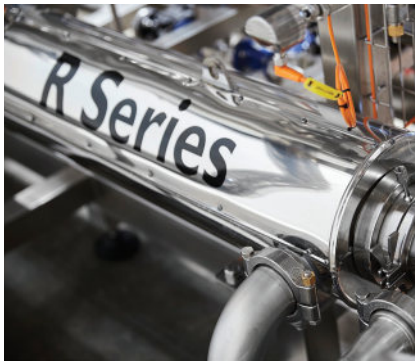


HRS can help process a wide range of meat and poultry products and by-products

phenomenon known as 'slugging' can occur, where a channel of warmer product travels down the centre while the product at the tube wall does not move. As the cooling medium was below -5°C, this created the risk that the product at the tube wall will freeze, while the material in the centre is not cooled sufficiently. Because the RHD Series ensures thorough mixing in the heat exchanger,

minutes. An autonomous control system ensured that any finished product which had not reached the required temperature was diverted back to the start of the process for further cooling.

For other situations, a reciprocating scraped surface heat exchanger, such as the HRS Unicus Series, may be more suitable. The Unicus series is ideal for a wide range



The HRS R Series uses a rotary scraping action, making it ideal for cooling by-products such as poultry viscera

of difficult meat products and meat waste streams. Unicus heat exchangers are available with a wide range of scraper types, providing even more choice for applications from cooling to sterilizing and everything in between.

The HRS Unicus series has proved particularly useful in handling viscous food products where texture and consistency are important attributes. For example, some

meat mixtures may shear or break apart when subjected to too much pressure and speed, making them unusable. The Unicus means that effective heat transfer can be carried out at low pressure overcoming such problems. Some of the practical uses of the Unicus Series include cooling chicken viscera and pet food ingredients, cooling MDM and heat or cooling blood.

www.hrs-heatexchangers.com

INDUSTRIAL MACHINES FOR ARTISANAL FAMILY BUTCHERS

VCM 360 and MWW 160 from K+G Wetter

Is artisanal craftsmanship in the butcher's shop reconcilable with the use of industrial machines? The Lewis butcher's shop in the town of Setterich-Baesweiler thinks so! In the rural area of the Aachen city district, master butcher Hans Lewis and his son Niklas, together with eleven employees, produce liver sausage, ham sausage (Schinkenwurst) and many other traditional specialities just as they did in the first Lewis shop founded in 1955 - but now supported by machines that are also used by industrial companies.

VCM 360 and MWW 160

Vacuum cutters and angle grinders are delivered by K+G Wetter in Biedenkopf. These two companies share a long history. Hans Lewis took over the business from his parents in 1988 and was one of the first customers of meat processing machine manufacturer K+G Wetter, which itself was established in 1990.

"We started with a small 65-litre bowl cutter and a 130-millimetre angle grinder," says Hans Lewis, who has since handed butchery down to his son Niklas. "That bowl cutter was in service for 17 years. We then expanded to 120, 200 and now 360 litres." Since May 2022, the VCM 360 Hygienic Secure and the MWW 160 mixer angle grinder have been performing reliably in the butchery. The Lewis family has constructed a new building on an industrial



The Lewis butcher's shop relies on the MWW 160 (front) and the VCM 360 from K+G Wetter. These efficient production machines save the company time and money - and deliver enhanced quality.

estate - with high-tech hiding behind a modern wooden façade.

The new machines have been standing in the new factory building since spring. Now, early in this late autumn morning, several batches of the popular Christmas liver sausage have already been chopped - a truly gourmet variety that contains cream and other fine ingredients according to the family recipe. "Liver sausage is our absolute best seller," explains Niklas Lewis, who sells products made by the family business via two regional branches. Together with a wholesale partner, he also sells nationwide through food retailers and to the Benelux region.

Optimised Cooking System for Better Quality and Lower Energy Consumption

When it comes to the sausage meat used for the liver sausage, the optimised cooking system of



Second- and third-generation master butchers Hans Lewis (left) and his son Niklas run the traditional business from the district of Aachen.

the K+G Wetter cutters comes to the fore: The cutter bowl is a completely enclosed, double-walled system. Hans Lewis is fully convinced of the advantages this offers for his speciality butchery product: "There is less deposition of the sausage meat and lower caramelisation in the bowl. This has made our liver sausage even better. In the past, product deposits forming on the cooking bowl made intermediate cleaning of the bowl common after every ten batches approximately. Today, practically nothing remains in the bowl cutter after unloading. This is clearly due to the double-walled bowl. Previously, the bowl was

heated far less evenly via steam nozzles. Now the steam is evenly distributed in the intermediate space." "On top of this comes the machine's design: We have achieved an extremely low vibration level thanks to the cast iron machine base and can bring the bowl and blade very close together," adds Heiko Schneider, Area Sales Manager at K+G Wetter. "Talking to customers has taught me that product becoming baked on is a bigger problem when the bowl/blade spacing is greater. These are issues that you might not associate with product quality at first glance, but they have a massive impact." Product quality that delights customers also benefits from sophisticated technology.

A further advantage: Whereas the entire vacuum vessel area used to heat up during the cooking process, now only the small space between the cutter bowl walls is heated, thereby saving time and energy. The issue of energy is huge. Niklas Lewis has prepared some figures: "The machine has one-and-a-half times the capacity of the VCM 200, but its peak current

load has actually been reduced. If you add to this the fact that we could already produce 400 kilogrammes of Mettwurst sausage meat in the 360-litre bowl without anything overflowing, the machine's economical consumption of precious energy resources becomes even clearer." "This is only possible thanks to the raised bowl rim and special bowl geometry," explains Heiko Schneider. But Niklas Lewis also occasionally uses the VCM 360 for smaller special production batches. "I also make 40 kilogrammes of stuffing mix in the cutter. So it's also possible to make small quantities with it, the product is well processed and it makes financial sense." It was therefore unnecessary for the Lewis butcher's shop to purchase a separate small bowl cutter for such tasks.

Grinder and Bowl Cutter Hygiene and Quality

Meanwhile, in the bright and airy production area, Lewis employee Moris Porkert cleans the cutter for processing the next batch. A further regional speciality, Rheinische Schinkenwurst (Rhineland ham sausage), is also on the production schedule. Fleischwurst or Lyoner is the name of the fine boiled sausage found in other regions of Germany. Thanks to



The Lewis butcher's shop was founded in 1955. In the new building, artisanal specialities are produced behind the modern wooden façade using high-tech machines.



The design of the VCM 360 allows the bowl volume to be utilised optimally – to produce large, top-quality batches without losses caused by overflowing.

the innovations offered by K+G Wetter's Hygienic Secure range, Lowis' employees spend significantly less time on the absolute hygienic cleaning of the bowl cutter. "I am absolutely convinced of the benefits of Hygienic Secure," says Niklas Lowis. "It wasn't even on my radar when I was shopping for a machine, but it's phenomenally easy to clean and really good - for example, because you can remove the knife cover strips. In our experience, Hygienic Secure consistently saves us 20 per cent in terms of cleaning time!"

The meat for the Schinkenwurst initially passes through the MWW 160 mixer angle grinder, which took its place in Lowis' premises at the same time as the industrial bowl cutter. "The MWW 130 we had before had started to show its age and couldn't cope with



Undesired components such as bone splinters or pieces of sinew are automatically and reliably removed during the grinding process and ejected to the side. Simultaneously, the working area in front of the machine remains free - giving the sorting device of K+G Wetter grinders decisive advantages.

the increased demands we were placing on it," says Hans Lowis. The master butcher also places particular importance on the Easy Access feature. "The design with a door in the grinder's hopper was indispensable for us when we bought the new machine. We would have really regretted not having it, because it's so ingenious to use - it's right at the top in a class of its own. No other grinder offers such ease of access." Despite its industrial size, practical experience shows that all Lowis employees are able to operate the machine perfectly and remove and refit the mixing paddle and meat worm very easily, quickly and effortlessly during cleaning.

Of course, the Lowis butchery produces minced meat using the grinder - "The cutting pattern has become even clearer", Niklas Lowis is pleased to say - and minces meat before cutting: "We don't put anything in the cutter that hasn't first been ground". This is due to the sorting device, which reliably removes unwanted components in the meat, such as sinews and bone splinters. "We already have the sorting device in our third machine from K+G Wetter. It was always fantastic, but has been greatly improved thanks to various technical innovations and especially by the new sorting knife." Lowis also finds the lateral unloading of the sorted material a convincing feature. "There's nothing to obstruct the cutting set housing which allows it to be cleaned easily and quickly."

Thanks to the stick mixing shaft, the butchery also processes frozen material using the MWW 160: "Our cold store operates at -4 degrees (Celsius). This delivers slightly frozen blocks which we

chop and mince perfectly using the mincer and special mixing shaft," reports Niklas Lowis.

Moreover, the MWW 160 from K+G Wetter also offers sophisticated solutions in terms of hygiene - for example, the rinsing chamber, which allows the area behind the meat worm, feeder worm and mixing paddle seals to be simply rinsed from the outside on a daily basis: Even if tiny particles penetrate these seals as a result of the grinding pressure, they cannot form deposits which provide a breeding ground for germs. "The rinsing chamber is so good that it's completely unobtrusive in daily operations," smiles Hans Lowis. "We just rinse it through and that's it." Disassembling the worms and mixing shafts for cleaning is also extremely easy thanks to the easy-access door in the grinder's hopper and the quick-release fasteners. "You have access to all parts of the machine and it's always sparkling clean," says senior boss Lowis.

A Fine Sense for Perfect Artisanal Sausages

Niklas Lowis opens the noise protection lid of the neighbouring VCM 360. The excellently-guided hydraulic loading system precisely doses the previously minced meat into the cutter bowl. Gradually, more ingredients are added - spices, salt, ice, more meat. Niklas Lowis starts each work step by hand. "Two-four?" he calls out to his father in between - it's about the right speed for the next production step. Lowis senior signals his agreement - he has all the recipes along with quantities, ingredients and work processes in his head. So sausage production at Lowis is still real artisanal



The VCM 360 "Hygienic Secure" is convenient to operate and saves time and energy during processing and cleaning. "It's the perfect machine," comments master butcher Niklas Lewis.

craftsmanship, even using the large industrial bowl cutter.

After just a few minutes, the sausage meat is ready and Niklas Lewis ejects it with the unloader into the waiting meat trolleys. A few months ago the cutter would still have been in the middle of production, but now it is already ready for the next batch. "Our experience shows that the time saving is around 40 per cent. It was previously ten minutes, now it's six - that's already an insane gain from an economic point of view." Another advantage: "Like many other companies, we are also suffering from a shortage of staff. That's why we search out every opportunity for saving working time while maintaining or improving quality," says Niklas Lewis. The small company therefore relies on large bowl cutters and grinders from K+G Wetter.

The company does not save time by using higher speeds: According to Hans Lewis, "This only increases power consumption and causes bearing wear; there is simply no benefit." On the other hand, the master butcher relies on careful

preparation, for example prior grinding, and on artisanal tricks such as knowing the right time to add salt. Niklas Lewis describes the finished Schinkenwurst as follows: "The sausage has an artisanal structure. We could of course cut the sausage meat absolutely finely and smoothly, but it would then have a completely different texture. Our method using the industrial cutter - by chopping more slowly and for longer rather than quickly and at top speed - gives the sausage a texture like the one from the butcher's shop next door. It's something that becomes clearly apparent when you eat it."

Customised Touch Panel

A special feature programmed by the K+G Wetter team to address the specific needs of the Lewis butcher's shop is the control panel that has been customised to provide the functions needed by the business every day. For example, all nine knife speed buttons have been assigned twice, which means that Niklas Lewis only has to double tap to set the perfect speed. The touch fields for vacuum, temperature and bowl revolutions have received similar treatment.



The touch panel of the VCM 360 from K+G Wetter can be custom programmed in accordance with customer requirements - thereby facilitating optimal workflows.

Service Experts and Customer Relations on an Equal Footing

In order to ensure the machine is maintained in perfect condition at all times, customer service is an important background issue. Senior boss Hans Lewis enthuses about his many years of experience: "K+G Wetter is as family-oriented as we are. With them we have a direct line to the management and don't get tied up in a call centre when there's a problem to be solved. Like us, they are fully grounded. Their customer service staff are simply unbeatable too. They always endeavour to find a direct solution. It's something money can't really buy."

"With them, the boss - in fact both bosses - are still directly involved in production and are fantastic role models for their employees. I am able to talk to them directly, not to a department head. That's what I call a customer relationship on an equal footing," adds Heiko Schneider.

Ideas Derived from Practice for the Perfect Machine

After finishing the current batch of boiled sausage meat, Hans Lewis and K+G Wetter area sales manager Heiko Schneider meet at the machine to discuss ideas, just as they have during the entire duration of their long-standing collaboration. "We are always really pleased to accept suggestions derived from practical experience and pass them on to our design department," says Heiko Schneider. It's all about the details: "From my perspective, the VCM 360 is currently the absolutely perfect machine," says Hans Lewis with complete conviction.

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