

Insight

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04

Prestage Farms builds a reference turkey plant

06

Baiada Australia moves to 2x 15,000 bph

08

Nuova-i intelligent evisceration management

marel
Nuova-i



Adding intelligence – the next step in automation

Labor availability is an ongoing dilemma for poultry processors the world over. This is becoming a disruptive force in the industry, threatening both continuity and efficiency. The Covid-19 pandemic has highlighted processors’ concerns about depending too much on people. Marel’s answer to this challenge is intelligent automation. It is now not only possible to automate virtually all steps in the process; intelligent solutions will also make the process more predictable and easier to control.

Even in processing plants with a high degree of automation, experienced, highly qualified and skilled staff will still be necessary to supervise and control machine and line performance. It is becoming increasingly difficult to find, train and retain such staff, particularly where shift working is mandatory. It is a challenge to have all shifts occupied with qualified people operating all at the same high level.

For many years now, Marel has been developing innovative techniques to make its automated solutions more and more intelligent. This not only means that our systems will support processors and their staff to make informed decisions; our solutions are becoming truly decisive and self-adjusting for optimal performance and less labor-dependency. In line with this, we introduce a real breakthrough: our new Nuova-i eviscerator, a major step towards an intelligent primary process.

The new Nuova-i allows for even more flock adjustments than before and now, these can be controlled by a touchscreen instead of using handles and buttons. The settings can be programmed for different flock characteristics, allowing to switch flock settings in a matter of seconds. Nuova-i is also able to measure its own performance real-time on unit level, allowing evaluation and improvement of its programs while facilitating condition-based maintenance.



Marel’s new Nuova-i offers even higher and more predictable performance with less operational efforts. This means an opportunity for processors to become less dependent on trained and skilled staff and having a more calculable and improved output at the same time.

In this issue of Insight, you can read all about the new Nuova milestone as well as other technological poultry processing developments. From Poland to Australia, we also have many interesting customer stories to share with you. Finally, we are delighted to tell you about our biggest turkey project ever. Prestage Farms in the USA has chosen Marel as sole supplier for its vast turkey greenfield plant. This includes a unique in-line air chilling process and the latest evisceration updates.

Have a pleasant read!

Arie Tulp
Sales & Marketing Director
Marel Poultry

Contents

Plukon Visbek about I-Cut 122 TrimSort	3
Prestage Farms builds a turkey greenfield	4
Baiada Australia moves to 2x 15,000 bph	6
Customizable SmartLine Grader fulfills any grading need	7
Intelligent evisceration with Nuova-i	8
Marel’s new coating equipment puts Plukon Ommel ahead of the competition	10
IRIS Fillet Inspection brings optimal visual quality	11
Fermiers du Gers in France takes a big leap forward	12
Meat preparation lines for poultry meatballs, burgers and nuggets	13
Marel re-equips major Polish processor SuperDrob Goleniów	14
Cranswick UK relies on Marel’s Water Treatment techniques	15
Shandong Boda and Shandong Dehui both choose Marel lines	16



Plukon Visbek uses I-Cut 122 TrimSort to create fillet products with least giveaway

Portioning and sorting to serve the German market



“In the entire industry, the total live weights are increasing. That means fillet weights are increasing too, but consumers want smaller pieces than 300 grams fillets. That’s why we all need to portion. And then, in 2018, we saw Marel’s I-Cut 122 TrimSort at the fair in Utrecht. We immediately knew that such a machine would fit perfectly in our facility, because the sorting out works great,” says Norbert Toben, managing director at Plukon Visbek, Germany.

“Previously, we had staff to sort out fillets by hand. That’s why we highly benefit from our two new I-Cut 122 TrimSort portion cutters, where the sorting is already done in the machine. Saving staff was one of the reasons why we made the change,” continues Norbert Toben. “Secondly, the weight precision is definitely improved, so we have much more control of the final packaging afterward, with reduced giveaway. And the third advantage is that by making optimal use of the programs, we can significantly reduce the number of off-cuts.”

Recipe per batch

Plukon Visbek has two I-Cut 122 TrimSort portion cutters in operation, to portion fillets to pre-programmed weights. First, the laser scanner scans the incoming products and calculates their weights. “On the portioner’s touchscreen we enter a recipe for the upcoming batch, and the cutting actions of the I-Cut follow that program,” explains Norbert Toben. After being cut, the fillets stay on the upper belts of the dual-lane I-Cut 122 TrimSort and are conveyed to downstream processing.

Valuable off-cuts

The off-cuts are separated to land on the internal lower belt. These valuable products are conveyed to different processes, depending on what kind of end product is needed. Particularly the accurate and fast sorting process of the two product flows makes the I-Cut 122 TrimSort a very cost-effective addition to the line for Plukon Visbek. Instead of manually sorting out off-cuts, the I-Cut takes over this job and further reduces giveaway with no need for human intervention.

Stand-alone but connected

Plukon Visbek uses I-Cut’s own stand-alone software, running the programs directly on the HMI display. However, both I-Cuts are connected to the internet so that Marel can access them for service. “Quite honestly, we have almost no issues with the I-Cuts. The portioners run very well and need very low maintenance. Of course, they sometimes need service, but that is very manageable,” states Norbert Toben. Elsewhere in the factory, Plukon makes use of further Marel systems, such as a SensorX X-ray system for bone inspection, SmartLine Graders and a SmartSplitter.

About Plukon Visbek

Plukon’s facility in Visbek, Niedersachsen Germany, is a convenience processing company that specializes in the production of deep-frozen poultry. Plukon Visbek mainly supplies the German retail and foodservice market. The incoming raw materials are chicken fillets, wings and legs. They are refined into final products that are frozen via IQF and freezers. Most of the products supplied originate from various international locations of the Plukon Group. Managing Director Norbert Toben says, “Different customers have different requirements; some only want German goods, others also accept international goods. It’s customer-dependent therefore, but there’s a strong trend towards regional origins of the goods.”

plukon.de



“The I-Cuts ensure that we have the appropriate weights of fillet products available.”

Norbert Toben, managing director at Plukon Visbek, Germany





End-to-end Marel automation, including unique air chilling

Prestage Farms builds a reference turkey plant

US turkey processor Prestage Farms is building a state-of-the-art greenfield plant for 100 turkeys per minute [6,000 tph]. Expectations are that completion of the project in Kershaw County, South Carolina, should happen by the end of 2022. It will feature an end-to-end Marel set-up with multiple lines, from defeathering to air chilling and from cut-up to inspection. Using the very latest technologies and the highest levels of automation, the Prestage Farms processing plant will be the new reference for turkey processing.

Focus on automation

The USA accounts for almost half of global turkey production. The market is stable, showing some growth. Automation is a high priority for turkey processors striving to increase yields, be more efficient and less dependent on labor. It is therefore no wonder that Prestage Farms focused initially on automation for its new greenfield plant. Choosing Marel automated solutions was entirely logical, as experience has shown these to be leaders and the best in their class in the turkey industry.

From the labor-saving perspective, Prestage Farms will only need about 300 people to run its new 100 tpm [6,000 tph] turkey plant. This number is relatively low, because the company's end products are mostly bulk turkey cuts, not needing any manual further processing or packing operations.

Shared sustainability

Prestage Farms and Marel share the same vision on sustainability. Both companies are committed to making food production sustainable economically and environmentally. By making the most efficient use of resources, both are constantly seeking innovative ways to improve the production of healthy and delicious food in a responsible



Larry Campbell (Marel VP Sales Poultry USA) and Ron Prestage (President of Prestage Farms South Carolina)

manner. Many elements of the Prestage Farms greenfield plant will take sustainability into account. Compared to water chilling, air chilling will lead to a massive reduction in water use. The automated evisceration department will also use less water than a manual process. All systems are set up to get the right product at the right moment, optimizing raw material use and reducing the plant's environmental footprint.

About Prestage

In 1983, Bill Prestage founded his own company, Prestage Farms. The family purchased a feed mill and turkey production operation in Harrells, North Carolina, and produced eight million pounds of turkey in their first year. A pork production division would soon follow. In 1984, the company's corporate headquarters moved to its current location in Clinton, NC. Ron Prestage joined his father and two brothers in the company business after 12 years as a practicing equine practitioner and is president of the South Carolina division while Bill Prestage serves as president of Prestage North Carolina. Ron is lead on the new facility Prestage is opening in Camden, South Carolina. Today, Prestage Farms is a large vertically integrated company with many affiliates, recognized throughout the nation as one of the leading producers of quality turkeys. Producing over 425 million pounds of turkey annually, the company employs over 3,000 associates and has contracts with over 450 farm families.

[prestagefarms.com](https://www.prestagefarms.com)



The Prestage Farms process

Prestage Farms will process 100 turkeys per minute [6,000 tph], divided over two 50 tpm processing lines. The whole primary process is double. Only male turkeys (toms) are processed, as the US turkey market concentrates on cut-up products coming from male turkeys for all of the year except Thanksgiving, when the focus is on whole hens. US toms weigh about 45 lbs [22 kilos], whereas hens weigh approximately 14 lbs [6 kilos].

Defeathering

Prestage Farms uses Marel's specialized turkey immersion scalding to prepare products for the defeathering process. Four different techniques are combined in the plucking line, including counter-rotation, typical for turkey defeathering. This made-to-measure Marel configuration leads to a great plucking result. Defeathering complete, products are transferred to the evisceration line.

Venting and cropping

Prestage Farms' evisceration department features two fully automated lines. Marel recently overhauled its turkey evisceration portfolio and now offers a program tailored to the market, which really makes a difference. A Marel fully automated evisceration department offers high performance, labor savings and optimal ergonomics. Apart from the automatic eviscerator, the vent cutter and the cropper are two important machines for turkey evisceration. Marel's vent cutter is highly rated for its excellent performance. It comes with a unique vacuum system that cleans part of the intestines, minimizing cross contamination. Cropping used to be a labor-intensive operation in turkey evisceration. At 2x 50 tpm, a manual cropping operation would take about 14 people. They would have to do a physically very demanding job. The Marel neck cropper now automates this job, boasting an outstanding performance record on heavy toms. The Marel evisceration lines also include the new turkey vent opener, the three-point suspension system and the neck cracker.

No turkey lifting needed

At the end of each evisceration line, products are unloaded from their shackles and positioned on a conveyor belt. Operatives then place legs in the chilling shackle without any lifting being necessary. Marel has thereby eliminated the tough manual job of lifting 100 toms per minute, weighing 45 lbs. Once hung in the chilling shackles, the products first pass through a SmartWeigher. Thanks to data received from it and Innova PDS XL software in the chilling tunnels, the production planner already knows one day in advance the weight distribution of the flocks entering the cut-up and filleting departments the next day. There is now plenty of time to distribute product over the three cut-up lines for light, medium or heavy turkeys, matching them to incoming customer orders.

End-to-end traceability

Marel's Innova PDS software and the Traceability module go hand in hand and are part of the digital layer in the Prestage Farms turkey plant. The end-to-end track and trace functionality covers the entire plant from live bird shackling hang to dispatch. This is only possible thanks to the complete configuration being inline. Right from the start of the process, flock switches transmit flock information downstream through the factory. Data accumulated along the line stays with products until the end of the process. In this way, tracing a product becomes easy.

48,000 turkeys

Prestage Farms' chilling process is the largest inline air chilling tunnel for turkeys in the US and is based on Marel's in-depth knowledge of turkey air chilling. This unique configuration was one of the main reasons why President Dr. Ron Prestage decided to partner with Marel. Following the double primary lines, there are as many as six state-of-the-art DownFlow+ chilling tunnels. During the day, each primary line fills up three chilling tunnels one after another until the 8,000 shackles per tunnel are filled with turkeys. Once the first tunnel is full, the conveyor line continues to fill the next tunnel. At the end of a day's production, the six tunnels can contain 48,000 turkeys. Obviously, it takes quite some time for cold air to reach the core of such large carcasses. Except for the use of sprays to prevent dry-out, no water is added to the products. Air chilling is known to improve the taste, tenderness and presentation of turkey end products. For the processor, it also brings product data connected end-to-end.

Bone-in and deboned

After chilling overnight, turkeys are distributed by weight to three ACM-T systems. Prestage Farms' end products are mainly bulk bone-in cut pieces, supplied to further processing, food service or QSR customers. At the end of the cut-up lines, combos are filled with bone-in thighs and drumsticks, while the remaining front halves continue in their carriers suspended from the overhead conveyor. They then proceed to three FHF-XT front half filleting lines for the harvesting of scapula meat, tenderloins and fillets.

Food safety

Fillets are positioned on three conveyor belts and are inspected for remaining bones or hard contaminants by three SensorX machines. On a fourth conveyor belt, another SensorX inspects tenderloins harvested separately from the fillets. These SensorX X-ray solutions are not the only measures Prestage Farms takes to ensure food safety in the new turkey plant. Multiple overarching systems and general plant-wide procedures ensure optimum hygiene.

Baiada Poultry, Australia’s leading poultry producer, moves to 2 x 15,000 bph using the very latest technology

Well prepared for a changing market



With its two high-speed lines, each able to handle up to 15,000 broilers per hour [250 bpm], the Baiada Hanwood plant in Griffith, New South Wales is now ideally set up to supply all sectors of the Australian chicken market. One of the two lines handles “light” birds up to 2.8 kg [6 lbs]; the other “heavy birds”, which can be 4 kg [8.8 lbs] or more. A recent speed increase took the “light” line from 13,500 bph [225 bpm] and the “heavy” line from 12,000 bph [200 bpm] to 15,000 bph. Both lines are equipped throughout with the latest Marel technology.

Much of the primary processing equipment at Baiada’s Hanwood site could already handle the new higher hourly throughput, examples being the two GP live bird handling systems, two SmoothFlow controlled atmosphere stunning systems and Nuova automatic evisceration and giblet harvesting systems.

Delighted with results

Among the new items added were SmartWeighers in the killing and evisceration departments, LineLink transfer

units between killing and evisceration lines and the addition of DownFlow+ air chill tunnels. Paul Singh, COO at Baiada Poultry, is really pleased with the performance of all items. “We already had SmartWeighers in our whole carcass distribution lines and had been impressed by their accuracy and reliability. Our new SmartWeighers give us additional information on yields in our primary process, something we didn’t have before. The LineLink transfer units perform perfectly. Adding an hour and a half air chill to our immersion chill process gives us more attractive, tastier products with a longer shelf life. Our customers really appreciate this.”

Changing retail scene

Developments in Baiada’s secondary processes have been the direct result of two changes in the Australian retail scene. The first is the move away from whole products to cut and filleted items. The second is a possible move towards fixed-weight packs currently under consideration by Australia’s supermarket chains.

From whole product to cuts

Not so long ago, the market was largely a whole product one. This has now changed. Cuts and deboned items now predominate. Over recent years, Baiada has anticipated this trend and invested heavily in automatic cut-up systems. It now has three ACM-NT systems in operation, with a fourth one scheduled. It also has a dedicated ACM-NT system for producing nine-piece cuts for an international chain of quick-service restaurants.

Leading the way

Anticipating significant growth in the market for deboned thigh meat, two of the ACM-NT systems include the Marel Thigh Fillet System, able to debone up to 14,400 thighs per hour [240 pm] to hand butchering standard. Paul Singh

continues, “We want to lead the way when, as we expect, demand for this product from retailers, the food service sector and from our own further processing plants really takes off. We are impressed with the consistency and the high yield of these filleting systems that turn out hourly while delivering to our high quality standards.”



Four FHF-XB systems debone front halves cut in the ACM-NT systems. Paul Singh comments, “Our front half deboners have made a big difference to the efficiency of our breast filleting operation. The yields we are getting are excellent. We can produce a wide variety of different breast meat products giving us and our customers a broad range and flexibility.”

Prepared for fixed-weight packs

Baiada’s Hanwood site has prepared itself well for fixed weight packs. Some time ago, the plant invested in RoboBatchers and Marel MultiHead Weighers. RoboBatcher weighs incoming breast fillets, placing them neatly onto retail trays in fixed-weight batches. The system is also suitable for legs. The MultiHead Weigher can handle any chicken portion, whether bone-in or deboned. It collates product extremely accurately into fixed-weight batches, which it then deposits on trays, in bags or in cartons. Paul Singh explains, “When our customers decide to move to fixed weight packs, we are ready. We know the Marel technology we have bought will give us precise pack weights.”

Optimistic about the future

Paul Singh concludes, “We are very proud of what we have achieved at our Hanwood site and optimistic about the future. Covid-19 came with its challenges that we had to overcome when installing the new equipment but thanks to Marel we were able to work through those challenges seamlessly. Marel adapted quickly to the changed circumstances and came up with new ways of helping us, which we are sure will remain part of the way we work together in the future. The plant is now truly world class. We are confident that when this pandemic finally ends, we will be in the best possible position to take advantage of the imminent economic rebound.”



About Baiada

Baiada is a privately owned business based in Pendle Hill, New South Wales, Australia. It owns two of Australia’s leading poultry brands – Steggle’s – An iconic family brand and Lilydale free range which is a premium brand with premium products raised with higher welfare standards. The company is vertically integrated with its own breeding farms, hatcheries, feedmills, growing farms, processing, further processing and protein recovery plants. Baiada supplies a wide variety of chicken and turkey primary and value-added products to its retail, quick service restaurants and food service customers across Australia.

baiada.com.au



From whole bird grading to twin-lane fixed-weight batching

Customizable SmartLine Grader fulfills any grading need

The customizable SmartLine Grader can now solve almost any grading issue. After configuring the ideal set-up using the new standardized components, SmartLine can adequately sort out the required products and weights. A SmartLine Grader isn’t just a purchase, it’s the answer to a problem.

The SmartLine platform is now so flexible that any individual processor can configure a grader exactly to the company’s needs. Starting from a list of requirements, there is always a SmartLine Grader set-up that ticks all the boxes. In addition, Marel’s standardized modular components reduce costs. State-of-the-art technology is now available at very competitive prices. There are no longer any superfluous features to pay for, only the ones you really need.

Grading whole birds

In many parts of the world where grillers sales make up an important part of the chicken meat market, grading whole birds is a crucial part of the process. As of now, SmartLine Graders can handle whole chickens and whole ducks too. Bigger bins are available for sorting whole birds on a single- or dual-lane grader.

One or two lanes

If a plant is handling products with many different weight classes, such as whole grillers, it is possible to add more gates to a single lane SmartLine Grader. For a large number of products it is more logical to configure a dual-lane grader. The two belts of a dual-lane SmartLine Grader feature their own independent row of output bins on the outside, enabling the grader to handle higher capacities.

Why a twin-lane grader?

What is the difference between a dual-lane and a twin-lane grader? In a twin-lane SmartLine Grader, both lanes can work together to produce specified batches collected in one row of bins, hoppers or chutes in the middle. At the grader entry, the improved algorithm of the Dynamic Weighing Unit

ensures faster and even more accurate weighing. Based on the assessed weight, the system responds quickly, taking two products from the left belt and two products from the right belt to assemble a four-piece tray. A twin-lane grader is ideal for processing multiple streams of the same product, such as the output from two AMF-i filleting systems. The twin-lane’s batching algorithm can pick individual items from a wider choice of source material to produce customer orders. Fixed-weight batches can be much more accurate in this way, while reducing giveaway.

Software benefits

The modular SmartLine platform can incorporate software in different ways. It is possible to implement Innova control and monitoring software either stand-alone with the grader or together with other Marel processing equipment in a full-line solution. Customizable dashboards on the display give a clear overview of actual production and charts of weight distribution, giveaway and throughput. They also highlight where improvements are possible. Grader settings can be remotely controlled from the office.

Food safety and sustainability

Food safety is in good hands. The SmartLine Grader range is known for its hygienic design with its unique open-frame and a minimum of horizontal surfaces. Access is easier to ensure optimum hygiene during high-pressure cleaning. The change

from production mode to a washdown position happens in seconds. SmartLine Grader scores well on sustainability too. Compared to previous generations, it produces low noise and consumes little air, water, and electricity, although the CPU is more powerful. By designing the most robust grader platform

yet, Marel has confirmed its position as technological market leader.

marel.com/smartline

Choose only what’s needed

- These are some of the features and specifications to configure:
- Belt width
 - Height
 - Length of the sections
 - Number of gates
 - Discharge into chutes, hoppers or bins
 - Bin size to fit the product, from tenders to whole chickens
 - Single-lane, dual-lane or twin-lane



Best-in-class pack removal performance and giblet harvesting with greatest care

Nuova-i intelligent evisceration management

The world of poultry processing is moving faster than ever. High-capacity super-efficient lines, multitasking systems and remote insight are needed to keep up with market demand. Customers demand hygiene, food safety, traceability and most of all, a wide variety of chicken end products, which all meet strict quality standards. To respond to all these requirements, Marel has developed its next-generation eviscerator, the Nuova-i. “Performance knowledge has been passed from man to machine,” says Arie Tulp, Marel Poultry sales & marketing director, who is really enthusiastic about the innovative development. “We’ve integrated many new technical improvements and intelligent software into this Nuova-i.”

Built on 28 years’ experience, this new Nuova generation is ready to set a new benchmark in the industry. Nuova-i is supremely fit to enter the era of digitalized processing, making use of more software benefits than ever. On the mechanical side, it features 24 units in its carousel and can easily handle line speeds of 15,000 bph [250 bpm], while guaranteeing efficiency and yield.

Improvements for higher yield

Innovative technical improvements enable the Nuova-i to separate the viscera-pack from the carcass even more efficiently. Viscera packs will be more uniform and compact, resulting in higher yield, cleaner carcasses and even higher hygienic operation standards. As a result, loose hanging

intestines, risking cross-contamination when they touch one another, will be virtually non-existent.

Two new settings can bring higher yield in every flock. One setting is the distance adjustment between shoulders, the other one is the shackle guide adjustment for long and short feet. It will no longer matter if a broiler flock is of an odd size or shape. Nuova-i will process all products to the appropriate standard.

The new spoon will do its positioning and drawing job with the utmost care and precision. Several technical adjustments mean a robust spoon with a longer life, needing less maintenance too. As it handles every single giblet with care, Nuova-i creates the perfect conditions for top-quality giblet processing downstream by automated Marel solutions.

Added intelligence

Nuova-i takes a major step into the digitalization of evisceration. Management of the machine has been handed over from handwheels and manual levers to software, controlled by a touchscreen on the machine. The new HMI display is an extremely user-friendly interface, allowing for interaction and communication with the mechanical components of the machine. The software, however, doesn’t operate fully independently. It is a powerful production support, with a human supervisor still in the lead. During production, only the height adjustment needs a manually operated lever.

Recipes

Once the recipe settings have been chosen for a flock, Nuova-i will adjust itself to those settings. The result will be a smooth and constant process flow. Even flocks with certain particular characteristics can be handled. Changing settings between flocks poses no problems either. Recipes can be pre-installed based on historical data gathered per flock.

Nuova-i will remember previous successful flock settings with a single tap on the screen. The operator simply chooses a new or existing recipe, and the relevant eviscerator settings will adjust themselves accordingly. In this way, Nuova-i will handle each flock in a dedicated fashion, ensuring a higher yield. There is no longer much human technological knowledge needed for optimum eviscerator performance. It is now data-driven with the task transferred from man to software. Handing over shifts from operator to

operator will also have less impact than ever before.

Machine health status

Nuova-i comes standard with new SmartBase software, allowing for real-time machine health monitoring. It is possible to “take a look into the machine” while it is running. The HMI screen gives a clear overview of the machine’s status. SmartBase software also logs all kinds of machine settings; it can display historical performance data to reveal potential trends. An internet connection opens up many ways of communicating, even in the cloud. Monitoring all data remotely from a central control room will be possible.

If maximum insight and control are required, the optional ProductionBase software package is the right choice. Compared to SmartBase, ProductionBase gives an even more detailed overview as well as real-time analysis at evisceration unit level. This allows plant managers to take immediate and precisely targeted action, if an issue with the eviscerator arises, an example being an underperforming evisceration unit.

Remote support

With the addition of IMPAQT software, information from other connected equipment in the primary processing line becomes available. Relevant performance data and analyses are on hand in the central control system. It is now possible to measure line efficiency, analyze the performance of other machines such as LineLink transfer systems, see the reasons for downtime or monitor shackle loading.

If required, Marel’s back office can make contact with Nuova-i via its internet connection. Thanks to intelligent software, a remote service program stands ready to help with tailor-made support in terms of updates, data monitoring, reporting, maintenance instructions, service guidelines, without the need for the physical presence of a Marel engineer on site.

Design

The Nuova-i is a new-generation evisceration concept. It features a correspondingly modern, high-tech design in which HMI display and all other controls are fully integrated. Internal lighting around the carousel allows for a good view of the process. During maintenance and cleaning, these LED lights, whose brightness is under the engineer’s control, can come in handy for a thorough inspection.

marel.com/nuova

EComp shackle

In line with the shift to higher processing speeds as fast as 15,000 bph [250 bpm], Marel developed its new EComp evisceration shackle. The higher the speed, the more noise a running processing line will produce. The replacement of metal shackles with models made out of special composite material means significant noise reduction, making the evisceration department a more pleasant environment to work in.

Cleaning the shackles is not a problem either. The shackle washer can handle them perfectly, as there are no difficult edges or hidden corners. If necessary, the EComp shackle can be supplied in a number of colors. Standard color is blue.



Forces on the shackle, particularly in corner bends, can be enormous at those speeds. The material from which the EComp shackle is made, is highly resistant to harsh circumstances such as intense use, heavy pressure, humidity and temperature changes. EComp shackles also make life easier for the overhead conveyor chain when guiding product past processes throughout the plant.

Should an error occur and a shackle become trapped, it is better for the shackle to break in a controlled way –without splintering!– than bending and causing a jam. Using the EComp shackle will reduce downtime, as this shackle is quick and easy to replace.

New pack shackle – clamp & carry

Together with Nuova-i, Marel is also introducing a new generation viscera pack shackle. Its improved, more robust design clamps intestines even better than before without damaging them, at the same time achieving a pack loss rate of less than 0.5%. Hygiene benefits too, as the risk of cross-contamination, even in high-speed lines, is extremely low.

rotation of the shackle, viscera packs simply can no longer touch one another, thereby avoiding cross-contamination.

For all line speeds

In their lines, pack shackles are either static or rotatable to allow for perfect presentation in all situations, left or right hand lines, lines with a PGI gall harvester or with multiple veterinary stations. Customizable color-coding makes it even easier than before for veterinarians to identify different viscera packs. As the line contact surface is larger, pack transfer is even better. Pack loss is now minimal and so is unexpected downtime. Yield is up while wear and tear are down, resulting in a robust performance over the shackle’s lifetime. In addition, maintenance of the VS pack shackle is easier and more predictable with a lower cost of ownership. All these features make Marel’s new Nuova VS pack shackle eminently suitable for all line speeds!

Shackle the pack

At high speeds, the function of the pack shackle becomes ever more crucial. Moving forces increase, as does the chance of packs touching each other or falling off, especially in corner bends. Clamp opening is also more critical. Marel’s new Nuova VS pack shackle controls all these forces. The unique closing mechanism, a new and robust spring design as well as the redesigned pin and slot work together to clamp the viscera pack firmly and carry it safely to its destination without losing it on the way. Thanks to the new turning mechanism that closely controls





Ger Stans (Marel) and Eric Verspeek (Production Manager, Plukon)

“We can always rely on the knowledge and experience of Marel to get ahead.”

Eric Verspeek, Production Manager, Plukon

Marel’s new coating equipment puts Dutch poultry processor ahead of the competition

Plukon made the switch to Marel: “The products look better than ever before!”

As one of the largest poultry processors in Europe, Plukon Food Group is constantly looking for new developments in the market and ways to improve the products they supply to the retail and food service industries. They were facing a particular challenge with the uniformity of a cornflake-coated product when Marel suggested they trial a new range of innovative coating equipment.

Consistency is crucial

Eric Verspeek, Production Manager at Plukon, explains, “The appearance of our products needs to be the same, day in day out. When working with a cornflake coating, this means we need to get exactly the right balance of large and small

particles on every single product. Our coating equipment just wasn’t allowing us to meet the specifications for our cornflake-coated chicken schnitzel. We were experiencing large variations in the presentation of the end product.”

Increase uniformity

“We have had great cooperation with Marel for many years now,” says Eric Verspeek. So when Marel approached Plukon with a new range of coating equipment, they were eager to learn how this could help them overcome this challenge and also increase uniformity across their range of coated products.

Ultimate crumb control

Plukon replaced their existing equipment with Marel’s RevoCrumb and saw an immediate improvement in the appearance of the final products. The RevoCrumb is fitted with an innovative crumb management system, which controls the flow of fine and coarse crumbs. “During processing, large and small particles naturally separate,” Verspeek explains. “This separation is something you do not want to see reflected in how the end product looks. With the RevoCrumb, we can control the crumb and ensure every product is evenly coated on both top and bottom sides. The products look better than ever before and now have the uniformity that we are looking for.”

The foundation for quality

But the RevoCrumb wasn’t the only machine involved in improving product quality and consistency. Getting an all-round, even wet coating is key to creating high-quality convenience products. To ensure consistency right from the start, Plukon used Marel’s semi-automatic Active Mixer to prepare their batter. This user-friendly machine ensures a highly consistent, lump-free batter, which is then fed into Marel’s Active Batter Applicator. “With the Active Batter Applicator, the products are transferred onto a bed of batter rather than a belt. This means we get an all-round layer of wet coating we just couldn’t get before. There are no belt marks, and we end up with a better quality product,” says Verspeek.

Innovation and collaboration

Working with Marel gave Plukon a chance to get ahead of the competition. “We can always rely on the knowledge and experience of Marel to get ahead,” Eric Verspeek says. “Their expertise goes much deeper than just the technical side; it covers extensive knowledge of food technology and different end products. Marel’s team of technologists really works with us to get our products as good as they can possibly be.”

About Plukon

The Plukon Food Group is one of the biggest players in the European poultry market, supplying chicken products and ready meals to leading European food partners. With 27 sites spread across six countries and employing more than 6,500 people, the company plays a leading international role when it comes to translating customer needs into innovative products, formats and farming solutions.

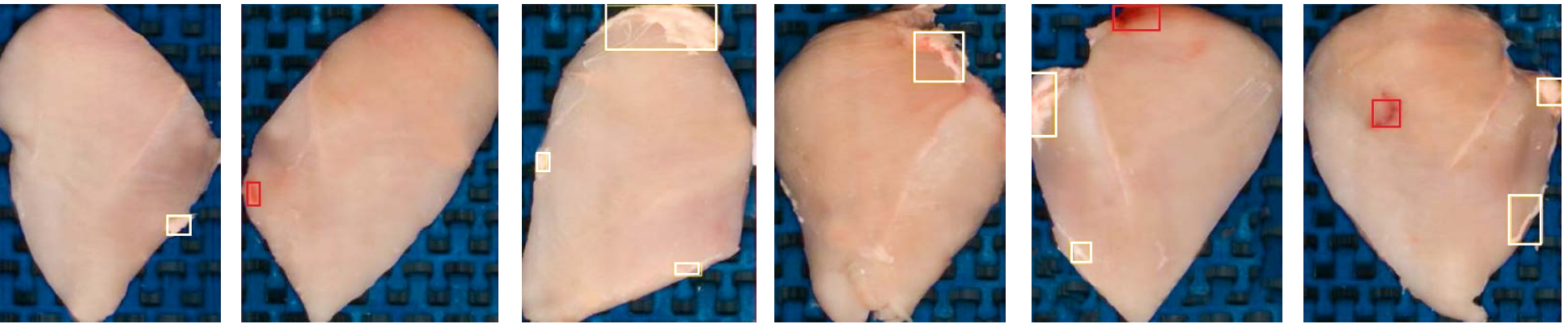
plukon.nl



The Active Batter Applicator’s unique active underbed ensures an even, all-round coating and virtually eliminates belt marks.

The ultimate way to detect all fillet defects

IRIS Fillet Inspection secures optimal visual quality



Besides having their fillets inspected for bone contamination, poultry processors are also eager to get some kind of automated fillet quality inspection. Marel’s IRIS FI (Fillet Inspection) camera offers such a visual quality assessment. Because of its ability to detect defects such as bruises, fat and skin, IRIS FI plays an essential role in supplying highest quality food.

A typical fillet line will feature a deboning system, a trimming station and a bone scanner. Additionally, IRIS FI offers the option to secure the visual quality.

Quality assurance

IRIS FI is an excellent tool for quality assurance. Installed after the trimming station, it can check in real-time whether the trimmed fillets, that are on the conveyor belt at that moment, meet the quality requirements of the customers. One purpose of collecting data in this way is to assess the performance of the trimming process. Performance reporting can be done for many criteria, such as time, flock and defects that were in the line. It gives plant managers a reliable image of the trimming department’s operations. It is even possible to compare the different trimming tables. If trimming is done too intensely, too much valuable meat weight will be downgraded. Too mild trimming can lead to customer complaints and a lower order intake. Either way, processors will lose money. To prevent this, it makes sense to instruct the trimmers exactly how to trim. The results of such a training can be verified by IRIS FI. In this way, processors can gain an incredible amount of valuable meat on an annual basis, representing several hundreds of thousands of euros.

Distribution options

IRIS FI can be combined with Innova PDS and a fillet distribution system, allowing to filter out the products that don’t meet the criteria. Trimmers could miss a slice of fat or cut off too much, leaving an odd-shaped fillet. Such products are unwanted in a retail tray and should be directed to a different process stream. The camera and the software cooperate in assigning a certain quality to the fillets and this quality information can be used for decision-making for downstream distribution. In practice,

this could be Marel’s Fillet Distributor solution, including the intelligent servo-operated conveyor belts which redirect products of different qualities to different processing streams. An upper belt could lead to a RoboBatcher or another tray packing process, while a lower belt could lead to a marination, shwarma-strip or schnitzel processing line.

“Check in real-time whether the trimmed fillets meet the requirements of the customers.”

Exactly what does IRIS FI see?

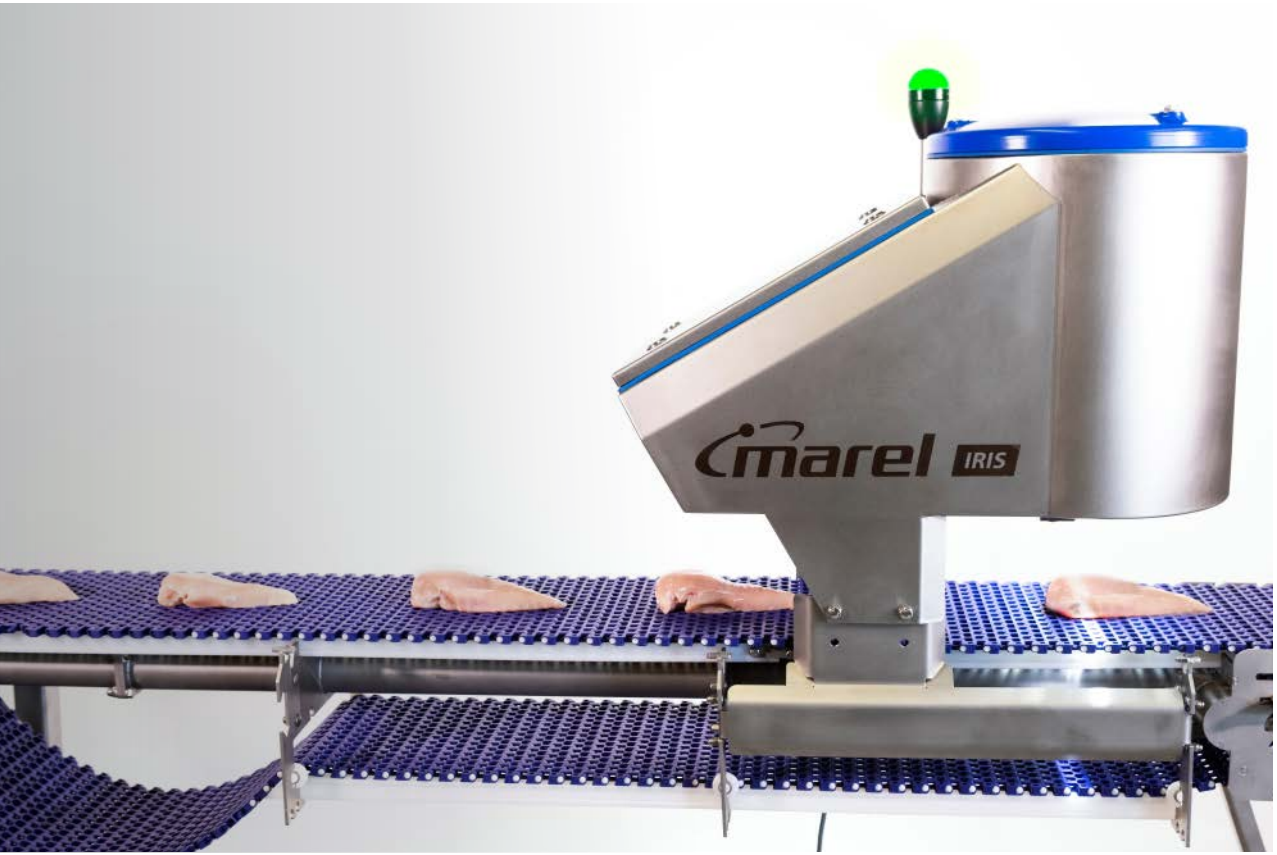
Processors can choose their own IRIS FI settings to select poultry fillets of the best possible quality. It is easy to make the ideal recipe for the allowed tolerance threshold of individual bruises, total bruise area, fat defects and total fat area. Deviant fillet shapes can also be taken into account. Among the fat defects, residual skin –not removed by a Skinner– is also detected. Detected bruises can be

subcutaneous bleedings or blood clots –visible as sharp, red dots that can simply be wiped off. As a result of inferior wing separation, the wing pit is notably a critical spot where several defects may occur, such as blood spots or remaining tendons. On the other hand, too enthusiastic trimming in this area will result in odd fillet shapes and too much good meat spoiled.

Individual or total defects

IRIS FI has a lot of integrated intelligence onboard. It knows, for example, that it should ignore the regular small stripe of fat in the middle of every fillet (except when it is oversized or bruised). Every single fillet is photographed. When needed, for analysis purposes for instance, all images can be stored on a server to be reviewed afterwards. Detection settings of IRIS FI can be adjusted precisely, from very strict to more tolerant, just what the customer asks for. The area limits can be set for blood and fat independently. In any case, the Innova PDS software is able to register (and sort out) the fillets with defects that cover a larger surface than the delimited area, be it an individual defect or the total of defects.

marel.com/iris-fi



French processor in Condom modernizes with Marel automation

Fermiers du Gers takes a big leap forward

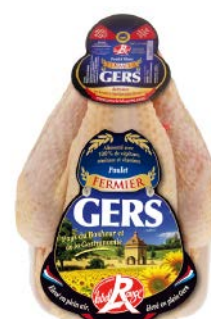
Poultry processor Fermiers du Gers in France wanted to lift performance at its Condom site. The project for a new processing hall, which includes a chilling tunnel, cut-up, grading and packaging lines, started in 2016 and has recently been completed. It represents a big leap forward in performance for Fermiers du Gers.



About Fermiers du Gers

Fermiers du Gers comprises two historical companies. The Condom and Saramon sites already had slaughterhouses in the 1960s. In 2011, the two merged to create Fermiers du Gers. The Condom site specializes in standard chickens, the Saramon site in Label Rouge poultry. Automation at Saramon is adapted to different types of products with specific features that require more manual work, such as traditional chicken with head and legs on. Saramon operates in traditional local markets, local shops and butchers. In today's France, however, the sale of standard chicken predominates. It will continue to do so.

fermiersdugers.fr



Investment in the Condom plant had been low for many years and restructuring was necessary. Simon Augereau, Managing Director of Fermiers du Gers, says: "The idea was to use automation to improve performance and serve all our customers better. We are not a mass-production company. We have a wide range of different end products packed on trays in a modified atmosphere, in vacuum packs, bulk, sized or fixed weight. We are aiming this wide range of products at supermarkets but we are also very active in our traditional markets, such as wholesalers, butchers, school and company canteens."

Air chilling

Previously, Fermiers du Gers used static cooling in cold rooms requiring a lot of manual handling. "Our old system lacked performance. Marel's new air chilling system gives us perfect temperature control. The yield and quality of our products are clearly better and now that everything is inline, we have considerably less handling," says Simon Augereau.

The DownFlow+ cooling system saves about an hour and a half when compared to the static system. Average weights are known much earlier, making it easy to assign products to the appropriate orders. Finally, Marel air chilling reduces the risk of bacterial contamination to a minimum.

At the same speed

Fermiers du Gers' cut-up line was over 20 years old, requiring two large teams of people and no longer meeting requirements. The priority was to cut up the products at the same speed as the primary process with fewer people. Installation of the ACM-NT cut-up line, RoboBatcher and SmartLine Grader achieved this. Now, it only takes a single small team to handle the total volume coming from the primary process.

Wingsticks

An important product for Fermiers du Gers is the leg separated into drumstick and thigh portions. Breast fillet tenderloins are a big market too. As for wings, Fermiers du Gers

sells the vast majority as drumettes and wingettes. There is, however, another market, the wingstick. "In France, this is a large market with a lot of demand particularly from the younger generation, who eat it as a snack. It is sold mainly in supermarkets." The new ACM-NT system, which includes a specialist Wingstick module, can do all these cuts.

Complete control with Innova

Fermiers du Gers Condom uses the traceability and labeling modules of the Marel Innova software. "We wanted to have traceability, production control and performance monitoring. Another important point for us is being able to control our processes in real-time. For this automation, we chose Innova." After the chilling tunnel, SmartWeigher and IRIS assess the products. Simon Augereau continues: "When we know the quality of products in advance, we can plan where to direct them. Innova allows us to control production, including product monitoring in the chilling tunnel, traceability and the labeling of whole and cut products."

Success of the project

Twenty years ago, the first collaboration between Marel and Fermiers du Gers began with an AMF system and a RoboBatcher. "Marel has the best portfolio for the poultry industry. If processors want to have a high-performance, quality process, then they should turn to Marel. For us, Marel has put in place solutions perfectly tailored to our needs. These are so unique that other suppliers can't compare. Marel can handle all our needs and issues from A to Z," says Simon Augereau. Despite a two-month delay for the construction of the building due to the pandemic and lockdowns in France, start of the new plant in June 2021 went very well. "Our teams were very motivated and eager to learn; factors also determining the success of a project. After a quick start-up and control phase, we are now entering an optimization phase to give us an even smoother process."

"Marel can handle all our needs and issues from A to Z."

Simon Augereau, Managing Director of Fermiers du Gers



Specialized solutions for poultry nuggets, meat balls and burgers

Meat preparation offers great opportunities

Poultry processors tend to harvest every gram of meat from their raw material to achieve optimal carcass balance. If they don't want to rely on third parties, meat preparation can be a profitable business for them with great potential. Properly prepared, the meat mass can result in an infinite number of tasty end products such as nuggets, meatballs and burgers.

By offering the ideal mix of equipment and software, Marel has configured several specialized poultry meat preparation lines. They are the perfect link between the end of the secondary process and the beginning of processes for the manufacture of convenience food items.

Nuggets

Marel's specialized full-line nugget preparation system provides ideal conditions for the production of uniform and tasty nuggets of the highest quality. High-end mixing and grinding machines work together to prepare the meat in the best possible way. An infeed conveyor or a ColumnLoader supplies the raw meat material. After the pre-grinding process in a CombiGrind machine, ground meat is conveyed with a GirafConveyor to the vacuum mixer, which gently mixes the product. If needed, nitrogen or CO2 can be added to obtain the correct temperature for the forming process. Once mixed, a Marel RevoPortioner forms the meat into uniform nuggets. This process particularly benefits from meat, suitably prepared in the meat preparation line. That is because it is essential that the meat has the proper structure and a consistent temperature after the forming process to guarantee uniform nuggets.

Poultry burgers

To prepare meat mass for poultry burgers, Marel's dedicated line produces batches of meat with the specific fat content demanded by the recipe. A ColumnLoader conveys fresh meat or a frozen block of meat to the CombiGrind machine. A FATscan analyzer makes it simple to measure, adjust and deliver the desired fat percentage for each batch. Connected to the main recipe control system, FATscan makes sure that the system is fed with a proper mix of incoming broiler carcass components. In this way, food producers can label their products consistently with the correct fat percentage. Via a GirafConveyor, the meat mass is transported to the Mixer. The unique square intermeshing mixer ensures minimal and efficient mixing times. CO2 or nitrogen can be added for temperature purposes. With the preparation process done, it is possible to produce finished frozen burgers packed, and ready for dispatch.

Meatballs

When preparing poultry meat for meatball production, Marel's fully automated line is able to mix a meat mass uniformly to a required recipe, ideal for the best possible shaped meatballs. It is vital that each batch of meat has the right temperature and precisely the right fat content. Integrated online fat analysis simplifies measuring and ensures the best possible shape for optimal cooking with maximum yield. The square intermeshing mixers ensure

uniformity of the finished product. This technique makes for faster, easier absorption of seasoning and other additives. The reduced mixing time minimizes the risk of smearing. CO2 can be added.

Marel's poultry meatball production lines give optimum control of the finished product and full traceability through each individual part of the process.

"Properly prepared, the meat mass can result in an infinite number of tasty end products such as nuggets, meatballs and burgers."

Software - Central recipe management

A central recipe management system is available for all preparation lines. This ensures consistent, uniform meat mass quality to meet precise specifications.

Marel's online recipe monitoring software ensures that the correct raw material is added to the batch at the right time to obtain a uniform product with a perfect texture. The system can create, edit and store recipes centrally. If required, a recipe can be adjusted from batch to batch via the control panel. Even routings can be specified for individual batches, leading possibly to small adjustments to the line configuration to align end products to the market.

Recipe management makes the system reliable and no longer dependent on human input. It provides integrated traceability as well as a batch reporting system. The system gives a complete overview of individual machine status as well as operation of the full line. This includes fault and alarm handling.

marel.com/nugget-prep



Major Polish processor invests in convenience food systems

Marel re-equips SuperDrob Goleniów

Chicken meat lends itself particularly well to serving as a base for the ever-expanding range of tasty further processed, convenience food products, which are increasingly popular with today's time-poor consumers. Poland has developed into the European Union's leading supplier of raw poultry meat and it can come as no surprise that Polish processors are focusing increasingly on the production of top quality convenience food products.

"Our twin aims are to keep developing relationships with existing customers and to increase production so that we can enter new markets. To help us do this, we insist on investing in the latest and best technology available." These are the words of Rafał Samsel, Plant Director of SuperDrob Goleniów. In October of 2020, SuperDrob completed the convenience food installation at Goleniów of Marel's RevoCrumb, RevoPortioner, GoldFryer and MOS ModularOven. SuperDrob had already been using Marel equipment at their Lodz plant.

Expand and innovate

Rafał Samsel explains, "Our decision to invest in new technology was largely driven by our desire to expand and to innovate. We chose Marel because this company delivers equipment, which allows us to supply our customers with the top quality they have come to expect from us. We are delighted that Marel also shares our views on sustainability, which means reducing water and energy consumption."

MOS flexibility

"We are particularly impressed with the MOS oven, which in our opinion is one of the very best available on the market. We now are now able to set the dew point separately for each tower, which gives us optimum control over the heat treatment process. Product quality is now second to none," continues Rafał Samsel. He also has good words to say about the GoldFryer. "With its Teflon belt it has improved this stage of the process."

Consistently uniform products

SuperDrob also appreciates the consistent weight and uniformity of the products made on the RevoPortioner. Its low-pressure forming technique perfectly preserves the structure and texture of the raw material used. Changing products is a quick and simple matter of just changing drums. SuperDrob is using RevoCrumb to coat products with both standard crumb and cornflakes. "We particularly like the ability to control the distribution of crumb to the top and



bottom layers of our product. Crumb breakage is truly minimal and crumb adhesion is perfect."

"We will continue to grow, innovate and take up new challenges, values which we completely share with Marel."

Rafał Samsel, Plant Director of SuperDrob Goleniów

Plug and play

"Marel machines are straightforward to install and commission. The plug and play functionality speeds up setting them correctly. Their innovative features make

production easier. Last but not least, our operators find them easy to live with and really like them."

Met on time

Rafał Samsel looks back to installation and commissioning, "Both were done very efficiently and commissioning was on time. We really appreciate dealing with a large company, whose individual departments have knowledgeable specialists, who can deal quickly with any problems. The pandemic has really highlighted the advantages of Marel's experience."

"Our goals in making the investment have been completely met. We have been able to double production and our process is now much more efficient. We are more than happy with the top quality the new equipment is turning out. Looking to the future, we will continue to grow, innovate and take up new challenges, values which we completely share with Marel," concludes Mr. Samsel.

About SuperDrob

SuperDrob is one of the leading producers of poultry and ready-made dishes in Poland. Exports account for more than half of production, mainly to other EU countries but also to China and Japan. In 2018, the company began supplying is slow-growing "Kurczak Sielski" (Idyllic Chicken). 2020 saw the introduction of "FastGOOD", a new concept in convenience food. SuperDrob has been in business for 28 years. Today, the Capital Group employs about 2500 people. The company is owned by the Lipka family and the global agri-food company CP Foods from Thailand.

superdrob.pl



SuperDrob

Water shortage problem – even in the UK – solved by Marel

Cranswick relies on Marel's Water Treatment techniques



In many countries around the world both sustainability and the law require that every processing plant treats its own wastewater. Regulations on pollution forbid the discharge of wastewater into surface water. In ever more parts of the world, water is becoming scarce. For these reasons processors must know how to deal with the wastewater issue to ensure they can keep processing. Graeme Watson, Group Engineering Director, tells how Cranswick, UK handles it.

What were the main challenges for Cranswick's poultry processing plant regarding wastewater treatment?

"Our new plant is located in East Anglia, the driest area of the UK. Although Britain is renowned for its rain, we have a significant shortage of water in this area due to urbanization and climate change. For our water treatment process, we decided to push on with Marel because your company came out head and shoulders above any other solution we were looking at.

We had already teamed up with Marel on the poultry processing factory and it made perfect sense to link Marel Water Treatment to the whole chain. This cooperation has brought us very positive results."

How much water do you need?

"Today, we're operating at around 7 liters [1.8 gallons] water per bird, which is a very respectable figure. Marel's highly efficient poultry line certainly has a lot to do with this. However, we want to reduce water use still further, because 7 liters per bird doesn't solve our water shortage problem. The amount of water we had available was sufficient for the first phase of our processing plant, but we were significantly short for the second phase with its double shifts. Although we have our own borehole, the amount of pumped-up water allowed by the authorities, even together with tap water, is not enough, so we had no option but to recycle and reuse. Marel's BioBrane' concept turned out to be the ideal solution for situations where water is scarce and commercial water supply is an issue.

The initial design of the water treatment installation already assumed expansion. Civil infrastructures were prepared for it, lessening the effects of the transition to phase two."

Cranswick uses the Curieau system for water reuse. How much water are you reusing?

"In the second phase, about 50% of our wastewater has to be reused to make our water management process work. The Curieau system, however, succeeds in processing around 65% of our daily effluent flow."

"Marel came out head and shoulders above any other solution we were looking at."

Graeme Watson, Group Engineering Director Cranswick

The Curieau system generates a highly concentrated reject stream of inorganics. How do you deal with this reject stream?

"The reject stream is added to the effluent and then this dilutive inorganic fraction is mixed with rainwater before it's discharged into the river. This works even though we don't have a sewer connection for wastewater. We mix the non-treated parts of the BioBrane with the rejects and then discharge to the river system. In our case, even when there's no rainwater available, we're still meeting our discharge levels by mixing the rejects with the effluents."

"7 liters per bird is a very respectable figure and certainly has a lot to do with Marel's highly efficient poultry line."

Is potable water from the Curieau system going directly to production or are you storing it?

"The RO permeate" water is disinfected by the UV disinfection system and then added to the fresh water tank. That's how it is used. The fresh water tank is our main source of water supplied either by the water company or from the borehole. Different water sources are then mixed. Currently, about 50% is water from the Curieau system. If not, we would have a serious problem during working days. At weekends, when there's no slaughtering, the water storage can be built up. But as the week progresses, the water tank runs empty and water re-use is the only way to go."

¹ The BioBrane® reactor separates the biomass that comes from the aeration tank in clean water and biological sludge. The separation principle is based on a water-permeable membrane, where the biomass remains behind.

² The Curieau Reverse Osmosis (RO) system purifies water by use of a partially permeable membrane to remove ions, unwanted molecules and larger particles from water. Reverse osmosis can remove many types of dissolved and suspended chemical species as well as biological ones (principally bacteria) from water, and is used in both industrial processes and the production of potable water. The solute is retained on the pressurized side of the membrane and the pure solvent is allowed to pass to the other side.

³ RO permeate is water that makes it through the reverse osmosis membrane.

cranswick.plc.uk



CRANSWICK plc
Great British Taste



Chinese poultry industry on the road to recovery

Shandong Boda and Shandong Dehui both choose Marel lines

With the coronavirus situation in China gradually improving, the catering sector is beginning to recover. Chinese processors Shandong Boda Food Co and Shandong Dehui Food Co have a long-term strategic vision for taking full advantage of the opportunities newly created. In 2020 both companies reached agreement with Marel to expand their processing capacities to 2 x 12,500bph [208 bpm].

China's gradual recovery has been followed by a sharp increase in orders for processed meat products. Consumption patterns will gradually change from traditional to fast and convenient, from prioritizing quantity to prioritizing quality and healthy eating. The proportion of poultry consumed will therefore further increase.

Professionalizing

Shandong Boda and Shandong Dehui are two well-known companies with well-thought out plans for in-depth cooperation with Marel. They are both deeply committed to professionalizing their business and aim to substantially increase their production capacity.

Today, both projects are progressing efficiently. The production line at Shandong Dehui has been installed and was running smoothly for the Spring Festival of 2021. The production line at Shandong Boda will be installed soon. Shandong Boda and Shandong Dehui have put their full trust in Marel as the sole supplier of their processing plants.

About Shandong Boda

Shandong Boda Food Co., Ltd. is a poultry company founded in 2002. Its business covers feed processing and sales, broiler hatching, breeding, processing and sales. The company has several factories in Shandong. With the installation of Marel evisceration and automated giblet harvesting lines, the capacity of its single processing plant increased from 140,000 birds per day to 250,000 birds per day.

In its turn, Marel has invested in a professional Chinese service operation to effectively help customers improve their processes and increase their production capacity.

Nuova's evisceration performance

In both plants, the primary process, which features Marel automated evisceration and viscera handling lines, will run at a capacity of 13,500 bph [225 bpm]. The Nuova automatic evisceration system is tried and tested technology, used in the poultry industry for many years now and boasts an impressive installed base worldwide. It is well-known as being a unique, clean automated process which performs supremely efficiently. Top production capacity for lines equipped with automatic giblet harvesting is 15,000 broilers per hour [250 bpm], helping customers achieve maximum added value.

Gradual improvement

2021 is proving to be a year of gradual improvement for the meat processing market in China. With its years of experience in cutting-edge technology backed up by reliable service, Marel is a highly valued partner in the Chinese market. Marel is able to help every customer reduce costs, increase efficiency, seize opportunities and create new developments.

About Shandong Dehui

Shandong Dehui Food Co., Ltd. was formerly the state-owned enterprise China Resources Wufeng Meat Food Co., Ltd., which was founded in 2008. It is located in Rizhao City, Shandong Province, known as the "Hometown of Roses". In 2018, the company was transformed into a comprehensive enterprise integrating broiler breeding, slaughtering, processing, storage and sales. The company has an annual production capacity of 75,000 tons of processed broilers and produces 10,000 tons of cooked food. With the installation of Marel's automated production line, daily production capacity will increase to 135,000 broilers.



Insight goes digital

In light of Marel's sustainability goals, Insight Poultry Processing will go digital. We will send you, as our appreciate customer, the digital Insight automatically, provided we have your email address. We will contact you if your email address is not in our customer database and if you have expressed to appreciate receiving the digital Insight. Marel strives for less environmental footprint and in this way you can continue reading about all the interesting matters in your industry.



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