

Poultry portion cutting solutions

Portioning with highest precision and speed



- Optimized utilization of raw material with lowest give-away
- Accurate portioning with maximum yield
- System integration
- Intuitive software

Automation brings top speeds and impressive accuracy

Global demand for sliced, diced, split and portioned deboned breast and thigh meat is increasing all the while. To satisfy this demand, good portion cutting is all about automation, speed and precision. Marel portioning systems allow users to keep pace with the ever changing and ever more challenging demands.

For more than twenty years, Marel has been the leading innovator in automatic portioning equipment. With more than 2,200 machines installed worldwide, Marel systems can now claim to be the industry benchmark. Marel portioning equipment uses the very latest hardware and software technology. The result is superior accuracy, optimum raw material usage giving a very attractive return on investment.

Best raw material use

The very best use of the raw material means adding value not just to the main product but to the off-cut as well. Minimal giveaway means higher profits; automation means top productivity; full traceability means enhanced food safety.

Standard cutting patterns

The equipment's integrated software features a number of preprogrammed standard cutting patterns. Special cutting programs are also available, an example of which is "Cut 'n Batch". This sets a target weight for a whole batch rather than for individual pieces.

Hygiene

All Marel portioning solutions have been designed to meet the most stringent food safety regulations. Easy access for cleaning means that this job can be done quickly, thoroughly and efficiently, a top priority in today's high throughput, multi shift operations.

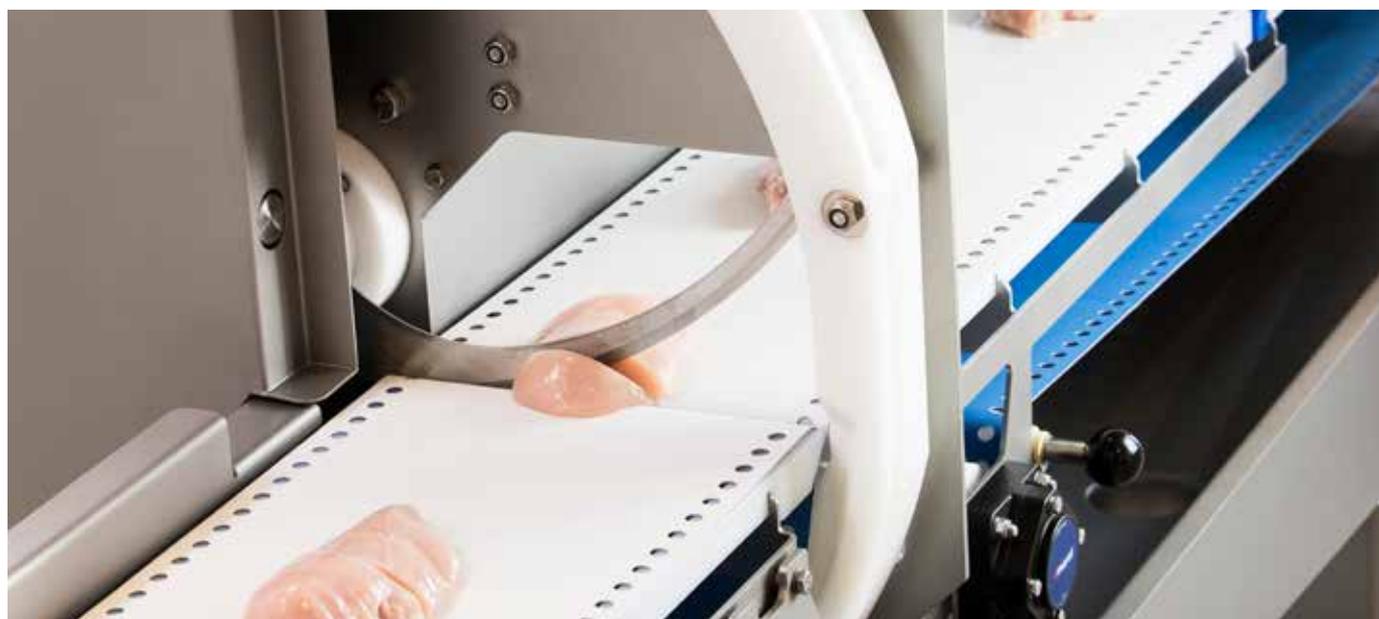
Marel's portioning solution scan also process duck and turkey meat.

Portion cutting

The I-Cut family includes single and dual lane portioners. This program enables Marel to find a solution to any portion cutting issue; this can be a single set-up or a custom-made configuration with multiple machines.

All portion cutters use the very latest laser vision system to scan the incoming raw material, a high resolution precision job. Advanced interactive software guarantees the very best results. Operation is via new generation touchscreens, which are easy and intuitive to use.

Single lane portion cutters



I-Cut 11 portion cutter

The Marel I-Cut 11 is robust, easy to use and is ideal for processors just starting up, for medium size operations and even for those large companies needing to make a niche product. It is particularly suited to those situations, catering, fast food and further processing, where the final product will be cooked, fried or breaded and where the actual cut will not be seen.

The I-Cut 11 offers straightforward basic cutting performance and will cut its infeed material into fixed weight, fixed length portions. Its limited number of standard cutting patterns, accurately executed, guarantees a job well done and an excellent return on investment.

- Precise operation ensures minimum giveaway
- Self-explanatory user interface
- Smallest footprint in the market
- Single 90 degree cutting angle
- Up to 480 cuts per minute



I-Cut 130 portion cutter

Whether cutting product for the supermarket, for restaurants or for fast food, I-Cut 130 is a flexible tool suitable for all needs and throughputs.

I-Cut 130 cuts fresh deboned poultry meat into fixed weight and/or fixed length portions. It offers a large number of innovative cutting patterns. These are displayed real-time, allowing users to change or adapt cutting programs during production. I-Cut 130 will also calculate the optimum cut in a given situation. Cutting and batching is made easy; high value cuts can be prioritized and orders controlled.

A combination of intelligent spacing between individual pieces or batches of product and automatic belt adjustment optimizes throughput levels. I-Cut 130 will usually be installed as an off-line machine fed manually by one or two operatives, but it can of course be part of an in-line portioning set-up.

- High yield and extreme precision
- Minimum waste means maximum profit
- Wide variety of innovative cutting patterns
- Swiveling 15 inch touch screen
- Adjustable cutting angle; 45, 55, 65 or 90 degrees
- Up to 1,000 cuts per minute

Examples of cuts

Input	500 g butterfly	200 g thigh with skin	230 g fillet	230 g fillet
Output	2 fillets to fixed weight range, 1 middle trim	Fixed-weight thigh piece and side trim	1 natural-looking fillet to fixed weight range and 1 nugget piece, knife angle 45°	1 natural-looking fillet to fixed weight range and 1 outside side trim (false tender), knife angle 45°

Examples of cuts

Input	45 g tender	45 g tender	230 g fillet	230 g fillet
Output	Split tender	Nuggets to fixed weight range	Strips of fillet	Split and diced fillet (2 runs)



Dual lane portion cutters

I-Cut 122 portion cutter

The I-Cut portion cutter takes portioning to a whole new level. It is ideal for a high speed in-line process and can be used to portion non-frozen deboned poultry breast and thigh meat into the widest possible range of small to medium sized fixed weight and/or uniform dimension products with minimum giveaway. These products will be suitable for supermarkets, the retail trade, restaurants, fast food outlets and for use in further processing.

The intuitive software program developed by Marel makes programming easy. To save time, menus for specific customers can be stored and retrieved when necessary. The I-Cut 122 can cut product to one of four cutting angles. After each change in angle, the system's software adapts automatically.

Apart from doubling potential capacity, dual lane infeed means that two different products can be made at the same time. The cutting pattern for each product can be seen clearly on the system's touchscreen and can be changed on the fly.

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TrimSort

I-Cut 122 with integrated TrimSort functionality is able to make separate streams of cut products and the trim cut from them. This further reduces giveaway with no need for human intervention. TrimSort allows for the distribution of many combinations of high-value cut products, by accurately splitting the product flow at the highest speeds to the two integrated belt pairs. The chosen program determines which cut parts stay on the upper conveyor and which parts land safely on the second internal conveyor. This lower outfeed belt will take these portions or trim to another process.

Sorting

SpeedSort

SpeedSort follows an I-Cut portioning machine, where it identifies and discharges offcuts. SpeedSort can also be used to sort larger from smaller portions produced on I-Cut equipment. It saves labor and pays for itself quickly.

SpeedSort consists of infeed and outfeed conveyors and a reject mechanism. The reject mechanism works so quickly that it can remove trim from both the front and back of the portioned product. SpeedSort is easy to clean.

SpeedSort is available for both single and dual lane applications and will handle all I-Cut throughputs. It can also follow SensorX and checkweighing equipment.

- Ultra high speed trim removal/product sorting
- Labor saving
- Excellent access for thorough cleaning
- Rapid return on investment

“The demand for sized products keeps growing every day. As broilers get heavier, fillets also increase in weight. So we need more cuts which are accurately calibrated and sorted. These jobs require completely reliable machines and that’s why we have chosen Marel equipment such as the I-Cut in combination with the SpeedSort and the TSM Template Slicing Machine.”

Werner Borgmeier, General Manager H. Borgmeier GmbH, Germany

Splitting, slicing, profiling, flattening

Marel markets automatic splitting, slicing, profiling and flattening machines. These can be installed either stand-alone or as part of an integrated portioning system.



TSM Profiler

The TSM (Template Slicing Machine) Profiler is an innovative and cost-efficient solution for producing identical portions for the food-service industry. This fast machine makes the best use of the incoming raw material to produce uniform, value-added portions.

The TSM uses templates to ensure that products are cut to the required shape. Templates are available for different shapes

and sizes of whole butterflies and half fillets. The machine can also be equipped with a rotating blade attachment to cut input material into equal width strips..

- Cuts products of uniform weight and shape
- Accurate performance means higher profits
- Saves labor

Platino Flattener

As poultry portions are getting bigger, due to larger growing birds, they sometimes need to be adapted to the required weight and size of the end product. Flattening is one of the methods that can be used.

While maintaining their integrity, moisture and taste, the portions can be flattened to create the ideal shape and weight for end product purposes, such as schnitzels. Marel's method puts less pressure on the poultry by massaging it over a shorter period of time than other flattening equipment. This results in a high-quality bite, texture and taste.

- Unique technique flattens poultry meat to even thickness
- Ensures high-quality product appearance
- Powerful performance at high speed



StripCutter/Splitter

StripCutter/Splitter, a compact machine, cuts deboned breast or thigh meat into fixed-width portions at high speed. These can be strips, splits, steaks or dices. Multiple products can be cut using the same StripCutter/Splitter configuration.

The StripCutter/Splitter can be supplied with cutting blades at fixed or adjustable widths, giving processors more flexibility. This cutter/splitter system can also be used to remove the keelbone from butterfly portions and to split large tenders from heavier products into two equal portions.

- Versatile portioning machine for many applications
- Superb cutting quality
- High throughput
- Rapid return on investment



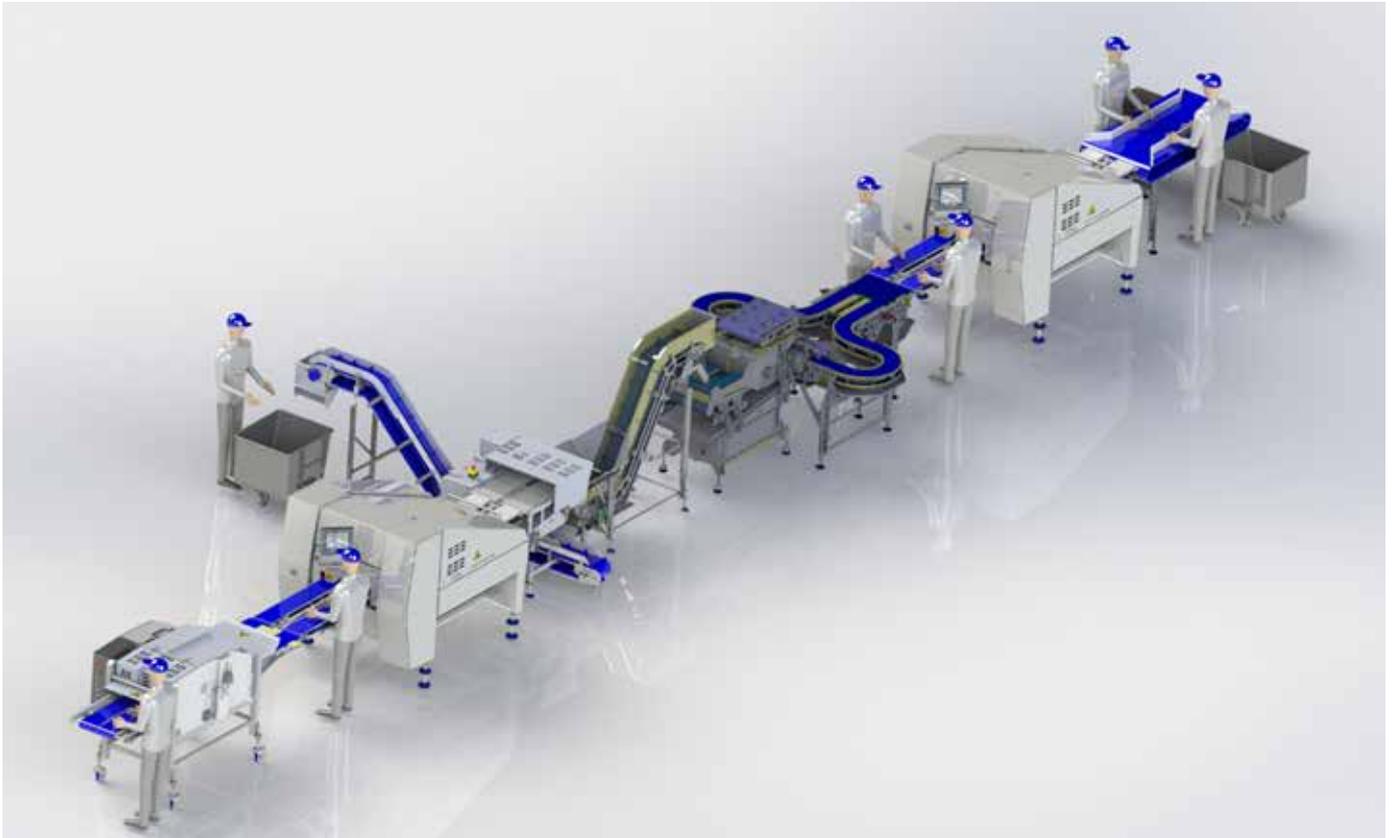
SmartSplitter

SmartSplitter slices poultry fillets horizontally into portions of uniform thickness. Both single and dual lanes versions are available for both breast fillets and whole butterflied. The dual lane version can handle up to 150 butterflied per minute.

The product infeed belt can be easily adjusted upwards or downwards to give the required thickness. SmartSplitter works extremely accurately; the dual lane execution can operate with different height settings on each lane.

- Produces uniform thickness products
- High throughput with accurate cutting quality
- Easy to operate with low maintenance cost
- Small footprint

Integrated solutions



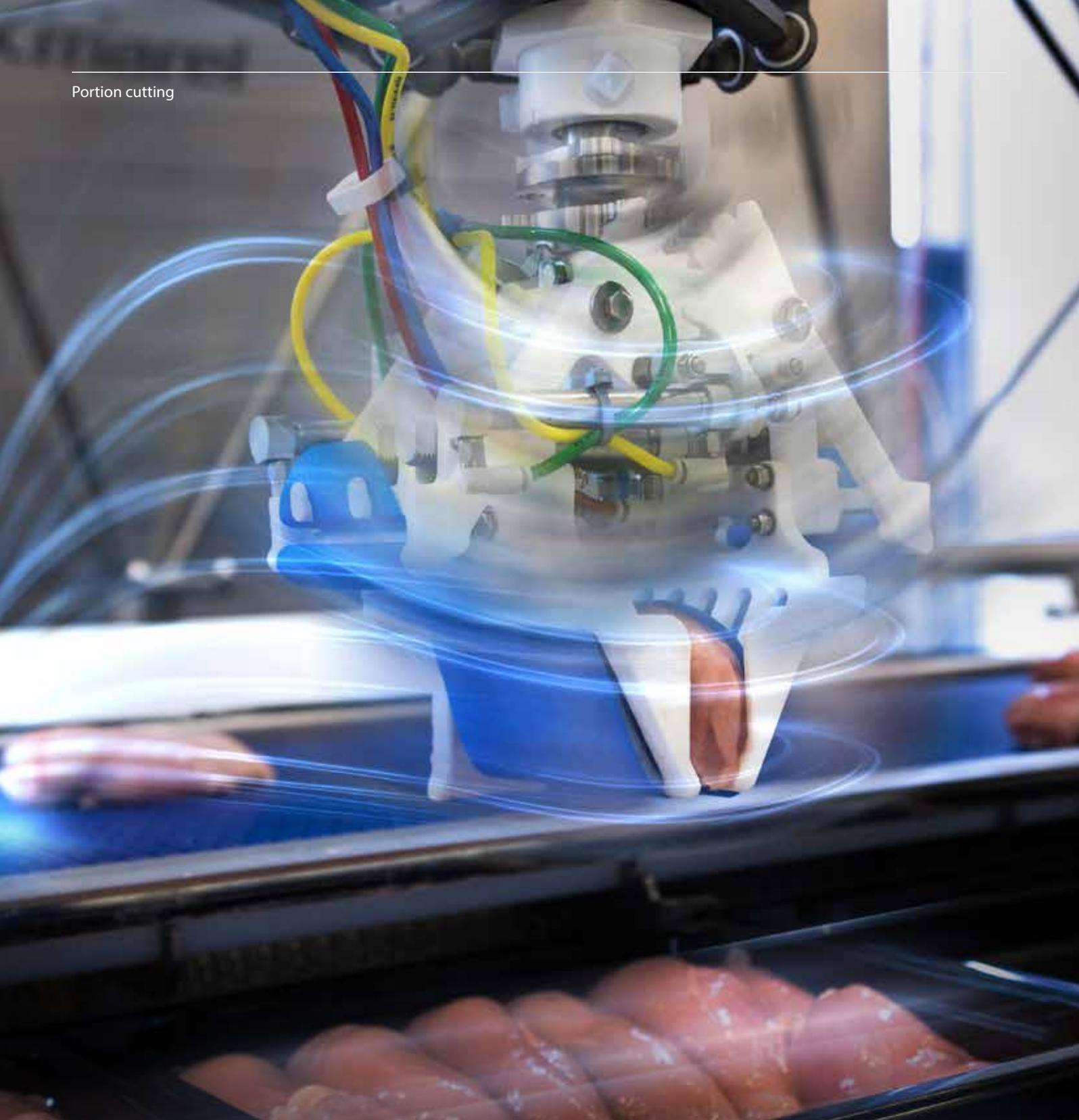
Automated nugget line

A cut above

The demand for cubed products such as nuggets in the USA is truly enormous and has driven Marel to develop its high speed automated cubing line. This line is suitable for both water and air chilled product.

The dual lane I-Cut 122, which combines high levels of accuracy and minimal giveaway with high throughput and impressive reliability, is at the heart of the new system, which consists of two I-Cut 122 machines, a SingleFeed StripPositioner and SpeedSort. Input material which can be deboned breast or thigh meat is cut into one fillet and several equal width strips in the first dual lane I-Cut 122 machine. The fillets are discharged separately by SpeedSort. These strips are then automatically singulated, turned through 90 degrees and correctly orientated before entering the second I-Cut machine. The result is uniform cubes of breast or thigh meat cut to fixed weight and dimensions.





Intelligent fixed-weight portioning and batching

Robot with a Knife

Robot with a Knife is an innovative combination of two Marel technologies, RoboBatcher and I-Cut, bringing together the high speed, superbly precise performance of I-Cut and the ability of RoboBatcher Flex to batch both extremely quickly and extremely accurately.

By linking the two technologies, I-Cut 122, the Knife, receives its instructions on how to cut each fillet from RoboBatcher, the Robot. As each fillet enters the I-Cut 122, it is scanned and its weight

assessed. This information is passed to RoboBatcher which will then decide whether the fillet can pass directly into one of its recipes or whether it needs to be trimmed to fit.

This technique makes the very best use of incoming fillet, at the same time keeping give-away to an absolute minimum. Not all fillets will need to be trimmed. The technique is also particularly suited to the challenge, faced by today's processors, of accommodating breast fillet from ever heavier birds into the lighter fixed weight retail packs demanded by the consumer.

Innova Food Processing Software



Innova food processing software monitors production real time, presenting its information on easy-to-read dashboards. It is a valuable management tool, giving detailed minute by minute analysis and allowing management to take in good time any action necessary to keep overall production performance at optimum levels.

Most of the portioning machines include elaborate integrated software and touchscreen control, making programming easy, even when operating stand-alone. On top of that, Innova software modules can be added to the stand-alone portion cutter or the machine can be integrated with other Marel processing equipment across a full-line solution. Modules such as Innova Order Manager and Innova Traceability offer central control of production, leading to optimized processing and complete traceability.

- Remote control of portion cutters
- Real-time monitoring for quick remedial action and a reduction in giveaway
- Fully comprehensive reports for accurate historical analysis of both raw material and results
- Full traceability
- Simple, quick and cost-effective implementation

Yield and throughput

Innova helps poultry processors maximize yields and throughputs, meet quality standards and safeguard food hygiene. Innova's powerful food processing software is a unique management tool which monitors key performance indicators such as yield, throughput, capacity and the efficient use of labor.

Innova and portioning

Innova food processing software gets the very best out of portioning equipment. Its integral traceability engine means that every portion can be traced back to its source. Its easy-to-use software allows cutting programs to be set up and changed remotely. Cutting programs can be shared between two or more portion cutters.

To ensure top portioning performance, Innova provides a complete overview of all aspects of the portion cutting process and its results. Its graphical user interface lets the user see what is running on the equipment, allowing him to change both programs and products. It also generates reports on critical factors such as throughput, giveaway and overall efficiency.

Innova is not just about analyzing and controlling the portioning line. By ensuring communication between individual machines, it allows different systems to be integrated into a single process.



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