

# FRONTMATEC

Cutting and Deboning  
of **pork, beef and lamb**





With our 1400 employees, a global production footprint and presence in 10 countries we utilize our knowledge for local market requirements and preferences to develop the best solution for our customers.



## When investing in a Frontmatec solution, you don't just buy features, **you buy benefits** such as high production performance, **low downtime and peace of mind**

At Frontmatec we are renowned for our high-quality systems for the entire value chain of the meat industry – from carcass grading, slaughter lines, cutting and deboning lines, hygiene systems and control systems, to logistics and packaging.

We are the highly experienced partner that customers count on for every step of the journey – from the initial design phase to the after sales service. We are capable of handling complete green field projects, from initial concepts, design, manufacturing and pre-assembly to completion and installation.

# Primal cutting lines for pork

Frontmatec offers a wide range of solutions for manual and semi-automatic cutting of pork incl. sows. All cuts performed by circular knives result in clean cuts. No bone fragments from cutting and achieving optimum yield without product loss. Laser marking lines optimise and secure correct cutting of primals.



Photo 1



Photo 2



Photo 3

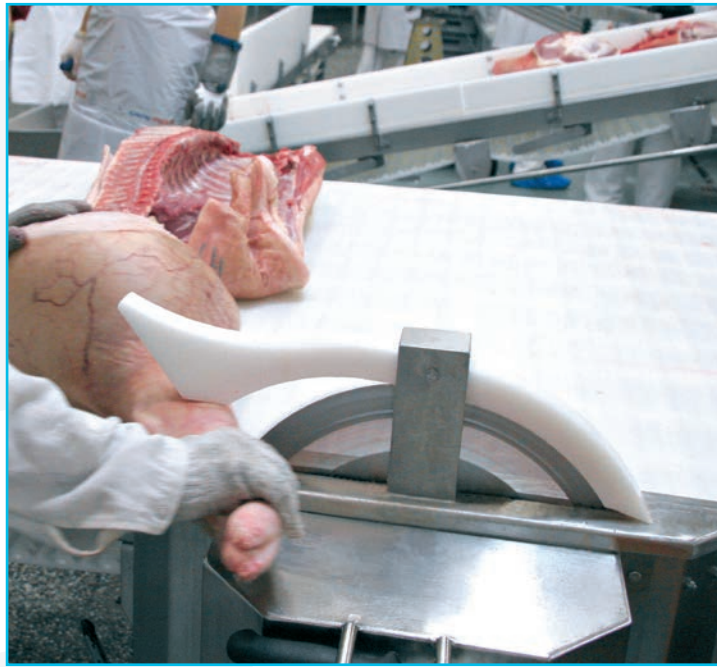


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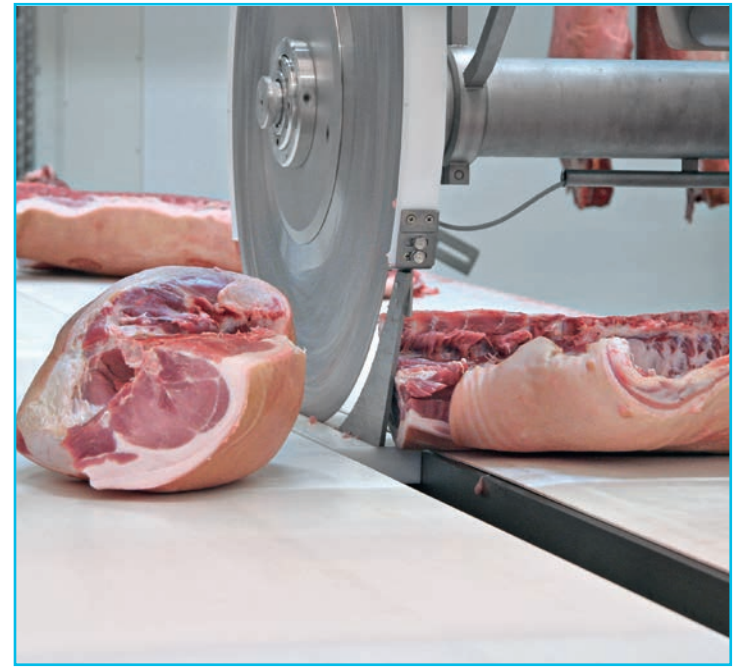


Photo 5



Photo 6



Photo 7

# Fully automated cutting of pork

With focus on automation, labour and energy costs, as well as hygienic design, control systems and traceability. Frontmatec offer equipment with increased up-time and improved yield. Our fully automatic cutting line for pork is based on servo-electric and mechanical principle. The line automatically cuts the carcass into four parts: hind feet, leg, middle and shoulder. The automatic measuring system measures each carcass, thus ensuring optimum registration, maximum yield and labour savings.

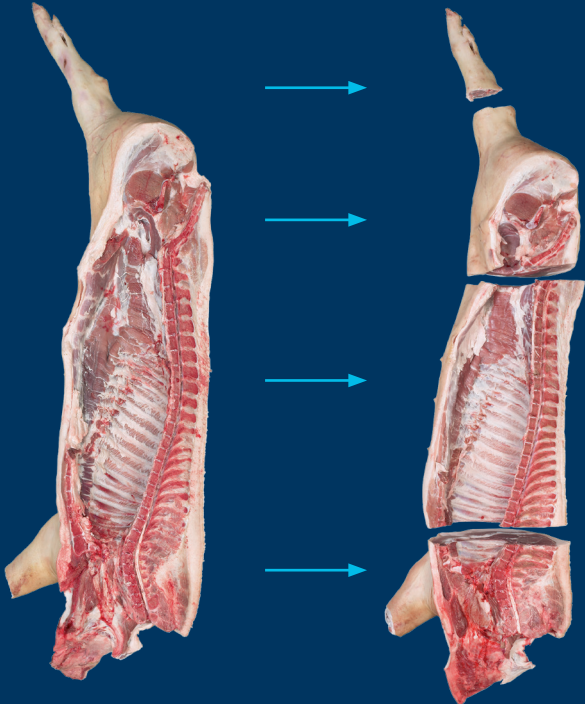


Photo 8



Photo 9



Photo 10

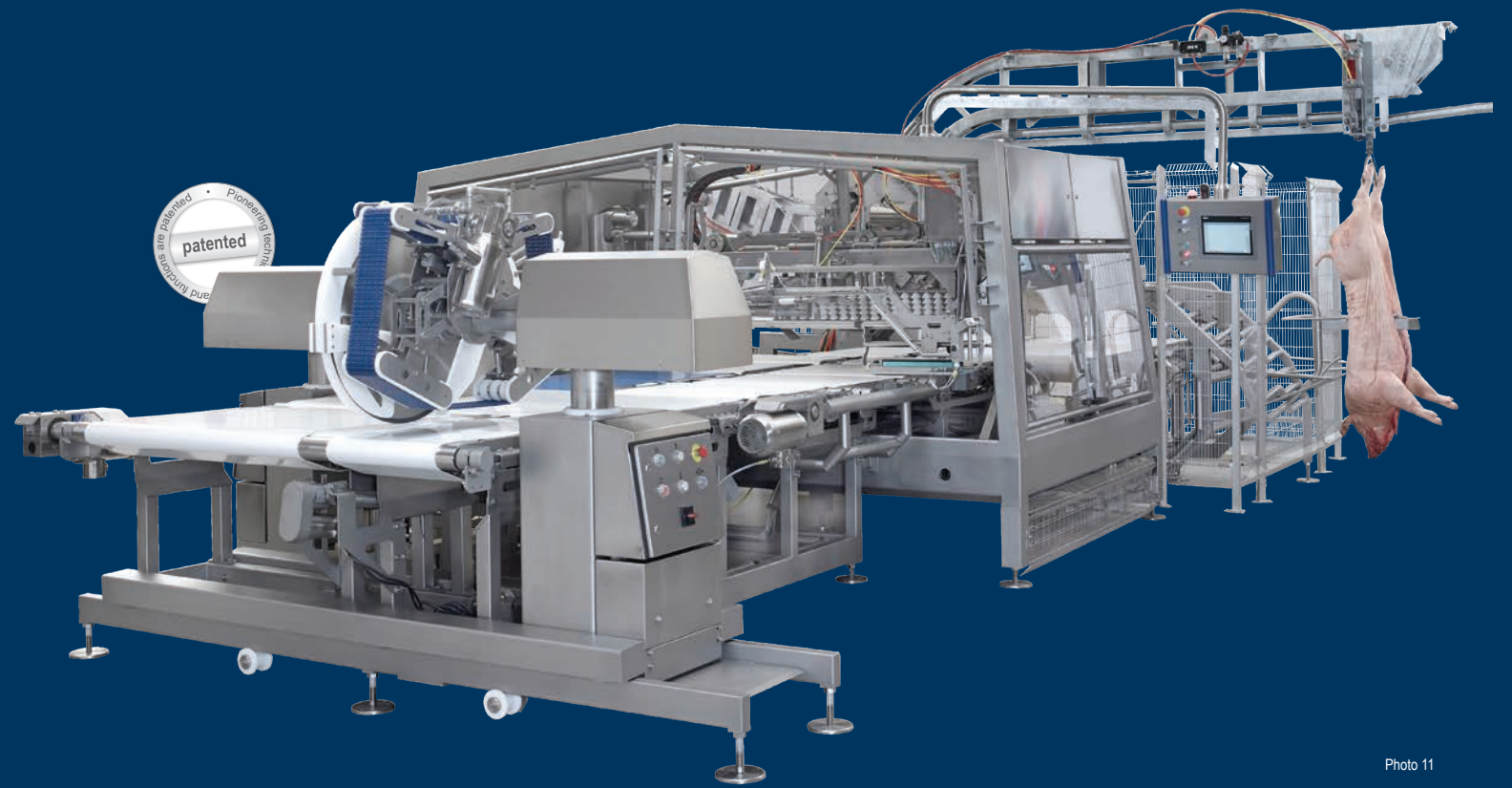


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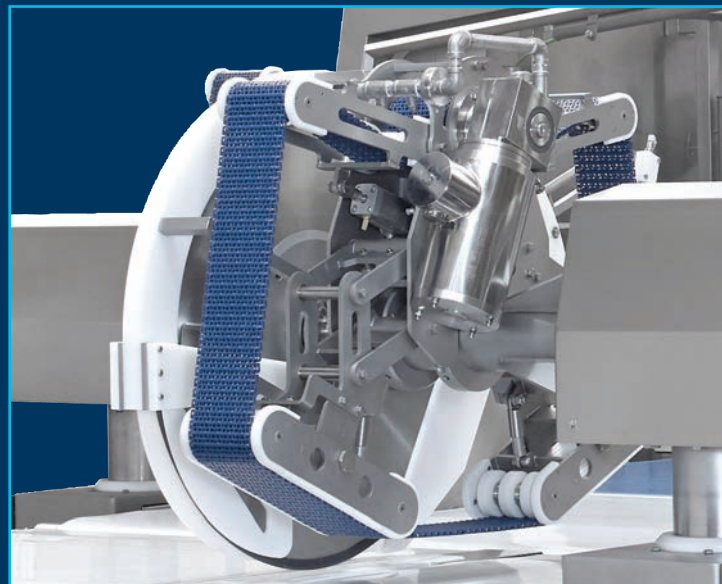


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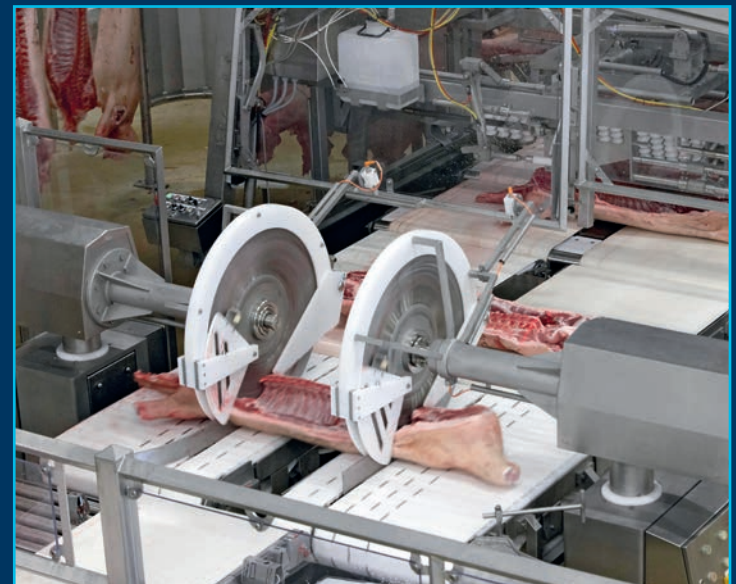


Photo 13

# Fully automated cutting line for pork middles

A fully automated cutting line for pork middles based on optical, servo-electric principles. Receiving the middles from a primal cutting line or a conveyor system with the neck end first, the middle is received into a gripping chain. After individual measuring of each middle, the loin and belly are separated with a circular knife. An undercutting knife can be added to separate meat from ribs.

The ribs are divided with the circular knife to split loin and belly. Deboning of the loin is done by up to four fixed knives. Loin ribs and feather bones are cut off the rib top. The subsequent rib top knife is used according to needs to cut off the rib top or to cut off the string of pearls. All cuts, bones and meat are automatically transported out of the machine. Each customer can set up a specific recipe for the cuts needed on their production line.



Photo 14



Photo 15



Photo 16



Photo 17





Photo 18



Photo 19



Photo 20



Photo 21



Photo 22

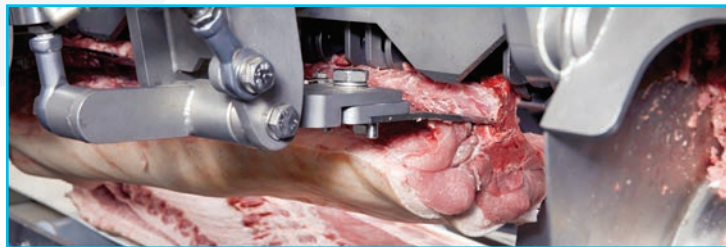


Photo 23



Photo 24



Photo 25

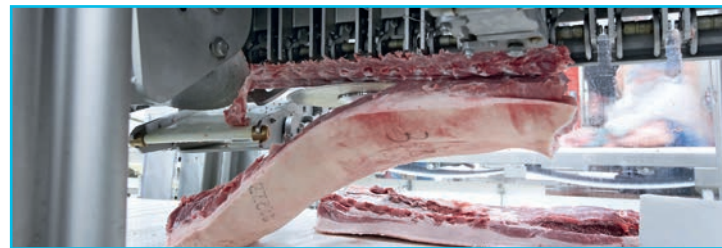


Photo 26

# Chine bone remover

The automatic chine bone remover is designed for the full automatic removal of the chine bone/pearl string from pork middles/loins. It provides optimal uniform products, extra yield and large savings on labor.

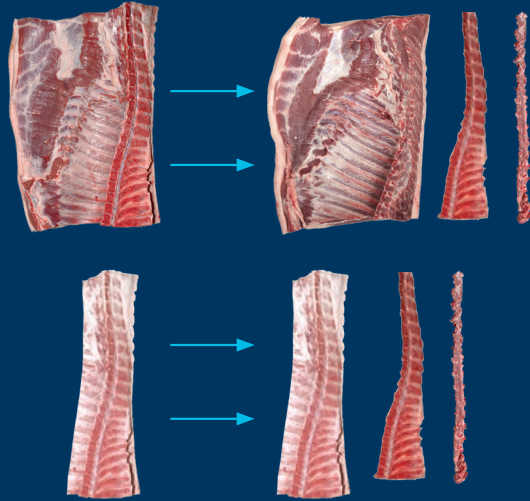


Photo 28



Photo 27



Photo 29

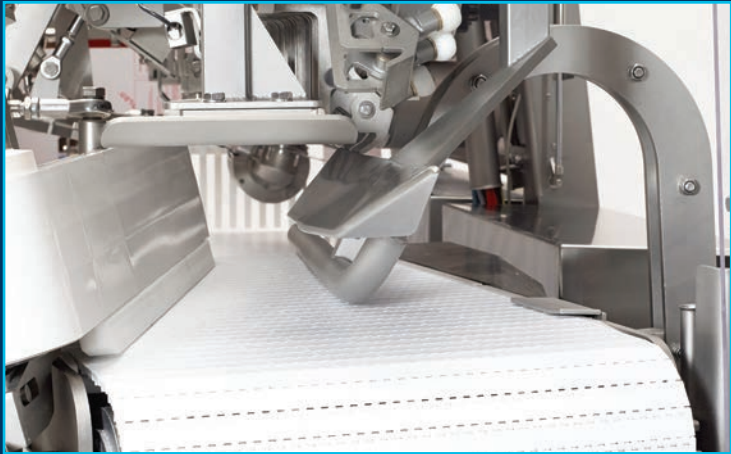


Photo 30



Photo 31



Photo 32

## Loin scorer

Automatic loin scorer for deboned and non-deboned pork loins. The machines scores the product with adjustable depths and widths. The rotating knife principle gives the product uniquely uniform and correct scoring.



Photo 33



Photo 34

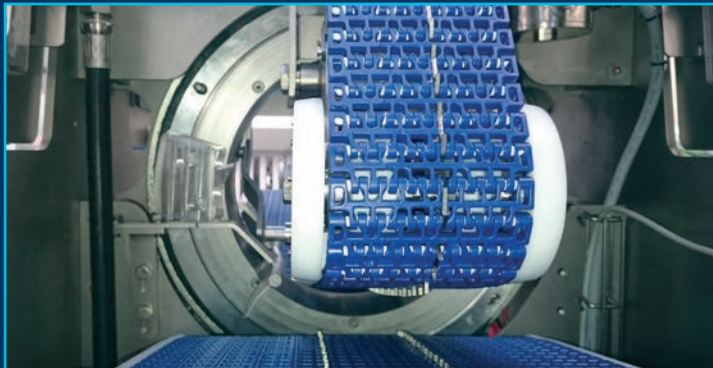


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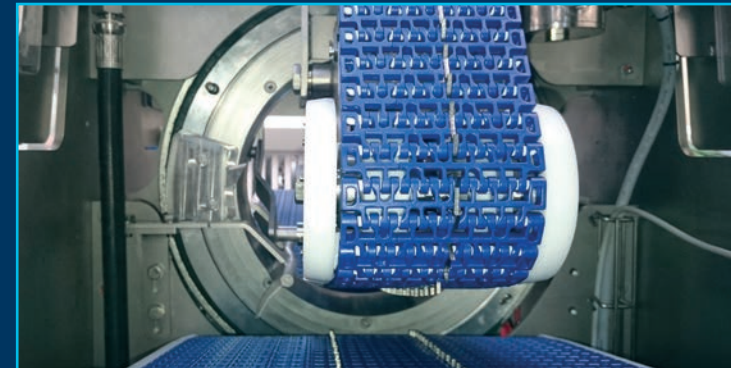


Photo 36

# Automated middle splitter

The automatic middle splitter is designed for the automatic cutting of loin/belly from pork middles. The cutting angle is adjustable on the display terminal. Providing optimal uniform products, extra yield and large savings on labor.

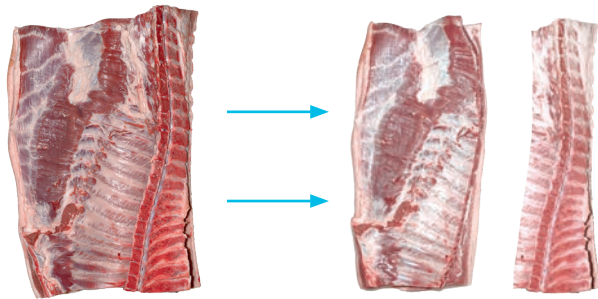


Photo 38



Photo 40

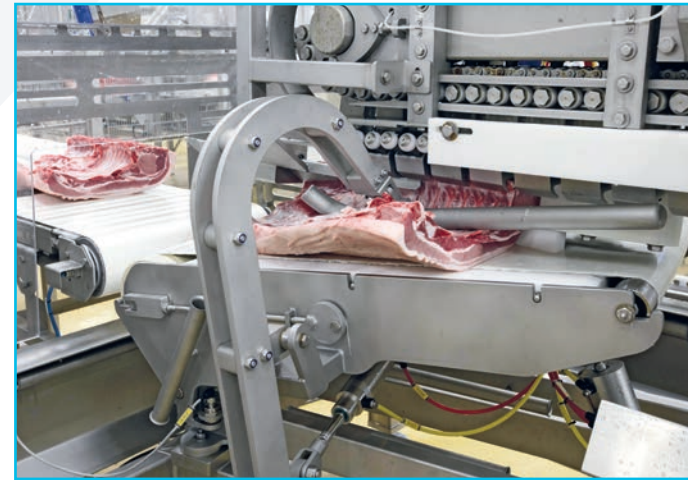


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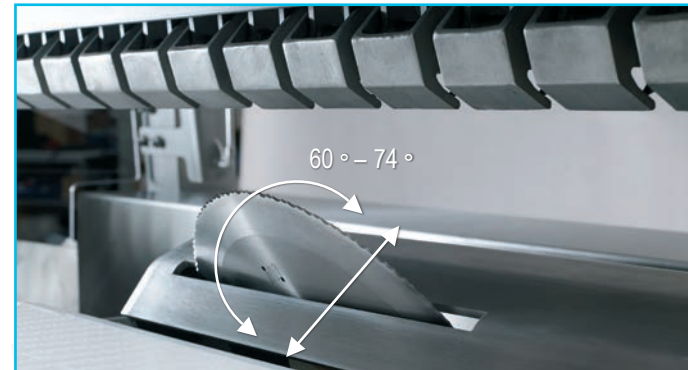


Photo 39



Photo 41



Photo 42

## Belly classification

The belly classification unit is designed to sort pork bellies, bone in or boneless, by specific measurement criteria. The unit can easily be integrated within a cutting system or a belly trimming line.



Photo 43

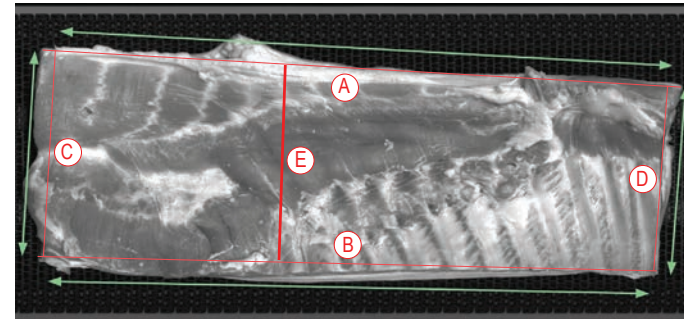


Photo 44



Photo 46



Photo 45



Photo 47

# Automated loin trimmer

The Frontmatec loin trimmer offering trimming of different pork loin or back products, using the same machine, but equipped with different cutting knives and pressure wheels. The loin or back is fully automatically trimmed, based on an optical probe principle. The loin trimmer divides the loin or back into backfat, rind and the finished product. The trimming line provides both better yield and labour savings.

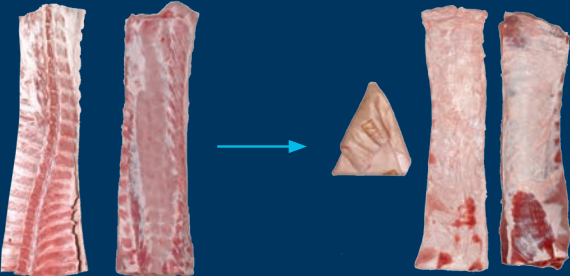


Photo 49



Photo 48



Photo 50



Photo 51

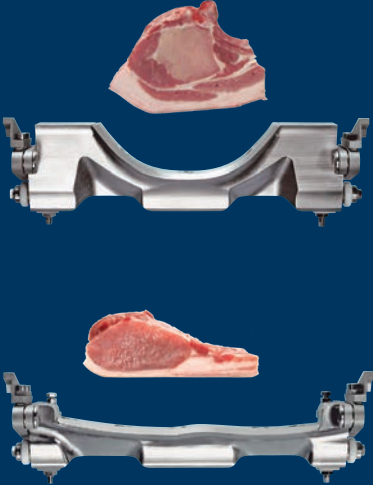


Photo 52

Photo 53

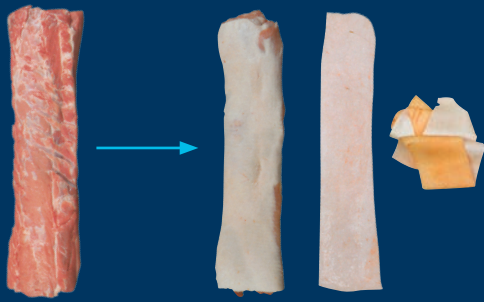


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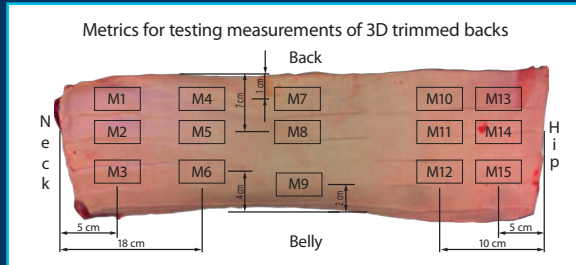


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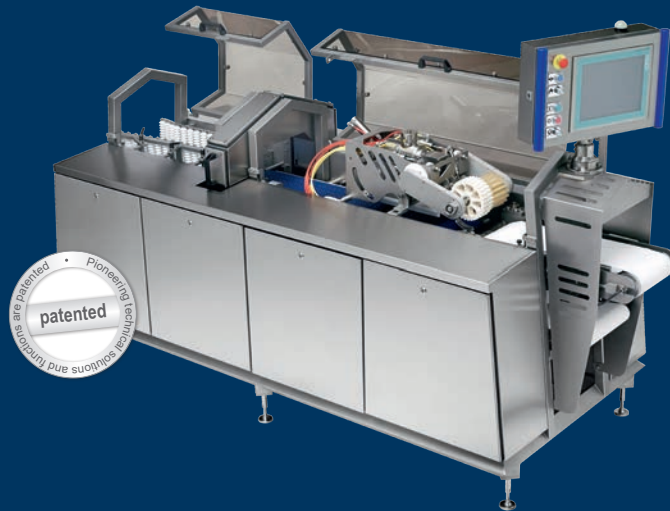


Photo 56

# Automated 3D trimming

A one-of-a-kind fully automatic 3D loin/back trimming line based on transducer, vision, servo-electric and mechanical principles. The Frontmatic 3D trimmer offers trimming of boneless loins and backs, into backfat, rind and the finished product. The trimming is performed after individual measuring of each pork loin or back and trimmed with an 8-fold fully flexible servo-controlled knife set, which offers maximum product yield, labour savings, and reduces the after trimming up to 75%.



Photo 57



Photo 58



Photo 59

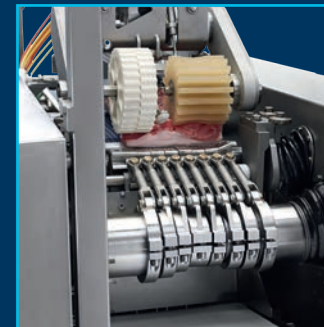


Photo 60



Photo 61

# Chine bone saw

The robotic chine bone saw combines vision and robotic technologies for a high precision sawing of the chine bone at high capacities. The robot handles both left and right middles and the HMI allows for easy set-up of different machine parameters including specific recipes.



Photo 62



Photo 64



Photo 63



Photo 65



# Single rib puller



Photo 66

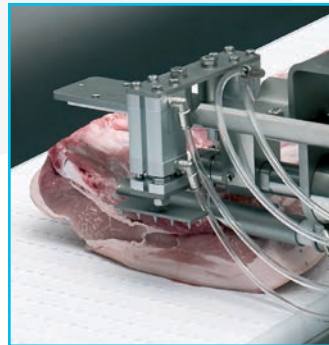


Photo 67



Photo 68

In cooperation with the DMRI, Frontmatec has developed an automatic, robotic solution for the pulling of pork single ribs. By using X-ray for detection of the ribs on each individual belly, and sending the information to the PLC, the robot can individually remove up to 12 ribs per belly. This complete unit can be integrated in existing deboning lines. The automatic line is modular build and can be customized according to specific requirements.



Photo 69

# Hanging deboning of pork legs or shoulders

Frontmtec offers a completely new method for deboning of pork legs and shoulders. With a modular built hanging deboning line, it is possible to have a line, that will increase yield as well as the quality of your products and reduce labour. Utilizing gravity with the hanging of the products we create an optimal and easy ergonomic deboning process. The modular built line is flexible with 1 to 3 working stations per process being added according to customer requirements.



Photo 70



Photo 71



Photo 72

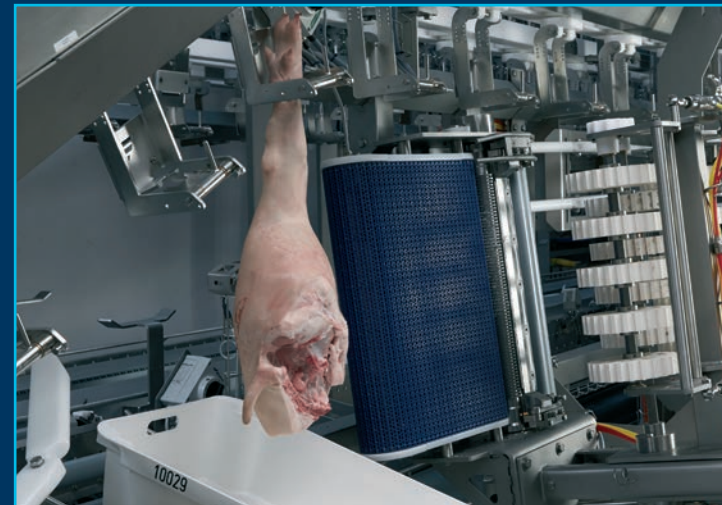


Photo 73



Photo 74



Photo 75

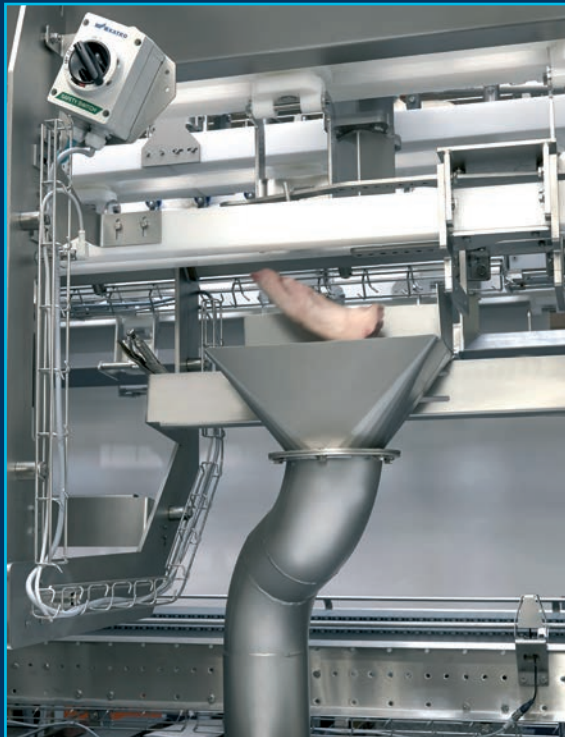


Photo 76



Photo 77

# Deboning and trimming lines for primal cuts from pork

The deboning lines are individually designed for deboning and trimming the various primal cuts from pig and sow carcasses. Labour requirements and integration of machines are adjusted to match the operating principle of the line. Work stations are designed for correct ergonomic performance.



Photo 78



Photo 79



Photo 80



Photo 81



Photo 82



Photo 83



Photo 84



Photo 85

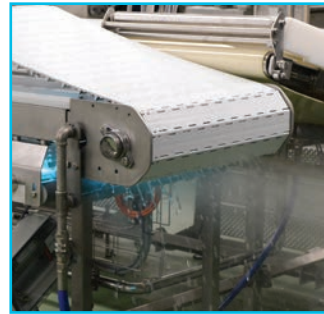


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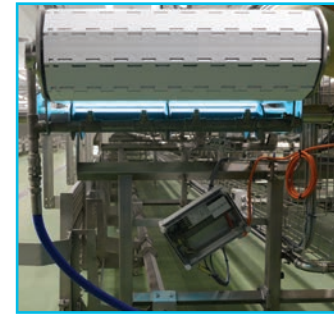


Photo 87



Photo 88



Photo 89



Photo 90



Photo 91

# Trim sorting line

The Frontmatec trim sorting line is specially designed to meet the high requirements for a complete controlled management of trimmings from pork, beef and lamb, in an automatic workflow with fat analyses and detection for foreign objects.



Photo 92

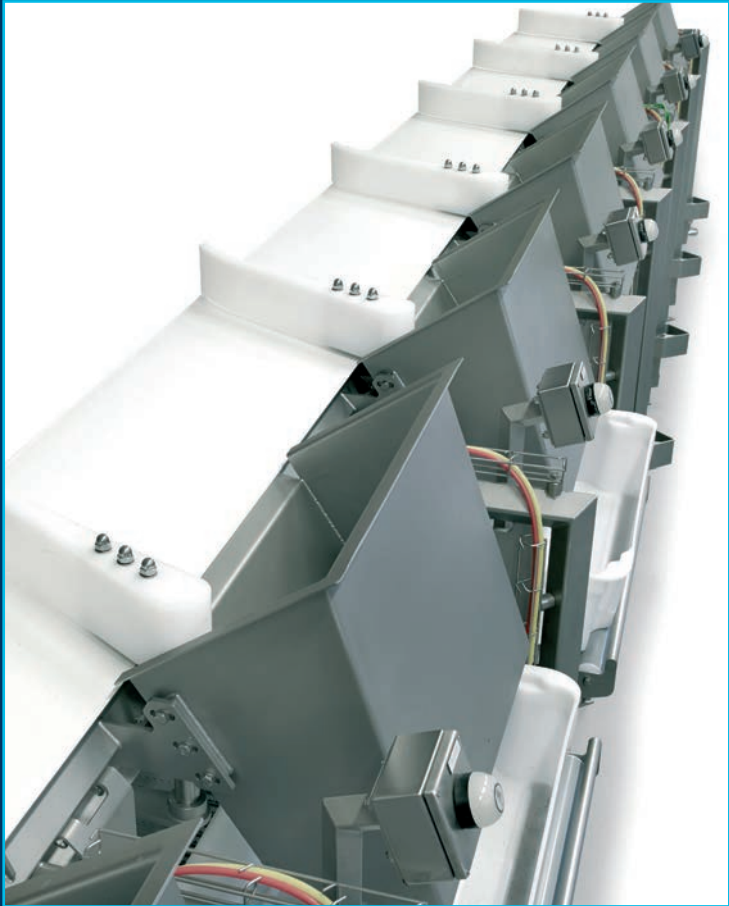
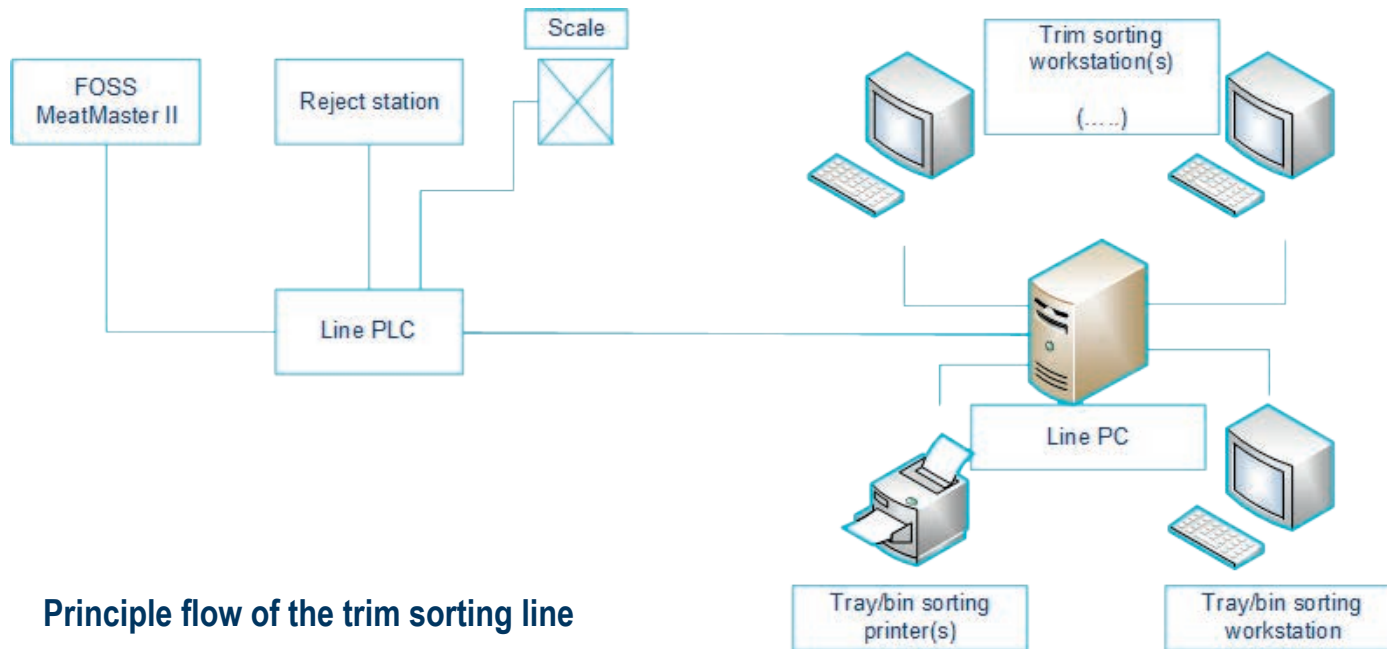
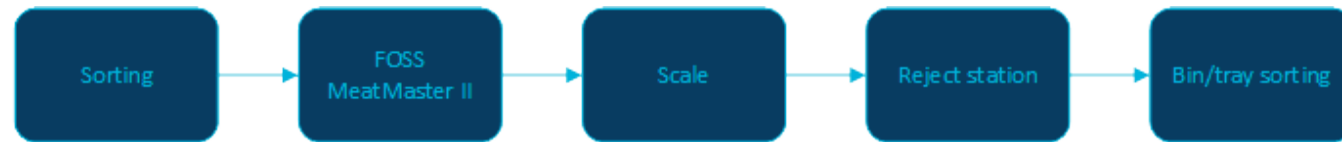


Photo 93



Photo 94



Principle flow of the trim sorting line

Photo 95



Photo 96



Photo 97

# It is all about data

Control of the process is vital throughout the meat industry to reduce loss and achieve full control over raw material. GOSystems collects valuable data into one system, which can be effectively used to make decisions regarding the raw material in production planning, chill room allocations, deboning lines, finished goods warehousing or high runner sales demands.

On reception into the system, supplies are checked for quality and identified according to certain criteria, on which decisions are based at later stages of processing. Information such as animal ID, fat thickness, age, breed, pH value and so on comes from various systems such as AutoFom III™, Fat-O-Meter™ and ear tag. Typical data collection points on the slaughter line are:

- Reception of animals: PO handling and individual registration
- Validation (shoot box): Validation of actual animal registration
- Tag-link sequencing: Linking animal to a unique hook id
- Hide registration: Registration and printing of label to hide
- Inspection: Veterinarian sickness and final quality checks
- Rework: Work carried out based on veterinarian checks
- Classification: Assign classification codes/sort groups
- Settlement: PO usage, register weight based on defined rules

## Benefits

- Full animal traceability
- Instantaneous reports on input by yield group, grade and breed
- Simple data collection to ensure fast reception of animals
- Monitors supplies for product quality and supply accuracy



Photo 98



Photo 99





Photo 100

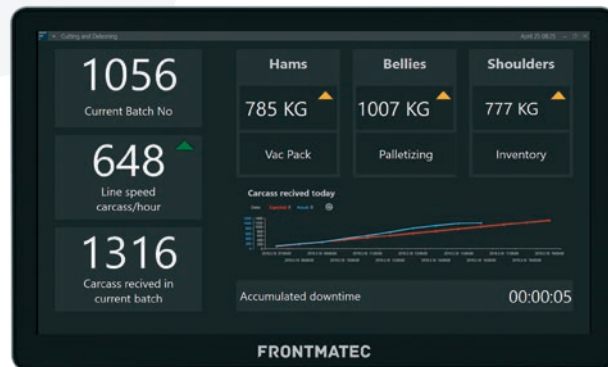


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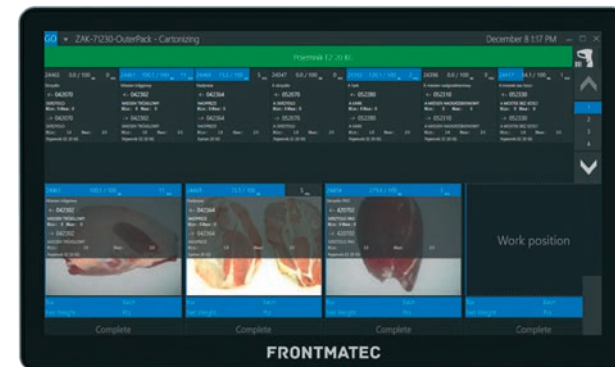


Photo 102

# Beef precutting, splitting and deboning

Hanging precutting and primal cutting of beef quarters, for subsequent integration into deboning systems. Vertical precutting and deboning systems for beef quarters. An ergonomic working height as well as holding devices and pulling systems for deboning, secure optimum working conditions and yield.



Photo 103



Photo 104



Photo 105



Photo 106



Photo 107



Photo 108



Photo 110



Photo 109



Photo 111



Photo 112



Photo 113

# Deboning and trimming systems for beef

Deboning and trimming systems for beef carcasses arranged as a production line or group workstations with typically 3 to 9 persons per group. The systems are available with traceability to the individual animal or batch, as required. Yield control is integrated by means of entry and exit weighing of main and by-products.



Photo 115



Photo 116



Photo 117



Photo 114



Photo 118



Photo 119



Photo 121



Photo 120



Photo 122

# Lamb horizontal and vertical primal cutting

Frontmtec offers manual, semi-automatic and fully-automatic primal cutting machines for lamb. All cuts are performed by circular knives, resulting in clean cuts, no bone dust from cutting and optimum yield without product loss. Laser marking lines/cutting lines optimise and secure correct cutting of primal cuts.



Photo 123



Photo 124

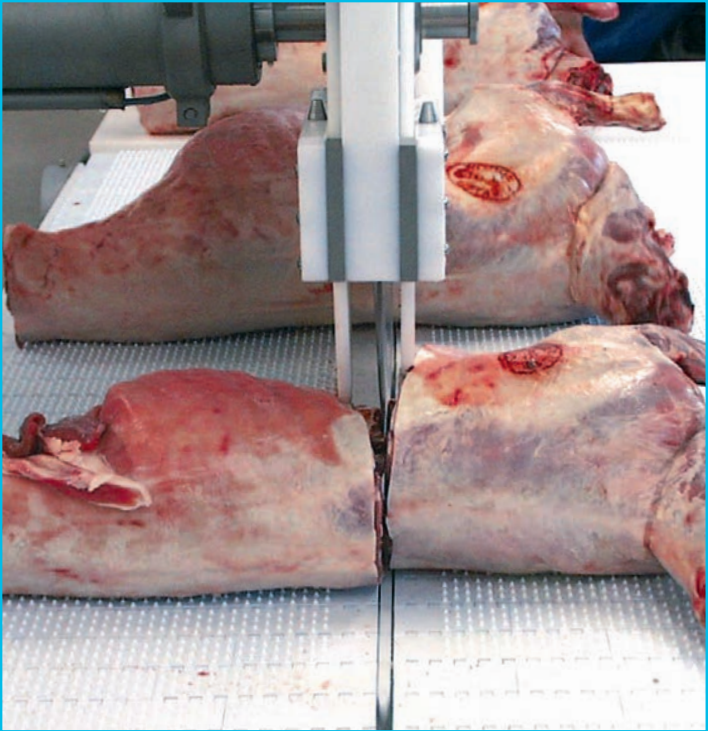


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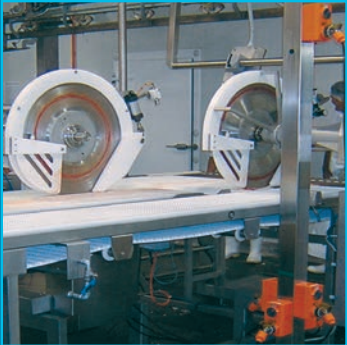


Photo 125



Photo 126



Photo 128



Photo 129



Photo 130



Photo 131

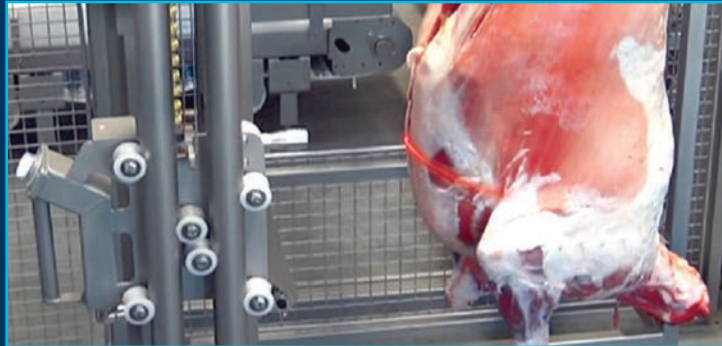


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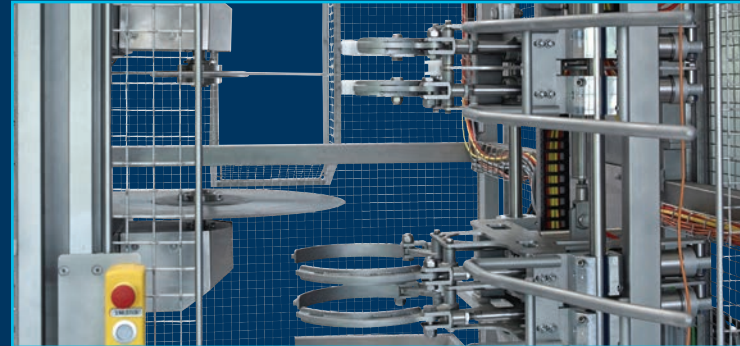


Photo 133



Photo 134

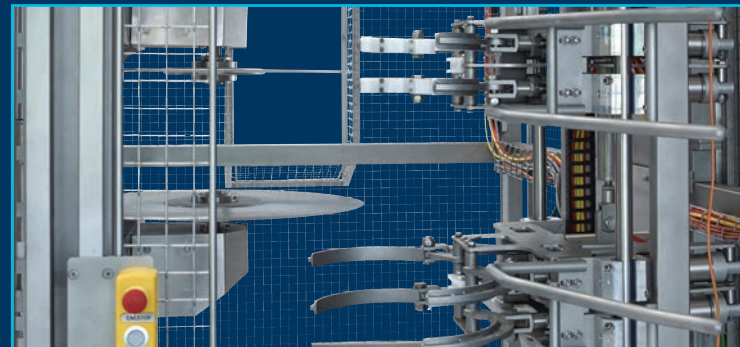


Photo 135

# Automated machines for lamb processing

Frontmatic offers several automatic solution for different lamb cuts. The automatic shoulder machine processes lamb shoulders. The machine automatically cuts off the two fore shanks and the neck and then splits the shoulder into two. All cuts are optimally performed by circular knives. The automatic cutting machine processes lamb middles. The machine cuts off the two flaps and the loin, and then cuts out the spine and divides the two racks.



Photo 136

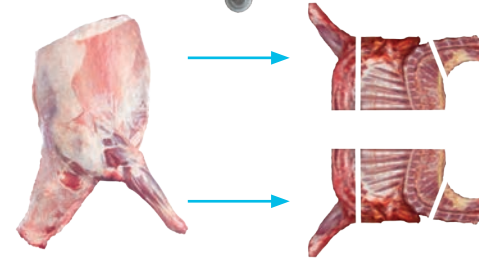


Photo 137

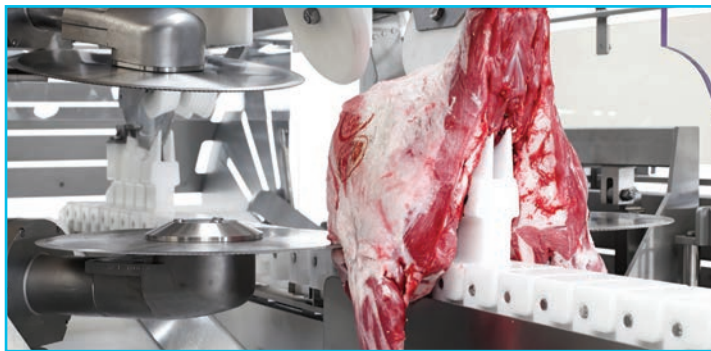


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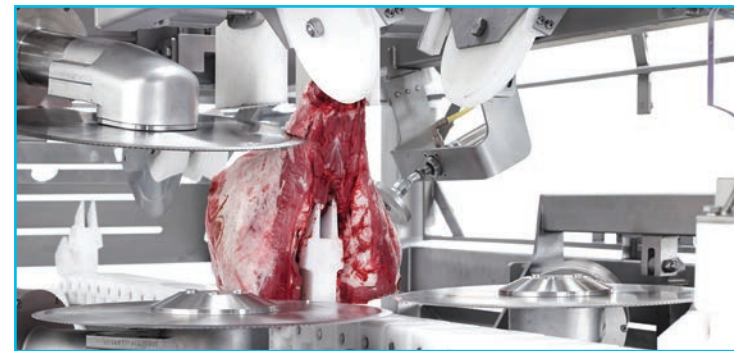


Photo 139



Photo 140

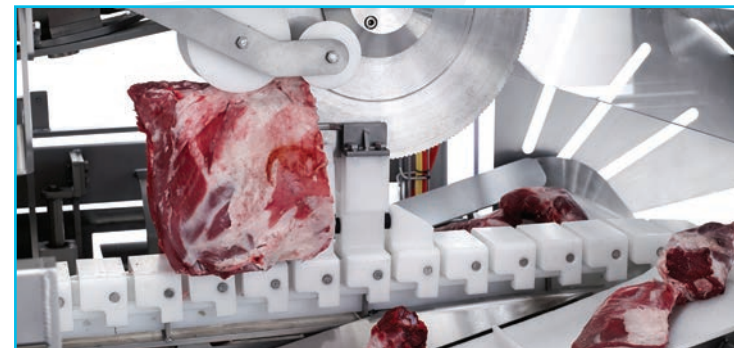


Photo 141





Photo 142



Photo 143



Photo 144

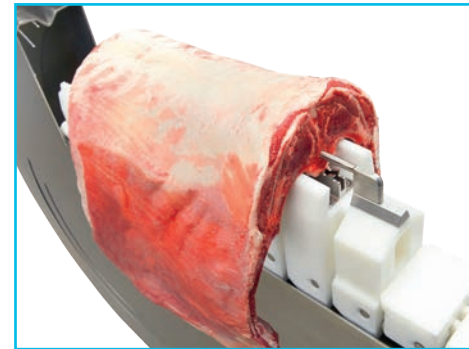


Photo 145



Photo 146



Photo 147

# Tailor-made service for a better return on investment

Regular service and maintenance of your production line and equipment will give you a better return on your investment by lowering spare part consumption, ensuring high performance with reduced downtime, and lowering unexpected costs. We offer many onsite services including service on demand, scheduled service and service contracts. Our service contracts are tailor-made according to your specific needs and provide faster service, fixed rates building on a long term relationship.

With a service contract we will optimize your production by solving issues even before they appear and we provide 24/7 support, help desk, online support and remote monitoring.

Our Service Technicians are highly experienced and trained to provide quality service anywhere in the world. Local teams allow us to respond quickly for all on-site services and repairs. If you wish to perform maintenance yourself, we offer service kit rentals for our automated machines and robots containing spare parts and these are always in stock.



Photo 148



Photo 149



Photo 150

# FRONTMATEC

Frontmatec develops world-leading customized solutions for automation in the food industry, other hygiene sensitive industries and the utilities industry. We are especially renowned for our high-quality systems for the entire value chain of the meat industry – from carcass grading, slaughter lines, cutting and deboning lines, hygiene systems and control systems, to logistics and packaging.

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