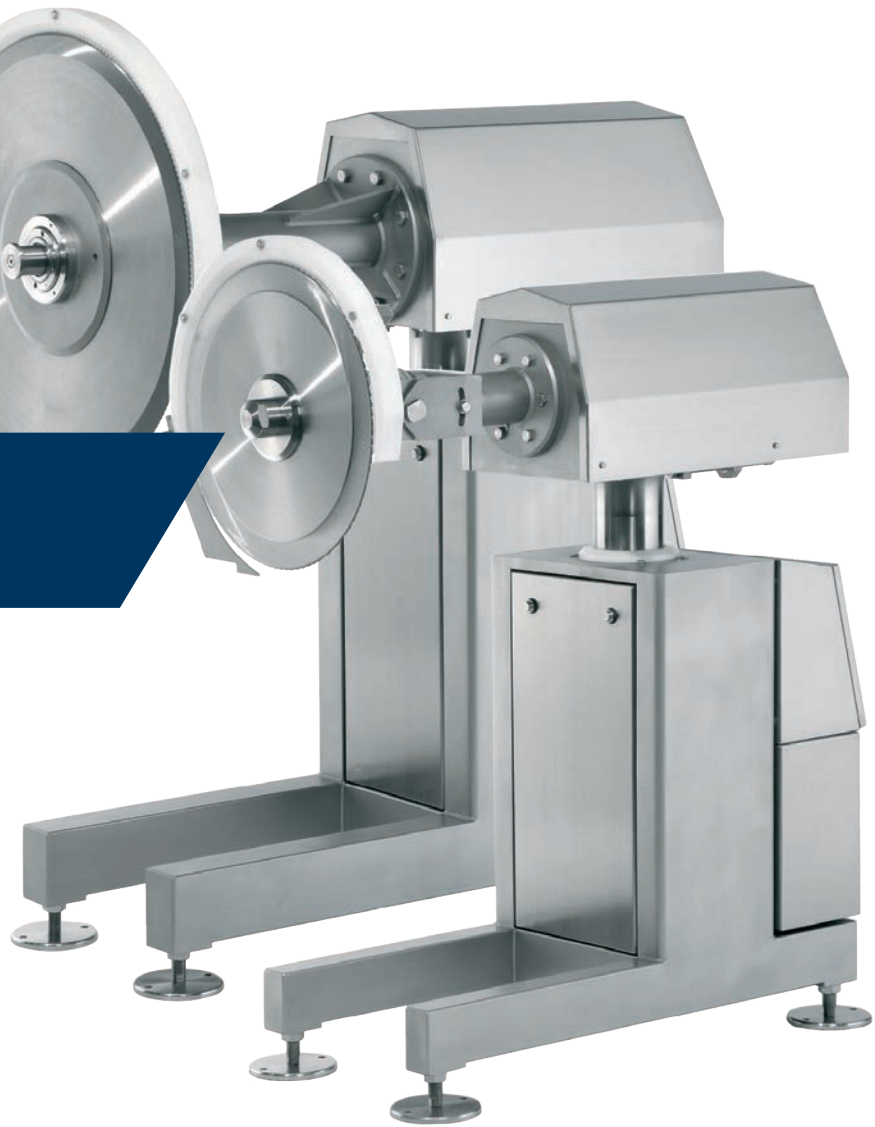
FRONTMATEC

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.

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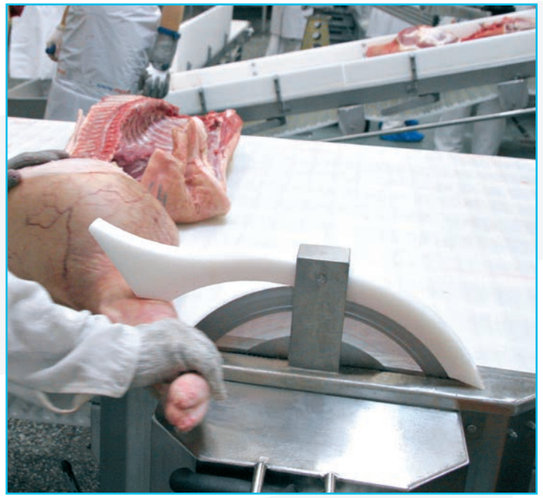

Photo 4

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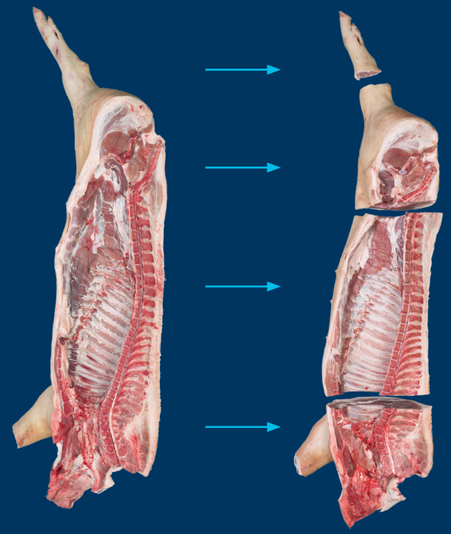
Photo 7

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.



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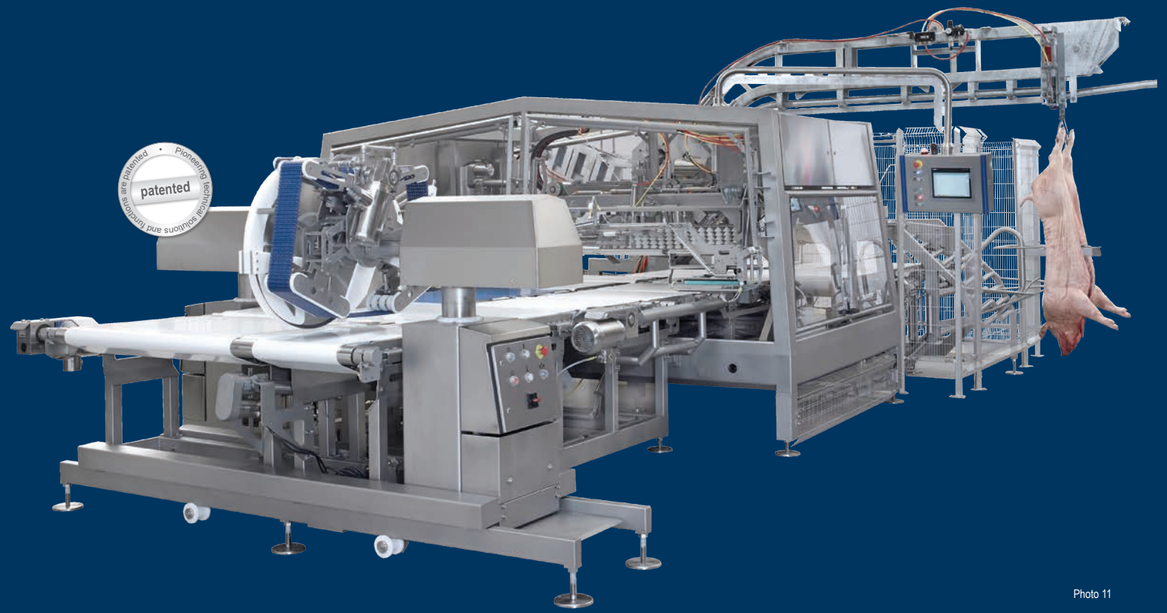

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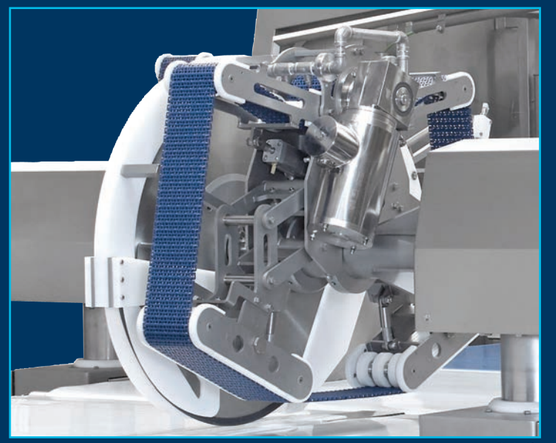

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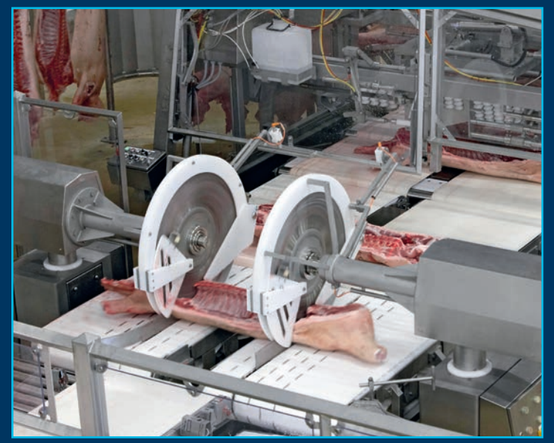

Photo 13

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.

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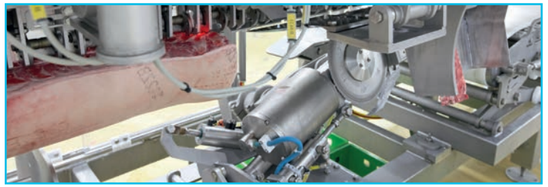

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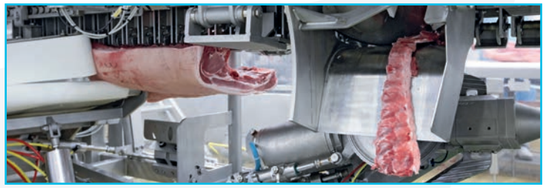

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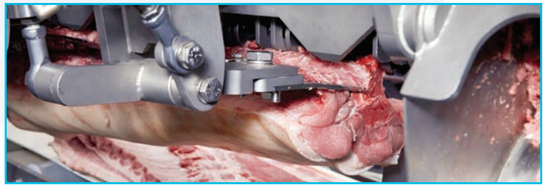

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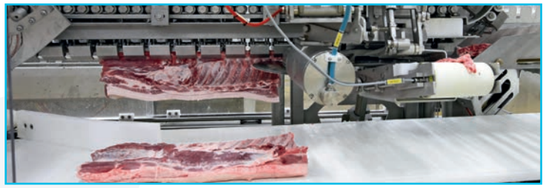

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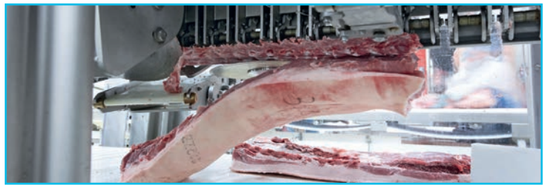
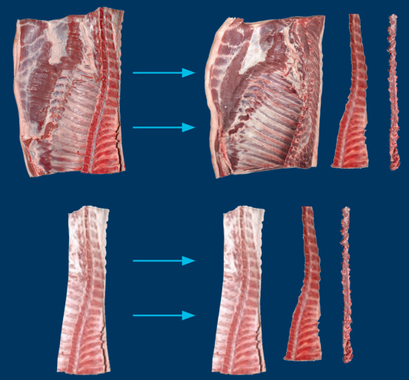


Photo 26

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.



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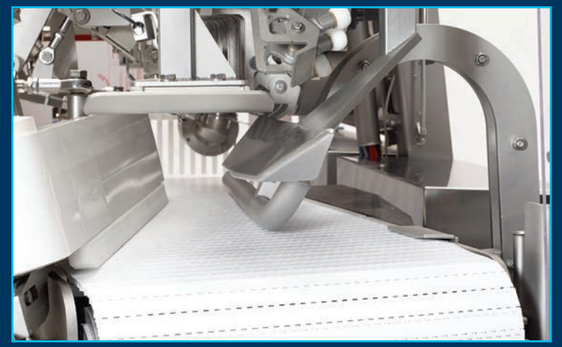

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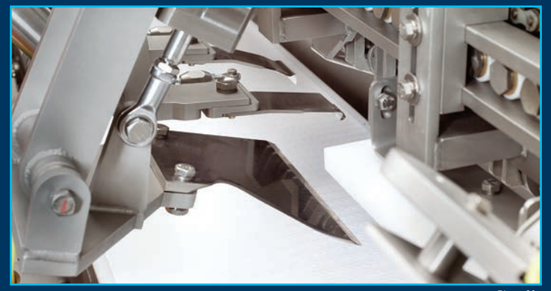

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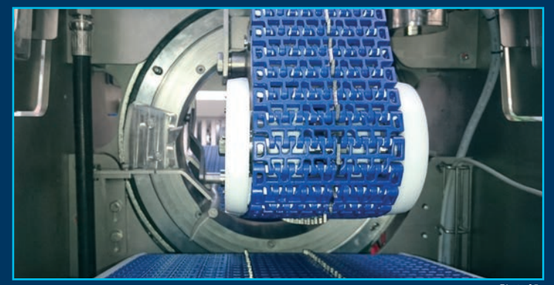
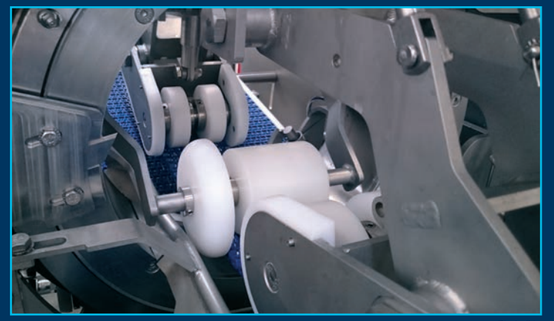


Photo 35

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.



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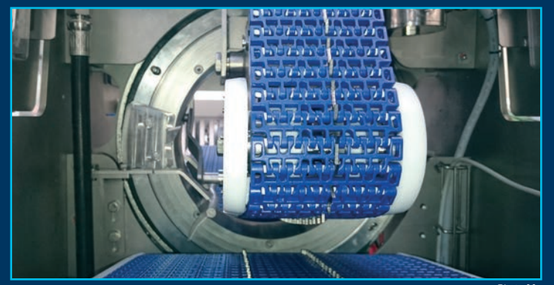
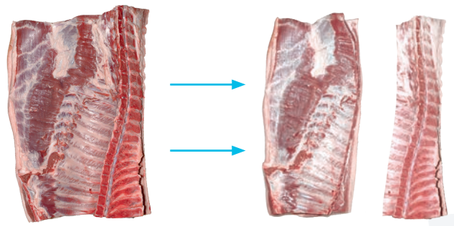


Photo 36

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.



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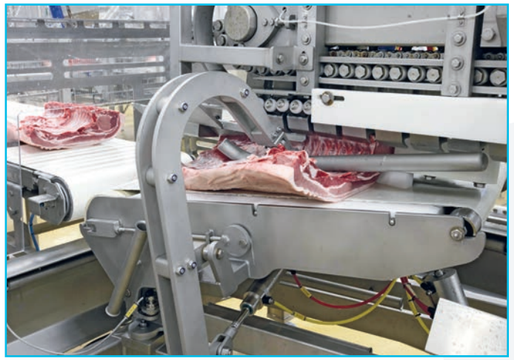

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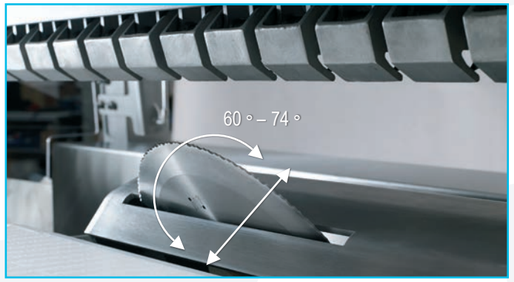

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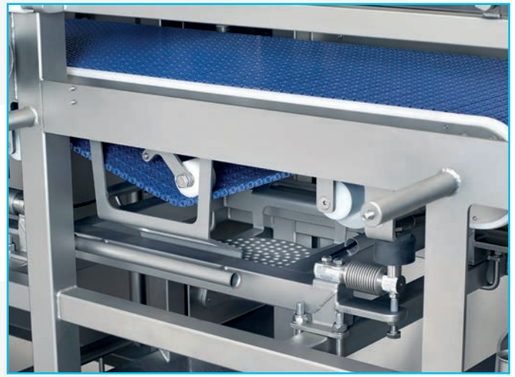
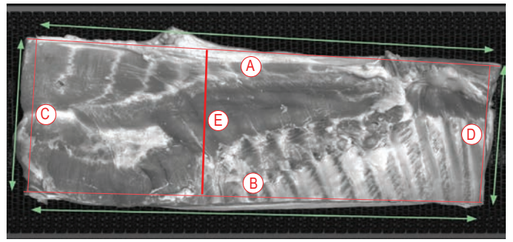


Photo 46

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.



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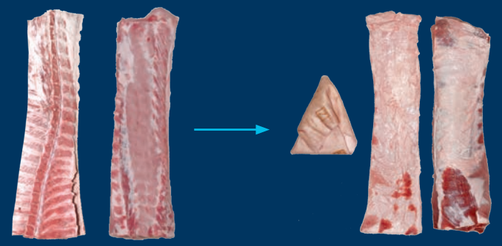
Automated loin trimmer

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 a 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.



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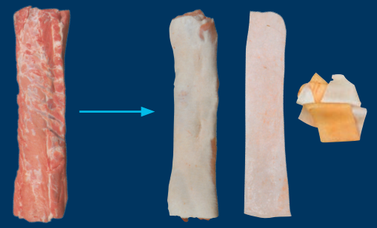

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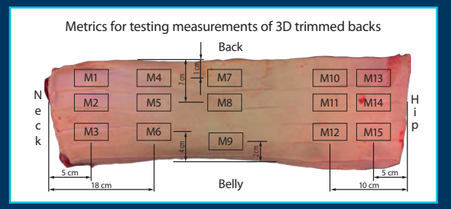

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Photo 59

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 Frontmatec 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 60

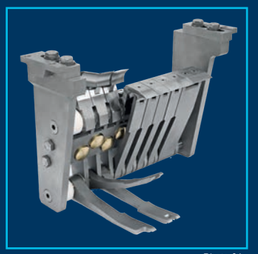

Photo 61

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

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Photo 65

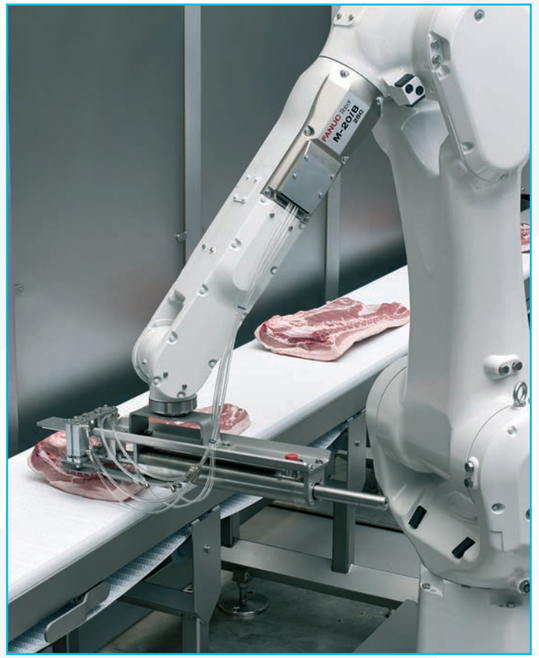
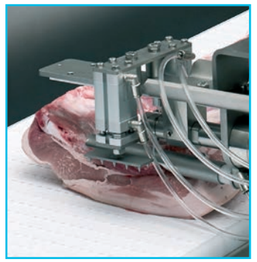


Photo 66

Single rib puller

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.



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Hanging deboning of pork legs or shoulders

Frontmatec 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.

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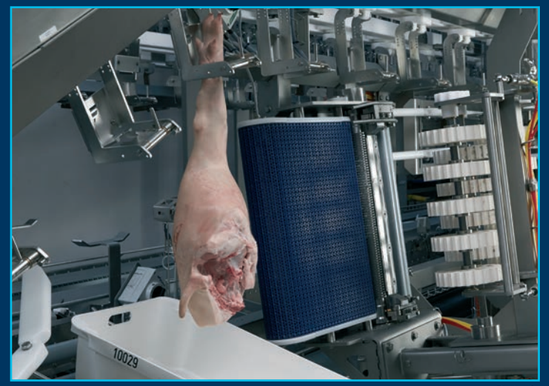

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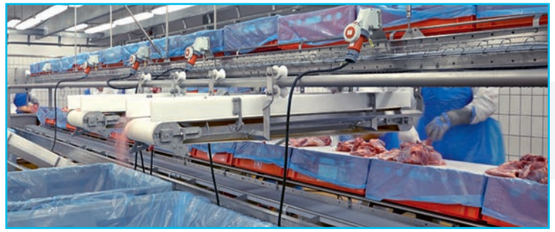
Deboning and trimming lines for primal cuts from pork

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



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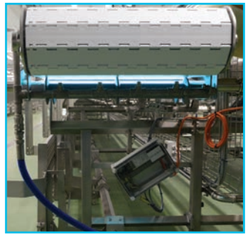

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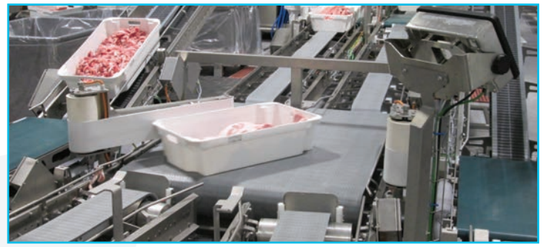

Photo 90

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

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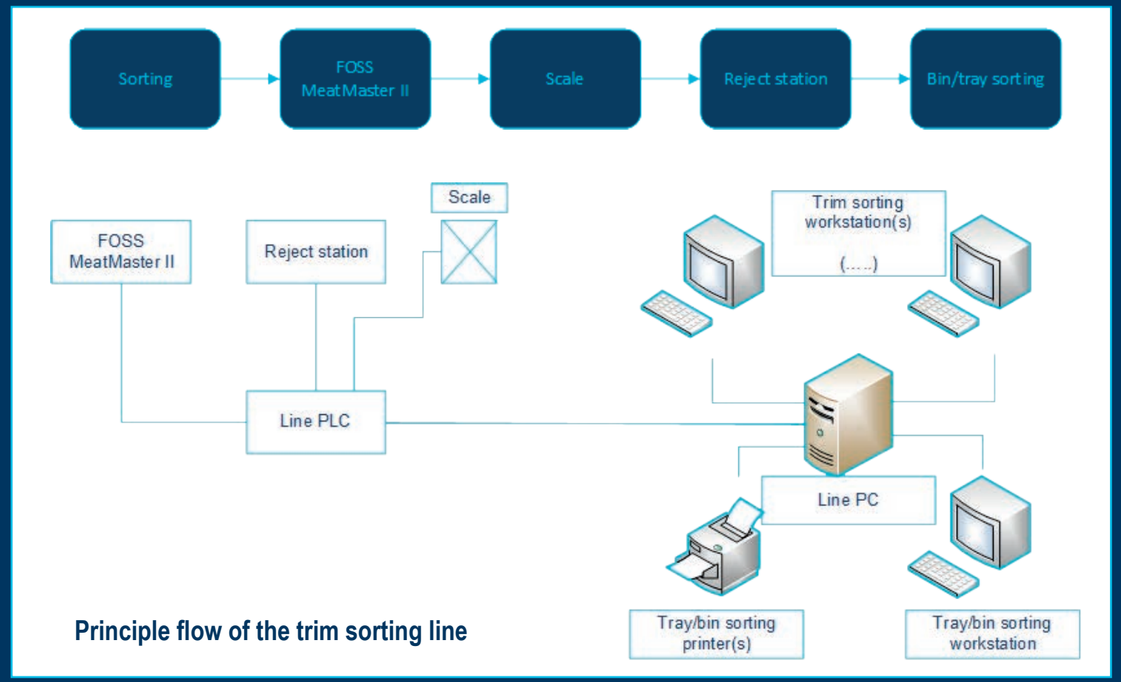
Photo 94



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

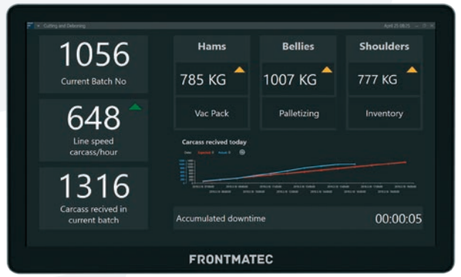
Benefits

- 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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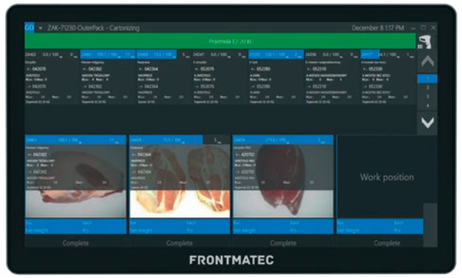

Photo 102

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 106

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Photo 111

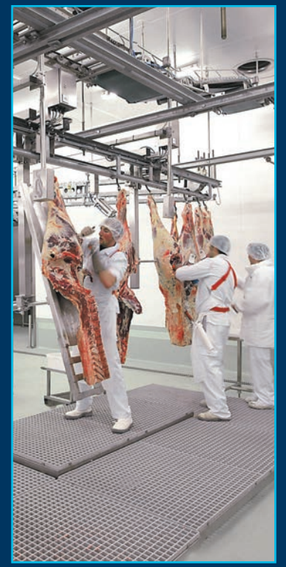


Photo 112

Photo 113

Deboning and trimming systems for beef

Deboning and trimming systems for beef carcases 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

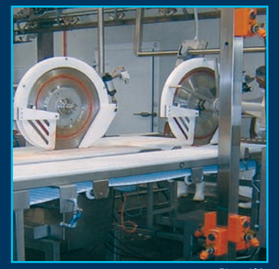
Lamb horizontal and vertical primal cutting

Frontmatec 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

Photo 127



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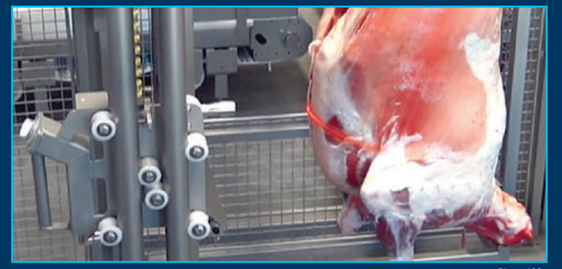

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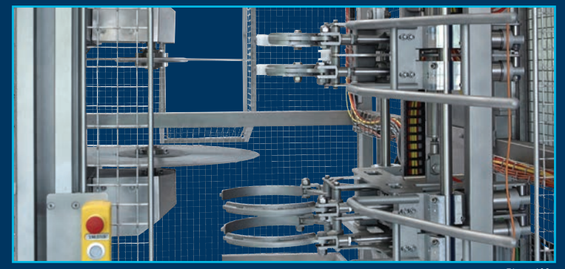

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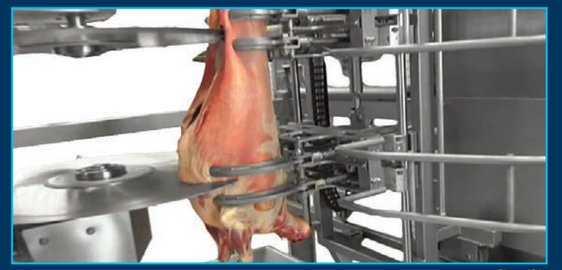

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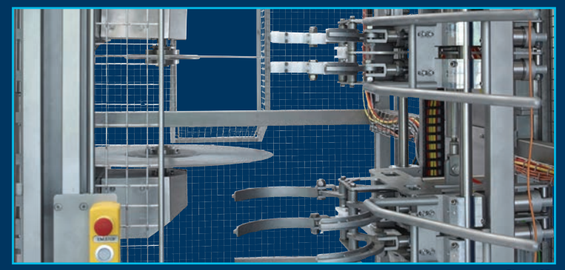
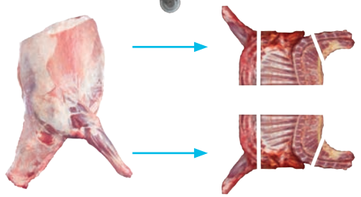


Photo 135

Automated machines for lamb processing

Frontmatec 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



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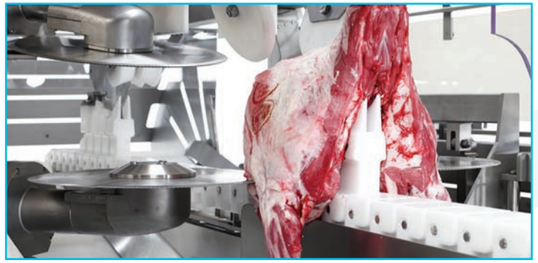

Photo 138

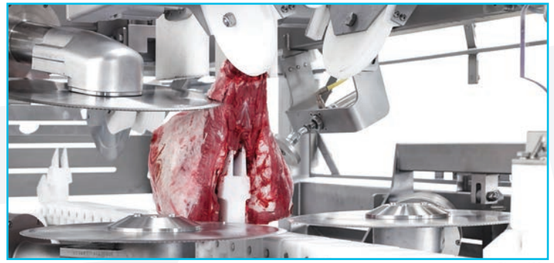

Photo 139

Photo 140

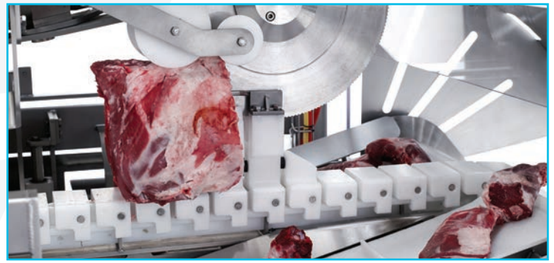

Photo 141

Photo 142

Photo 144

Photo 143

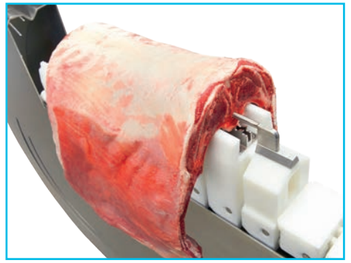

Photo 145

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.

Barcelona, Spain
Phone: +34 932 643 800
E-mail: barcelona@frontmatec.com

Beckum, Germany
Phone: +49 252 185 070
E-mail: beckum@frontmatec.com

Birmingham, UK
Phone: +44 121 313 3564
E-mail: birmingham@frontmatec.com

Grodzisk Mazowiecki, Poland
Phone: +48 227 345 551
E-mail: grodzisk@frontmatec.com

Jining, China
Phone: +86 537 371 3266
E-mail: jining@frontmatec.com

Kansas City, MO, US
Phone: +1 816 891 2440
E-mail: kansascity@frontmatec.com

Kolding, Denmark
Phone: +45 763 427 00
E-mail: kolding@frontmatec.com

Lünen, Germany
Phone: +49 2306 7560 680
E-mail: luenen@frontmatec.com

Moscow, Russia
Phone: +7 495 424 9559
E-mail: moscow@frontmatec.com

Rijssen, the Netherlands
Phone: +31 886 294 000
E-mail: rijssen@frontmatec.com

Shanghai, China
Phone: +86 215 859 4850
E-mail: shanghai@frontmatec.com

Skive, Denmark
Phone: +45 975 250 22
E-mail: skive@frontmatec.com

Smørum, Denmark
Phone: +45 445 037 00
E-mail: smoerum@frontmatec.com

St. Anselme, QC, Canada
Phone: +1 418 885 4493
E-mail: quebec@frontmatec.com

Tandslet, Sydals, Denmark
Phone: +45 744 076 44
E-mail: tandslet@frontmatec.com

frontmatec.com

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