

BERTSCHlaska

Machines and systems
for the food industry

90
YEARS

TRADITION
QUALITY
KNOW-HOW
SINCE 1925

Complete custom solutions
for the modern meat industry

Leading technology at the highest international level



BERTSCH

TRADITION, QUALITY, KNOW-HOW. SINCE 1925

»The range of services for our customers«

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» BERTSCHlaska – Your competent partner for custom solutions«

Since several decades, the name of BERTSCHlaska is standing for the meat-processing industry. From the supply of individual machines through to the planning and delivery of complete systems, including installation, commissioning, training and technical support.

BERTSCHlaska offers solutions oriented to the customer's needs and requirements. These tailor-made systems and special machines for meat processing have proved themselves in international use for decades.

As part of the BERTSCHgroup, BERTSCHlaska can look back at a success story stretching over 90 years, of a family company rich in tradition. With our headquarters in Vienna as well as our own sales offices in many countries, we can quickly provide competent on-site support at any time, offering customers the benefit of our competence.



» BERTSCHlaska – Your partner for the modern meat industry

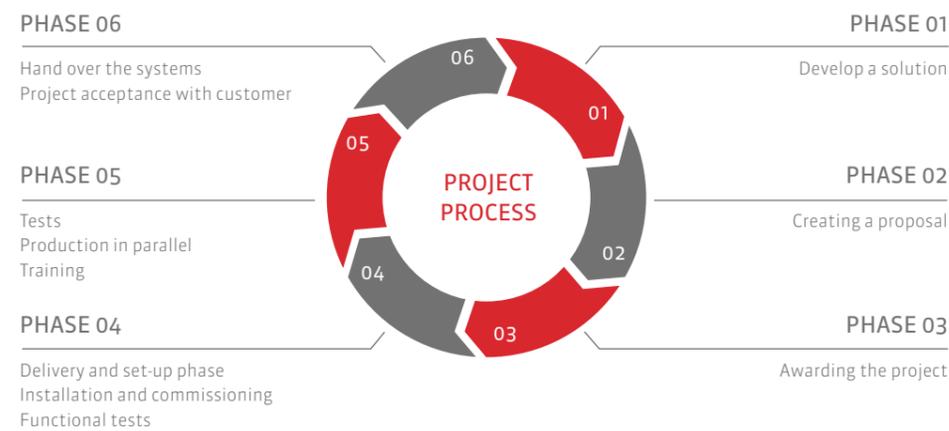
- » Professional project planning and on time delivery
- » Installation and commissioning by BERTSCHlaska specialists
- » Intensive training for operators
- » Competent technical advice
- » Production support with constant product optimisation
- » Aftersales service by teams of technicians in local service centres

»Competencies«

At BERTSCHlaska, we take care of all the equipment in the meat processing industry. We plan processing lines that exactly meet the customers' requirements and specifications. We deliver all of the equipment and machines by the dates agreed and install and commission the complete system on site. As a full-service provider, our services also include intelligent financing solutions.

» Project management

Whether a customer would like to realise a green field project or modernise an existing system – a well considered and competent plan is the basis for the success of all further measures. As we have successfully realised projects around the world over many decades, we know the markets, their legal regulations and requirements. Our team is always ready to help our customers with their knowledge and experience. Many factors play a role, such as the location of the site and the existing infrastructure. All of the conditions are taken into account by our specialists for the implementation of a tailor-made system with state-of-the-art technology.

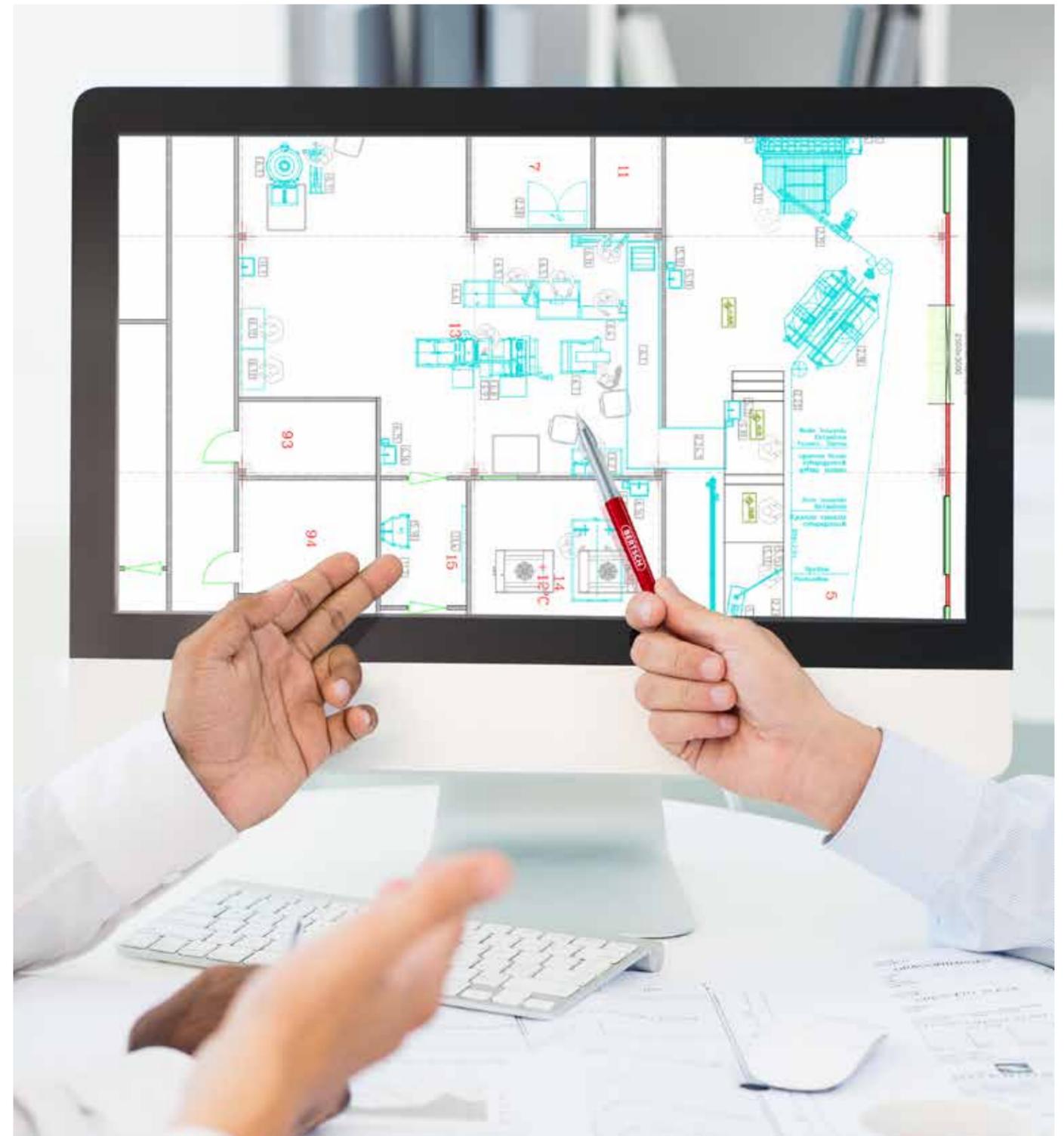


» Project financing

One essential factor in the success of delivering and building meat processing plants internationally is the professional management of financial risks as well as the structuring and arranging of suitable financial solutions. BERTSCHlaska supports its customers around the world with 'FINANCIAL ENGINEERING' services.

» Service

Professional service is the basis of cost-effectiveness, a long service life and availability of components and complete systems. Proper installation and commissioning are other vital factors for success. This is why BERTSCHlaska only works with highly trained and experienced specialists. They also train the customer's staff on the machines and thereby lay the foundation for a smooth production process. This avoids production losses.



OUR COMPETENCIES
Full-service provider, quality and solutions

» Slaughtering, tubular track technology and cutting systems

»Our know-how ensures impressive quality«

As a specialist for customised, complete abattoir system solutions, including the processing of by-products, cutting systems, logistics and refrigeration, BERTSCHlaska has made a name for itself around the world. Our customers particularly value our first-class technology, combined with decades of experience in international markets.

It is not without reason that BERTSCHlaska can build on numerous, successful partnerships with customers stretching over many years. This high degree of confidence shown by our customers is the best evidence of our successful work.

» BERTSCHlaska – Your partner for abattoir systems

- » Planning and implementation of individual lines or combined abattoir systems
- » Tailor-made systems to international standards
- » Resource-saving system design
- » State-of-the-art, energy-efficient technology
- » Efficient processes



»Slaughtering«

Especially in an abattoir, safety, ergonomics, efficiency and of course hygiene all play a decisive role. Innovative and proven technology from BERTSCHlaska ensures all of the working procedures in every slaughter-line and significantly improves efficiency. All of our abattoir solutions are precisely adapted to meet our customers' needs and the requirements of the respective market.

» Slaughtering: Cattle, sheep, pigs, horses

Slaughtering safely and efficiently while maintaining high animal welfare standards is a complex challenge. BERTSCHlaska offers solutions which take all necessary aspects into account. By optimising the design of a system, all of the steps in the process smoothly engage with one another so that pauses are kept as short as possible.

Intelligent technology facilitates the slaughtering process and keeps the stress for the animals as low as possible. High product quality at high profitability is achieved. We support our customers in developing concepts, implement and commission their individual slaughter-line.

Slaughter capacities

Years of experience and the well-founded know-how of our specialists ensure that systems for all slaughtering capacities are designed.

- » Pigs – 20 to 300 per hour
- » Cattle – 3 to 80 per hour
- » Sheep – 5 to 300 per hour
- » Combined lines – up to 80 cattle or up to 300 pigs per hour

Professional support

In the extensive range of machines and systems from BERTSCHlaska, we provide all of the machines and equipment to professionally support all slaughtering processes and make everyday work easier. High quality, high availability, long service life, ergonomic design and ease of use all characterise the wide range of products.

- » Stunning systems
- » Horn and leg cutters
- » Splitting saws
- » Spinal marrow extraction systems
- » Brisket saws
- » Tubular track hooks
- » Slaughtering tools

» By-products in the slaughtering process

When slaughtering animals, there are valuable by-products such as intestines, stomachs, heads, feet and skins, which can make a significant contribution to the value created in the operation. The more precise and hygienic, the more effective the result. So that this result can flow into the overall profitability calculations, all of the processing lines for the by-products – such as blood mixers, blood tanks and intestine cleaning lines as well as environmentally neutral disposal systems for slaughter waste products – are taken into account during planning.



SLAUGHTERING
Space-saving, low personnel requirements, efficient, conform to EU guidelines

»Cutting systems and tubular track technology«

» Cutting systems

BERTSCHlaska offers its customers complete lines which allow for precise, technically correct and hygienic cutting systems of the carcass in suitable portions for consumers and in primal cuts. The customers themselves determine the degree of automation in each case. Our specialists ensure smooth operation of all steps in the process, including a well considered hygiene and logistics concept, to produce products which are always fresh and have maximum storage life.

Safety and profitability through optimised design processes

As soon as the planning for a system begins, consideration is given to ideal working conditions. This is an essential part of ensuring outstanding quality, safety and maximum cost-effectiveness. This applies whether single workstations are concerned or whole production lines with several workstations. This also takes account of an efficient distribution of tasks within the butchering process to increase quality.

» Top-quality cutting tools

- » Rotary blade saws, bandsaws, breaking saws
- » De-rinding and de-hiding machines
- » Machines for breaking and de-sinewing
- » Hand knives and various tools

» Tubular track technology

So that the cut-up carcasses can be transported without delay and with minimum effort into the refrigerated rooms, a carefully conceived tubular track concept is required. For this, we plan and build tubular track systems to your requirements to transport cut-up carcasses manually, semi-automatically or fully automatically to and from refrigerated storage rooms, which feature state-of-the-art technology.

Characteristics of tubular track systems

- » Solid construction using hot-dipped galvanised steel
- » Cost-effective use of the refrigerated areas
- » Manual or fully automatic conveyor systems
- » Hook return systems
- » Plastic insert for convenient transport
- » Quick loading and unloading of trucks

» Thawing systems

For the reliable and modern technology for our thawing systems, we rely on our specialist partner of many years, providing first-class technology and constant innovations around the world. For the quick and efficient but careful thawing of beef and pork halves as well as mutton carcasses and blocks of meat, we use a special process with a high humidity. This guarantees an even, hygienic thawing with only minimal losses, exactly as required for further processing. We also offer an optional thawing process using radio waves. Every thawing system is planned and built to the individual needs and capacity requirements of our customers.

Proven technology for the highest quality

- » Reduces storage areas
- » Shorter process times
- » More even thawing process
- » Highest care when treating products
- » Bacteriological safety
- » Energy savings due to the most modern thawing process



CUTTING SYSTEMS AND TUBULAR TRACK TECHNOLOGY

Minimise costs, make work easier, optimise your processes, increase your capacity



» Production of sausage, delicacies and semi-finished products

»The best raw materials and the most modern technology for delicious products«

Only when everything is right, top end products are ensured, thus promising more profit. This is why we develop and provide well considered solutions for our customers for the production of sausage, delicacies and semi-finished products, which meet the market's toughest demands.

The basis for great products are high quality raw materials, the most modern technology from leading manufacturers combined with decades of experience. With our innovative, customer-specific production lines, we constantly set new quality standards in the market.

» BERTSCHlaska –Your specialist for sausage, delicacies and semi-finished products

- » International standards
- » Know-how at every level for efficient production lines
- » Cooperation with leading manufacturers
- » Comprehensive range of machines
- » Carefully selected components
- » Best end products

»Sausage production«

» Frozen meat cutters

If deep-frozen blocks of meat are to be processed by cutters or mincers, then frozen meat cutters are required to cut the blocks into suitable sizes. The temperature of the frozen blocks can range from -5°C to -25°C. Two technologies have proven successful here and we include them both in our product range. The frozen meat cutter as a guillotine or roller cutter. All of these units feature a solid, robust and, above all safe, construction, with maximum cutting capacity.

- » Impressive technology
- » Frozen meat cutters protect the meat
- » Robust machine design
- » Drive parts in closed housing providing perfect protection from soiling
- » Low energy consumption for high performance



» Miners (130 – 400 mm diameter of perforated disc)

Mincers are perfect tools to coarsely or finely chop meat and to create high-quality fish products, soups and sauces, cheese, fruit and vegetable products, confectionery and much more. The outstanding technology and stainless cutting inserts from 130 to 400 mm ensure the best cutting capacity and the most varied range of applications. An excellent cutting pattern is as impressive as the robust, low maintenance construction and its excellent cost-effectiveness.

Our range of machines: Mincers, angled mincers, also for blocks, mixing mincers, frozen meat mincers, mincers with frozen meat cutters, angled mixing mincers

- » Benefits when producing high-quality products
- » Automatic control of the screw feeder
- » Low wear of the cutter insert
- » Robust controls
- » Product temperatures as low as -18°C
- » Best cutting effect via special cutter insert
- » Minimum maintenance



» Cutters

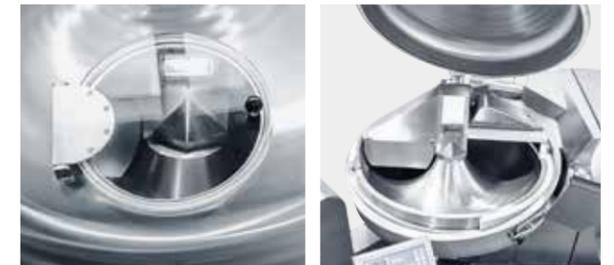
The proven cutter technology is the result of many years of practical experience and continuous improvements. The innovative AC drive technology is the basis for all versions of the technology, combined with extremely solid construction. This means that cutters are suitable both for small as well as large amounts of processing, while at the same time having minimal maintenance costs and low energy consumption. Both fresh meat as well as pre-cut frozen meat can thus be perfectly processed and can also produce rind emulsions.



For individual requirements

- » Vacuum version
- » Cooling system
- » Cooking function
- » Automatic lubricator
- » Production management system (automatic working procedure and data recording)

Bowl capacity suitable for every size of operation from 65 to 750 litres.



- » For universal use
- » Short batch time thanks to high cutting speed of up to 160 m/s
- » Fine emulsion due to 360° cutting effect
- » Low gap of 0.8 – 1.3 mm between blade and bowl for improved fineness
- » Switching cabinet with newly designed filter system, which protects against dust, moisture and steam
- » Vibration-free blade shaft and rotating bowl for a longer machine service life
- » Highest efficiency and low energy costs thanks to built-in AC drive technology
- » Straightforward operating concept for optimal and transparent work

»Sausage production«

» Mixing machines (from 130 – 6,000 litres)

The mixing machines provided by BERTSCHlaska are very popular due to their ideal mixing effect and universal application in numerous sectors. They are used in the production of meat products such as minced meat and ham-

burgers, kebabs and pasties as well as in the production of meat substitutes (veggie food), confectionery, cheese, and the production of both yeast and animal foods.

» For universal use

- » Ensures even and intensive mixing
- » With a tilting container or front emptying
- » Interlocking mixer shafts
- » Many variants e.g. with vacuum version, cooking and cooling systems, water-dosing or mixing-process controls



» Emulsifiers (175 – 225 mm perforated disc diameter)

The emulsifiers, also called NanoCutters, were developed for the production of the finest pre-cooked and cooked sausages. By using different perforated discs, the fineness of the sausage meat can be set exactly. This enables the highest quality both when very finely cut as well as when coarsely grained. The emulsifiers has user-friendly controls such as a swivelling touchscreen. All of the drive parts are within the machine housing and are ideally protected from soiling. In case of a faulty product, the

machine will automatically switch itself off to protect the cutter insert.



» Ice generator

Ice flakes have always been associated with meat processing and cooling and are a decisive quality factor, both when making sausages, as well as when transporting, storing and selling them. We offer our customers tailor-made solutions with an automatic weighing system, which eliminates the need to manually weigh ice flakes.



» Filling and clipping

Our extremely dynamic market constantly demands innovations such as new and unusual product shapes. With our extensive range of clipping and filling machines, every conceivable shape can be produced. From small series up to large, industrial production.

» Vacuum filling machine

Our continuous vacuum filling machines are renowned for their high quality. They are suitable for use in both small and industrial operations as well as for all applications: as a sausage meat pump, as a portioning unit in connection with a clipper, or to automatically twist off all types of intestine. In the raw sausage area, the vacuum filling machine with a mincing system ensures that the cutting pattern is outstanding. Its touchscreen ensures that it is easy to use, guaranteeing consistent product quality.



» Benefits when producing high-quality products

- » Capacity of up to 13,000 kg/h
- » Up to 1,200 portions/min
- » Maximum portioning accuracy
- » Flexible range of add-ons in combination with various clipping machines
- » High hygiene standards and easy to clean

» Clipping machines – precise and quick

The flexible clipping machines are an ideal addition to our filling machines. Our broad product spectrum ranges from simple tabletop clippers for small series through to powerful semi- and fully automatic clipping machines for industrial production.

» Calibration system and sausage line

With this solution, both artificial and natural types of casing can be exactly calibrated. They can easily be integrated into all of a business unit's processes. Exact calibration means that exact lengths and the most precise weights are possible.



»Production lines«

In food production, demand for automated production lines can be seen around the world. The reasons for this are clear. The cost of production has to be reduced without having a negative impact on the general quality of the end product. This requires standardised processing of raw materials and their traceability.

Our extensive range of machines consisting of mincers, cutters, mixing machines and emulsifiers forms the basis of efficient production lines. A wide range of transport systems is required to turn a collection of standalone solutions into a functional production line. Specific components such as control stations which can display the processes as well as safety solutions are then needed to round off your production line. Depending upon the requirements, an online analysis system can also be installed, to record data for quality assurance.

» Advantages that make the difference on the market

- | | |
|---|---|
| » Standardisation of raw materials used and production processes | » Straightforward control and easy handling by the Production Management System (PMS) |
| » Near-infrared (NIR) analysis systems measure the levels of fat and protein during the production process, enabling to correct a batch at any time | » Traceability of when, where and who processed the goods |

» Planning production lines and processes

From our wide product range, the individual, ideal combination of machines for each specific customer can be chosen to meet their specific goals. Thereby we take account of the available space, the production quantities, the processing methods and the variety of products. We ensure the flow of materials and connect the system both mechanically as well as in terms of handling, data processing and safety technology. This results in complete solutions from the raw material to products ready for portioning. Thereby our customers achieve high quality, efficient and reliable production processes for their specific products.



»Delicacy production«

» Injectors

BERTSCHlaska offers a range of injectors which matches the customers' production conditions for brine injections, refining, improving the taste and preserving ham products. Various additional equipment such as brine filter systems, brine preparation systems and feed systems round off the extensive portfolio of machines.

» Injectors for outstanding quality delicacies

- » For fresh meat, poultry and fish
- » For meat with and without bones
- » Depending upon the product, capacities up to 11,500 kg/h and injection rates up to 120 %
- » Belt widths from 250 to 800 mm
- » Cooled and uncooled brine circuit
- » Single-head and dual-head machines
- » Single, double or quadruple needles
- » Needle diameters 2 mm, 3 mm and 4 mm



» Massaging technology for maximum productivity

Modern massaging technology ensures the maximum yield in production via improved brine retention. Protein is efficiently broken down and the outstanding quality associated with that can only be achieved by an intense massaging effect in as short a time as possible. Differing baffles e.g. gentle baffles for delicate products ensure that valuable raw materials are processed in the proper way.

» Massage systems for optimal yield

- » From 50 to 12,000 litre capacity
- » Uncooled and cooled, horizontal and tilting
- » Machines with friction-wheel drive or direct drive
- » Feeding with a lift, vacuum suction, conveyor belt or manually
- » Operated manually or using touch control
- » Intensive massage system reduces the massage time by up to 80 %
- » Also available as thawing system/defroster



»Semi-Finished Products«

Innovative technologies enable precise and remainder-optimised portioning for various types of products in the meat processing industry. Simple handling, optimised working processes and low maintenance machines ensure high cost-effectiveness with improved product quality.

» Minced meat production

The modular mincing heads can take very different types of cutter inserts. The final perforated disc in the mincer is individually and exactly matched to the shape and size of the product. The width of the product can range from 60 to 220 mm with various end grains. There is an option to insert a special final perforated disc to dispense, for example, portions of skinless cevapi sausage onto paper.



The portioning machine attached to the mincer, which is connected to the filling machine, transports the ejected flow of product and cuts the portions to exactly the required size and weight.

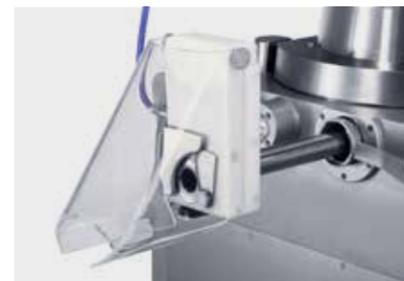


Hamburger portioning machine

The hamburger portioning machine is the perfect solution to shape round, oval or angular hamburgers. It is easy and uncomplicated to attach to the vacuum filling machine, and is also controlled from that. The filling machine dispenses the correct amount into the form and it is then pushed horizontally by the pneumatic cylinder to be ejected.

» There are many advantages for industrial production

- » Exact portioning
- » Individually adjustable portion sizes
- » Lines can be connected quickly and easily
- » Perfect end product with high cost-effectiveness



Sausage meat cutter



Can filler head



Meatball former

» Cubes, strips, cutting red meat, sausage, poultry, cheese, fish and vegetables

BERTSCHlaska offers an extensive range of semi-automatic and fully automatic multipurpose cutters with an average throughput of 950 to 4,000 kg per hour. Very tough sets of stainless steel cutters with automatically operating lateral blades eliminate the need for time-consuming preliminary cutting, and at the same time offer the option of an automatic feed. The cut items are transported away via large output channels made of stainless steel and guarantee high hygienic standards. High-quality computer control ensures reliable operation. The ability to remove the cutters without the use of tools, selectable reduction of the remainder amount, and a special cleaning mode all ensure minimum cleaning effort and perfect hygiene.



Cutting to an exact weight and portioning

The constantly rising consumer demand for meat increases the requirements on supermarket chains. So that the producers can meet these high requirements from the supermarket chains, BERTSCHlaska offers solutions to produce items and packed weights within tolerances of one gram. The individual pieces are shaped in the first step, the edges are then frozen in a quick freezer and are then cut into slices on a portioning/cutting machine or are diced to an exact weight. The production lines can be extended with check weighing machines, weight equalising sections and conveyor belts.

Applications

- » Automated production of packages for self-service shelves in supermarkets
- » For pork and beef
- » Meat with or without bones
- » Fresh meat or thermally treated products
- » Slices, cubes, strips
- » Minimisation of edge pieces for the last cut
- » Visually perfect cut faces

Benefits

- » High performance with very precise weights
- » Automatic loading of packaging tray
- » Ejection of portions and equalisation of weight in case of deviations
- » Easy connection to following packaging line
- » Minimal staff requirements
- » Guaranteed product hygiene
- » Perfect end product at high cost-effectiveness



Slices



Strips



Cubes

» Thermal processing

»By tradition and for a good flavour – **thermal treatment**«

Decades of experience, innovative engineering and the most modern technology ensure precise and safe processing methods and procedures during thermal treatment. This results in delicious products such as cooked sausages, raw sausages, raw ham, salami and cured goods which are enjoyed by consumers around the world.

BERTSCHlaska uses its extensive know-how and offers proven, state-of-the-art machine technology for smoking, cooking and maturing systems, which, apart from quality, offer manufacturers the security of high cost-effectiveness and efficiency. The maintenance and cleaning of systems as well as their ease of operation all make significant contributions to their success. It is only in this way that top products can be produced for differing taste preferences, which correspond to local and international requirements, while at the same time guaranteeing optimal added value.

» BERTSCHlaska – Your partner for thermal processing

- » Complete production lines for every operation size
- » First-class conception right down to the details
- » Safe and consistent production
- » Easy handling, maintenance, cleaning
- » Environmentally friendly and resource-saving production systems



»Thermal processing«

BERTSCHlaska offers everything required for professional cooking, frying, reddening, drying, hot smoking, cold smoking and cooling. All of the machines are matched to individual customers' needs and requirements and represent the perfect tools of the trade to make first-class products.

» Smoking and cooking systems

Smoking and cooking systems are real all-rounders for the high quality production of meat, poultry, fish and cheese products such as cooked sausages, cooked ham and fish fillets. Our customers have the choice between electric, oil-, steam- and gas-heated smoking and cooking systems, which we can deliver in single- or dual-row versions or even in a tunnel version, made completely from stainless steel. The robust design, combined with the most modern technology, ensures low energy consumption and minimum maintenance costs.



» Flexible use for optimal results

- » Closed or semi-open smoking system
- » Hermetic hot smoking system for environmentally friendly, energy-saving production
- » Every trolley unit has its own air convection system with an adapted multilevel circulation speed
- » Self-locking door lifting hinges made of stainless steel
- » Seamlessly welded solid base for system

» State-of-the-art control technology

Depending upon the individual requirements, various control systems are available – large colour LCD controls as well as touchscreen panels for freely programmable functions. Our control technology has a convenient quality management system with production monitoring. The architecture of the software has been tailored for practical, everyday work.



» Continuous systems

Our continuous smoking and intensive refrigeration systems ensure fully automatic and highly rationalised production, for example for cooked sausages or pre-cooked sausages. They are designed to be suitable for large production batches and require little space. The most modern technology ensures compliance with even the strictest hygiene regulations. The systems are divided into two sections and are separated by pneumatic and double-insulated lifting doors.



The system has its own transport system for floor-running trolleys or frames, ensuring optimal working conditions, as it is no longer necessary to manually transport the trolleys into and out of the chambers. This saves valuable space for refrigeration and storage. Products are supplied and removed fully automatically via buffer zones before and after the system. This also enables operation at night without any operating staff thanks to the processes running fully automatically with state-of-the-art control systems with online access and recording systems.



» Smoke generators

The various smoke generators and systems impress with their enormous flexibility during the smoking process and the production of a wide range of smoked goods. Their robust construction ensures that they can operate smoothly for many years with low maintenance costs.

» Types of smoke generation

- » Smoulder smoke generator
- » Friction smoke generator
- » Wood chip smoke generator
- » Steam smoke generator
- » Liquid smoke generator



»Raw sausage and raw ham systems«

The maturing process for delicate raw goods places the highest requirements on the system's electrical, air and control technology. State-of-the-art plant technology and an exact layout, matched to the customer's individual requirements and to the size of their operation, guarantees end products with an impressive colour, taste and aroma.

» Initial maturing systems

Our modern initial maturing systems provide optimal conditions for initial maturing, maturing, drying, quick drying, sweating, cold smoking and storage, over a temperature range from +12°C to +28°C. For special product requirements, however, it is also possible to operate at a lower or higher temperature range.

» Final maturing systems

The ultimate quality is produced in the final maturing systems. These generally operate over a temperature range from +10°C to +18°C. For special product requirements, however, it is also possible to operate at a lower or higher temperature range. Thanks to their flexible design, final maturing systems can also be installed in existing rooms. The air is prepared in an external mixer housing and is fed in via specially made channels. Such systems can also be used to store and keep the finished products.

Systems for every size of operation

We plan and build maturing systems which are exactly matched to the products, to the local circumstances and to the production quantities, with loading heights up to 8.0 m. One significant advantage is that, even for the largest systems, the maturation is even. The plant for this can be installed in a dedicated, separate equipment room. The system can be heated as preferred, either electrically, with steam, or with hot or warm water. Freon, glycol, brine or ammonia can be used for cooling.

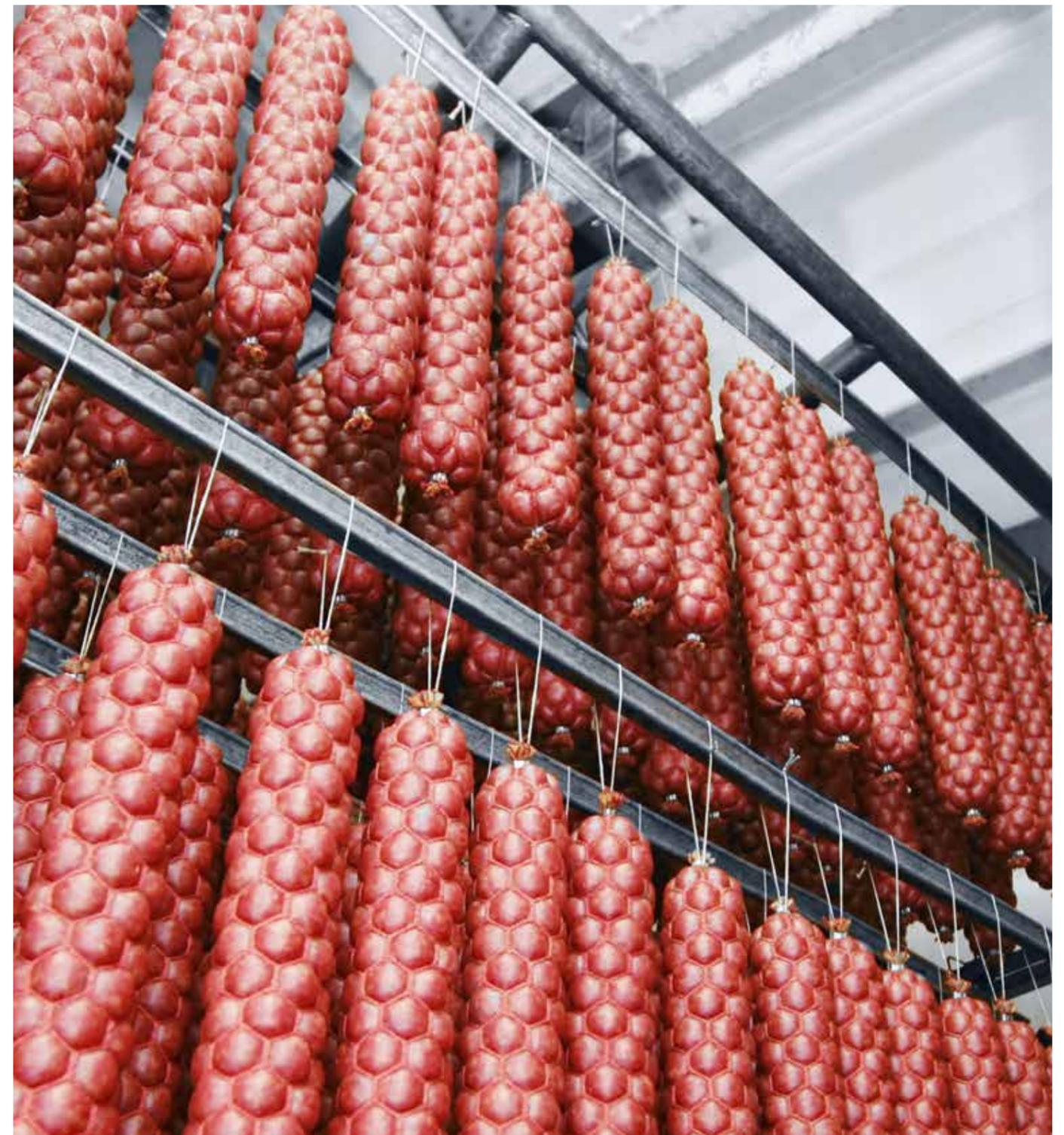
» Smoke generators matched to the systems

Our cold smoking and initial maturing systems can be equipped with all common smoking systems such as friction smoke generators, smoulder smoke generators, steam smoke generators and liquid smoke generators. All of the smoke generators comply with the specified environmental regulations and hygiene standards.



» Special features and benefits

- » Optimal use of the climatic conditions of the outside air via enthalpy systems
- » Blow-in nozzles and suction channels can be individually modified
- » Air is circulated using air exchange cycles to guarantee even maturation
- » Air conditioning units designed for ease of use and maintenance
- » Systems made of high-quality chrome-nickel steel



**RAW SAUSAGE
AND RAW HAM SYSTEMS**
BERTSCHlaska
co-operates only with the
best manufacturers



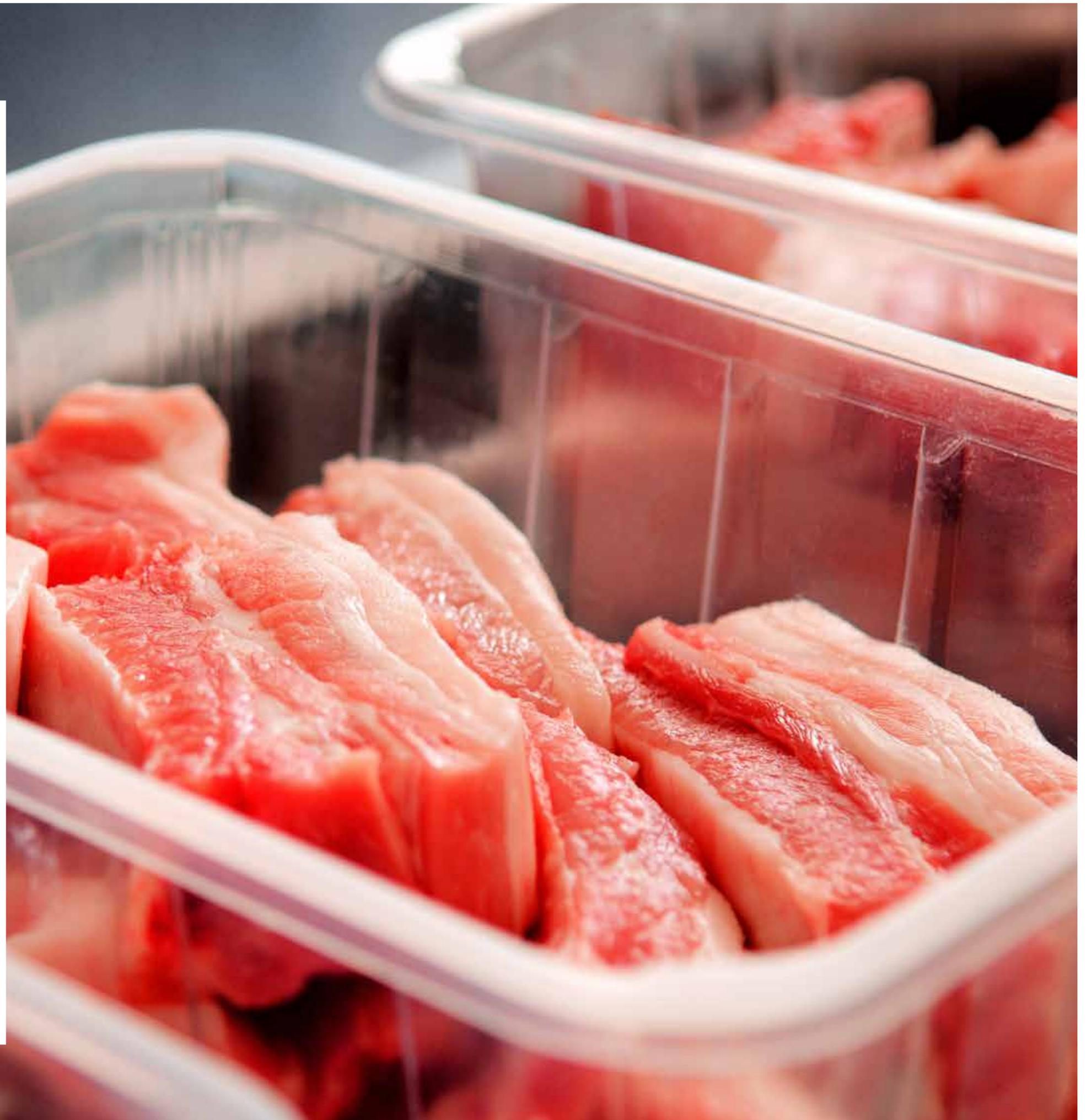
»Efficiently produced and impressively presented«

Freshness, hygiene and functioning logistics for storage and transport are essential in the food industry. Packaging is a decisive component to protect high-quality products, to preserve them and to present them attractively. Aside from quality assurance, however, the maximisation of profitability is decisive.

With BERTSCHlaska's packaging and logistics solutions, customers in all sectors and markets benefit from technically mature systems. All of the requirements for freshness, appearance, handling and optimised material flows for efficient production are met. That is how we ensure our customers' success.

» Benefits of our modern packaging and logistics systems

- » Large range of individual, tailor-made solutions for a range of production areas and company sizes
- » Can be integrated into existing infrastructure and systems
- » Corrosion-resistant materials and transport systems, robust design in stainless steel
- » Optimal hygiene, easy cleaning and maintenance
- » Easy to operate



»Packaging«

BERTSCHlaska supplies systems with the most modern vacuum packing technology for all product areas and for many sizes of machine and packaging solutions. All of our packaging machines benefit from a mature control and monitoring system and comply with all hygiene guidelines.

» Vacuum chamber machines

Through the shrinking procedure, the appearance of the cut faces of your product and the structure of its surface are improved. In the vacuum packaging process, products are packed in ready-made vacuum bags. Then the air is sucked out and the bag is welded shut. In this way, both liquid and solid products can be packed. As the vacuum level to be reached can be calibrated, this process is ideal for finished products such as primal cuts, ham, bacon, cheese and much more.

Our machines with a chamber are able to package several products, with differing bag sizes, at the same time. Our product palette of machines ranges from small tabletop models, to automatic belt machines and full shrinking lines with driers.



- » Benefits of chamber machines
- » Maximum flexibility for the package size
- » Vacuum, shrink bags and MAP packaging
- » High performance requiring little space

» Tray sealing machines

With our tray sealing machines, products such as minced meat or convenience foods are put into ready-shaped trays and are then sealed under a film with an inert gas. This thus ensures packaging that is appropriate for the portion with a long shelf life and attractive presentation of the product for the customers. We can offer this type

of machine as a semi-automatic or fully automatic packaging machine, and it is suitable for the smallest quantities right up to quantities processed in multiple-shift operations. As required, fully automatic machines can be integrated into fresh meat portioning lines.



- » Benefits of tray sealers
- » For different ready-made trays and films
- » Vacuum, MAP and skin packaging
- » Easy to use under programme control
- » Packaging with better appearance

» Thermo-forming vacuum packaging machines

Our deep-draw vacuum packaging machines are used when large quantities of produce of almost identical size and shape are to be packed. The packaging consists of an upper and a lower film. The lower film is first shaped in the machine. This results in particularly low costs for packaging materials and logistics. Films with different thicknesses and properties can be used. Flexible trays with a stable shape can be produced. Multiple tools ensure short cycle times at high production volumes. Whether sealing, MAP packaging or skin packaging, flexible packaging and stable tray forms – even the starter models of our deep-draw machines supports all of these options.



Very popular and very fashionable – skin packaging

Its success shows that the trend toward skin packaging is growing, and that it is quite suitable for presenting products to a high standard. Above all, this is used for deep-draw and tray sealing machines and in the self-service area it presents products attractively. With skin packaging, the upper film encloses the product like a second skin. It is stretched under heat and is fed over the rigid lower film or tray.

- » Benefits of skin packaging
- » Extended shelf life
- » Products do not lose any moisture
- » Protection of the packaged product
- » The products cannot slip or collapse on shelves or when at an angle
- » Attractive product presentation
- » Clear films show the colour and shape of the product in a favourable way

» Flow pack machines

Flow pack packaging mainly serves to protect products from being touched. The film is put around the product and the lengthwise seam is welded before and after the product. Also perforations or Euro-holes can be punched into the film, so that the products can be better presented for sale. This kind of packaging is mainly used for smoked goods, as the packaging is not required to make a contribution to the product's shelf life.

» Slicer

Our slicers are used wherever there is a need to perfectly cut sausage, ham or cheese. It can cut all shapes, such as pieces, slices and much more. The slicer automatically goes through all of the steps in the procedure – from loading, cutting, portioning weighing through to depositing in the packaging machine. Operation is very simple too. When the type of product is changed, all of the product-specific parts can be changed without the need for tools.

»Warehouse logistics«

Modern warehouse logistics makes an essential contribution to a company's profitability. It ensures that stock levels are optimised, cycle times are short and that there is plenty of flexibility within production as well as increasing capacity in the dispatch department. Manual and automatic warehousing systems are gaining in importance in small and medium-sized production enterprises. BERTSCHlaska offers an extensive selection of suitable solutions.

» Transport systems

For many years now, our modern transport systems for empty boxes, full boxes, cartons and even pallets have been making daily work significantly easier in our customers' logistical processes. Direct transport routes ensure short delays and save valuable working time.

» Benefits of our transport systems

- » High performance and fully automatic transport
- » Use of automatic conveyor sections with large differences in level
- » Transport with minimal personnel requirements
- » Space-saving via wall or ceiling mounting
- » Can be integrated into existing production set-ups



» Input checking and data recording systems

Easy data recording is the foundation of automatic and, above all, efficient processing. At the 'I point' data recording terminal, all of the relevant data such as date, product, weight, item number, batch, weighing ID etc. is saved for individual containers, cartons, trolleys or even entire pallets.

» Full systematic checking

- » Consistent checking of goods with minimum effort
- » Automatic copying of container data into stock records
- » User-friendly, transparent software solutions



» Warehouse technology

For the right warehouse technology, we rely on the use of semi-automatic or fully automatic, combined- or single-location warehousing systems.

Modern warehouse logistics provides maximum exploitation of capacity in the minimum space, extensive checks without high staff costs, easy implementation of the FIFO (first in first out) and 'goods to the person' principles by automatic warehouse handling and savings on personnel.

Semi-automatic flow-through rack systems

- » Can be used as a picking store or as an intermediate buffer in the production area
- » Storage with fixed item assignments to shafts

Fully automatic and combined flow-through rack systems

- » Fully automatic with stored items added and removed by robots
- » Combination of rack systems to remove full or partial quantities
- » Fully automatic throughput of large quantities with no need for personnel
- » Use of rearrangement sections for 'chaotic warehousing'
- » Can be used for large product ranges and small quantities
- » Automatic error correction due to no-read systems

Single storage locations

- » Highest availability of storage locations via access to each individual container
- » Storage with the lowest loss of room height
- » Ideal for use of whole pallets
- » Can be combined with flow-through rack systems for partial quantities



» Picking and goods out

Customer-specific picking of partial and full quantities in combination with rack systems has been well proven for years. At 'K points', which consist of mobile control panels with scales, a PC and a printer, the items for particular orders are picked and released to the delivery area.

Indispensable in logistics – 'K points'

- » Easy, flexible and effective order fulfilment
- » Fully automatic communication between pickers and sorters reliably enables a delivery tour to be put together automatically

» Empty container systems

Buffer systems enable different types of container to be flexibly put into and taken out of storage after the washing process. Fully automatic stacking and de-stacking systems ensure the best use of space without the need for personnel.

Effective empty container systems

- » Conforms to the 'goods to the person' principle
- » Avoids bottlenecks in the supply of empty containers
- » Can be integrated into existing production set-ups

» Reliable production

»More safety through perfect conditions«

Particularly in the production of food, refrigeration technology and hygiene are fundamental requirements for sustainable success. Nowhere else the regulations and hygienic standards are so strictly controlled. Perfect hygiene, an uninterrupted cooling chain, suitable consumables as well as original accessories are the basis for the modern production reliability and a company's positive image.

It is not without reason that customers and consumers associate high refrigeration and hygiene standards with higher quality. Weak points in vital production processes lead to financial losses. To avoid this by taking appropriate measures, all factors and conditions must be taken into account.

» BERTSCHlaska – Your partner for the most reliable production

- » Room cooling matched to the technological requirements in all deep freeze rooms, cooling rooms and air conditioned working rooms in the company
- » Operational and personal hygiene at the highest level
- » Highest product quality through the use of selected consumable materials
- » High-value tool processing systems guarantee perfect working procedures in production



»Refrigeration technology«

For an uninterrupted cooling chain over the entire supply chain, professional refrigeration is a decisive criterion in ensuring quality within food production. Energy costs and safe dimensioning play an important role in this.

BERTSCHlaska offers the most modern technology in combination with needs-based planning and professional installation and commissioning. This results in refrigeration systems which exactly correspond to customer requirements. Safe and high-quality production is thereby achieved in all areas.

» Operating refrigeration technology

Our product spectrum encompasses central refrigeration systems to supply cooling rooms and deep freeze rooms, flash freezers and working rooms in the whole company. We also plan and implement deep freeze systems with primary refrigerants, either using ammonia NH₃, CO₂ or Freon, and systems to cool working rooms and cooling rooms with a glycol-water mixture as a secondary coolant.

Plant refrigeration technology

In addition to operating refrigeration technology, we offer innovative refrigeration systems to supply individual air conditioned maturing systems, intensive refrigeration systems, and plate and spiral freezers with varying refrigerants. These are available as stand-alone units or as connected, multiple units. In combination with our operating refrigeration systems, the reliability of the processes using the systems is ensured.

» BERTSCHlaska – Your partner for refrigeration technology

- » Standard series or custom solutions
- » Mature engineering
- » Highest reliability operation due to automatic control
- » Many years of international experience with all refrigeration systems

» Flash freezers

These are used to flash freeze meat and other food products at temperatures between –30° and –40°C.

Applications

Vertical as well as horizontal plate freezers to freeze sausage meat, offal, spiral freezers to freeze finished products, or room freezers to flash freeze half carcasses or blocks of meat.



REFRIGERATION TECHNOLOGY

Reliability of operation, guaranteeing product quality, conforming to ecological aspects

»Hygiene«

Reliable operational hygiene is absolutely vital in the food processing industry. When planning operational hygiene concepts, all areas of a production facility must be considered in detail. Consistently maintaining separation between working and social areas is also important. Assistance is provided by specially designed hygiene locks which protect access to sensitive areas. This simple and cost-effective measure provides an effective contribution to quality assurance.

» Personnel and tool hygiene

Personal hygiene starts with professional hand cleaning via automatic application of soap and washing under running water, drying and disinfecting, plus thorough cleaning of soles, boots, aprons and gloves with disinfectant. This can be done in individual steps or in an uninterrupted process within a system, with optional access control and compelling staff to take the route through the hygiene lock. Each hygiene lock is made up of standard parts and is modified for individual requirements. Universal dispensers for single-use hygiene articles such as hairnets, gloves and face masks are indispensable in the food processing industry.



» BERTSCHlaska – Perfect hygiene secures success

- » Standard series or custom solutions
- » Completely made to measure and matched to the company's set-up
- » Can be integrated into existing infrastructure and systems
- » Consultation and implementation of hygiene concepts
- » State-of-the-art technology for personnel, tool and machine hygiene

» Automatic washing systems

Reliable cleaning of containers and supply trolleys is also playing an important part of a hygiene concept. We offer an extensive range of products for this purpose.

Cleaning of containers

- » Continuous washing machines for Euro-containers and other containers with a capacity of 250–2,000 boxes
- » Available as a compact system or in a tunnel version with up to two tracks
- » Universal washing systems for 200/300 litre lifting and supply trolleys, large containers, pallets
- » Smoking trolley washing machines

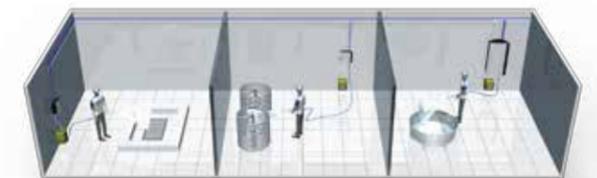


» Low-pressure cleaning systems

Poor hygiene has a very negative effect on product quality and can lead to unplanned stoppages of all production. Only professional cleaning can ensure 100% food safety. Low-pressure systems are used when disinfecting and removing grease, remains of proteins, and coatings. They reliably help to prevent the formation of biofilms. In contrast to high-pressure cleaners, in combination with the correct temperature, the correct quantity of water and the correct chemicals, low-pressure cleaners prevent the spread of aerosols containing particles of dirt and bacteria. Our extensive portfolio includes several main stations, automatic satellites, pumping stations and mobile cleaning units.

Decentralised solutions

Due to their ease of installation, decentralised solutions reduce the installation costs and are perfectly suited for later installation in existing production systems, while being fully flexible as far as choice of chemicals and dosage is concerned.



Centralised solutions

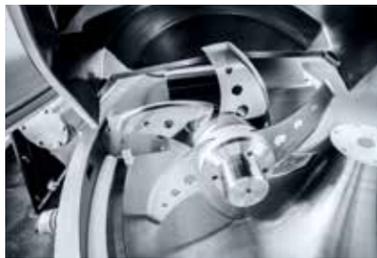
These reduce the need to deal with chemicals every day as the same cleaning agent is used in all areas. This makes using the systems very easy and reliable. This solution is suitable for extending production facilities or for brand-new facilities.

Automatic solution

Nozzles are permanently installed here, for example in bleeding-out channels, smoking systems or other parts of the system where the same areas have to be cleaned at regular intervals.

»Consumables materials and accessories«

Only with the right accessories customers can exploit the full potential of their machines and systems for professional processing of best quality products in series production. To guarantee this quality, the use of original parts is just as significant. These make an essential contribution to reliable production and offer protection from expensive downtimes. BERTSCHlaska offers universal precision blade grinding machines for all common machine blades, such as for handheld knives, cutter, linear and rotary blades, perforated discs and mincing blades.



Cutter blades
Available for all makes, in all variants at low prices with quick delivery.



Mincing discs
Available in many variants for all makes, at low prices with swift delivery.



Containers and trolleys
Can be used for all variants for a variety of purposes.



Cutting tools
Made of the finest Solingen steel, quality for especially sharp cutting knives.



Clips
Can be used for all makes, rod clips or clips in rolls.



Loops
Available in many different versions.

» Available range

- » Precision grinding machines
- » Chain mail aprons and gloves
- » Working clothes and disposable clothing
- » Shoes and aprons
- » Sharpening tools
- » Smoking trolleys and smoking rods
- » Tables in many varieties
- » Vacuum bags and films
- » Wood chips and friction smoke blocks
- » Spare parts



CONSUMABLES, SPARE PARTS AND ACCESSORIES

Your full-service provider down to the smallest detail

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