



ABOUT THE COMPANY

NOWICKI company is constantly changing, developing and expanding, our products are technologically advanced and constantly adapted to the changing market requirements.

This year the company celebrates the 45th anniversary of its founding. From the very beginning of its activity our crucial aim is to satisfy the customer's needs at the highest level. We have developed our sales network of representatives and distributors in over 70 countries on all continents, thus providing professional worldwide support.

Our production is based on up-to-date, highly advanced technologies of cutting, machining, plastic forming as well as on repeatable assembly operations. All of them are carried out with professional, digitally operated machines which are supervised by the computer quality control system; for example machines for water cutting ("Water Jet"), for plasma cutting, laser cutting, machines with numerical control: turning lathes, CNC millers, 5-axis CNC milling machines, advanced semiautomatic welding machines and assembly stations.

In order to further modernize the production process, a modern production hall was built this year.



NOWICKI 4.0

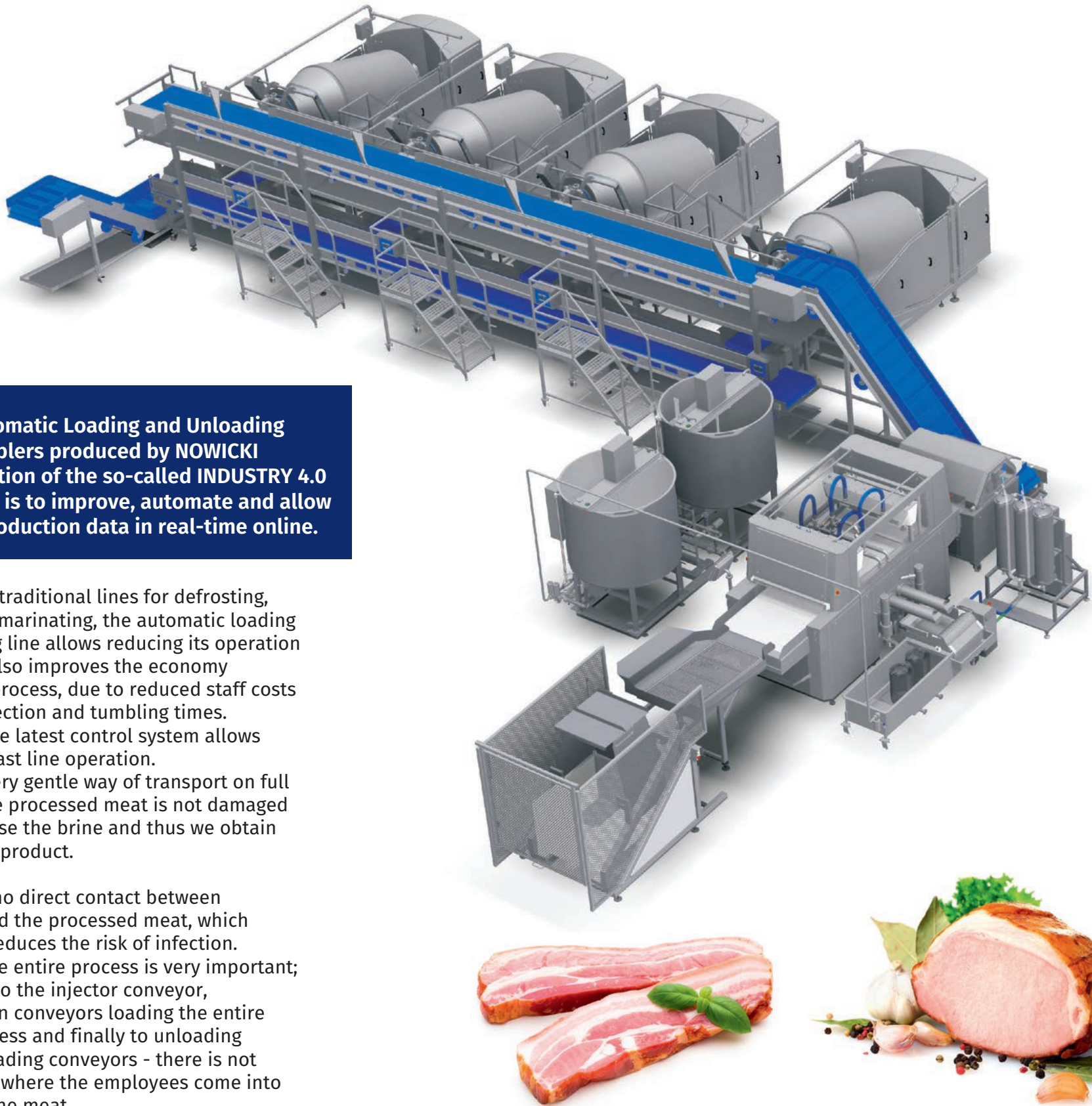
The twenty-first century has brought tremendous changes in the functioning and managing meat processing companies. Many of them implemented central systems of data collection for analytical purposes and machinery stock management. In order to address these changes, NOWICKI Company is capable of providing solutions based on VPN Gateways, which facilitate the collection of data from PLC machinery controllers, and enables the remote diagnostic process of the machinery by the technical service department. All the collected data can be sent to system controller units of the client.

As a result, our machines can be included in the process of efficiency analysis as well as effective application of machines in the process of manufacturing. So far the production plants based on the reactive maintenance, that means the machines were repaired at the moment of their failure or breakdown and as we know this can happen at the moment of largest demand. It causes excessive loss for companies, downtime, lack of goods, potential statutory penalties for the failure to deliver. Our solution allows for the future predictive maintenance of the machinery in the operating process, that means the application of the collected data for analysis of machine condition and possible preventive exchange of a sub-unit at the time of smallest demand for work.

Possibility to obtain system functionality:

- automatic notification of maintenance department or technical service of Nowicki company about the problem via SMS or email,
- sending orders for spare parts
- passing to MES system (short for: Manufacturing Execution System) of the information about problems with a machine, information on the course of production process and possible exceptions from production instructions,
- applying the collected data for the calculation of KPI index (short for: Key Performance Indicators), for instance, average failure-free period, work efficiency, number of working hours, degree of machinery load etc.
- support for Industry IoT (industry 4.0) via the application of a simple MQTT protocol (Message Queuing Telemetry Transport) with the possibility of gathering data in a cloud (Azure/AWS/Google), available in any place in the World.

IN RESPONSE TO THE GROWING DEMAND FOR AUTOMATION, MONITORING AND ON-LINE DATA MANAGEMENT (SO-CALLED INDUSTRY 4.0) AS WELL AS HIGH HYGIENIC REQUIREMENTS, NOWICKI HAS PREPARED A NEW FULLY AUTOMATIC LOADING AND UNLOADING LINE FOR THE PROCESSES OF DEFROSTING, TUMBLING, MARINATING AND COOKING, WHICH ARE CARRIED OUT IN DEFROSTERS, TUMBLERS AND MARINATORS.



The new Automatic Loading and Unloading Line for Tumblers produced by NOWICKI is a continuation of the so-called INDUSTRY 4.0 policy, which is to improve, automate and allow managing production data in real-time online.

In contrast to traditional lines for defrosting, tumbling and marinating, the automatic loading and unloading line allows reducing its operation by 90%, and also improves the economy of the entire process, due to reduced staff costs and faster injection and tumbling times. In addition, the latest control system allows for easy and fast line operation. Thanks to a very gentle way of transport on full conveyors, the processed meat is not damaged or does not lose the brine and thus we obtain a high quality product.

There is also no direct contact between employees and the processed meat, which significantly reduces the risk of infection. Logistics of the entire process is very important; from loading to the injector conveyor, to transport on conveyors loading the entire tumbling process and finally to unloading onto the unloading conveyors - there is not a single place where the employees come into contact with the meat.



Thanks to its compact design, the automatic loading and unloading line takes up less space than traditional loading using the ejectors. A modular structure allows any configuration and adding of additional devices as the production grows. In comparison to other systems of this type, the Automatic Loading and Unloading Line by NOWICKI is compact, easy to clean and does not damage the processed meat, which guarantees the product of the highest quality. It guarantees no downtime during processing, which significantly reduces the development of microorganisms.

The Automatic Loading and Unloading Line comes in various sizes, processing capacities and configurations. The line can be matched with appropriate brine preparation systems, injectors of various sizes and applications, as well as tenderizing devices.



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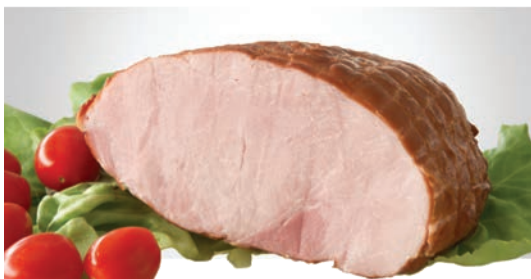
**INJECTION
LINES**

SPECIALIZED LINES FOR INJECTION TYPE MM SAS**

**SAS - Servo Automatic System

Industrial lines for meat-to-meat injection the MM lines are a very interesting solution from the point of view of a food manufacturer, but also the consumer who is looking for products with the least amount of functional additives. The MM line is designed for injecting meat emulsion into the muscles and meat elements. It is an integrated, fully automated system; from preparation of meat emulsion, its storage, injecting into the muscles, grinding the return emulsion and its return to the injection system. The meat-with-meat line provides opportunities to improve the quality of the manufactured products at the desired level of injection, increasing profitability of production and increasing the meat content of the finished product while maintaining high quality standards (smoked pork and poultry, convenience food). In addition, it enables the creation of new directions in beef processing technology that have so far been unreachable on a large scale, such as for beef with fat.

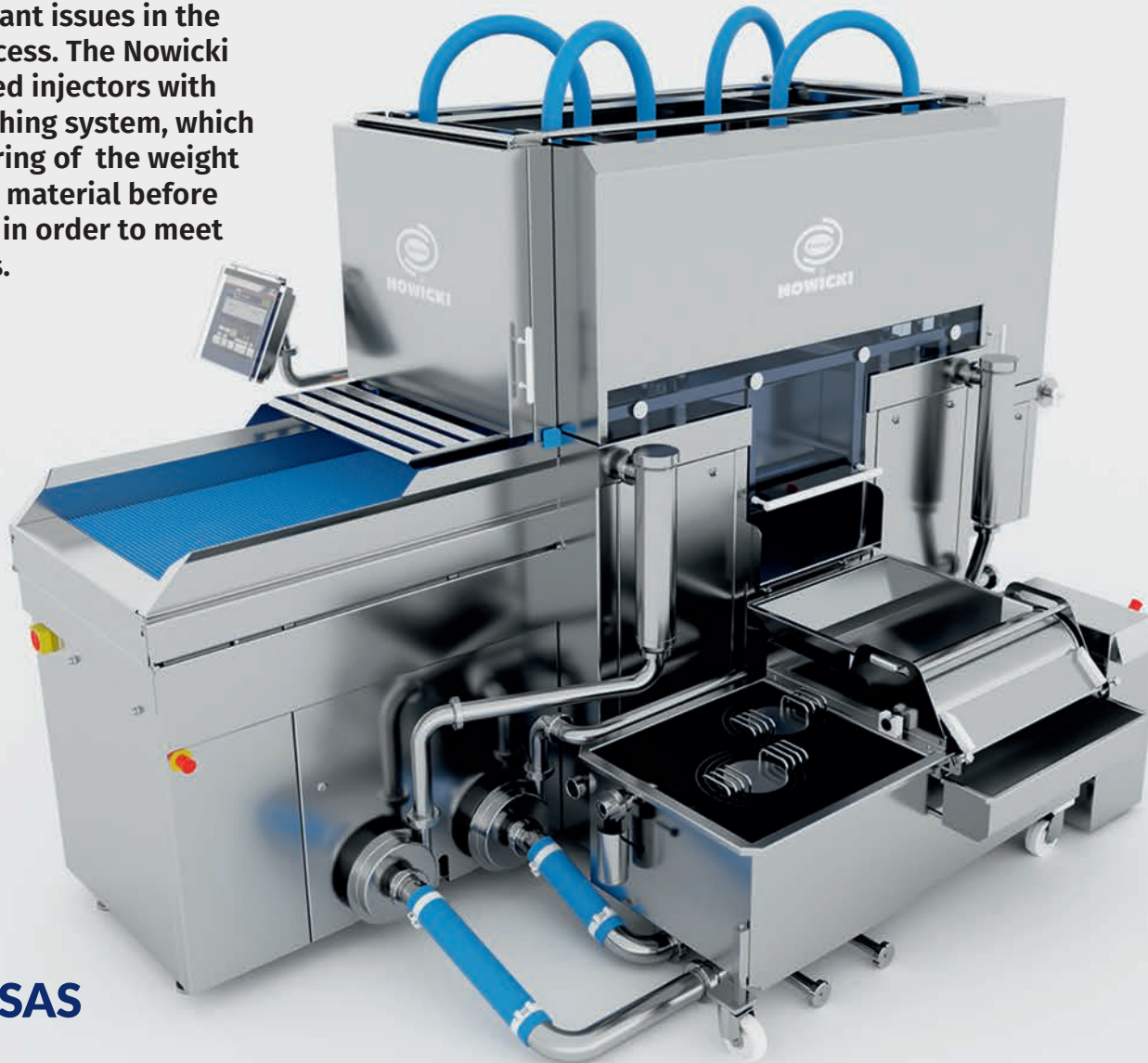
From the manufacturer's point of view, the use of a meat-injection line has the following reasons:



- Simple and compact line design - emulsion preparation assembly, storage assembly and injection assembly allow achieving the best technological results.
- Developed, contact-free emulsification and grinding systems allow obtaining emulsions of the highest quality and eliminate the need for frequent servicing of the cutting kits, i.e. sharpening and adjusting the distance between individual elements.
- A special SAS system (Servo Automatic System) used in the MM injectors together with special pumps allows full control and repeatability of the injection and excellent distribution of the emulsion in the product. The unique design of the needles reduces the traces of punctures on the surface of the meat to a minimum.
- Obtaining products with technological properties that cannot be achieved with a conventional injection method (high protein content at a high injection level).
- The meat used in the emulsion, with the appropriate technological process, improves the sensory properties (tenderness and taste) and visual properties (the color of the muscles, consistency) of the finished products, contributing to the improvement of the economic effects of production.
- Preparation of emulsion from fat and meat of lower classes than the injected raw material and the possibility of injecting meat with the PSE defect significantly reduces production costs.
- Using the emulsion cooling system eliminates the microbiological risk and improves the binding of emulsions in the product as well as guarantees the maintenance of a constant level of mass increase, consistent with the technological assumptions.
- Increased water binding due to stronger activation of muscle proteins in the emulsion reduces losses during the technological process.
- Significant reduction of tumbling and thermal treatment time.
- Reduction of the amount of functional additives in the emulsion reduces the cost of the finished product and improves its organoleptic and nutritional properties.
- It is possible to manufacture the product with the so-called clean label, i.e. without the E additives; these products are increasingly sought after by consumers.
- Line configuration can be tailored to customer needs, with many different options for additional equipment, such as loading systems and conveyors, brine preparation and storage systems.
- The solutions for quick replacement of injection heads enable also the use of injection lines with classic brines.



Accuracy and repeatability are some of the most important issues in the meat injecting process. The Nowicki company introduced injectors with an integrated weighing system, which consists in monitoring of the weight of the injected raw material before and after injection in order to meet these expectations.



The weighing system allows you to control the injection level giving the operator the possibility of any adjustments in the program to maintain the set injection level for the whole lot, thus eliminating inaccuracies resulting from the quality of individual muscles, temperature, etc.



MH-424 W SAS

The weighing system is based on the use of extensometers, it consists of two measuring systems located at the beginning and the end of the injection zone, which continuously measure the weight of the raw material on the machine conveyor. The advanced control system measures from both measuring plates and shows the current percentage increase in the mass of the raw material on the basis of the difference in indications.

THE NOWICKI COMPANY HAS EXPANDED ITS OFFER OF TENDERIZERS BY ANOTHER KNIFE MODEL - THE TM-300 TYPE

Innovative use of a magnetic head that allows to tenderize meat with the bone has been applied in this device. Thanks to this, the new model has a wider application than the models offered so far. The TM-300 model can be used in meat plants, shops or restaurants for tenderizing of culinary meat, especially beef intended for steaks. Thanks to special design of the knives and the head, the device can process meat with bone.

The knives holes can be seen (with careful observation) in the raw material but are not visible after heat processing. Meat processed this way is more tender, does not require as long marinating or thermal treatment as the meat that has not been tenderized; it is more tender, juicier and tastier.

The TM-300 type can also be used in meat plants for the production of cold meats, before injecting or tumbling, it allows shortening the tumbling time, improves absorption and uniformity of brine distribution in the muscle, reduces losses during thermal processing and prevents the occurrence of holes in the finished product. Needle tenderizing positively affects textural properties of the muscles. It lowers the hardness of the tumbled muscles by 15-20% in comparison to the muscles that have not been tenderized. As a consequence, the final product is more tender and tastier.

The TM-300 tenderizer is equipped with the adjustment of the speed of movement of the cutter head and the transporter, which allows choosing the process parameters suitable for each type of raw material. The device is easy to disassemble for washing. Special insulation of the needle head prevents excessive noise during operation.



TM-300





W-200 B



W-280 B



W-130 A

For 45 years, the NOWICKI Company has been producing the highest quality machines for the meat / food industry. Thanks to the constant development of the design and modern production techniques and highly qualified specialists, the company is successively working on expanding its offer including new devices and improving the machines already manufactured.

After long-term tests and research of the R&D department, we introduced our latest machines for grinding frozen meat blocks - the W-200 B and W-280 B grinders.

They were created from scratch for one purpose only - to revolutionize some meat factories using machines for pre-grinding whole frozen blocks, such as a flaker or a guillotine. Our machines allow to skip this step in the production process and grind frozen blocks of meat of temperature down to - 22°C directly in the W-200 B or W-280 B grinders. The use of NOWICKI grinders eliminates the need to purchase an additional machine, hire additional staff and also excludes additional costs related to the use of another machine, such as the cost of electricity or cleaning.

Considering the fact that the machine will be the basis of production in the plants, we have applied a number of design solutions that make the machine efficient and reliable. The main pressing worm is made of one solid steel element, without any welds, using the CNC machine tool, which makes the worms extremely durable. Both machines are equipped with soft-start system on the main worm and inverter on feeding worm to provide optimal start and long life of the machines.



Frozen meat blocks

The feeding worm, which is as important in the cutting process as the pressing one, has been equipped with a specially shaped coil in order to ensure smooth grinding and transfer of frozen meat to the pressing worm. The use of the inverter gave the possibility of adjusting the speed of the feeding worm, which affects the efficiency, quality as well as the economics and safety of the machine. Since both cooperating worms are placed at 90° angle to each other, a special hyperbolic shape of spiral at the end of the feeding worm prevents the meat from blocking. A special system of automatic adaptation of the feeding worm speed, depending on the load of the feeding worm, guarantees the best cutting quality while maintaining the best performance in a given unit of time.

Both machines are controlled by a simple and intuitive control panel that manages all the grinder functions such as: positioning the feeding worm for removal, extending the feeding worm, adjusting the speed of the feeding worm. Both machines can cooperate with both vertical loading and the belt conveyor. The belt conveyor can cooperate with a metal detector, which ensures long and trouble-free use of the machines. On the other hand, the user can use ordinary 200-liter trolleys, optionally 300-liter trolleys or belt conveyors, which transport the finished product to another machine.



The **W-200 B** and **W-280 B** grinders are made entirely of stainless steel, and additionally the surfaces that come into contact with food are polished, which ensures hygienic use of the machine. A special system allows washing the throat quickly and precisely. The design and execution of the machines as well as the use of high-quality machine components and cutting tools allow the use of the W-200 B and W-280 B grinders as heavy industrial machines working 24/7.



Another group of machines sought by customers are the grinders for fresh meat. They are particularly liked by smaller butchers, large stores or restaurants. To meet this demand, we created the **W-130 A** grinder only for fresh meat and vegetables and fruit.

The grinder is built on the basis of our tried-and-tested W-130 AS; however, optimized drives for grinding fresh meat have been used. The use of a proven system of two worms set at an angle ensures the best cut quality and long life. The machine body is smaller and adapted to the conditions prevailing in small plants. The grinder can work with both 200-liter trolleys and the E1 type containers or similar ones.



The 11 kW main engine combined with smooth start is optimally matched for grinding fresh meat and ensures good cutting quality and high efficiency at the same time. The structure is made entirely of stainless steel, and the surface is ground at the place it comes in contact with food.

The pressing worm is made of one steel element using CNC machine tools. Lack of welds results in high durability and a high level of hygiene. We have a wide range of plates available, it is possible to work with a three or five-tool set.

The machine is equipped with a very simple and intuitive control system using buttons. Of course, the machine has been equipped with a number of mechanical and electrical safeguards. This ensures reliability and operational safety for a long time.

THE NEW SERIES OF MICRO-CUTTERS TYPE KR

The introduction of micro-cutters into the market by the NOWICKI Company is a natural way to complement the offer addressed to enterprises in the food processing industry. In addition to machines such as a grinder and a cutter, which are used practically everywhere in food processes - micro-cutters increase the range of applications. Micro-cutters are rarely used as stand-alone machines - they are practically always associated with other machines. These connections are often the beginnings of full production lines that evolve over time into automatic processing lines.

The KR-45 and KR-90 models can be applied to any device with the possibility of transporting the product to other machines.

We approach the customer's requirements flexibly: we adjust the height and the capacity of the loading hoppers, the degree of product emulsification and production efficiency within an hour. This has a positive effect not only on the production of meat stuffing, but also on the following:

- production of children's products (ready meals)
- fruit and vegetable production (puree or pastes)
- pet-food production
- production of creams and other delicate homogeneous mixtures in the chemical and cosmetics industry

Our micro-cutters consist of a two-stage cutting system based on a rotor-stator and cutting knives arranged between them. Rotor-Stator elements don't touch each other directly in cutting head. This system is reliable and easy to use and at the same time allows maximum emulsification of the product. In addition, a well-designed cutting chamber optimizes the product flow, minimizing the energy consumption required for optimal product cutting.

The NOWICKI micro-cutters have also other advantages as follows:

- quick assembly and disassembly of tools, which facilitates the maintenance of hygiene, and accelerates the possibility of retooling the machine
- the possibility to choose tools depending on the degree of cutting
- contactless work of the tools eliminates additional heating of stuffing, as well as the possibility of damage to the tools in the case of "dry" work

KR-45



The operator panel installed in the machine body is intuitive and allows for quick operation of the micro-cutter - depending on the process requirements. The product inlet and outlet temperature control function allows controlling the degree of heating of the emulsion. Compact design of the machine, which is placed on wheels, allows efficient use of the micro-cutter in various cutting operations in combination with other machines. Wherever constant and repeatable high quality of cut is required combined with high productivity per hour, there will be space for the NOWICKI micro-cutter.

A durable design closed from the bottom, but with easy access to the head and all the technical elements, simple blade replacement and knives sharpening - all these pay off in the positive reception of machines by the departments responsible for plant maintenance. In addition, the entire machine design together with the cutting system is absolutely trouble-free regarding keeping cleanliness and hygiene.

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CUTTERS

NEW SERIES OF MICRO-CUTTERS VACUUM CUTTERS

THE 125 V VACUUM CUTTER

In our modern world where every company operating according to market principles must strive for perfection in what it does in order to develop - the NOWICKI Company gives another such a tool for use by small and medium meat plants: the KN-125 V vacuum cutter.



The latest industrial design of the KN-125 V cutter based on optimal design in terms of hygiene allows washing the entire cutter seeing every washed surface. The cutter operation is easy and quick via an intuitive touch panel and using joysticks. During operation, only the lid of the bowl is opened - which shortens the machine's operating time.

Each NOWICKI bowl cutter, including the latest KN-125 V, is equipped with frequency converters and motors that allow the use of very high knife speeds - where the linear speed is around 150 m/s. Customers do not have to wade through the thicket of information about the type and the specifications of the machine.

They always get a cutter working in all, even the toughest conditions, easy to control along with a wide range of options for use in cutter technology - but still very user-friendly. Perfectly muted and balanced design without any vibrations. We also remember about the maintenance department in the plant: wide-opening side doors allow for a quick reach of every mechanical element of the machine.

Separately installed electrical cabinet allows keeping valuable electronic and eclectic elements away from water and other environmentally unfriendly factors for electronics.



KN-125 V

Why is the vacuum cutter used in the production of highly ground meat stuffing?

- it reduces the time needed to obtain a meat or fat emulsion
- it reduces bacterial growth, thus extending shelf life
- it improves the visual appearance of the product cross-section - reduction of air bubbles
- it reduces the number of running meters of packaging per kilo of product
- it increases the operator's comfort by muting the work of the cutter

In 2019, Metalbud NOWICKI launched a new line of tumblers. Model MA-2800PSCH, with a very compact design, combines the advantages of traditional horizontal tumbling machines and increased loading, as in the tilting tumblers.



MA-2800 PSCH

Due to the possibility of drum inclination, the maximum charge has increased significantly and amounts to 55% of the drum volume. This is a 10% increase in loading capacity compared to traditional horizontal tumblers, which, with significantly reduced machine dimensions, allows for better use of space on the production hall and a significant increase in production capacity.

The new line of tumblers is derived from the products that have been manufactured by NOWICKI for almost 30 years, namely horizontal type MA tumblers. Their simple and reliable design, ease of use and versatility in the processing of various products have been appreciated by many customers around the world.

The new MA-2800 PSCH tumbler has all these features, and compared to the classic horizontal tumblers, its main advantage is the possibility of increased loading of the batch. Thanks to the drum inclination, the maximum loading of the tumbler can be increased up to 55% of the drum volume. At the same time, thanks to the optimal arrangement of the systems in the engine room, it was possible to reduce the dimensions of the engine room. Nevertheless, access to the elements inside the engine room is very easy (the doors are removed).



The new MA-2800 PSCH is more compact and takes up less space than horizontal tumblers with the same drum volume. The design using closed profiles and rounded edges of the engine room is easy to keep hygienic. Reliable chain drive and reinforced drum structure determine the long-term operation of the machine. The machine can work with automatic covers and various controllers offered by the NOWICKI Company.



NEW TYPES OF VACUUM TUMBLERS

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**VACUUM
TUMBLERS**

In response to inquiries from Polish and foreign customers looking for solutions in the processing of tumbled for a very short time or only marinated products, NOWICKI has developed a new model of the MA-P-2500 PS meat tumbler. The design uses two covers, which are located on the front and rear of the machine; this solution allows loading from one end and unloading from the opposite end of the drum. The tumbler is therefore an ideal device for working in a line, also an automatic one.

The MA-P-2500PS tumbler for fast tumbling and marinating processes

The growing demand for ready-made meals, marinated products and the products already prepared for further thermal processing as well as increasing consumption of poultry caused the need for the NOWICKI Company to propose a special device that would enable marinating or tumbling of meat products in a very short time. Several decades of experience in the design of tumblers has been used in the design of the new design MA-P-2500 PS.

Rotation of the drum is carried out by four durable rollers, which also support the drum. Variable speed control of the drum is possible thanks to the inverter control of the drive. The built-in vacuum system, controlled from the operator panel, enables the implementation of various technological programs. All the MA-P-2500 PS components are built-in inside the machine. Additional inspection openings in the ends make it easier to keep the MA-P-2500 PS hygienic. The MA-P-2500 PS can be loaded with traditional hydraulic loading from standard 200-liter trolleys; it can cooperate with vacuum loading or be loaded via a conveyor belt. In the case of loading via a conveyor or trolleys it is also possible to work with an automatically closing cover. With the vacuum loading of the tumbler, we recommend a system of two covers - the first one is dedicated only for vacuum loading, the other one is for work in a vacuum.

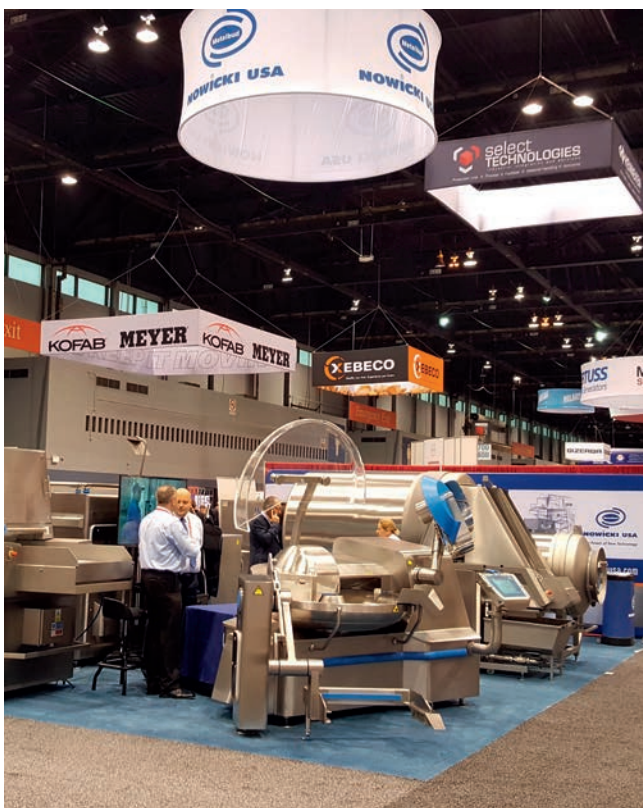


NOWICKI ALL OVER THE WORLD

NOWICKI EXPANSION

We have developed our sales network, direct sales and distributors in **over 70 countries on all continents**, thus providing professional worldwide support.

NOWICKI AT TRADE FAIRS



PROCESS EXPO, USA



ANUGA, GERMANY



ANUTEC, BRAZIL



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