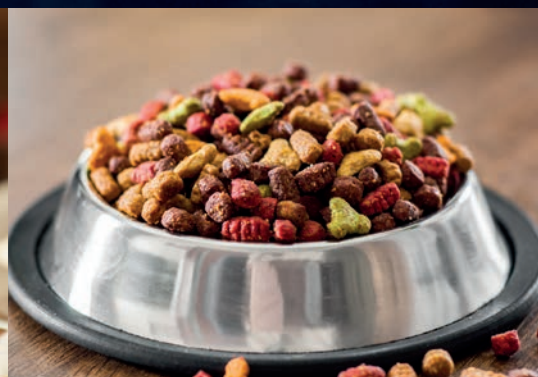
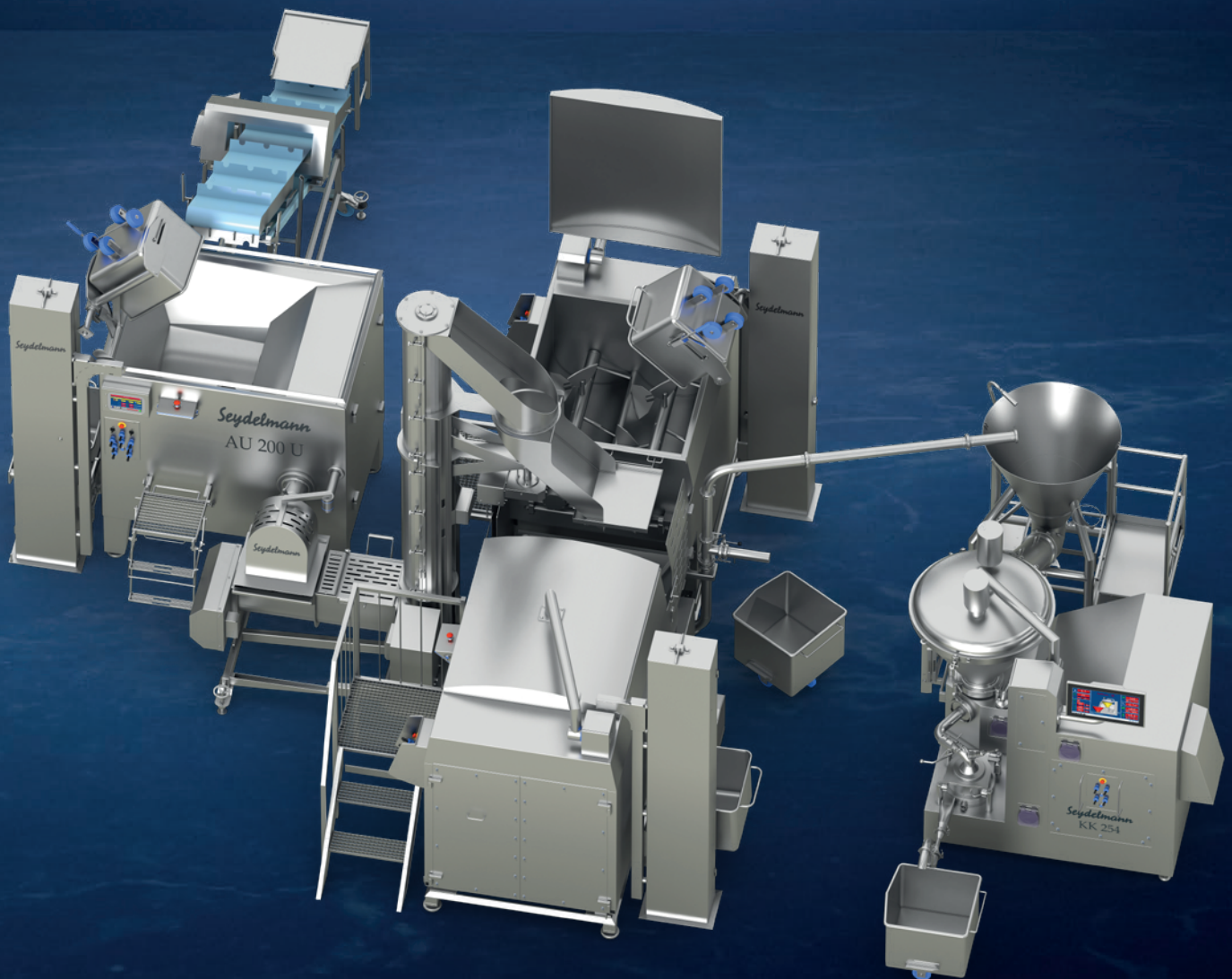


*Seydelmann*



# PRODUCTION LINES

INDIVIDUAL COMPLETE SOLUTIONS







<b>Individual complete solutions</b>	4-5
<b>Applications</b>	6-7
<b>Production Lines for ground meat, hamburgers and dry sausage</b>	8-15
<b>Production Line for chicken nuggets</b>	16-17
<b>Production Lines for boiled sausage and other emulsions</b>	18-29
<b>Production Line for ham</b>	30-31
<b>Production Line for cooked sausage and pâté</b>	32-33
<b>Machines in Production Lines</b>	
- Grinders	34-36
- Mixers and Mixer-Grinders	37-38
- Emulsifiers	39
- Cutters	40-41
<b>Conveying and storage technology</b>	
- Conveyor belts	42-45
- Screw conveyors	46-48
- Pumps and pipe systems	49
- Hoppers and storage containers	50-51
- Loading devices	52-53
<b>Technology and regulation functions</b>	
- Direct cooling function with CO <sub>2</sub> or LN <sub>2</sub>	54-55
- Indirect cooling/heating via Pillow Plates	56
- Dosing valves and nozzles	57
- Cooking function	58-59
- Fat analyses	60-61
- Details/Additional equipment	62
<b>Cleaning and CIP</b>	63-67
<b>Automation and control</b>	68-71

## Overview advantages of automated and integrated lines



Higher hourly output



Less personnel required



Consistent product quality



Less floor space



Better hygiene



Fewer error sources



Quality assurance and traceability  
due to data recording



Less energy consumption

Fully and partly automated production lines are planned, designed, and manufactured as complete solutions for a wide variety of products in the food industry. The project planning is individually tailored to the needs and expectations of each customer.

The individual machines are controlled in an automated series and are perfectly coordinated with one another. The degree of automation and the interfaces can be determined individually. The complete production can be fully automated and controlled by one single person from a central operating terminal.

All steps of the automated process are carried out ensuring the highest quality and efficiency of production, including pre-cutting, cutting, fine cutting, emulsifying and mixing under vacuum, standardizing, heating of the material, gas-flushing and cooling with carbon dioxide (CO<sub>2</sub>)/liquid nitrogen (LN<sub>2</sub>) and the analysis of the material by near infrared or X-ray.

All the necessary means of transporting the product, like conveyor belts, screw conveyors, and pumps are tailored exactly to the individual machines and the steps in the production process. The conveyor systems replace the labor and time consuming transport of the material via trolleys between the individual steps in the production process. Storage containers built into the Production Line offer a space-saving and efficient alternative to temporary storage of the material in trolleys.

Production Lines consisting of Cutters, Grinders, Mixers and Emulsifiers are customized for the processing of various foods and other industries. An individual solution is developed based on the starting product and the desired type of processing.



# Applications

*Seydelmann*



Ground meat



Ground meat products



Pasta fillings



Tofu



Boiled and cooked sausages



Pâté



Fish products



Surimi



Boiled sausages with coarser chunks



Sliceable dry sausages



Cheese products



Grease



Doner kebab



Fast-food



Pet food

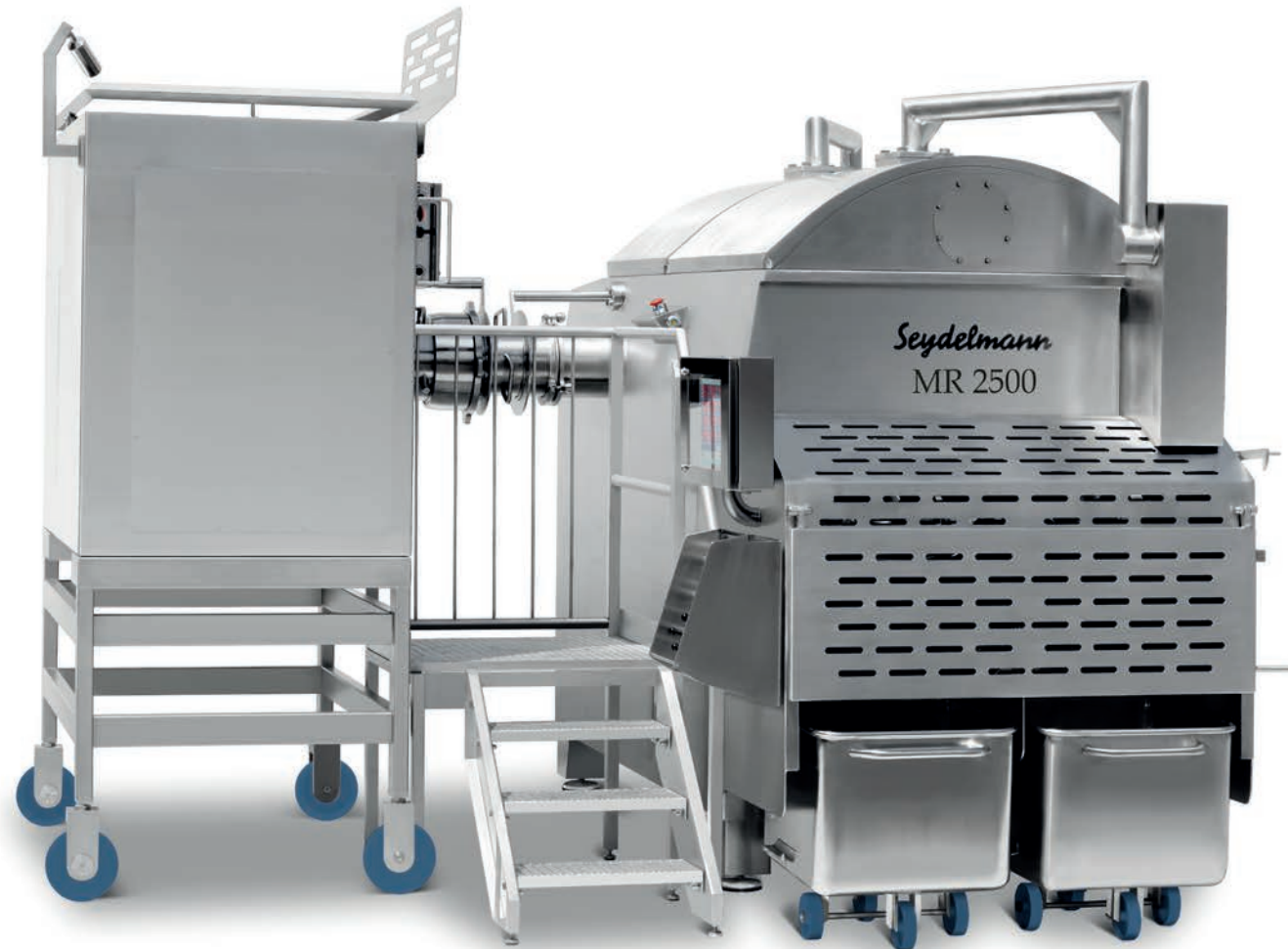


Pet food and reward treats



# Production Lines for ground meat, hamburgers, and dry sausage

*Seydelmann*



Automatic Grinder AV 250 with a direct connection from the grinder outlet to mixer MR 2500

After grinding, the material is fed directly from the Automatic Grinder AV 250 into the Mixer MR 2500 for mixing and standardizing. The moveable elevation frame beneath the AV 250 allows to separate the machines from each other for demounting the cutting set and removing the working worm.

The cooling function in the MR 2500 ensures that the processed material always stays precisely at the desired temperature. The desired temperature is achieved by injecting CO<sub>2</sub> or LN<sub>2</sub> into the mixer via

nozzles and valves in the bottom of the hopper.

The MR 2500 is equipped with two hydraulic lids. They open towards the back and the front of the machine for adding further ingredients to the mixture and are suitable for production rooms with lower ceilings. For high-ceiling rooms, the lid is available in a single piece.

After finishing the mixing process, the material is discharged into trolleys via hydraulic discharge flaps.



Automatic Grinder AU 200, vertical screw conveyor and Mixer-Grinder MRU 1300

The raw material is loaded via an integrated hydraulic loading device with a 200 l trolley\* into the Automatic Grinder AU 200.

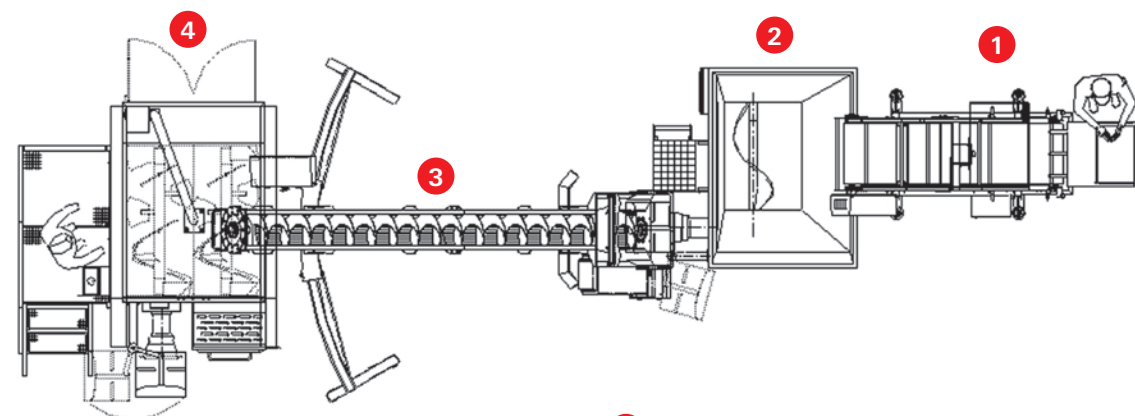
There, the material is ground and fed into the vertical screw conveyor that transports it into the Mixer-Grinder MRU 1300 for final mixing and standardization as well as, where applicable, additional final grinding.

\* available on request as an option for 300 l trolleys.





Inclined conveyor belt with loading table, Universal Grinder AU 200 U, swiveling screw conveyor and Mixer-Grinder MRU 1800 with cooling function with hydraulic lid



- 1 Inclined conveyor belt
- 2 Universal Grinder AU 200 U
- 3 Swiveling screw conveyor
- 4 Mixer-Grinder MRU 1800  
(cooling in bottom of the hopper)

Production Line with one Universal Grinder AU 200 U, which can process fresh meat as well as frozen meat blocks down to  $-25^{\circ}\text{C}$  ( $-13^{\circ}\text{F}$ ) without changing the worm or cutting set. The machine is loaded with an inclined conveyor belt or alternatively with the integrated hydraulic loading device.

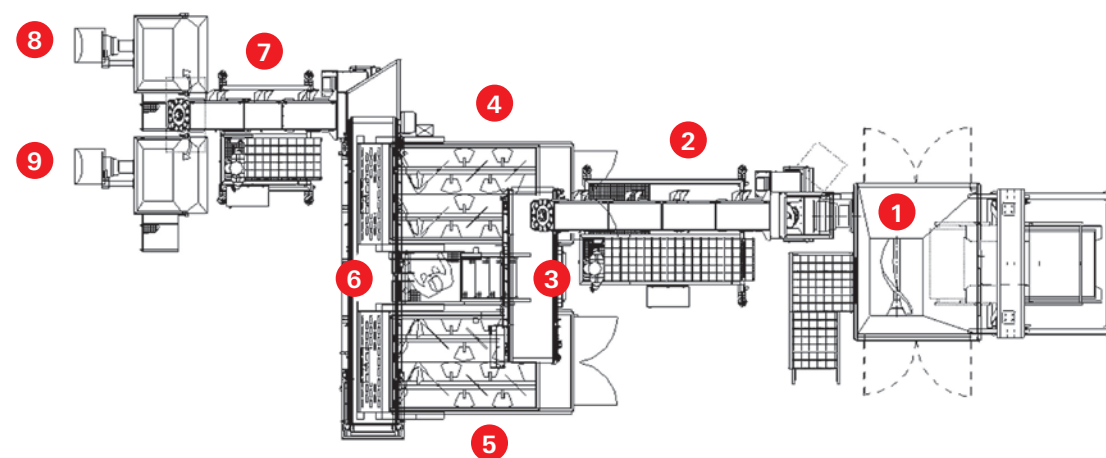
The minced product is transported via a swiveling screw conveyor into the Mixer-Grinder MRU 1800. Via nozzles in the bottom of the hopper, the material is cooled down to the ideal processing temperature.

Alternatively, cooling could be done with snow horns. The curved shape of the lid provides sufficient expansion room. After the mixing and cooling process, the product can be ground again or can be discharged via the hydraulically operated discharge flaps.





Universal Grinder AW 300 U with loading device for large containers, screw conveyor, two Mixers MR 2500 with conveyor belts, screw conveyor with swiveling outlet and two final Grinders MU 200



- |   |  |
|---|--|
| 1 Universal Grinder AW 300 U with loading device for large containers | 5 Mixer MR 2500 with load cells        |
| 2 Screw conveyor  | 6 Horizontal conveyor belt             |
| 3 Horizontal conveyor belt  | 7 Screw conveyor with swiveling outlet |
| 4 Mixer MR 2500 with load cells                                       | 8 Final Grinder MU 200                 |
|   | 9 Final Grinder MU 200                 |

Automated Production Line beginning with a loading system for large containers and one Universal Grinder AW 300 U, which can process fresh meat as well as frozen meat blocks down to  $-25\text{ }^{\circ}\text{C}$  ( $-13\text{ }^{\circ}\text{F}$ ) without changing the worm or cutting set.

With a screw conveyor and a horizontal conveyor belt, the ground material is transported to two Mixers MR 2500. Load cells at the Mixers determine the current weight of the mixture in the machine.

In this way, the exact composition of recipes can be controlled.

The mixed material is transported via a screw conveyor with a swiveling outlet into two Mixing Grinders MU 200, which are used as final grinders.

For easy cleaning, the screw conveyors are equipped with a fixed cleaning stairwell.



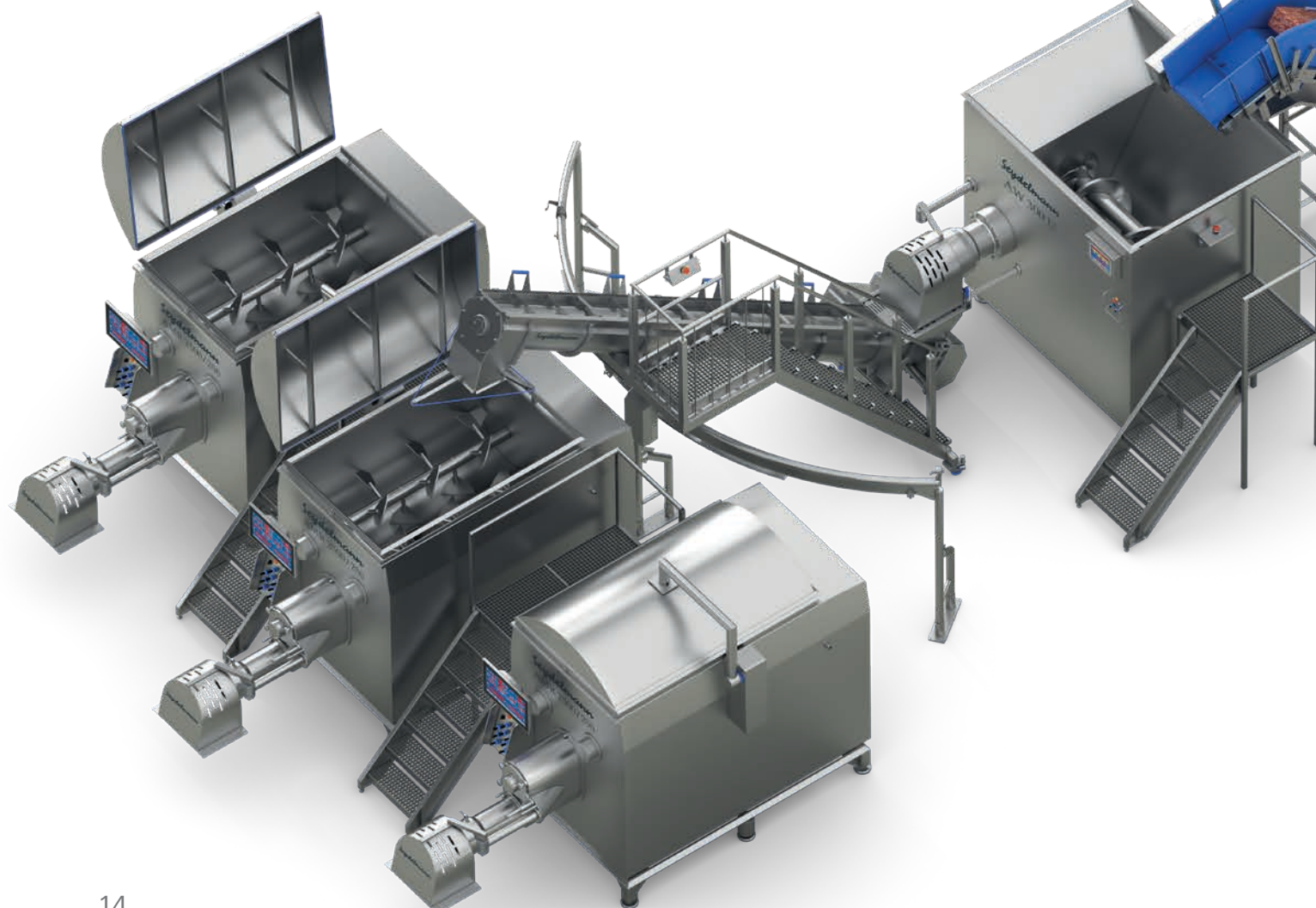
The automated Production Line starts with a feeding belt with an integrated scale and with ergonomic scissor lifting tables to relieve employees. The integrated X-ray fat analysis system evaluates the fat content of the raw materials, in addition to detecting possible foreign bodies. The intelligent control system indicates whether and how much additional lean meat or fat must be fed into the universal grinder AW 300 U in order to achieve the desired raw material composition and the

target fat content. The universal grinder AW 300 U is characterized by the fact that it processes whole frozen blocks down to  $-25\text{ }^{\circ}\text{C}$  ( $-13\text{ }^{\circ}\text{F}$ ) as well as fresh meat reliably and with consistent quality without having to change the worm or cutting set. In the connected automatic mixer grinders AMR 2500, the pre-cut meat and fat content is homogenized quickly and gently. Cooling by the addition of liquid nitrogen or  $\text{CO}_2$  is also possible in order to achieve the optimum consistency for shaping.

Finally, the meat is ground to the desired grain size and transferred to the filler or forming machine. Tendons, cartilage and other unwanted hard parts are separated out by the separating set.

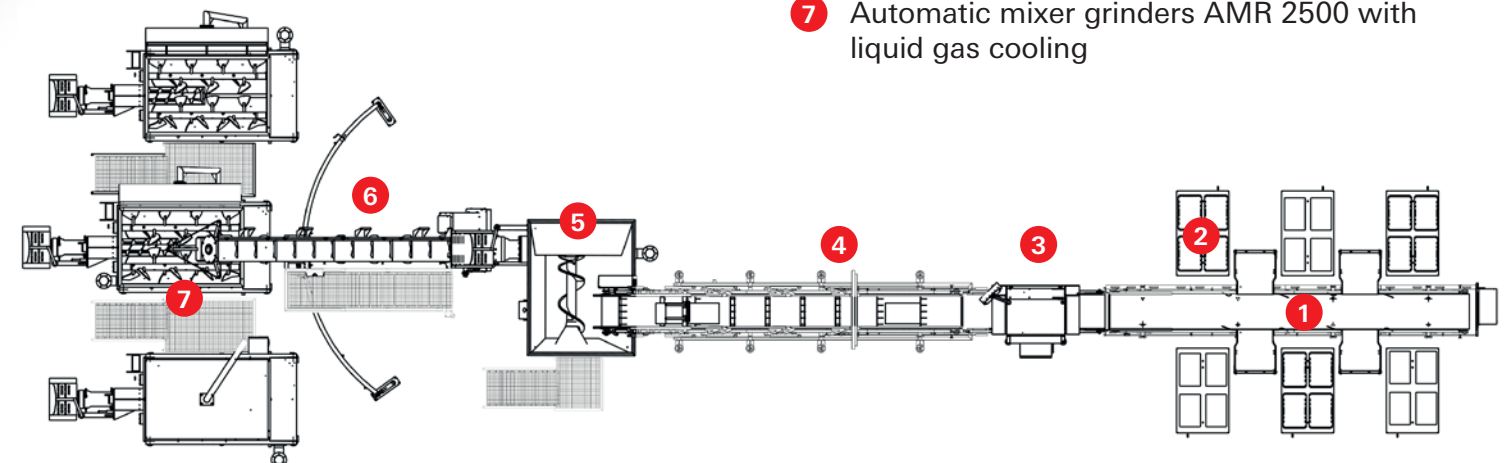


Weighing feeding belt with scissor lifting tables and X-ray fat analysis, inclined conveyor belt with flights, Universal Grinder AW 300 U, swivelling screw conveyor and three Automatic Mixer Grinders AMR 2500 with liquid gas cooling.



- 1 Weighing infeed belt
- 2 Scissor lift tables
- 3 X-ray fat analysis

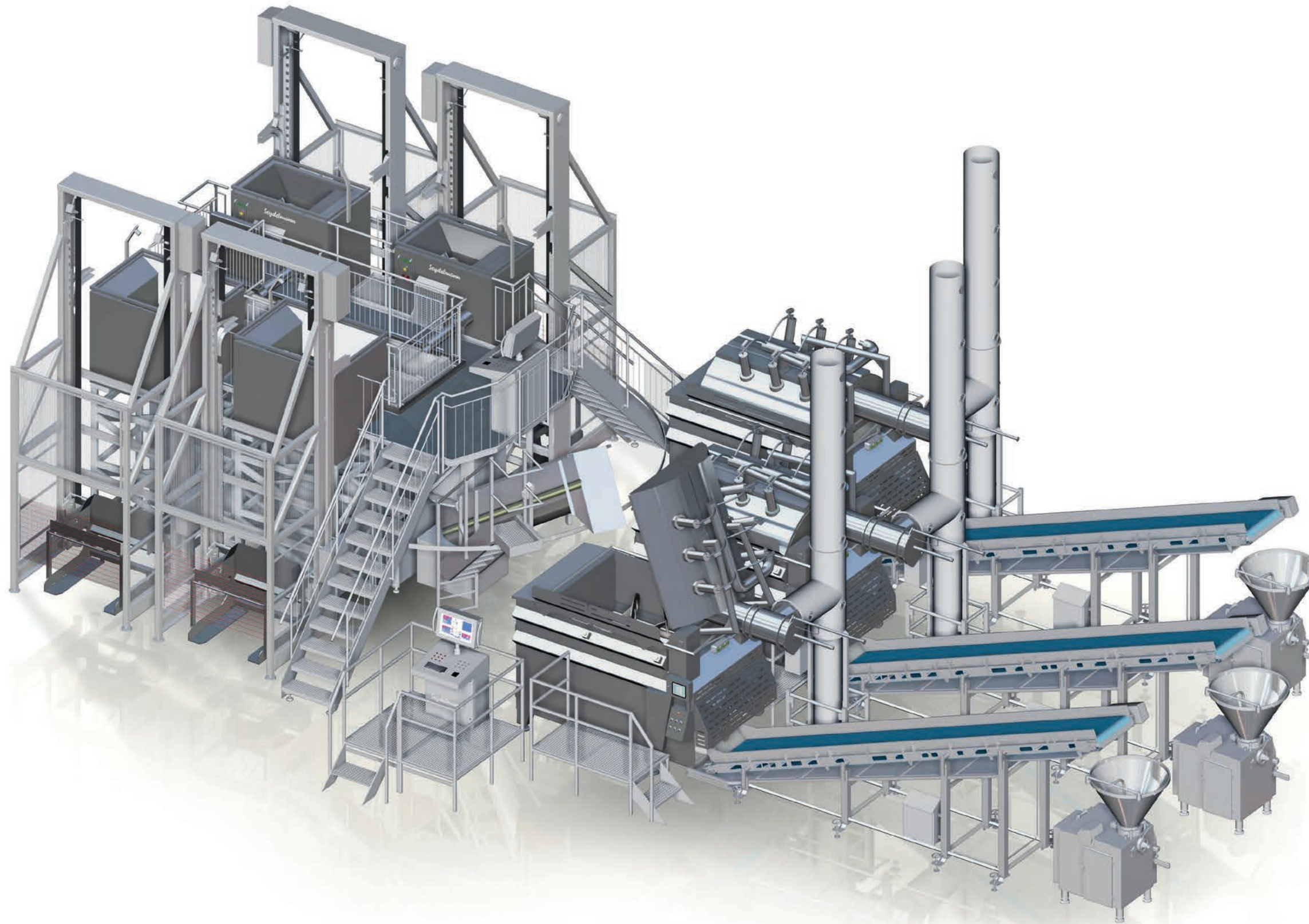
- 4 Inclined conveyor with flights
- 5 Universal grinder AW 300 U
- 6 Swivelling screw conveyor
- 7 Automatic mixer grinders AMR 2500 with liquid gas cooling





# Production Line for chicken nuggets

*Seydelmann*



Two Automatic Grinders AU 200 and two Universal Grinders AU 200 U, each with loading device for large containers, storage hopper with feeding paddle shaft and discharge worm, swiveling screw conveyor, three Vacuum-Mixers VMR 4700 with cooling function, hydraulic lid, and three conveyor belts which transport the material into three fillers

Automated Production Line with two Automatic Grinders AU 200 and two Universal Grinders AU 200 U which can process fresh meat as well as frozen meat blocks down to  $-25\text{ }^{\circ}\text{C}$  ( $-13\text{ }^{\circ}\text{F}$ ) without changing the worm or cutting set.

The four Grinders discharge into a storage hopper under the working platform, which is equipped with a feeding paddle shaft to loosen up the material. Bridging over the discharge worm is impossible. Via a discharge worm positioned at the bottom of the hopper and a moveable screw conveyor, the material is transported to one of the three Vacuum-Mixers VMR 4700. The material is cooled in the Vacuum-Mixers via snow horns to the optimal processing temperature. Via conveyor belts, the material is transported directly into the fillers.

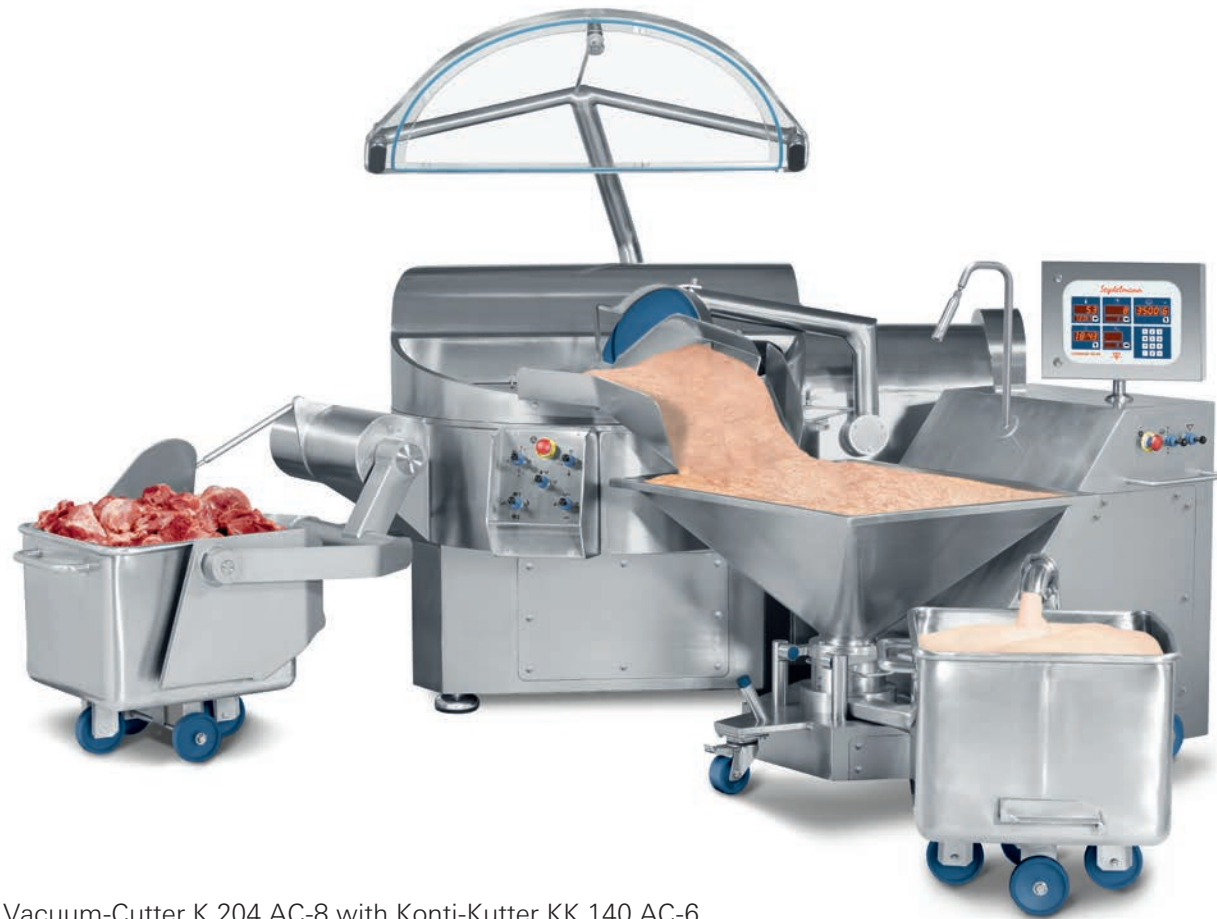
At the central operating terminal, all machines, machine functions, and conveying systems of the Production Line can be controlled and monitored with the computer-based system solution.

In addition, the recipe-based control can be operated via the central operating terminal. Via the functions of the production plan, the production steps can be controlled automatically or manually – depending upon the recipe.



# Production Lines for boiled sausage and other emulsions

*Seydelmann*



Vacuum-Cutter K 204 AC-8 with Konti-Kutter KK 140 AC-6

With cutter sizes of 200 l bowl content and up, the Emulsifier KK 140 AC-6 can be placed directly under the Cutter. In the Cutter, fresh meat as well as frozen meat can be pre-reduced and mixed under vacu-

um. Subsequently, the material is emulsified in the Konti-Kutter KK 140 AC-6.



Mixer-Grinder MRU 1300, Frozen Meat Grinder GW 300 with inclined conveyor belt, screw conveyor and Vacuum-Cutter K 754 AC-8 with feeding storage hopper

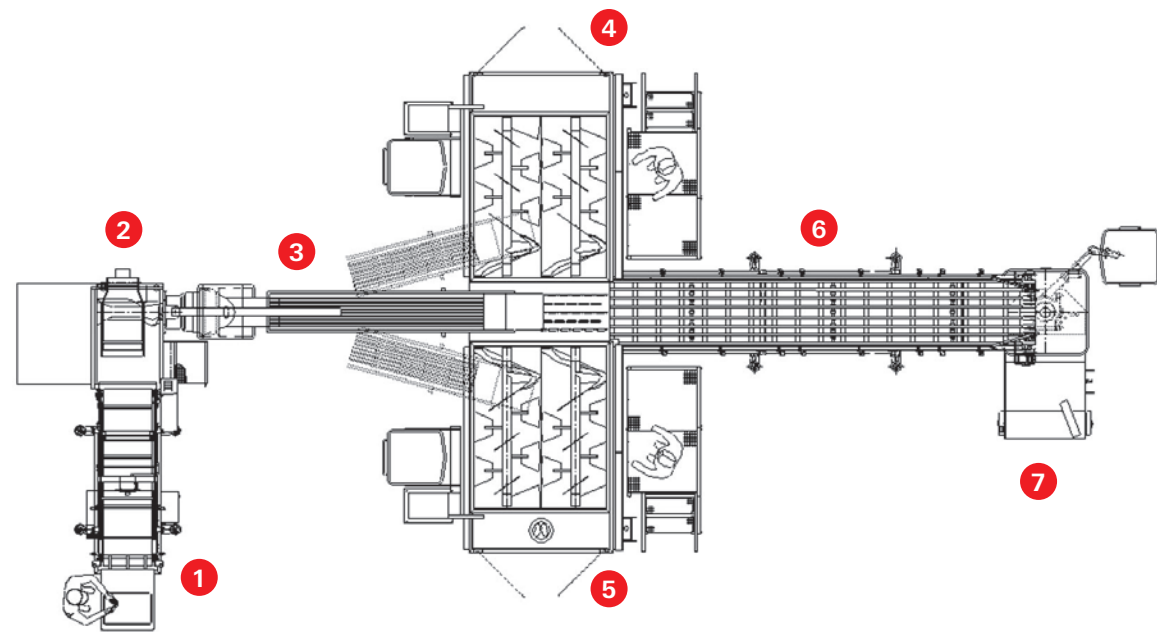
Production Line with the Mixer-Grinder MRU 1300 which can be loaded via the vertical loading device or a conveyor belt. It is used for standardization, cooling, and pre-grinding of fresh meat. The Frozen Meat Grinder GW 300 is loaded with frozen blocks via an inclined conveyor belt. The pre-ground fresh and frozen meat is subsequently forwarded through the worm hous-

ing directly into a screw conveyor, and from there into a feeding storage hopper. In the feeding storage hopper, the meat is stored and loaded into the Vacuum-Cutter K 754 AC-8. In the K 754 AC-8 the pre-ground material is processed into a fine emulsion under vacuum.





Inclined conveyor belt with loading table, Frozen Meat Grinder GX 400, swiveling screw conveyor, two Mixers MR 3500 with vertical loading device, inclined conveyor belt and Konti-Kutter KK 250 AC-6



- |  |  |
|--|--|
| 1 Inclined conveyor belt                     | 5 Mixer MR 3500 with vertical loading device |
| 2 Frozen Meat Grinder GX 400                 | 6 Conveyor belt                              |
| 3 Swiveling screw conveyor                   | 7 Konti-Kutter KK 250 AC-6                   |
| 4 Mixer MR 3500 with vertical loading device |  |

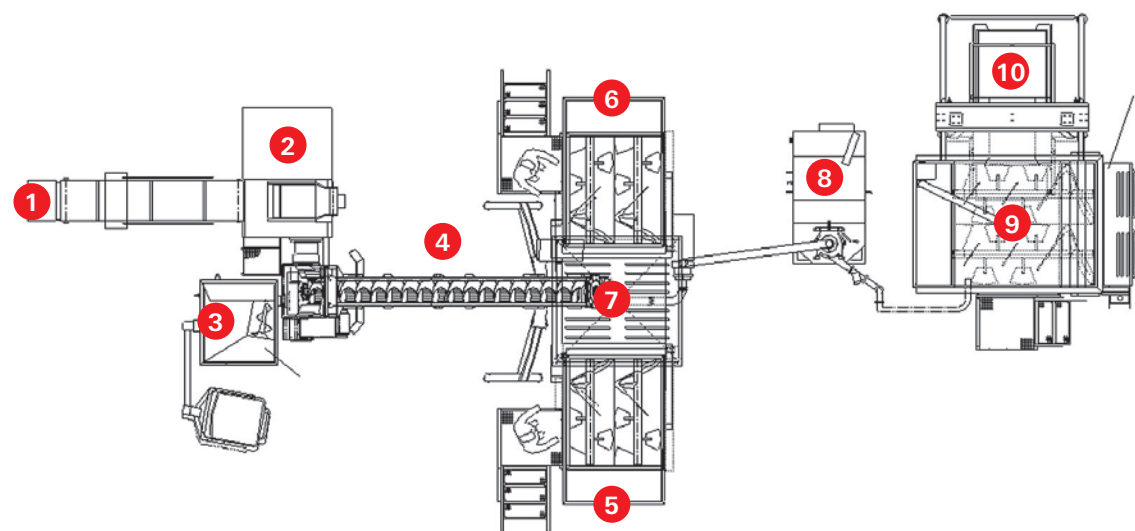
Automated Production Line with a Frozen Meat Grinder GX 400 for frozen blocks down to  $-25^{\circ}\text{C}$  ( $-13^{\circ}\text{F}$ ), which is loaded by an inclined conveyor belt. The ground material is discharged into a swiveling screw conveyor, which loads the two Mixers MR 3500. The Mixers can be loaded not only via a screw conveyor but also via a vertical loading device. The Mixers are equipped with a water dosing system.

They discharge onto a conveyor belt for the loading of the Konti-Kutter KK 250 AC-6. The latter is equipped with a raised hopper in which material can be buffered. After emulsifying, the Konti-Kutter discharges into trolleys.





Production Line with Automatic Grinder AG 160, Frozen Meat Grinder GW 300, swiveling screw conveyor, two Mixers MR 1800, 1200 l hopper with pump and tube connection, Konti-Kutter KK 250 AC-6 and Vacuum-Mixer VMR 3500 with loading device for large containers

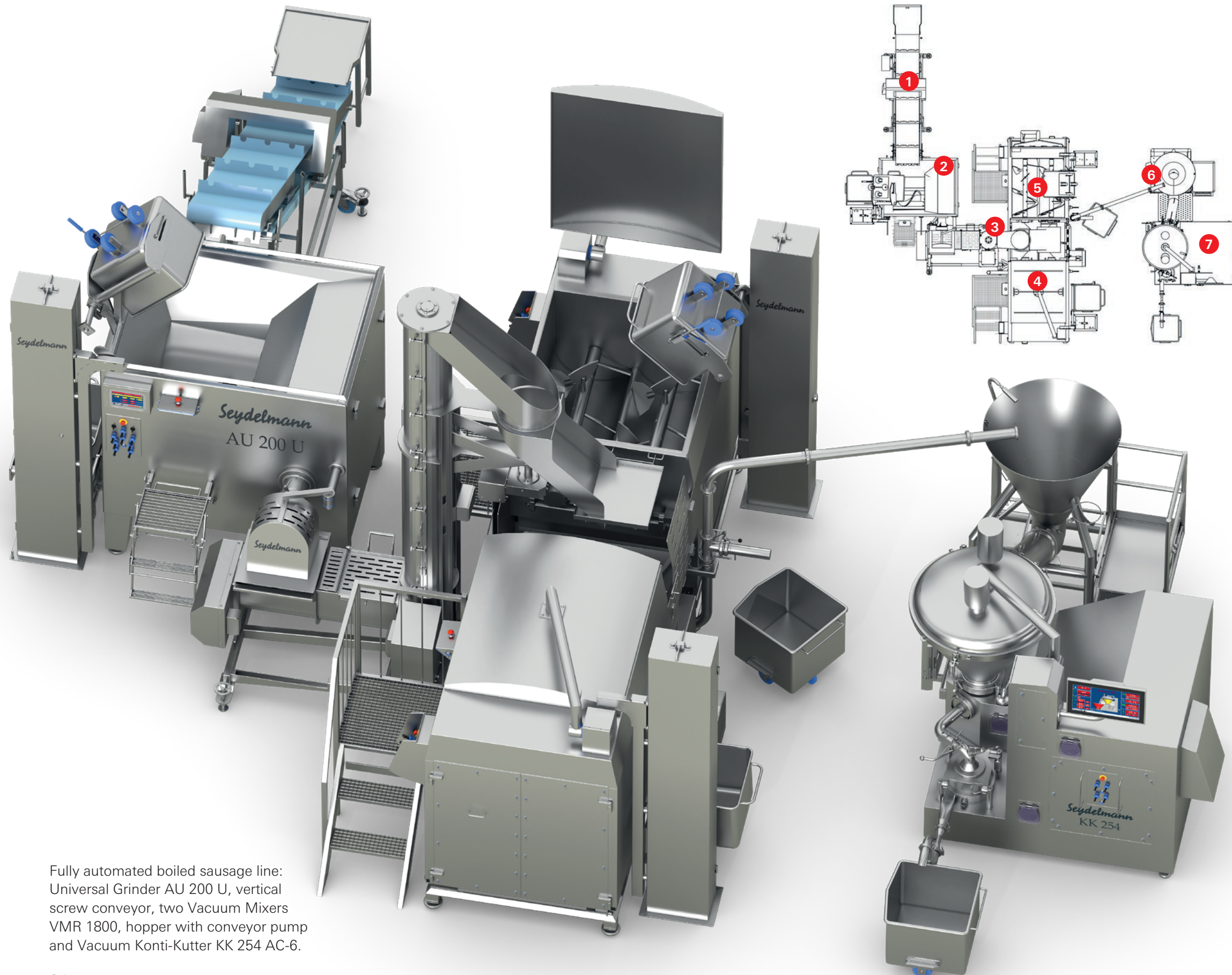


- |   |  |
|---|--|
| 1 Inclined conveyor belt with metal detector              | 5 Mixer MR 1800                        |
| 2 Frozen Meat Grinder GW 300                              | 6 Mixer MR 1800                        |
| 3 Automatic Grinder AG 160 with integrated loading device | 7 Hopper with pump and tube connection |
| 4 Swiveling screw conveyor                                | 8 Konti-Kutter KK 250 AC-6             |
|   | 9 Vacuum-Mixer VMR 3500                |
|   | 10 Loading device for large containers |

Fully automated Production Line with Automatic Grinder AG 160 for fresh meat with integrated hydraulic loading device and a Frozen Meat Grinder GW 300 for frozen blocks down to  $-25^{\circ}\text{C}$  ( $-13^{\circ}\text{F}$ ) which is loaded via an inclined conveyor belt with metal detector. The ground material is unloaded into a moveable screw conveyor to discharge the material into one of the two Mixers MR 1800.

Between the Mixers, a hopper is positioned, which is connected via a closed tube system to the Emulsifier KK 250 AC-6. From there, the product is transported directly into the Vacuum-Mixer VMR 3500 where coarser chunks can get mixed into the fine emulsion. This Mixer is equipped with a loading device for large containers and load cells.





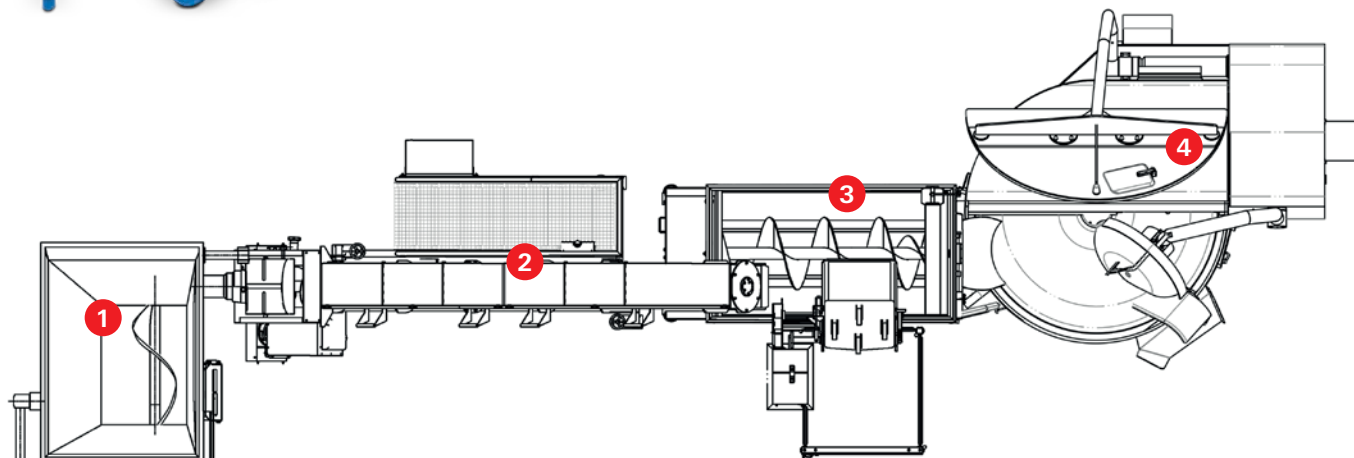
- 1 Inclined conveyor belt with metal detector
- 2 Universal Grinder AU 200 U
- 3 Vertical screw conveyor
- 4 Vacuum mixer VMR 1800
- 5 Vacuum mixer VMR 1800
- 6 Hopper with conveyor pump
- 7 Vakuu-Konti-Kutter KK 254 AC-6

The automated Production Line starts with an inclined conveyor belt with integrated metal detector for frozen meat blocks and vertical loading device for fresh meat. The Universal Grinder AU 200 U reliably and consistently grinds whole frozen meat blocks down to -25 °C (-13 °F) and fresh meat at the same time. Via a swiveling vertical screw conveyor, the pre-cut material is fed into two VMR 2500 Vacuum Mixers, which have an integrated water counter. Spices and other recipe ingredients can be added with the vertical loading devices. Under vacuum the material is quickly and gently homogenised. The mixers empty into a hopper with conveyor pump. From there the emulsion is conveyed to the feeding hopper of the vacuum Konti-Kutter KK 254 AC-6. This automatically sucks it in by vacuum and emulsifies it in the contact-free cutting set and under vacuum. The air-free fine emulsion can be emptied directly into the filler or trolleys.

Fully automated boiled sausage line:  
Universal Grinder AU 200 U, vertical  
screw conveyor, two Vacuum Mixers  
VMR 1800, hopper with conveyor pump  
and Vacuum Konti-Kutter KK 254 AC-6.



Universal Grinder AU 200 U, Screw Conveyor,  
Feeding Storage ZS 1000 and Vacuum Cooking  
Cutter K 1004 AC-8



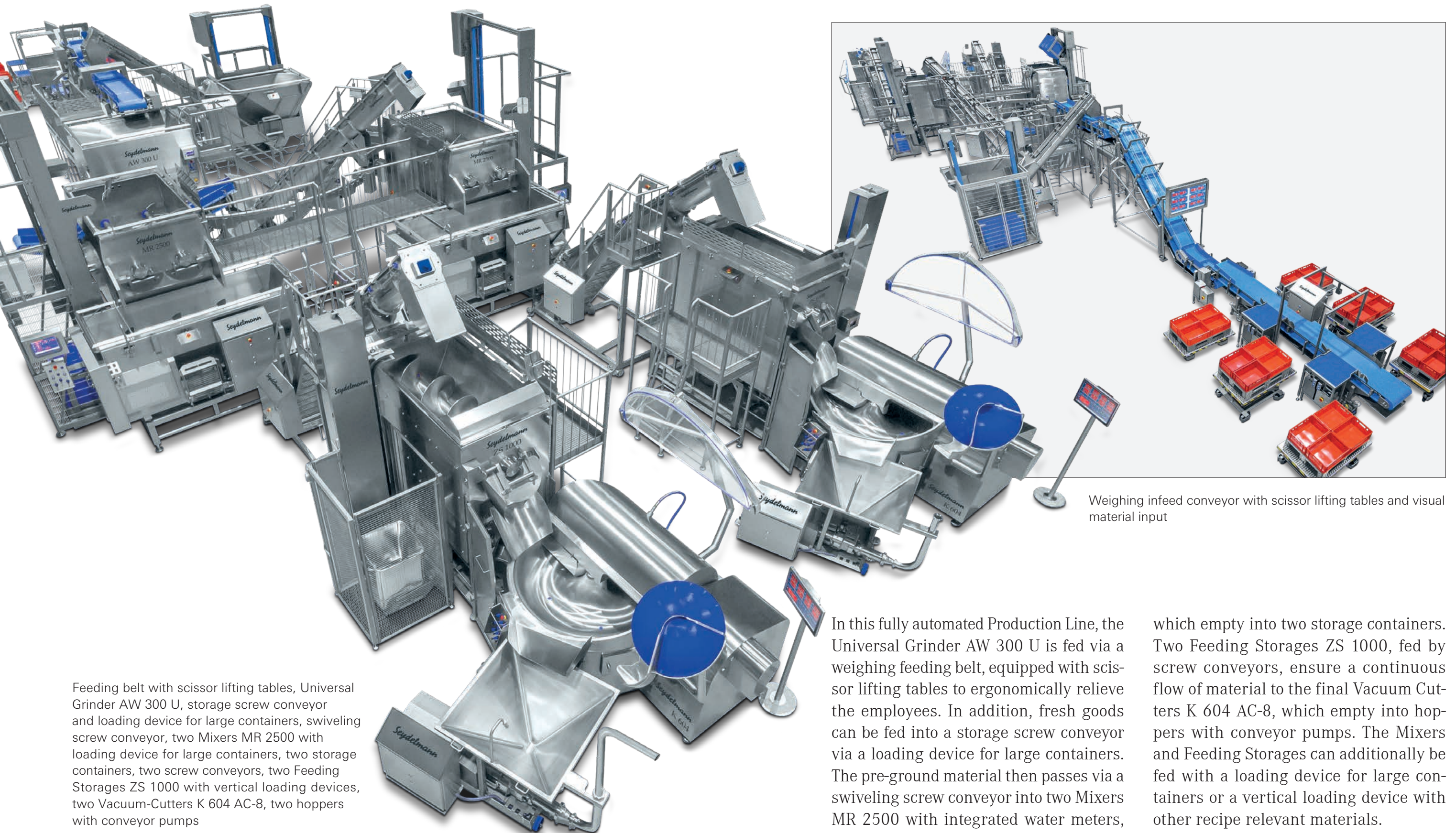
- 1 Universal Grinder AU 200 U
- 2 Screw Conveyor

- 3 Feeding Storage ZS 1000
- 4 Vacuum Cooking Cutter K 1004 AC-8

The fully automated Production Line for finely emulsified sausages with and without coarser chunks is fed by a Universal Grinder AU 200 U. This machine is characterised by the fact that it can grind whole frozen meat blocks down to -25 °C (-13 °F) and fresh meat without changing the worm and cutting set. The Feeding Storage ZS 1000, fed by a screw conveyor, ensures a continuous material flow to the

Vacuum Cutter K 1004 AC-8. The Feeding Storage can be loaded additionally with ice via a vertical loading device. Further recipe components can be fed directly into the cutter with an optionally available mobile loading device for standard trolleys.





Feeding belt with scissor lifting tables, Universal Grinder AW 300 U, storage screw conveyor and loading device for large containers, swiveling screw conveyor, two Mixers MR 2500 with loading device for large containers, two storage containers, two screw conveyors, two Feeding Storages ZS 1000 with vertical loading devices, two Vacuum-Cutters K 604 AC-8, two hoppers with conveyor pumps

Weighing infeed conveyor with scissor lifting tables and visual material input

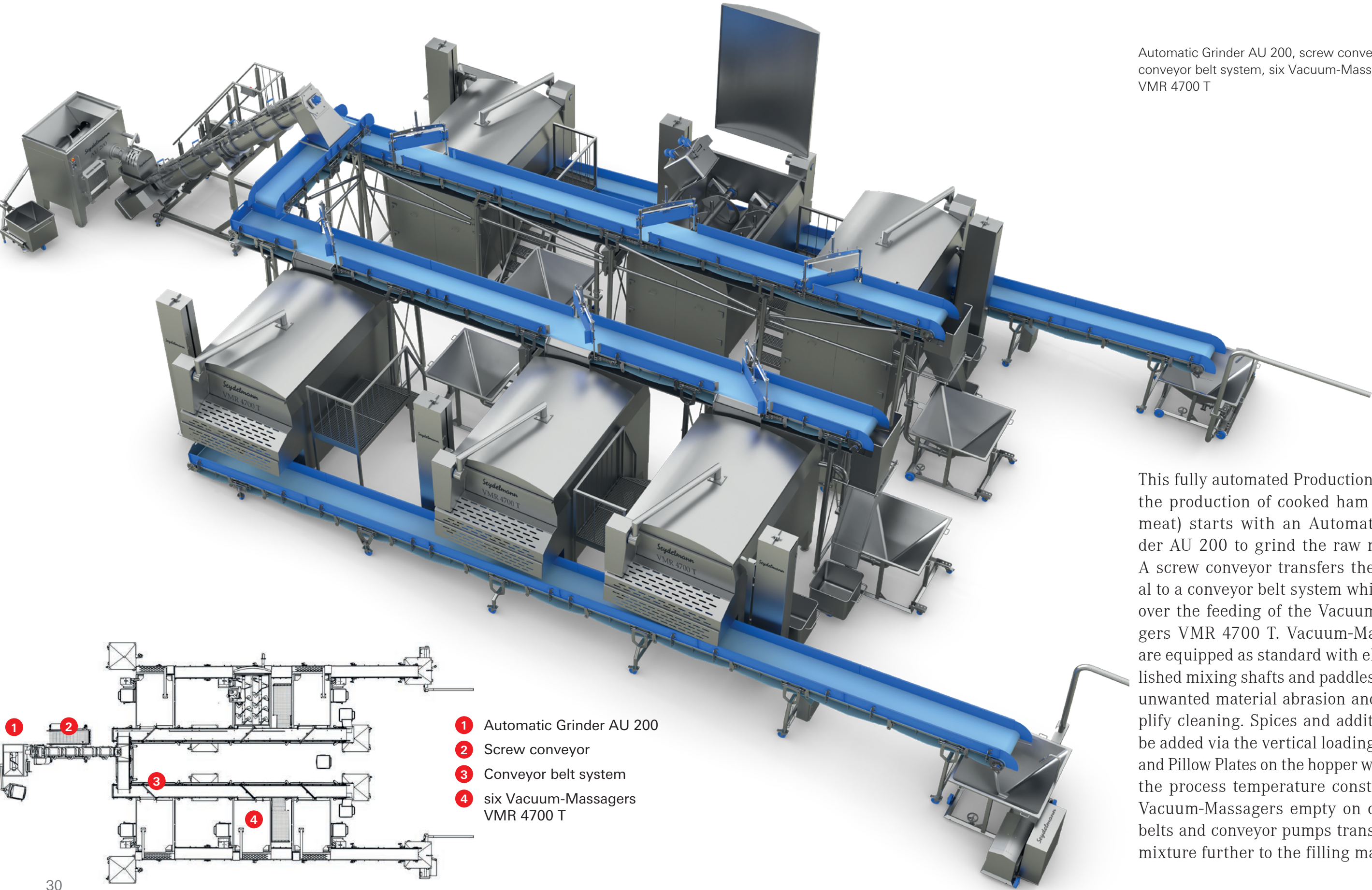
In this fully automated Production Line, the Universal Grinder AW 300 U is fed via a weighing feeding belt, equipped with scissor lifting tables to ergonomically relieve the employees. In addition, fresh goods can be fed into a storage screw conveyor via a loading device for large containers. The pre-ground material then passes via a swiveling screw conveyor into two Mixers MR 2500 with integrated water meters,

which empty into two storage containers. Two Feeding Storages ZS 1000, fed by screw conveyors, ensure a continuous flow of material to the final Vacuum Cutters K 604 AC-8, which empty into hoppers with conveyor pumps. The Mixers and Feeding Storages can additionally be fed with a loading device for large containers or a vertical loading device with other recipe relevant materials.



# Production Line for ham

*Seydelmann*



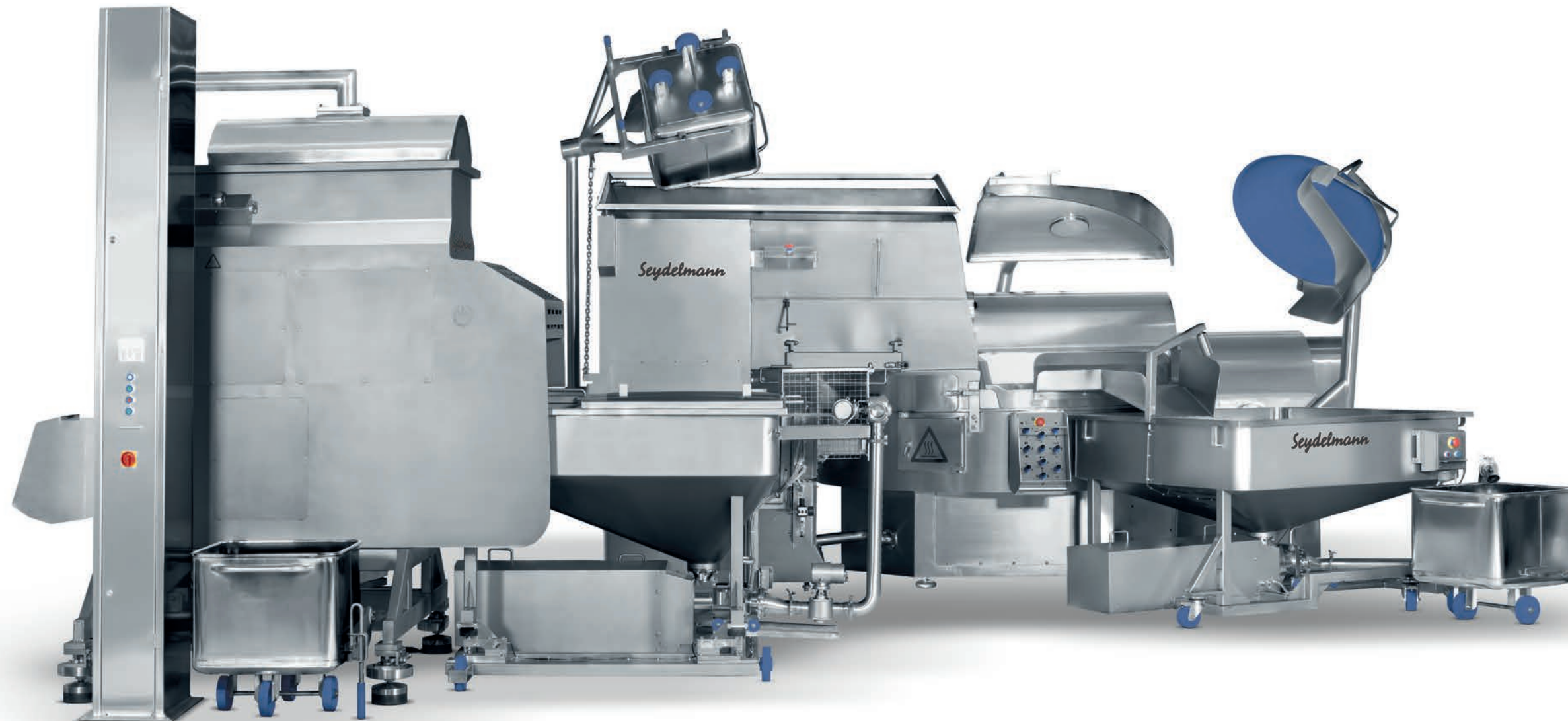
Automatic Grinder AU 200, screw conveyor, conveyor belt system, six Vacuum-Massagers VMR 4700 T

This fully automated Production Line for the production of cooked ham (formed meat) starts with an Automatic Grinder AU 200 to grind the raw material. A screw conveyor transfers the material to a conveyor belt system which takes over the feeding of the Vacuum-Massagers VMR 4700 T. Vacuum-Massagers are equipped as standard with electropolished mixing shafts and paddles to avoid unwanted material abrasion and to simplify cleaning. Spices and additives can be added via the vertical loading devices and Pillow Plates on the hopper walls keep the process temperature constant. The Vacuum-Massagers empty on conveyor belts and conveyor pumps transport the mixture further to the filling machines.

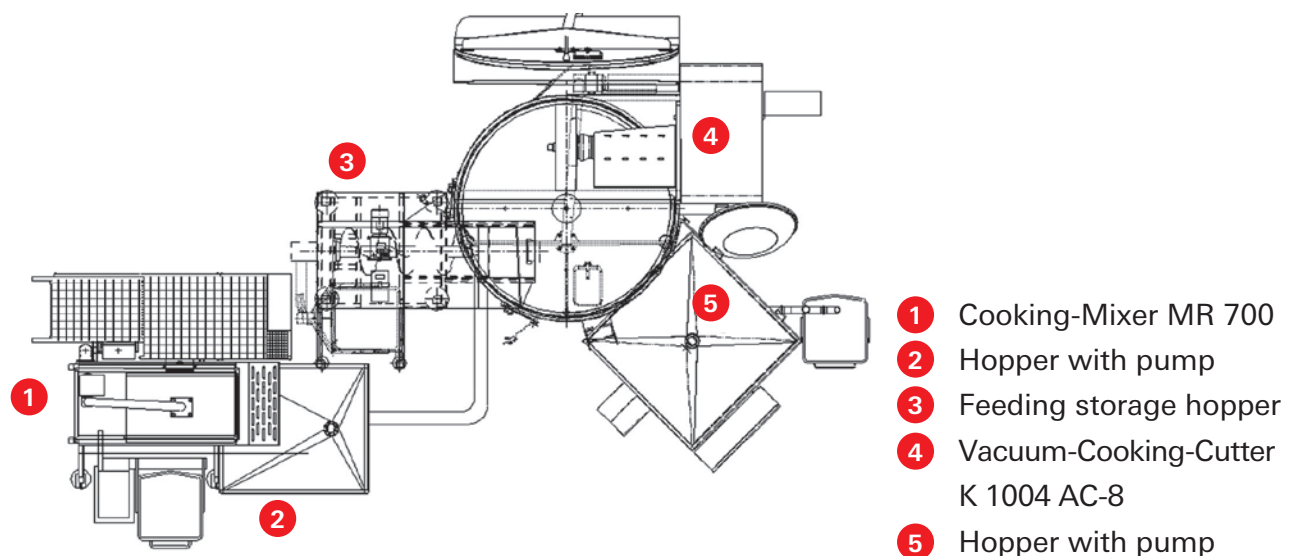


# Production Line for cooked sausage and pâté

*Seydelmann*



Cooking-Mixer MR 700 with vertical loading device, hopper with pump, feeding storage hopper, Vacuum-Cooking-Cutter K 1004 AC-8 and hopper with pump



The Production Line consisting of the Cooking-Mixer MR 700, conveyor pump and a Vacuum-Cooking-Cutter K 1004 AC-8 with a feeding storage hopper allows the efficient production of a great variety of cooked sausages. The pre-ground bacon is heated quickly and efficiently with direct steam in a 700 l Cooking-Mixer MR 700 and is subsequently delivered into the 1000 l Cutter via a discharge hopper with a pump.

The cooking and cooling automation allows the exact control of the temperature during the process of emulsifying.

Underneath the Cutter, a 1000 l hopper is positioned, making fast emptying possible. From there, the finished sausage brat is transported for filling via a pump.



# Machines in Production Lines

**Seydelmann**

## Automatic Grinders

- Working worm is at 90° angle to conical feeding worm
- Available with hole plate diameter 130 mm, 160 mm, 200 mm and 250 mm
- For processing of fresh meat, pre-broken frozen meat, cooked meat, and other food products such as cheese blocks, spinach, and vegetables
- Output per hour up to 14,000 kg/h
- Two-speed working worm, three-speed feeding worm (AE 130/3 two-speed). Upon request: frequency-controlled six-speed working worm and/or frequency-controlled four-speed feeding worm.
- Available with hopper content of 300 l (AE 130/3), 400 l, 800 l and 1000 l

*For detailed information, see brochure Industrial Grinders.*

## Frozen Meat Grinders

- In-line working worm through hopper
- Available with hole plate diameter 300 mm and 400 mm
- For processing of frozen meat blocks and other frozen food products like pet food and pharmaceuticals
- Output per hour up to 12,000 kg/h
- Two-speed working worm. Upon request: six-speed frequency-controlled working worm
- Available with hopper content of 460 l

*For detailed information, see brochure Industrial Grinders.*



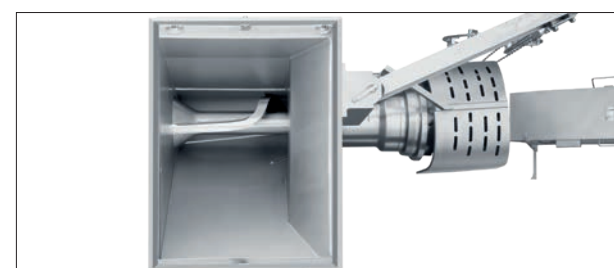
AU 200



Conical feeding worm



GX 400



Working worm with breaking contour



AW 300 U



Feeding worm with breaking contour and cutting edge



AU 200 U



Feeding worm with breaking contour and cutting edge

## Universal Grinders

- Working worm at 90° angle to feeding worm with breaking contour and cutting edge as well as very wide and deep windings
- Available with hole plate diameter 200 mm, 250 mm and 300 mm
- For processing of fresh meat, frozen meat blocks, rind, cooked meat, other food products like hard cheese, as well as for the production of pet food or pharmaceuticals
- Fresh meat and frozen meat can be processed without changing cutting set or worm
- Output per hour up to 30,000 kg/h for fresh meat and up to 15,000 kg/h for frozen meat
- Six-speed frequency-controlled working worm, four-speed frequency-controlled feeding worm
- Available with hopper content of 570 l (AU 200 U / AU 250 V) and 900 l (AW 300 U)

*For detailed information, see brochure Industrial Grinders.*



## Automatic Mixing Grinders

- Working worm at 90° to conical feeding worm, mixing unit above the feeding worm
- Available with hole plate diameter 130 mm, 160 mm, 200 mm and 250 mm
- For processing of fresh meat, pre-broken frozen meat, cooked meat, and other food products like vegetables and fruits
- Output up to 14,000 kg/h (grinding)
- Two-speed working worm, three-speed feeding worm (AE 130/3 M two-speed). Upon request: frequency-controlled six-speed working worm and/or frequency-controlled four-speed feeding worm
- Two-speed mixing unit with forward and reverse each
- Available with hopper content of 350 l (AE 130/3 M), 620 l or 750 l
- Upon request with cooling function for CO<sub>2</sub> or LN<sub>2</sub>

For detailed information, see brochure Industrial Grinders.

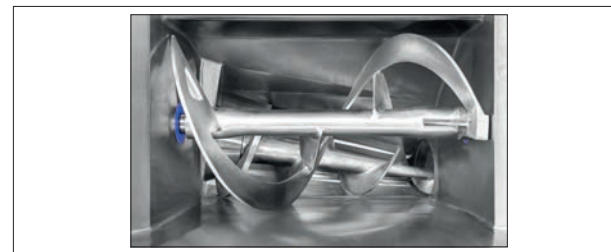
## Mixing Grinders/Final Grinders

- In-line working worm through hopper, mixing unit above the working worm
- Available with hole plate diameter 130 mm, 160 mm, and 200 mm
- For processing of fresh meat, cooked meat, pre-ground meat, and other food products like nuts and vegetables
- Output per hour up to 6,000 kg/h
- Two-speed working worm. Upon request: six-speed frequency-controlled working worm

For detailed information, see brochure Industrial Grinders.



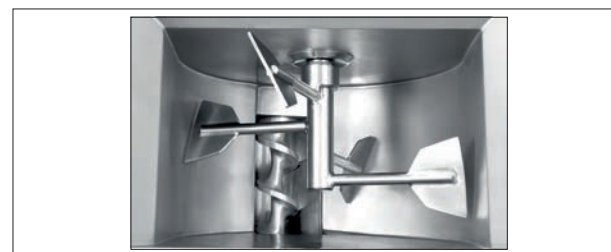
AU 200 M



Mixing unit above the feeding worm



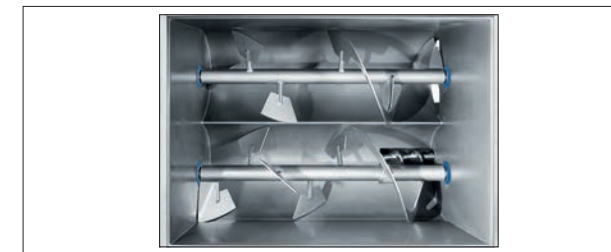
MG 160



Mixing unit above the working worm



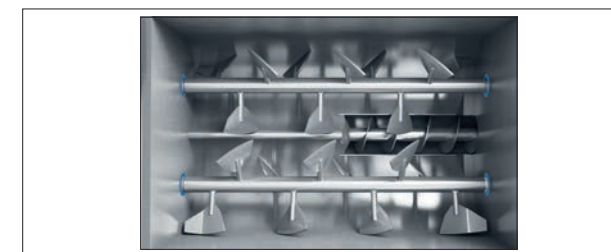
MRU 1800



Working worm at the bottom of the hopper and discharge flap



AMR 2500/250



Long discharge worm between troughs

## Mixer-Grinders/ Automatic Mixer-Grinders

- Two mixing shafts, each with its own motor, switchable independently of each other forward and reverse at high and low speed
- Standard mixing shafts with paddles and ribbons in the discharge direction for a fast discharge
- Available with hole plate diameter 160 mm, 200 mm, 250 mm, 300 mm
- Available with hopper content of 1300 l, 1800 l, 2500 l and 3500 l
- Two-speed working worm. Upon request, six-speed frequency-controlled working worm.
- Upon request with cooling function for CO<sub>2</sub> or LN<sub>2</sub> and/or cooking function

(a) **Mixer-Grinders** for flexible use and for mid-range outputs (MRG 1300, MRU 1300, MRG 1800, MRU 1800)

- Two discharge possibilities: via discharge flap as a Mixer or via Grinder housing
- Long in-line working worm at the bottom of the hopper collects the material directly

(b) **Automatic Mixer-Grinders** for high-range outputs (AMR 1800/200, AMR 2500/250, AMR 3500/300)

- Discharge only via Grinder housing
- Long centralized discharge worm placed between the troughs positioned over the working worm.





MR 1800



VMR 1800

## Mixers

- Two mixing shafts, each with its own motor, switchable independently of each other
- forward and reverse at high and low speed, on request, frequency controlled with four speeds
- Available with a hopper content from 600 l to 4700 l
- Discharge via hydraulically operated discharge flaps
- On request with cooling function for CO<sub>2</sub> or LN<sub>2</sub> and/or cooking function
- On request with indirect cooling/heating via Pillow Plates
- Mixing shafts with paddles, ribbons or combination of both

*For detailed information, see brochure Mixers.*

## Vacuum-Mixers

- Available with hopper content from 600 l to 4700 l
- Maintenance-free water ring vacuum pump
- Clearer and tighter cutting of the end product
- Less fat oxidation
- Longer shelf life with better quality of the end product
- Longer lasting color

*For detailed information, see brochure Mixers.*



KK 250 AC-6



KK 254 AC-6

## Emulsifiers

- Available with hole and cutting plates diameter of 140 mm and 250 mm
- Frequency-controlled AC-6 motor with stepless programmable speeds
- Highest possible protein extraction and fineness with up to 700,000 cuts/second
- Hourly output up to 15,000 kg/h (16 US t 1273 lbs)
- Total of up to 7 plates (e.g. four cutting plates and three hole plates) can be used. The more plates are used, the finer the emulsion becomes.
- The plates' rotating speed can be adjusted continuously to best process every material

## Vacuum Emulsifier

- Available with hole and cutting plates diameter of 250 mm
- Measurement of product level: Laser in hopper, securing continuous product filling
- Hydraulic lid on top of hopper
- 250 l hopper with electrically driven scraper for constant feeding of product to the pump, also suitable for very stiff products
- Stepless, frequency-controlled pump with pressure sensor for constant pressure and temperature-controlled feeding of the product to the cutting set
- Multi-level vacuum system on the hopper, pump and cutting set ensures that the cutting set does not start dry
- Temperature control: Desired final temperature can be set

*For detailed information, see brochure Konti-Kutter.*



## Cutter technology

- Size reduction
- Emulsifying
- Mixing
- Blending
- Evacuating
- Vacuum drying
- Cooking
- Cooling
- Thermization
- Melting
- Granulating
- Dispersing
- Suspension
- Pasteurising



## Vacuum-Cooking-Cutters

- Available with hopper content from 60 l to 1000 l
- Maintenance-free water ring vacuum pump
- The reduced air space between bowl and bottom of the cover allows for very quick evacuation, and gas injection is very low
- With reverse mode mixing speeds, also usable as Vacuum-Mixer
- High knife speeds for extremely high protein extraction and fineness
- Even better emulsifying effect due to protein extraction, longer shelf life, longer lasting color, less fat oxidation
- Cooking-Cutter standard with automatic cooking system
- Upon request with cooling function for CO<sub>2</sub> or LN<sub>2</sub>

For detailed information, see brochure Industrial Cutters.

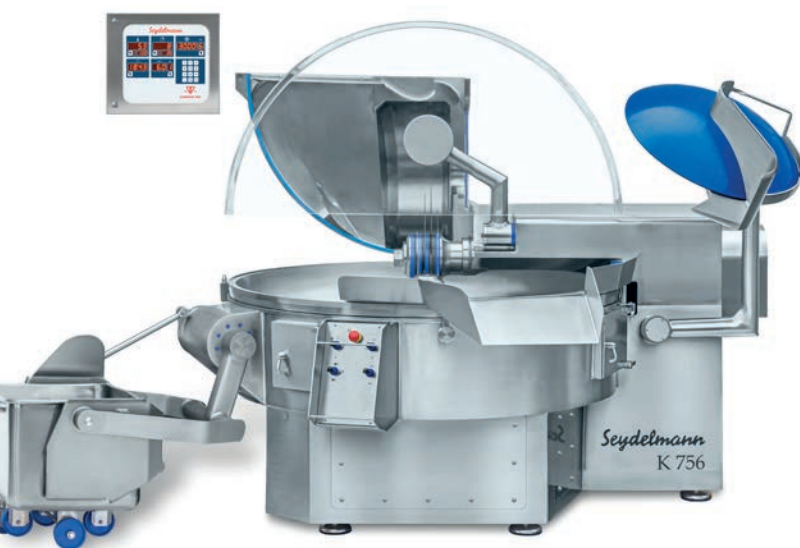


K 604 AC-8

## Cutter

- Available with hopper content from 20 l to 1000 l
- Drives with different motor variants available. Fixed or stepless and frequency-controlled knife speeds
- Up to eight knives usable
- Separate electrical cabinet
- Upon request with cooling function for CO<sub>2</sub> or LN<sub>2</sub>

For detailed information, see brochure Industrial Cutters.

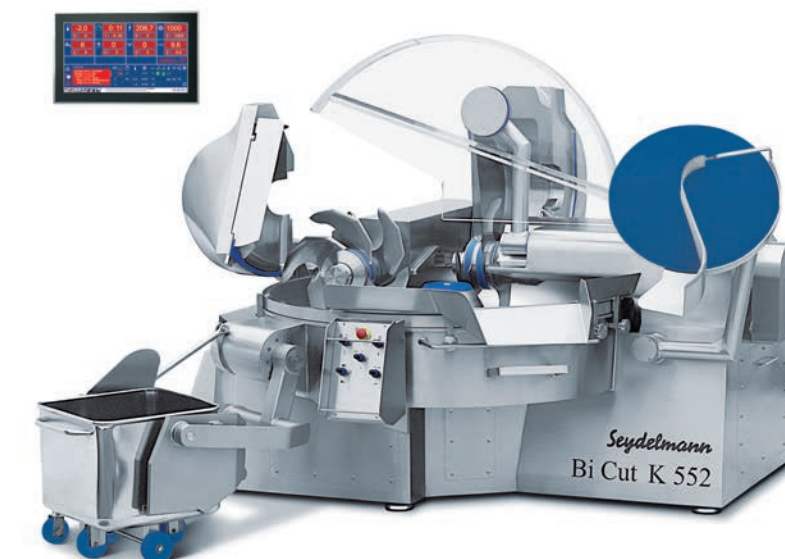


K 756 AC-8

## Bi-Cut K 552 AC-8

- Available with hopper content of 550 l
- Perfect cutter for dry sausage with two separate knife shafts which are offset by 90°
- Stepless and frequency-controlled knife speeds of both knife heads
- Higher capacity with same floor space
- Perfect mixing even after short operating times and exact binding

For detailed information, see brochure Industrial Cutters.



K 552 AC-8



# Conveying and storage technology

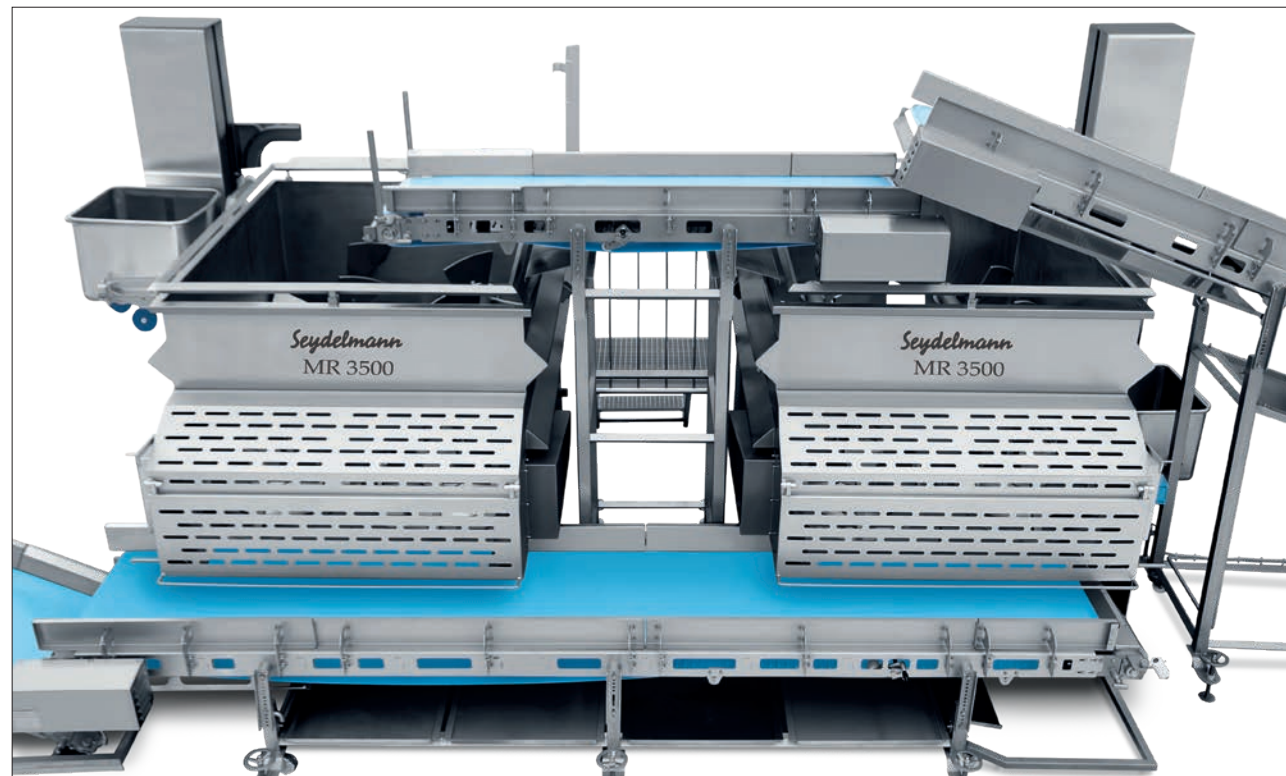
*Seydelmann*

## Conveyor belts

The open construction of the machine frame and belt frame without closed tube profiles ensures faster cleaning. All areas are easily accessible. Advantages of loading with conveyor belts are the high transport capacity and the low level of safety risks and dangerous areas. In addition, conveyor belts ensure continuous loading. The belt is completely made of plastic without texture and has a hygienic smooth surface. Numerous variants such as backfall protection or connection options for metal detectors on inclined conveyor belts, height monitoring for frozen meat blocks or product flow switching systems are available.

## Customized solutions

Conveyor belts are customized for specific needs and floor space at the production site. All Seydelmann conveyor belts fulfill the hygienic demands of FDA and all European norms for parts which have contact with the product. The conveyor belts are fitted with a wheeled pedestal with machine feet and a spindle for fixing and adjusting. The speeds can be programmed steplessly with a frequency converter. Because of lateral folding guide bars, drip channel and a scraper, it is ensured that no material falls on the floor. Optionally, they can be equipped with load cells to continuously monitor the product weight.



Two Mixers MR 3500 with conveyor belts



Inclined conveyor belt



Inclined conveyor belt with flights

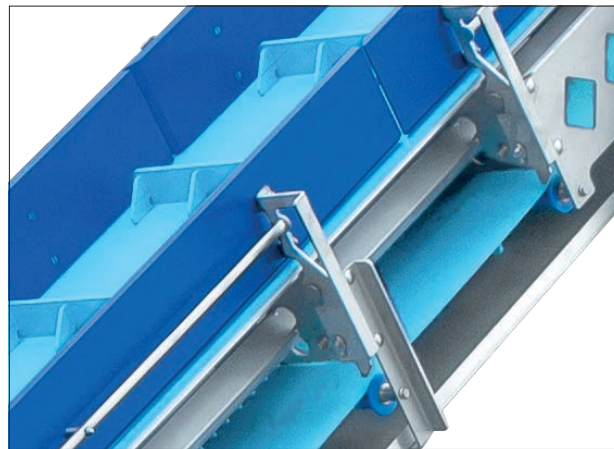


Inclined conveyor belt with flights for frozen meat blocks, loading table and metal detector



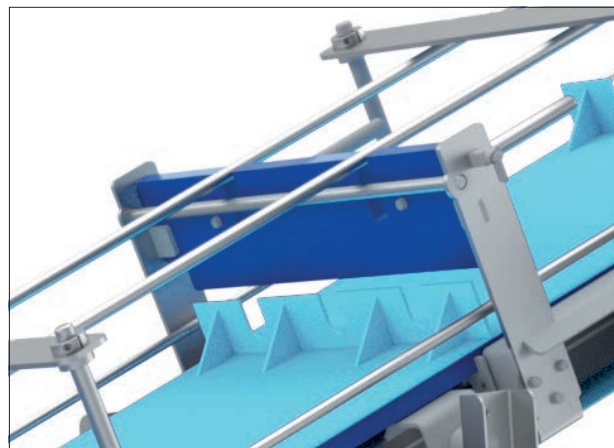
## Interlocking drive

Due to the interlocking of the belt, strong tensioning of the conveyor belt is not necessary. This prevents the belt from ripping. The motor can apply the whole power of the drive to the belt without losing power due to friction. Due to the reduction of the wear, maintenance intervals are reduced and durability increases considerably. Because of the slippage free drive, a continuous conveying speed is reached because there is no stopping and restarting of the conveyor belt.



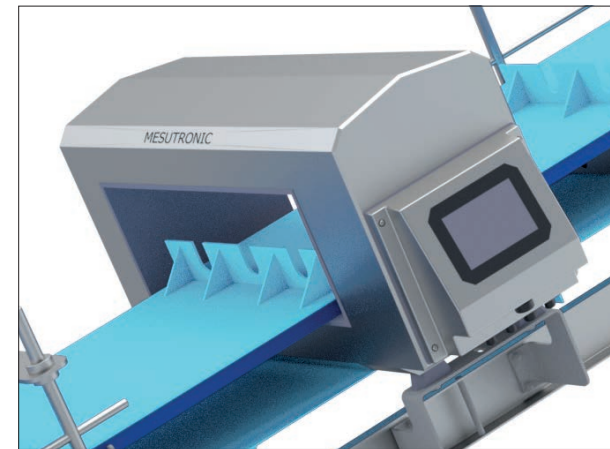
## Backfall protection and lateral folding guide bars

The inclined conveyor belts are equipped with backfall protection. This prevents bulky blocks from coming loose from the inclined conveyor belt, sliding down and injuring people, or falling on the floor. All conveyor belts can be equipped with lateral guide bars so that no product falls out on the side.



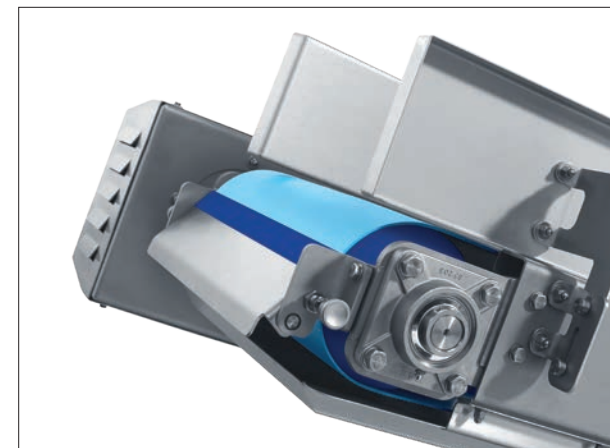
## Loading hopper and loading table

Upon request, the conveyor belts can be equipped with a loading hopper or a loading table. The loading table is ideal for loading frozen meat blocks. The loading hopper serves as a buffer for the loading of ground material. Upon request, a combination is also possible.



## Metal detector

Upon request, the conveyor belts can be equipped with a metal detector. Metal particles in the raw material can therefore be identified and removed. Thus, machine damage as well as metal particles in the end product can be avoided.



## Drip channel and scraper

To ensure a maximum of hygiene in the production, the conveyor belts are equipped with a drip channel, so that liquids are collected in the ditch and do not pollute the production area. The scraper on smooth belts ensures that no product residue sticks to the belt.



## Height adjustment and moveable device

Due to the flexible adjustment of the gradient angle, the conveyor belts can be adjusted to specifically suit product and machine. Upon request, they can be equipped with a manually or hydraulically moveable device so that several machines can be loaded with one conveyor belt.



## Screw conveyors

The main advantage of loading via screw conveyor is the small floor space due to the steep angle which can be fixed as needed with the height adjustment. Screw conveyors are made entirely of stainless steel. All surfaces and parts in contact with product are plastic-free. They are equipped with closed interlocked lid as a standard. Thus, highest hygienic standards are fulfilled. The construction is very robust and ensures continuous feeding.

In order to adjust the loading speed perfectly to the material and production flow, it is possible to set the speeds with a frequency converter. If desired, the screw conveyors can be equipped with a two-hand operation for short term running of the worm while the lids are opened. This feature together with sloping surfaces facilitates the cleaning. Additionally, screw conveyors can be equipped with an integrated cleaning stairwell.

Vertical versions of screw conveyors are available as well. They require significantly less floor space while transporting the material reliably from one machine to another.



Moveable screw conveyor with cleaning stairwell and two-hand operation

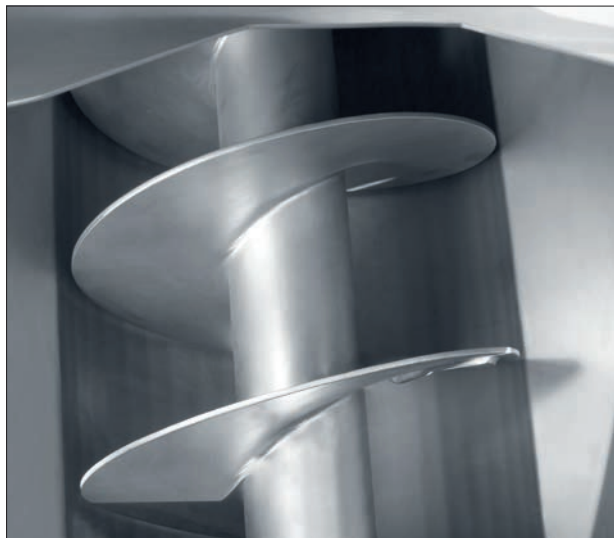
Optionally, the screw conveyors can be equipped with an integrated storage hopper. The buffer screw conveyors ensure a constant and optimal product flow by offering the possibility to buffer the material.

Depending on material consistency, a construction with a feeding paddle shaft above the conveying screw may be useful in order to avoid 'bridging'. For an exact dosing of the different raw materials the buffer screw conveyors can be equipped with load cells.



Buffer Screw conveyor including a loading device for big box containers





## Consistent welded conveyor screw

The consistent welded conveyor screw is extremely robust, durable, and easy to clean. It is equipped with a cleaning flow so that the cleaning water and other cleaners can flow off easily. As a standard, it has a diameter of 360 mm, for high capacities, it is also available with 500 mm diameter. For very high capacities, two screw conveyors can be placed side by side.



## Swiveling device

The optional swiveling device can be driven manually or with a motor. It is used for loading two machines interchangeably. In case of machines with a hydraulic lid, the screw conveyor is moved aside for opening and closing the lid.



## Safety check between outlet protection device and screw conveyor

Due to the safety check between the screw conveyor and the Grinders or Mixers, danger areas are reduced. Because of this, backlocking and cleaning intense bars at the entrance of the screw conveyor and the outlet is not necessary.

## Pumps and pipe systems

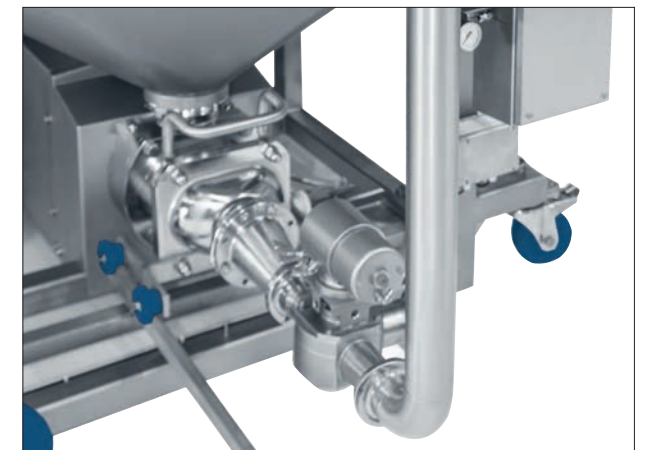
In Production Lines, pumps are usually used to transport the finished product. Screw spindle pumps ensure gentle transport of the goods with minimal warming. The pumps are wear-free and non-abrasive. No metal chips are introduced into the final product. All parts coming into contact with the final product are made of stainless steel. The drive and the pump are built into a closed stainless housing. The self-priming pump and the entire sealing area are CIP-suitable. For cleaning purposes, water and detergents can be pumped safely. Product temperatures up to 110 °C (230 °F) are possible, for cleaning purposes up to 130 °C (266 °F).

The transported load is proportional to the rotational speed (from below 1000 up to 3600 min<sup>-1</sup>) and can be controlled continuously via a frequency converter. The speed can be adjusted optimally to the material to be transported.

Pieces of up to 40 mm or sausage brat with inlays can be transported. In connection with the pumps, individually designed hoppers of varying sizes and gradients can be manufactured. They are also available in mobile shape.



Threaded spindle pump with cleaning slide



Conveying pump with hopper and moveable pedestal



## Storage hopper

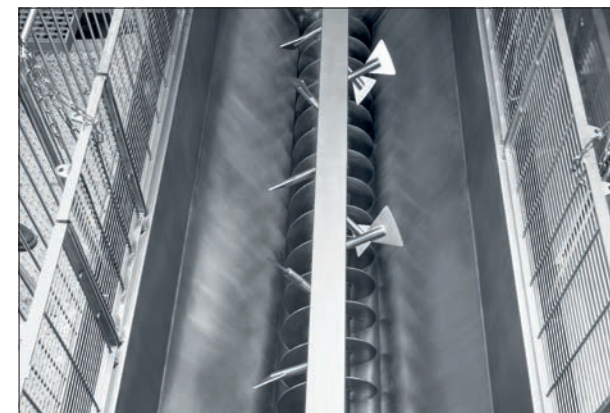
All storage hoppers and silos are individually adapted to the Production Line, the material to be processed and the space requirements. The stainless steel construction is very robust, easy to clean, and fulfills the highest hygienic demands.

All storage hoppers with discharge screws are equipped with a safety-checked protection grid, which reduces the risk of an accident to the very minimum.

Optionally, the storage hoppers can be fitted with load cells, level measurement, temperature sensors, as well as with placements for elevation, or mobile base frames. Subsequently, a direct transfer with a safety check can follow, either to a pump, a screw conveyor, or a conveyor belt.



Storage hopper with 3000 l content, placements for elevation and load cells



Feeding paddle shaft

## Storage hoppers with feeding paddle shaft and discharge worm

The storage hoppers can be equipped with one or more feeding paddle shafts, which avoid bridging and at the same time pre-mix the material. Both the feeding paddle shaft and the discharge worm can be equipped with a stepless frequency-controlled drive.



Hopper with 700 l content and with conveyor pump

## Hopper with conveyor pump

The hoppers can be used as buffers under one or more Mixers. Their hopper volume can be designed to suit the product and the floor space. The further transport usually happens via pumps. The hopper content can be determined individually.



Silo with conveyor pump

## Silo with conveyor pump

The silo can be used as a buffer. The storage volume can be adapted to individual requirements and the available space. The further transport of the contents is normally achieved by a conveyor pump. Optionally, the silo is available with a scraper and/or in a double-walled design with integrated cooling or heating.



## Integrated hydraulic loading device

The Grinders can be equipped with an integrated hydraulic loading device. The hydraulic unit, the lifting cylinder, as well as the valves are fully integrated into the machine and almost maintenance-free. Therefore, the loading device is very quick and easy to clean, requiring very little space.

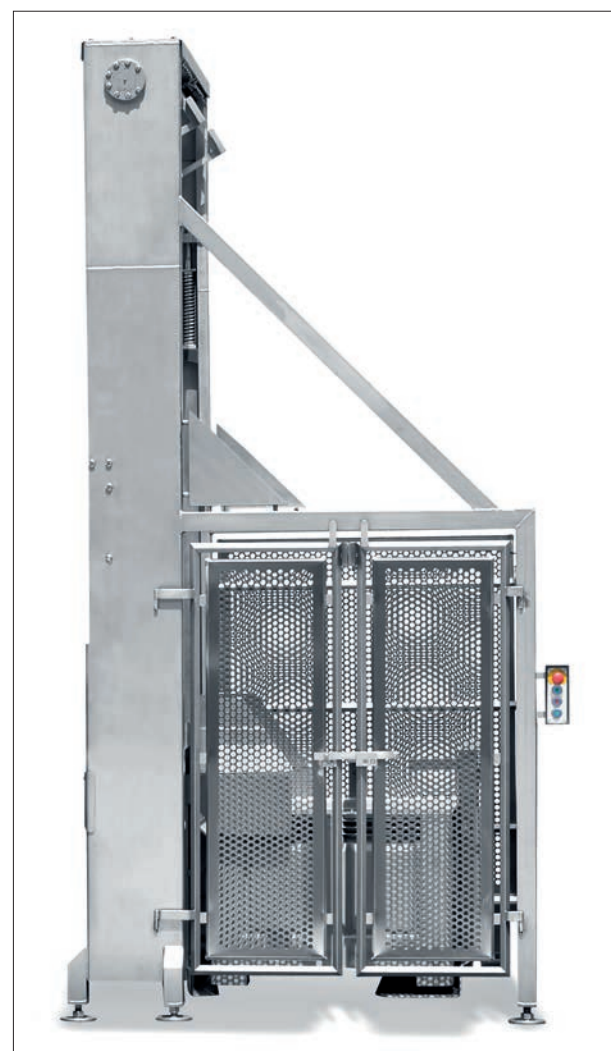
*For availability, see brochure Industrial Grinders*



Integrated hydraulic loading device

## Loading device for large containers

The loading device for large containers enables quick and efficient loading and can be customized to suit different container sizes. It is equipped with belts and has no chains, so that there is no oil or fat close to the product and the highest hygienic demands are met. The loading device for



Loading device for large containers

large containers comes as standard with a safety fence or alternatively with a light barrier. With a scanner at the loading device, the steps of the recipe control can be read. Additionally, it can be equipped with facilities for 200 l and 300 l trolleys.



Vertical loading device

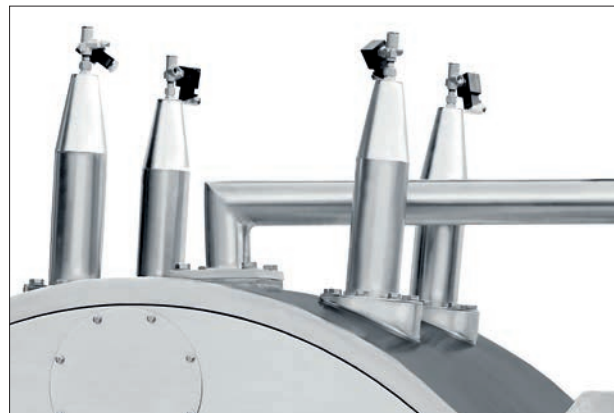
## Vertical loading device

The Mixers, Grinders, and Emulsifiers can be loaded via a vertical loading device which can either be floor-mounted or mounted on the machine. All mechanical parts such as chains and drive are built-in. The vertical loading device is very easy to clean, robust, and conforms to highest hygienic requirements. Above a height of 2500 mm, a safety fence is obligatory – a safety fence with light barrier is available upon request.



Double vertical loading device with safety fence





Mixer/Mixer-Grinder with hydraulic lid with snow horns, expansion space, and preparation for exhaust



Mixer with mixing paddles and cooling nozzles



Integrated steam nozzle for direct heating



Cooling valves and nozzles behind the cover



Cutter with snow horns



Cutter with cooling nozzles

## Direct cooling function with CO<sub>2</sub> or LN<sub>2</sub>

The material can be cooled down in a Mixer, Mixer-Grinder, Automatic Mixer-Grinder, Cutter or in a Mixing Grinder.

The cooling system ensures ideal processing temperatures. The temperature or consistency of the product is controlled by a temperature sensor or optionally the current demand of the mixing unit.

A fixed expansion space is placed above the hopper. Gas can be evacuated via that expansion space. Machines have their own cooling system, which replaces cooling space capacity and thereby greatly increases production efficiency.

In the Mixers, Mixer-Grinders and Mixing Grinders, CO<sub>2</sub> (carbon dioxide) or LN<sub>2</sub> (liquid nitrogen) are injected into the hopper via nozzles at the bottom of the hopper or via snow horns on the lid of the machine. The cooling in the Cutters is achieved by injecting CO<sub>2</sub> or LN<sub>2</sub> via snow horns or nozzles.

The cooling medium can be used for constant cooling. The best temperature for protein extraction is approx. 3 °C (37,4 °F).

Furthermore, liquid nitrogen can be injected directly into the product. The low temperature is achieved by shock freezing. Immediate cutting or granulating under low-temperature conditions with completely changed consistency of the product, i.e. shock freezing and granulating of freshly slaughtered, warm meat for conservation of ATP and PH.



## Indirect cooling/heating via Pillow Plates

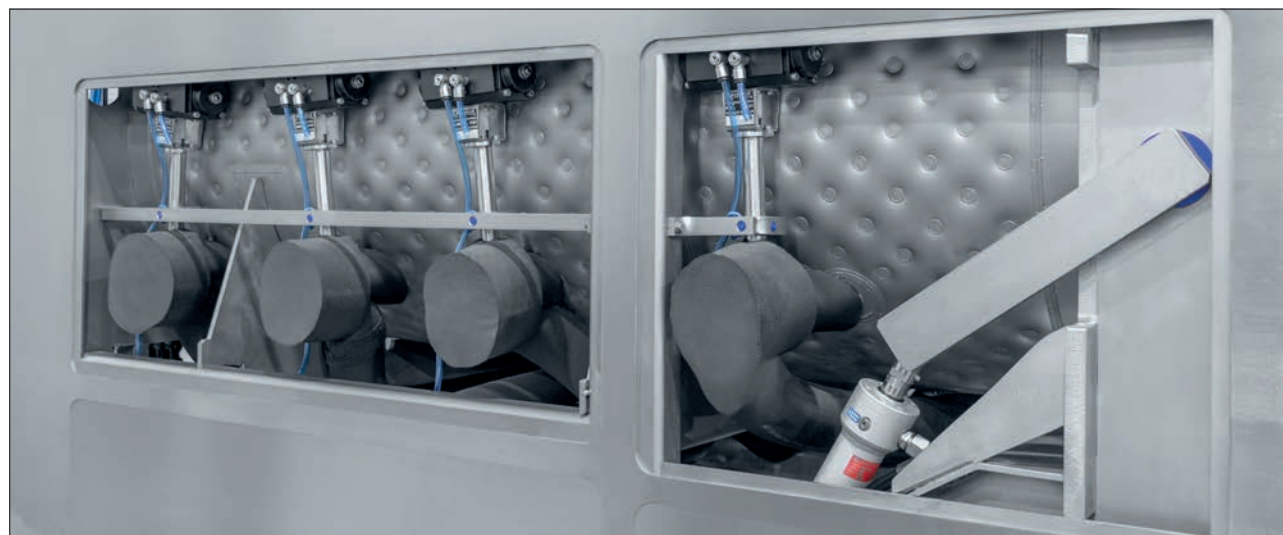
The optionally available Seydelmann Pillow Plates form a double-walled hopper for mixers, vacuum mixers, mixer grinders or automatic mixer grinders. This can be perfused with water, glycol, steam or other media to heat the product, to cool or to keep the desired temperature constant.

Pillow Plates are made of two sheets of superimposed stainless steel that are laser welded and then pressurized to form spaces. Through these pillows a heating or cooling medium can then circulate. According to the principle of the heat exchanger, this does not result in contact of the product in the mixing hopper with the cooling or heating medium, that is to say no water is introduced into the product.

Thanks to the labyrinth-like flow through the individual cushions, the effect on the entire hopper wall is uniform. Due to the optimal ratio between the surface to be tempered and the volume to be flowed through, there is a fast temperature transition.

To work energy efficient, the cooling or heating medium can be operated as a closed circuit. In addition, the Seydelmann Pillow Plates are much cheaper compared to a system with direct steam or liquid gas cooling, since no machine lid is necessary. Heating or cooling can take place simultaneously with all further process steps, also under vacuum and during the mixing process.

Temperature control takes place in automatic mode via the program or recipe control.



## Dosing valves and nozzles

A multitude of different optional dosing valves and nozzles extend the possible range of application of Seydelmann cutters and mixers considerably and furthermore enable the material to be added with the lid closed – this is a great advantage especially with dry materials, as no dust escapes into the production room.

A further advantage for automated Production Lines: No additional operator is required for the addition of liquids or spices, starch, salt and other dry materials. When using counters (oil, water or liquid meter) or portioning scales, the valves and nozzles are controlled automatically and closed again, once the desired quantity has been reached.







Cooking-Cutter with nozzle system

## Cooking function for Cutters

A nozzle system installed below the bowl is heating it by means of steam. This saves a lot of time by cooking and cutting in one operation. Upon request, the working process can be further reduced by additionally injecting steam directly or heating of lid. The double-walled cover above the knives is heated with steam. Especially with coarse cooked sausages, more time can be saved by injecting steam directly. Complete preservation of taste, aroma and protein, which otherwise would be lost by cooking in water. In contrast to cooking in kettles or steam chambers, the extremely short cooking period in the Cooking-Cutter at the ideal

temperature ensures that the taste and aroma giving components are completely preserved in their structure. This ensures longer shelf life and much better emulsion because of hot emulsifying of meat, fat and water. No fat separation. Cooling is effected by a special nozzle cooling system on the outside of the bowl. In the Cooking-Cutter, the bacteria content of the sausage emulsion is significantly reduced by avoiding various processing steps and by cooking under air exclusion.

*For detailed information, see brochure Industrial Cutters.*



Cooking-Mixer MR 1800

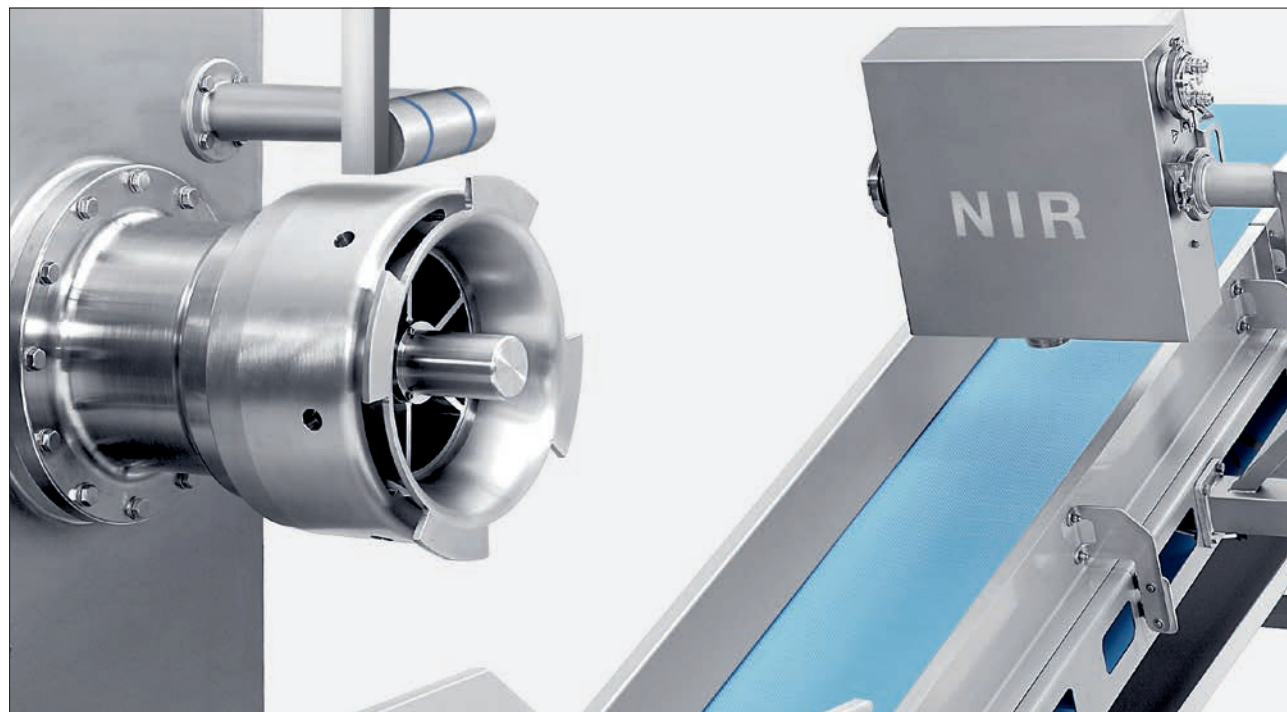
## Cooking function for Mixers

In the Cooking-Mixer, the products are heated very fast by means of direct steam. The Cooking-Mixer cooks the raw material for cooked sausage production, considerably decreasing the working time in the Cutter. The cooking system results in about 10% material gain. Complete retention of taste, aroma and proteins that would otherwise be lost with the cooking water. Due to the extremely short cooking time in the Cooking-Mixer at an ideal temperature, the taste and aroma-forming ingredients are completely preserved in contrast to cooking in the kettle or steam cabinet. The Cooking-Mixer is ideal for the production of cooked sausage, soups, cooked meat, stuffings of

various kinds and much more. Aside from the direct steam, the Cooking-Mixers are also available with indirect heating via a double-walled hopper. After the required cooking temperature has been reached, the product can be cooled with cold water in the double-walled hopper. The models with cooking-function are equipped as a standard with the temperature control unit PT 100 with digital display and pre-adjustable shut off. The heating is switched off automatically when the pre-set temperature is reached.

*For detailed information, see brochure Mixers.*





Fat analysis NIR on an inclined conveyor belt

## Fat Analysis via NIR (Near Infrared)

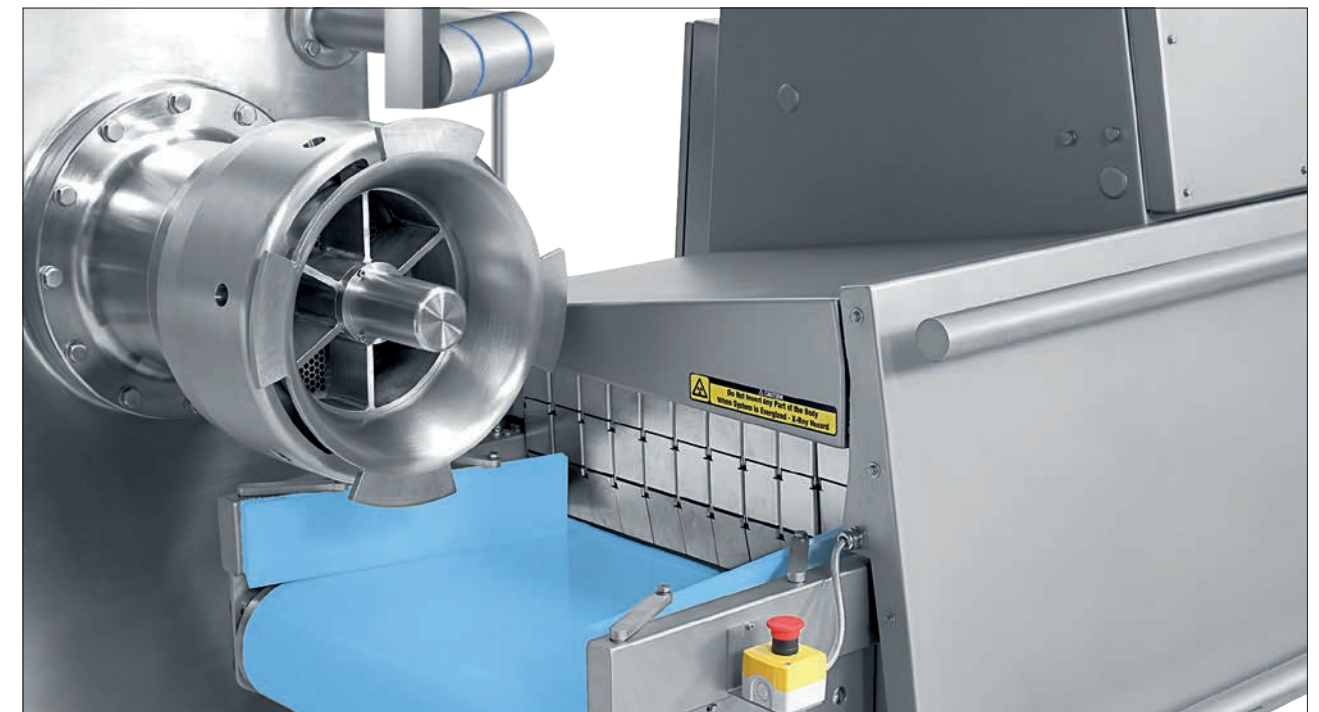
Scanning the surface of the meat makes it possible to get continuous real-time measurements of the fat content of the ground meat. The high resolution technology guarantees by the high concentration of data points exact and reliable measurements which correspond to conventional laboratory analyses.

The results are achieved with reflection or transmission technology, depending on the application. The in-line analysis system is directly integrated into the production flow. For example it can be installed on a conveyor after the Grinder. As a result, sample taking which takes time and costs money is not necessary.

The results of the fat measurements can be integrated into the recipe control of an automatic Production Line.

Based on the measurement results of the fat analysis, the feeding of the material to the particular machines ahead of the fat analysis can be controlled precisely, according to the recipes.

This is used especially in the recipe control of automated Production Lines. The Near Infrared Analysis enables a noticeable increase in product quality and in batch standardization.



X-ray fat analysis with integrated load cells

## Fat Analysis via X-ray

Raw material and processed material after the grinder can be controlled by the analysing system. Fat content can be analyzed with an accuracy of 1 % and the weight of the material is measured at the same time. The integrated conveyor is placed under the Grinder outlet and conveys all the material into the analysis area. Here, it is measured completely and continually by X-rays.

The results of the measurement process guarantee precise control of individual recipes and enables best usage of the processed material.

The cost-effectiveness of the system is demonstrated by perfect standardization. Up to 22,000 kg of product can be analyzed per hour. The costs of sample taking and laboratory analysis are made obsolete by the complete continuous measurement process. The recipe control system of automatic Production Lines makes it possible to control the material feed to the individual machines before the fat analysis based upon the measurement results. This makes it possible to equalize the difference between the ideal values of the recipe and the actual analyzed values by controlling the various conveyor systems.



## Load cells for the hopper capacity, also available with batch preparation device

The current weight of the mixture is determined by the load cells of the Mixer or Vacuum-Mixer. This allows the addition of individual ingredients in sequence in order to exactly achieve the desired composition of the entire mixture. A load cell with batch preparation device and programmed discharge is also available upon request. Along with indication of the hopper capacity, it also allows batch and weight-oriented discharge under program control.



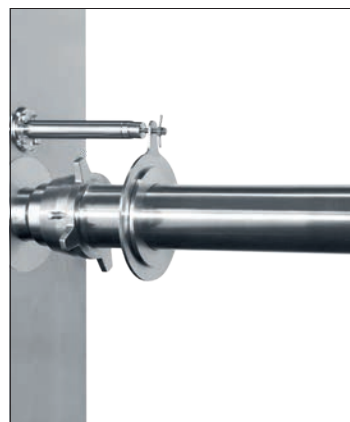
## Sensor for product level via laser

As soon as the hopper runs empty, the machine either stops automatically or directs the loading systems to load the hopper. This way, dry running is prevented. Measurements are taken accurately with a laser. The level sensor recognises material independently of the composition of the surface of the material. It is supplied in an enclosed housing, which is engineered with protection class IP 69K.



## Outlet tube

As an alternative to the outlet protection device, an outlet tube can be fitted. Additionally, a safety switch with control is mounted, which ensures the safe positioning of the outlet tube. As per safety guidelines, the device is at least 850 mm long. Distances between Grinders and other machines or to conveyor systems can be bridged.



## Mutual interlocking device of screw conveyor and hopper lids

Via the mutual interlocking device, it is ensured that the lids only close if the screw conveyor is not above the hopper or bowl.

## Cleaning

The machines are extraordinarily long-lived and easy to clean due to the seamless and smooth welding and the solid and stainless construction. The machine cover and hopper contain no screws or dirt gathering corners, and no part of the machine is inaccessible. The enclosed machine base prevents water or cleaning detergents from entering the machine interior. All electrical connections, hoses, cylinders as well as the cooling and cooking outlets are integrated in the machine's interior. The solid and thoroughly detailed construction which works with few individual parts generally avoids time and personnel consuming (de-)installation for cleaning purposes. Well thought-through details such as the quick-change clamping nut, the S 24 blade system, the automatic balancing device, large cleaning panels or the cutting set of the emulsifier allow quick and easy cleaning.



## Sloping and polished surfaces

All surfaces are polished by hand to a high quality finish and are designed with a slope. As a result, the machine is very easy and quick to clean and water flows off the surfaces completely. No water spots build up on the machine.



## Embedded covers and hygienic fasteners

All covers are completely embedded in the machine frame and secured via hygienic fasteners. No gaskets are necessary and no horizontal surfaces present. The cleaning of the whole machine can be done easily by high pressure cleaner. Furthermore the hygienic fasteners are captive and allow fast access for maintenance.





## Worm cradle

The strongly built stainless steel mobile worm cradle serves as a means of storage or cleaning of the working worm and cutting sets.



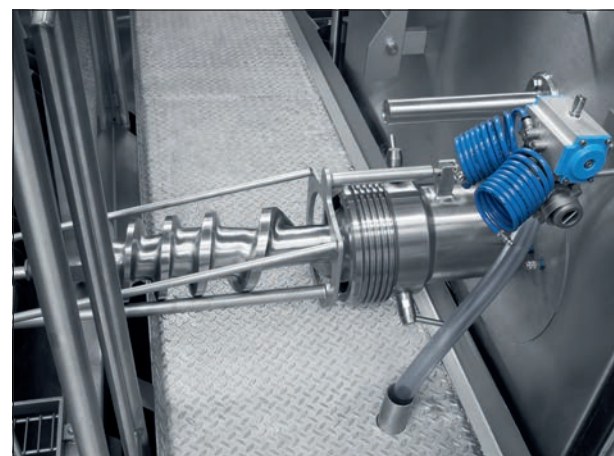
## Grip cradle for worm

With the help of the grip cradle for worm, the worm can be locked inside the worm housing and adjusted with the height adjustment without contact with the housing.



## Cleaning basket for working worm

Intelligent cleaning concepts are developed for the different demands of the respective Production Lines.

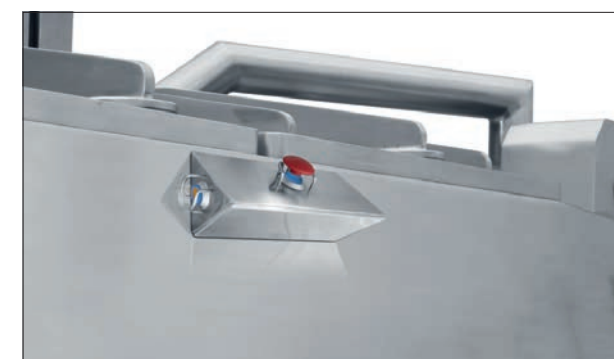


## Cleaning stairwell

Different cleaning stairwells of different sizes and designs are built as desired by the customer. Thus, the cleaning of the machine can be easily done from the stainless steel safety cleaning stairwell, and the monitoring of the material and processes is possible.

## Two-hand operation

For cleaning purposes, the Mixers, Mixer-Grinders, Grinders, and screw conveyors can also be equipped with two-hand operation for short-term running of the mixing shafts or the feeding worm when the safety covers or the hydraulic lid are open.



## Outside electronic programming

The whole electronic programming unit is placed outside the machines in a separate stainless housing. This makes the machines insensitive to breakdowns, and they can be cleaned very easily. All control elements can be cleaned with high-pressure water and chemical cleaners.



Auto-Command 4000 with 24" Touch Screen monitor

Via the user administration, access for cleaning personnel can be arranged with which only hydraulic functions can be controlled for cleaning. Occupational accidents can thereby be avoided.



## Hygienic conveyor technique

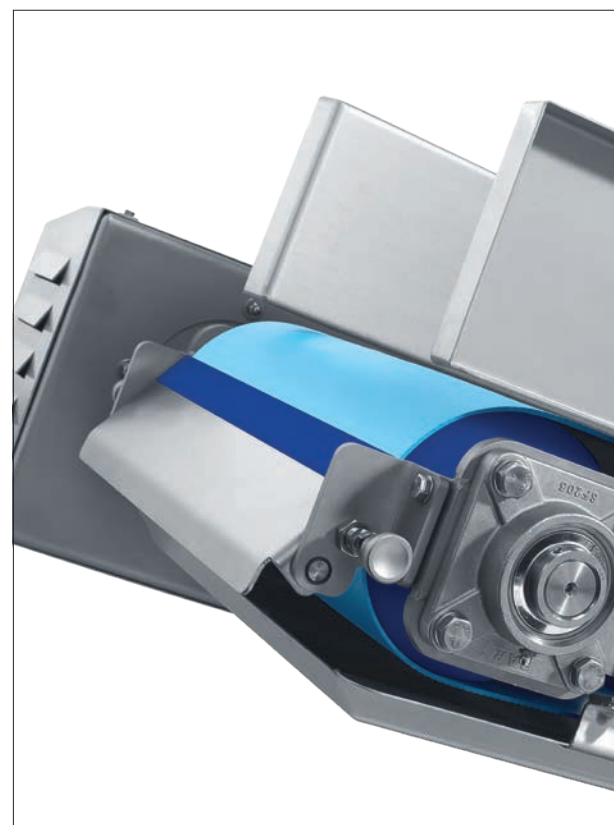
The demands on hygiene and easy maintenance with regards to the conveyor technique are also the highest possible. No horizontal areas exist, all screw conveyors are equipped with a water drain plug, allowing the water to flow out after cleaning. The screw conveyors can be equipped with a two-hand control system for brief activation of the worm while the cover is open. Optionally, screw conveyors can be equipped with an integrated cleaning stairwell.

In order to ensure maximum hygiene, the conveyor belts are equipped with a drip channel, so that the dripping fluids are contained without reaching the spaces of production. The scraper on smooth tapes prevents product residue from sticking to the tapes.

Lateral folding guiding rails make sure that the product cannot fall to the floor.



Screw conveyor with cleaning stairwell



Conveyor belt with scraper, ditch and lateral folding guide bars

## CIP and SIP function

In order to minimize the deployment of staff for cleaning and keep the cleaning quality constant, all machines with a cover, screw conveyors and storage hoppers can be equipped with a CIP (Cleaning in Place) and/or an SIP (Sterilize in Place) function.

In the Cutters, the cleaning nozzles are placed underneath the bowl. All machines with a hydraulic cover allow the placement of the cleaning nozzles inside the cover.

The Grinders can be equipped with a main bearing unit accessible for cleaning purposes,

in which case the cleaning nozzles are placed between sealing and bearing of the screw drive. If the sealing wears out, entering material can be washed away. A backflow is not possible.

All pumps are self-priming, and the entire sealing area is CIP-enabled. Both water and cleaning detergents can be pumped through. For cleaning fluid product temperatures up to 130 °C (266 °F) are possible.



Cleaning nozzles integrated in the cover





Central operating terminal with Auto-Command 4000

The degree of automation of a Production Line can be adapted to the individual requirements and demands of each customer.

Via the central operating terminal, the entire Production Line can be controlled by a single person. Personnel costs and potential sources of error are thus reduced to a minimum.

The Windows-based solution allows the production in accordance with stored recipes and fixed pre-determined values. All machine functions are actuated fully automatically in order to secure standardization and quality assurance. Aside from the fully automatic control, the machine can be operated either manually or semi-automatically. All machine functions and parameters like: rotational speed, vacuum values, gas admission, temperature control, pivot function of the loads, and the material analysis via near infrared or X-ray applications can be individually controlled and directed. The recognition of the user can be executed via a key, chip, RFID, or a password.

Apart from the machine functions, the CIP (Clean in Place) function can also be controlled if needed. The central control system has a laminated glass screen, is designed entirely of stainless steel, robust and easy to clean, completely enclosed, and suitable for high pressure cleaning.

In the service module, the maintenance and service intervals can be viewed. PLC assignments, limit switch functions and error notices serve to ensure a fast analysis in a case of a problem and offer direct support.

Via a second workstation, the Production Line can be supervised from other rooms. Seydelmann service technicians can establish a connection via remote control if necessary in order to identify errors and access the programs after receiving access permission from the customer.

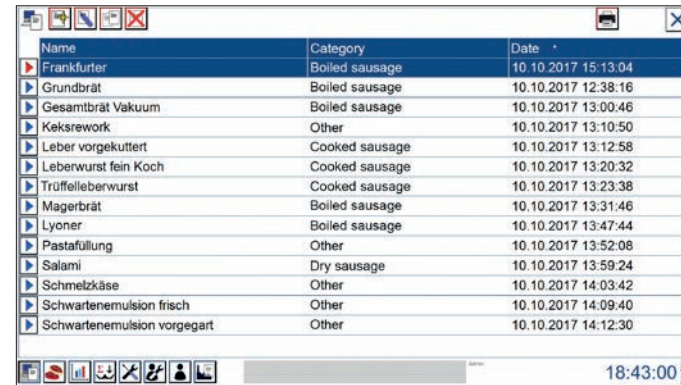
Optionally, the Production Line can be equipped with an independent power supply so that a brief power failure can be bridged without interruption or the system can be shut down without any loss of data.

Through the fully automated production, efficiency can be significantly raised. Consistent production quality and higher hourly output with a simultaneous reduction of personnel costs is a direct way to increase revenue.

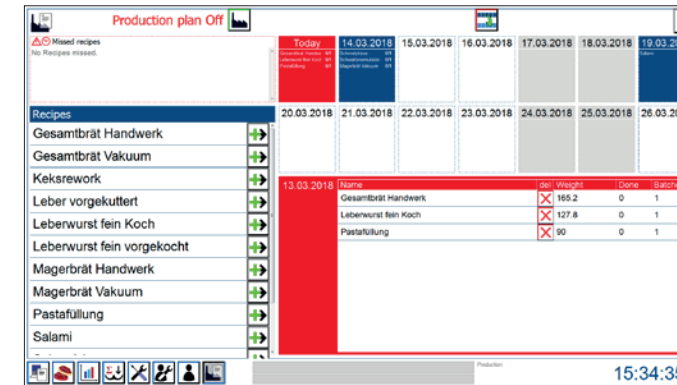




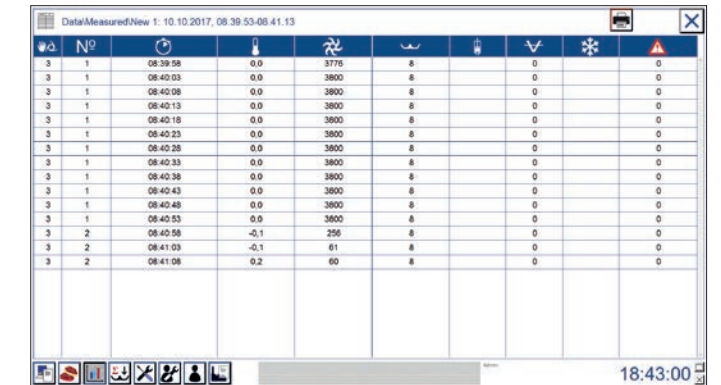
Cutter integrated in Production Line



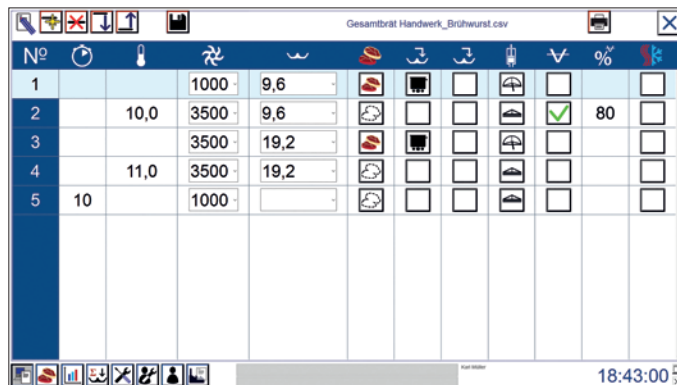
Recipe selection



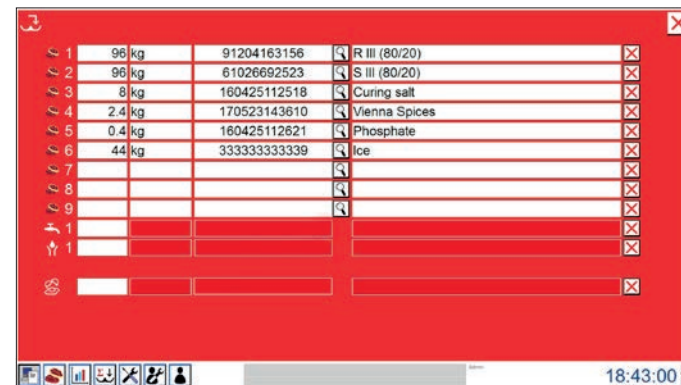
Product plan



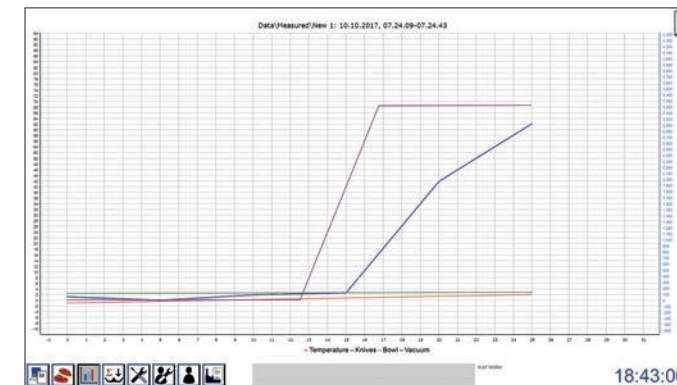
Tabular data recording



Program entry



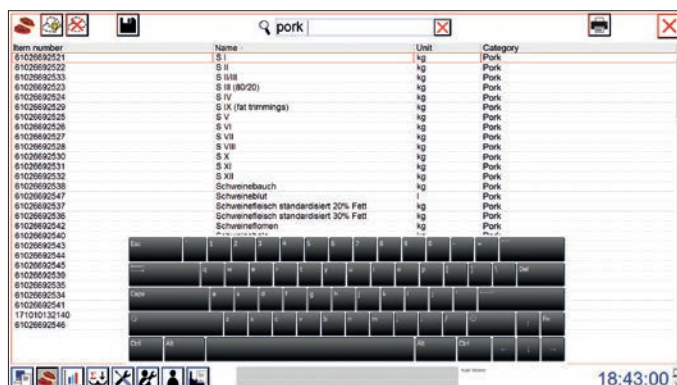
Ingredients entry



Graphic data recording

Article number	Name	Amount	Unit
1111111114	Salt	40.000	kg
10010090542	Lean meat pork, fresh trimmings	340.000	kg
091204 163058	Fat trimmings, frozen sticks	220.000	kg
1111111111	Water	100.000	kg
1111111115	Salt	14.000	kg
1111111222	Spices	1.600	kg
11111112076	Phosphate	6.400	kg
1115249001	P I (muscle parts from ham and shoulder)	200.000	kg
1115249015	P II (shoulder, without fat tissues, most of the lean...)	150.000	kg
11148010244	P III (lean meat trimmings, most of the lean...)	224.000	kg
111111122076	P IV (shoulder)	120.000	kg
11111117763	Start powder	1.600	kg
11111109437	Starter cultures	6.700	kg
11111112076	Pepper black	5.000	kg
111111122076	Pepper black	3.200	kg
111111122076	Coloring agent	0.800	kg
111111122076	Pepper white	1.600	kg

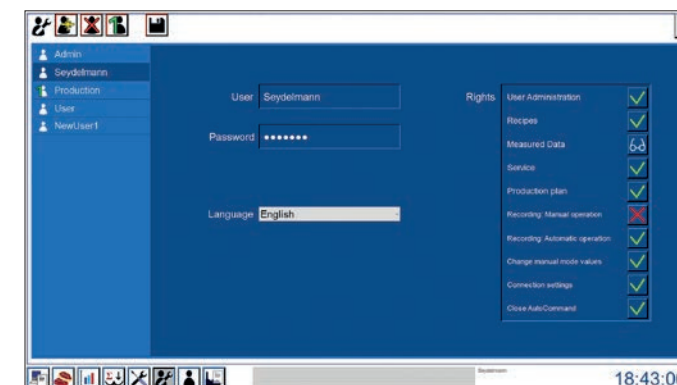
Total consumption



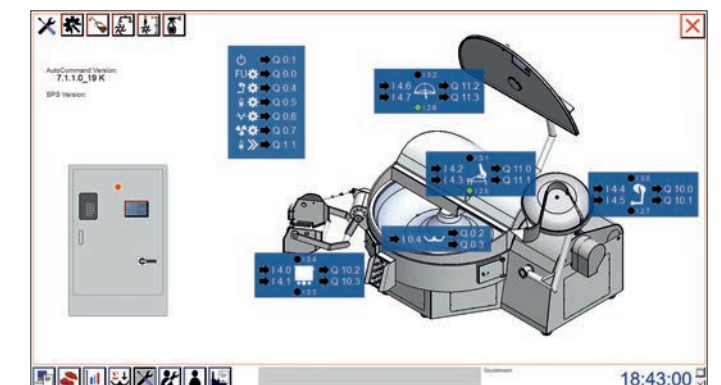
List of ingredients



Recipe calculator



User administration



Service module



In the **production plan**, individual recipes are stored in the desired order of production.

With the **recipe calculator**, it is possible to adjust individual quantity standards automatically according to modified total quantity.

The **total consumption** determines the quantities of all ingredients within a freely selectable period of time for calculating purposes.

**Data recording** of all production stages, enables a subsequent evaluation as well as long-term quality proof for instance in order to serve as a basis for documentation within the scope of the ISO 9001 certification.

On request, it is possible to process all saved data or to add new recipes via a **remote connection**. Furthermore, all process steps beyond the production can be followed.

The **user administration** enables an activation of individual display levels and functions of the program for the different users. All recorded data is assigned to the respective user.

The **service module** displays upcoming service and maintenance intervals. Error notices, limit switch functions and PLC allocations are visible on screen. Errors can be identified even if the control cabinet is in a separate room.

All data and functions of the controller can be assigned into an ERP System. On request, a direct transfer can occur.

The raw material can be processed very efficiently in the production flow while the production process is standardized and optimized continuously.

## Made in Germany

The headquarters and the factory of Maschinenfabrik Seydelmann KG are located in Stuttgart and Aalen. Design and planning as well as the whole manufacturing process including stainless steel working, welding, turning and milling, finishing, electrical panel build, assembly and end-build take place in Aalen.

## Sustainability

Responsible behavior is a regular and permanent feature of Maschinenfabrik Seydelmann KG's corporate identity. Our production processes are constantly being evaluated to meet the most modern sustainability demands. When developing our machines, from the start, we take their entire life cycle into account including the recyclability of the single machine components. Accordingly, we equip our machines with energy-efficient drives and use harmless fats and oils authorized for consumption. That way, together with our customers, we never lose sight of the wellbeing of the environment.

## In the hands of the best

In the hands of the best is the principle behind Maschinenfabrik Seydelmann KG. The highest demands are made of materials and technology without compromise in machine development, construction, build and hygienic design to be able to create a long

lasting top quality product which exceeds even the highest expectations.

## Innovation Standards

When developing the machines, Seydelmann engineers are focused on making them ever more effective, long-lasting and easy to use and maintain. Constantly investing into technological research, Maschinenfabrik Seydelmann KG combines the most innovative findings with traditional German product quality. The goal is to guarantee to customers that by using Seydelmann machines, always the very maximum can be gained from the processed materials. The success of our efforts is most clearly reflected in the permanent customer satisfaction worldwide.

## Hygienic Design

All Seydelmann machines are built according to highest hygienic and security standards. They are safe and easy to clean. The machine frame is made of thick-walled, massive, stainless steel. All surfaces are rounded, polished with high precision and designed with a slope, so that water and detergents can drain easily. All covers are embedded in the machine frame so that water or detergents cannot enter the machine and cleaning with high pressure steam is possible. The construction makes the machines extremely robust and long-lived.



## Safety

All machines and interlinkages fulfil the current accident prevention regulations and are CE marked.

## Service

- Global service
- Qualified service technicians
- Extensive spare parts supply warranted for many years
- Emergency service 7 days/week
- Loan machine service

## Advanced Quality

Think innovatively, work efficiently, produce quality. Seydelmann has implemented a quality management system covering the whole production and organisation. Certified by the much sought-after ISO 9001 the highest demands in the future can be reliably met.



## Tradition and Know-How

Since the founding of the company in 1843 Maschinenfabrik Seydelmann KG has led the field in the development of machines for the food industry. In doing so the company uses the most up to date and innovative technologies. The company with the longest experience in manufacturing food processing machinery is currently led by the sixth generation of the family, by which it was founded over 175 years ago. The large number of long-serving and highly qualified employees ensure Seydelmann's wide ranging know-how.





# PRODUCTION LINES

INDIVIDUAL COMPLETE SOLUTIONS



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