### **Cooking-**Vacuum-Cutter

Seydelmann

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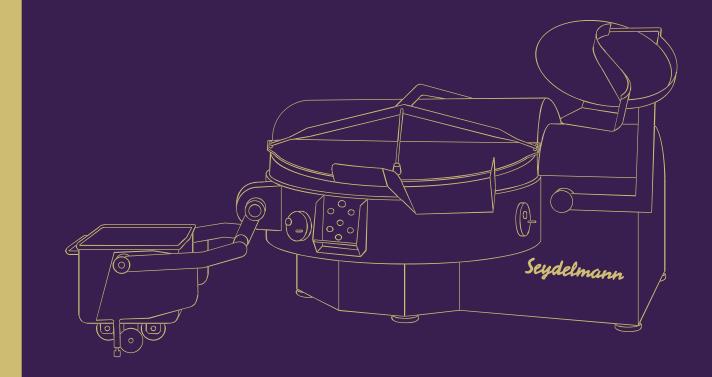
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In the hands of the best

# **Cooking-Vacuum-Cutter**





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#### The Seydelmann Vacuum-Cutter

The special design of the Seydelmann Vacuum-Cutter ensures shortest evacuating times. Chopping under vacuum can be continued immediately after the adding of further material. The main cover seals directly to the outside of the bowl on the body of the machine. This sealing continues in a curve over the knife shaft arm. At the same time the cover rests upon the bowl rim. Through this patent construction both the main cover and the noise absorbing cover directly seal off over the bowl.

### The Seydelmann Cooking-Vacuum High-Efficien cy Cutters in the sizes 200, 325, 500, 750 litres



There is only a little air space between the emulsion and the cover. This allows very quick evacuation. As a result the gas injection is very little. As with the normal cutter the transparent noise absorbing cover allows permanent visibility and thus control of the product during chopping.

This design makes additional sealing and plastic inserts unnecessary. Allows free access to the bowl from all sides. The loading device on the left hand side of the machine is a standard feature. As loading is effected from the left in direction of the rotation of the bowl, the whole trolley content is spread evenly without building up of material (loading device on the right hand side of the machine and the ejector on the left hand side is possible if requested). Loading and unloading is kept to a minimum as only the noise absorbing cover has to be opened.

### The technological capabilities of the Seydelmann Cutters



#### Advantages of the Seydelmann Cutter

Contrary to the microcutter, the cutter makes it possible to alter fineness, temperature and mixture as required, even during the chopping process. The transparent and almost unbreakable noise absorbing cover allows constant control of the chopping process, even under vacuum. Moreover, it reduces the noise level by at least approx. 10 dB(A).

Chopping under vacuum produces a firm emulsion free of air and reduces the volume by 5-7%, which saves packaging cost. The homogeneous vacuum emulsion ensures consistent sausage weight and size in case of cold cuts. Most accurate and uniform portioning when filling.

Firm emulsion are not missed by the knives and so, the emulsion is extremely fine.

Better protein extraction due to better separation of the meat cells increases moisture and fat absorption and improves binding and stability at the same time.



## The chemical effect of vacuum

The better emulsifying effect of the Vacuum-Cutter has tremendous advantages for cold cuts and vacuum-packed goods.

A combination of Vacuum and Cooking-Cutter is possible. Much longer shelf-life of meat products. The low intake of air leads to a fast, bright and more durable reddening and to a much longer lasting colour and taste in the finished product. Due to the lower penetration of atmospheric oxygen in the Vacuum-Cutter, the reaction of oxygen and fatty acids (fat oxidation) are considerably reduced. The products have a much better keeping quality.

## The biological effect of vacuum

As oxygen is locked out, the remaining atmosphere is replaced by chemically and biologically neutral nitrogen, the propagation of germs and the loss of aroma is greatly reduced. This increases the transport times and the product has an increased shelf life. Even with recipes poorer in protein, the heat stabilization of the emulsion is better. Cutters with mixing speeds can also be used as Vacuum Mixers. On option two additional reverse mixing gears.

### Seydelmann-worldwide the embodiment of state-of-the-art developements



#### The AC-8 Cutter

AC - "Alternate Current" DC - "Direct Current"

AC 8 Cutters are fitted with a frequency regulated AC motor. Highest demands on safety, technological application, lifetime and speed are perfectly guaranteed by the entire technique of the service-free ACdrive. High-speeds and perfect reliability over many years are some of the advantages of the AC-Cutter.

The extremely strong design of the AC-Cutter stands for highest performance without the need of servicing carbon brushes and air filters. The operating costs are minimised.

### 6 gears forward, 2 gears reverse

The DC 8 Cutter with its proven DC-drive, and the new AC 8 Cutter with frequency converter are equipped with 6 gears forward and 2 reverse mixing gears or as an option with 8 gears forward. All speeds, from the mixing speed to the highest speed, can be steplessly preprogrammed.

On request, the new AC8 and the DC 8 can be equipped with a stepless speed by means of a cross-lever switch. This speed, independent of the pre-programmed ideal values, lowers or raises the speeds from zero to the highest number of revolutions.

### Seydelmann Cooking-Cutter. The final step towards perfection of taste and aroma



#### The Cooking-Cutter

Saves a lot of time by cooking and chopping in one operation. On option, the working process can further be reduced by additional injection of live steam or heating of knife hood.

The cover above the knives is heated with steam. Especially with coarse cooked sausages a further saving of time can be achieved by the injection of live steam.

Approx. 10 % gain of normally evaporated flavour by using the Seydelmann Cooking-Cutter. Complete preservation of taste, aroma and protein, which otherwise would get 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. Therefore, 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 bowl outside.

In the Cooking-Cutter, the bacteria content of the sausage emulsion is essentially reduced by avoiding various processing steps and by cooking under air exclusion.



#### The Seydelmann Cooking-Cutter; standard with automatic cooking system

Normally, when starting the chopping process, meat and bowl are cold. Heating is started with full steam capacity. As soon as the required temperature is reached, the heating system is switched off or reduced and the residue heat in the metal of the bowl is used to reach the pre-adjusted cooking temperature. Then the machine automatically switches to the cooling process and cools until the final temperature (68-72°C) is reached.

The automatic cooking system and the use of low pressure steam prevents from overheating and the sticking of protein to the bowl. In addition, energy is saved and incorrect operation is eliminated. Working time is used to the optimum level.

Noise absorbing cover of stainless steel with spice hatch.

### The AC - Cutter – Fascinating in stren gth, speed and style



60 ltr. Cooking-Vacuum-Cutter (K 64 AC 8)



60 ltr. Cooking-Vacuum-Cutter (K 64 AC 8)

15



#### 60 ltr. Cooking-Vacuum-Cutter (K 64 AC 8)

#### Technology in the AC-8 Cutter and in the DC-Cutter

A coarse and very uniform texture can be achieved with a relatively low cutting speed. A regular, uniform spread of the product to be processed by means of the mixing speeds improves the appearance and therefore the sales potential is improved.

The AC-Cutter and the DC-Cutter allow the production of still more profitable emulsions. The stepless programming of the 8 speeds offers numerous effective applications. The technical design of the AC-Cutter and of the DC-Cutter allow speeds, that are up to 50 % higher than usual machines. This high speed extracts considerably more protein from the meat cell.

An extremely stronger binding can be realised already at the beginning of the chopping process. Due to the high speed of the knives, inertia of the meat particles increases and the breakdown of the meat cells is complete. Not even the smallest cell compounds are missed by the knives and are cut again. This results in tougher, stronger and more homogenous emulsions.

The very high speed guarantees an extremely degree of fineness.

Not only cellular protein but also taste influencing substances of the meat, i.e. enzymes, can be better released. The sausage has a better taste. To emulsify the paste, the knife speed is programmed slightly lower. The required firm consistencies of the different recipes are achieved by means of the variably adjustable speeds during the emulsifying process.

The combination of all these features improves in particular the visual appearance of the product. A more attractive and appetizing sausage increases customers' willingness to buy the product.

#### Rind emulsion in the AC-Cutter and in the DC-Cutter

The processing of raw rinds to fine rind emulsion creates a new potential market for the highest speed of the AC-Cutter and the DC-Cutter.

After only a short running time, the rind is reduced to a fine even emulsion.

### Perfection in detail

#### **Operation** of the machine

The cross lever switches on the operators' panel are ideally arranged according to ergonomic aspects. Contrary to common switches which are susceptible to interference, the machine and all its functions can almost be operated without opening one's eyes. The machine is electrically interlocked to prevent incorrect or faulty operation. With wear-free immediate stop of knives, even when opening the cover.

#### Quality in every detail

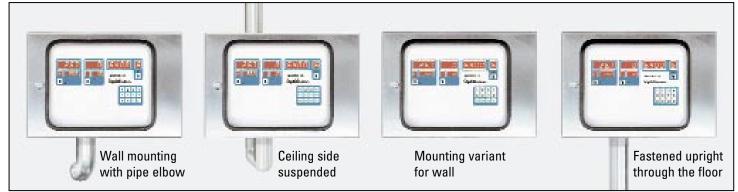
The generously rounded and polished body of the machine without corners and edges, proves the high standard of Seydelmann workmanship. Even the rear and invisible areas of the machine have the same perfect finish.





#### **Controls**

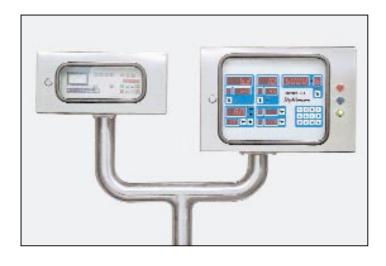
The whole electronic programming unit is placed within sight distance remote of the machine.



Mounting variants of the Micro 13 Control

#### Automatic balancing system with control of unbalanced state

As from K 326, the automatic balancing system with control of unbalanced state is available as an additional feature. Knives can be automatically balanced whilst machine is running. Additional manual balancing is no more necessary. The control of unbalanced state with safety stop is also available without balancing system as an option. It is almost impossible for coarse material to stick to the sensor and hinder temperature measurement.



All parameters are shown on a specially large digital display, even well legible from distances.

#### *Temperature sensors*

Immediate and very accurate temperature control.

The temperature sensor is integrated in the top end of the perfectly-shaped scraper. Even smallest amounts of emulsion can be accurately measured and no coarse material can stick to the sensor causing incorrect measurement.



#### Easy cleaning

All surfaces on the machine are designed with a slope so that cleaning water will drain completely from all surfaces.





Vacuum-Cutter K 504 AC8 - Vacuum-Cutter K 504 DC 8 500 I

#### The ejector

The ejector on the right hand side is a standard feature, without any space requirement for swinging motion.

The specially Seydelmanndesigned ejector disc profile allows quick and efficient unloading, even with liquid materials.

The hydrodynamic design of the entire ejector ensures quick and complete unloading of the material.



Complete unloading even of liquid material



Loading trolley lifted vertically



Tilting operation over the bowl

#### Loading device

The loading device is designed for standard loading trolleys BW 200, incorporated into the machine. There are no components outside the machine like housings or claddings which have to be cleaned separately and need additional space.

The loading device lifts the trolley vertically until the trolley is above the rim of the bowl. Then the trolley is tilted and completely emptied. Liquids are also poured without spilling.

As loading is effected from the left in direction of the rotation of the bowl, the whole trolley content is spread evenly without building up of material.

In order to meet the individual requirements of flow of production, the loading device can also be fitted to the right hand side and the ejector on the left hand side of the cutter.

### **Relaxing comfort for safe operation**

#### Loading via screw conveyor\*

As loading via screw conveyor is effected evenly in direction of the rotation of the bowl, there is no risk of building up of material.

The whole bowl content is chopped uniformly with the same number of cuts, gaining an even particle size in the finished product. This optimised loading process reduces the batch time considerably.

Loading is effected with noise absorbing cover closed. A hydraulic sliding valve will close the screw conveyor when the loading is finished.

Therefore no chunks of material can fall into the bowl. Only very little emission of noise when frozen material is processed and also no condensation of humidity.

Due to its large hopper, the screw conveyor has additionally the function to buffer the material.





DGA 33 Digital display for Ras and Ultra Cutter



Micro 113 Digital control for AC Cutter



Memory 2000 fully automatic programme control for all cutter types

\*available on request (as an option)

#### DGA 33 for Ras and Ultra Cutter

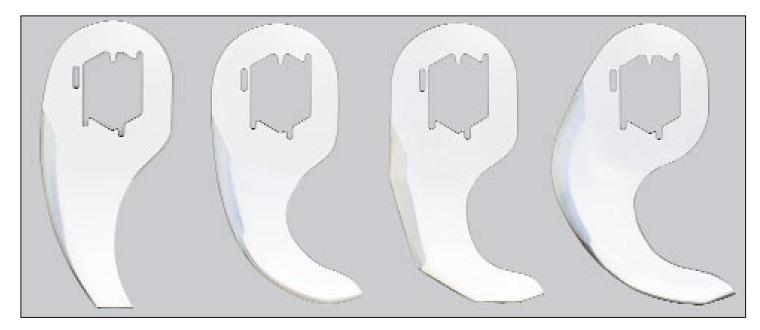
Digital display for running time and product temperature on request with automatic switch-off for time and temperature. Switch-off data can be variably preprogrammed.

#### Micro 113 with AC Cutter

Digital controller Micro 113 for knife speed, gear indicator, temperature and run time. Eight speeds can be steplessly programmed and then activated by means of the practical knee lever switch at the cutter. Automatic shutdown for run time and temperature. Temperature is measured in seconds and very accurately.

#### Memory 2000 - for all cutter types on request

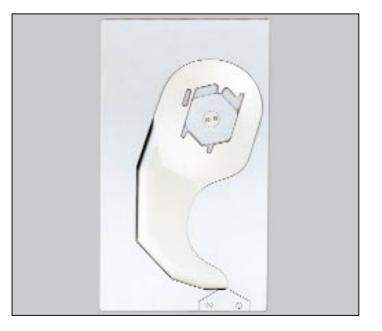
The programmable microprocessor controller Memory 2000 for fully automatic cutting provides user-guided programming. The screen display is freely programmable as a color display. Certain program steps already include logical work sequences. The memory 2000 allows you to store complete daily and weekly work schedules. Required customer service work is displayed in the service program of the Memory 2000 in a timely manner in advance. For comprehensive information about numerous additional applications, please refer to our special catalog.



*K* - for extremely fine emulsion and for fine rind emulsion. Mostly used on high-speed cutters. Y - in a balancingclamping set withspacer, no buildingup of product.Little friction, lesspower consumption.

*E* -efficient universal knife for most possible fineness and intensive emulsifying.

**B** - perfect for dry sausage due to its drawing cut.



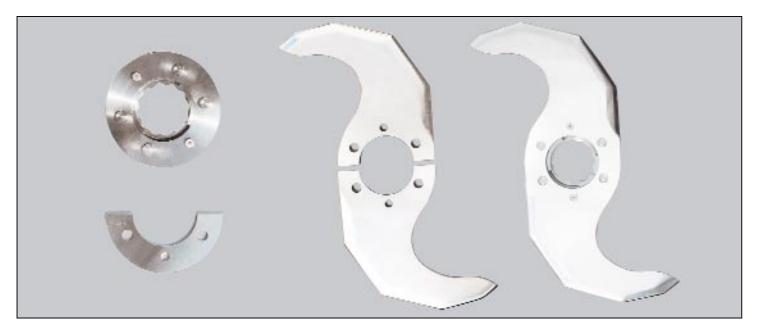
*Knife gauge*<sup>\*</sup> For exact adjustment of the knives after regrinding. The safety stud is reduced to the correct length.



*Clamping nut for knives* Safe fixing of knives with smallest energy expenditure.



**Balancing unit**\* Fine balancing of the whole knife set after being pre-balanced in clamping sets. Especially for highspeeds cutters (AC-drive or DC-drive) for very smooth operation.



*Knife system KO and EO* Each two knives are mounted in one level into the balancing clamping set or into the draw-in balancing clamping set with intermediate spacer.



#### Knife balancing scale for clamping sets Knife balancing unit for balancing of knife pairs for vibration-free operation.

The new K -knife types can be balanced and mounted much quicker and easier with utmost possible safety. They guarantee better flow of material and pre-balancing.

### Seydelmann machines stand for top quality and steady progress

#### Seydelmann Cutters and their drive systems

#### 1. The AC-Cutter – future-orientated technique for a perfect solution

- The AC-motor of the AC-Cutter is significantly more efficient than conventional drive systems with given speed.
- No more changing of carbon brushes or air filters.
- There are no more peak loads when starting or changing speeds compared to conventional AC-motors.
- Despite the batch size, the AC-Cutter will exactly run with the pre-set knife revolutions. Considerable saving of energy, as well as absolutely uniform products are guaranteed.
- The AC-Cutter will only consume the amount of energy which is necessary in relation to the ideal speed for the individual product.
- Considerable saving of energy of up to 25 % on the AC-Cutter.
- The water-cooled AC-motor will always run within its ideal temperature range. The waste heat of the motor can be used in a heat exchanger, for heating industrial water or for a central heating system. No waste heat will go into the production rooms, therefore the aircondition will consume less energy. Double saving!

#### 2. The Ultra-Cutter Strong and universal

- The sturdy design ensures the universal use for all types of sausage.
- Two cutting speeds, two knife speeds and two mixing speeds for the addition of coarse material into the emulsion.
- On option the two bowl speeds can be used in combination with each knife speed, resulting in eight different speed combinations. Two reverse mixing speeds as an option.

#### 3. The Rasant-Cutter

- A robust High-Efficiency Cutter for
- most intensive use.
- Two cutting speeds and two
- independent bowl speeds.

### **Quality in every detail**

#### 1. Noise absorbing cover

- Reduces the emission of noise by more than 10 dB(A), i.e. the perceptible noise level is reduced by almost 50 %.
- Condensation of humidity on dry sausage mix is limited.
- Preservation of heat on cooked products.
- Transparent, almost unbreakable and chemically resistant.

The stainless cutter bowl has a smooth and sealed surface. This prevents fat, protein and water from penetrating into the surface and thus providing a culture medium for bacteria. Due to its close structure of material and the higher specific gravity, in the stainless cutter bowl the cold as well as the heat can be better controlled into the product. Because of the high chemical resistance of its material, the surface of the stainless cutter bowl always remains smooth. There is no fat 2. Balanceable knife sets residue on the surface. No slipping away of - Easy exchanging of knives and pre-balancing. material from the knives. The gleaming The knives can be set in any number or effect of the bowls made of stainless higharrangement. This results in smooth grade steel completes in a matchless perfecoperation even at extremely high speeds. tion the visual effect of an elitist machine for the ultimate demands.

#### 3. Electric

The motor insulation is water repellent with thermal overload switch-off. For each cutter size, there are three motor sizes available according to performance and number of knives. On request totally closed, i.e. IP 54.

As a standard, the separate panel box is made of stainless steel, water and steam proof (protection IP 54).

On request the AC-Cutters and DC-Cooking-Vacuum- Cutters are equipped with standstill heating – the motor is slightly heated during standstill periods which prevents the motor winding from condensation and humidity.

#### 4. Cutter bowl of stainless steel

#### 5. Safety

Seydelmann machines are manufactured in accordance to legal safety regulations and have the CE-Declaration of Conformity.

#### 6. Advanced quality

Innovatively thinking, economical action and production of quality. This ensures excellent fulfilment of your present and future requirements.

### **Needful features of the Seydelmann High -Efficiency Cutters**

#### Advantages of the Seydelmann Cooking - Vacuum - Cutters

• Exact adjustment of knives against the cutter bowl due to the unique central support.

- The robust design of the bowl and lid mean that they are also suitable for use in extreme conditions.
- Machine body of solid stainless steel, no cast-iron or mild steel profiles, clad with thin stainless sheets. No dents in case machine is hit by trolleys etc.
- Practice-orientated, easy, ergonomic and convenient operation of the machine due to its special low construction.
- Bowl made of stainless steel, unbreakable and transparent noise absorbing cover, in case of Cooking-Vacuum-Cutter of stainless steel with transparent spice hatch, main cover, noise absorbing cover, ejector and loading device for BW 200 or BW 300 hydraulically operated.
- Completely closed machine body. There is a duct on the rear of the machine for the connection of an air channel (provided at site) to supply cooling air from outside the production room, an optional air filter is supplied if cooling air comes from inside the production room.
- The water-cooled AC-motor will always run within its ideal temperature range. The waste heat of the motor can be used in a heat exchanger, for heating industrial water or for a central heating system. No waste heat will go into the production rooms, therefore the air-condition will consume less energy. Double saving.

#### Ejector with pre-programmable speeds

On request, the ejector can be equipped with three steplessly pre-programmable speeds and a frequency regulated motor (subject to an additional fee). Hydraulic components for the movement of the unloader are incorporated into the machine body.

Hydraulic piston and limit switches are well protected and the machine is therefore much easier to clean.

Speed one: For coarse and dry sausage emulsion Speed two: For fine emulsions Speed three: For fluid emulsions

#### Soft stop motion device

The hydraulic movement of the ejector has a soft stop motion device - therefore the ejector disc will only touch the bowl very gently. Bearing and ejector disc are protected against wear.

#### Noise reduction

The knife hood is double-walled and insulated with sound absorbing material. The perfect geometry of the cutting chamber remains unchanged. The outside shape of the cutting chamber is extended to the left hand side of the knife hood to reduce the sound considerably.

#### Knife systems

The new knife types can be balanced and mounted much quicker and easier with utmost possible safety.

#### Vacuum pump

The vacuum pump, a maintenance-free ring pump, is integrated in the machine body.

#### Needful features of the Seydelmann High-Efficiency Cutters

All Seydelmann machines can be individually designed for each application. By improvement with special customer-orientated kits the cutter becomes the central machine for completely new applications. Also special custom-built constructions for extraordinary and unusual applications are possible.

◆ *Water nozzle*, on request with water meter for exact discharge of water. The water volume is displayed and preset using the digital control Micro 113.

◆ *Nozzle* for adding liquids of any viscosity.

• *Memory 2000* with screen display. Automated chopping cycles freely programmable. Choice of recipes, calculation, selection control of additional transport systems etc. Compatible to existing computers.

◆ *Loading via screw conveyor* for smooth loading of the cutter, i.e. during one bowl revolution. The whole bowl content is chopped with the same number of cuts, gaining a uniform particle size in the finished product.

Loading is effected with noise absorbing cover closed.

• Sectioned cover with feeding openings loading via feeding systems or screw conveyors. Integration of the cutter into existing continuous production lines.

• *Control board* positioned above the machine at eye-level of the operator.

• *Remote control* for automated productions for the controlling of several machines by one operator.

• *Gases input* providing correct inert or non-inert atmosphere according to product requirements.

•  $N_2$  for gas flushing inert atmosphere, ph-neutral, no injection of germs from the surrounding air, avoiding bacteria growth, no oxidative effects of the atmospheric oxygen (fat oxidation).

◆ *LIN* for constant cooling. For cooling of the product down to the perfect temperature for chopping. Best temperature to gain proteins approx. +3°C. For lowtemperature chopping and change of consistency of the product.

◆ *Injection of LIN for freezing*. Liquid nitrogen is injected directly into the product. The low temperature is achieved by shock freezing. Immediate chopping or granulating under low-temperature condition with completely changed consistency of the product, i.e. shock freezing and granulating of freshly-slaughtered, warm meat for conservation of ATP and PH.

• Stepless bowl drive with four pre-set speeds. The flow of material can be altered relative to the ideal cutting speed of the knives. Specially for the production of granulated products with uniform structure of required size, i.e. dry sausage etc.

• Stepless programmable main drive with frequency-controlled AC-motor. Almost maintenance-free.



#### Konti-Kutter

The new Seydelmann Konti-Kutter type KK 250 AC-6 made of solid stainless steel is an emulsifier with a completely new hole plate/ cutting plate system. The Konti-Kutter is the ideal machine for the production of finest emulsions as well as coarse products of perfect quality.

For additional information please refer to our special catalog.

120 ltr. Cooking-Vacuum-Cutter (K 124 AC8)



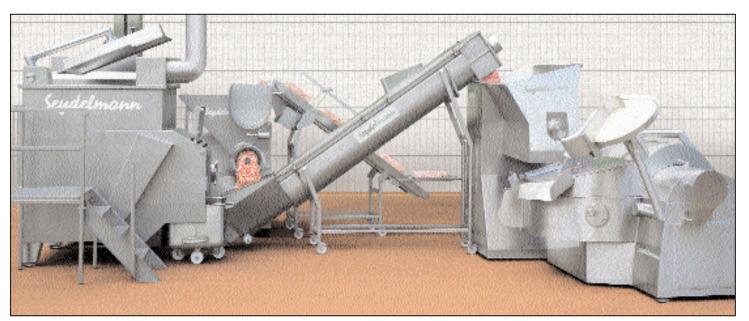
### Seydelmann automatic processing line



Mixer-Grinder PG 160 with movable screw conveyor (unloading as a standard on the left hand side, on request on the right hand side)

#### Ideal integration within automatic processing lines

All our industrial machines can be connected via conveyors. As a consequence,

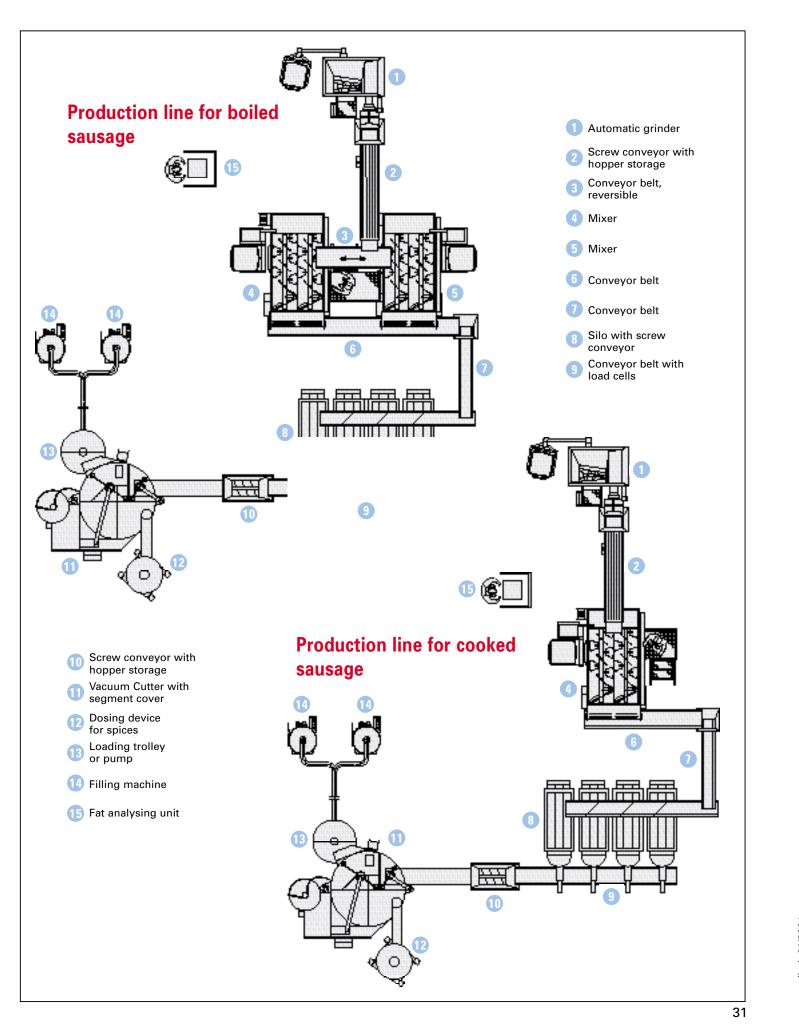


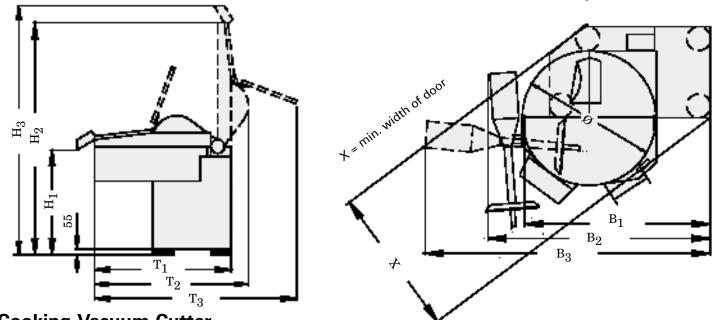
Automatic processing line

Konti-Kutter KK 250 AC-6

all products, i.e. boiled, dry and cooked sausages can be produced automatically.

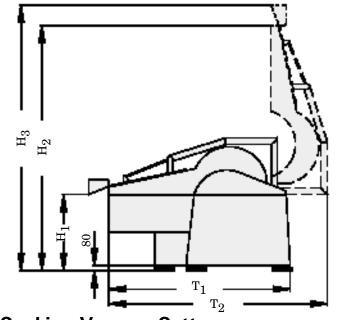
### **Technical Data**





#### **Cooking-Vacuum-Cutter**

type	litres	powe	er of 1	notor	s in kW												steam connec-	weight
		Ultra	V	VS	AC/DC	В <sub>1</sub>	$B_2$	$B_3$	T <sub>1</sub>	T <sub>2</sub>	T <sub>3</sub>	Х	Ø	H <sub>1</sub>	$H_2$	$H_3$	tion kg/h	in kg
K 64	60	12	17	21	22 - 40	138	170	200	116	134	176	126	96	90	205	222	55 - 70	1700
K 124	120	26	32	45	45 - 80	160	200	230	146	170	210	155	121	90	236	253	70 - 80	2150
Dimensions/data not binding Alterations reserved																		



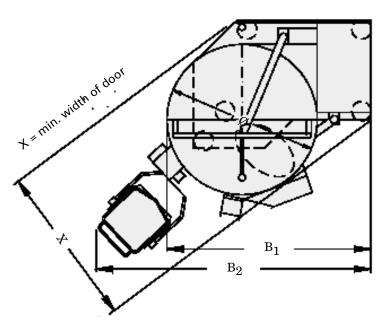
#### Cooking-Vacuum-Cutter

	type	litres	pow	ver of :	motors	s in kW			steam	weight							
englisch 01/2004			Ultra	v	VS	AC/DC	<sup>B</sup> 1	$B_2$	$T_1$	Т2	Х	Ø	$\mathbf{H}_{1}$	$\mathrm{H}_{2}$	$\mathrm{H}_3$	connec- tion kg/h	in kg
	K 204	200	67	90	105	80-100	202	320	176	218	180	143	92	260	275	85 - 110	3750
	K 324	325	105	125	140	100-140	225	345	191	248	193	161	92	278	300	110-140	4750
	K 504	500	125	140	160	170 - 200	249	369	216	275	196	186	92	304	334	120 - 150	5800
	K 754	750	140	160	190	220 - 250	278	398	238	300	221	206	92	324	354	160-200	6700

Dimensions/data not binding







Alterations reserved