

EKOMEX
Piłśniak

Machines and production lines for food
processing industry

Our company

Nasza firma

Since 1999 we have been designing and manufacturing machines for meat and food industry under Ekomex-Pilśniak brand. We realize orders for single machines and production lines. The potential of our employees and the available tools enable comprehensive execution of projects within our own modern production plant.

Od 1999 roku projektujemy i produkujemy maszyny dla branży mięsnej i spożywczej pod marką Ekomex-Pilśniak. Realizujemy zamówienia na pojedyncze maszyny oraz linie produkcyjne. Potencjał naszych pracowników oraz dostępne narzędzia umożliwiają kompleksowe wykonanie projektów w ramach własnego, nowoczesnego zakładu produkcyjnego.



Our motto THE POWER OF POSSIBILITY is related to the customization of manufactured machinery and equipment to meet the individual requirements and business needs of our customers.

Nasze motto POTĘGA MOŻLIWOŚCI związane jest z dostosowaniem produkowanych maszyn i urządzeń do indywidualnych wymagań i potrzeb biznesowych naszych klientów.



Better

We will design single machines and complex production lines

Lepiej

Zaprojektujemy pojedyncze maszyny oraz złożone linie produkcyjne



Faster

We will implement suggestions to find optimal solutions and ensure easy operation

Szybciej

Będziemy wdrażać sugestie w celu znalezienia optymalnych rozwiązań i zapewnienia łatwej obsługi



Smarter

We will carry out temporary inspections and service

Sprawniej

Przeprowadzimy przeglądy i serwisy

Our products

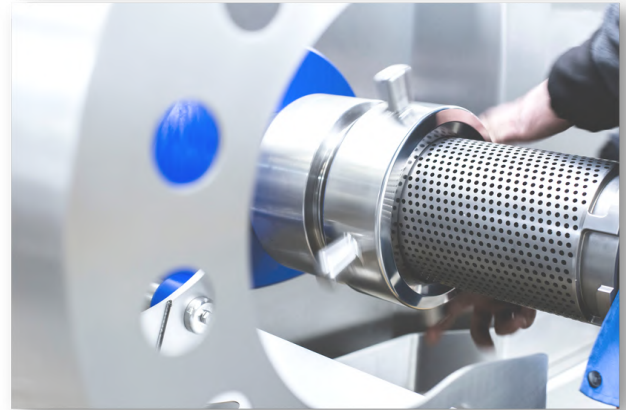
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in digital version



www.ekomex.pl

Grinders and separators



MODELS

Automatic grinder

- WP-130

Automatic angle grinders

- WW-130
- WW-160
- WW-200
- WW-280
- WW-300

Separating heads Singriset

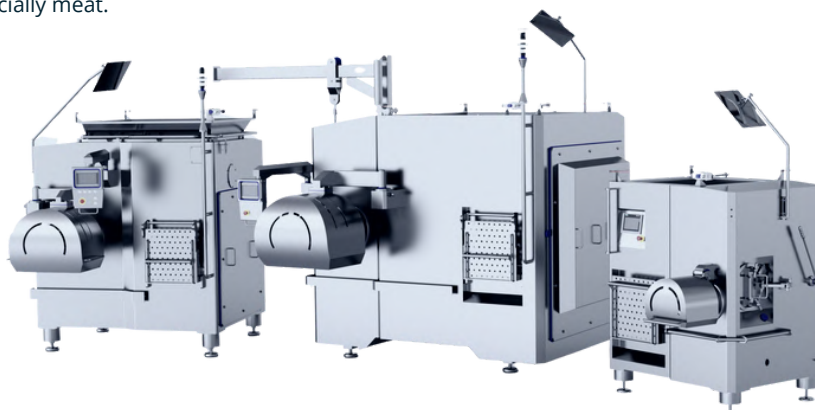
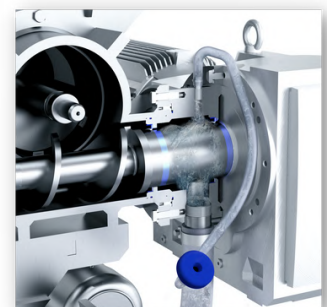
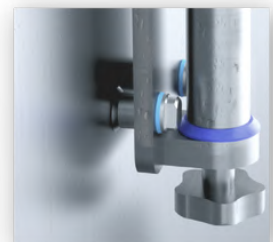
- S-1000
- S-2000
- S-5000
- S-7000

This is one of our most important product areas, intensively developed with many years of experience and innovation in the separation, crushing, grinding and cutting of fresh and frozen raw materials especially meat.

Ekomex-Pilśniak modern automatic grinders are universal, industrial machines for small, medium and large food processing plants for grinding, mincing, cutting into specified structure meat raw materials, fresh, chilled or frozen, depending on the machine model.

They also work well with other food raw materials in poultry, pet food and fish processing as well as during production of delicatessen, cheese and convenience food.

Appropriate construction of hopper, throat and screw housing as well as speed control ensure even flow of raw material and good compression in cutting tools, which provides proper structure of grinding.



HYGIENE
ERGONOMICS
SAFETY

Sealing systems with rinsing zones.
Easy pull out screws.

Covers and lids secured with limit switches



Automatic grinder Model WP-130

Technical data

Standard hopper capacity:	70 l
Cutting tools:	Ø 130 mm [E130]
Configuration of cutting tools:	2 ÷ 5 parts
Drive power:	motoreducer 7,5 kW
Standard operating panel:	analog with buttons
Screw ejector:	manual lever
Capacity:	up to 2000 kg/h*
Unloading height:	for 200 l bins
Screw housing:	CNC machined inner channels

*depending on raw material, its temperature and cutting tools

Options

- Smooth adjustment of screw speed
- PLC control
- SINGRISET head
- Manual loading
- Mixing arm BATMIX Series



Manual loading for euro containers

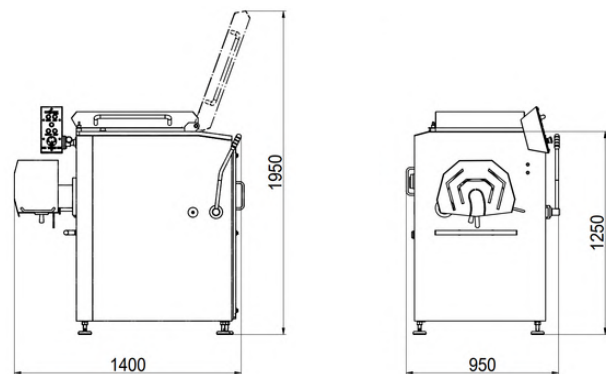


PLC control with touch screen



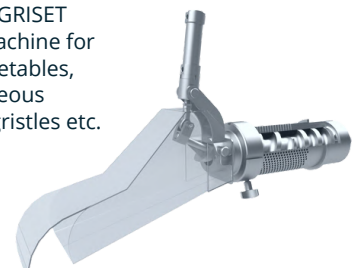
Mixing arm BATMIX Series

Dimensions



Separating head SINGRISET S-1000

EKOMEX angle grinder with SINGRISET head becomes very effective machine for knife-less grinding, mincing vegetables, cheese and meat with simultaneous sinews removal, separation of gristles etc.

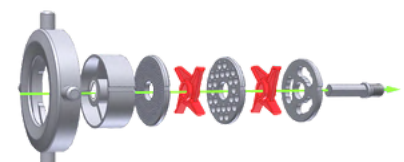


SINGRISET
Separating innovation

Read more about Singraset on page 12

Standard cutting sets

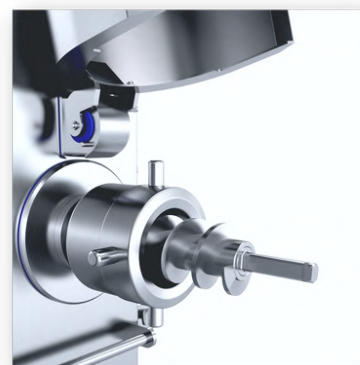
Cutting tools type E130 (pre-cutters, knives, hole plates, distance rings) in various configurations of 2, 3, 4 or 5 parts.



Automatic angle grinder Model WW-130N



Hopper extension



Quick-locking nut
Cover opening vertically

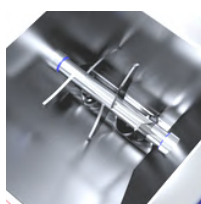
Technical data

Standard hopper capacity:	350 l / 500l
Cutting tools:	Ø 130 mm [E130]
Configuration of cutting tools:	2 ÷ 5 parts
Feeding screw drive power:	2,6/3,1 kW
Main screw drive power:	1st gear 13 kW 2nd gear 17 kW
PLC control:	touch screen
Tool removal lever	manual
Capacity:	up to 3000 kg/h*
Unloading height:	for 200 l bins
Multi-stage screw sealing:	rinsing channel
Screw housing:	CNC machined inner channels

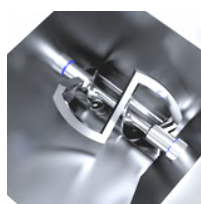
*depending on raw material, its temperature and cutting tools

Options

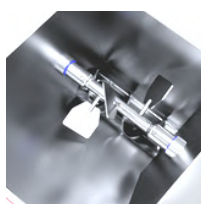
- Smooth adjustment of the screws speeds
- Block pre-cutter VERTICUT Series
- Z-arm or paddle mixing shaft VERTIMIX series
- Column loading device for 200 l bins or type ZM-600 for big-box containers
- Individual unloading height
- Singriset head



VERTICUT

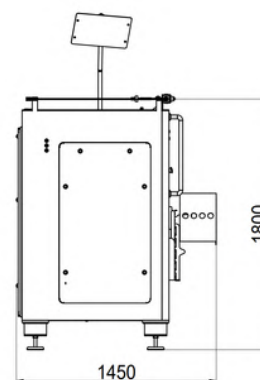
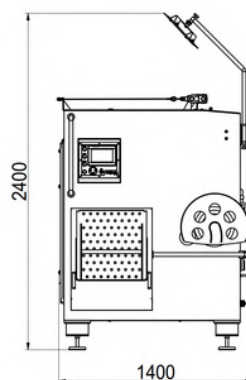


VERTIMIX Z



VERTIMIX paddle
mixing shaft

Dimensions



Separating head SINGRISET S-2000

EKOMEX angle grinder with SINGRISET head becomes very effective machine for knife-less grinding, mincing vegetables, cheese and meat with simultaneous sinews removal, separation of gristles etc.

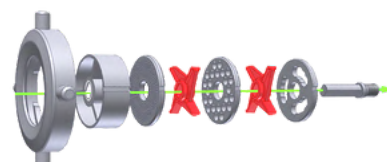


SINGRISET
Separating innovation

Read more about Singriset on page 12

Standard cutting sets

Cutting tools type E130 (pre-cutters, knives, hole plates, distance rings) in various configurations of 2, 3, 4 or 5 parts.



Automatic angle grinder Model WW-160N



Hopper extension



Opened zone passing and compressing raw material

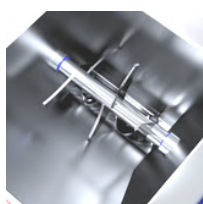
Technical data

Standard hopper capacity:	350 / 500 l
Cutting tools:	Ø 160 mm [G160]
Configuration of cutting tools:	2 ÷ 5 parts
Feeding screw drive power:	2,2 kW
Main screw drive power	37 kW
PLC control:	touch screen
Tool removal lever	manual
Capacity:	up to 5000 kg/h*
Unloading height:	for 200 l bins
Multi-stage screw sealing:	rinsing channel
Screw housing:	CNC machined inner channels

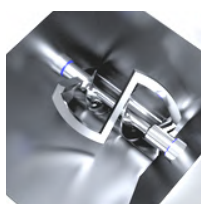
*depending on raw material, its temperature and cutting tools

Options

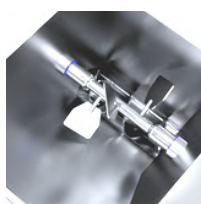
- Smooth adjustment of the speeds of screw
- Block pre-cutter VERTICUT Series
- Z-arm or paddle mixing shaft, VERTIMIX series
- Column loading ZM200 for 200 l bins or, or ZM-600 loader for BIGBOX containers
- Individually made discharge height
- Singriset head



VERTICUT

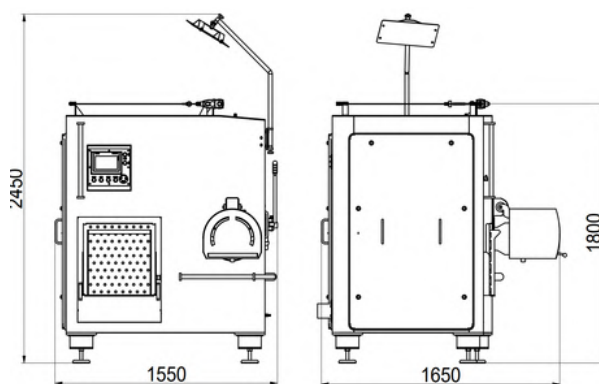


VERTIMIX Z



VERTIMIX paddle
mixing shaft

Dimensions



Separating head SINGRISET S-5000

EKOMEX angle grinder with SINGRISET head, becomes very effective machine for knife-less grinding, mincing vegetables, cheese and meat with simultaneous sinews removal, separation of gristles etc.

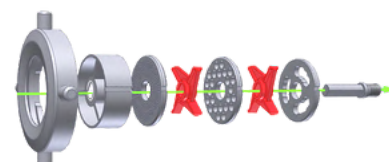


SINGRISET
Separating innovation

Read more about Singriset on page 12

Standard cutting sets

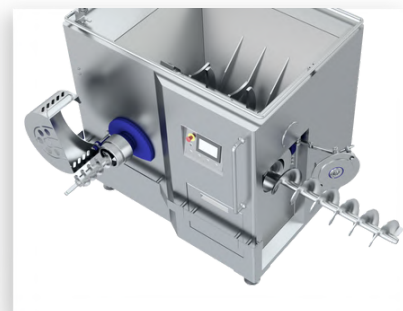
Cutting tools type G160 (pre-cutters, knives, hole plates, distance rings) in various configurations of 2, 3, 4 or 5 parts.



Automatic angle grinder Model WW-160



Hopper extension



Opened zone of feeding screw

Technical data

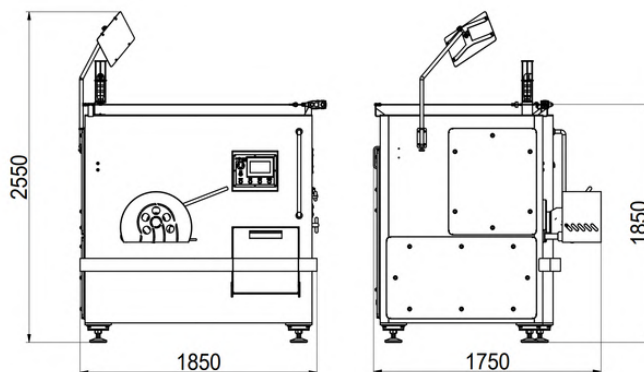
Standard hopper capacity:	500 / 800 l
Cutting tools:	Ø 160 mm [G160]
Configuration of cutting tools:	2 ÷ 5 parts
Feeding screw drive power:	1,5/1,9 kW
Main screw drive power:	26/37 kW
PLC control:	touch screen
Tool removal lever	hydraulic
Capacity:	up to 6000 kg/h*
Unloading height:	for 200 l bins
Multi-stage screw sealing:	rinsing channel
Screw housing:	CNC machined inner channels

*depending on raw material, its temperature and cutting tools

Options

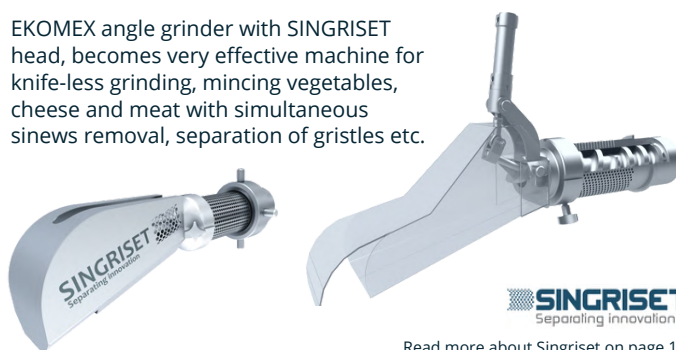
- Smooth adjustment of the screws speeds
- Block pre-cutter VERTICUT Series
- Z-arm or paddle mixing shaft, VERTIMIX series
- Column loading ZM200 for 200 l bins or type ZM-600 for BIGBOX containers
- Individual unloading height
- Control panel on the arm
- Singriset head

Dimensions



Separating head SINGRISET S-5000

EKOMEX angle grinder with SINGRISET head, becomes very effective machine for knife-less grinding, mincing vegetables, cheese and meat with simultaneous sinews removal, separation of gristles etc.

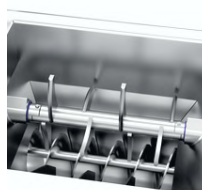
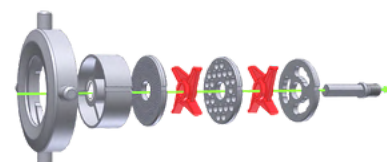


SINGRISET
Separating innovation

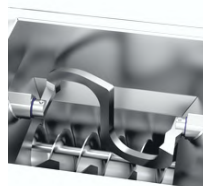
Read more about Singriset on page 12

Standard cutting sets

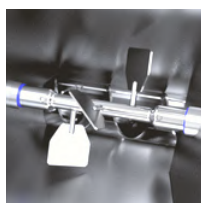
Cutting tools type G160 (pre-cutters, knives, hole plates, distance rings) in various configurations of 2, 3, 4 or 5 parts.



VERTICUT



VERTIMIX Z



VERTIMIX paddle mixing shaft

Automatic angle grinder Model WW-200



- Control panel on the swinging arm
- Hopper extension
- Increased discharge height
- Opened feeding screw zone

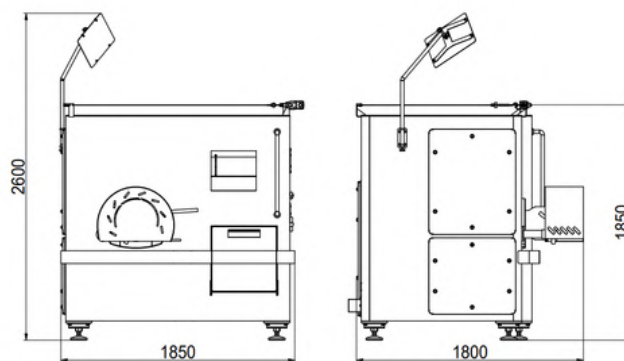


Technical data

Standard hopper capacity:	500 / 800 l
Cutting tools:	Ø 200 mm [U200]
Configuration of cutting tools:	2 ÷ 5 parts
Feeding screw drive power:	1,5/1,9kW
Main screw drive power:	55 kW (optional 75 kW)
PLC control:	touch screen
Tool removal lever	hydraulic
Capacity:	up to 10000 kg/h*
Unloading height:	for 200 l bins
Multi-stage screw sealing:	rinsing channel
Screw housing:	CNC machined inner channels

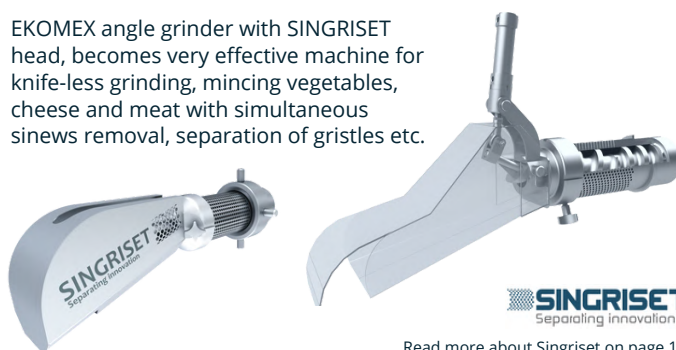
*depending on raw material, its temperature and cutting tools

Dimensions



Separating head SINGRISET S-7000

EKOMEX angle grinder with SINGRISET head, becomes very effective machine for knife-less grinding, mincing vegetables, cheese and meat with simultaneous sinews removal, separation of gristles etc.



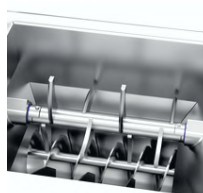
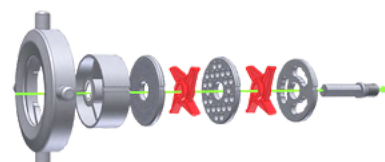
Read more about Singriset on page 12

Options

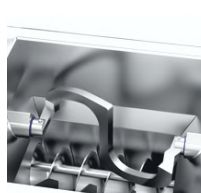
- Smooth adjustment of the screws speeds
- Block pre-breaking shaft VERTICUT Series
- Z-arm or paddle mixing shaft, VERTIMIX series
- Column loader ZM-200 for 200 l bins or ZM-600 for BIGBOX containers
- Individual discharge height
- Singriset head

Standard cutting sets

Cutting tools type U200 (pre-cutters, knives, hole plates, distance rings) in various configurations of 2, 3, 4 or 5 parts.



VERTICUT

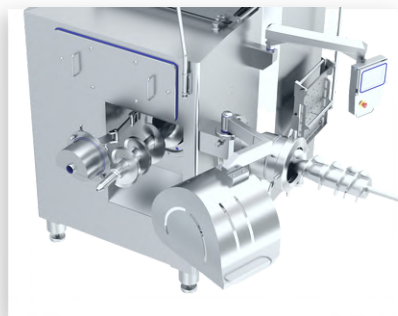


VERTIMIX Z



VERTIMIX paddle mixing shaft

Automatic angle grinder Model WW-280



Opened zone of passing and compressing raw material



Control panel and throat casing on swinging arm

Technical data

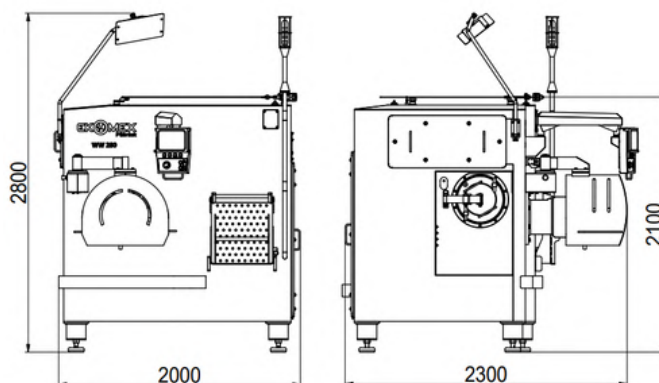
Standard hopper capacity:	480 / 760 l
Cutting tools:	Ø 280 mm
Configuration of cutting tools:	2 ÷ 5 parts
Feeding screw drive power:	5,5 kW
Main screw drive power:	90 kW (optional 110 kW)
PLC control:	touch screen
Tool removal lever	hydraulic
Capacity:	up to 15000 kg/h*
Unloading height:	for 200 l bins
Multi-stage screw sealing:	rinsing channel
Screw housing:	CNC machined inner channels

*depending on raw material, its temperature and cutting tools

Options

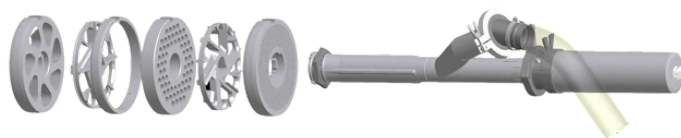
- Smooth adjustment of the screws speeds
- Block pre-breaker VERTICUT Series
- Z-arm or paddle mixing shaft VERTIMIX series
- Column loader ZM-200 for 200 l carts or ZM-600 for BIGBOX container
- Individually adapted discharge height of the machine

Dimensions



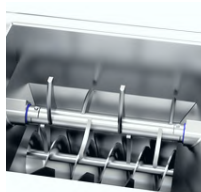
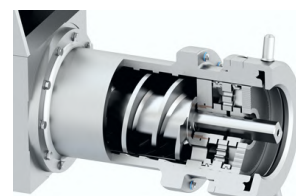
Cutting set with screw separation

Possible 4 or 5-part tool configuration.
Degree of separation smoothly adjustable by the speed of the ejecting screw or pneumatic cylinder.

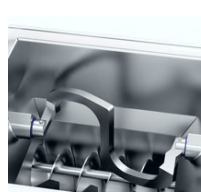


Standard cutting sets

Cutting tools type K280 (pre-cutters, knives, hole plates, distance rings) in various configurations of 2, 3, 4 or 5 parts.



VERTICUT

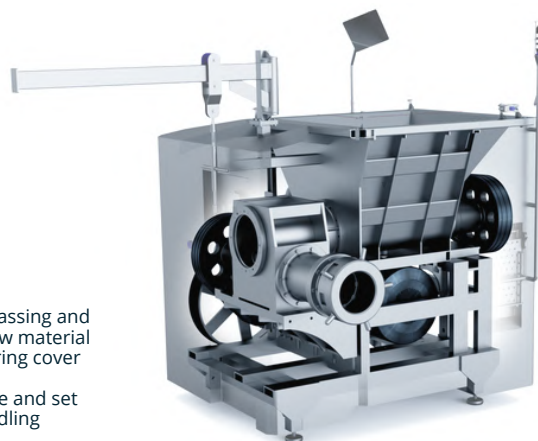


VERTIMIX Z



VERTIMIX paddle mixing shaft

Automatic angle grinder for blocks Model WW-300



- Opened zone passing and compressing raw material with screw bearing cover
- Integrated crane and set of carts for handling screws

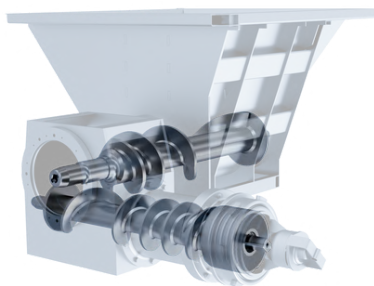
Technical data

Standard hopper capacity:	750 l
Cutting tools:	Ø 300 mm
Configuration of cutting tools:	2 ÷ 5 parts
Feeding screw drive power:	22 kW
Main screw drive power:	110 kW (optional 132 kW)
PLC control:	touch screen
Tool removal lever	hydraulic
Capacity (frozen meat):	up to 8000 kg/h*
Unloading height:	for 200 l bins
Multi-stage screw sealing:	rinsing channel
Screw housing:	CNC machined inner channels

*depending on raw material, its temperature and cutting tools

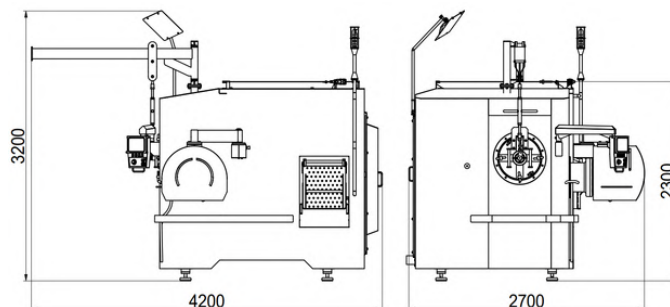
Options

- Smooth adjustment of the screws speeds
- Column loading device ZM-200 for 200 l bins or type ZM-600 for BIGBOX containers
- Individually adapted discharge height of the machine
- Block loading transporter



- Tool blocking system
- Angled arrangement of screw, enabling smooth flow of raw material

Dimensions



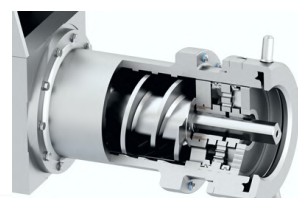
Sets of screws for frozen raw materials

Special design of screw for cutting blocks in the hopper.



Cutting sets for frozen raw materials

Cutting tools type WX300 (pre-cutters, knives, hole plates, distance rings) in various configurations of 2, 3, 4 or 5 parts.





Singrister separating head

The grinders WP130, WW130, WW160, WW200 can be equipped with the grinding and separating head SINGRISET. The complete head consists of elements:

- main screw with tool collector
- support ring with sliding bushing
- separator screw
- hole filter with holes \varnothing 1,2,3,5,7 mm or slots under 1mm
- pressure valve with nut

EKOMEX grinder with SINGRISET head, becomes effective machine for knife-less grinding, grinding vegetables, cheese and meat with simultaneous sinews removal, separation of gristles and other harder fractions, which improves the quality of received product.

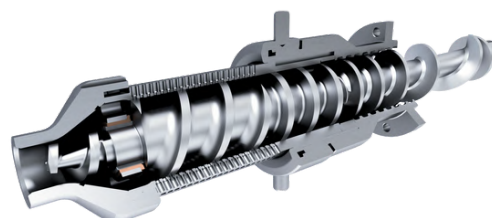
It can also successfully replace expensive, dedicated devices for separating poultry and pork bones and fish bones.

Sets of screws for fresh and frozen raw materials

Grinders are supplied with a universal set of screws. Optionally, for more demanding and frozen products, dedicated screws are available, depending on the type and the final degree of grinding.



Additional equipment for grinders



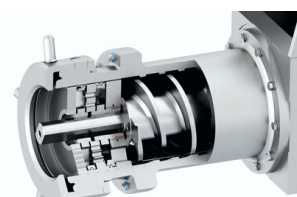
Cutting units with pneumatic or screw separation

Separating sets for grinders from 130 to 280 mm. Possible 4 or 5-piece configuration of cutting tools. Separation level adjusted smoothly by the speed of ejection screw or pneumatic valve. Efficient separation can be provided with grinding on the end hole plate 3 to 8 mm.

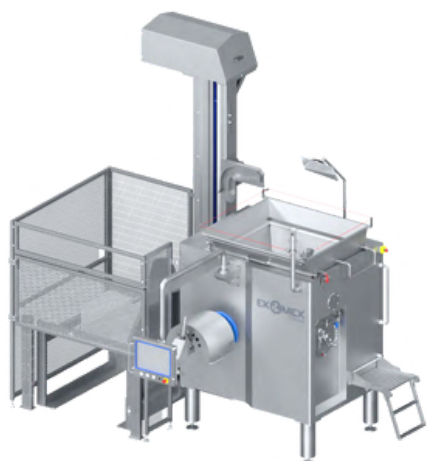


Cutting sets for skins, fresh and frozen raw materials

Cutting tools for the grinders with diameters from 130 to 300 mm (pre-cutters, knives, hole plates, spacer rings) in various configurations of 2, 3, 4 or 5 parts.



Additional equipment for grinders



Loading units ZM600

Available in one- or two-column versions, for loading grinders with palbox/bigbox containers, with maximum payload up to 1000 kg.



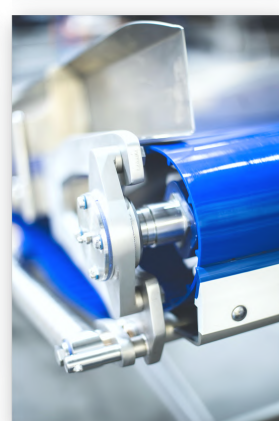
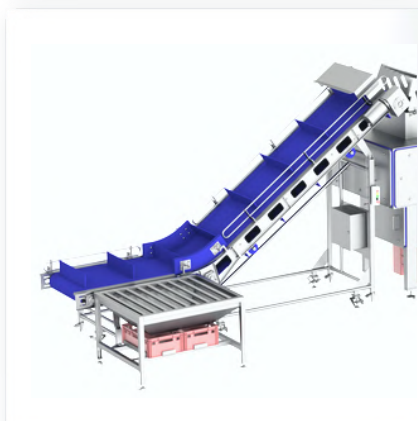
Column loading units ZM200 or arm loading units ZR200

For loading grinders with standard bins 200 or 300 l, with maximum payload up to 300 kg

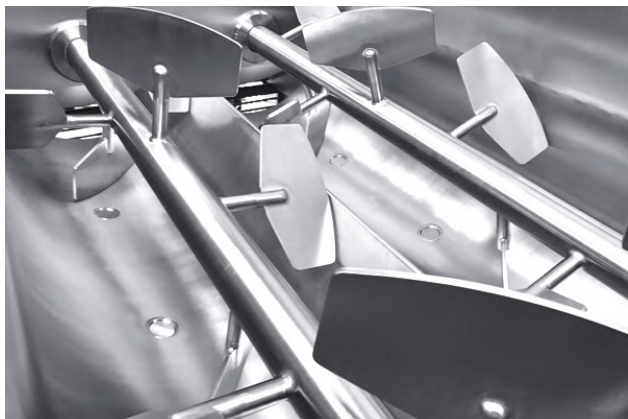


Belt and screw conveyers

Available in different configurations, with the possibility of adaptation for individual production needs. Transport of fresh product in elements or grinded, as well as for frozen blocks.



Mixers



MODELS

Paddle mixers - **series M**

- converging shafts
- 1 discharge flap
- drive from 1 motoreducer + chain drive

Vacuum versions:

- | | |
|----------|-----------|
| ■ ML-250 | ■ ML-250V |
| ■ ML-350 | ■ ML-350V |
| ■ ML-500 | ■ ML-500V |

Paddle mixers - **series L**

- diverging shafts
- 2 discharge flaps
- direct drive from motoreducers

Vacuum versions:

- | | |
|-----------|------------|
| ■ ML-600 | ■ ML-600V |
| ■ ML-750 | ■ ML-750V |
| ■ ML-1000 | ■ ML-1000V |
| ■ ML-1500 | ■ ML-1500V |
| ■ ML-2000 | ■ ML-2000V |

Paddle mixers - **series XL**

- diverging shafts
- 2 discharge flaps
- direct from 2 motoreducers + chain transmissions

Vacuum versions:

- | | |
|-----------|------------|
| ■ ML-3000 | ■ ML-3000V |
| ■ ML-3700 | ■ ML-3700V |
| ■ ML-4600 | ■ ML-4600V |
| ■ ML-6300 | ■ ML-6300V |

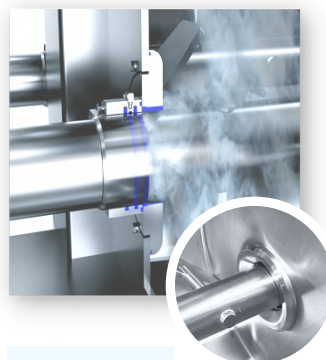
Our production includes a wide range of high quality industrial stuffing mixers, starting from smaller standard models to large industrial, technologically advanced ones with a wide range of applications in the food industry, especially meat industry.

The automated paddle or optional spiral mixing shafts are designed for mixing and standardization of stuffings in meat, poultry, cured meat, delicatessen, fish, vegetable and fruit, confectionery, baby food, convenience food and pet food production.

Particularly proven in the production of sausage stuffing, ham stuffing, canned sausages, cured meats, both highly efficient and traditional.

A wide range of applications is achieved by the appropriate design of the mixing container and paddles, placed at an appropriate angle on two shafts.

Mixers are characterized by high durability and efficiency without excessive service and maintenance costs. All sizes of mixers are designed on the basis of assumptions for high industrial applications.



HYGIENE ERGONOMICS

Sealing systems with rinsing zones. Optional split-lock sealings for quick exchange.

SAFETY

Casings, gratings and covers protected with limit switches. Trolley presence sensors in the discharge zone.



VACUUM

Mixers in vacuum version with strengthened construction, available in all offered capacities.

Vacuum accelerates mixing process, increasing the technological range, improves the effect of standardization, structure, appearance, colour and performance in the production of various stuffings, especially meat stuffings.

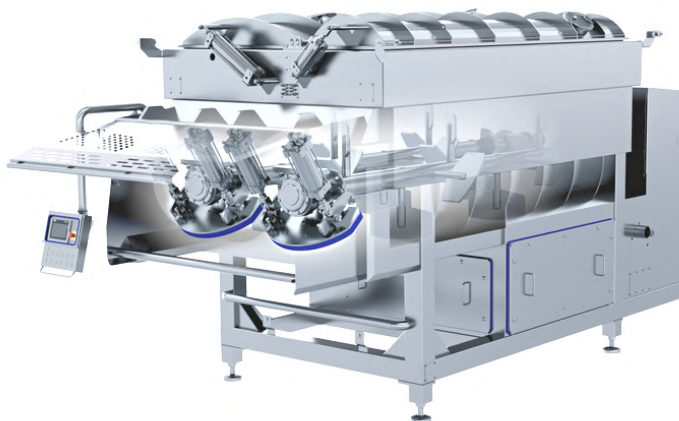


The air extraction system, located above the edge of the mixing container, is equipped with a protected suction chimney, an inspection tank, a high-quality pump, a pressure sensor and a valve system.

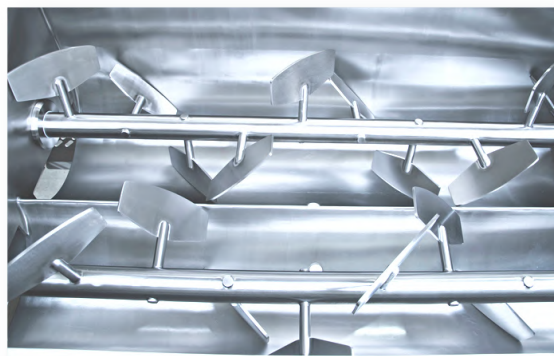
The option of quick aeration via pneumatic valve in the lid further increases the hygiene level.



Vacuum pump can be placed inside the machine's frame or outside, in optional stainless steel casing.



The system of smooth adjustment of the mixing speeds with appropriate shape of blades or spirals allows additional tumbling of fine meats, production of coarsely grinded stuffings for obtaining ham products, such as 'krakowska' sausage, which require preservation of the appropriate structure.



CONTROL UNIT

PLC control enables automatic and manual operation. The mixer's turns adjustment system controls overloading the drives. The touch screen provides visualization of operation and clear operation, administration of programming and archiving of all parameters as well as saving of programs in steps.

As standard, each machine is equipped in a PLC control with Modbus communication. On request it is possible to additionally integrate our machines with factory systems such as Scada or MES.



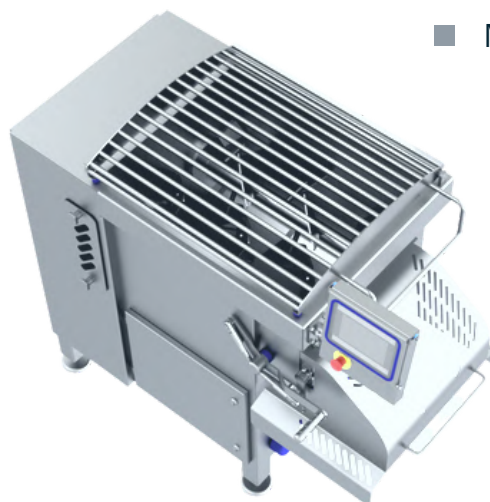
Vacuum versions:

- ML-250V
- ML-350V
- ML-500V



Paddle mixers M series

- ML-250
- ML-350
- ML-500

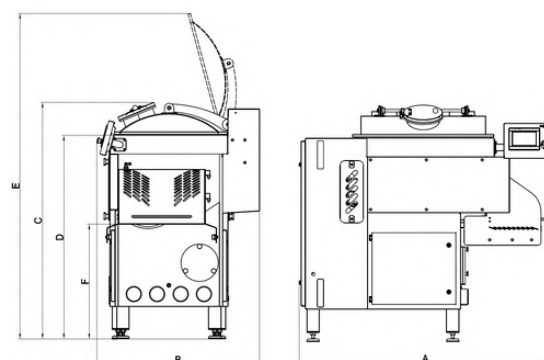


Technical data:

Model:	ML-250	ML-350	ML-500
Volume:	250 l	350 l	500 l
Drive of mixing shafts from motoreducer:	2,2 kW	3,0 kW	4,0 kW
Max. standard payload:		70-80 %	
Smooth adjustment of mixing shaft speeds:		5 ÷ 30 RPM	
Opening of the top grating:		manual with the help of gas spring	
Front discharge:		sealed discharge flap with manual lever	
Multi-step shaft sealing system:		open revision zone	
PLC control unit:		touch screen	
Standard discharge height:		to 200 ltr trolley with presence sensor	

Models in a vacuum version	ML-250V	ML-350V	ML-500V
Standard vacuum pump efficiency:	20 m³/h	40 m³/h	40 m³/h
Standard tight top cover:		pneumatically opened	
Front unloading:		sealed discharge flap pneumatically opened	

Dimensions	A	B	C	D	E	F
ML-250	1640	950	1430	1310	2020	740
ML-250V	1640	1050	1530	1310	2060	740
ML-350	1930	930	1430	1310	1990	740
ML-350V	1930	1080	1520	1310	2120	740
ML-500	2160	1070	1560	1300	2230	750
ML-500V	2280	1110	1640	1410	2330	700



Additional equipment for mixers - M series

Loading unit for 200 l trolleys

Loading device for standard bins 200 and 300 l, with maximum payload up to 300 kg.



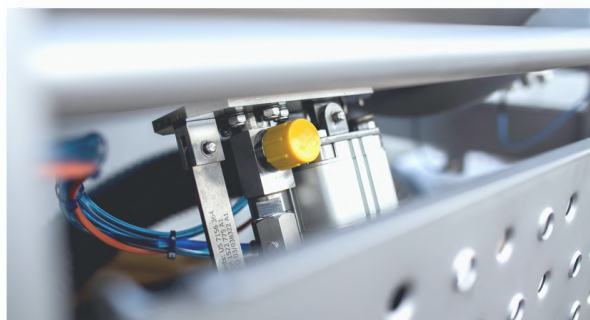
- Automatic water dosing system
- Additional manual or pneumatic grating for mixing with open vacuum cover
- Opened transparent viewer in the top vacuum cover
- Additional two-hand operated buttons for pre-mixing product or machine cleaning with open top cover
- Adaptation for connecting the cooling system with gas injection



- Increased height of the machine adapted for unloading into bigbox container, buffer or conveyer's hopper
- Integrated or free standing working platform



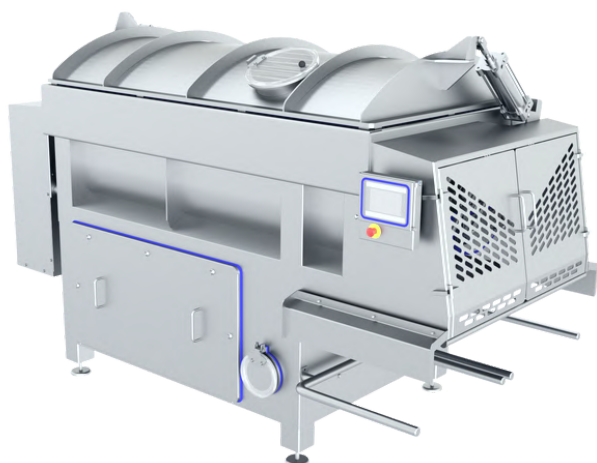
- Bottom frame with weighing tensometers



- Pneumatic unloading flap

Vacuum versions

- ML-600V ■ ML-1000V
- ML-750V ■ ML-1500V
- ML-2000V



Paddle mixers L series

- ML-600
- ML-750
- ML-1000
- ML-1500
- ML-2000



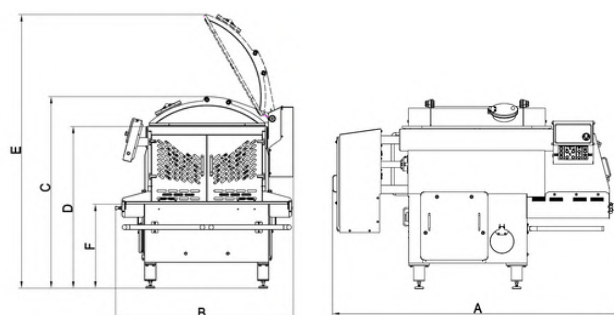
Technical data:

Model:	ML-600	ML-750	ML-1000	ML-1500	ML-2000
Volume:	600 l	750 l	1000 l	1500 l	2000 l
Drive of mixing shafts from 2 motoreducers:	2 x 4 kW	2 x 4 kW	2 x 4 kW	2 x 5,5 kW	2 x 7,5 kW
Optional motoreducer drive power:			2 x 5,5 kW	2 x 7,5 kW	2 x 9,2 kW
Max. standard payload:			70-80 %		
Smooth adjustment of mixing shaft speeds:			5 ÷ 30 RPM		
Opening of the top grating			pneumatic cylinder		
Front discharge:			two sealed discharge flaps pneumatically opened		
Multi-step shaft sealing system:			open revision zone with sealing type Split Interlock		
PLC control unit:			touch screen		
Standard discharge height:			for two 200 ltr trolleys with presence sensors		

Models in a vacuum version	ML-600V	ML-750V	ML-1000V	ML-1500V	ML-2000V
Standard vacuum pump efficiency:	40 m³/h	40 m³/h	40 m³/h	60 m³/h	100 m³/h
Standard tight top cover:			pneumatically opened		

Dimensions

	A	B	C	D	E	F
ML-600 (V)	2670	1610	1740	1490	2480	760
ML-750 (V)	2990	1610	1740	1490	2480	760
ML-1000 (V)	3200	1540	1830	1550	2750	740
ML-1500 (V)	3670	1550	1970	1670	2860	820
ML-2000 (V)	3650	1900	2390	1990	3350	910



Vacuum versions

- ML-3000V ■ ML-4600V
- ML-3700V ■ ML-6300V

Paddle mixers XL Series

- ML-3000
- ML-3700
- ML-4600
- ML-6300

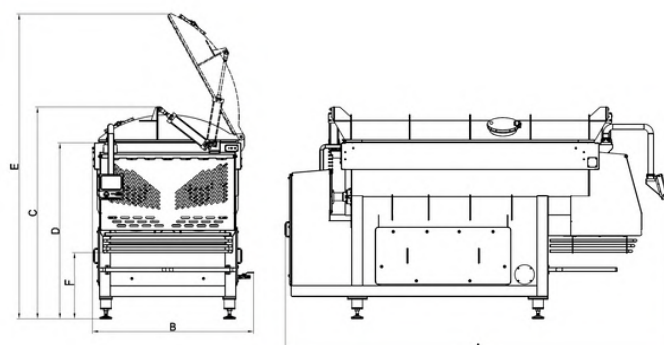


Technical data:

Model:	ML-3000	ML-3700	ML-4600	ML-6300
Volume:	3000 l	3700 l	4600 l	6300 l
Drive of mixing shafts from 2 motoreducers:	2 x 9,2 kW	2 x 11 kW	2 x 22 kW	2 x 30 kW
Optional motoreducer drive power:	2 x 15 kW	2 x 18,5 kW	2 x 30 kW	2 x 37 kW
Smooth adjustment of mixing shaft speeds:	5 ÷ 30 RPM	5 ÷ 30 RPM	5 ÷ 25 RPM	5 ÷ 25 RPM
Max. standard payload:	70-80 %			
Opening of the top grating	pneumatic cylinder			
Front discharge:	two sealed discharge flaps pneumatically opened			
Multi-step shaft sealing system:	open revision zone with sealing type Split Interlock			
PLC control unit:	touch screen			
Standard discharge height:	for two 200 ltr trolleys with presence sensors			

Models in a vacuum version	ML-3000V	ML-3700V	ML-4600V	ML-6300V
Standard vacuum pump efficiency:	160 m³/h	160 m³/h	200 m³/h	250 m³/h
Standard tight top cover:	pneumatically opened			

Dimensions	A	B	C	D	E	F
ML-3000 (V)	4620	1690	2380	1980	3420	740
ML-3700 (V)	3700	2020	2660	2280	3720	1050
ML-4600 (V)	4300	2170	2660	2350	3500	1050
ML-6300 (V)	5260	2300	2890	2510	3780	1050





Mixers with heating and cooling L/XL Series

Heating system - double jacket and direct steam injection

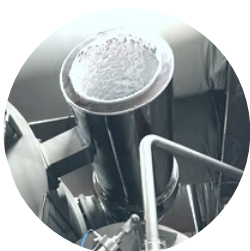
Double oil heating jacket and additional direct steam injection enable to perform the defrostation process, cooking and frying of different kind of products in the production of meat, poultry, cured meat, delicatessen, fish, vegetable and fruit, confectionery, baby food, convenience and pet food products.

Optionally the paddles can be equipped in scrapers.



Cooling system with gas injection

LN2 or CO2 liquid gas injection is used for lowering product temperature, that is essential for forming, and additionally for improvement of the quality and microbiological safety of products especially convenience food (hamburgers, nuggets), culinary meat, stuffings, sauces and other meat and vegetable products, requiring immediate temperature lowering during the mixing and standardization cycle.



Additional equipment for mixers L/XL Series



- Freestanding or mobile working platforms for operators



- Bottom weighting frame with tensometer sensors

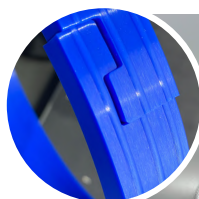


- Higher versions of the machines prepared for unloading into bigbox containers, buffers or conveyer's hopper

- Automatic water dosing system
- Additional manual or pneumatic grating for mixing with open vacuum cover
- Opened transparent viewer in the top vacuum cover
- Additional two-hand operated buttons for pre-mixing product or machine cleaning with open top cover
- Safety rope or light curtains



- Spiral or ribbon mixers



- Sealings of mixing shafts - type Split Interlock



- Special angled unloading flaps with bottom and side opening



Loading and transport devices



Inclined conveyer (flat or trough)



Reversible conveyer for alternate loading of two mixers



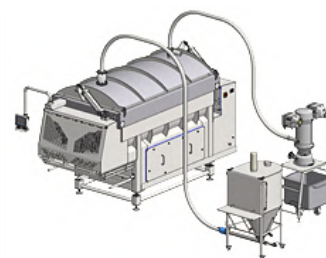
Receiving transporter



Column loading unit with payload up to 1000 kg
Type ZM-600 for BIGBOX containers



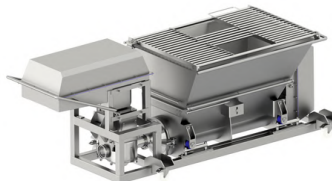
Column loading unit (fixed or mobile) with payload up to 300 kg
Type ZM-200 for trolleys 200 or 300 l



Underpressure system of dosing spices



Angled screw buffer container with capacity from 500 to 3000 l



Screw buffer container with capacity from 400 to 1000 ltr with product pump efficiency up to 12000 kg/h



Screw buffer with capacity from 500 to 5000 l

Tilting mixers



MODELS

Automatic tilting Z-arm mixers

- convergent shafts
- mixing container hydraulically tilted
- 1 motoreducer + chain transmission

Vacuum versions:

- | | |
|-----------|------------|
| ■ MZ-350 | ■ MZ-350V |
| ■ MZ-600 | ■ MZ-600V |
| ■ MZ-1000 | ■ MZ-1000V |
| ■ MZ-1500 | ■ MZ-1500V |

Z-arm tilting mixers are equipped in a very strong robust construction and tilted mixing containers with different capacities. Those machines are very universal and irreplaceable in various branches of food production, especially confectionery, delicatessen - production of dumplings and meat in Doner -kebab production.

Mixers are adapted for mixing and standardization of more plastic and frozen meat, protein, cheese, vegetable and fruit products, as well as dough based on flour and confectionery raw products.

Wide range of application is provided by special tilted mixing container and robust construction of the converging Z-shaped mixing shafts, manufactured with proper radius.

Mixers are characterized by high durability and efficiency without excessive service and maintenance costs.

All sizes of mixers are designed with the assumptions for industrial machines.

Vacuum versions:

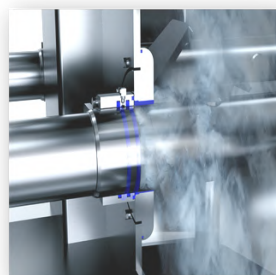
Z-arm mixers are available in vacuum versions with strengthened construction. They are available in all offered capacities.

Vacuum accelerates mixing process, increasing the technical scope, improves standardization effect, structure, appearance, colour and efficiency during the production of different kinds of stuffings, especially meat.

The system of air evacuation, installed in the top cover is protected with the sucking connector, revision container, high quality vacuum pump, pressure sensor and valve unit. The option of quick aeration by pneumatic valve in the cover improves the hygiene level additionally.

PLC control:

PLC control unit enables automatic and manual work. Touch screen provides work visualisation, easy operation, adjustment and programming the parameters of work. As standard, each machine has a PLC control with Modbus communication. Additionally there is an integration with the factory systems like Scada or MES available on request and special order.



HYGIENE ERGONOMICS

Sealing systems with rinsing zones. Option of divided sealings for quick exchange.

SAFETY

Casings, gratings and covers are protected with limit switches. Trolleys presence sensors are installed in the unloading area.



Vacuum versions:

- MZ-350V ■ MZ-1000V
- MZ-600V ■ MZ-1500V



Z-arm tilting mixers

- MZ-350
- MZ-600
- MZ-1000
- MZ-1500

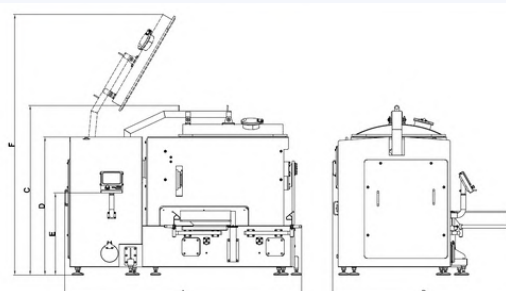


Technical data:

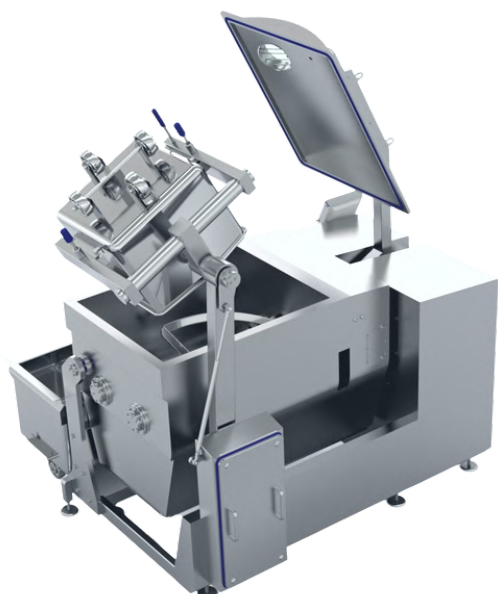
Model:	MZ-350	MZ-600	MZ-1000	MZ-1500
Volume	350 l	600 l	1000 l	1500 l
Smooth speed adjustment:	5 ÷ 34 RPM	5 ÷ 33 RPM / 5 ÷ 39 RPM	5 ÷ 25 RPM	5 ÷ 29 RPM
Standard drive power:	5.5 kW	7.5 kW / (dough) 18.5 kW	15 kW	22 kW
Max. standard payload		50 - 70 %		
Standard opening of the top grating:		hydraulic cylinder		
Unloading:		hydraulic tilting		
Multi-step shaft sealings:		open revision zone with sealing		
Tilting of the mixing container:		hydraulic		
PLC control unit:		touch screen		
Hydraulic aggregate power:	2.2 kW	3 kW	3 kW	3 kW
Standard unloading height with presence sensor:	for one 200 l trolley		for two 200 l trolleys	

Vacuum versions:	MZ-350V	MZ-600V	MZ-1000V	MZ-1500V
Vacuum pump efficiency:	20 m³/h	40 m³/h	60 m³/h	60 m³/h
Standard tight top vacuum cover:		hydraulically opened		

Dimensions:	A	B	C	D	E	F
MZ-350 (V)	2850	2130	1650	1350	970	2500
MZ-600 (V)	3550	2310	1850	1470	1090	2700
MZ-1000 (V)	2980	2300	2120	1730	1030	3260
MZ-1500 (V)	3670	2670	2150	1760	1100	3180



Additional equipment for tilting mixers



- Arm loader ZR-200 for trolleys 200 or 300 l



- Mobile or fixed loading unit with payload up to 300 kg
Model ZM-200 for trolleys 200 or 300 l



- Weighing tensometers

- Integrated or freestanding operating platform
- Belt or worm loading conveyers
- Buffers and pumps
- Systems of dosing spices



- Opened transparent viewer in the top cover
- System of automatic water dosage



- Additional two-hand operated buttons
or additional safety grating for premix
and washing with open top cover



- Paddle mixing shafts

Vacuum tumblers



MODELS

Vacuum tumblers – ML series

Versions with cooling

- | | |
|-----------|------------|
| ■ MV-600 | ■ MV-600C |
| ■ MV-800 | ■ MV-800C |
| ■ MV-1200 | ■ MV-1200C |
| ■ MV-1600 | ■ MV-1600C |

Vacuum tumblers – XL series

Versions with cooling

- | | |
|-----------|------------|
| ■ MV-2000 | ■ MV-2000C |
| ■ MV-3000 | ■ MV-3000C |
| ■ MV-4000 | ■ MV-4000C |
| ■ MV-6000 | ■ MV-6000C |

Vacuum tumblers are mainly used in the meat and poultry industry. They are designed for vacuum treatment of meat elements of various sizes, both large and small red meat elements, and delicate processing of poultry elements such as wings, legs, fillet. In addition to the tumbling process, controlled curing processes can be carried out, marinating raw materials with or without bones.

The special internal construction of the drum, vacuum and the automatic control allow an accelerated and precise technological process of tumbling, plastifying, salting and marinating of various kinds of meat elements.

Machine enables effective standardisation, weight optimisation, protein binding, better microbiological safety, colour, appearance and quality of the product.

The drum of the tumbler has a suitable polished construction, developed on the basis of many years of experience. During rotation, the meat rotates with simultaneous sliding on diagonally angled, rounded fins.

Option of quick aeration through pneumatic valve in the cover improves the hygiene level additionally.

Vacuum tumblers are characterized with high durability and efficiency without excessive service and maintenance costs. All capacities of tumblers are designed with the assumptions for highly industrial machines.

Cooling

Tumblers in the version with a cooling jacket, marked C, are available in all offered capacities.

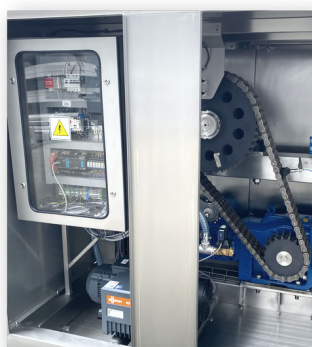
Insulated cooling jacket on the outer perimeter of the drum provides maintaining optimum meat temperature during the tumbling process.

Control unit

PLC control unit enable manual and automatic work mode, clear operation, current adjustment and storage of the program parameters on the touch screen. Intensity of tumbling is adjusted in program by setting time, vacuum level and cycle, drum speed and pause in particular steps.

HYGIENE ERGONOMICS SAFETY

Machines meet the highest hygiene and safety norms. Service and maintenance operation is easy and intuitive.



Openings for revision and washing of the drum

Vacuum tumblers ML series



- MV-600
- MV-800
- MV-1200
- MV-1600

Versions with cooling

- MV-600C
- MV-800C
- MV-1200C
- MV-1600C

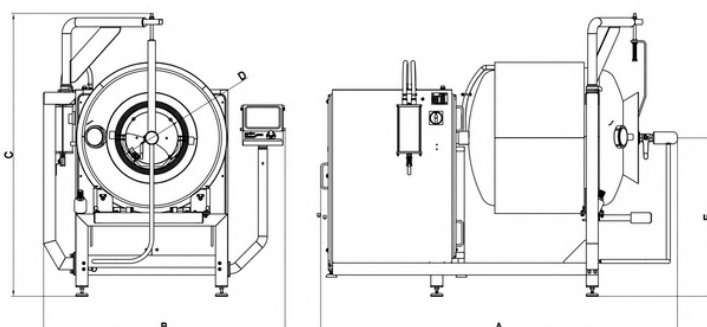


Technical data:

Model:	MV-600	MV-800	MV-1200	MV-1600
Volume:	600 l	800 l	1200 l	1600 l
Smooth adjustment of the drum rotation:	1 - 8 RPM			
Max. standard payload:	50 %			
Cover handling	manual on optional mechanical arm			
PLC control:	touch screen			
Power drive:	3 kW			
Vacuum pump efficiency:	20 m3/h	20 m3/h	40 m3/h	60m3/h

Versions with cooling	MV-600C	MV-800C	MV-1200C	MV-1600C
Circulation pump power:	0,25 kW			
Cooling efficiency:	5,3 kW			

Dimensions	A	B	C	D	E
MV-600 (C)	2380	1610	1880	415	1050
MV-800 (C)	2730	1610	1880	415	1050
MV-1200 (C)	2990	1210	1580	415	1060
MV-1600 (C)	2910	2010	2110	415	1180





Vacuum tumblers XL series

- MV-2000
- MV-3000
- MV-4000
- MV-6000

Versions with cooling

- MV-2000C
- MV-3000C
- MV-4000C
- MV-6000C

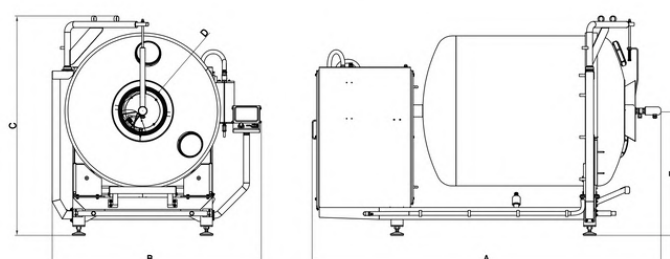


Technical data:

Model:	MV-2000	MV-3000	MV-4000	MV-6000
Volume:	2000 l	3000 l	4000 l	6000 l
Smooth adjustment of the drum rotation:	1-8 RPM	1- 9 RPM	1- 9 RPM	1 - 10 RPM
Max. standard payload:	50%			
Cover handling	manual on optional mechanical arm			
PLC control:	touch screen			
Power drive:	4 kW	4 kW	5,5 kW	11 kW
Vacuum pump efficiency:	60m3/h	60m3/h	100m3/h	100m3/h

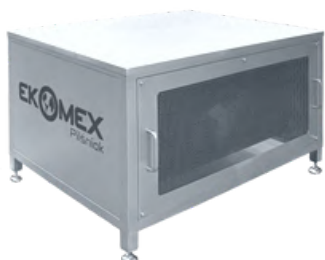
Versions with cooling	MV-2000C	MV-3000C	MV-4000C	MV-6000C
Circulation pump power:		0,37 kW		
Cooling efficiency:		8,9 kW		

Dimensions	A	B	C	D	E
MV-2000 (C)	3220	1750	1890	415	1210
MV-3000 (C)	3500	2230	2200	415	1240
MV-4000 (C)	4140	2230	2200	415	1250
MV-6000 (C)	4600	2240	2470	415	1400





Additional equipment for vacuum tumblers



- Cooling unit - Chiller, placed in the stainless steel box

Cooling aggregate is a separate unit, that can be placed in any place also outside the building.



- Mobile hydraulic loader Model ZH-200 for 200 l trolleys



- Straight or triangular fins inside the tumbler's drum



- Mobile hydraulic loader Model ZH-600 for BIGBOX container



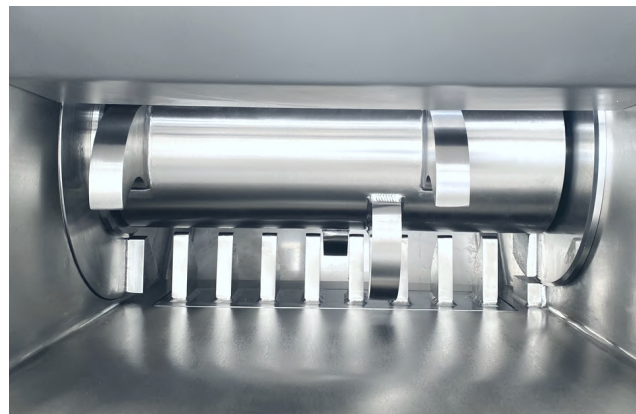
- Hopper with mobile construction facilitating loading



- Weighing tensometers
- Additional valve and hose for sucking vacuum
- System of automatic-precise drum positioning

Frozen block crusher Mechanical

■ Model KBM-600



APPLICATION

For shredding, cutting frozen blocks with rotating head.

Multi-purpose large-scale mechanical machines that can operate individually or in automated lines. Highly industrial machines designed for crushing of individually loaded frozen blocks of meat, fish, cheese, vegetables or other food products with standard euro-block dimensions.

The best efficiencies are available with temperature of products in the range from - 15 to - 20 C.

Used cutting systems do not raise the temperature of the product.

HYGIENE ERGONOMICS

Polished, easy to clean surfaces.
Covers with hygienic system of sealings and locks.



SAFETY CONTROL UNIT

Covers, gratings and casings are protected with limit switches.
Trolley presence sensors are installed in the unloading area.

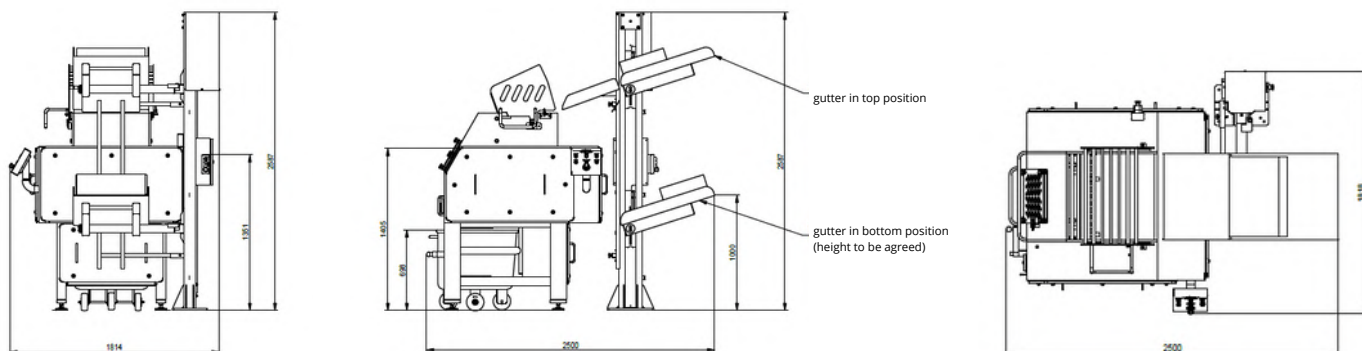


Technical data:

Width or the cutting head teeth:	from 35 to 70 mm
Efficiency:	from 3000 to 6000 kg/h*
Estimated grinding time:	1 block per 10 sec
Block sizes:	max. 400x600 mm, height from 80 to 250 mm
Standard loading:	chute on gas cylinders for loading blocks, with special angle in order to load the block directly into the cutting head
Drive power:	18,5 kW
Cutting head speed:	44 RPM
Standard unloading height:	for 200 l with blockade and trolley presence sensor

*efficiency depending on the loading and unloading system, weight, type and sizes of the block and product temperature

Dimensions



Options:

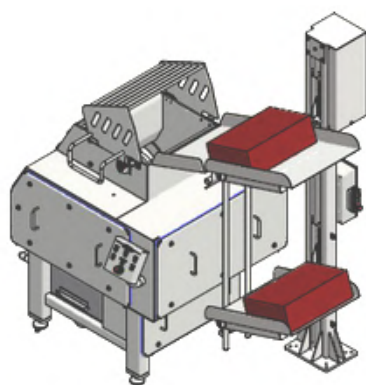


Crushing of the frozen blocks is executed with the help of slow speed, strong resistant, robust tooth head.

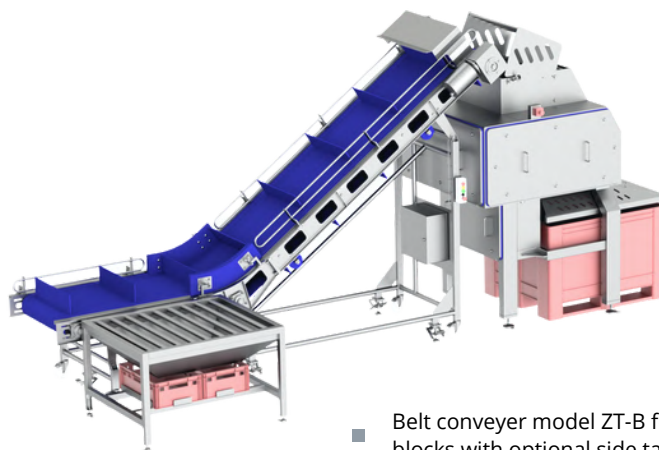
Despite cutting effect with the dimensions that are close to the teeth width, the structure of the product is partially restored to the size of elements before freezing. That especially concerns meat raw materials.



After cutting smaller pieces of the frozen product go directly into the trolley or on conveyor that transports them for further grinding and processing, usually with the help of machines such as grinder, cutter or mixer.



- Column loading model ZM-200B for blocks



- Belt conveyor model ZT-B for blocks with optional side table

Unloading of the shredded product can be adjusted with the help of special hoppers sealing and protecting the discharge at the same time for 200 and 300 ltr containers and big-boxes.



Guillotine for frozen blocks

Hydraulic

■ Model GMM-4000



APPLICATION

For cutting frozen blocks with hydraulic head.

Multi-purpose large-scale hydraulic machines that can operate individually or in automated lines.

Highly industrial machines designed for crushing of individually loaded frozen blocks of meat, fish, cheese, vegetables or other food products with standard euro-block dimensions.

The best efficiencies are available with temperature of products in the range from - 15 to - 20 C.

Used cutting systems do not raise the temperature of the product.



HYGIENE ERGONOMICS

Polished, easy to clean surfaces.
Covers with hygienic system of sealings and locks.

SAFETY CONTROL UNIT

Covers, gratings and casings are protected with limit switches.
Trolley presence sensors are installed in the unloading area.

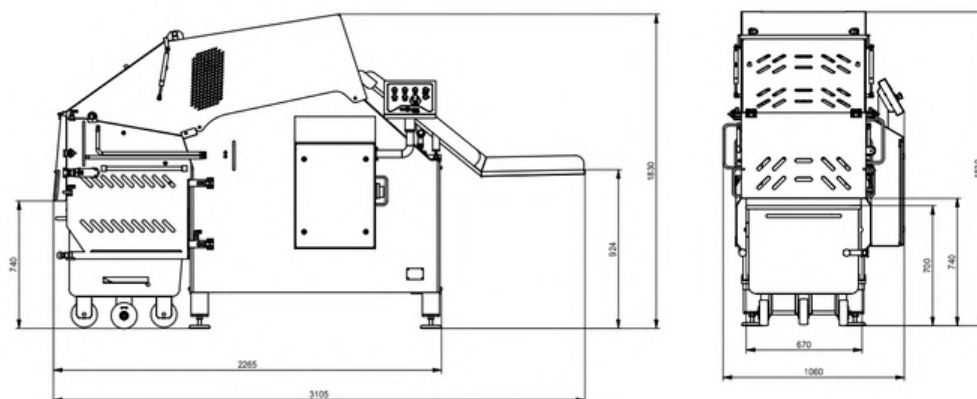


Technical data:

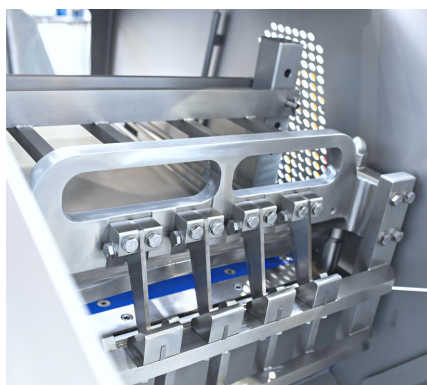
Cutting width:	from 20 to 70 mm
Efficiency:	from 1000 to 3000 kg/h*
Cutting head speed:	30 cycles/min
Block sizes:	max. 400x600 mm, height from 80 to 250 mm
Standard loading:	chute on gas cylinders for loading blocks, with special angle in order to load the block directly into the cutting head
Drive power:	7,5 kW
Standard unloading height:	for 200 l bins in guides with blockade and trolley presence sensor

*efficiency depending on the loading and unloading system, weight, type and sizes of the block and product temperature

Dimensions

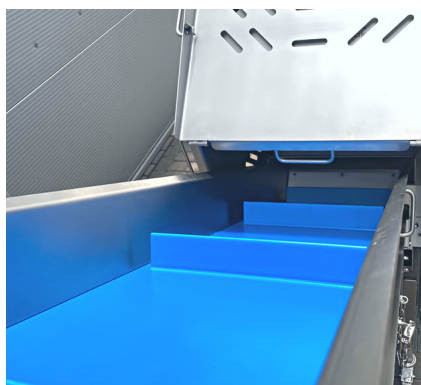


Options:



Machine designed for cutting frozen blocks up to -25C for cubes or slices by replaceable knives: main and transverse.

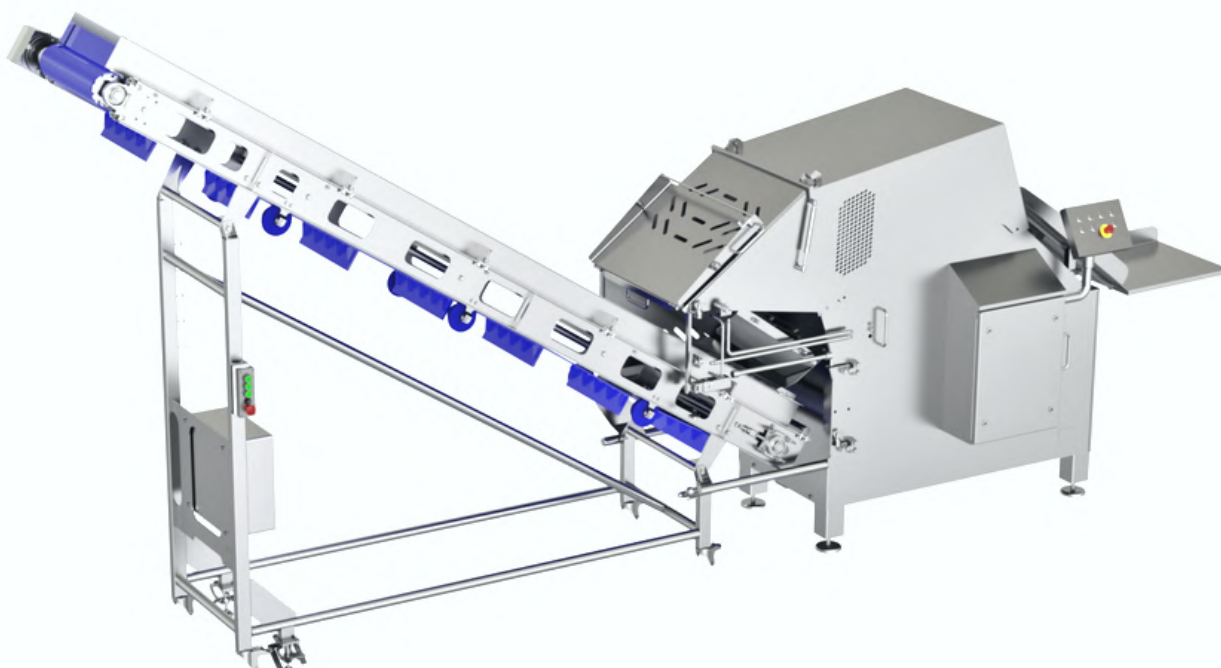
Knife head is hydraulically driven.



After cutting smaller pieces of the frozen product go directly into the trolley or on conveyer that transports them for further grinding and processing, usually with the help of machines such as grinder, cutter or mixer.



The blocks fall by gravity into the cutting zone with the help of manual, pneumatic or conveyor loader.



Production lines for automatic work

The machines manufactured by our company can be linked by means of loading and transport systems, creating automated production lines of varying capacity.

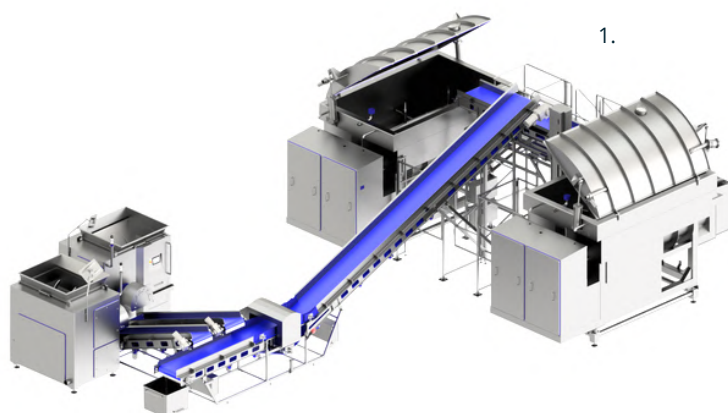
Ekomex lines are adapted to the needs of meat and food processing plants from medium to large industrial ones.



In order to control the lines we develop a dedicated program with visualisation on a central control panel.

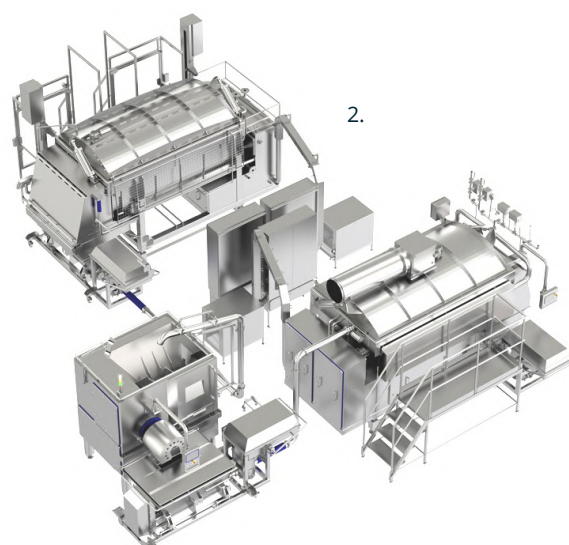
The PLC control unit may have Modbus communication for integration with company systems such as Scada, MES or others on request.

Examples of implemented projects



1.

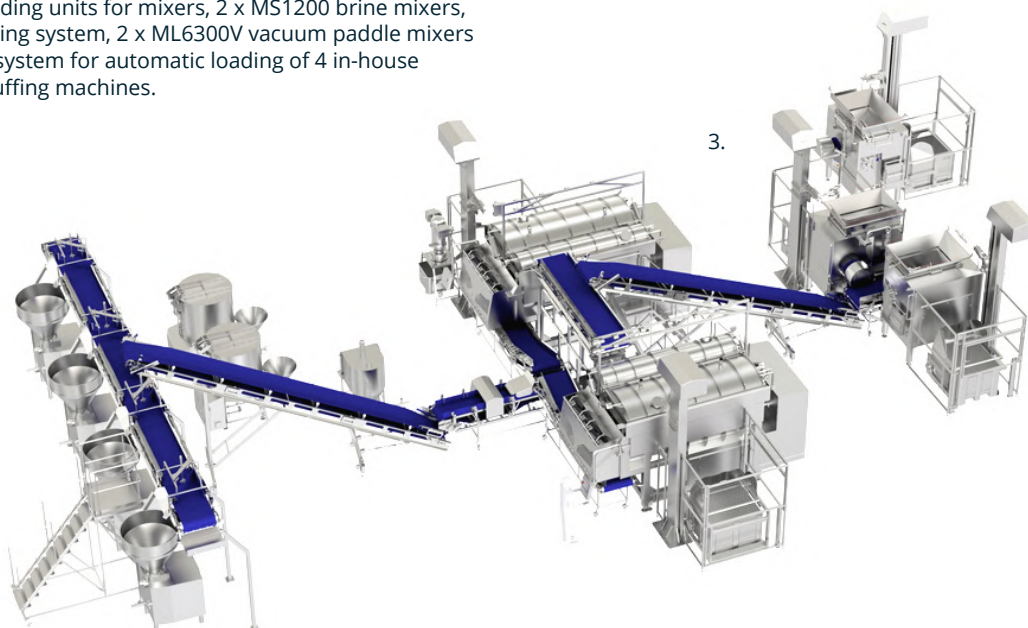
- 1. A sausage stuffing production line with a capacity from 8 to 16 t/hr, consisting of 2 x WW200 angle grinders, a conveyor belt system, automatic column loading units and 2 x ML6300V vacuum paddle mixers.



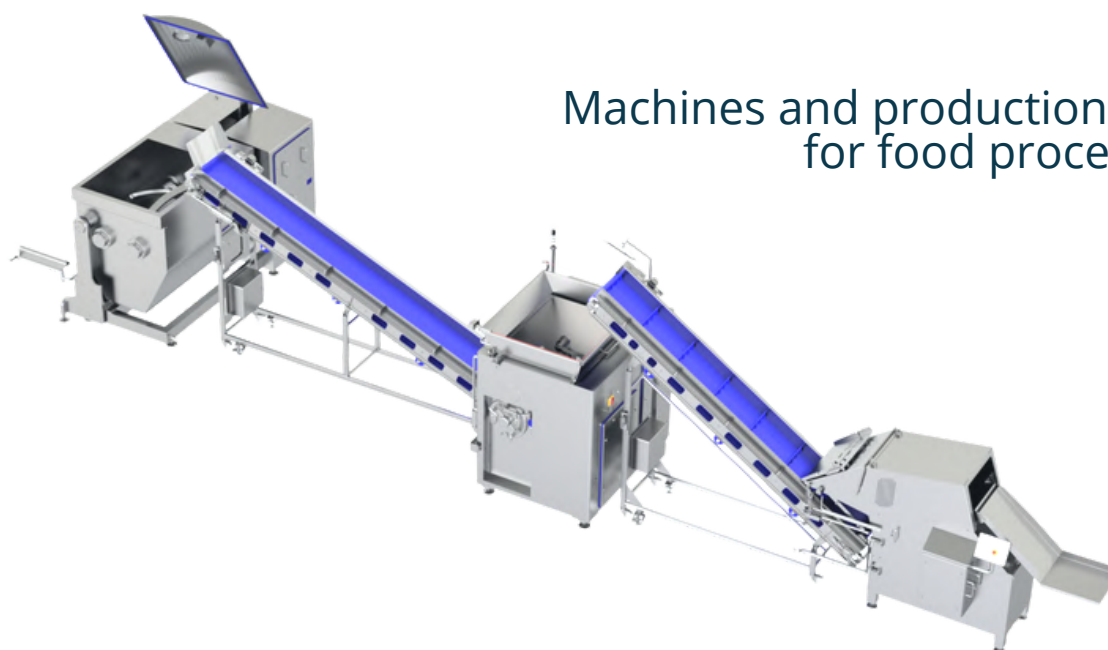
2.

- 2. Production and thermal treatment line for stuffing with a capacity of 1,500 to 3,000 kg/h, consisting of ML3000VG vacuum paddle mixer with cooking system, ML3000VC vacuum paddle mixer with cooling system, WW160 angle grinder with Singriset head, automatic column loading units and 2 buffer containers with pumps.

- 3. A sausage stuffing production line with a capacity of 8 to 16 t/hr, consisting of 3 x WW200 angle grinders with bigbox loading units, a belt conveyor system, automatic column loading units for mixers, 2 x MS1200 brine mixers, a spice dosing system, 2 x ML6300V vacuum paddle mixers and a belt system for automatic loading of 4 in-house vacuum stuffing machines.



3.



Machines and production lines for food processing



Mixers



Grinders
Separators



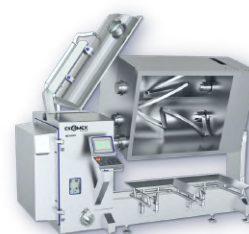
Singriset head



Tumblers



Block cutters



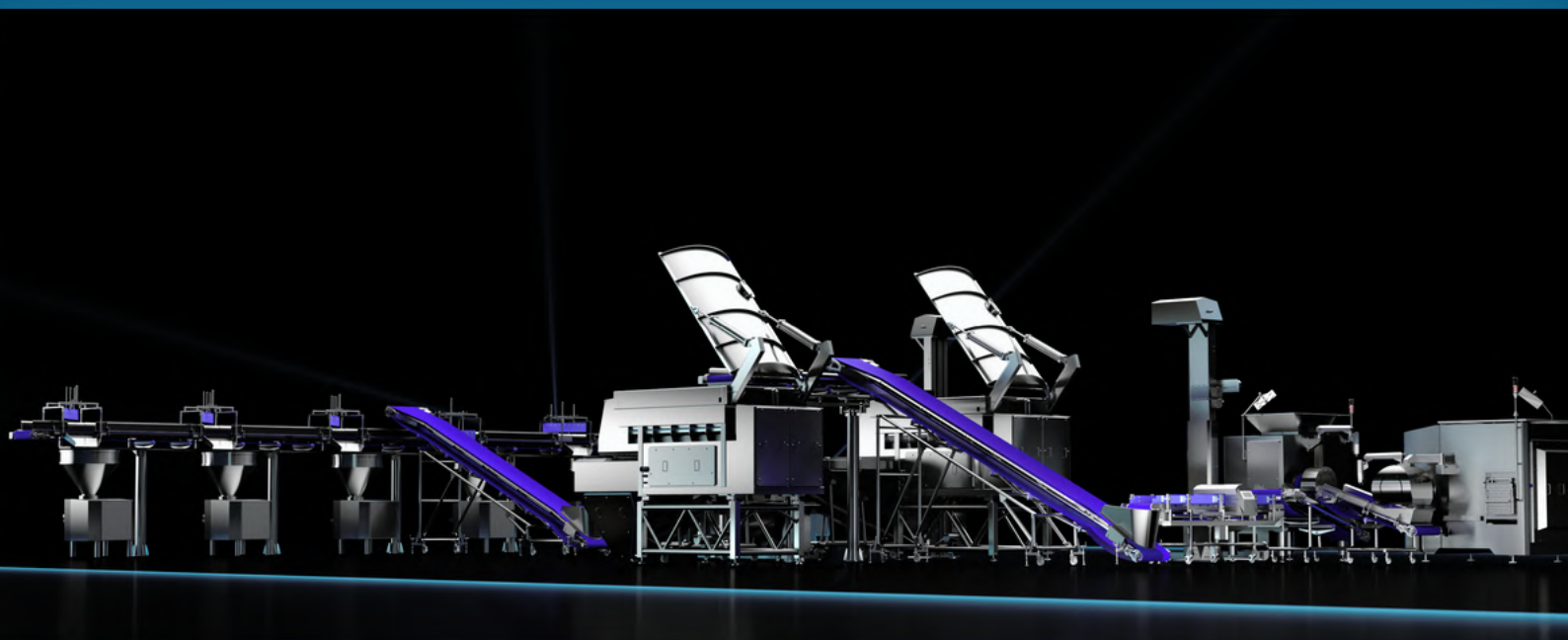
Tilting mixers



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