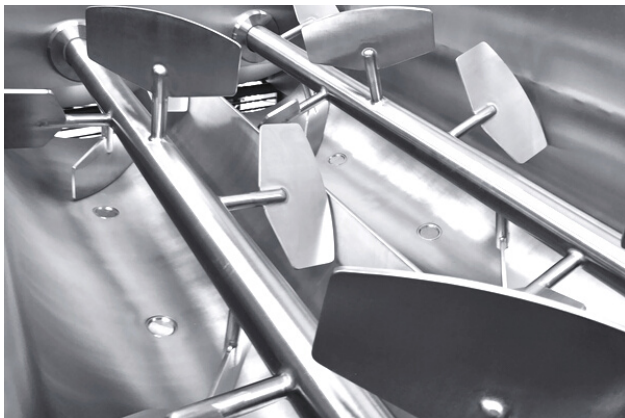


# Mixers



## 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 |

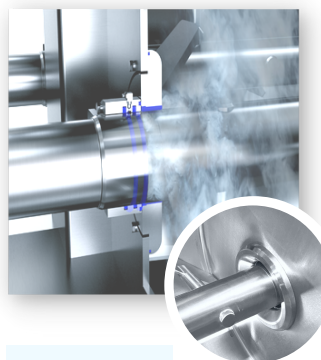
Our production includes a wide range of high quality industrial stuffing mixers, starting from smaller standard models to large industrial, technologically advanced ones with a wide range of applications in the food industry, especially meat industry.

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.

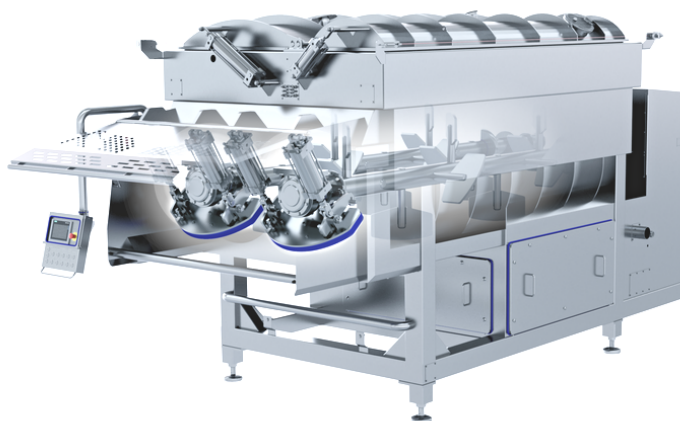


The air extraction system, located above the edge of the mixing container, is equipped with a protected suction chimney, an inspection tank, a high-quality pump, a pressure sensor and a valve system.

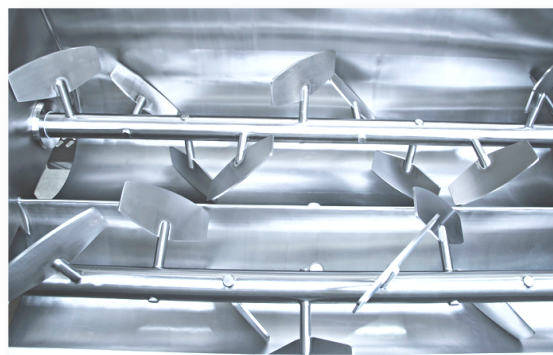
The option of quick aeration via pneumatic valve in the lid further increases the hygiene level.



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 programing and archivisation 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.



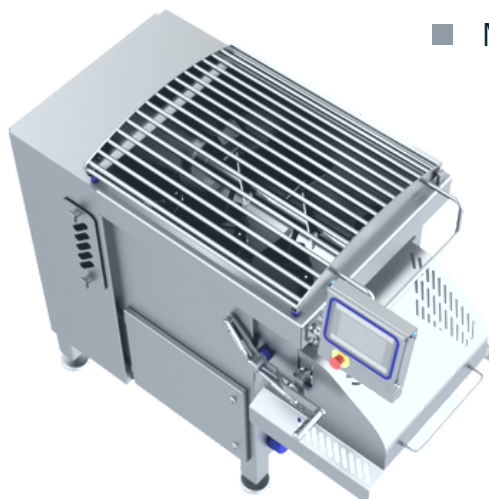
Vacuum versions:

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



## Paddle mixers M series

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

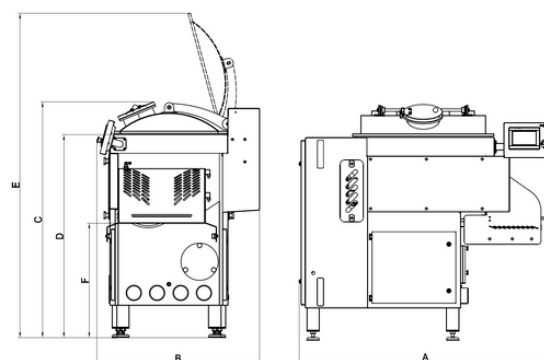


Technical data:

| 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.



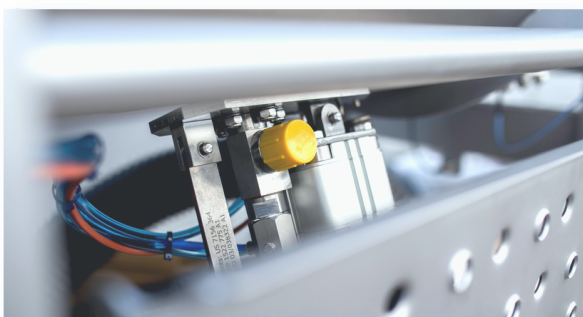
- Automatic water dosing system
- Additional manual or pneumatic grating for mixing with open vacuum cover
- Opened transparent viewer in the top vacuum cover
- Additional two-hand operated buttons for pre-mixing product or machine cleaning with open top cover
- Adaptation for connecting the cooling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

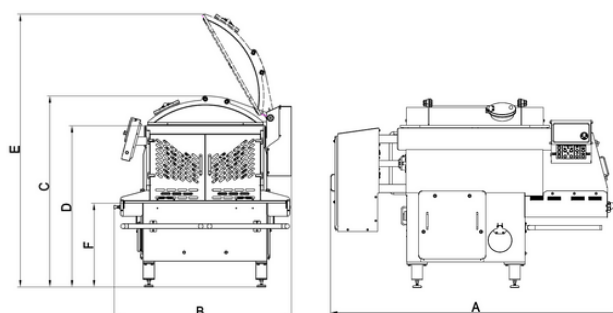
|                                             |          |          |                                                      |            |            |
|---------------------------------------------|----------|----------|------------------------------------------------------|------------|------------|
| 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



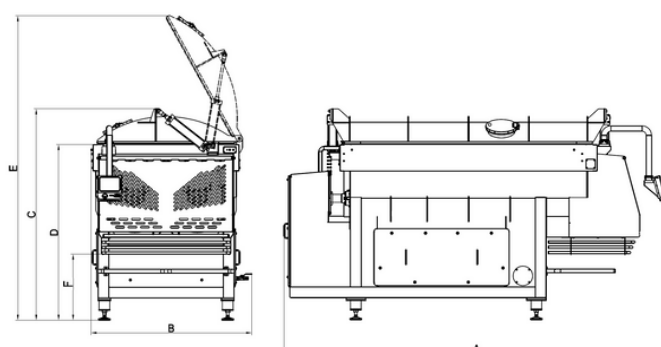
### Technical data:

| 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 |



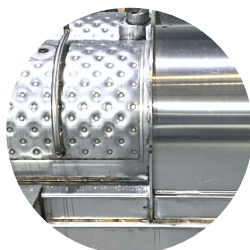


## Mixers with heating and cooling L/XL Series

### Heating system - double jacket and direct steam injection

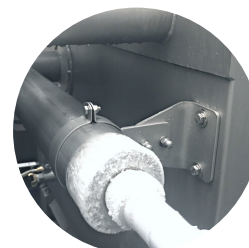
Double oil heating jacket and additional direct steam injection enable to perform the defrostation process, cooking and frying of different kind of products in the production of meat, poultry, cured meat, delicatessen, fish, vegetable and fruit, confectionery, baby food, convenience and pet food products.

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

- 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

- 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



- Spiral or ribbon mixers



- Sealings of mixing shafts - type Split Interlock



- Special angled unloading flaps with bottom and side opening

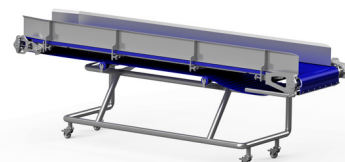
## Loading and transport devices



Inclined conveyer (flat or trough)



Reversible conveyor for alternate loading of two mixers



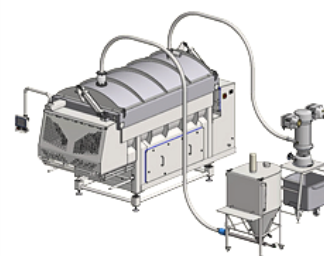
Receiving transporter



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



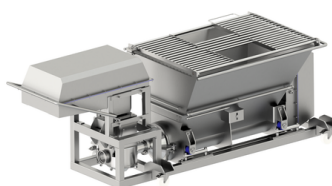
Column loading unit (fixed or mobile) with payload up to 300 kg  
Type ZM-200 for trolleys 200 or 300 l



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