

# MIXERS



**„WITH THE NEW EQUIPMENT,  
WE HAVE INCREASED PRODUCTION  
PRODUCTIVITY, MINIMIZE MAINTENANCE  
COSTS AND ENSURE HIGH WORK HYGIENE“**

*Ing. Jan Zámečník,  
head of technical department  
Vitana a.s.*

SM

SMV

SOM

UM



## PSS SM / SMV / SOM | SPEED MIXERS



**PSS speed mixers (SM, SMV and SOM) are designed for food industry operations for the fast mixing of any kind of product. PSS speed mixers ensure even and gentle mixing regardless of product structure.**

The mixers achieve the best mixing times thanks to its special and modern design. The product is mixed up by maximally overlapping paddles in an almost square, two-level or one-level hopper. Rotating overlapping paddles gently move the product in every direction to deliver the desired final structure. The clearance between the paddles and the hopper

is minimal so that there is no compression or squashing of product. PSS speed mixers also optimize fast emptying because of the two – level hopper, minimize final product residue and thereby significantly reduce operating time between batches, and can eliminate cross contamination, too.



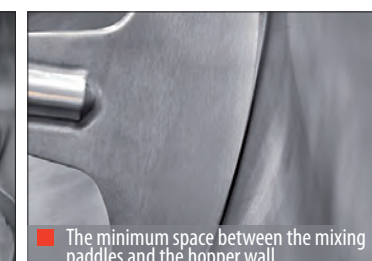
Distance between hopper and gearboxes



Mixing paddles



Worm mixers



The minimum space between the mixing paddles and the hopper wall

### Advantages of speed mixers

- Fast and quality mixing of any product type
- Soft and gentle mixing of products of any structure
- Maximally overlapping paddles in an almost square, two-level hopper (SM, SMV)
- Maximally overlapping paddles in an almost square, one-level hopper (SOM)
- The paddles gently move product every direction
- No product compression or squashing
- Avoidance of air intake during mixing (SMV)
- Final product with excellent consistency
- Fast mixing times - approx. 10 min \*
- Fast emptying and minimizing of product residues - 5 to 15 min. \*\*
- Setting of required programmes and procedure steps
- The N2 or CO2 connections placed behind covers
- Mirror-effect polished surfaces
- Easy and fast sanitation
- Cooling system can significantly extend the product lifetime and reduces the growth of bacteria

\* The total mixing time depends on the type of input raw material, its temperature and the recipe for the final product

\*\* The total time of hopper emptying after completion of the mixing program depends on the density of the resulting mixture and whether it is emptied into the handling trolleys (5 min.) or for further processing through the speed pump to other machines within the line (10-15 min.)



Discharge outlets of PSS SOM



Control panel



Discharge outlet of PSS SM



### Version START

The main differences between the classic versions of the speed mixers and between the START version:

- cover the outlet is fixed
- without frequency inverter with dual speed engine
- the control is on the side of the frame, without the PLC





The hopper of speed mixers has a square shape and, depending on the type of mixer, is single-level (SOM) or two-level (SM, SMV). Inside the hopper there are mixing paddles (SM, SMV) or worm mixers (SOM), which gently move the raw material in all directions during the mixing process and ensure quality mixing.



PSS Speed Mixers can be supplied with a cooling system of top injection  $N_2$  and a cooling system of top or bottom injection  $CO_2$ . The cooling system can significantly extend the product lifetime and reduces the growth of bacteria. The required crystallization is achieved and the product retains the correct structure during further processing.



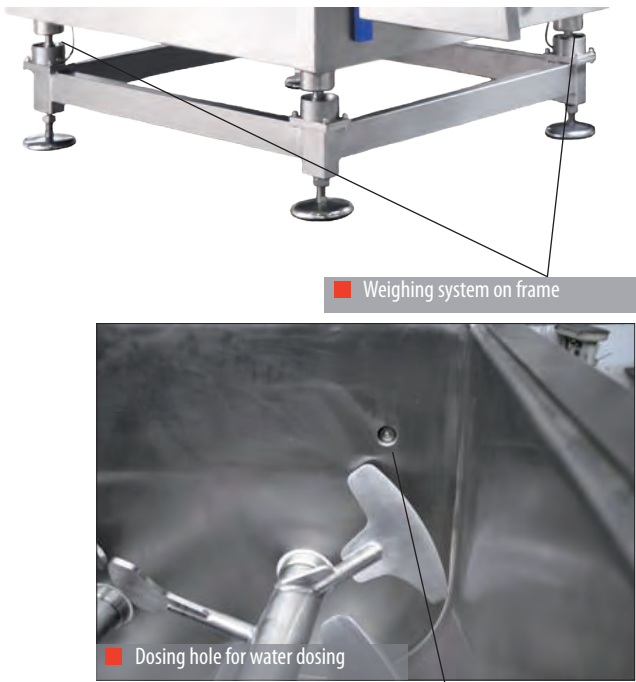
PSS SMs are controlled from the PSS CCP – Central Control Panel – with easy movement to give the best operator position. The coloured touch screen enables easy setting of the required programmes and procedure steps. Paddle speeds, mixing and emptying times are selective. With the optional cooling system of  $N_2$  or  $CO_2$ , cooling is adjustable together with impulses and intervals.



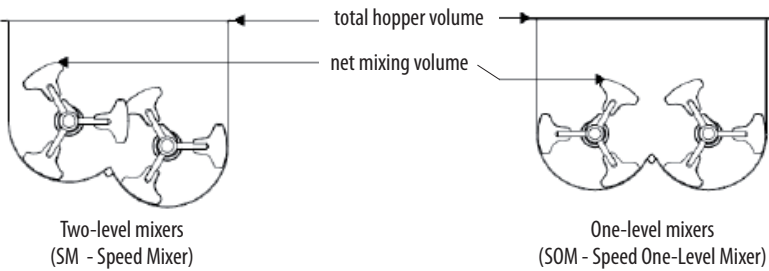
The discharge outlets of the high-speed two-level mixer (SM, SMV) serves for fast emptying of the hopper. One-level mixers (SOM) have 2 discharge outlets. The mixers can be emptied into handling trucks or for further processing via a speed pump to other machines within the line.

Basic options selection

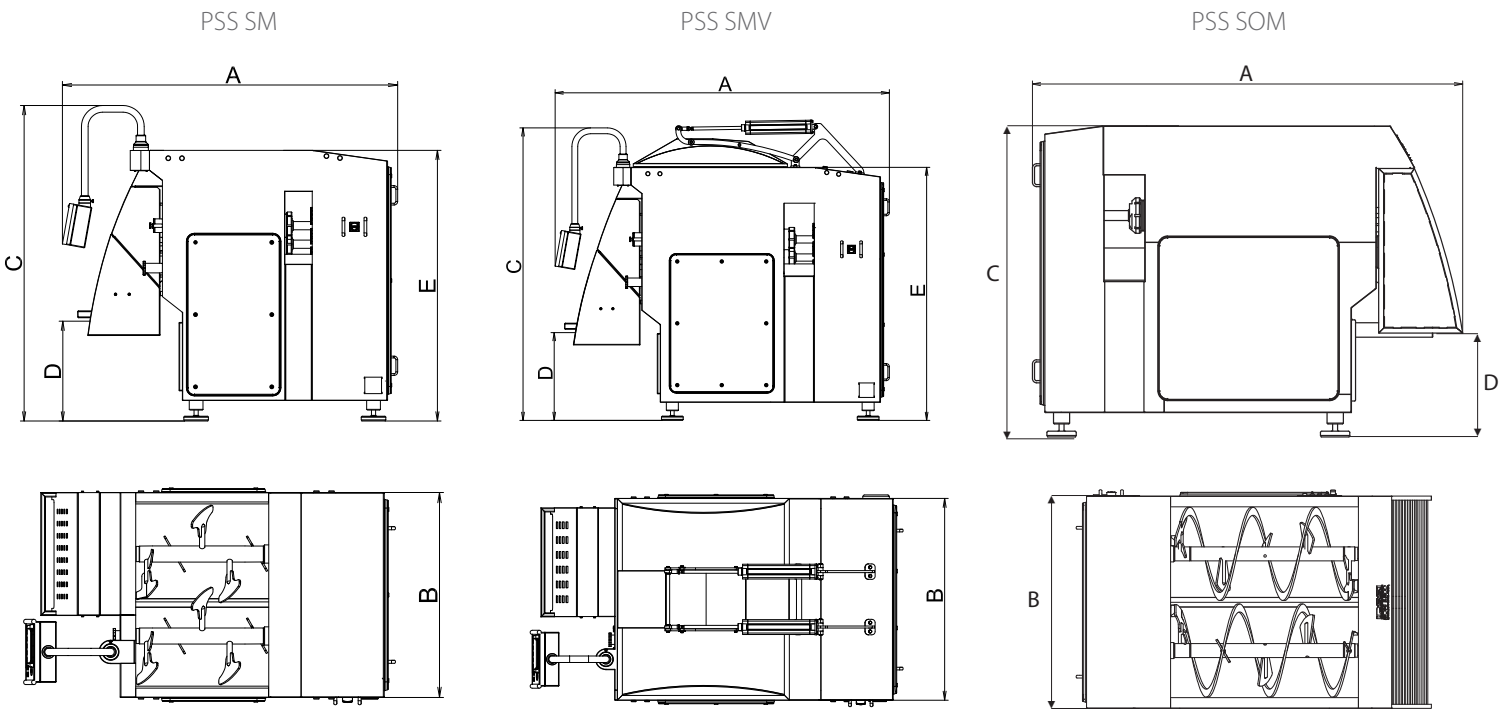
- Easily removable mixing paddles for daily sanitation
- Weighing system on frame
- Vacuum system
- Grid cap
- Cover plate with sealing
- Cooling system of top injection of CO<sub>2</sub> and N<sub>2</sub>
- Cooling system of bottom injection CO<sub>2</sub> and N<sub>2</sub>
- Steam injection system
- Water dosing system
- Double jacket
- Insulation
- Inspection platform



Choosing the type of mixer by size




MIXER TYPE	TOTAL HOPPER VOLUME	NET MIXING VOLUME	TOTAL INPUT	WEIGH OF THE MACHINE
SM 500	650 l	500 l	5,7 kW	900 kg
SM 700	900 l	700 l	8 kW	1 700 kg
SM 900	1 200 l	900 l	11,5 kW	1 800 kg
SM 1200	1 500 l	1 200 l	15,5 kW	2 100 kg
SM 1700	2 100 l	1 700 l	22,5 kW	2 500 kg
SM 2200	3 200 l	2 200 l	25 kW	3 300 kg
SM 2700	3 900 l	2 700 l	30 kW	4 600 kg
SMV 500	650 l	500 l	7 kW	1 500 kg
SMV 700	900 l	700 l	11,45 kW	1 800 kg
SMV 900	1 200 l	900 l	14,95 kW	1 850 kg
SMV 1200	1 500 l	1 200 l	21,7 kW	2 500 kg
SMV 1700	2 100 l	1 700 l	28,7 kW	2 580 kg
SMV 2200	3 200 l	2 200 l	31,2 kW	3 140 kg
SMV 2700	3 900 l	2 700 l	37,5 kW	3 540 kg
SOM 500	650 l	500 l	6,3 kW	1 450 kg
SOM 700	900 l	700 l	9,4 kW	1 550 kg
SOM 900	1 200 l	900 l	12,4 kW	1 850 kg
SOM 1200	1 500 l	1 200 l	22,6 kW	2 100 kg
SOM 1700	2 100 l	1 700 l	23,6 kW	2 350 kg
SOM 2200	3 200 l	2 200 l	34,6 kW	2 650 kg
SOM 2700	3 900 l	2 700 l	34,6 kW	2 850 kg
SOM 4000	5 500 l	4 000 l	44,5 kW	8 000 kg



MIXER TYPE	A	B	C	D	E
SM 500	2 158 mm	1 185 mm	2 100 mm	700 mm	1 740 mm
SM 700	2 420 mm	1 350 mm	2 110 mm	720 mm	1 785 mm
SM 900	2 725 mm	1 350 mm	2 300 mm	720 mm	1 980 mm
SM 1200	2 720 mm	1 500 mm	2 430 mm	720 mm	2 100 mm
SM 1700	3 170 mm	1 500 mm	2 430 mm	720 mm	2 100 mm
SM 2200	3 270 mm	1 800 mm	2 740 mm	720 mm	2 420 mm
SM 2700	3 570 mm	1 800 mm	2 740 mm	720 mm	2 420 mm
SMV 500	2 158 mm	1 185 mm	2 226 mm	700 mm	1 740 mm
SMV 700	2 500 mm	1 350 mm	2 300 mm	720 mm	1 980 mm
SMV 900	2 775 mm	1 350 mm	2 300 mm	720 mm	1 980 mm
SMV 1200	2 700 mm	1 500 mm	2 430 mm	720 mm	2 100 mm
SMV 1700	3 220 mm	1 500 mm	2 430 mm	720 mm	2 100 mm
SMV 2200	3 320 mm	1 800 mm	2 740 mm	720 mm	2 420 mm
SMV 2700	3 620 mm	1 800 mm	2 740 mm	720 mm	2 420 mm
SOM 500	2 160 mm	1 400 mm	1 740 mm	712 mm	-
SOM 700	2 400 mm	1 420 mm	2 100 mm	741 mm	-
SOM 900	2 550 mm	1 450 mm	2 310 mm	741 mm	-
SOM 1200	2 650 mm	1 650 mm	1 950 mm	741 mm	-
SOM 1700	3 000 mm	1 850 mm	2 150 mm	741 mm	-
SOM 2200	3 150 mm	1 950 mm	2 500 mm	741 mm	-
SOM 2700	3 500 mm	1 880 mm	2 650 mm	741 mm	-
SOM 4000	5 500 mm	4 000 mm	2 698 mm	1 091 mm	-



## REFERENCE FROM THE CUSTOMER

	Technické oddělení		<b>Dopis</b>	1 of 1
	vyřizuje:	Jan Zámečník	<i>Naše datum</i>	<i>Naše reference</i>
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[www.pss-svidnik.sk](http://www.pss-svidnik.sk)

### Reference


- V prosinci 2016 jsme na základě výběrového řízení koupili od PSS Svidník, a.s. duplikátorovou míchačku SOM500. Zařízení jsme koupili z důvodu potřeby výroby nového produktu. Míchačka splňuje všechny požadované parametry, frekvenčním měničem a dotykovým ovládacím panelem, který umožňuje nastavit různé programy míchání. Všechny zmíněné doplňky stejně jako provedení samotné míchačky zajišťuje kvalitní, spolehlivou a pohodlnou výrobu. Kromě toho jsme s novým zařízením zvýšili produktivitu výroby, minimalizovali náklady na údržbu a zajistili vysokou hygienu práce.

S pozdravem

Ing. Jan Zámečník  
 Ved. tech. oddělení  
 Vitana a.s.

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[www.pss-svidnik.sk](http://www.pss-svidnik.sk)



### Reference

- In December 2016, based on a tender, we purchased from PSS SVIDNÍK, a.s. duplicator mixer SOM 500. We bought the device due to the need to produce a new product.

Mixer of all required parameters thanks to the frequency converter and touch control panel, which allows you to set various mixing programs. All the mentioned accessories, as well as the design of the mixer itself, ensure quality, reliable and comfortable production.

In addition, with the new equipment, we have increased production productivity, minimized maintenance costs and ensured high hygienic work.

Best regards

Ing. Jan Zámečník  
 Head of Technical Department  
 Vitana a.s.

## REFERENCE FROM THE CUSTOMER



VINDON d.o.o.  
 Slavonski Brod  
 Lučka ulica 4

T: 035 217 600  
 F: 035 217 605

At the beginning of year 2012 Vindon d.o.o. purchased from company PSS SVIDNIK a.s. a new meat mixer SM700 with CO2 cooling and lifting device LD350 for trolleys. This two machines are in every day service for more than 6 years and we are very satisfied with their work. With regular maintenance of machines we had only minor problems which were solved very quickly.

Slavonski Brod, 16.7.2018.

For Vindon d.o.o.  
 Ivan Bartolić,  
 Technical Maintenance and Energetics, Head





PSS UM | UNIVERSAL MIXERS



**PSS UM Universal Mixers are used for effective mixing of raw and cooked pre-ground meat as well as mixing of other products and salad types. PSS UM Mixers ensure a quality and gentle processed material mixing.**

The result of the operation is a mixture characterized by homogeneous structure that has top quality. PSS UM Mixers are equipped with one level hopper, in which a product is gently mixed by rotating worms or paddles. Mixing depending on the processed product type and customer's requirements. The prod-

uct with desired final structure can be easily achieved by the practical inbuilt design function of the mixing paddles. The characteristic feature of the mixers is also simple and fast discharging of the mixed material and the reduction of final product residue in the mixer.



Advantages of universal mixers

- Effective mixing of raw and cooked pre-ground meat and mixing of another products of various types
- Quality and gentle mixing of processed material
- Preparation of mixtures with homogeneous structure and high quality
- Product with desired final structure is obtained thanks to practical and useful function of mixing paddles
- Simple unloading of mixed material and reduction of product residue in hopper
- Simple control by buttons placed in field of vision with easy access
- Safety cover prevents the possible injury of operating personnel during operation
- Smooth surface and non-overlapping areas
- Easy and fast sanitation



Distance between hopper and gearbox



Mixing paddles



Usage of universal mixer UM 500 P

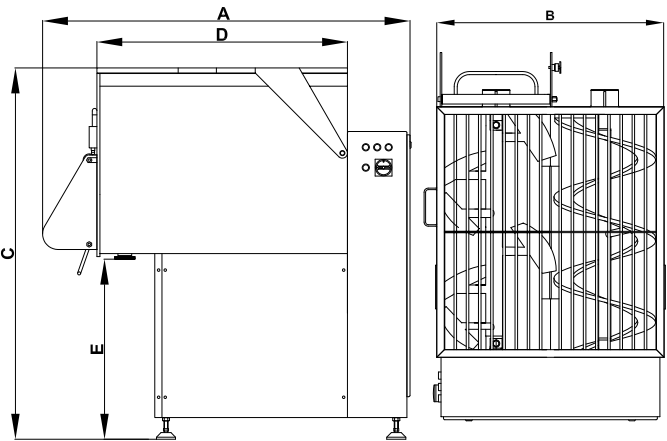


Mixing worms



Mixing of raw material

PARAMETER		PSS UM 160	PSS UM 250	PSS UM 330	PSS UM 500
Total hopper volume		160 l	250 l	330 l	500 l
Net mixing volume		120 l	200 l	250 l	380 l
Paddles speed		37 ot./min	37 ot./min	42 ot./min	42 ot./min
Total input		2,3 kW	3,2 kW	4,2 kW	5,6 kW
Machine weight		330 kg	370 kg	495 kg	540 kg
Main dimensions	A	1 218 mm	1 340 mm	1 635 mm	1 890 mm
	B	725 mm	753 mm	927 mm	1 070 mm
	C	1 085 mm	1 110 mm	1 430 mm	1 700 mm
	D	452 mm	470 mm	800 mm	745 mm
	E	575 mm	700 mm	740 mm	708 mm







The hopper of universal mixers is single-level. Inside the hopper there are mixing paddles or mixing worms. The hopper is closed with a safety cover, which prevents possible injury to the operator when working with the device.



PSS UM mixers are simply controlled by control buttons for switching ON and OFF, the mixing direction control of the individual mixing arms. All control components are placed in field of vision with easy access.




PSS UM 500 can be additionally supplied with a PSS P lifting device, which allows fast loading of the processed material and thus significantly simplifies and accelerates the manufacturing process.



The emptying hole of the UM universal mixer is used to quickly empty the hopper. Universal mixers can be emptied into handling trucks or for further processing via a speed pump to other machines within the line.



## REFERENCE FROM THE CUSTOMER



Technické oddělení **Dopis** 1 of 1

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[www.pss-svidnik.sk](http://www.pss-svidnik.sk)

### Reference

— V lednu 2012 jsme na základě výběrového řízení koupili od PSS Svidník, a.s. univerzální míchačku UM500P. Zařízení jsme koupili z důvodu náhrady zastaralého zařízení. Míchačka splňuje všechny požadované parametry, je vybavena jednoduchým překlápěčem, frekvenčním měničem a ovládacím panelem, který umožňuje nastavit různé programy míchání. Všechny zmíněné doplňky stejně jako provedení samotné míchačky zajišťuje kvalitní, spolehlivou a pohodlnou výrobu. Kromě toho jsme s novým zařízením zvýšili produktivitu výroby, minimalizovali náklady na údržbu a zajistili vysokou hygienu práce.


—

S pozdravem

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Vitana a.s.

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### Reference



— In January 2012 we bought on the tender base from PSS SVIDNÍK, a.s. Universal mixer UM 500 P. We bought equipment due to replacement of obsolete equipment.

Mixer meets all of the required parameters, is equipped with a simple lifting device, frequency converter and with a control panel which allows set various mixing programs.

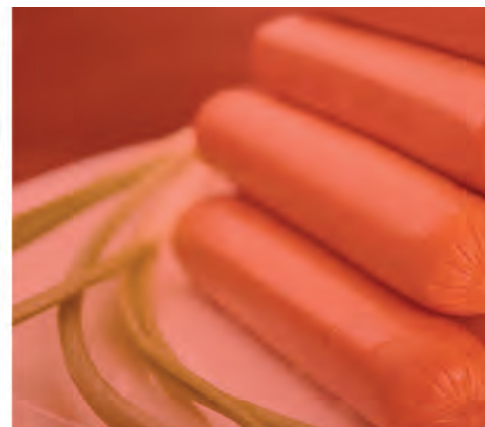
All of mentioned supplements as mixer design provide quality, reliable and comfortable production. In addition, we with the new equipment increased productivity, minimize maintenance costs and secure the high hygiene work.

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Best regards

Ing. Jan Zámečník  
Head of Technical Department  
Vitana a.s.



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