

Working tools for STEPHAN Universal Machines

in the range: UM 5, UM 12 and Prime Cut (and all variants)

STEPHAN Universal Machines, equipped with flat or wave-cut knives, are employed for many applications in the production of food and cosmetics etc. All tools with knives listed are able to be used for mixing, stirring, homogenising, dispersing, emulsifying, fluidising and cutting of solid material. Also available for specific applications are mixing, stirring, granulating and emulsifying inserts.

In addition to the working tools, each machine is supplied with a mixing baffle that can be manually operated. The scraper of the mixing baffle is made of plastic (polyamide or similar). It is used to keep the bowl wall and lid clean. The action of the scraper baffle also assists the mixing action of the working tools by encouraging the flow of product in the mixing zone.

KNIFE SHAFT:

The knife shaft is available in two designs, with and without ribs. The ribs are long fins approx. 1 cm wide, attached lengthwise to the knife shaft. The fin variant (with ribs) is primarily used for low viscosity products. The fins are intended to counteract the „suction effect“ that occurs when the main motor is stopped and the product abruptly falls back into the middle, causing it to splatter on the lid. This effect does not occur with highly viscous or solid products and the knife shaft without ribs is therefore used.

- THE COMPLETE KNIFE SHAFT CONSISTS OF A SHAFT, THE PRESSURE RING AND WING NUT.
- THE TOOLS USED ARE IDENTICAL FOR ALL UNIVERSAL MACHINES AND PRIME CUT MACHINES WITH THE SAME CAPACITY.



FOR PRIME CUT 5
AND UMC 5
ORDER NO.: 3D0165-01



FOR UMC 5
ORDER NO.: 3D0165-02



FOR UMC 5
AND UMSK 5
ORDER NO.: 3D0165-03



FOR PRIME CUT 12,
UMC 12 AND UM 12
ORDER NO.: 3D0190-01

Wing nut and pressure ring



FOR PRIME CUT 5, UM, UMC AND UMSK 5
ORDER NO.: 3K0012-03 (WING NUT)
ORDER NO.: 3K0310-28 (PRESSURE RING)



FOR PRIME CUT 12, UMC 12 AND UM 12
ORDER NO.: 3K0007-01 (WING NUT)
ORDER NO.: 3K0310-01 (PRESSURE RING)

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FLAT KNIVES:

Flat knives are standard knives. They can be universally employed for most applications. Stable emulsions, e. g. mayonnaise and salad dressings can be produced easily.

They can also be used for the production of:

- PROCESSED CHEESE IN BLOCKS
- MEAT, FISH, POULTRY
- KETCHUP
- PUDDINGS
- FRESH CHEESE PREPARATIONS
- BOILED SAUSAGE, ETC.
- BABY FOOD
- PRALINE FILLINGS

Flat knives



FOR PRIME CUT 5, UM, UMC AND UMSK 5
ORDER NO.: 3D0024-01 (STRAIGHT)
ORDER NO.: 3D0024-10 (ANGLED)

Compared to wave-cut knives flat knives only transfer moderate shearing energy into the product. Nevertheless an adequate degree of shearing action will be achieved.



FOR PRIME CUT 12, UMC 12 AND UM 12
ORDER NO.: 3D0001-05

WAVE-CUT KNIVES:

Wave-cut (or serrated) knives can also be used for a wide range of products. By using wave-cut knives you achieve a very high shearing energy and shearing flow in the mixture. The efficiency of chopping increases due to the serrated profile of the knife. We achieve a fine texture in products with this tool.

Wave-cut knives are ideal for the production of:

- SPREADABLE PROCESSED CHEESE
- MARZIPAN FOR HIGH QUALITY FILLINGS
- STABLE EMULSIONS, SUCH AS MAYONNAISE, DRESSINGS OR PESTO ETC.

Wave-cut knives



FOR PRIME CUT 5, UM, UMC AND UMSK 5
ORDER NO.: 3D0024-02 (STRAIGHT)
ORDER NO.: 3D0024-11 (ANGLED)



FOR PRIME CUT 12, UMC 12 AND UM 12
ORDER NO.: 3D0001-06

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STEPPED KNIVES WITH SERRATED BLADES:

Stepped knives



Stepped knives are equipped with an angled blade which reaches deeper into the bowl. They are especially suitable for smaller quantities of products to be processed. Their normal application is in product development for the preparation of sample batches.

A set consists of one stepped and one straight knife.

FOR PRIME CUT 12, UMC 12 AND UM 12

ORDER NO.: **3D0001-06 (STRAIGHT)**

ORDER NO.: **3D0002-06 (ANGLED)**

MIXING INSERT:

This tool is used to achieve a strong shearing flow with low cutting energy. The controlled cutting of material is limited. Additions such as mushrooms in sauces can be processed gently. A mixing insert is recommended for products which are shear sensitive. This tool is especially recommended for the production of all specialties with the desired degree of thickness such as:

SOUPS, SAUCES
STEWES

FRUIT YOGHURTS
JAMS

Mixing insert

The mixing insert is ideal for the preparation of products, such as analogue cheese or block cheese (slice on slice).



FOR PRIME CUT 5, UM, UMC AND UMSK 5
ORDER NO.: **3D4100-2**



FOR PRIME CUT 12, UMC 12 AND UM 12
ORDER NO.: **3D4005-01**

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STIRRING AND DISPERSING UNIT:

This unit is similar to the mixing insert. The only difference is that the blades are less angled and attached lower. The dispersing effect is much better and the necessary shearing action is achieved quickly. This unit is especially suitable for the production of all types of dough such as: pasta, bread roll dough, sourdough, yeast dough, etc.

The optimum speeds for use are between 300 – 1,500 rpm.

Stirring and dispersing unit



FOR PRIME CUT 5, UM, UMC 5 AND
UMSK 5
ORDER NO.: 3D4100-04



FOR PRIME CUT 12, UMC 12 AND
UM 12
ORDER NO.: 3D4030-01

GRANULATING INSERT:

This tool is very similar to the mixing insert. The only difference is that additional curved blades are attached below the mixing blades. This mixes the product much better, even below the normal mixing blades, and is therefore especially well suited for the production of powder mixes and granulates.

Granulating insert



FOR UMC 5 AND UMSK 5
ORDER NO.: 3D4100-10



FOR UMC 12
ORDER NO.: 3D4070-03

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EMULSIFYING INSERT:

The emulsifying insert has two straight, narrow blades with a stainless steel bar arranged crosswise, making it well suited for the production of stable emulsions. Features of this tool:

- IT IS NOT SHARP-EDGED SO NO SHEARING FORCES OCCUR.
- IT PERMITS THE FINEST DISPERSION OF OIL-WATER PHASES.
- IT IS ATTACHED LOW DOWN AND CAN THEREFORE BE USED FOR VERY SMALL AMOUNTS.
- IT IS ATTACHED TO THE TOOL SHAFT IN PLACE OF KNIVES, PRESSURE RING AND WINGNUT.

THE EMULSIFYING INSERT IS WELL SUITED FOR THE PRODUCTION OF MAYONNAISE AND SALAD DRESSINGS.

Emulsifying insert



FOR UMSK 5
ORDER NO.: 3D4101-01
knife shaft required



FOR UMSK 5
ORDER NO.: 3D4100-06



FOR UMC 12
ORDER NO.: 3D4070-05

The material quality of the knives is: W.-Nr. 1.4034 (AISI 420).

The material quality of the mixing, granulating and emulsifying inserts as well as the stirring and dispersing unit is: W. Nr. 1.4301 / 1.4552 / 1.4462 (AISI 304).

In the UM 5 range polyamide is also used for the covering of the knife shaft and the shafts of the inserts.

Sales and technical advice:

phone: +49 (0) 51 51/5 83-300 or +49 (0) 51 51/5 83-721

*Please call us, we would
be pleased to help you!*