



# STEPHAN Combicut TC System

## Multifunctional and Efficient

### Successfully used in the Food Industry

! The STEPHAN Combicut TC System is a multifunctional machine. It is in use successfully for a wide range of applications in the food industry.

Besides cutting, mixing and dispersing, heating and cooling can be done in the same system. The integrated vacuum system avoids oxidation and ensures a high product quality. !

*several process steps in one machine !*

### Advantages for your Production

- ✓ Short batch times
- ✓ Homogenous mixing
- ✓ Efficient cutting
- ✓ Gentle as well as effective heating
- ✓ Constant specific weight
- ✓ Optimal powder dispersing
- ✓ Oxidation is avoided
- ✓ Stable emulsions
- ✓ Constant product quality



Applications and Processings Steps



**Applications:**

✓ **Convenience Food**

- Mayonnaise
- Ketchup
- Horseradish
- Sauces, Dressings

✓ **Meat / Fish**

- Surimi
- Liver pate

✓ **Bakery**

- Dough preparation (TK)

✓ **Dairy**

- Processed cheese
- Fresh cheese preparations

✓ **Confectionery**

- Marzipan

**Processes:**

✓ Cutting

✓ Mixing

✓ Dispersing

✓ Emulsifying

✓ Direct + indirect heating

✓ Deaerating (Vacuum)

✓ Cooling



Design of the Combicut TC System

! The STEPHAN Combicut TC combines several process steps in one machine. These are cutting, mixing, dispersing, heating, cooling, deaerating and emulsifying.

The horizontally placed mixing drum in the basis of the machine. A set of cutting and emulsifying knives is driven through the back plane by the main motor, whereas the mixing arm with scraper is activated by a

motor through the front cover. The machine is charged by a slide and / or pipe connections. Discharging is done via a slide or a bottom seat valve. The STEPHAN Combicut TC can be equipped with direct steam injection nozzles and / or a jacketed drum.

It can be completed by powder hoppers, liquid vessels, liquid metering systems, a lifting / tilting device, a STEPHAN Microcut and a discharge wagon. !

Components of the STEPHAN Combicut TC System



Mixing drum with cutting tools and scraper



Direct steam injection nozzles



Combicut TC with Microcut® MC

Technical Data

Type		TC 300	TC 400	TC 600	TC 850
Drum size	[l]	300	400	600	850
Batch size	[l]	100 - 220	130 - 280	200 - 420	300 - 580
Capacity (heavily dependent on product)	[l/h]	up to 1200	up to 1500	up to 2700	up to 3600
Max. operating temperature	[°C]	95	95	95	95
Energy requirement, main motor	[kW]	50 / 58	65 / 90	65 / 90	100 / 120
Special layout					
Heating / Cooling jacket		+	+	+	+
Direct steam injection		+	+	+	+
High temperature layout (110 / 125 °C) (only for design with pipe connections, no slides)		+	+	+	+

Test Facilities

! The test facilities at our headquarters in Hameln (Germany) are available for feasibility studies and demonstration runs of the STEPHAN Combicut TC System. !





STEPHAN  
PRODUCT PORTFOLIO  
Microcut®



## DESIGN OF STEPHAN MICROCUT®:

The long-life contactless rotor stator system allows premium fine cutting and emulsifying effects in the same machine.

With special tools difficult products, like sinews, soft bones and skin can be cut in the best quality. The pre-cutter reduces the product size efficiently from 100 mm pieces down to 1–2 mm (depending on the product).

Depending on the Microcut type a single cutting system or a double cutting system is installed. A single cutting system consists of one cutting head (rotor), one cutting ring (stator) and a feeding disc.

For the double cutting system the first cutting head / cutting ring set is followed by a second. The cutting rings are equipped with knives of specific gap sizes in the range of 0.05 to 3.0 mm. The cutting heads are equipped with a specific number of teeth.

3 to 4 different executions are available per Microcut type. Furthermore different designs of feeding discs are available.

The throughput of the Stephan Microcut machines depends on the type of product / application and the tool setting of the machine.



## CONTINUOUS FINE SIZE REDUCTION AND EMULSIFICATION AT ITS BEST

### One idea – several versions

The STEPHAN Microcut® is a multifunctional fine cutting and dispersing system. The rotor stator system is available as single stage and double stage version.

A wide range of machine layouts meets the requirements of multiple segments of the food industry. Homogeneous fine cutting and emulsifying of meat and fish can be done as well as forming emulsions and dispersing solids in liquids.

A special layout is suitable for cutting of vegetables and fruits as well as biscuit rework and frozen products.

### Benefit from the advantages:

- ✓ EFFICIENT FINE GRINDING
- ✓ PERFECT CUTTING
- ✓ HOMOGENEOUS MIXING
- ✓ OPTIMAL POWDER DISPERSING
- ✓ STABLE EMULSIONS
- ✓ CONSTANT PRODUCT QUALITY
- ✓ EASY TO OPERATE

# APPLICATIONS AND PROCESSING STEPS

## APPLICATIONS: (SOME EXAMPLES)

- MEAT EMULSIONS
- LIVER PÂTÉ
- EMULSIONS
- MARINADES AND SAUCES
- BABY FOOD
- VEGETABLE AND FRUIT GRINDING
- NUTS AND ALMONDS GRINDING
- BISCUIT REWORK GRINDING
- CONFECTIONARY
- FISH PRODUCTS
- HOMMOS
- PET FOOD

## PROCESSES:

- CUTTING
- DISPERSING
- EMULSIFYING
- HOMOGENIZING







MCH 20

Cutting system		Single cut
Throughput	kg/h	1200
Power	kW	15
Funnel	l	120

- /// HANDICRAFT MACHINE
- /// HORIZONTAL EXECUTION



MCH-D 150/180

Cutting system		Double cut
Throughput	kg/h	4500 / 6500
Power	kW	30 / 45 / 75
Funnel	l	150 / 250

- /// BIG CAPACITY MACHINES
- /// HORIZONTAL EXECUTION





**NEW**

**STEPHAN MCH-D 20 classic**

- /// FOR MIXING, EMULSIFYING AND FINE-CUTTING OF LOW/MEDIUM VISCOSE PRODUCTS
- /// HORIZONTAL EXECUTION



**STEPHAN MCH-D 20 inline**

- /// INTEGRATION INTO A PRODUCTION LINE
- /// LOW VISCOSE PRODUCTS
- /// INLINE PIPE CONNECTION, HORIZONTAL EXECUTION



**STEPHAN MCH-D 20 feeding screw**

- /// HIGH VISCOSE OR BIG SIZE PRODUCTION
- /// HORIZONTAL EXECUTION WITH FEEDING SCREW

<b>Cutting system</b>	Double cut / with precutter	
<b>Throughput</b>	kg/h	1200-3000
<b>Power</b>	kW	30
<b>Funnel</b>	l	120

\*optional: with additional pre-cutting system

The machines shown are for illustrative purposes only. Actual machine construction may vary by specification.