

# NETZSCH

Proven Excellence.



## SALSA<sup>®</sup> System

From Coatings, Spreads, Fillings, Nut Pastes and Icings to Rework

FOOD & CONFECTIONERY

a Business Field of  
NETZSCH Grinding & Dispersing



# NETZSCH Food & Confectionery – Your Global Partner

Across the globe, NETZSCH provides support for your confectionery mass production projects, from the raw materials all the way through to the finished product. To ensure the success of your investment from the very beginning, we take on the planning and implementation of your new production lines and train your personnel.

## NETZSCH Food & Confectionery offers

- Applications support
- Service
- Modern solutions
- Supervision of tests and demonstrations
- Product development and control
- Quality

## Your Advantage is Our Focus

- Completely closed system
- Easy cleaning
- Low energy consumption
- Short processing times
- Highest quality
- Space-saving
- Great flexibility



## Product Development

Our modern applications laboratory is always state-of-the-art, fulfills your wishes and gives your ideas free rein. Here you can test new recipes or optimize production of your existing products. Visit us and experience our know-how for yourself.

## Flexibility

Thanks to the modular design, the plant is laid out in exact accordance with your current needs. Future expansion of the plants is simple. An added advantage: Cleaning is extremely easy, so the formulation can be changed at any time with minimal effort.

## Creativity

In addition to standard products such as fillings, compounds, spreads and nut pastes, you can also produce specialties, for example with different types of sugar and additives. You can also make white chocolate that is true-to-color, fully temperature controlled and with consistent, reproducible quality.

## Savings

Compared to other systems, the *SALSA*<sup>®</sup> system stands out for its lower requirements for power, cooling water and space, and for its shorter processing times. The *SALSA*<sup>®</sup> process also helps you save raw materials and/or additives.

## Economic Efficiency

The economical production of compounds, fillings or spreads with an individual note is possible with our systems, even in small quantities. All plants are operated from a control panel. Plant operation options range from manual to fully-automatic.

## Quality

With the *SALSA*<sup>®</sup> system you achieve the best reproducibility in a defined semi-automatic process. The simple, menu-guided control system, which includes temperature control, allows exact adjustment of your desired quality, with end finenesses of <18 µm possible.



# Your Products – Our Solutions

## Icings / Compounds

An alternative to chocolate coatings. More than 5% of the expensive cocoa butter can be replaced by partially miscible vegetable fat (CBR) or even exchanged for an immiscible vegetable fat (CBS) with a completely different composition. The consistency of the coating becomes softer and more elastic due to the melting characteristics of the fat used.

## Fillings

An important ingredient in many sweets. Here the vegetable fats form the continuous phase in which the other ingredients are embedded. That is why the physical and chemical properties of the fat and the resulting factors are especially important to the quality of the end product.

## Rework

With a minimum fat content of 27%, rework of any sort, whether with nuts or wafers, caramel or coarse sugar, can be processed with the *SAMBA*<sup>®</sup> System. Finenesses of <math><18 \mu\text{m}</math> are easily achieved, so the ground mass can be fed back into the production process.

## Nut Pastes

## Spreads

## Nougat Pastes

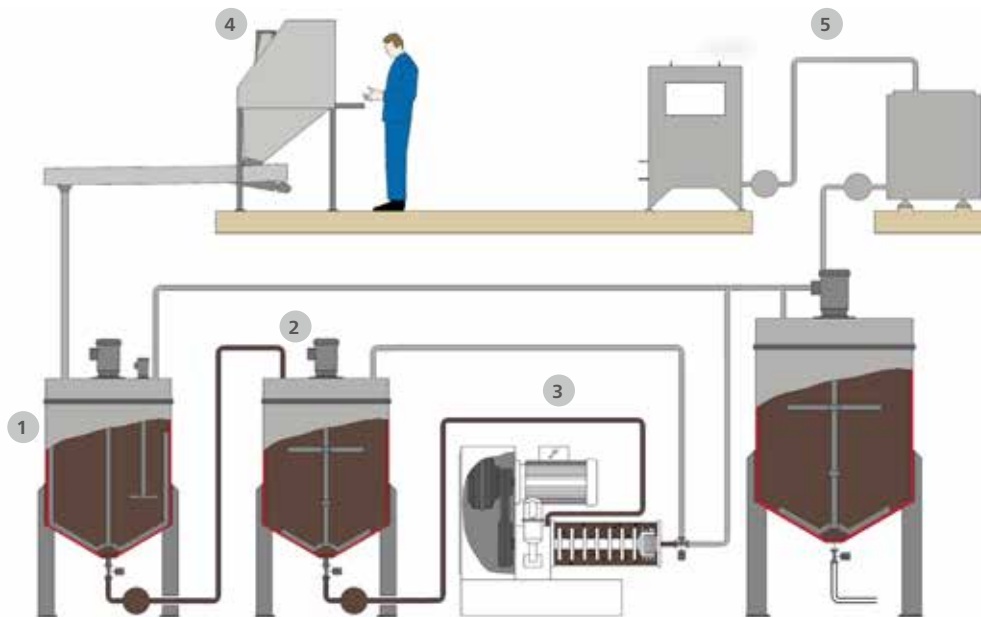
The overall higher fat content and the use of different vegetable fats change the consistency of the mass as compared to chocolate such that manufacturing and processing become easier. On the one hand, targeted tempering is no longer necessary and, on the other hand, the lower viscosity means that the costly and time-consuming dry and liquid conching process can be eliminated.

# Implementation

The systems offered by NETZSCH-Feinmahltechnik GmbH for the production of chocolate coatings, icings and fillings have a modular design. On the one hand, this modular construction minimizes the required space and, on the other hand, it facilitates production expansion. Shown here is a modular system for icing.

Our line concept includes the initial homogenization of the individual components in a mixing tank (1) with a rapidly spinning dispersion tool for product circulation, transfer of the mass to the heatable process tank (2) and the final fine grinding in the *MASTERREFINER* agitator bead mill (3).

The fine grinding of the mass is realized in multi-pass operation, i.e. *MASTERREFINER* agitator bead mills connected in series, for higher quality. Optionally, our systems can be equipped with a feed station (4) and fat-melting system (5), for example.



# NETZSCH *MASTERCREAM*

## The flexible Pre-Cutting-System

The MasterCream system was developed for flexible and economical processing of basic substances for confectionery products such as nuts and wafers, as well as reprocessing of rework. Whether as a stand-alone machine, integrated into a NETZSCH *SALSA*®, *RUMBA*®, *MAMBO*® plant or as an extension of your existing production line – the NETZSCH *MASTERCREAM* is the optimum complement to your production process.

### Plant Design

The pre-ground paste of nuts or rework is transported directly to a process tank for further processing. For short distances between the *MASTERCREAM* and tank, no additional pump is needed. The *MASTERCREAM* can be cleaned with rinsing liquid in circulation mode. The ease of changing products means increased flexibility during production.

The combination of the pre-cutting unit and a horizontal agitator bead mill for fine grinding allows the production of premium products such as nut creams or rework pastes. The optimized grinding technology in a simple, closed machine design allows lower processing temperatures (40°C to 50°C) and results in an improved flavor profile for your product.

### Advantages

- Flexible configuration of the cutting tools
- Powerful grinding performance
- Variable speed
- Low processing temperature
- Short product residence time
- Compact, easy-to-clean design

### Application Examples

- Pre-cutting of whole nuts
- Rework of pralines, bars
- Production of spreads and nougat
- Production of cream fillings
- Rework of wafers with fillings
- Cutting of wafer pieces
- Rework of sugar-coated candies



*MASTERCREAM* Modul



NETZSCH *MASTERCREAM* with Control Unit

## Fine Grinding of the Initial Mass

The desired end finenesses of chocolate coatings, icings and fillings are usually between 18 µm and 30 µm. Agitator bead mills that guarantee high throughputs are used to achieve these finenesses.

The maximum throughput capacity is, of course, affected by the initial particle size of the sugar – in addition to the efficiency of the separator system. With our *SAMBA*® pre-grinding system, you save the extra step of pre-grinding the sugar.

With the *MASTERREFINER* horizontal agitator bead mill, NETZSCH-Feinmahltechnik GmbH offers the optimal wet grinding system for the required crushing processes. The mill is equipped with highly-effective *NEXWING* grinding disks and an extremely efficient separation system.

This combination facilitates very high throughputs without compression of the grinding media in the outlet area.

The grinding chamber is available in chilled cast iron or wear-resistant steel. Steel grinding beads of various diameters are normally employed, depending on the feed fineness of the sugar.

### Design Options

- Grinding tank removal assembly
- Heating/cooling unit
- New geometry, effective crushing in only one passage
- Integrated improved *SAMBA*® 2.0 pre-crushing system - effective pre-crushing of coarse particles in the charge material
- Compact plants and skids



*MASTERREFINER* Horizontal Agitator Bead Mill

# Sizes at a Glance

## Variety of Sizes

First, the production capacity of a plant is dependent on the size of the *MASTERREFINER* agitator bead mill employed. Second, it is strongly dependent on the initial fineness of the sugar used. This correlation is shown in the table below.



Fine grinding in continuous operation with the *MASTERREFINER* agitator bead mill

Mill type	Throughput capacity [kg/h] *	
	Granulated sugar < 1.5 mm	Pre-ground sugar < 250 µm
<i>MASTERREFINER</i> 6	45	50
<i>MASTERREFINER</i> 30	150	180
<i>MASTERREFINER</i> 60	300	360
<i>MASTERREFINER</i> 150	600	720
<i>MASTERREFINER</i> 200	900	1 080
<i>MASTERREFINER</i> 300	1 200	1 440
<i>MASTERREFINER</i> 500	1 800	2 160

\* At an end fineness of 25 µm. End finenesses of < 18 µm are possible with adjusted throughput. Assumes a maximum sugar content of 50% and a fat content of 30%.



## SALSA® 3000 Production Plant



- 1 Melting station for cocoa butter and cocoa mass
- 2 *MASTERCREAM*
- 3 Mixing tank
- 4 Solids feeding system (sugar, milk powder, etc.)
- 5 Intermediate tank
- 6 Wet fine grinding follows with our *MASTERREFINER* agitator bead mill
- 7 Storage tank for final production

# NETZSCH Food & Confectionery

## Service and Competence

### Your Global Partner for Modern Confectionery Mass Production

Our Technical Center in Selb/ Bavaria is specifically furnished and equipped and hygienically designed for testing food and confectionery applications. After clarification of the technical details, you can unleash your creativity when it comes to the recipe. Our team in the Applications Laboratory is fully committed to ensuring that the tests lead to the anticipated result.

Machines and plants for varied applications and tasks:

- *MASTERREFINER 6* – feasibility tests and recipe development
- *MASTERCONCH 300 / MASTERREFINER 30* – scale-up and toll grinding
- *MASTERCREAM 10* for pre-crushing various products (nuts, etc.) and processing rework
- *MASTERNIBS 100* for grinding cocoa nibs to cocoa mass
- *GAMMAVITA* for the preparation of suspensions, solutions and emulsions

#### NETZSCH Service

- Applications lab
- Product development
- Process-specific support
- Scale-up to your production requirements
- Project planning and management / commissioning / customer service / on-site service
- Training at NETZSCH and on site






On-site quality control with modern analytical instruments:

- Mastersizer 3000 for definition of the particle size distribution using laser diffraction
- Haake Mars II for determination of yield point and viscosity with coaxial cylinder system
- Spectra Star quantitative determination of ingredients such as sugar, fat and protein using near infrared spectroscopy



After every test, a test report is prepared with the machine parameters and analysis results and promptly forwarded to the customer.





The NETZSCH Group is an owner-managed, international technology company with headquarters in Germany. The Business Units Analyzing & Testing, Grinding & Dispersing and Pumps & Systems represent customized solutions at the highest level. More than 3,800 employees in 36 countries and a worldwide sales and service network ensure customer proximity and competent service.

Our performance standards are high. We promise our customers Proven Excellence – exceptional performance in everything we do, proven time and again since 1873.

## Proven Excellence. ■

### Business Unit Grinding & Dispersing – The World's Leading Grinding Technology

NETZSCH-Feinmahltechnik | Germany  
NETZSCH Trockenmahltechnik | Germany  
NETZSCH Vakumix | Germany  
NETZSCH Lohnmahltechnik | Germany  
NETZSCH Mastermix | Great Britain  
NETZSCH FRÈRES | France  
NETZSCH España | Spain  
ECUTEK | Spain

NETZSCH Machinery and Instruments | China  
NETZSCH India Grinding & Dispersing | India  
NETZSCH Tula | Russia  
NETZSCH Makine Sanayi ve Ticaret | Turkey  
NETZSCH Korea | Korea  
NETZSCH Premier Technologies | USA  
NETZSCH Equipamentos de Moagem | Brazil

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