TECNO 3

Chocolate and Confectionery Technology






TECNO3, technical process partners of the leading confectionery companies









"The passion to create together innovative, stimulating and pleasant technologies for the daily life in the world"

TECNO3 is an Italian business enterprise, landmark of the sector for technological innovation in the production process of the confectionery industry.
We are constanty developing and improving tecnologies, to help people in their daily life and companies in new working and strategic challenges in a rapidly challenging market.

In 1988 **TECNO3** has opened its first production site with the aim of creating **innovative technologies,** and provide **industrial solutions for chocolate, creme and nut processing.**

As of 2020, **TECNO3** expanded their competences with three production sites, each specialised to guarantee the best technology, quality and realiability.









Our collaborators are the greatest value

TECNO3 is able to give shape to technologies and innovations, by creating sustainable solutions for the future





TECNO3 promotes ideas by integrating **technological**, professional and business **culture**, offering itself as a partner able to manage technologies and competences in the confectionery business.
The current and future needs of our customers inspire our work, promoting **development projects** in the industrial system.

Our competitive differential is **research and development**, based on a deep knowledge and understanding of **production processes** with the aim of continuously increasing the value of **our systems**, successfully comparing ourselves in the main international markets.





OUR VALUES

Our systems are the result of knowledge and innovation

At **TECNO3**, we believe in the same **values**: responsibility, progress and closeness. **Responsibility**, because our technologies are product-friendly. **Progress**, because we are always looking ahead. **Closeness**, because we are close to the needs of our customers

Significant results can only be achieved by fully understanding **customer expectations**, striving to overcome them every day with the aim of creating a dialogue between the different realities of the industrial system.

At **TECNO3** we are a group of people who think outside the box, challenging the rules of the confectionery world and always guaranteeing **maximum efficiency of the production processes.**





TURNKEY SOLUTIONS

TECNO3 focuses on the needs of the food industry to design, engineer and supply turnkey systems based on new technological knowledges

TECNO3 is committed to improving the processes and enhancing the characteristics of the final product:

- Ensuring the reliability of the systems
- Significantly reducing the amount of product required for recipe changes
- Streamlining production thanks to continuous processing
- Facilitating the disassembly and sanitation of the equipment
- Optimising space with company-sized systems
- Reducing consumption and promoting energy saving
- Providing a test area to reproduce the production cycle
- Respecting the nutritional and organoleptic properties of the raw materials up to the final product
- Favouring increased and optimised productivity

We are committed to making the difference every day.

Improving the know-how as a driver of process innovation, a target that has been always pursued at TECNO3:



preventive routine and scheduled maintenance



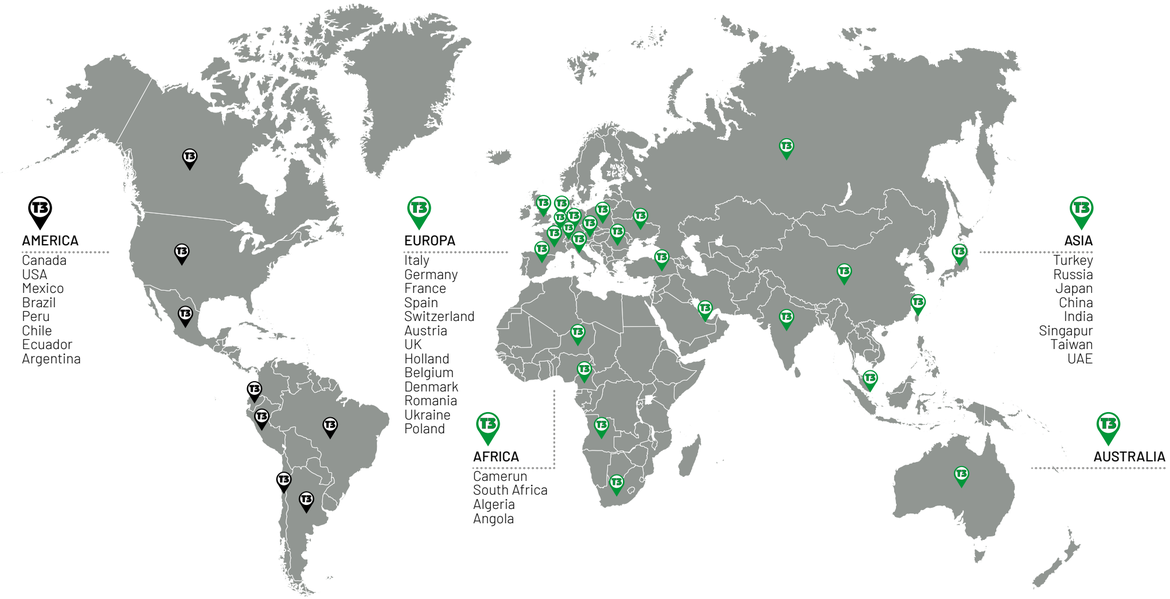
remote technical assistance



original spare parts

- **OPTIMIZING** service performances and improving efficiency through the **LEAN THINKING** principles
- **USING SAP** software that fits perfectly into the **management of company processes**
- **MAINTAINING** a high level rating thanks to the industrial know-how and the **ISO 9001** certified quality system
- **PROVIDING** an excellent **after-sale service** to our customers all over the world

We operate and export into 5 continents and 30 countries





COCOA BEAN PROCESSING

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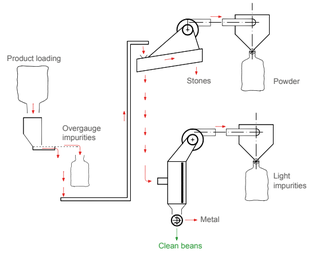
COCOA BEAN PROCESSING

The **TECNO3** line for the cocoa processing allows to **develop the entire production cycle**: from cleaning the beans to debacterization, roasting, winnowing, refining of cocoa nibs to obtain the cocoa mass with the desired granulometry.

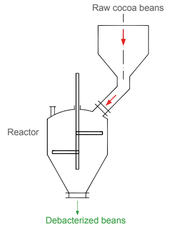
The particular technology used allows to **maintain and enhance the organoleptic qualities** of the various types of cocoa, especially the aromatic ones.
The innovative design of the machines that reduces the contact of the product with the surrounding environment, combined with the **continuous production cycle**, helps to **maintain a low bacterial threshold**.

CLEANING

The system allows you to effectively eliminate all foreign bodies from the cocoa beans.



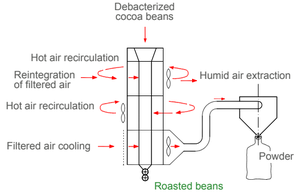
DEBACTERIZING



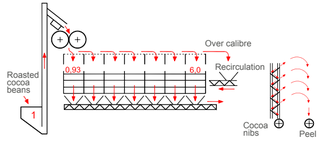
The steam treatment on the whole bean reduces the bacterial plate count, respecting the organoleptic and aromatic characteristics of cocoa.

ROASTING

The traditional roasting method of the whole bean and the recirculation of hot air contribute to the correct aromatic development of the product with considerable energy savings.



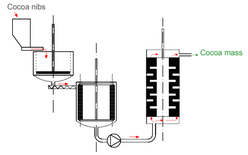
WINNOWING



The system, which can be easily adjusted, cleaned and inspected, allows the right separation of the peel from the nibs.

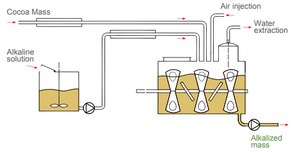
GRINDING AND REFINING

The continuous transformation of the nibs into cocoa mass takes place in a compact system with the possibility of varying the productivity and the final granulometry.



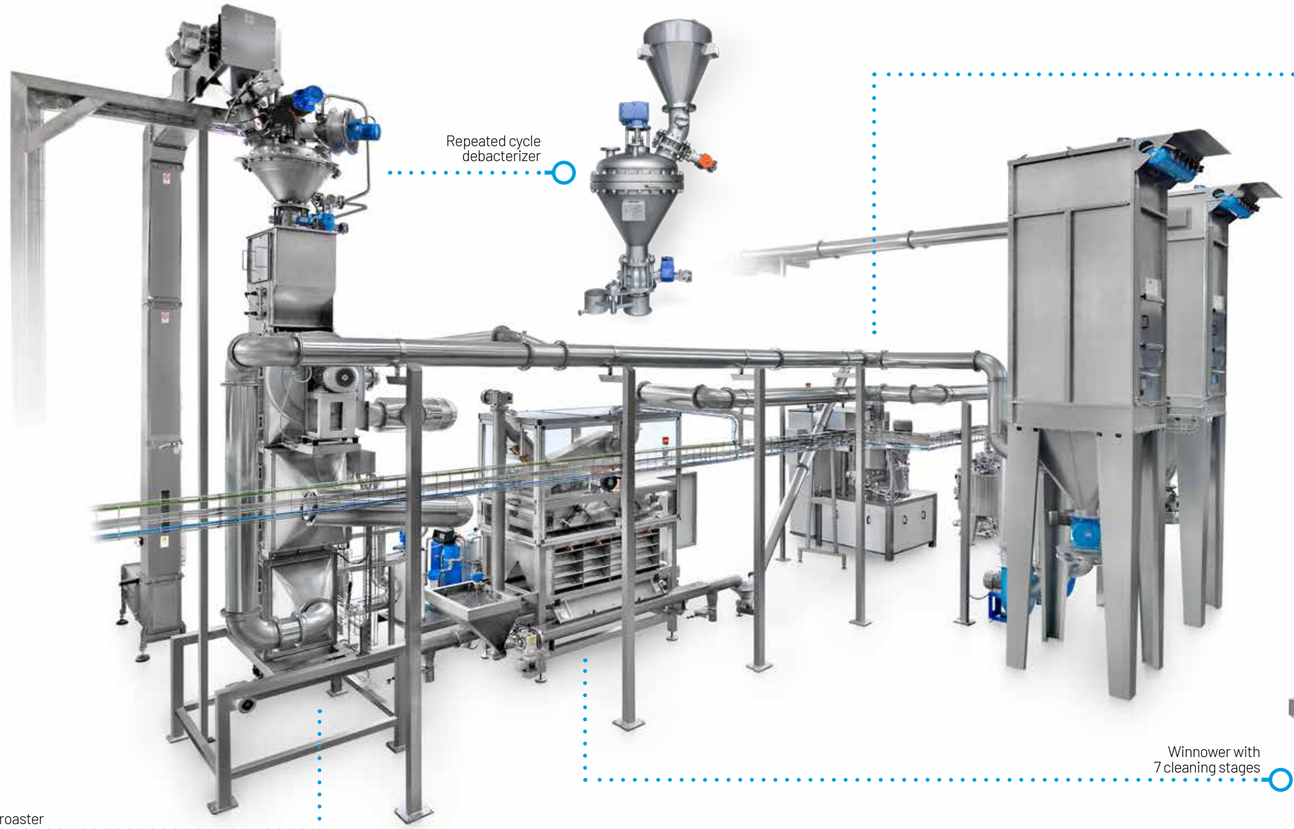
* The system can be supplied with 3 separate parts for different configurations.

ALKALINIZATION



The cocoa alkalinization system is based on the treatment of the refined mass with alkaline solutions, in order to get a product intended to be pressed.





Repeated cycle debacterizer

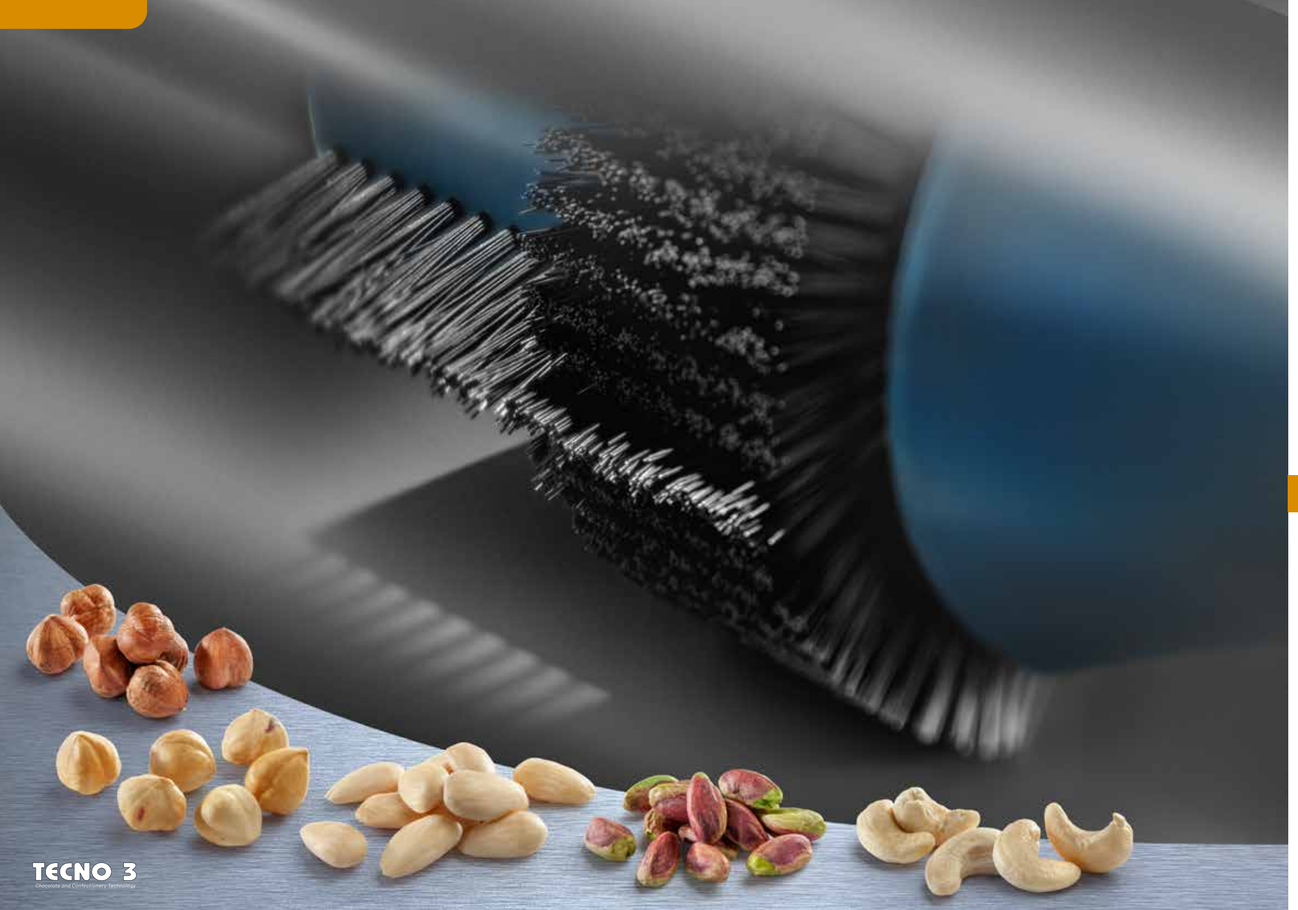
Continuous vertical roaster

Continuous 3-stage refiner





Winnower with 7 cleaning stages



NUT PROCESSING

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NUT PROCESSING

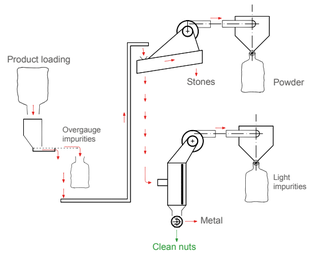
TECNO3 has developed the entire nut processing line to meet the technological requirements of the various types and the different production processes that involve their use.

Starting from **cleaning**, we pass to **drying**, eventual **roasting**, **peeling** if necessary, separation of the **whole fruit** intended for specific use, **refining** to get to the paste with the predefined granulometry.

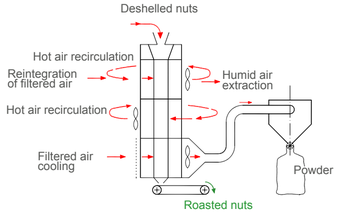
The process technology applied to the treatment of the **whole fruit** allows it to be **preserved over time**, slowing down the oxidation phenomena.

CLEANING

The system allows you to effectively eliminate all foreign bodies from the deshelled nuts.



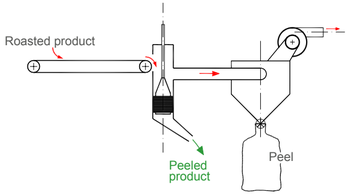
DRYING ROASTING



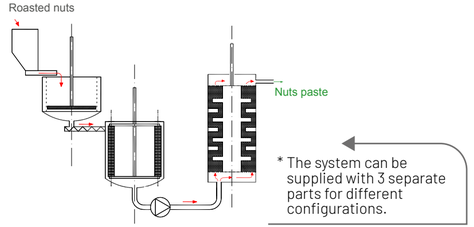
The great versatility of the 3-stage continuous vertical roaster allows you to operate separately on the various types of nuts to enhance the peculiar qualities of each.

PEELING

The removal of the outer skin from nuts is done carefully, using special rotating brushes that keep the surface of the fruit intact



GRINDING REFINING



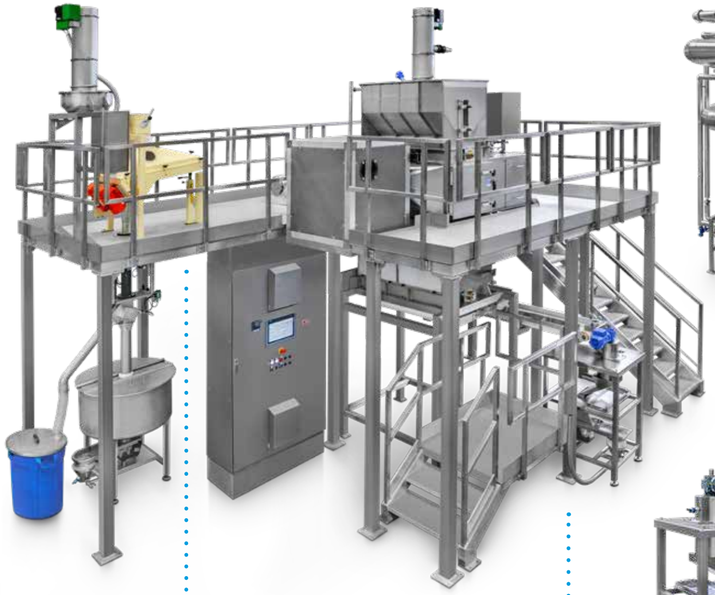
The innovative 3-stage continuous refining process keeps the product protected from the surrounding environment and guarantees respect for the organoleptic characteristics inherent and developed in the raw materials.

COMPLEMENTARY MACHINES

The line can be integrated with the inclusion of complementary machines according to production needs



Dust suppression filters



Continuous vertical dryer-roaster



4-stage cleaning unit



Brush peeler

CONTINUOUS REFINER



Big bags unloading

Continuous refiner

Filtration

Finished product collection

Liquid ingredients doser

Solid ingredients doser



Final self-cleaning filter



CHOCOLATE PRODUCTION

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CHOCOLATE PRODUCTION

The continuous chocolate production line developed by **TECNO3**, based on the application of **liquid conching**, deviates significantly from traditional schemes.

For the preparation of the mixture, the **continuous doser mixer** is favored, even if it is still possible to use the batch mixer.

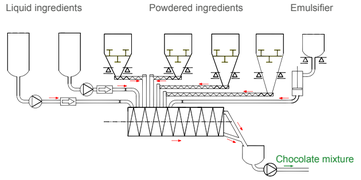
Refining takes place on the liquid mass through **3 specially designed systems in sequence**.
The conche for the liquid treatment, with all its advantages, is the natural consequence of this technology and can be easily used also on the conventional roll refining lines.

The system can operate **autonomously** and completely **automatically**, from the preparation of the mixture to the unloading of the chocolate in the storage tanks.

CONTINUOUS

DOSING MIXING

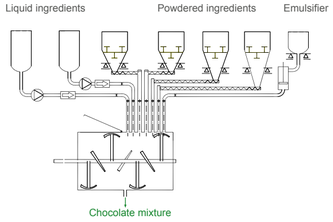
The accurate continuous and simultaneous dosage of the liquid and solid raw materials, with appropriate systems inherent to their physical characteristics, the intimate mixing obtained during the short run in the horizontal vessel of the machine, equipped with a stirrer with the function of translating, provide a constant flow of perfectly homogeneous product.



BATCH

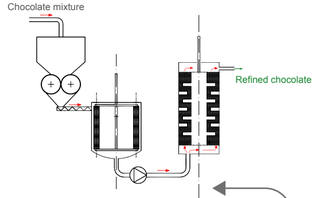
DOSING MIXING

The alternative to the continuous process is represented by capacious horizontal mixers, possibly mounted on load cells, where a production batch is prepared by inserting the various raw materials in succession. After suitable mixing, the product is sent to the refining line.



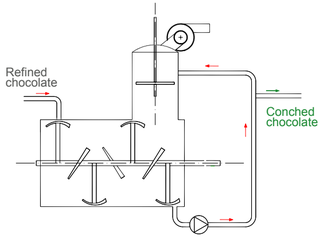
REFINING

The extremely compact system, consisting of 3 refining units in sequence, allows to reach the desired fineness with a correct particle size distribution, avoiding a high formation of too fine particles, to obtain a chocolate with rheological characteristics favorable to subsequent processing.



* The system can be supplied with 3 separate parts for different configurations.

CONCHING



The choice of traditional liquid conching, which allows accurate control of the temperatures throughout the mass, combined with an efficient system of rapid evaporation of volatile substances, leads to a significant reduction in processing times and a reduction in energy consumption, in full compliance with the organoleptic requirements of chocolate.

COMPLEMENTARY MACHINES

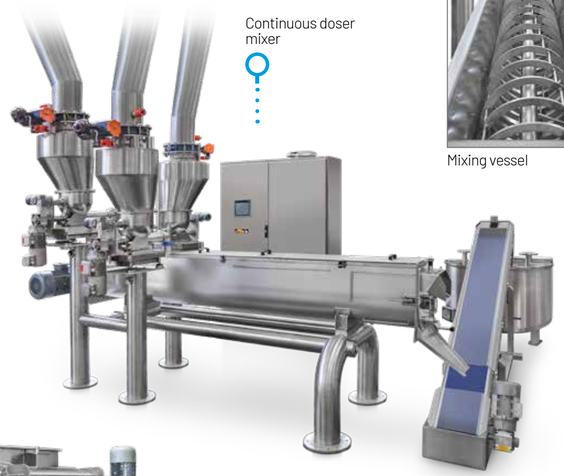
The line can be integrated with the inclusion of complementary machines according to production needs.



Solid ingredients dosers



Liquid ingredients dosers



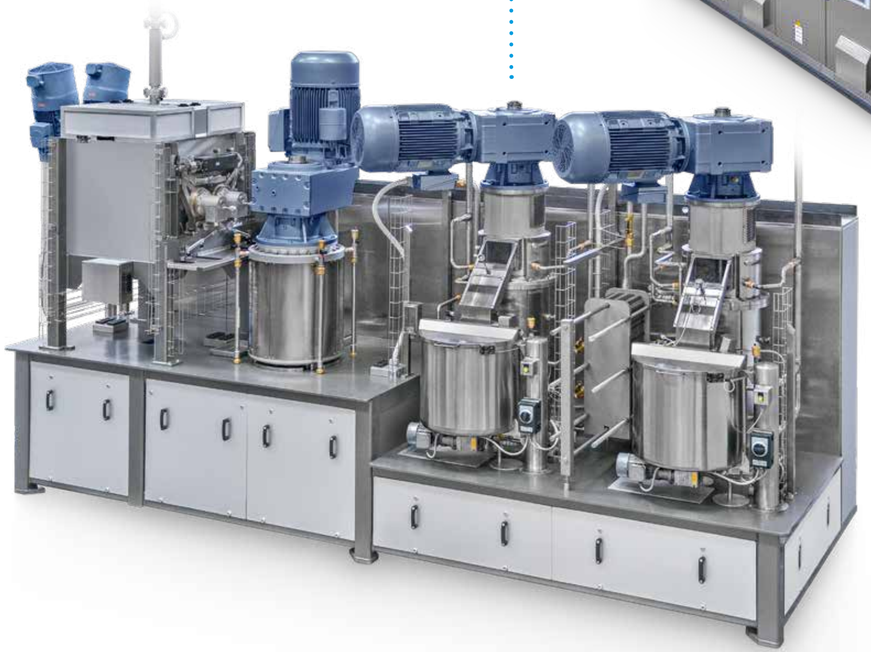
Continuous doser mixer



Mixing vessel



Batch mixer





Continuous refiner



Mixing shaft



Inspection hatch



Liquid conching



FAT CREAM PRODUCTION

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FAT CREAM PRODUCTION

TECNO3 has developed systems with increasingly **automated technologies** to meet the different economic and production needs.

From simple manual loading ball refiners of various capacities, we pass to semi-automatic mixing and refining systems, to automatic ones, up to arrive at **continuous production lines**.

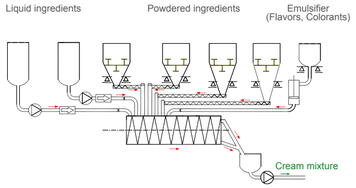
As complementary systems, **TECNO3** is able to supply **horizontal mixers**, single and double shaft **vertical** mixers, **continuous** dosers-mixers for adding other liquid and solid ingredients to creams.

The dosing and mixing of liquid and solid raw materials with the appropriate continuous system guarantees strict compliance with the recipe values, the perfect homogeneity of the mixture and the constant feeding of the product to the next processing stage.

CONTINUOUS

DOSING

MIXING



The continuous 3-stage refining line represents the best solution in terms of system compactness, production capacity, quality and rheological result on the product.

REFINING

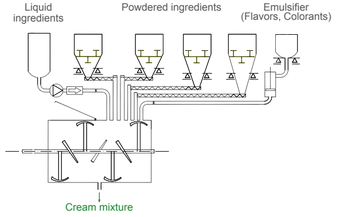
The line can be integrated with the inclusion of complementary machines according to production needs.

COMPLEMENTARY MACHINES

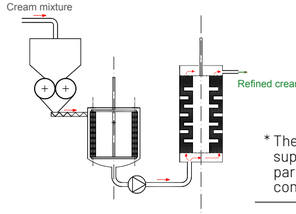
BATCH

DOSING

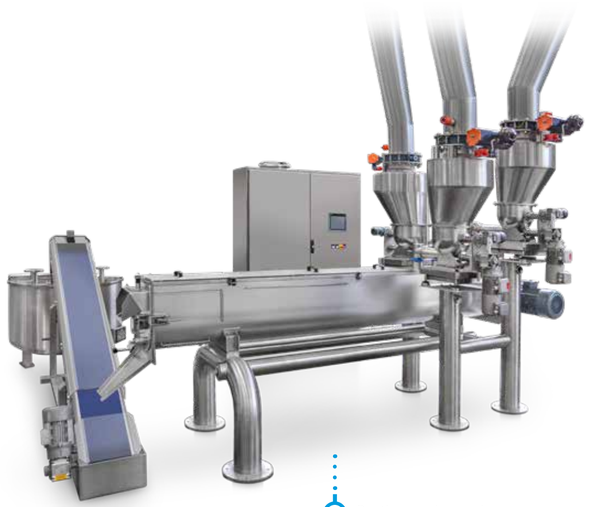
MIXING



The batch dosing of the various ingredients can take place in mixers of various capacities, possibly mounted on load cells. The system represents a valid alternative for limited productions and cheaper system solutions.

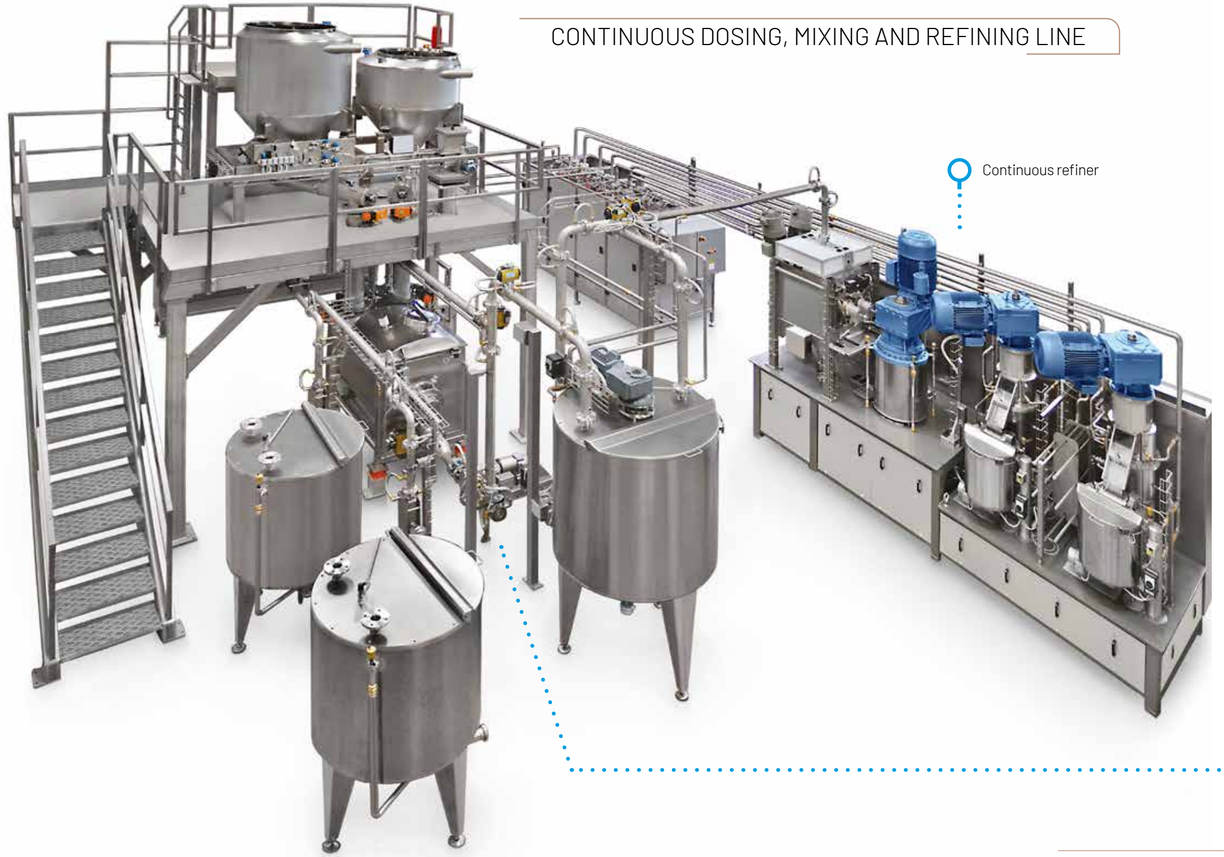


* The system can be supplied with 3 separate parts for different configurations.



Continuous doser mixer

CONTINUOUS DOSING, MIXING AND REFINING LINE

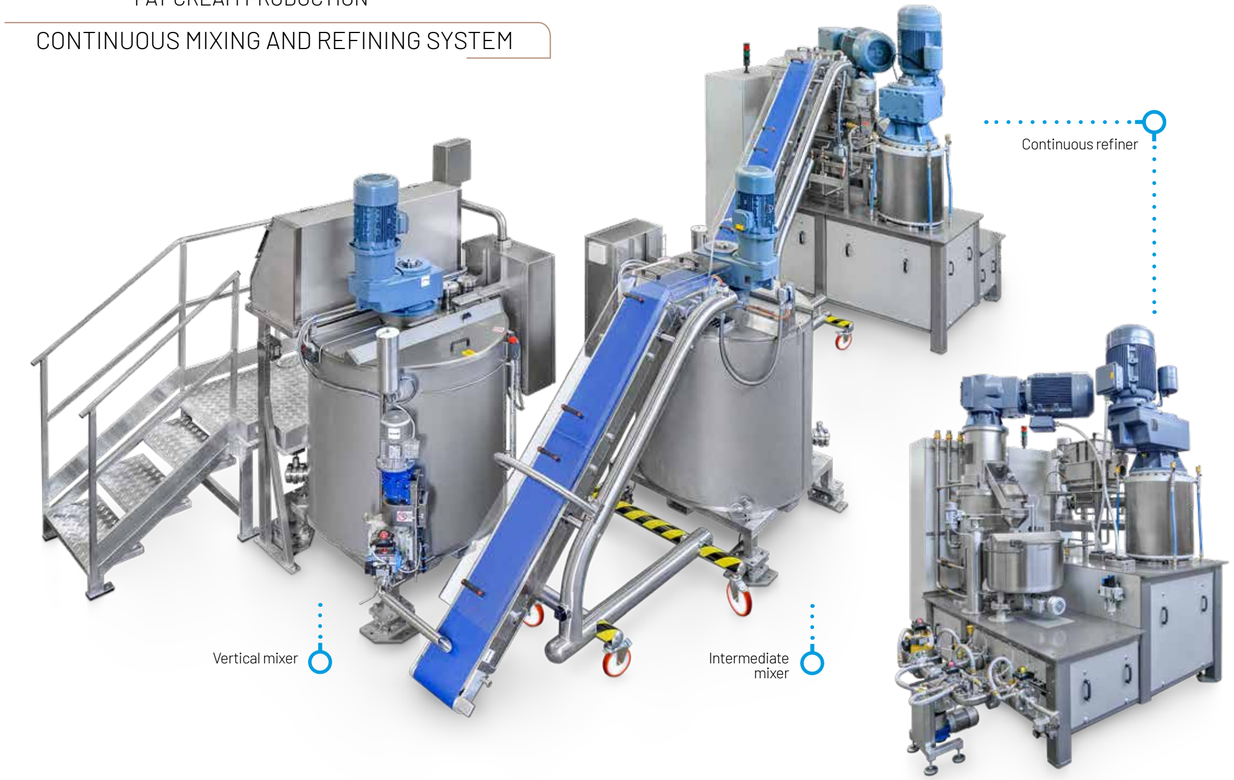


Continuous refiner

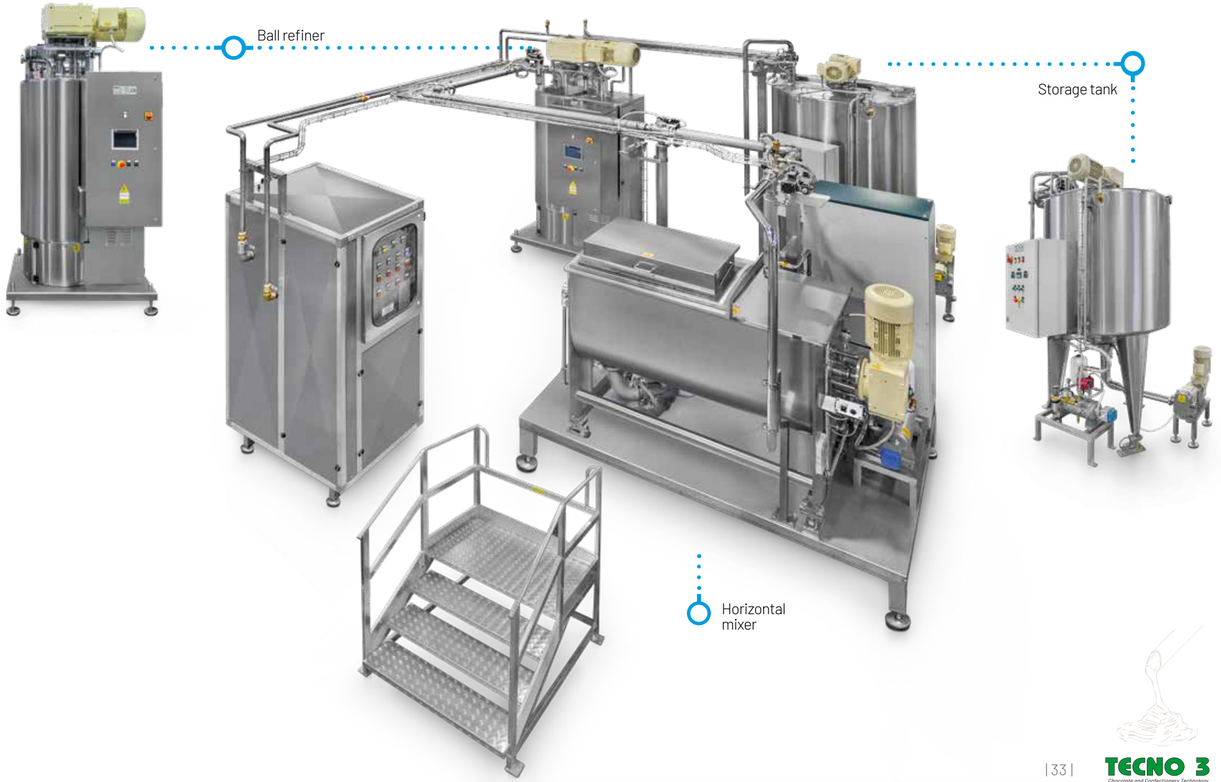


Batch mixers

CONTINUOUS MIXING AND REFINING SYSTEM



SEMI-AUTOMATIC MIXING AND REFINING SYSTEM





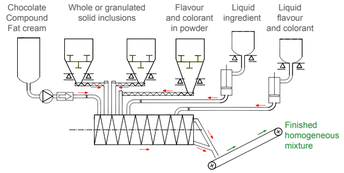
CONTINUOUS DOSING AND MIXING

TECNO 3

Chocolate and Confectionery Technology

CONTINUOUS DOSING AND MIXING

The continuous doser-mixer is one of the most successful machines of **TECNO3**. **Compact and versatile**, it is normally used for the addition of **solid ingredients** (powders, whole and granulated nuts, puffed and extruded cereals, etc.) and **liquids** (flavors, colorants, etc.) to various types of **chocolate, compounds and fat creams** in the production of semi-finished and finished products.
The recipes are stored on the operator panel and managed by a PLC which also controls the various process parameters. All the parts in contact with the product can be easily **disassembled, removed and sanitized** for an absolute guarantee both from the hygienic-sanitary point of view and from the overlapping of tastes.













1) Assembled machine
2-3) Disassembly of the components of the mixing vessel
4) Supporting base for the solid doser
5) Solid doser





Flavours/colorants
dosing unit





MELTERS

TECNO 3
Chocolate and Confectionery Technology

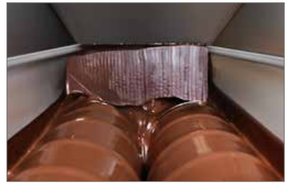
CONTINUOUS MELTERS FOR BLOCKS OF ANHYDROUS AND HYDRATED FAT AND BUTTER





Thermoregulation unit

Scraping and melting of blocks



Scraping and melting rollers



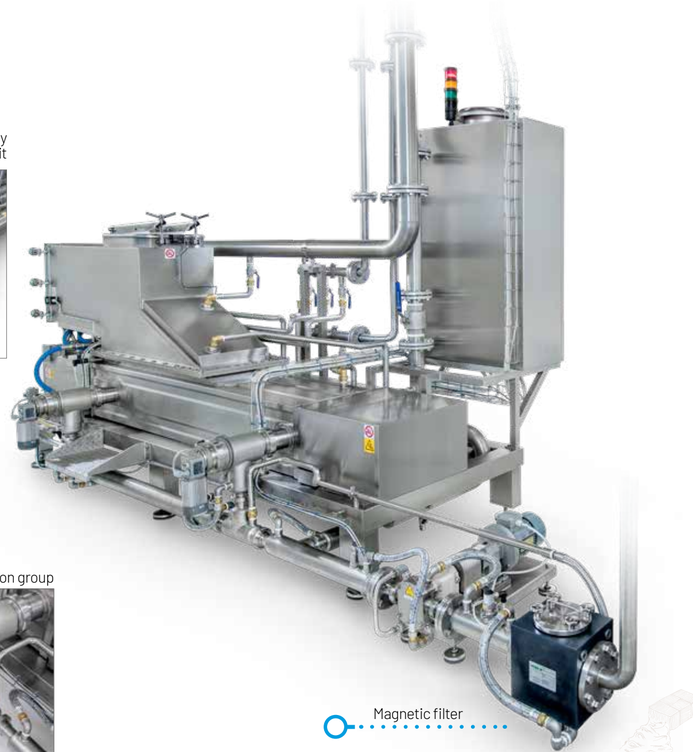
Quick disassembly filtration group



CONTINUOUS MELTERS FOR COCOA MASS AND CHOCOLATE

Supplementary melting unit





Magnetic filter

EASY CLEANING MOBILE CONTINUOUS MELTERS

Self-contained heating and thermoregulation unit

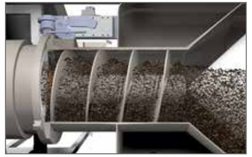


Quick disassembly melting chamber feeding unit

Continuous melter for:
- rework
- drops
- solid bars and pralines
- products with inclusions



Crushing unit



Melting room



Finished product output



Quick disassembly melting unit

STATIONARY CONTINUOUS MELTERS



Crushing unit



Internal stirrer

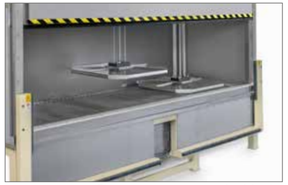


Continuous melter for:
- rework
- drops
- solid bars and pralines
- products with inclusions

MELTERS FOR LARGE BLOCKS



Melter for large blocks of fat, cocoa mass, chocolate and compounds



Pressure system on the blocks



Melting grid

STATIC MELTERS



Static melter for blocks of fat, cocoa mass, chocolate and compounds



Internal stirrer



Stirrer drive



Static melter with stirrer for blocks of fat, cocoa mass, chocolate and compounds

We are a family-run business,
technical process partners for the confectionery industry,
united together to create the future



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TECNO 3

Chocolate and Confectionery Technology

Tecno 3 S.r.l.
Headquarter
Via Mastri Cestai 2
12040 Corneliano d'Alba CN Italy
T. +39 0173 61 05 64

tecno3@tecno-3.it
www.tecno-3.it

Tecno 3 Switzerland
Seestraße 123,
CH-8027 Zürich
Switzerland

Tecno 3 USA INC
70 W. Madison Street,
Suite 3500
Chicago, IL 60602-4224