

# COMPANY PROFILE

## — B&B — SILO — SYSTEMS —

ENG



# WHO WE ARE

## B&B SILO SYSTEMS



### THE SOLUTION OF AN IDEA

SUPPLIERS OF THE WHOLE SYSTEM WITH CUSTOM-MADE SYSTEMS FOR EVERY NEED.

B&B Silo Systems was established as a design and construction company for the storage, transport, dosing and automation systems of raw materials.

Formed by a dynamic and successful management group, offering engineering solutions associated with a vast know-how in technological processes, in a few years it successfully established itself on the national and international scene, addressing the food, chemical, cosmetic and pharmaceutical sectors.

In a market in continuous and fast evolution, our company is constantly engaged in the research of technical and system solutions able to make the production process more efficient and qualified, guaranteeing high standards:

- **Qualitative**

(authenticity and constant specific-physical characteristics of the products)

- **Economic**

(saving on the purchase price of raw materials)

- **Logistics**

(warehouse space recovery)

- **Hygienic**

(elimination of containers and equipment that can favour bacterial contamination).

This is why we consider ourselves Suppliers of the entire system, creating custom-made systems for each individual customer, according to their specific requirements and production needs.



# OUR SECTORS

## FOOD



### FLEXIBILITY DEVELOPED FOR ACCURACY

Each component is tailor-made, from the storage to the dosing point.

Our experience and know-how make us a unique partner in the food sector, geared towards increasing productivity, flexibility and reliability.

We can offer you the best solutions for the automation of production processes, involving macro and micro ingredients, in powder and/or liquids; with the aim of minimising manual operations and ensuring maximum accuracy.

Each B&B system adapts to its context, providing the storage of raw materials in internal and/or external silos, whose loading takes place through sack or big-bag unloading systems, or directly from the supplier's truck. Subsequently, the raw materials are conveyed to the dosing point, through appropriate mechanical or pneumatic transport systems. Finally, the powder and/or liquid ingredients are dosed and mixed in the hoppers placed near the mixers. For micro-ingredients we have, instead, designed micro-dosers with manual or automatic loading. In addition to the actual systems, B&B Silo Systems provides the appropriate accessories or special components: dust extraction systems, sieve shakers, mixers, mills for sugar grinding, fermenters, flour cooling systems.

The management and control of the single component or the complete system is carried out by micro-processors and operator panels, developed specifically by our technicians.

## PHARMACEUTICAL



### SOLUTIONS AT THE SERVICE OF PRECISION AND SAFETY

Customized systems to manage and control multiple formulas and recipes.

The systems developed by B&B Silo Systems for the pharmaceutical sector meet all requirements of hygiene and cleanliness, avoiding any contamination and providing dust removal systems able to protect the operators and the products.

Again, in this field, our solutions are characterized by flexibility, for the high number of formulas and recipes, and for the processing of both large quantities and micro-ingredients. The systems and the components supplied comply with the specific requests of the customers and thanks to our management and control systems, each phase and each ingredient are traced and documented.

## CHEMICAL



### OUR RESPONSE TO PRECISION AND CONTROL

Reliability and integration of all components through flexible solutions for certain process sequences.

Precision and control are the key features of this sector, requiring cutting-edge technologies and optimum solutions.

B&B Silo Systems are able to provide you with systems that respond to specific and precise process sequences: from silos to dosing stations, through pneumatic or mechanical transport systems, filters, sieves and mixers, the raw materials retain their properties and perfectly meet the level of accuracy required by the recipe.

Our weighing and dosing systems are developed for the processing of liquids and powders, of macro and micro ingredients, guaranteeing high precision and reliability.

The traceability, management, control and supervision of the entire system are entrusted to our processors and operator panels, able to manage and document all the stages of production, ensuring the close integration between the system components and the management and control software.

## COSMETICS

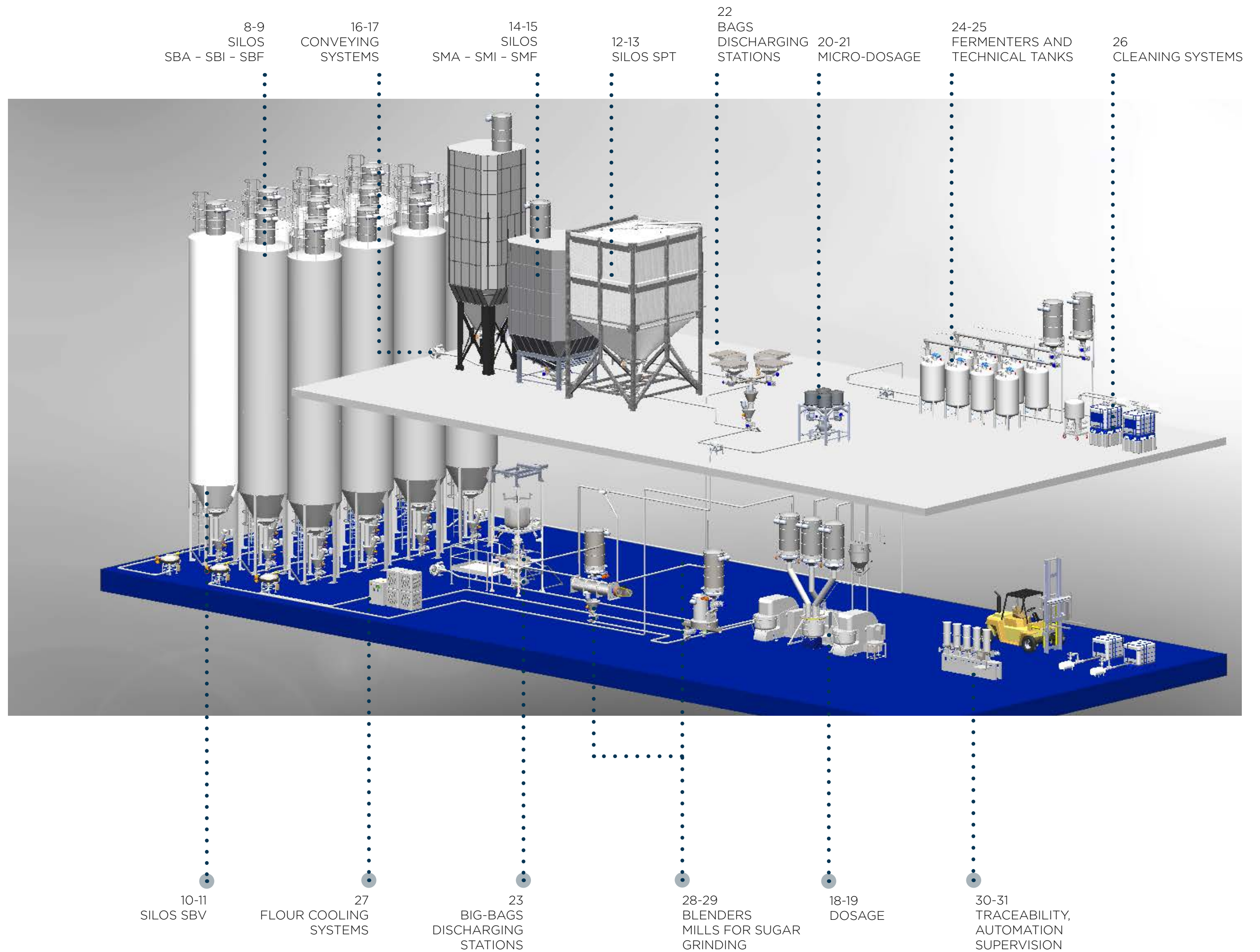


### THE DISSEMINATION OF OUR EXPERIENCE IN NEW SECTORS

Our solutions for the cosmetic industry, synonymous with quality, innovation, experience and specialization.

The design and implementation of custom-made systems have always been the strategic foundation and the objective of B&B Silo Systems. The experience gained in this direction allows us to provide solutions also for the cosmetic industry. We automate therefore the storage, transport and dosage of raw materials – powder, granules or liquids – specific to this sector; always paying attention to the specific requirements of production related to cosmetics. Therefore, thanks to the systems we have developed in this field, precision and quality have become synonymous with reliability and safety.

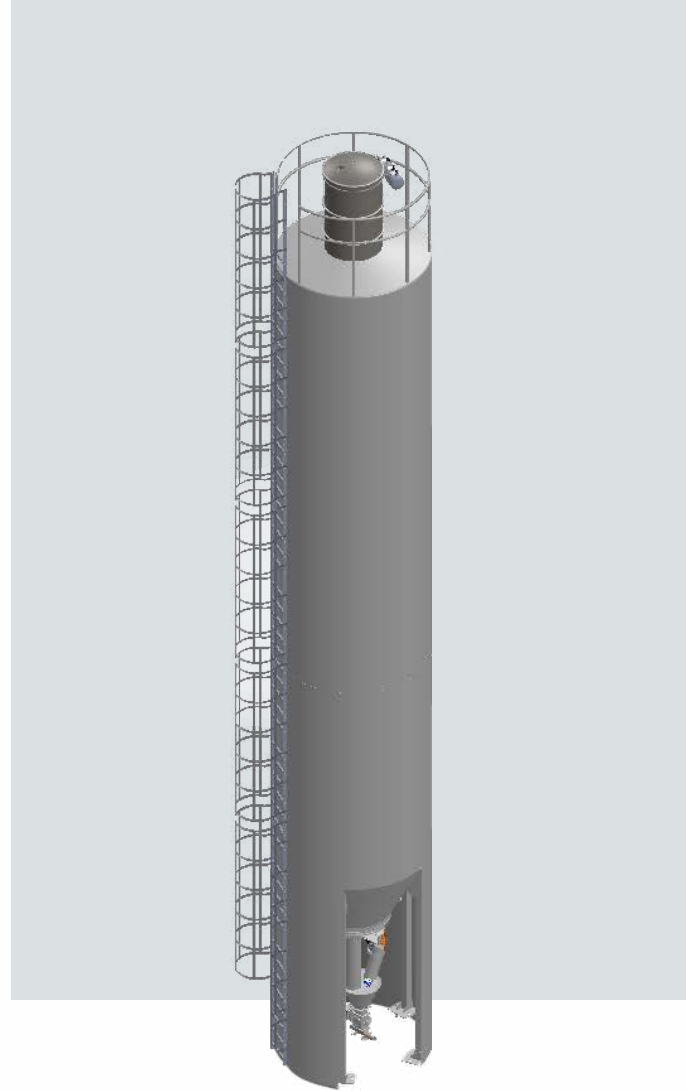
# “ B&B SILO SYSTEMS, THE SOLUTION FOR YOUR IDEAS





# SILOS SBA – SBI – SBF

Monolithic or bolted silos, for external use, in aluminium, stainless steel, or painted iron, with smooth and specular inner surface and skirt support structure; equipped with safety valve for pressure/vacuum control, vibrating cone or fluidized bed extraction, anchoring ferrule to the support platform, access door, loading tube, vent pipe complete with filter, inspection porthole. They also have maximum and minimum level probes, loading safety valves, anti-explosion hatch, weighing system, access ladder to the roof with platform and railing. Possibility of adding anti-condensation, dehumidification and insulation systems. The capacity varies from 10 m<sup>3</sup> to 120 m<sup>3</sup>. The same models are available in the assembling-bolted version, with “M” - modular extension.





# SILOS SBV

Monolithic silos for external use, with high thickness fibreglass body and fibres arranged in a radial configuration to increase the rigidity. They have a smooth and vitrified inner surface, a double chamber roof with insulating material and a skirt support structure. They are provided with safety valve for pressure/vacuum control, vibrating cone or fluidized bed extraction, anchoring ferrule to the support platform, access door, loading tube, vent pipe complete with filter, inspection porthole. They are equipped with maximum and minimum level probes, loading safety valves, anti-explosion hatch, weighing system, access ladder to the roof with platform and railing. Possibility of adding anti-condensation, dehumidification and insulation systems.

Capacity: from 10 m<sup>3</sup> to 120 m<sup>3</sup>.





# SILOS SPT

Reticular silos in high resistance Trevin fabric, for internal use. Equipped with a vibrating cone or fluidized bed extraction system, they allow the natural ventilation of the product; they have a reticular support structure, loading tube, integrated roof filter, maximum and minimum level probes, pressure switch, loading safety valve, pressure/Capacity: from 5 m<sup>3</sup> to 100 m<sup>3</sup>.



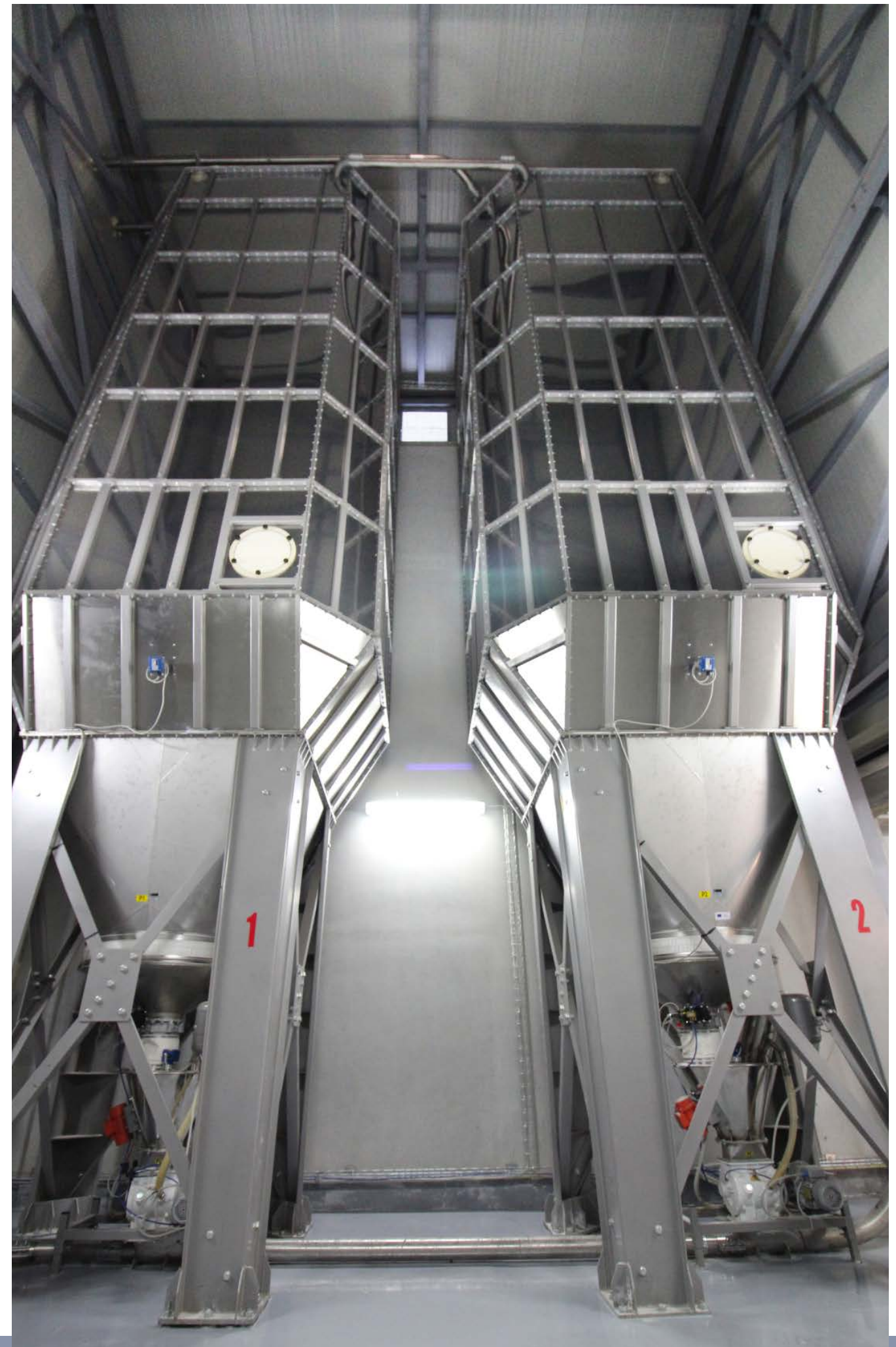
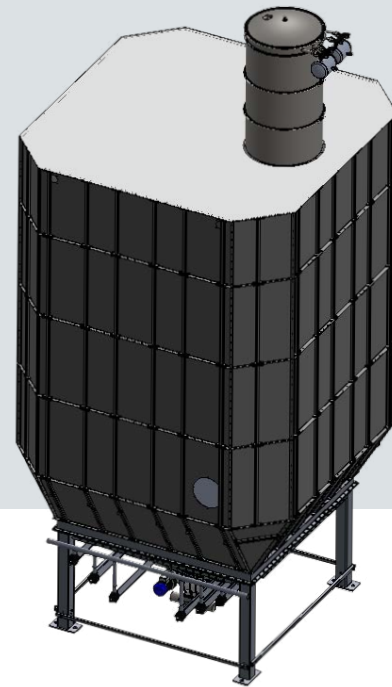


# SILOS SMA – SMI – SMF

Modular silos in aluminium, stainless steel or painted iron, for internal use, with vibrating cone or with sloping fluidized bottom, perfectly specular inner surface and filtering roof. They guarantee adequate ventilation of the product and air filtration through TP filters. They are equipped with a TG type fluidization filter in fabric, solenoid valves for the inlet of fluidizing air, loading tube, inspection porthole, maximum and minimum level probes, pressure switch, loading safety valve, overpressure/vacuum valve, weighing system.

The capacity varies from 5 m<sup>3</sup> to 100 m<sup>3</sup>.

The same models are available in the version with pyramid reduction and vibrating cone extraction.





# CONVEYING SYSTEMS

We develop conveying systems of raw materials according to the products and the characteristics of your production.

## MECHANICAL CONVEYING

Flexible, tubular and trough screw conveyors, bucket elevators and chain and belt conveyors for conveying ingredients in powder or granules, with large flow rates and small powers installed.

Thanks to their modularity, the tubular or trough screw conveyors are the solution that best suits the characteristics of the materials to be transported. Generally used as transport or extraction systems by silos, they are made of carbon steel, properly surface treated, and have a support plate fixed to the ends, loop and the coupling bushings, gear motor, intermediate and end supports, complete with sealing unit, and bolted lids. The trough screw conveyors can easily be inspected because they have a lid on the top. Both types can be supplied with total opening doors for their sanitization.

Bucket elevators are used for the lifting of loose materials, granules and powders, not only in the food sector but also in the chemical, pharmaceutical and cosmetic industries.

Chain conveyors are made of galvanized, press-formed and bolted sheet metal. They are suitable for horizontal transport over long distances.

Belt conveyors guarantee the fluidity of the transport, due to the absence of shocks. This is why they are particularly suitable for fragile products. In addition, the belt rollers are provided with hermetically sealed ends to avoid contamination. A further advantage is the reduced power consumption, despite the large flow rates.

## PNEUMATIC DILUTE PHASE CONVEYING

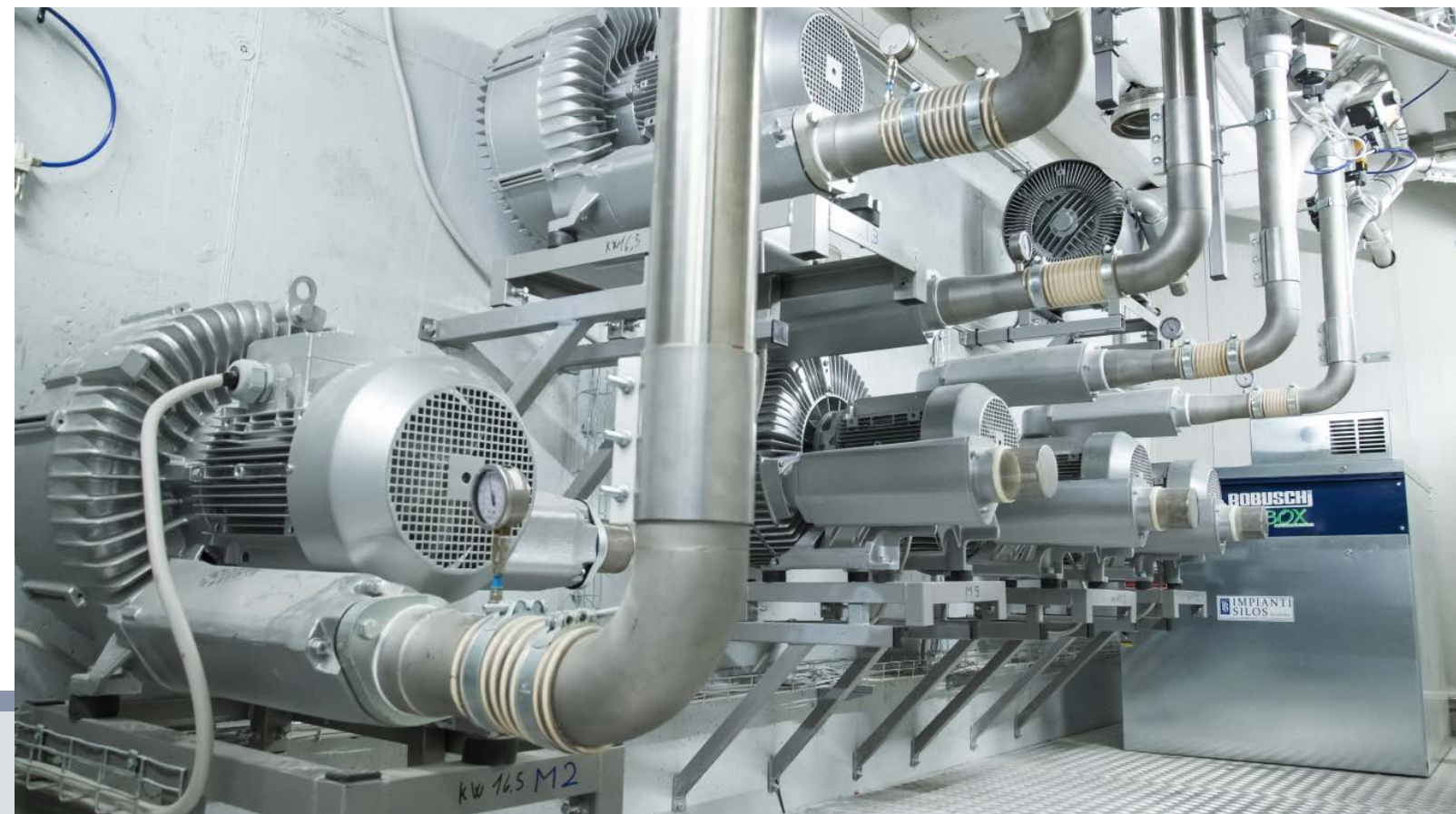
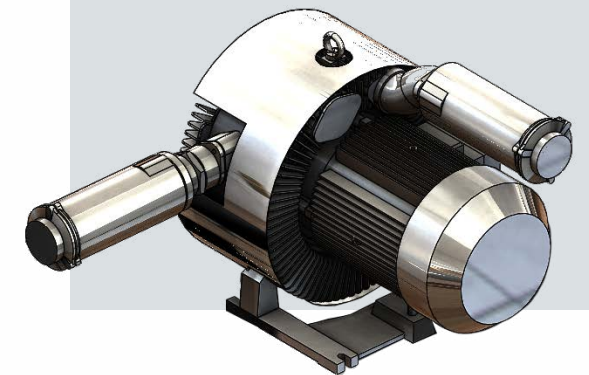
Suction and pressure blowers, lobes or centrifuges, to transport powder or granule products, even over long distances, without residues along the piping, with variable speed depending on the size of the material particles and their density. These are conveyor systems suitable for barely brittle and abrasive products with a low specific weight.

## PNEUMATIC DENSE PHASE

Conveyor systems made for fragile, abrasive or pre-mixed products: the reduced speed of transport, in fact, minimises the risk of impact and friction along the piping. The transport is possible even on long vertical and horizontal distances, without leaving any residues.

## AERO-MECHANICAL CONVEYING

In aero-mechanical transport systems, the product is inserted inside a circuit by a loading hopper and moved by a series of plastic discs, connected by a rope operated by a drive unit. The product remains suspended inside the pipeline. This is a highly versatile solution, as the piping can follow different vertical and horizontal paths, thanks to deviation angles, and the material can be downloaded at any point of the circuit, through slots of appropriate size.





# DOSAGE

## POWDERS DOSAGE

Dosage and mixing of macro and micro ingredients, powders or granules by weight or volume. The capacity of the hoppers is modular, therefore it can be increased later.



## LIQUIDS DOSAGE

Dosage and mixing of macro and micro ingredients, liquids or viscous fluids by weight or volume, with temperature control, through the use of mains water, hot water and refrigerated water.



## CONTINUOUS DOSAGE

In continuous dosage, macro and micro-products (powders, granules, solids and liquids) are dosed by volume from the extraction system of the silos, the hoppers, the big-bag or sack unloading systems. The product is taken in the exact quantity required by the pre-set recipe and conveyed through transport systems to the feeding cyclone. The use of filters allows the transport air to escape, separated from the product, and the cleaning of the sleeves.



## CONTINUOUS LIQUIDS DOSAGE

The continuous liquid dosage systems are prepared according to the type of products to be dosed, the processing to be carried out and the specific needs of the customer. They are equipped with adequate valves, pumps, flow meters, inline mixing and sprinklers. They adapt to both macro and micro-flow of liquid, dense and viscous products.





# MICRO-DOSAGE



## MICRO-DOSERS

Series or star groups for volumetric micro-dosages of powder, granule, solid and liquid ingredients. They have a modular structure, adaptable to any space, with the possibility of later extensions; they also have modular hoppers, with variable capacity, and fluidizing homogenizer, for more complex ingredients. Loading can be manual or automated.

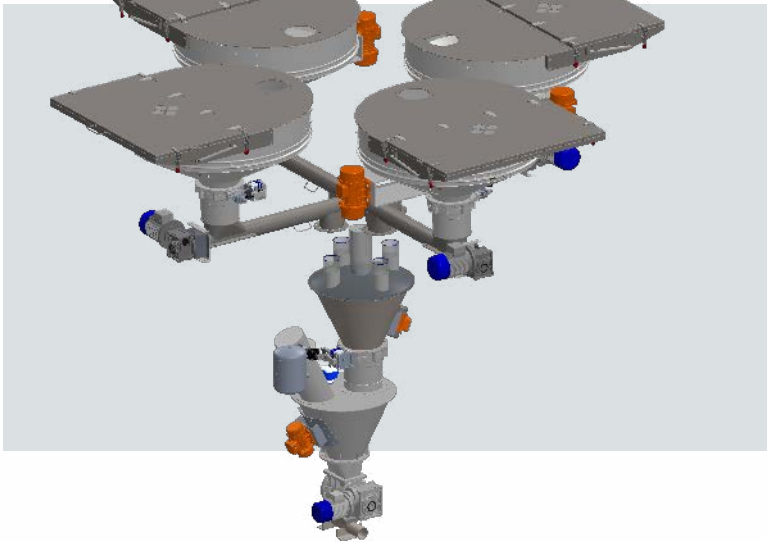




# BAGS AND BIG-BAGS DISCHARGING STATIONS

## BAGS DISCHARGING STATION

They allow the manual emptying of sacks, containing powder products or granules, and can be used directly on the line or for loading the silos; the product is in fact discharged inside a hopper and conveyed to the silos or to the dosing station. They are equipped with filter, sack-breaker, sifting grid, vibrating cone and level probes.



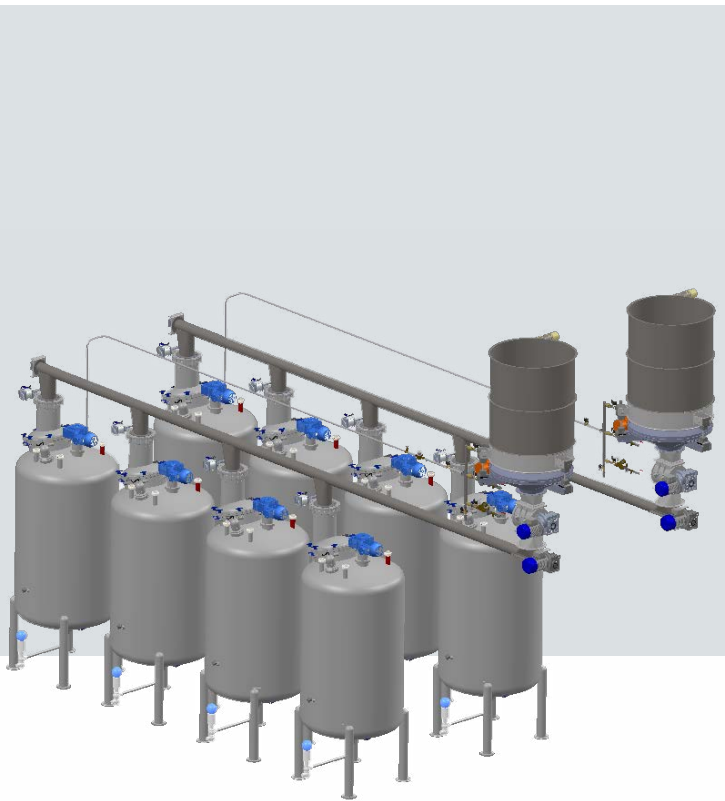
## BIG-BAGS DISCHARGING STATION

They allow the emptying of bags, positioning in structure with the forklift or the specific hoist. The discharge takes place in complete safety and without loss of the product, thanks to the sack-feeding and sack-pulling systems and the dynamic self-cleaning filters.





# FERMENTERS AND TECHNICAL TANKS



## FERMENTERS

For the production and cultivation of liquid sourdough yeast, through special electro-agitators and timed phases, which guarantee the constant quality and a safe product. An automatic temperature adjustment system allows the optimum pH to be achieved, ensuring the ideal maturation of the sourdough yeast. The fermentation is therefore totally controlled by an automatic cooling system managed by PLC.



## TECHNICAL TANKS

Double-jacket tanks, heated for viscous liquids or cooled for liquids

They consist of a stainless steel container, covered with polyurethane, and externally by stainless steel panels. The conditioning of the tank is guaranteed by channel-shaped pockets with high heat exchange, which allow the transmission of the heat inside the silo. These are tanks with a high level of hygiene and safety, in certified quality stainless steel to ensure durability and functionality.

Fat dissolvers

They allow to dissolve or keep the soluble solids in suspension and to emulsify the non-soluble liquid substances, thanks to an internal turbine. They are entirely made of stainless steel and equipped with adjustable feet or wheels for possible movements.

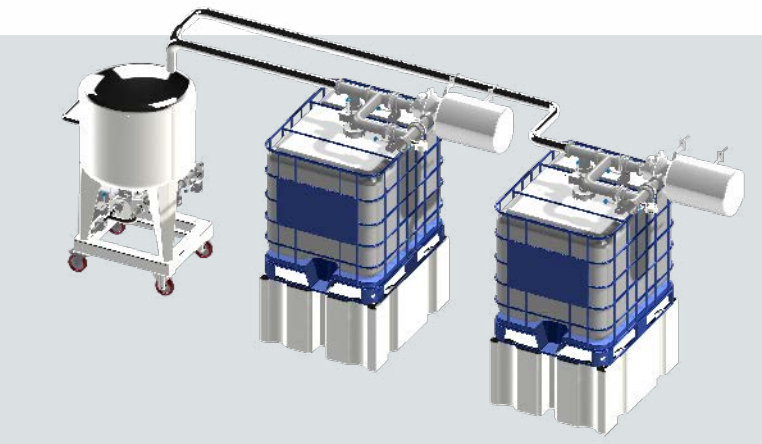
Powder and liquid mixing tanks

They are tanks, entirely made of stainless steel, able to dissolve, mix and homogenize products more or less dense and powdered ingredients.





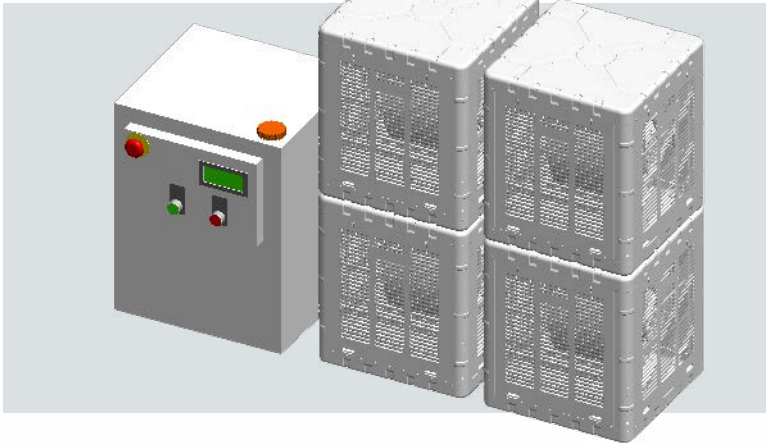
# CLEANING SYSTEMS



The CIP system is used in dosing plants for food liquids, which require, after use, a sanitization of the dosing pipes. It performs automatic cleaning and disinfection of the internal parts of the equipment, tanks and / or pipes, by pumping suitable cleaning and disinfecting solutions. The CIP plant is designed to reduce time and improve the effectiveness of sanitization.



# FLOUR COOLING SYSTEMS

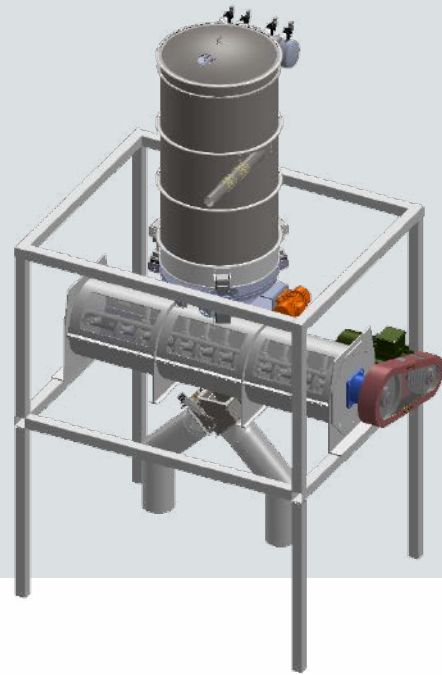


They lower the temperature of the flour and keep it constant and controlled, through a heat exchanger that allows the exchange of heat between the flour and the coolant.





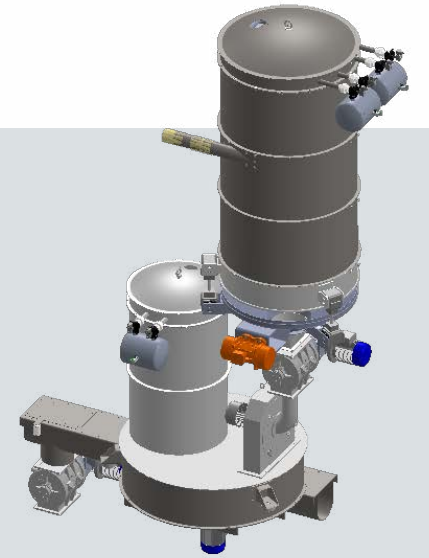
## BLENDERS



Belt or ploughshare mixers to ensure the mixing and homogenization of powder or granule products. They consist of a mixing chamber, in which a rotor shaft with opposing coils or with rotating reels is inserted. The loading inlet can be central or can cover the entire length of the chamber; the discharge is permitted by a central opening with a closing valve or by a total opening of the chamber with a vent.

## MILLS FOR SUGAR GRINDING

They grind through the rotation of tools positioned on a rotor inserted in a cast iron stator. The high peripheral speed of the rotor, the particular impeller conformation and the materials used allow to obtain finesses of a few microns. The required particle size is ensured by the grids at the bottom.





# TRACEABILITY, AUTOMATION AND SUPERVISION

## AUTOMATION AND SUPERVISION

We design industrial software for PLC, HMI and microprocessors.  
By means of microprocessors and touch screen operator panels, we manage and control systems of: weighing, dosing in addition or in weight subtraction, volumetric dosage, liquid dosage, multi-line and multi-scales dosage, continuous raw material supply, mixing.  
We develop software for the production management, monitoring and remote control of the system, and synoptic software for the supervision of the entire system.

## TRACEABILITY

Control and management of production, warehouses and shipments, by barcode or QR code; ensuring a perfect integration of the solutions and reliability of the interface, with the consequent saving of resources and time.



|  |                  |
|--|------------------|
| ALLARMI  |                  |
| Bil.1  | A RIPOSO         |
| LINEA PANE   |                  |
| 0,0 kg.  |                  |
| P.000 000.000 ≥ 000.000  |                  |
| SILOS 1  |                  |
| Bil.4  | A RIPOSO         |
| MICRODOSATORE 1  |                  |
| 0,10 kg.   |                  |
| P.000 000.000 ≥ 000.000  |                  |
| MICRO 1 BT   |                  |
| Bil.5  | A RIPOSO         |
| MICRODOSATORE 2  |                  |
| 0,00 kg.   |                  |
| P.000 000.000 ≥ 000.000  |                  |
| MICRO 5 BT   |                  |
| Bil.6  | A RIPOSO         |
| MICRODOSATORE 3  |                  |
| 0,00 kg.   |                  |
| P.000 000.000 ≥ 000.000  |                  |
| MICRO 9 BT   |                  |
|  20/04/18<br>15:38:56 |                  |
| Temperature  | Silos            |
| DOSAGGIO   |                  |
| NON ATTIVO MANUALE CICLO 000 / 001   |                  |
| Menu   | Bilancia         |
| Prodotti   | Formule          |
| Dosaggio   | Bilancia Liquidi |
| Bilancia Manuale   |                  |

Dal19/04/2018al20/04/2018Lin.TutteCerca

Stampa

Esporta

Esci

Lotto

Data

Ora

LOT001

20/04/18 13:18:02

Lotto prodotto

Codice

Descrizione

LOT001

0001

PRIMA RICETTA

Ricetta

N. cicli

Percentuale

RICETTA FIERA

1

100

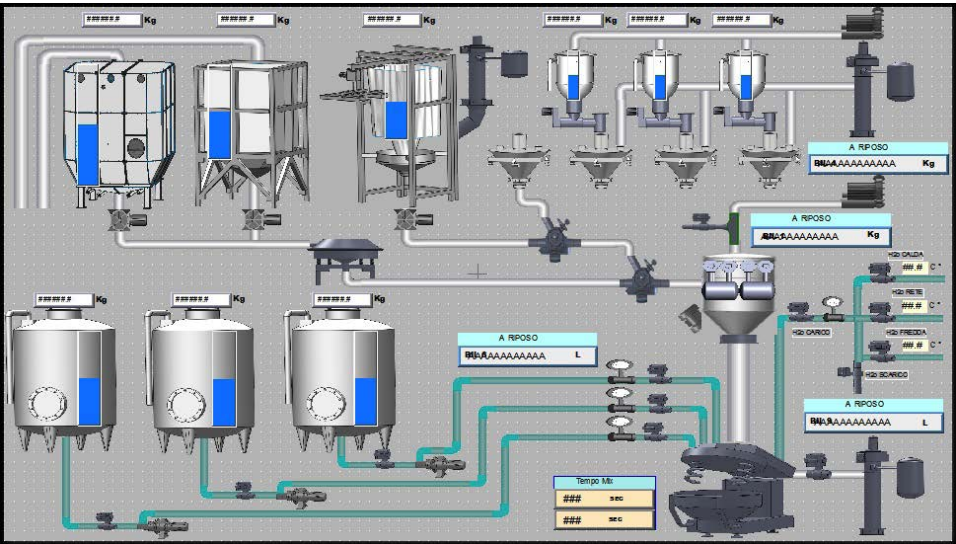
Inizio esecuzione

Fine esecuzione

20/04/2018 13:18:02

20/04/2018 13:29:54

| CIC. | OPER. | DATA/ORA          | LIN. | PROD. | DESC.PROD.    | BIL. | SETP.100% | TEORICO | REALE   | FORN.1       | LOTTO1  |
|------|-------|-------------------|------|-------|---------------|------|-----------|---------|---------|--------------|---------|
| 1    | 6     | 20/04/18 13:19:46 | 1    | 69    | HOT WATER     | 9    | 24,000    | 24,000  | 24,009  |              | #0.0    |
| 1    | 6     | 20/04/18 13:19:47 | 1    | 4     | CACAO         | 4    | 6,250     | 6,250   | 6,250   |              | #0.0    |
| 1    | 6     | 20/04/18 13:20:42 | 1    | 8     | OIL           | 6    | 8,500     | 8,500   | 8,502   |              | #0.0    |
| 1    | 6     | 20/04/18 13:20:53 | 1    | 5     | MALT          | 4    | 5,300     | 5,300   | 5,300   |              | #0.0    |
| 1    | 6     | 20/04/18 13:21:43 | 1    | 6     | SALT          | 4    | 3,600     | 3,600   | 3,600   |              | #0.0    |
| 1    | 6     | 20/04/18 13:24:18 | 1    | 68    | MAIN WATER    | 9    | 96,000    | 96,000  | 96,009  |              | #0.0    |
| 1    | 6     | 20/04/18 13:26:21 | 1    | 1     | FLOUR TYPE 00 | 1    | 200,000   | 200,000 | 200,000 | CLIENTE      | 00001#2 |
| 1    | 6     | 20/04/18 13:28:39 | 1    | 2     | FLOUR TYPE 0  | 1    | 60,000    | 60,000  | 60,100  | B&B IMPIANTI | VER001  |
| 1    | 6     | 20/04/18 13:29:54 | 1    | 3     | SUGAR         | 1    | 25,000    | 25,000  | 25,000  | B&B IMPIANTI | 8903#25 |





## **CONTACTS**

B&B Silo Stystems  
Via M. Buonarroti, 3  
44020, San Giovanni di Ostellato  
Ferrara, Italy

Tel: +39 (0)533 311163  
Fax: +39 (0)533 319110