PALAMATIC PROCESS reserves the right to make changes in the design of the facilities listed in this commercial documentation.

Available

Custom made

Means that the equipment is available for testing at PALAMATIC PROCESS

Means that the equipment can be installed in ATEX zone

Means that design and options can be customised

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Range of Solutions

For Containers

www.ibc-powder-container.com

CONTAINER SOLUTIONS REFERENCE WEBSITE

Thanks to its experience in powder handling and storage containers, PALAMATIC PROCESS focuses its expertise in the trademark «IBC Containers».

- Filling
- Discharging
- Blending
- Washing
- Complete solutions
- Test plant

www.ibc-powder-container.com
Containers

Technical Characteristics

Capacity: 500 - 2,000 liters
Objective: conditioning and conveying bulk materials without damage or contamination

IBC Containers® stainless steel containers are metallic conditioning solutions for the transportation, storage and dosing of your powdery and granular products. Our containers are designed to meet performance, ergonomics and design requirements.

Advantages

- Sealing: no dust emanation thanks to tight connections
- 62° slopes to ensure the flowing of the materials when discharging
- Three level stacking (depending on container dimensions)
- 62° slope hopper to increase product flow
- Secured butterfly or slide gate valve
- Welded lifting eye for overhead handling
- Fluidization: vibrator to facilitate the material flow (optional)
- Container base Handling by forklift, stacker and pallet truck
- Handling by 4 sides

Steel - Stainless steel

TECHNICAL SPECIFICATIONS

- Reusable container for unloading or dosing of powdery materials
- Manufacturing: steel, 304L stainless steel, 316L stainless steel
- Finishings: RAL 9006, blasting, electro polishing, mirror polished, helmet coating
- Maximum sizes of containers
  - Length x Width x Height: 1.204 x 1.204 x 2.417 mm

STORAGE AND CONDITIONING SOLUTIONS FOR MATERIALS WITH HIGH HYGIENIC CONSTRAINT

IBC Containers® stainless steel containers are metallic conditioning solutions for the transportation, storage and dosage of your powdery and granular products. Our containers are designed to meet performance, ergonomics and design requirements.

STANDARD MODELS OF THE RANGE

<table>
<thead>
<tr>
<th>Models (butterfly or knife gate valve)</th>
<th>IBC 500</th>
<th>IBC 800</th>
<th>IBC 1000</th>
<th>IBC 1200</th>
<th>IBC 1500</th>
<th>IBC 1800</th>
<th>IBC 2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water volume in liters</td>
<td>500</td>
<td>800</td>
<td>1,000</td>
<td>1,200</td>
<td>1,500</td>
<td>1,600</td>
<td>2,000</td>
</tr>
<tr>
<td>Base dimensions in mm</td>
<td>1,204 x 1,204</td>
<td>1,204 x 1,204</td>
<td>1,204 x 1,204</td>
<td>1,204 x 1,204</td>
<td>1,204 x 1,204</td>
<td>1,204 x 1,204</td>
<td>1,204 x 1,204</td>
</tr>
<tr>
<td>Overall height in mm</td>
<td>1,274</td>
<td>1,567</td>
<td>1,737</td>
<td>1,867</td>
<td>2,087</td>
<td>2,314</td>
<td>2,417</td>
</tr>
<tr>
<td>Outlet Ø in mm</td>
<td>250</td>
<td>250</td>
<td>250</td>
<td>250</td>
<td>305</td>
<td>305</td>
<td>305</td>
</tr>
</tbody>
</table>

Uses

- Agrochemicals
- Agrifood
- Chemicals
- Petrochemicals
- Paints and dyes
- Pharmaceuticals and cosmetics
- Fragrances and flavorings
- Nuclear

Download videos & layouts from our website:

www.ibc-powder-container.com/equipments/steel-stainless-steel-containers
Custom Made

Containers

7 Standard Models

INTERMEDIATE BULK CONTAINER DIMENSIONS

<table>
<thead>
<tr>
<th>Models</th>
<th>Water volume (in litres)</th>
<th>Working volume (in litres)</th>
<th>Empty weight (kg)</th>
<th>Ø A</th>
<th>Ø B</th>
<th>Hd</th>
<th>HT</th>
<th>Hc</th>
<th>Slope</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBC 500</td>
<td>573</td>
<td>474</td>
<td>215.5</td>
<td>300</td>
<td>575</td>
<td>0</td>
<td>1374</td>
<td>864</td>
<td></td>
</tr>
<tr>
<td>IBC 800</td>
<td>908</td>
<td>778</td>
<td>238</td>
<td>300</td>
<td>575</td>
<td>232</td>
<td>1567</td>
<td>864</td>
<td></td>
</tr>
<tr>
<td>IBC 1000</td>
<td>981</td>
<td>850</td>
<td>250</td>
<td>300</td>
<td>575</td>
<td>382</td>
<td>1717</td>
<td>864</td>
<td></td>
</tr>
<tr>
<td>IBC 1200</td>
<td>1,343</td>
<td>1,211.5</td>
<td>264</td>
<td>300</td>
<td>575</td>
<td>512</td>
<td>1867</td>
<td>864</td>
<td>62°</td>
</tr>
<tr>
<td>IBC 1500</td>
<td>1,632</td>
<td>1,501</td>
<td>283</td>
<td>300</td>
<td>575</td>
<td>732</td>
<td>2067</td>
<td>864</td>
<td></td>
</tr>
<tr>
<td>IBC 1800</td>
<td>1,909</td>
<td>1,803</td>
<td>306.5</td>
<td>300</td>
<td>575</td>
<td>980</td>
<td>2314</td>
<td>864</td>
<td></td>
</tr>
<tr>
<td>IBC 2000</td>
<td>2,138</td>
<td>2,007</td>
<td>316.5</td>
<td>300</td>
<td>575</td>
<td>1082</td>
<td>2417</td>
<td>864</td>
<td></td>
</tr>
</tbody>
</table>

The working volume is provided for information purposes depending on the product material angle of repose.

Faced with various industrial constraints, the PALAMATIC PROCESS engineering office offers customized container solutions to meet the needs of its customers. Their design can be simple or sophisticated depending on the nature of the powders to handle.

IBC containers are at the center of PALAMATIC PROCESS powder handling system. Designed for rapid operations of filling and discharging with cleaning systems, containers are used to simultaneously implement manufacturing process for optimum production.

PALAMATIC PROCESS containers are adequate solutions for:
- Transport safety of materials in complete between every stage of production process, without any risk of cross contamination
- The transfer of material from the container to the downstream process equipment without dust emanation
- Easy handling of containers that can be moved by forklifts or hosts

Example of custom made container with introduction hatch.

**OPTIONS**

**Steel - Stainless Steel Containers**

**BUTTERFLY VALVE**
The butterfly valve allows the regulation of the material flow.
The actuation of the butterfly valve is carried out manually, with a lever or a clamping wheel depending on the diameter of the valve.

**KNIFE GATE VALVE**
The knife gate valve is a closing and isolating valve resistant to dust and granules.
The diameter of our knife gate valves can be adapted to any type of container.

**AUTOMATIC DISCHARGE VALVE**
For efficient discharge of your industrial container.
Containers associated with automatic discharge stations and fitted with knife gate valves can be remotely opened thanks to pneumatic actuators. A vibrating structure can be added to ensure the end of the discharge and optimize the descent of the powders.

**CUSTOM MADE**
Dimensions and manufacturing materials on request.
For complete customization of your equipment according to your environment and treated powders. PALAMATIC PROCESS offers you the opportunity to design your equipment and your complete custom made process line in partnership with our engineering department.

**MIRROR POLISHED OR TEFLOM INTERIOR COATING**
For optimum flow of your materials without adherence to the walls.
Interior Teflon coating or polished mirror finishes of the containers are options that prevent the adhesion of your materials to the walls during the discharging operation.

**CONTAINER IDENTIFICATION PLATE / RFID CHIP**
Enables simple and efficient identification of your containers.
This tracking system allows, in real-time, to trace the containers and all the ingredients throughout the production process. It helps to reduce the risk of human error and offers the security of a quality manufacturing process.

**STAINLESS STEEL FINISHES**
Depending on products to be treated and environments, we offer steel, 304L and 316L stainless steel manufacturing.

**MULTIPURPOSE HANDLING BASE**
To facilitate the handling of containers.
Containers are handled via a pallet truck, a stacker, a forklift truck or a hoist.

**VIBRATOR / VIBRATING BIN AERATOR**
They facilitate the flow and the discharging of stored products.
These vibrators allow the introduction of nitrogen or air to ease the flow of the material by fluidizing it.

**BALANCING VALVE**
Valve for evacuation and introduction of air according to the use of the container.
The valve balances the pressure for the filling and discharging phases of the container.

---

Our engineering office is at your disposal for any specific options.

www.ibc-powder-container.com/equipments/container-options
Download videos & layouts from our website
**Polyethylene Containers**

**Technical Characteristics**

**FOR THE PACKAGING AND TRANSPORT OF FOOD- GRADE MATERIALS**

IBC Containers® has developed a range of containers made of plastic material for the transport, conditioning and dosing of a large variety of powders. The advantage of polyethylene containers is that they are durable through years and reduce handling costs. Thanks to their plastic manufacturing, these IBCs are ideal for food applications. The polyethylene container is also an interesting solution for wet products due to its resistance to mold and sea salt exposition.

**Applications**
- FDA Certification
- Agrichemicals
- Agrifood
- Chemicals

**TECHNICAL SPECIFICATIONS**

- **Manufacturing:** polyethylene
- **Very high density with a high thickness to resist shock**
- **Optional anti-static HDPE**
- **Maximum sizes of containers**
  - Length x Width x Height: 1,204 x 1,204 x 2,417 mm

**Possibility to customize the material outlet valve**

- **Valve for liquid**
- **Aluminum valve**
- **Slide gate valve**
- **Stainless steel valve**

- **Filling hole**
- **Valve**
- **Packaging hopper with 60° slope to ease the flow of the materials**
- **Removable base for replacement**
- **Discharging valve**
- **Plastic pallet**
- **Stackable containers to optimize space**
- **Hygienic: easy maintenance and cleaning**
- **Ease of handling by forklift or pallet truck**
- **Resistance to corrosion**

<table>
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<th>Applications</th>
<th>FDA Certification</th>
<th>Agrichemicals</th>
<th>Agrifood</th>
<th>Chemicals</th>
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</tbody>
</table>

**Advantages**

- **Discharging valve**
  - **Gate valve**
  - **Slide gate valve**
  - **Aluminum valve**
  - **Stainless steel valve**

**Dimensions**

<table>
<thead>
<tr>
<th>Model</th>
<th>IBC POLY 1,000</th>
<th>IBC POLY 1,600</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height (m)</td>
<td>1,100</td>
<td>1,100</td>
</tr>
<tr>
<td>Overall length (mm)</td>
<td>1,300 x 1,300</td>
<td>1,300 x 1,300</td>
</tr>
<tr>
<td>Overall height (mm)</td>
<td>1,500</td>
<td>2,200</td>
</tr>
<tr>
<td>Pallet dimension (mm)</td>
<td>300 x 300</td>
<td>300</td>
</tr>
<tr>
<td>Weight (kg)</td>
<td>165</td>
<td>190</td>
</tr>
</tbody>
</table>

**Manufacturer:** WWW.IBC.polyethylene.com/Equipment/polyethylene-containers

[Download videos & layouts from our website](www.ibc-powder-container.com/equipment/polyethylene-containers)
Objectives: manual and completely tight connection

EASY CONDITIONING OF BULK AND POWDERED MATERIALS

The IBC Containers® filling station offers the main expected functions regarding the transfer by gravity of your materials. This station has been designed to meet the “connection and filling” demand. It was designed to ensure a completely tight filling of Intermediate Bulk Containers. The system provides a fully contained transfer of your material in the container to avoid any loss of product.

Flexible fitting adapted to weighing procedure

Sack dump system dedicated to an accurate filling of containers

This container filling station is specially designed to perform the conditioning of premix. The ergonomic sack dump system ensures a tight connection without interference by the container weighing. The container is placed on a scale in order to ensure control of the introduced weight. The pre-weighed materials are mixed then.

The filling system is adapted to materials that are not fragile, at low flow rate and to enable an easy centering of the filling head on the container.
TO GUARANTEE A SECURED AND HYGIENIC FILLING OPERATION

This container filling equipment allows automatic and contained transfer of bulk materials without systematic intervention of an operator to remove or set up the docking tray.

The automatic filling of PALAMATIC PROCESS containers significantly reduces the operator’s level of exposure to potentially dangerous materials. This automated system was designed to provide a high standard of hygiene, safety, ease of cleaning and maintenance.

1. The filling head is ready to cover the container
2. The filling station is connected with the container by means of telescopic connecting sleeve (food grade manufacturing)
3. The transfer of the material into the container is carried out by gravity
4. The filling head comes off the container

The container filling system is positioned under your hopper. The docking of the tray is provided by two pneumatic cylinders that ensure a tight connection. The control of the connection system is carried out by the operator. Depending on the treated material, the filling head can be fitted with an inflatable seal which closes the top lid to avoid any dust emanation during the filling process. Degassing is ensured by the double casing tube.

Advantages

- FDA antistatic telescopic tube with metal spirals
- Flexible connection to avoid weighing interferences
- Stainless steel container
- Dedusting with double casing tube
- Pneumatic cylinder
- Discharging valve
- Lifting eyes

SPECIFICATIONS

Station

OPERATING MODE

1. The filling head is ready to cover the container
2. The filling station is connected with the container by means of telescopic connecting sleeve (food grade manufacturing)
3. The transfer of the material into the container is carried out by gravity
4. The filling head comes off the container

This container filling equipment allows automatic and contained transfer of bulk materials without systematic intervention of an operator to remove or set up the docking tray. This automated system was designed to provide a high standard of hygiene, safety, ease of cleaning and maintenance.

www.bcpowder-container.com/equipment-containers/container-filling
Download videos & layouts from our website.
Container Filling

Case Studies

**Automatic Dosage and Filling**

**Customer:** Manufacturer of facade coating  
**Materials:** Pigments  
**Installation details:**  
The container, set on a motorized track, is positioned under the different dosing devices according to the batch recipe. The containment is performed by a dedusting ring also avoiding weighing interference.

**Easy Dosage and Cleaning**

**Customer:** Food spices packing  
**Materials:** Spices, curry, paprika  
**Installation details:**  
This process enables the collection of spices mixings and their sieving before the conditioning phase. All the materials are processed by a rapid change of the screen.

**Dosing Below Two Big Bag Unloading Systems**

**Customer:** Alloy manufacturer  
**Installation details:**  
The 1,200-litre IBCs, manufactured from 304L stainless steel, are fitted with a butterfly valve. Two IBC unloading systems are equipped with a lump breaker and a dosing screw to guarantee the filling of the IBC. The weighted roller conveyor ensures the handling and the dosing accuracy.

**Premix Preparation**

**Customer:** Induction on canvas  
**Installation details:**  
The VARILIT® automatic sack discharging system, that is a part of the PALAMATIC PROCESS range, ensures the discharging of the premix. The container is automatically positioned by a motorized conveyor under the discharging system. The deconditioned powder falls by gravity into the container. A dedusting unit ensures a healthy working environment.
CONTROLD DISCHARGE OF YOUR POWDERY MATERIALS

The emptying system for IBCs is designed to convey your powdery materials to your production line in an efficient and hygienic way. From manual to fully automatic discharge of containers, the results achieved by our customers are numerous: increase in flow rate and productivity, improvement of integration controls, reduced operating costs in terms of manpower and product loss or complete unloading of containers without contamination of your materials.

Technical Characteristics

- **Capacity**: 2 tons
- **Objectives**: Containment and optimization of the flow when emptying containers

Advantages

- Weight cells to control the dosing
- Pneumatic clamping system
- Dust cap seal to ensure the tightness of the connexion
- Vibration: electric vibrator and springs
- Flanging clamp
- Vibrating table
- Alternative

Options

- Vibrating table
- Flanging clamp
**WATER PROCESSING STATION**

*Client:* Sewage treatment plant  
*Material:* Aluminum sulphate  
*Installation details:*  
Aluminum sulphate is packaged in containers to facilitate handling and provide maximum containment. The skid includes a 1,000 litres container, an automatic dump station with the integration of a dosing screw.

**PREPARATION OF BORIC ACID**

*Client:* Nuclear plant  
*Material:* Boric acid  
*Installation details:*  
The whole installation is composed of two complete and autonomous skids. The first skid incorporates a sack deconditioning system for filling containers. The second skid ensures the emptying of containers in a confined manner and enables the dosing of boric acid in the dilution reactor.

**FEEDING OF THE MIXER**

*Client:* Welding material  
*Material:* Metal premix for welding  
*Installation details:*  
The high capacity containers are automatically filled below the dosing devices of raw materials. After the packaging operation, the containers are automatically emptied above the powder mixer.

**FOOD MIXTURE**

*Client:* Food factory  
*Materials:* Flour, chocolate, sugar...  
*Installation details:*  
Containers of raw materials are placed above the mixer to ensure automatic dosing with no operator’s intervention. According to the materials, the discharging systems are fitted with vibrators and pneumatic hammers. Load cells built in the dump station ensure the compliance with the recipe.
**Container Blender**

Technical Characteristics

- **Variable mixing speeds** depending on the products to be mixed
- **Control panel:** ergonomic and easy to use
- **Uniform mixture** of your liquids and powdered materials

**HOMOGENEOUS, FAST AND EASY MIXING OF YOUR POWDERS**

Our container blending systems are specially designed for pharmaceutical and food industries where the requirements of cleanliness and hygiene are high. Our equipment offers a high mixing performance for a wide variety of powders, while maintaining the quality of your materials and avoiding the mechanical action of the standard mixers.

**Advantages**

- **Secure lock of the container** for a mixture without risk for operators
- **Control panel:** ergonomic and easy to use
- **Uniform mixture** of your liquids and powdered materials

**Operating Mode**

1. Positioning of the container onto the mixing platform by forklift truck
2. A sensor checks the locking of the facility and the closing of the conical valve
3. The mixing is performed by continuous rotation of the container around its central axis

**Technical Specifications**

- **Manufacturing:** steel, 304L and 316L stainless steel. All parts in contact with the material are polished.
- **Control:** fully automated system with touchscreen. Automatic acceleration at start and deceleration at shutdown thanks to the frequency variation and the dynamic braking module. Control elements include: emergency stop button, cycle time, start, pause, lock/unlock. The mixing program can be selected from pre-programmed cycles.
- **Engine:** variable frequency with adjustable rotations from 4 to 10 revolutions per minute.
- **Security:** an immaterial barrier can be provided to ensure the safety of the operator by prohibiting the access to the system.

- **Rate:** 4 to 10 revolutions/min.
- **Capacity:** 200 to 1,500 liters
- **Objectives:** homogeneous mixture without material loss

Our container blending systems are specially designed for pharmaceutical and food industries where the requirements of cleanliness and hygiene are high. Our equipment offers a high mixing performance for a wide variety of powders, while maintaining the quality of your materials and avoiding the mechanical action of the standard mixers.

**Technical Characteristics**

- **Positioning on the structure**
- **Rotation of the container**

**Objectives:**

- Homogeneous mixture
- Without material loss

Our container blending systems are specially designed for pharmaceutical and food industries where the requirements of cleanliness and hygiene are high. Our equipment offers a high mixing performance for a wide variety of powders, while maintaining the quality of your materials and avoiding the mechanical action of the standard mixers.

**Technical Characteristics**

- **Positioning on the structure**
- **Rotation of the container**

**Objectives:**

- Homogeneous mixture
- Without material loss

Our container blending systems are specially designed for pharmaceutical and food industries where the requirements of cleanliness and hygiene are high. Our equipment offers a high mixing performance for a wide variety of powders, while maintaining the quality of your materials and avoiding the mechanical action of the standard mixers.

**Technical Characteristics**

- **Positioning on the structure**
- **Rotation of the container**

**Objectives:**

- Homogeneous mixture
- Without material loss
Container Washing

Technical Characteristics

TO RESPOND TO THE QUALITY CLEANING REQUIREMENTS

Washing stations are designed for effective cleaning and drying of containers with all sizes. The washing cycles are programmable according to the products previously stored. With a high-pressure washing, all interior and exterior surfaces of your container are cleaned up for total hygiene. This solution promises a minimum commitment of your operators and helps you to save considerable time in the process of cleaning of your metal containers.

TECHNICAL SPECIFICATIONS

- Rate: 1 container per washing cycle
- Manufacturing: steel, 304L, and 316L stainless steel
- Pump: rate 5 m³/h. / manufactured in 316L stainless steel
- Washing ball: spray with pneumatic lowering system and rotation for the internal cleaning of the container
- Spray Nozzles: 25 mm. for washing and rinsing the external parts of the container
- Control valves: 25 mm. and 38 mm. with pneumatic actuators for the global control of the circuit
- Hot air system: it consists of fresh air pipings, a fan and a steam exchanger tube for heating the air at 80 °C.
- Drainer: full dripping tray, machining of 3 mm. thick plates manufactured in 316L stainless steel with appropriate trap.

OPERATING MODE

1. The access door (inlet side) is opened by the operator and the container is inserted into the washing cabin (positioning wedges)
2. The access door locks automatically once it is closed
3. The operator selects the washing and drying program
4. The cleaning cycle starts
5. Once the cycle is completed, the operator unlocks the access door (outlet side)
6. The container is manually brought into the outside of the booth
7. The access door (outlet side) is manually closed by the operator
8. The following container is introduced to the washing cabin

Adventages

- Glass door with inflatable seals to monitor the washing process and ensure optimum sealing
- External washing nozzles for a thorough cleaning of the ground
- Inside washing of the container using high pressure rotating cleaning nozzles to ensure removal of residues adhering to the inside of containers
- Touch screen interface that simplifies the operation of the machine. The programmable controller drives the installation
- PLC / HMI for control of the washing and drying cycles
- Washing nozzles for container discharge valve
- Telescopic nozzles for the internal cleaning of the container
- Supply air fan
- Pre-filter
- Absolute filter
- Heater battery
- Full dripping tray, machining of 3 mm. thick plates manufactured in 316L stainless steel with appropriate trap.

Available

Test Center

Rate: every 15 minutes
Capacity: 1 container
Objectives: complete cleaning of the container and time saving

www.ibc-powder-container.com/equipments-containers/container-washing
Download videos & layouts from our website
PALAMATIC PROCESS OFFERS COMPLETE AND AUTOMATED PRODUCTION LINES FOR HANDLING POWDERS

PALAMATIC PROCESS designs, manufactures and installs complete lines composed of fully integrated and automated materials handling equipment. All systems for handling or recovery of bulk or powdery products are designed for sanitary, processing or packing applications. All PALAMATIC PROCESS infrastructures, needed for handling powders, operate through an automated control unit to meet any specific customer applications.

Within these complete production lines, IBC brand Containers® solutions can be used for storing, mixing, filling and emptying operations.

Complete Solutions

PALAMATIC PROCESS turnkey installations for production lines using containers

Customized process development according to your technical specifications.

www.ibc-powder-container.com/equipments/complete-solutions
Download videos & layouts from our website
EXAMPLES OF INSTALLATIONS

Materials conditioned in IBC Containers®

Big bag and container combined installation
Animal feed application
Pre-weighing in food factory
Cleaning booth
Cleaning booth
Open container for sack discharging
Containers
Pharmaceutical materials
Mixer in pharmaceutical plant
Cement storage
Food processing industry
Conveying line
Sulfur packaging
Packaging system
Multi-material discharging set
Container filling by pneumatic conveying
Standard discharge station

Discover our container solutions on our YouTube channel:
www.youtube.com/user/Palamaticprocess

Download videos & layouts from our website:
www.ibc-powder-container.com/equipments-containers
LARGE VOLUME POWDER STORAGE FOR PROCESS FEEDING

PALAMATIC PROCESS, specialist in the integration of turnkey systems, offers the possibility to produce your silos and tanks regardless of their size and tailored to your requirements for storage and distribution. Rigid silos allow contained storage of powders and high density bulk material.

TECHNICAL SPECIFICATIONS

Volume: up to 200 m³
Bottom: conical
Dimensions: depending on the diameter of the silo, the delivery is made in standard or wide load transport (category 1: up to 3 meters wide / Category 2: from 3 to 4 meters wide).
Our assembly team travels on site for mounting the silo and its accessories.

MANUFACTURING

- Steel
- Stainless Steel
- Aluminum
- Resin

3 TYPES OF SUPPORT

- On foot
- With wrapped around bottom cover
- On terrace
- Crane and Installation on your site

EXAMPLES OF INSTALLATIONS
Rigid Silo

Equipment for Silo

VALVES

- Automatic butterfly valve: to ensure tightness of the silo
- Automatic slide valve: to ensure tightness of the silo and to allow a full bore
- Rotary valve: to ensure tightness of the silo and product dosing
- Service valve: to isolate the silo for maintenance operations
- Inerting and nitrogen degassing: valves for inerting and nitrogen degassing

INSTRUMENTATION

- Level probe (all or none): with pallet, vibration or capacitive technology
- Continuous level probe: sets the silo filling level (guided radar, cable radar)
- Load cells: to control the amount of material in the silo
- Oxygen sensor: measuring the level of oxygen in the silo
- Pressure sensor: measuring pressure in the silo

ANTI-BRIDGING DEVICES

- Vibrating bin aerator: to ease the flow of the material with light pressures
- Bin activator: vibration of the bottom of the silo for extraction
- Air cannons: high rate air injection
- Bridge breaker hammer: to avoid arches

Safety

- Relief valve: Safety device to avoid rises of pressure

LADDER WITH SAFETY CAGE AND GUARD RAIL

To secure access to the roof of the silo

EXPRESSION VENT

To release the energy generated by the explosion

The sizing of the vent surfaces is determined according to the MIE of the material and the storage volumes.

PNEUMATIC CONVEYING PIPING

Connection for tank truck or pneumatic conveying line

EXPANSION CHAMBER

End point of pneumatic conveying system feeding the silo

The expansion chamber allows stopping the speed of the material when it arrives into the silo. The product falls as rain and prevents abrasion of the walls of the silo.

SILO FILTER

Separating the material from the air flow

The filter cleaning is automatic according to the pressure difference. ATEX and/or food grade versions are possible.
Flexible Silo

SIMPLE AND ECONOMIC STORAGE OF YOUR BULK MATERIALS

Flexible silos are highly relevant for the internal storage. The high strength polyester antistatic canvas allows storage of powders and food granules. The fabric, slightly porous and not proof, avoids the formation of condensation inside the silo while maintaining its dustproof properties. The shape of these silos can be square or rectangular for optimal use of space and provides filling capacities up to 60 m³. The flexible walls allow discharge of the product by gravity and prevents arching. Flexible silos are an ideal solution for industrial use thanks to their compact design, fast installation and longevity.

Advantages

- Reinforced canvas with antistatic option
- Galvanized steel frame
- Loading pipe
- Safety valve
- Filtering top
- Vibrating bottom

Technical Specifications

- Modular frame made of hot galvanized piping
- Body with fabric bag
- Top made of antistatic fabric suitable to breath and filter the air when loading
- Loading hose diam. 100 mm manufactured in SS304L with spherical joint 4L and sealing cap to load the silo from a truck
- Dust-proof material
- Reinforced fabric, very resistant
- Antistatic fabric

Options

- Level probe
- Vibrating bottom

Ready to use complete solutions

The flexible silos PALAMATIC PROCESS are durable due to the high quality of used material. These flexible containers allow rapid and efficient storing of your products. Thanks to our expertise and experience, our engineers offer you complete storage projects starting from the solution development and its planification till the installation of the equipment on site.
### Dimensions and Capacities

#### Flexible Silo

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>A x B</th>
<th>A x B = C</th>
</tr>
</thead>
<tbody>
<tr>
<td>A mm</td>
<td>1.600</td>
<td>1.600</td>
</tr>
<tr>
<td>B mm</td>
<td>1.600</td>
<td>2.000</td>
</tr>
<tr>
<td>Surface</td>
<td></td>
<td>m²</td>
</tr>
<tr>
<td></td>
<td>2.56</td>
<td>3.20</td>
</tr>
</tbody>
</table>

#### Examples of Implementations

<table>
<thead>
<tr>
<th>Customer</th>
<th>Exclusion for insulation, electric cable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product</td>
<td>Plastic, compound</td>
</tr>
<tr>
<td>Installation details:</td>
<td>The storage silos ensure the storage of different raw materials for a continuous feeding of extruders. Product changing is facilitated by a silo hygienic conception. The silos are loaded by a pneumatic conveyor from sacks and bulk tanks.</td>
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</table>

#### Examples of Implementations

<table>
<thead>
<tr>
<th>Customer</th>
<th>Industrial bakery</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product</td>
<td>Flour</td>
</tr>
<tr>
<td>Installation details:</td>
<td>The different flour types are stored in silos connected with the mixer by means of pneumatic transfer system that ensures the forming of the premix. The multi-output suction box connected to the silo bottom ensures the feeding of three mixers. The pneumatic suction transfer is adjusted by cyclone load cells.</td>
</tr>
</tbody>
</table>

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**PLASTIC PRODUCTS STORAGE**

Customer: Extrusion for insulation, electric cable  
Product: Plastic, compound  
Installation details: The storage silos ensure the storage of different raw materials for a continuous feeding of extruders. Product changing is facilitated by a silo hygienic conception. The silos are loaded by a pneumatic conveyor from sacks and bulk tanks.

**FLOUR STORAGE**

Customer: Industrial bakery  
Product: Flour  
Installation details: The different flour types are stored in silos connected with the mixer by means of pneumatic transfer system that ensures the forming of the premix. The multi-output suction box connected to the silo bottom ensures the feeding of three mixers. The pneumatic suction transfer is adjusted by cyclone load cells.
PAL'TOUCH® TECHNOLOGY

As a designer of complete production lines, PALAMATIC PROCESS associates ergonomically and visually programmed PLCs with its production units. Production monitoring is as important for us as the result. That is why PALAMATIC PROCESS’s automation and computer engineers include fault-proofing in raw material inputs, lot traceability, operator identification and dosing reliability. The production line steering screens provide ergonomics and comfort with continuous dialogue during the project execution phase between your production team and our design office. Monitors in our process lines provide ergonomics and ease of use with a unique customization.

Equipment and programs used: Schneider, Siemens, Rockwell, Omron, Philips, Intouch, Pc View, VijeoDesigner...

COMMERCIAL WEIGHT MANAGEMENT

In order for you to market your products, PALAMATIC PROCESS integrates commercial weighing systems to its equipment. Conform to the NAWI directive, our equipment is calibrated during commissioning by our authorized partner organizations. Your packaged products are immediately ready for sale. Along with our customizable labels printing solutions, these reliable systems are ideal for distributing large quantities of your powders with minimum intervention.
PALAMATIC PROCESS laboratory for powders was built for the attention of all our industrial customers wishing to define production machines that will meet their expectations.

Our test center is made up of the latest machinery in the powder handling sector. Specialist engineers are there to advise you on the industrial processes the best suited to your requirements and to guide you at every stage of the decision to design the most efficient installation.

### 3 STEPS TO VALIDATE YOUR PROCESS

#### Step 1 - Before Test
- Select the likely optimal machine configuration based on your technical requirements (powders, flow rate, dosing)
- Draft test proposal by our sales engineers representatives

#### Step 2 - During Test
- Process validation for product testing
- Perform testing and sample collection
- Discussion on results after the test with machines (phase diagram, degradation tests, fines content)

#### Step 3 - After Test
- Analysis of machine test data and samples
- Write a summary report
- Collaborate on the optimal solution for your requirements
- Submit a quotation

### THE BENEFITS OF MECHANICAL TESTING

- An individual consultation with and on-going support by our R&D engineers
- Confirmation of the appropriate machines to conduct a test with your product
- Tests at various operating conditions to define the most efficient process according to your industrial requirements
- Evaluation of the profitability of equipment configuration
- Possibility to test additional options using PALAMATIC PROCESS’ range of products
- Maximize the return of your investment
- Maximize the optimum selection of the proper machine
- Capitalize on the wide experience of our experts

#### TREATED PRODUCTS
- Boric acid
- Citric acid
- Clay
- Glucose
- Ammonium nitrate
- Barite nitrate
- Sodium nitrate
- Lampblack
- Salt
- Sugar
- Magnesium Sulphate
- Talc
- Urea
- Sludge
- Milk powder...

#### TESTS ON AN INDUSTRIAL SCALE & FLEXIBILITY

Our systems for containers are available for testing in our workshop. They can also be installed in real process conditions to reproduce normal operating conditions. These “industrial scale” simulations help to apprehend better the behavior of powders during emptying or filling process (vibration, fluidization...)

Possible configurations for conducting tests are numerous.

**AVAILABLE CUSTOM MADE**

**Test Plant**

**Test Plant**

**Laboratory for Powders**
Our expertise:

- **FILLING SOLUTIONS FOR BIG BAG AND OCTABIN**
  - To fill

- **EMPTYING SOLUTIONS FOR BIG BAG AND OCTABIN**
  - To empty, compact and massage

- **SACK, DRUM AND CARDBOARD FILLING SOLUTIONS**
  - To fill, package, handle

- **SACK AND DRUM EMPTYING SOLUTIONS**
  - To empty, compact, handle, discharge

- **SOLUTIONS FOR PNEUMATIC CONVEYING**
  - Vacuum, pressure

- **SOLUTIONS FOR MECHANICAL CONVEYING**
  - To transfer with screw, belt conveyor, bucket elevator, aeromechanical or vibratory conveyor, truck loading spout

- **CRUMBLING AND GRINDING EQUIPMENT**
  - To granulate, crumble, grind, pound, micronise, disagglomerate

- **SIFTING EQUIPMENT**
  - To sift, segregate, sieve, protect

- **CONTAINERS AND STORAGE SOLUTIONS**
  - To fill, charge, empty, contain

- **DOsing EQUIPMENT**
  - To control, regulate, empty, extract

- **MIXING EQUIPMENT**
  - To homogenise, incorporate, fluidify, stir, mix

- **FLOW AND CONNECTION**
  - To vibrate, fluidise, unclog, drain, facilitate extraction, control the descent, prevent stacks and vaults, connect

- **INDUSTRIAL DUST COLLECTING EQUIPMENT**
  - To filter, clean, confine, secure

Contact: contact@palamatic.fr
Sales Department: +33 (0)2 22 93 63 08