

# Vibratory sieve



Vibratory Sieve

## Range of Vibratory Sieves

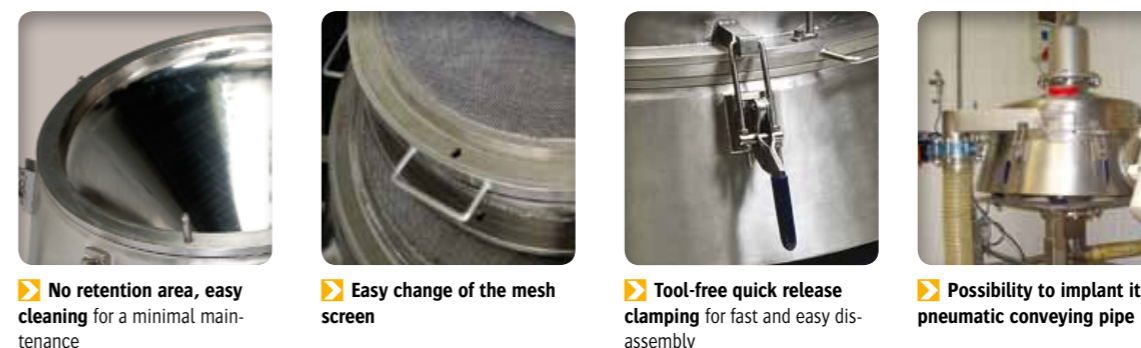
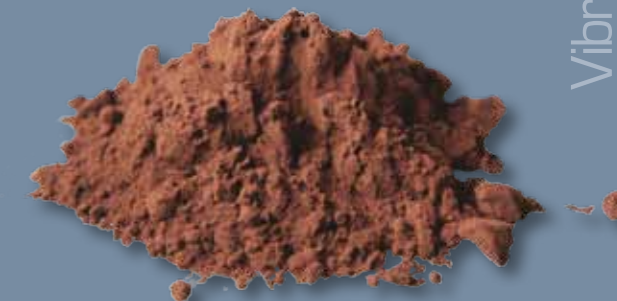
### TO GUARANTEE HYGIENE AND PROCESS SECURITY

The powder screening provides a high level of protection of your machines by eliminating foreign bodies; it agglomerates and guarantees the quality of your production. The PALAMATIC PROCESS vibratory sieves eliminate wastes with precision and are perfect for a secured screening from the materials reception stage till the end of the manufacturing process. They can be implemented easily on a new or existing production line. Our screeners can be cleaned, assembled and dismantled with minimal effort by using the mounted quick-release clamps.



### TECHNICAL SPECIFICATIONS

- Hygienic design
- Clean In Place (CIP)
- Robust and high quality manufacturing
- Economic solution and durability
- Mild steel, 304L and 316L stainless steel



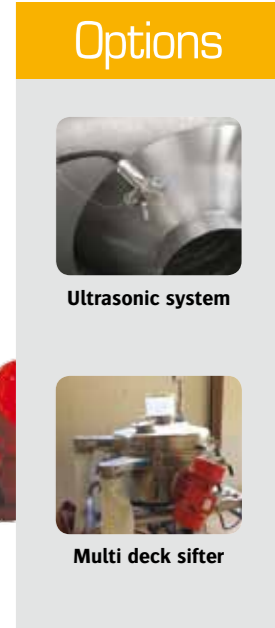
| Models               | GSC 450     | GSC 600     | GSC 900    |
|----------------------|-------------|-------------|------------|
| Ø of the mesh in mm. | 560         | 730         | 1,012      |
| Height in mm.        | 371         | 537         | 676        |
| Weight in kg         | 150         | 200         | 250        |
| Electric power       | 2 x 0.16 kW | 2 x 0.37 kW | 2 x 0.6 kW |

Hygiene of the final products is the main problematic for the industrial processes. The treatment of the foreign bodies, at the beginning and at the end of the production process, has become a standard in all industries with high added value. The vibratory sieve (GYRATOR) controls your **production line** by providing a clean material, without clods and foreign bodies and protects your process from potential mechanical damages. These screeners are suitable for all sectors such as food, pharmaceutical, chemical and synthetic industries; and guarantee a **very high-quality final product**. It can feed directly a pneumatic conveying line or use gravity.



| Size in mm. | Capacity in t./h.* |         |         |
|-------------|--------------------|---------|---------|
|             | GSC 450            | GSC 600 | GSC 900 |
| 1           | 0.7                | 1.2     | 2.5     |
| 2           | 1.5                | 2       | 6.5     |
| 4           | 5                  | 8       | 20      |

\* These rates are achieved with flour type 55



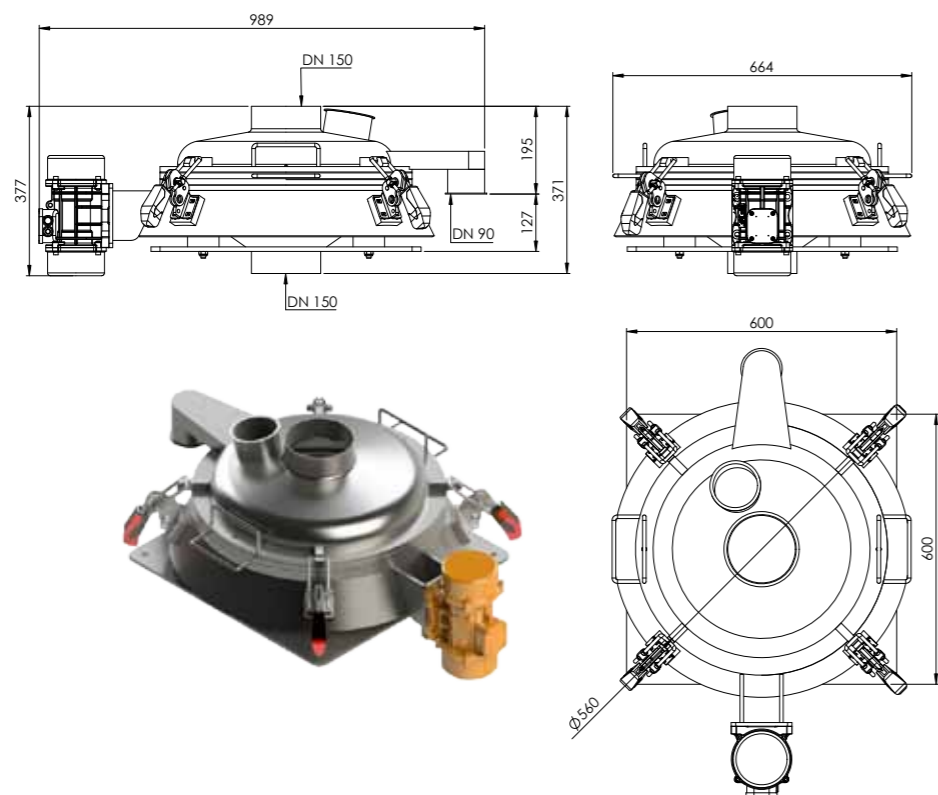
# Vibratory sieve

# Layouts

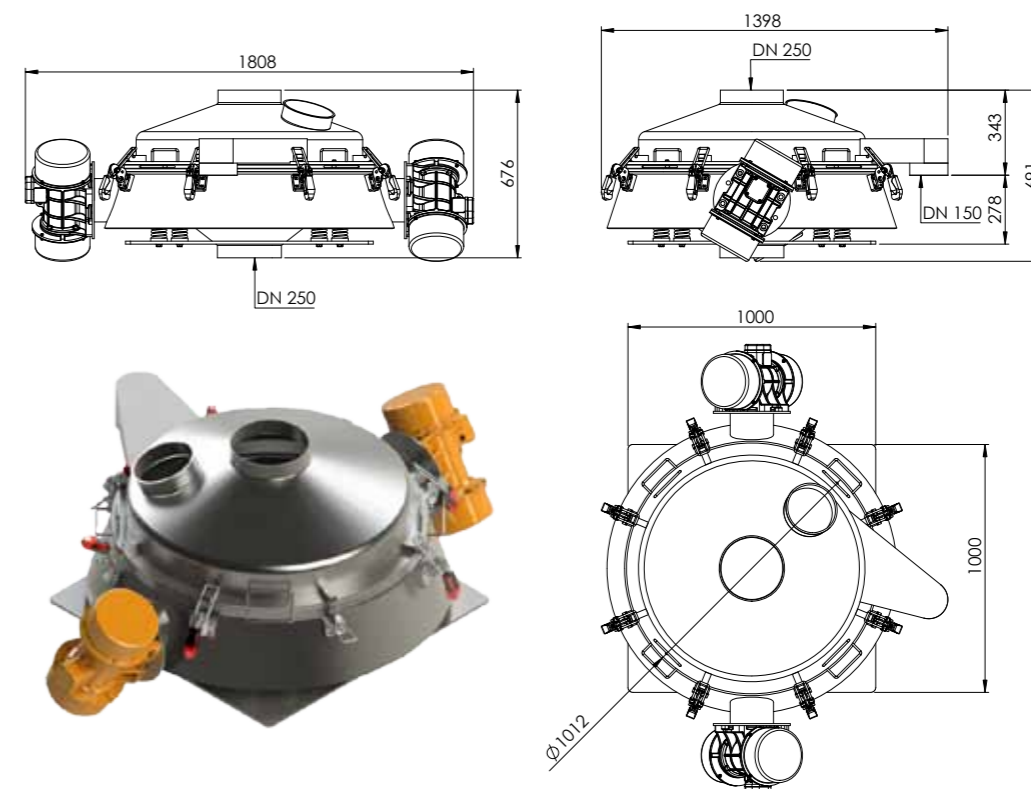


3 Standard Models:  
GSC 450 - GSC 600 - GSC 900

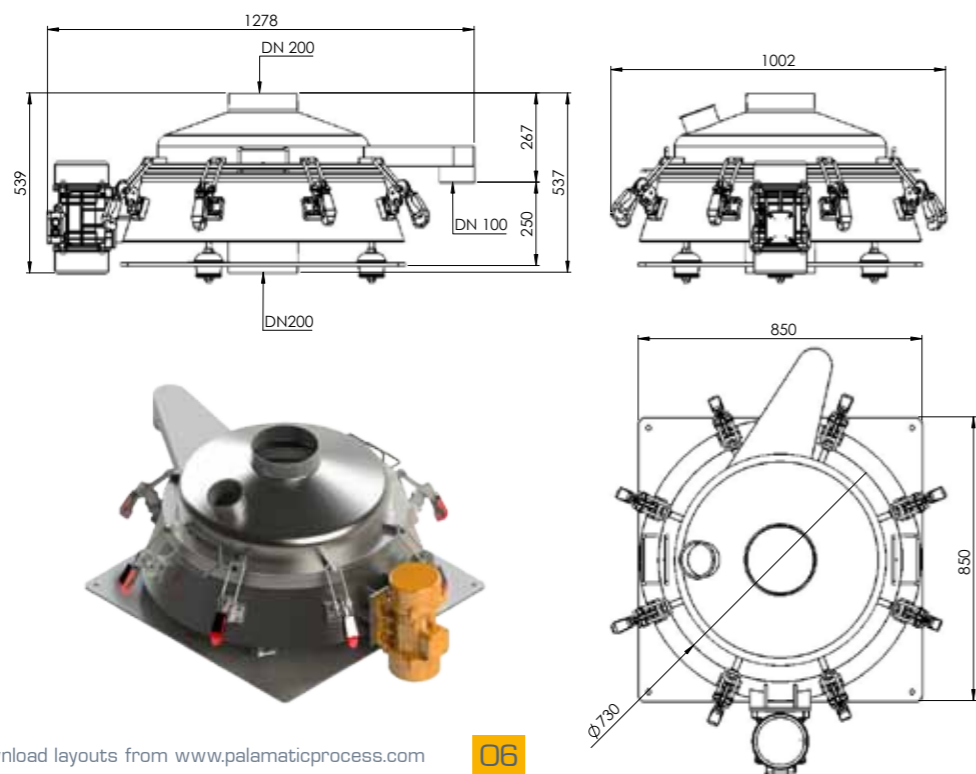
## VIBRATORY SIEVE - GSC 450



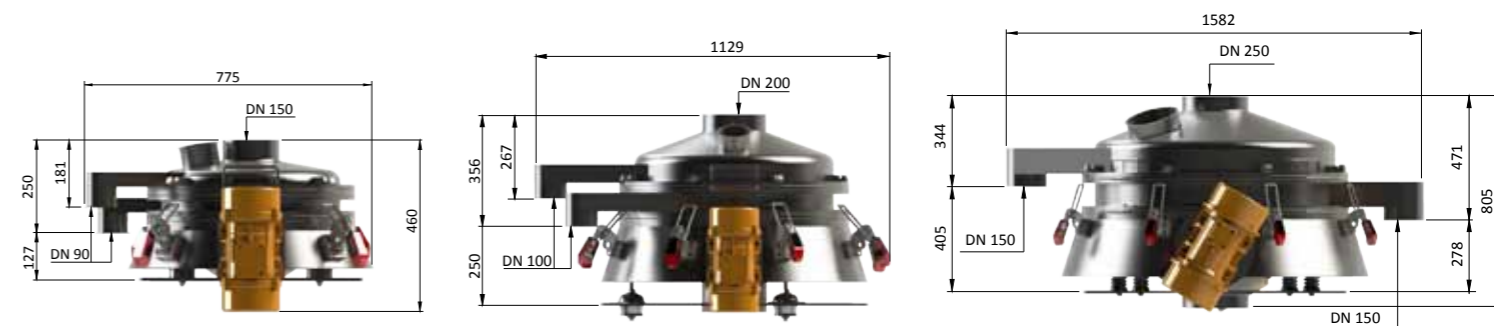
## VIBRATORY SIEVE - GSC 900



## VIBRATORY SIEVE - GSC 600



## ALTERNATIVE: VIBRATORY SIEVE WITH DOUBLE DECK



GSC 450 DE

GSC 600 DE

GSC 900 DE

# Vibratory Sieve

# Quick Disassembly



## Ultrasonic System Declogging Rings and Balls

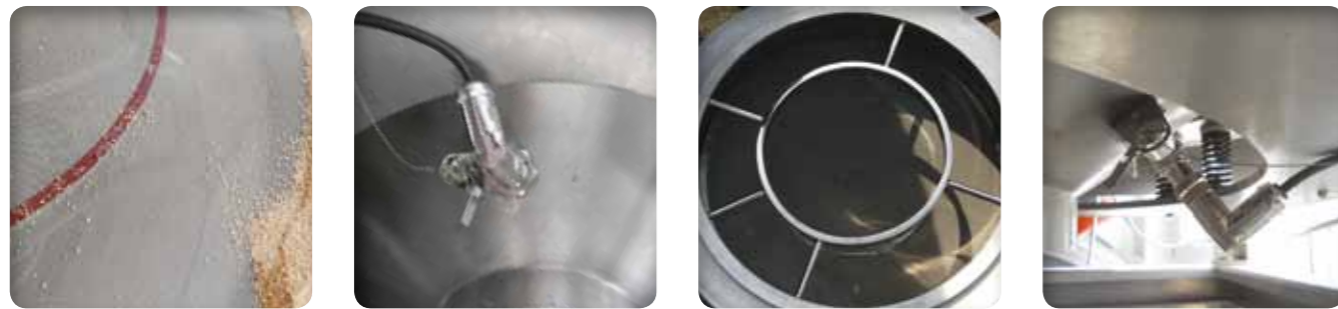
### TO PREVENT CLOGGING AND BLOCKING OF THE MESH

Ultrasonic sieve unclogging system has revolutionized the way difficult powders are screened on sieve meshes by increasing the quality of the material and avoid breaks time. PALAMATIC PROCESS offers unclogging solutions to overcome the problems caused by those difficult materials.

### ▶ ULTRASONIC SYSTEM

**Its principle consists in the setting of microvibrations of the screen mesh wire. The use of the ultrasonic option eliminates material clogging and facilitates the passage of the material through the mesh screen.**

The ultrasonic unclogging system allows greater sifting throughput when using low passing grid. It handles low density fine particles (40 - 60 µm) thanks to the setting up of a variable generator or rings for a dispersion of sound waves.



The ultrasonic device is specially designed for finer meshes < 200 µm. Depending on the sifter dimensions (450, 600 or 900) two ultrasonic generators may be needed.

### ▶ DEBLINDING BALLS AND SLIDERS



▶ The balls are placed under the grid in compartments provided for this purpose. The balls bounce and amplify the vibration of the sieve.

▶ The vibrations of the screener allows plastic rings to move continuously on the grid, scraping away gummy materials.



The vibratory sieve design does not have any retention areas and improves the efficient treatment of the material with no loss of material.

The clamping system allows a simple and quick assembly, disassembly and cleaning of the entire machine.

### ▶ DISASSEMBLY STEPS OF THE SIMPLE DECK SCREENER STAGE



Entire vibratory sieve with flexible connection spout



Vibratory sieve without cover plate

Double seal and welded mesh



Vibratory sieve without mesh screen



Vibratory sieve without internal cone

▶ Hygienic design and quick-release clamps allow rapid removal of screens and tool-free disassembly of frames. PALAMATIC PROCESS screeners are suitable for numerous applications and industries where cleaning and cross contaminations are very important.



# Vibratory Sieve online in Pneumatic Conveying Lines



## TO OPTIMIZE THROUGHPUT WITHOUT ANY PRESSURE LOSS

The sieves can be used for direct inline installation in pneumatic conveying pipeline to guarantee a high-quality final product with a flexible and ergonomic feeding. The robust and tight construction of the sieve enables this configuration and prevents the loss of the material.

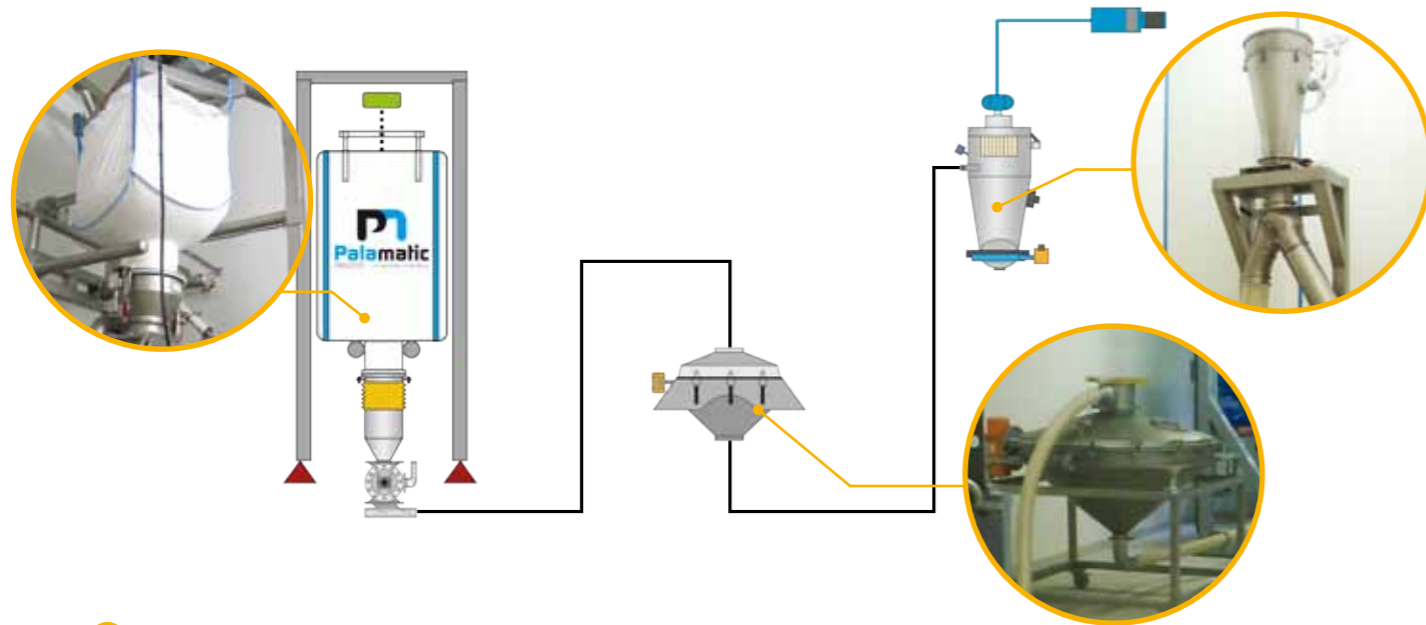
## Case Studies

With its design totally enclosed and its very low pressure loss (0,213 psi), the PALAMATIC PROCESS GSC sieve is ideal for being set up in pneumatic conveying lines. The product arrival is performed facing the mesh screen sieve. This configuration improves the sieving thanks to the generated impact. The waste flanges are still possible with the setting up of controlled valves. The sieve can be used on dense phase pressure or vacuum conveying system.

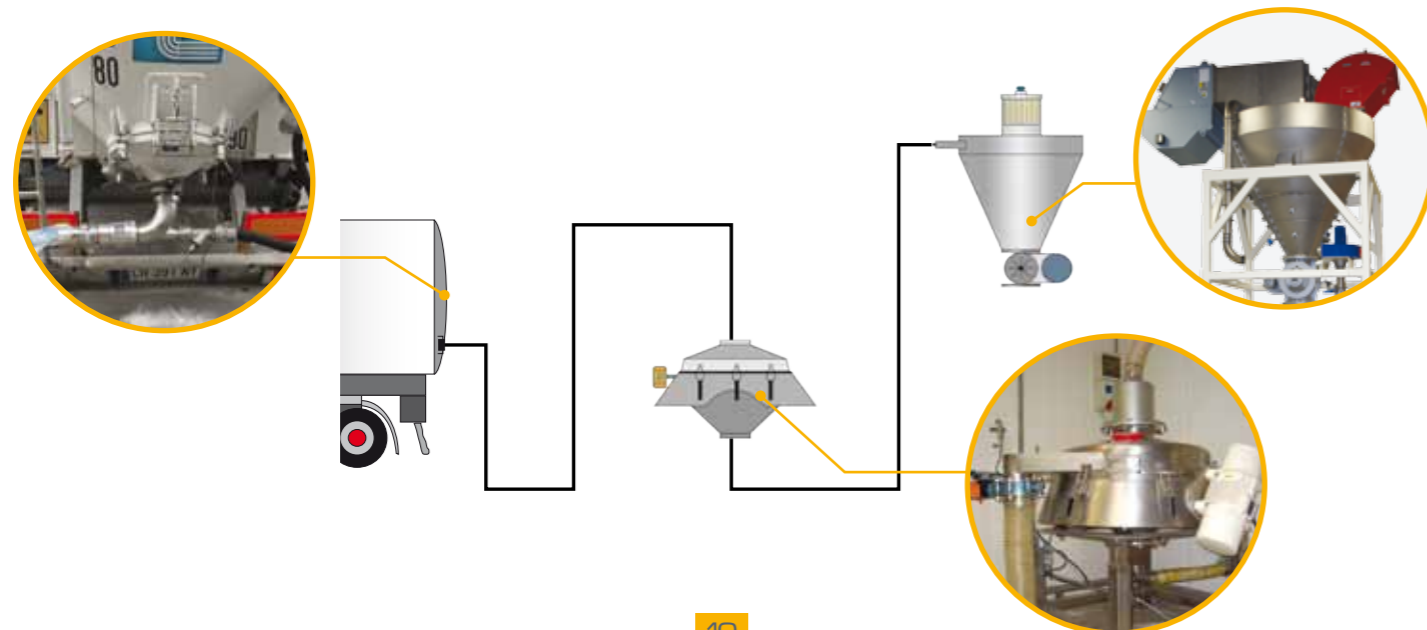
### [+] Advantages

- ▶ Implantation at floor level
- ▶ Reduced size
- ▶ Optimized throughputs
- ▶ No product loss

### ▶ DIAGRAM OF DENSE PHASE VACUUM CONVEYING SYSTEM



### ▶ DIAGRAM OF DENSE PHASE PRESSURE CONVEYING SYSTEM



### ▶ INGREDIENTS MANUFACTURER FOR PETFOOD INDUSTRY

The pneumatic conveying pipeline is directly installed upstream the filling machine of end-products and integrates a GSC 450 sieve to guarantee a product free of contaminants. The PALAMATIC PROCESS big bag discharge station insures the feeding of the starting point of the pipeline.



### ▶ MANUFACTURE OF SPICES AND VANILLA SUGAR

After having passed through the PALAMATIC PROCESS mixer, the materials are transferred to the vibratory sieve and the big bag loading station via a dense phase pressure conveying (VFlow® 03). This configuration eliminates contaminants and cloggings from the production process which are formed during the liquid introduction phase.



### ▶ TRUCK DISCHARGING TO FEED THE SILO

Once the tanker full of bulk materials is received, the operator connects the flexible spout on the vibratory sieve. This configuration controls the quality of the batch and fills the silo with a material free of foreign bodies.



### ▶ DAIRY INDUSTRY

At the outlet of the atomizing tower, the vibratory sieve ensures the spray quality. This configuration enables sieving of materials with high rates of fat (26%).



## DISCHARGE OF FEED MIX

**Customer:** Specialist of aroma for petfood

**Products:** Appetence flour for animals

**Goals:** Design and implement a workshop to improve mixing and increase productivity while insuring an optimal containment.

**PALAMATIC PROCESS equipment:**

Big bag discharge stations, pneumatic conveying (10t./hr.), two mixers of 2,000 l., big bag loading stations with sieving and magnetic control.



## AROMAS DECONDITIONING

**Customer:** Manufacturer of vanilla extracts, cocoas and coffee designed for a food industry

**Product:** Cocoa

**Goals:** To ensure reactor feeding.

**PALAMATIC PROCESS equipment:**

Automatic bag opening station MINISLIT®, conveying screw, vibratory sieve in ATEX 2/22 zone.



## SIEVE INTEGRATED IN BAG DUMP UNIT

**Customer:** Company from the food industry manufacturing chocolates, confectionary products, condiments, seasonings

**Products:** Cacao powder

**Goals:** The company asked for a system to manually open and discharge sacks containing powder materials or granulates in a dust-free environment.

**PALAMATIC PROCESS equipment:**

Bag dump station integrating a sieving system, sack compactor, dust collector and pneumatic transfer cyclone.



## BIG BAG UNLOADING UNIT TO FEED SILOS

**Customer:** Chemical industry

**Products:** Micronized catalytic converters

**Goals:** To ensure contamination-free end-product at the output of the automatic big bag discharge station.

**Specifications:** Capacity 80 t./h.

**PALAMATIC PROCESS equipment:**

A confined big bag discharge station ensures feeding of the vibratory sieve through a conveying screw.



## CONFINED CONDITIONING LINE

**Customer:** Company specialized in beets, cane and cereals sugar processing

**Product:** Gluten

**Goals:** To package raw materials without any grain size damage with a flow rate reaching 25 t./hr. and to detect and remove foreign objects. The entire installation complies with ATEX 20/22 regulations.

**PALAMATIC PROCESS equipment:**

Conveyor and pallets unstacker, pneumatic conveying with explosive vent on cyclofilter, vibratory sieve and inline magnetic detector, weight-scaling with rotary airlock and FlowMatic®04 big bag load station.



## PRE-DRUG MIXING PROCESS

**Customer:** Manufacturer of veterinary pharmaceutical preparations

**Products:** Pre-drug mixture

**Goals:** To improve the process productivity.

**PALAMATIC PROCESS equipment:**

Manual bag dump station, vibratory sieve, VFlow®05 pneumatic vacuum conveying system, big bag loading and unloading stations.





### ▶ FLEXIBLE CONNECTION SPOUT

#### **For a tight connection to the screener.**

The flexible BFM fitting tightly connects the sieve, statically and dynamically, to the upstream piece of equipment. The sleeve can be mounted in-line, on an offset position or on oscillating parts.



### ▶ INSPECTION HATCH

#### **This opening enables inspection and cleaning of the screener.**

The sieve is an integral part of the feeding hopper and is equipped with an inspection hatch for easy control and cleaning in a secured way.



### ▶ ULTRASONIC ANTI-CLOGGING DEVICE

#### **To avoid clogging of particles in the sieve meshes.**

The ultrasonic system is an option allowing sifting of powders at high rates with no screen blocking.



### ▶ MULTI-DECK

#### **For unclogging balls use.**

The sieve is composed of two decks with a superior and inferior mesh screen. The two screens are sufficiently apart to allow balls to bounce between them. The size of the inferior mesh screen is about 10 mm to sustain the balls.



### ▶ LIFTING CRANK HANDLE

#### **To facilitate the handling of the sieve.**

The lifting crank optimizes the ergonomic and the handling of the sieve by a single operator.



### ▶ SIEVE MESH SCREEN

#### **To stop foreign bodies and eliminate cloggings.**

The mesh screen of the sieve is available in steel, 304L and 316L stainless steel. The size of the meshes are adapted to the product and to the desired grain size. The mounting of the mesh screen is easy due to the double sealed flanges. The rapid fixation is assured by clamps.



### ▶ DECCLOGGING BALLS AND RINGS

#### **Mechanical anti-clogging system to free the screen from materials.**

Anti-clogging devices are positioned on the grid of the sieve to promote the unclogging of the material to ease its passage through the grid.



### ▶ MANUFACTURING MATERIALS

Manufacturing materials are adapted to specificities of your process and your materials: mild steel, stainless steel 304L and 316L.



### ▶ CLEAN IN PLACE

#### **Possibility to set up cleaning nozzles.**

The mesh screen of the sieve can be dismantled for an easy cleaning process.



### ▶ OUTLET FOR OVERSIZED PARTICLES

#### **To collect foreign bodies or oversized particles**