CONFINEMENT, PRECISION, CLEANABILITY

Advantages
- A double envelope filling head and an inflatable seal for complete containment
- A whole structure weighing to avoid any weighing interferences (sack tension)
- Dosing system adapted to each issue (precision, cleanability, rate etc.)

TECHNICAL SPECIFICATIONS
Rate: from 50 to 100 sacks/hr.
Objective: packaging of all sack types

OPERATING SEQUENCE
AVERAGE TIME OF A COMPLETE CYCLE: 1 MIN.
1. A sack positioning on the filling station
2. The sack inlet with the help of inflatable seal
3. High rate sack filling
4. Dosing managing: low rate dosing to ensure the accuracy of the process and monitoring of the overrun product quantity
5. The end of the filling process. Deflation of the seal and a sack removal

GENERAL PLAN

www.palamaticprocess.com/powder-machine/sack-solutions
Downloadable plans on www.palamaticprocess.com
Inflatable seal: It provides a completely sealed connection. A double envelope conception assures the balance between pressure and degassing. There is a possibility of pharmaceutical design for an easy disassembly of all parts.

Half-shells: A sack fixation is ensured by means of half-shells with an oval mouth design equipped with two jaws activated by pneumatic cylinder. This connection type is recommended when the sack is suspended while filling.

Options - Different sack connections

Inflatable seal

Half-shells

Weighing table with a possibility of commercial weighing

Sack welder for a complete containment

Screw feeder for a high-accuracy dosing

Manual or automatic cardboard closing by an operator

Manual and automatic sampler for a product quality control

Examples of installations

Hygienic conditioning of milk powder

Packaging of the flavoring agent

Packaging at the sieve output

Icing sugar line and double packaging

Sack filling for further conditioning to cardboards

Packing to cardboards with internal sack layer

Our sack filling systems are suitable for all types of sacks: burlap, paper, plastic, with open mouth, with liner, single layer, double layer, microperforated sacks etc.

PALAMATIC PROCESS designs semi-automatic conditioning lines. These lines assure a high level of accuracy of product dosing, workplace ergonomics, high rates and total containment.

According to the options chosen by customers, our engineering office develops solutions with hygienic design: from the disassembly of all constituent parts to the integration of CIP nozzle.

See all our options on pages 14-17.
The PALAMATIC PROCESS engineering office offers custom-made solutions for your sack filling installations based on your rates and implantation constraints. We determine, together an appropriate tailored solution after visiting your site and taking into consideration your requirements and technical specifications.

- Manual and automatic system
- Bar magnets
- Demountable system
- Mobile set on wheels
- Adjustable height of sack welding and sewing
- Sieving before dosing
- Adjustable rates
- Several filling heads are available depending on the packaging conditions
- Manufacturing: steel, stainless steel 304 L and stainless steel 316 L
- Motorized or gravity sack conveyor with final weight checking
- Weighing scale at the filling station assures the exact product dosing – dosing control and weight checking
- Legal metrology for traceability and direct sales with embedded printer
- Sampling...

**POSSIBLE FUNCTIONALITIES**

**DOSING SOLUTIONS**

- Pneumatic butterfly valve with multiple blades
- Rotary valve
- Screw feeder
- Screw conveyor
- Vibrating tube
- 4-20 mA valve

Based on your products, required rates and accuracy level, we tailor a dosing machine which will assure optimal solutions.

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Downloadable videos & plans on our website
GRINDING AND CONDITIONING INSTALLATION IN ATEX ZONE

Client: International group specialized in biscuits, chocolate and cocoa products

Product: Icing sugar

Characteristics: The objective of this installation is to transform granulated sugar into icing sugar in order to get a very fine grain and its efficient and optimal use in chocolate dough. The aim of this installation is to avoid lump forming without adding any additives.

PALAMATIC PROCESS equipment: sack emptying station in stainless steel with embedded Hygienic Sacktip® sieve, screw conveyor in stainless steel for grinding mills feeding with rates 1.5 t/hr., ATEX grinding mill, agitated storage tank with discharge screw, dust collection filter, rotary valve, screw conveying with double outlets, sack filling opening with weighing table, complete control panel.

CONDITIONING AT AUTOMATION TOWER OUTPUT

Client: Food processing plant

Product: Fish flour

Characteristics: After coming out of the atomizing tower, the fish flour is dried and sieved before being packed to the sacks. Magnetic separation ensures the purity of raw material.

PALAMATIC PROCESS equipment: sieve, VFlow® pneumatic conveyor, conditioning station.

MOBILE BIG BAG AND SACK PACKAGING STATION

Client: Taste enhancer

Product: Flavor taste enhancer

Characteristics: Located directly under the mixer, a mobile sack packing station allows conditioning of sacks from 25 to 50 kg, depending on the client’s request. The sack conditioning system can be installed within less than 5 minutes directly on a big bag packaging station.

PALAMATIC PROCESS equipment: Mixing and conditioning line.

HYGIENIC CONDITIONING

Client: Industrial chemistry

Product: Magnesium citrate

Characteristics: Product reconditioning from big bags to sacks or drums with internal sack layer. The production line ensures hygienic conditions of the process by means of: sieve, magnets, sampling. The line is completely sealed.

PALAMATIC PROCESS equipment: big bag emptying station, rotary valves, sieve, sack weighing station, big bag discharging, rotary valves, sieve, sack filling weighing station, packed sack conveyor, access platform, control cabinet.
CONCEPTION to EXPLOITATION

Company: Food Industry

Final product: Fruit and vegetable powder

Operating sequence: This packaging line is semi-automatic starting from the delivery of the product by means of pneumatic screw till its conditioning to sacks. Scaffold positioning, cardboard packing, palletizing and labeling are carried out by an operator.

Installation details: Food company wishes to perform packing of fruit and vegetable powder into PE sacks of 5, 10, 20 or 25 kg. The aim of the installation is to ergonomically redesign packaging station in order to maximally reduce operator’s charging port and eventually increase the line productivity.

After being packed at the output of the descharging tower into plastic sacks of 25 kg, the product is stored and loaded into a one-tonne conical mixer. After the homogenization, the powder is sieved in order to remove all foreign bodies and to get a pure final product. The packaging station is composed of the vibrating sieve, the magnetic bar system (to remove all ferrous particles), the weighing scale (to control the dosing accuracy) and of the welder (for a sealed sack closing). The operator puts a sack between the inflatable seal and the clamping ring. Via a pneumatic control, the operator authorizes the inflation of the seal which blocks the sack against the clamping ring. The dosing device allows balancing the volumes via a double envelope filling tube.

PALAMATIC PROCESS industrial equipment: Pneumatic conveyor, conical mixer, transfer screw, vibrating sieve, sack filling station, belt conveyor, dosing table.

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SAMPLING

Volumetric test of the product flow in order to ensure a representative sampling
The sampler is positioned at the sack packaging station. It ensures an automatic sampling during each packing. Thus the traceability is guaranteed.

VIBRATING TRAY FOR A PRODUCT COMPACTION

Vibrating motor
The vibration of the sack at the end of conditioning process ensures the optimization of the sack volume. Another alternative: compression by air or mechanical pressure.

DOsing

Screw feeder, belt or vibrating conveyor
Product weight managing is based on the product type, desired dosing accuracy level in order to get the required quantity of the product.

BALANCING

Double envelope filling head with filter sleeve or dust collector for the connection to your dust collection network.
The balancing ensures healthy environment without dust.

Magnetic Sensor

It allows to remove ferrous particles from the product in product freefall applications
The magnetic sensor is a metal detection system adapted to gravity applications. The device can be equipped with an automatic valve ejection system.

Dust collection system

Dust collection of the filling head
At the moment of the sack removal, the suction booth installed around the filling head ensures the aspiration of any possible product traces near the sack opening. The dust-collection system is connected to the double envelope system.

Sieving

To ensure the hygiene and security of the process
The vibrating sieve ensures the control and protection of your production line. It guarantees the absence of foreign bodies in the packaged products.

Welder

Sack welder - from 4 to 20 sacks/min.
If the welder is manual there is a possibility to install a load balance. It is particularly suitable for plastic sacks with the weld length (width) ranging from 650 to 1,200 mm. There is a large variety of possible weldings depending on the chosen welding technology: double pulse welding, thermal welding, hot air welding etc.

Conditioning Head

It consists of a filling tube with double envelope, of an inflatable seal and a clamping ring.
Different sizes can be used depending on the type of the conditioning.

Sewer

Automatic or manual sack sewer.
It is mainly used for paper sack closing.

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CLIPPING MACHINE
Internal bag closing
Manual or automatic clip (stapler) closing system. Compatible with food industry applications.

DRUM STRAPPING MACHINE AND COVER POSITIONING
Sealed closing of the drum manually
The cover positioning can be performed automatically.

CONVEYOR
Gravity and motorized feed and/or evacuation conveyor
The conveyor can be equipped with a raised frame in order to ensure maintenance of sacks, drums, buckets and cardboards.

SACK MANIPULATOR
Effortless sack lifting and handling
The manipulator offers a maximum workplace ergonomics. The charging ports problem is completely solved by means of this equipment. The manipulator is suitable for all types of sacks (different materials and weight).

AUTOMATON
It ensures sack palletizing at the end of the packaging line. During the stacking process, it is possible to overlap sacks in order to stabilize the pallet.

COMMERCIAL WEIGHING
Net and gross weighing
Commercial weighing. NAWI (Non-automatic weighing instrument) device is a weighing system requiring operator’s intervention during the weighing process.

ETIQUETTE PRINTER
Printing of the etiquettes, labels, stickers, tags, inkjet printing directly on sack, containing the information regarding product weight, basic data, operator’s number etc.

STRETCH HOOD PALLET WRAPPING MACHINE
Installation of the hood wrapping machine at the end of the production line offers an optimal containment of the full pallet (4 or 5 sides)

BAR MAGNETS
Ferrous particles captation before product conditioning in order to ensure a high quality of final product
The bars are set in the middle of product flow in order to remove ferrous particles.

PALLLET STRETCH WRAPPING MACHINE
Stretch wrapping machine with the film.