



SOLUTIONS for Sacks, Drums, Cardboards, Buckets

PACKAGING

FILLING

CONDITIONING



Palamatic
PROCESS >>> machines • engineering

Powder Handling Solutions

CONTENT



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

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



- ▶ SACK FILLING STATION - PALSACK 04
 - Customized sack filling station 08
 - Examples of installations 10
 - Complete process lines 12
 - Options 14
- ▶ DRUM AND BUCKET FILLING STATION - PALDRUM 18
- ▶ CARDBOARD FILLING STATION - PALBOX 22
- ▶ AUTOMATION 26
- ▶ TEST PLANT 27
- ▶ COMMERCIAL WEIGHING GUIDE 28



PALAMATIC PROCESS OFFERS YOU PACKAGING SOLUTIONS ADAPTED TO YOUR CONTAINERS

Sack filling



- Semi-manual operation
- Net and gross weight filling
- Weight and volume dosing
 - Confined sealing

Page 04

Drum&Bucket filling



- Filling with or without internal sack
- Dust fines managing
- Adjustable rates

Page 18

Cardboard filling



- Packaging flexibility
- Confined filling with internal sack layer connection and sack sealing

Page 22

PALAMATIC PROCESS offers machines that ensure your powdery products packaging. Due to its test plant and numerous installations, PALAMATIC PROCESS has acquired solid and recognized experience in the development of powder handling technologies.

ADVANTAGES

- High rates: till 100 packings per hour
- Ergonomic workplace (height adjustment)
- Precise dosing
- Easy cleaning
- Hygienic filling station place
- Safety of use
- Adaptable to different products
- Commercial weighing

Our engineering department ensures the integration of the equipment to the production lines or to other equipment.

Our filling station design and the experience of our engineers ensure the solutions completely adapted to your product constraints and process requirements and which go in respect with your specifications. We offer you custom-made systems with many functionalities: confined packaging, hygienic system, net and gross weighing, high-rate production, manual, semi-manual and fully automatic stations, etc...



PALSACK - SACK FILLING STATION



Our sack filling stations allow filling and work with different sack types - from 5 to 50 kg. These stations can be used, for example, for your product packaging to big bags or as a mobile station installed at the end of production line. They offer a large number of functionalities: sewing of the sack top, internal sack integration, creped paper integration, hermetic sack closing with the help of manual or automatic welding machine etc. They are usually used for packaging of such products as seeds, pellets or pet food products etc.

PALDRUM - DRUM AND BUCKET FILLING STATION



Drum and bucket filling installations by PALAMATIC PROCESS allow filling the products of different diametres and heights. They meet the confinement requirements due to the dust-collection solutions adapted to each application: suction booth, puyès ring, glove box or drum top-part dust containment during the internal sack removal. Our filling systems are adjustable to all types of drums and buckets containing toxic products, they can be used in nuclear industry and ATEX zones.

PALBOX - CARDBOARD FILLING STATION



The cardboard packaging is quite easy to standardize and it is suitable for fragile product storage. Some particular options can be integrated to our cardboard filling lines, such as: the managing of the top cardboard withdrawal or the program changing. Our cardboard packaging lines offer maximum performance and ensure security and confinement of the process.

PalSack Filling Station



Rates: 50 - 100 sacks/hr.
Capacity: from 5 to 60 kg/sack
Objective: packaging of all sack types

CONFINEMENT, PRECISION, CLEANABILITY

Advantages

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

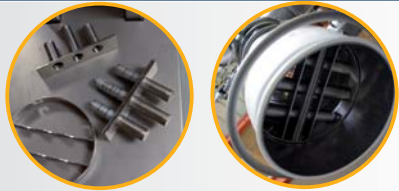
TECHNICAL SPECIFICATIONS

Rate: from 50 to 100 sacks/hr.
Manufacturing material: mild steel, stainless steel 304L, stainless steel 316L
Dosing accuracy: +/- 40 g.
Dust collecting rate: 200 m³/hr.
Inflatable seal: FDA

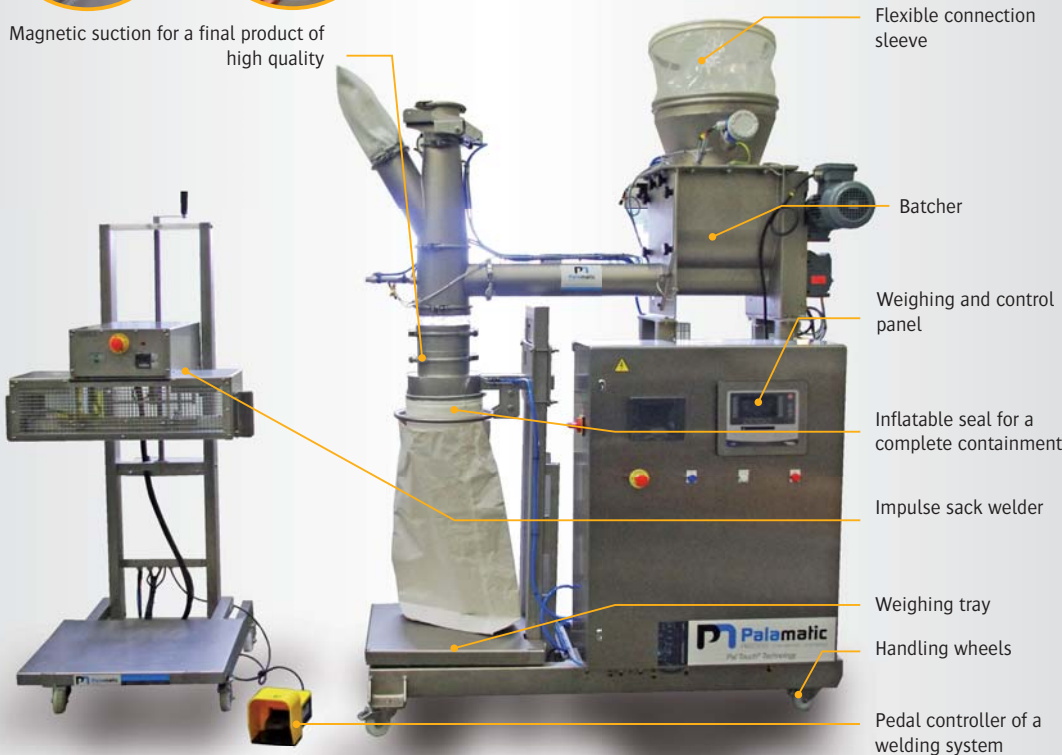
OPERATING SEQUENCE

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



Magnetic suction for a final product of high quality



Minimized product retention



Compact design and cleanability of the system



Rotary valve for product dosing

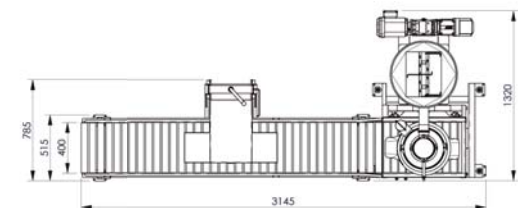
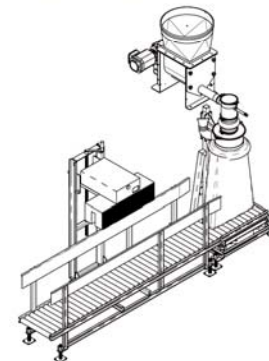
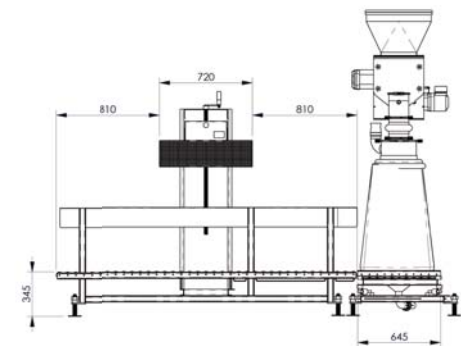
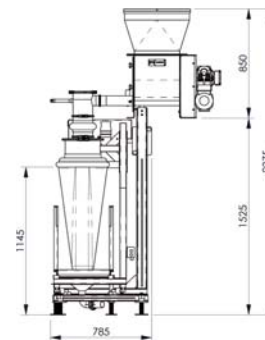


Clamping ring allows accommodation of all types of sacks

Advantages



GENERAL PLAN



PalSack Filling Station



▶ TYPES OF HANDLED SACKS

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.



▶ Integrated magnetic bars for ferrous particles capturing



▶ Sack welder for a complete containment



▶ Screw feeder for a high-accuracy dosing



▶ Manual and automatic sampler for a product quality control



▶ Weighing table with a possibility of commercial weighing



▶ Manual or automatic cardboard closing by an operator

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.

▶ EXAMPLES OF INSTALLATIONS



Hygienic conditioning of milk powder



Packaging of the flavoring agent



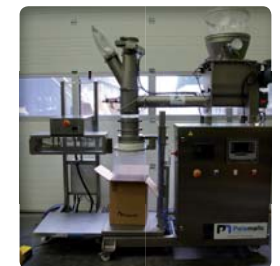
Packaging at the sieve output



Icing sugar line and double packaging



Sack filling for further conditioning to cardboards



Packing to cardboards with internal sack layer

Options - Different sack connections



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.



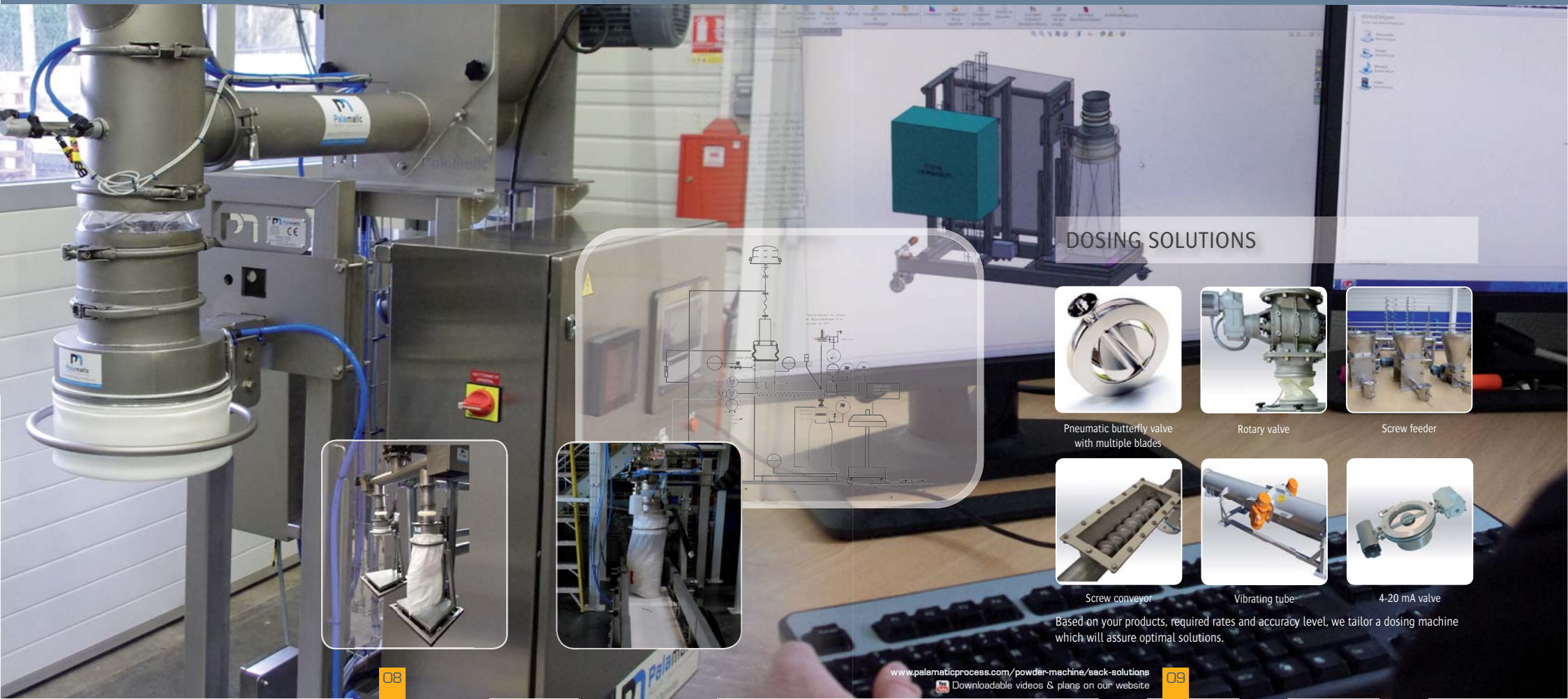
Half-shells: a sack fixation is ensured by means of half-shells with an oval mouth design equipped with two jaws activated by pneumatic cylinder. This connection type is recommended when the sack is suspended while filling.

See all our options on pages 14-17

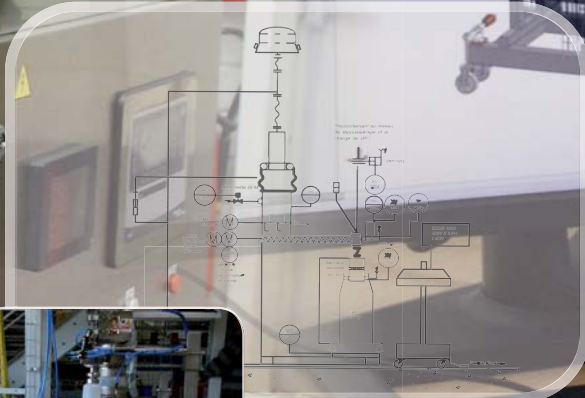
POSSIBLE FUNCTIONALITIES

- 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...

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.



DOSING SOLUTIONS



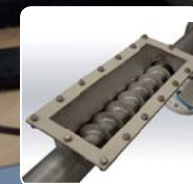
Pneumatic butterfly valve with multiple blades



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.



Examples of Installations

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 AUTOMISATION TOWER OUTPUT

Client: Food processing plant

Product: Fish flour

Characteristics: After coming out of the automizing 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



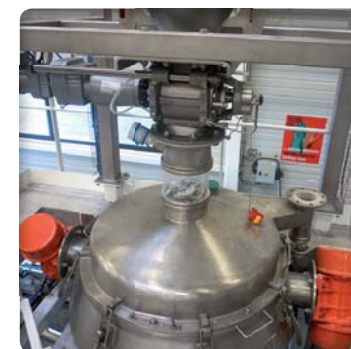
HYGIENIC CONDITIONING

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



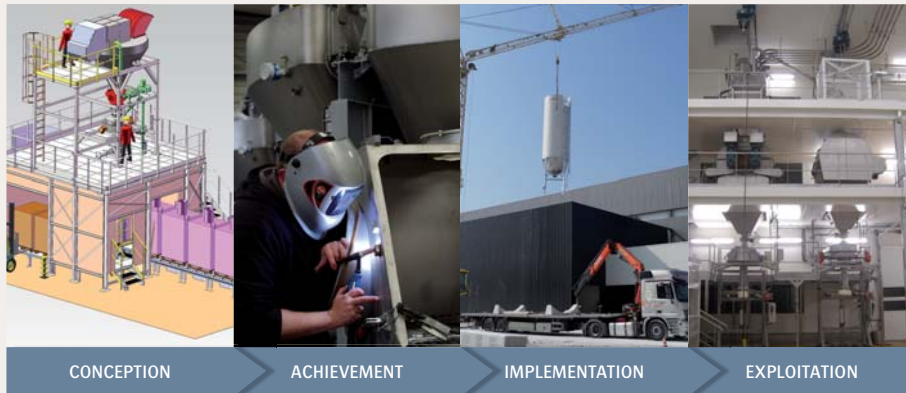
PalSack Filling Station



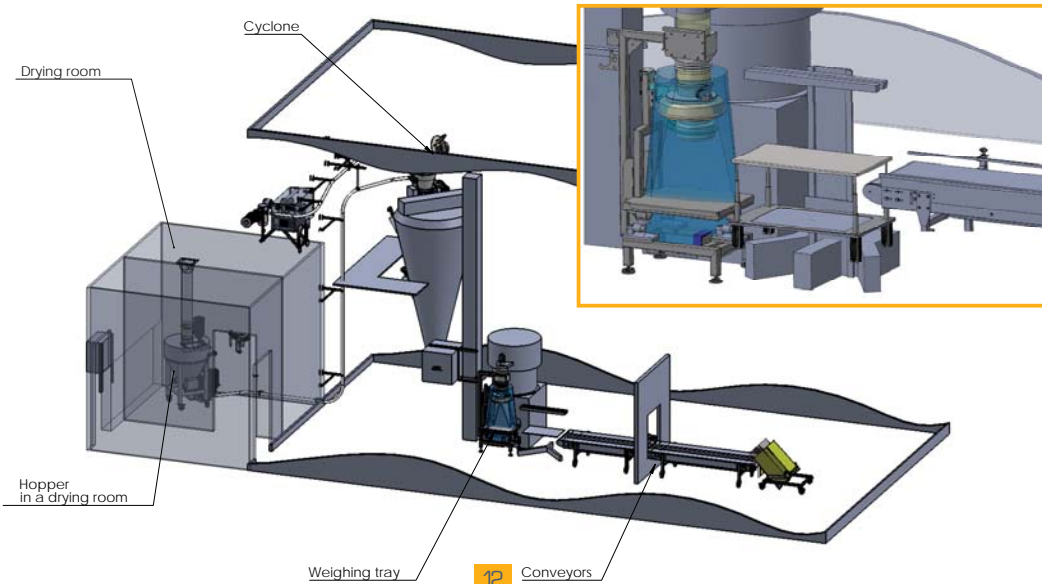
Complete Lines



Support
"from **CONCEPTION** to **EXPLOITATION**"
for complete processes



FOOD POWDER CONDITIONING TO SACKS



SEMI-AUTOMATIC SACK CONDITIONING LINE

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. Sack 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 discharging 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 authorises 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.





▶ 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.



▶ 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.



▶ 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.



▶ 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.



▶ 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.



▶ VIBRATING TRAY FOR A PRODUCT COMPACTION

Vibrating motor

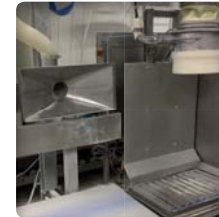
The vibration of the sack at the end of conditioning process ensures the optimization of the sack volume. Another alternative: compression by air or mechanical pression.



▶ BALANCING

Double envelope filling head with filter sleeve or dust collector for the connection to your dust collection network.

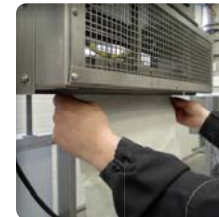
The balancing ensures healthy environment without dust.



▶ 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.



▶ WELDER

Sack welder - from 4 to 20 sacks/min.

If the welder is manual there is a possibility to install a load balancer. It is particularly suitable for plastic sacks with the weld length (width) going from 650 to 1 000 mm. There is a large variety of possible weldings depending on the chosen welding technology: double pulse welding, thermal welding, hot air welding etc.



▶ SEWER

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



CLIPPING MACHINE

Internal bag closing

Manual or automatic clip (staple) 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

It can be installed on load cells.
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 instruments) 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.



PALLET SRETCH WRAPPING MACHINE

Stretch wrapping machine with the film.

PalDrum Filling Station

DRUM AND BUCKET FILLING



Drum and Bucket Filling

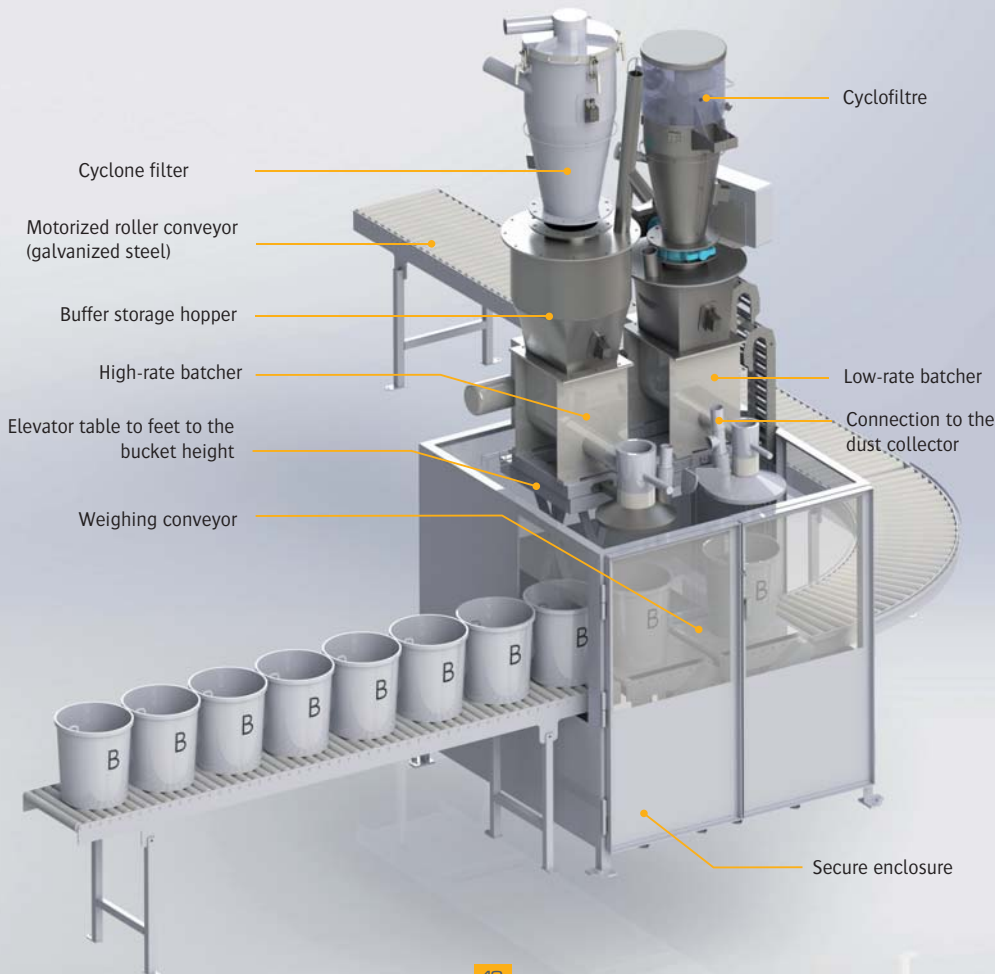
Rates: 4 000 L/hr.
Capacity: drums up to 300 kg
Objectives: Target weight product conditioning

DRUM AND BUCKET SEALED PACKAGING

Drum and bucket filling is a common operation while working with powders in pharmaceutical, chemical and food industries. However, depending on their products and applications, companies frequently need completely sealed filling stations, in order whether to protect operators, or to preserve product characteristics. PALAMATIC PROCESS offers standard and custom-made packaging solutions for drums and buckets that guarantee healthy working environment with no dust particles. We offer automatic and semi-automatic stations that can be completed by roller conveyor system.

CHARACTERISTICS

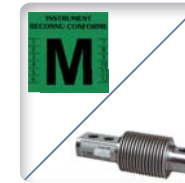
- **Material in contact with the product:** stainless steel 304L/316L
- **Feeding mode:** continuous or under a storage hopper
- **Weight or volume dosing**
- **Dosing control system** for a high level of accuracy
- **Manual or automatic dosing**
- **Dosing methods and tools adapted for a desired accuracy**



Containment and sealing of filling process



Filling rates adapted to your production requirements



Dosing system: 4 load cells, installed under the conveyor legs, automatically adjust the batcher and ensure autonomous and accurate filling



Accumulation and ejection conveyors provide buffer storage and ensure the drum transfer for further strapping process.

Advantages



DIFFERENT CONNECTION HEADS



Puyès ring ensures the fine particles suction



Inflatable seal provides a completely sealed filling



Connection plate



Connection lid with compression flange for filling on the pallet

Drum and bucket filling requires an optimal containment to prevent dust emission and product contamination by foreign bodies. In order to meet this requirement, PALAMATIC PROCESS offers several packaging versions depending on the height, accuracy and product type constraints.

Options



Drum manipulator



Conveyor

▶ MANUAL PALDRUM STATION



[+] Characteristics

- Standard packaging station
- Manual drum and bucket hanging and positioning
- Suitable for all container types

Operating sequence: Manual gravity filling station. The drums/buckets are positioned under the filling opening (its height is previously configured according to your technical specifications) by an operator. Product filling is carried out by gravity. Once the packaging process is over, the operator moves drums/buckets to the storage place.

The economic version of the PalDrum product range, this packaging station can be custom-made according to your product type, content and desired production rates.

▶ PALDRUM SEMI-AUTOMATIC STATION



[+] Characteristics

- Semi-automatic packaging stations
- Storage, evacuation, automatic product dosing
- Manual drum/bucket hanging and positioning

Operating sequence: Gravity semi-automatic filling station. The operator puts a drum or a bucket on the roller conveyor. By means of an isolating device the drum/bucket is transported to the weighing platform. A position sensor allows managing a precise drum/bucket positioning. First, it is blocked on the platform, and then weighed. The operator manually connects the drum/bucket with the filling outlet. The filling process is carried out sealingly, a vibration system is activated at the same time in order to ensure an optimal product compacting. The storage and evacuation of the drums/buckets are carried out automatically.

▶ PALDRUM AUTOMATIC STATION



[+] Characteristics

- Motorized conveying
- Automatic drum/bucket positioning at the packaging station
- Automatic hanging and dosing to the palletizing station

Operating sequence: PalDrum is completely automated drum and bucket packaging station, it allows a high performance level as there is no need of operator's intervention. From the positioning of the containers on the conveyor to their evacuation and storage, the process is carried out and controlled by machines.

The most efficient version of the PalDrum product range, this packaging station offers high filling rates and a minimum of human intervention. The automation of the process ensures the drum/bucket manipulation to quickly set them on the roller conveyor.

PalBox Filling Station



Rates: 4 000 L/hr.
Capacity: 50 kg
Objectives: Target weight product conditioning to cardboards

ENSURE PACKAGING OF THE FRAGILE PRODUCTS TO CARDBOARDS

Semi-automatic or automatic weight cardboard filling station ensures conditioning of the fragile products. The filling head adjusts to the cardboard height and guarantees the highest level of performance.

OPERATING SEQUENCE

1. The cardboard is manually positioned on the roller conveyor
2. The table, where the cardboard is positioned, automatically lifts to the filling sleeve
3. The product is poured to the cardboard in a controlled manner due to the load cell system
4. The table descends and the cardboard is moved to the abutment point
5. The operator takes the cardboard from the filling station with the help of a suction cup manipulator



MODULE DETAILS CONSTITUTING CARDBOARD PACKAGING LINES

MAGNETIC SEPARATOR

The detectors-ejectors are very effective and help to remove ferrous particles from the product flow, even those slightly magnetized and of a very small size. Metal detectors are designed for extremely accurate metal detection, they remove all the ferrous particles, magnetized or non-magnetized (iron, steel, stainless steel, aluminum) that can be mixed with powder products in gravity chute. This is the ideal equipment that guarantees both, protection of your installation and production; it particularly suitable for chemical and food industries.



LIFTING VIBRATING TRAY

The lifting vibrating trays are designed for the product compaction in such containers as cardboards, drums, buckets etc., that are moved by means of roller conveyors. This equipment is used for product densification in the containers in order to increase the apparent product density or only for the slope that is formed after filling process. The height of the lifting tray is adjustable by means of the proximity sensors. After the table is down, the charge and the roller conveyor are weighed together. This is an ideal solution for the filling installations.



Storage

Magnetic bars

Magnetic separator and ejector

Dosing module

Servo control system

Containment

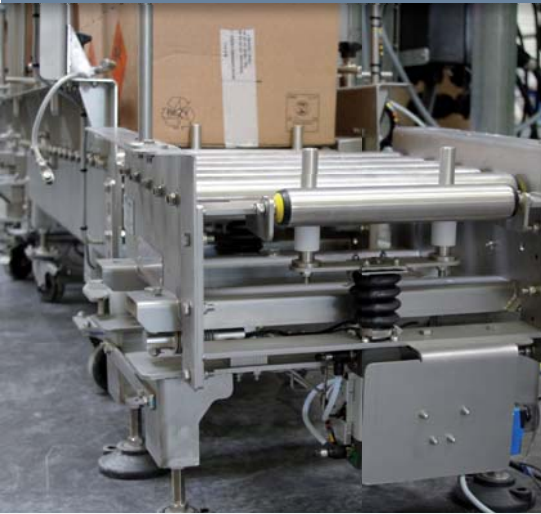
Outfeed conveyor

Vibrating and lifting weight tray

Infeed conveyor for empty cardboards

Dosing modules are adjustable depending on your products: screw, band, valve, vibrating feeder etc.

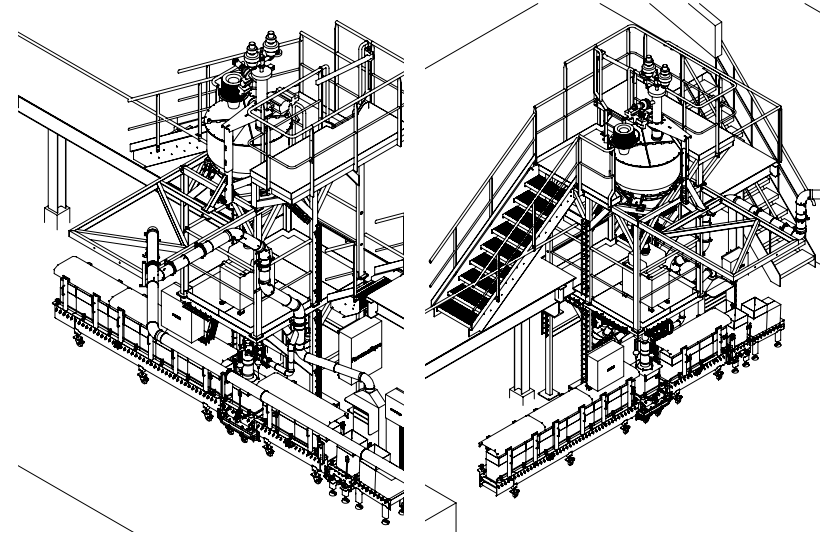
PalBox Filling Station



▶ CONVEYING LINE STOPPERS

The stopper represents a fixed final mechanical element of the conveying line, the aim of which is to allow stopping or accumulating of the arriving transferred product. This stopper protects the production line.

For the proper functioning of the conveying line, retractable intermediate stoppers (controlled by pneumatic cylinders) can be positioned.

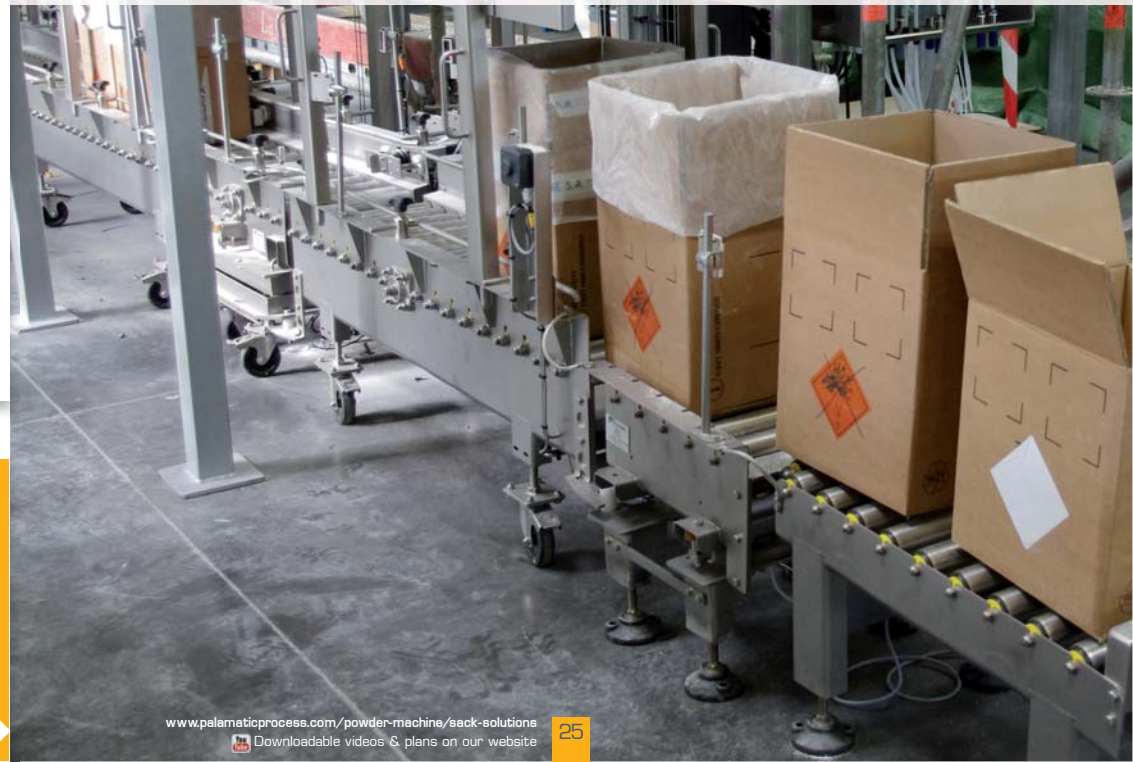


▶ COMMERCIAL WEIGHING

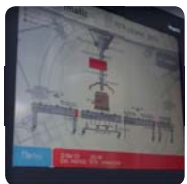
The commercial weighing stands for a final stage of the raw material packaging to cardboards. At the end of the conveying line the cardboard is positioned on the scale, also called a non-automatic weighing instrument (NAWI). The operator performs such operations as: the control of the sack weight, withdrawal of the weighed loads.

The cardboards are ready for palletizing and storage.

20 KG-CARDBOARD FILLING INSTALLATION IN A CONFINED ENVIRONMENT



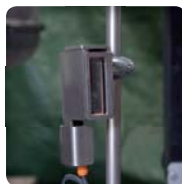
Advantages



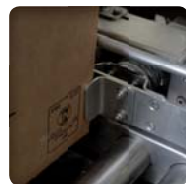
▶ **Control panel** ensures an instant production management



▶ **Load cells** ensure the control of the integrated product quantity



▶ **Scanning** guarantees the tacking of the packaged cardboards



▶ **Abutment point** allows stopping of the moving cardboards and their removing by an operator

Automation

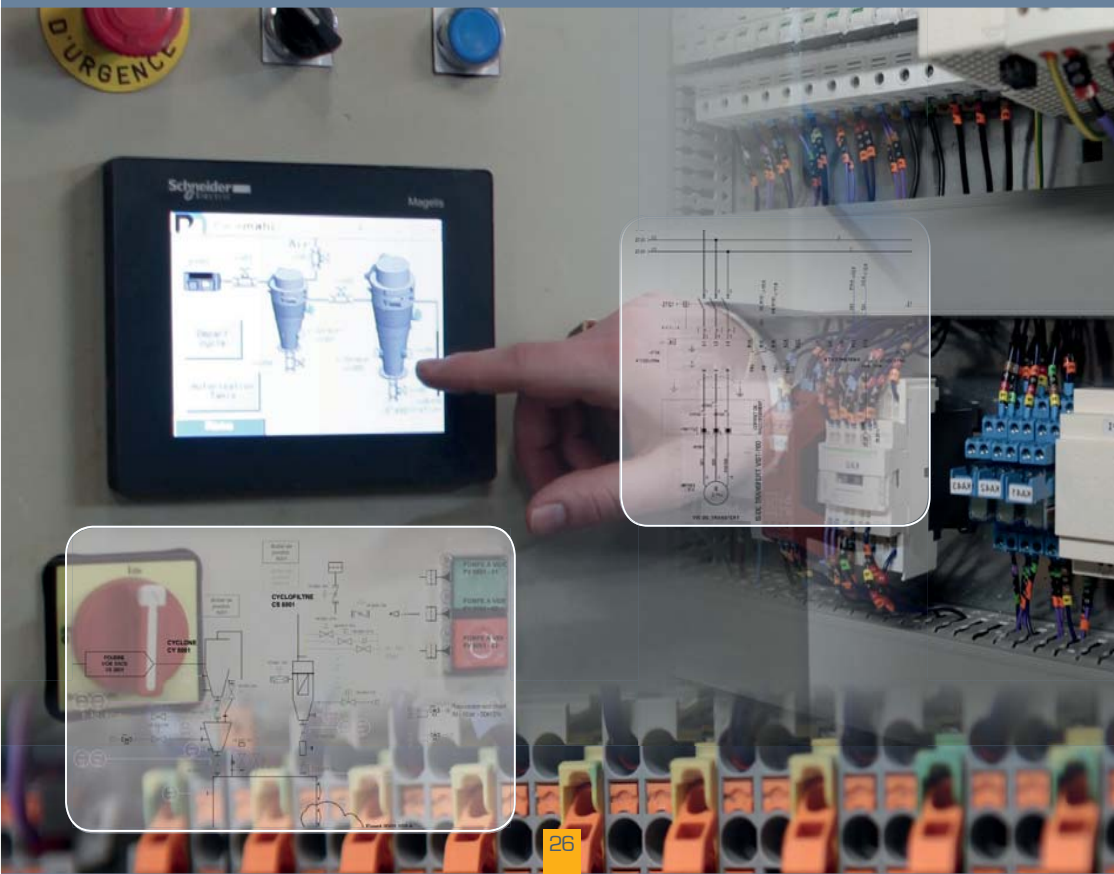
SERVO CONTROL SYSTEM, CONTROL, TRACKING

Our engineering office designs and performs the whole set of control cabinet in order to offer you maximum of functionalities and ergonomics.

Programmable Logic Controllers are the result of the partnership with the biggest market players: Schneider Electric, Siemens, OMRON, Allen Bradley.

Our installation connectivity ensures:

- Continuous service and evolution
- Perfect integration to your existing process
- Flexibility and continuous operating due to our remote maintenance service



Test Plant



PALAMATIC PROCESS powder laboratory was designed for the needs of our industrial clients wishing to determine the best suitable machines for their process.

Our test center is made up of the latest machinery of the powder handling sector. Specialist engineers are there to advise you on the industrial processes 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 Step 2 - During Test Step 3 - After Test

- Select the likely optimal machine configuration based on your technical requirements (powders, flow rate, dosing)
- Draft test proposal by our sales-engineers representatives
- Process validation for product testing
- Perform testing and sample collection
- Discussion on results after the test with machines (phase diagram, degradation tests, fines content)
- 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 on your investment
- ▶ Maximize the optimum selection of the proper machine
- ▶ Capitalize on the wide experience of our experts

- ▶ Come with your materials
- ▶ Participate in selecting the test machines
- ▶ Maximize your productivity

- + than **300** process configurations
- **2,400** sq. feet of surface dedicated to the test
- **35** industrial machines
- **35** feet of ceiling
- Test with **all types of products**
- **2** support engineers
- **ATEX** configurations

300
+ than **300** configurations

Commercial Weighing Guide

WHAT ARE THE NOTIONS WORTH KNOWING REGARDING COMMERCIAL WEIGHING?

▶ LEGAL METROLOGY

The legal metrology is an activity by means of which the State using regulatory means regulates the measuring instruments. The objective of this intervention is to guarantee the measuring instruments or operations affecting public interests: public security, environment and health protection, fair trade loyalty etc.

▶ OBLIGATIONS REGARDING WEIGHING AND MEASURING

The delivered product quantity has to correspond to the declared quantity. The weight has to be announced to customers if the product is weighed at the moment of purchase (bulk sales); in case of prepackaging the weight information has to be indicated on the package. The use of measurement units other than the legal ones (kilogram, litre, centimeter etc.) is prohibited.

Weighing tools

When selling bulk products by weight, the weighed quantity has to correspond to the weight displayed on the weighing scale. Merchants have to use measuring tools and methods that comply with the required standards intended to protect customers and fair trade loyalty (legal metrology). A merchant, having a non-automatic weighing instrument, (NAWI) has to possess a certified scale. He has to monitor the conformity and a proper maintenance of his instruments, specially by holding a metrological logbook (it has to be obtained not later than one month after the scale installation) and by performing a constant control and service stipulated by the legislation norms, particularly the periodical certification.

A periodical certification has to be carried out:

- Every 2 years for the instruments used for direct sales and the capacity of which is not more than 30 kg.
- Once every year for all the other instruments.

The periodical instrument verification is certified by a green vignette affixed on the scale and visible for customers (a non-confirmation is attested by a red vignette).

▶ PREPACKAGES

Regarding prepackaged products of constant nominal quantity, for the quantities equal or above 5 g or 5 ml, the actual content has to be measured and controlled by a certified instrument and be to date with its controls. The products have to contain on average the quantity indicated on the package: the package can contain a little bit more or less than indicated. However, a minimal quantity has to be guaranteed.

The amended decree from 31 January 1978 describes the required conditions of the prepackages when gathered in batch (with or without "E")

Prepackages and batches have to contain on average a nominal quantity indicated on the etiquette:

- Batches have to contain a sufficiently small amount of defective prepackages in order to pass statistic tests of the official control.
- The conditioner or importer have to respect these two conditions by auto-control

Defective prepackage stands for a prepackage the actual content of which is less than the indicated nominal quantity minus a negative error (or a maximum permissible error, marked E)

Example: for 1 000 g a negative error is 15 g

$QN - E = 1\ 000 - 15 = 985$ g. Every prepackage containing less than 985 g is defective.



▶ DEFINITION OF THE DEFECTIVE

The table is taken from the article 4 of the decree 78-166; it displays a maximum permissible errors "E" based on the nominal quantity QN.

Nominal quantity QN in g or in ml	Negative error "E" in g or in ml	
	In % of NQ	Constant over the interval in g or in ml
5 to 50	9	
50 to 100		4.5 g/ml
100 to 200	4.5 %	
200 to 300		9 g/ml
300 to 500	3 %	
500 to 1 000		15 g/ml
1 000 to 10 000	1.5 %	
10 000 to 15 000		150 g/ml
More than 15 000	1 %	

In a batch of prepackages the average measured nominal quantity has to be at least equal to the indicated nominal quantity.

▶ REFERENCE TEXTS

Consumer code: article L213-1

Decree #91-330 from 27 March 1991 concerning the non-automatic weighing instruments

Decree from 26 May 2004 concerning the non-automatic weighing instruments, in operation



Zoom on NAWI / AWI definitions

WHAT IS NAWI?

A non-automatic weighing instrument (NAWI) is an instrument which determines the weight of a product using the gravity effect on this product and that requires the intervention of an operator during the weighing process (e.g. scale, weighing machine, weighing hopper etc.)

WHAT IS AWI?

An automatic weighing instrument (AWI) determines the mass of a product without the intervention of an operator and follows a predetermined program of automatic processes characteristic of such an instrument (e.g. weight feeder, circuit scale, wheel loader etc.)

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@palamatic.fr

Sales Department: +33 (0)2 22 93 63 08

ZA La Croix Rouge • 35530 Brécé • France

Tel: +33 (0)2 99 86 06 22 • Fax: +33 (0)2 99 86 08 10

SAS au capital de 331 822 euros • R.C.S. Rennes B 384 894 093 • APE 4669B • N° T.V.A. : FR 14 384 894 093