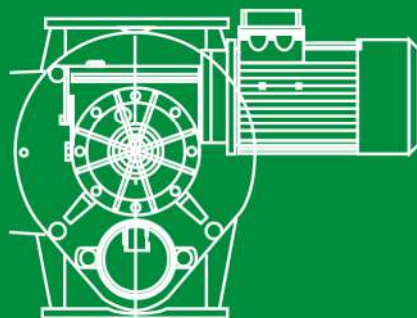


**CHEMICAL  
INDUSTRY  
DIVISION**

**PN**  
**Palamatic**  
PROCESS >>> machines • engineering



*Bulk material & powder  
handling solutions*





Reaction skid

4 - Chemical Industry Division

6 - Factory & production line designer

8 - Your project

- Turnkey solutions
- Engineering / Audit
- Examples of realisations

14 - Automation & electricity

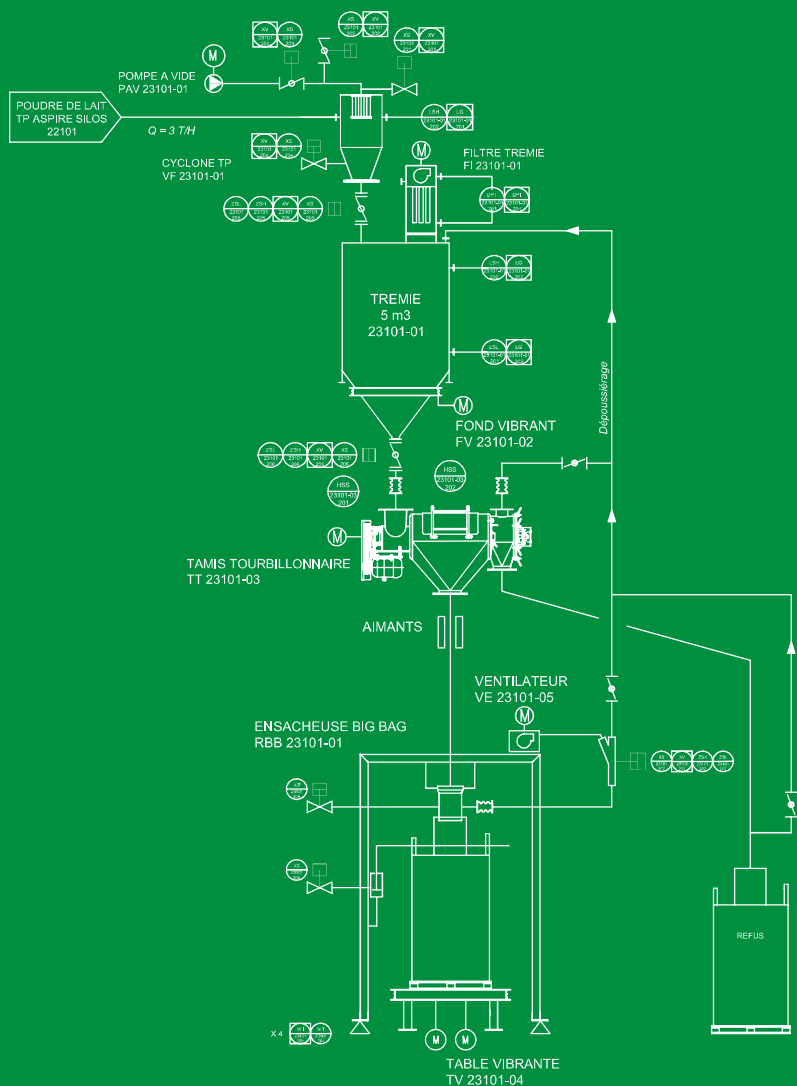
16 - Equipment

18 - Services

- Test plant
- Assembly
- Commissioning
- Customer services

22 - Atex and sectors

# SUMMARY



# EXPERTISE & TECHNOLOGY

# CHEMICAL INDUSTRY DIVISION

Our clients are often faced with the relative competitiveness and requirements relating to the product quality. PALAMATIC PROCESS integrates into its production line designs equipment to meet the constraints of traceability, precision dosing, mixing quality and high production rates. From the reception of raw material to the packaging of «finished products», we guarantee an optimal process ensuring consistent quality of production and performance under control. Our innovative and high quality equipment is perfectly adapted to the high standards of the chemical industry. Our engineers master perfectly the problems of these sectors and define the ideal equipment with you. PALAMATIC PROCESS ensures the success of your project.



*Extrusion line for batteries  
under nitrogen*

# RECOGNISED EXPERTISE

Optimal knowledge of the world of chemical industry production provides PALAMATIC PROCESS customers an assurance of quality for the success of their production line, and / or integration of new equipment. Our offer includes :

- Atex standards
- Easy cleaning with «Clean In Place» CIP / NEP for perfect hygiene.
- In compliance with rules of cross-contamination
- Containment of toxic products
- Dosing of raw materials
- Dedicated lines
- Respect for processed products (product degradation, humidity)
- Material certificates of the constituents
- Traceability automation for all your batches

Together we shall define the technical solutions adapted to your production goals, manufacturing requirements and security constraints (ATEX, inerting, toxic).

The wide variety of products used in this sector therefore requires adequate treatment according to the nature of the product (solid, liquid, flammable, oxidizing, toxic ...).

Our team of engineers and technicians are fully trained in the integration of various technologies for these substances.



# CHEMICAL INDUSTRY DIVISION



PALAMATIC PROCESS offers turnkey assemblies for loading raw materials into a process that involves the transformation of petroleum derivatives (plastics, synthetic fibers...).

Our equipment covers the different steps for the logistics of these raw materials: from storage to pneumatic transfer through metering and automation.

- **PETROCHEMICALS**
- **PLASTIC**
- **PAINT**
- **PIGMENTS AND DYES**
- **PESTICIDES AND FERTILIZERS**
- **PAPER PRODUCTION**
- **TEXTILE MANUFACTURING**



# FACTORIES & PRODUCTION LINES DESIGNER

Our engineering team and technicians are trained on different technologies and attentive to our customers in order to deliver adequate optimized installations with specifications that are imposed upon us.

Our conception is modelised in 3D with SolidWorks to give our customers the possibility of a better «in space» visualization of the design and integration proposals. Do not hesitate to contact us for your projects, be they new equipment integration in your production lines or full turnkey installations, we are at your disposal to draft a detailed technical proposal.

- PRODUCTION FEEDING
- TRANSFERRING
- SIFTING
- STORING
- DOSING
- MIXING
- PACKAGING
- AUTOMATING
- ASSEMBLY
- TRAINING



■ CLARCEL ■ SILICONE ■ CARBON BLACK ■ TITANIUM DIOXYDE  
■ ZINC COATING ■ NYLON ■ THERMO-PLASTIC ■ GRAPHITE ■  
SODIUMOLEATE ■ RESINS ■ SULPHUR ■ EPOXY-POLYESTER ■ ANTIMONY

### Containers or pneumatic conveyor ?

Based on your production, our engineers select batch and continuous techniques.



### Weighing, by-weight proportioning, additives, micro-ingredients or loads?

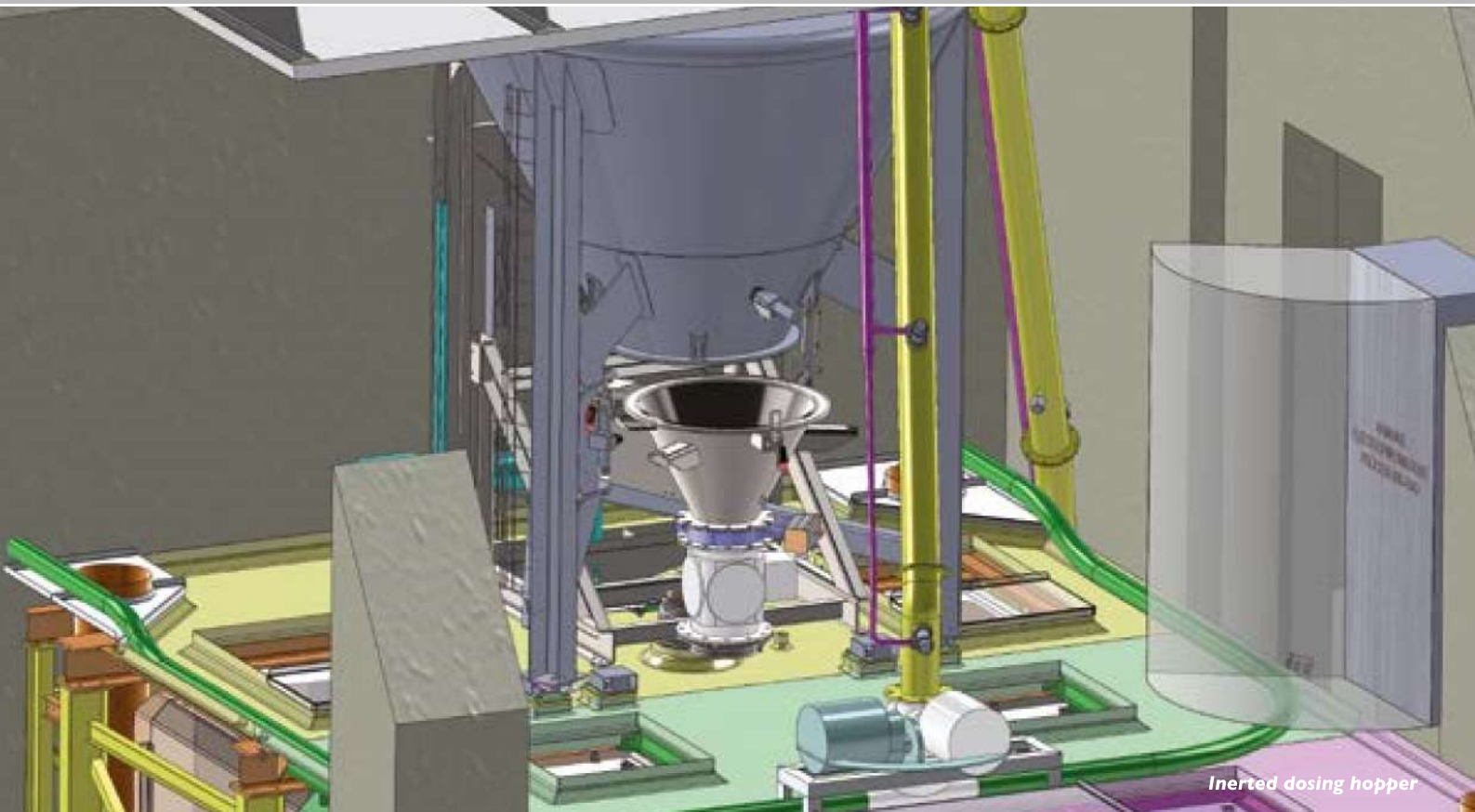
PALAMATIC PROCESS integrates the optimal solution by implementing volumetric, weight, or integrated dosing in-line on conveyors. Our many years of experience in the agri-food industry, chemical, pharmaceuticals, and animal nutrition allow us to offer you the benefits of this expertise.



# 2 APPROACHES TO ENSURE THE SUCCESS OF YOUR PROJECT

## PROGRESS OF PROJECTS

- 1 DESIGN-ENGINEERING
- 2 PLANNING
- 3 MANUFACTURING-PRODUCTION
- 4 AUTOMATION & ELECTRICITY
- 5 ASSEMBLY
- 6 COMMISSIONING



*Inerted dosing hopper*



*Feeding of under pressure reactors*



*Extruder feeding*





*Contained unit: deconditioning, transferring, dosage, reaction, filtration*

# 1

## TURNKEY SYSTEMS

Your product is unique! PALAMATIC PROCESS integrates innovative optimal solutions with custom equipment defined by our highly skilled experienced engineers. With attentiveness, reflection, and projection, our sales engineers provide you, through on-site visits, personalized studies and recommendations based on your current and forecast production. The wide range of feeding, conveying, mixing, lump breaking and milling equipment mastered by PALAMATIC PROCESS and the possibility of conducting tests in our test plant guarantees the success of your project and your production line's reliability.

### **Project management**

To meet your deadlines, we give importance to the establishment of a detailed schedule on MS Project

for each project. This planning stage guarantees a better visibility of project progress to meet the contractual delivery dates.

Upon receipt of order, PALAMATIC PROCESS edits a program and plans for approval. Scheduling is updated on a regular basis in order to meet contractual delivery dates.

Validation of equipment, as those of our designs or integrated equipment, forms the subject of a special undertaking in order to comply with the specifications.

Any subcontracting is also subject to qualification and strict control. All equipment and systems are subject to provisional acceptance. The technical folder is elaborated throughout the project to make it complete and ready for commissioning.

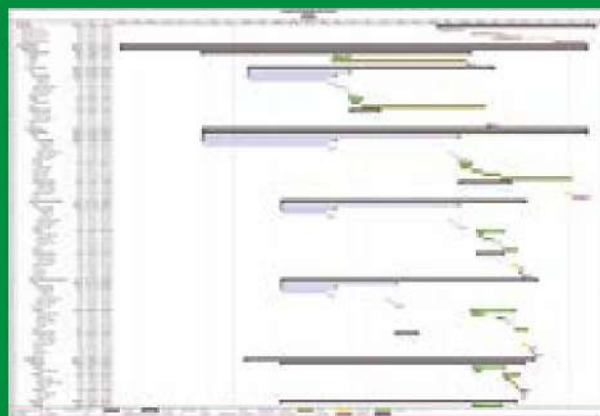


## 2

# « ENGINEERING / AUDIT »

To better fulfill your needs, PALAMATIC PROCESS **proposes advancing step by step**. This approach corresponds to **delegating a specialist engineer or team of engineers to your site** at any stage in your project: simplified preliminary draft (SPD), detailed preliminary draft (DPD), detailed technical specifications (DTS), tender package (TP), construction monitoring... With this engineering configuration, PALAMATIC PROCESS is positioned as **a catalyser for your project's progress**. Given our strong experience and the specific competence of our design engineers, you are ensured to get the best results regarding flow management, production machine occupancy

rate, equipment layout configurations, building volumes, standards and regulations (ATEX) and precise budgeting of your project.



*MS Project planning*

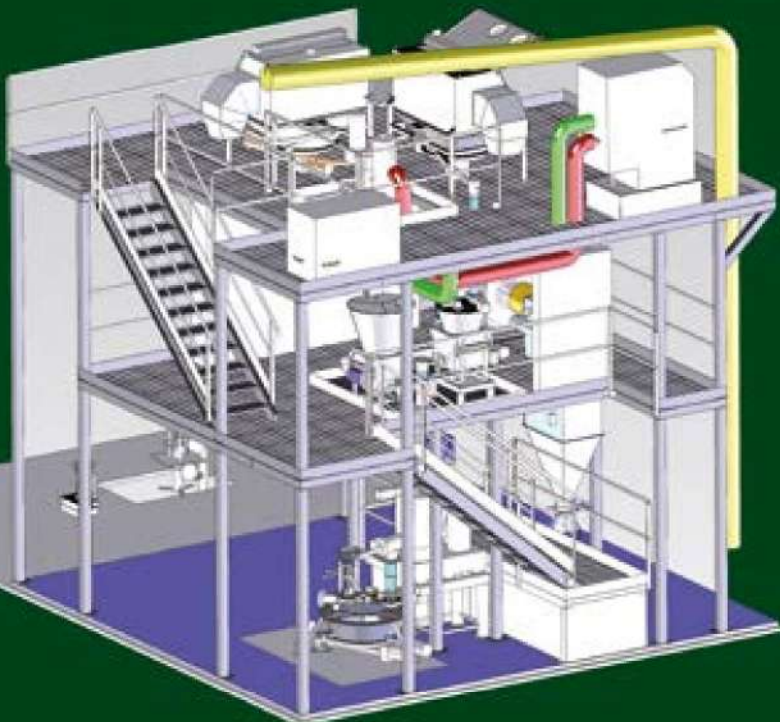
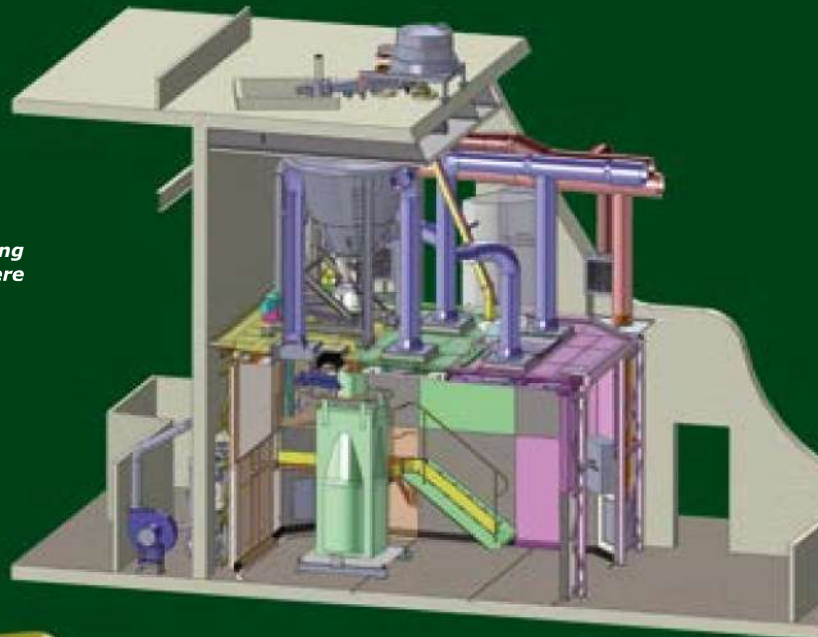


*SolidWorks software representation of Atex cyclofilter, 30t./h.*



*Final realisation*

*Big bag conditioning in an inert atmosphere*



*Process of incorporation and polymer preparation*

# EXAMPLES OF INSTALLATIONS



## ► PACKAGING LINE



**CLIENT** : raw material manufacturer

**OBJECTIVES** : conditioning the raw material without damaging the particle size at a rate of 25 t./ h. with detection and elimination of foreign bodies. The installation complies with ATEX 20/22 standards.

**PALAMATIC PROCESS EQUIPMENT :**

- . Set of conveyors and pallet destacker for automatic handling
- . Pneumatic conveying with explosion vent on cyclofilter
- . Vibrating sifter and magnetic detection inline
- . Weight feeding with controlled rotary valve
- . Big bag packing station model **Flowmatic® 04**
- . Automation of the whole system and control set by the operator via the control touch screen **Pal'Touch®**



Raw materials deconditioning area



Reactors loading

## ▶ LOADING RESINS INTO ATEX20 PRESSURISED REACTORS

**CLIENT :** petrochemical plant for the manufacture of varnishes and Gelcoat

### **OBJECTIVES :**

- 1 - Stop loading through the manholes to ensure complete safety
- 2 - Set up a booth on the ground for the discharge of raw materials (flakes & powder) ensuring efficiency, ergonomics and safety
- 3 - Ensure the transfer of products (4T/ h) in the pressurized reactor and at high temperatures (180 ° C)
- 4 - Installation in ATEX zone 0/20

**PALAMATIC PROCESS EQUIPMENT :** big bag discharging system, manual sack dumping unit, lump breaker, dedusting unit, pneumatic suction conveying.

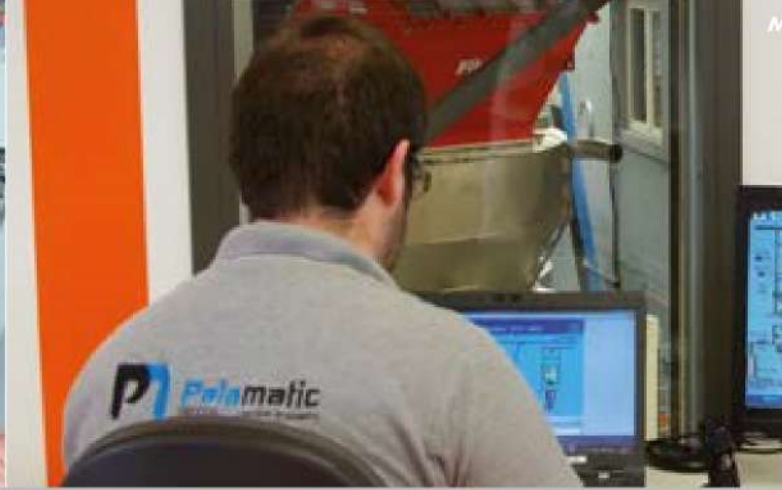
**PALAMATIC PROCESS INSTALLATION :** PALAMATIC PROCESS has developed very specific design allowing to break lumps and transfer resinous products without overheating, jamming and clogging of filters. The process is efficient with optimal and secure use for operators.

**RESULTS OBTAINED :** this innovative concept has become a PALAMATIC PROCESS specialty. Many industrialists subject to the constraints of loading reactors (in ATEX zones with difficult products) have trusted PALAMATIC PROCESS to update to the new standards, new installations or capacity expansions.





Power cabinet



Monitoring room



# AUTOMATION & ELECTRICITY

## PAL'TOUCH® technology



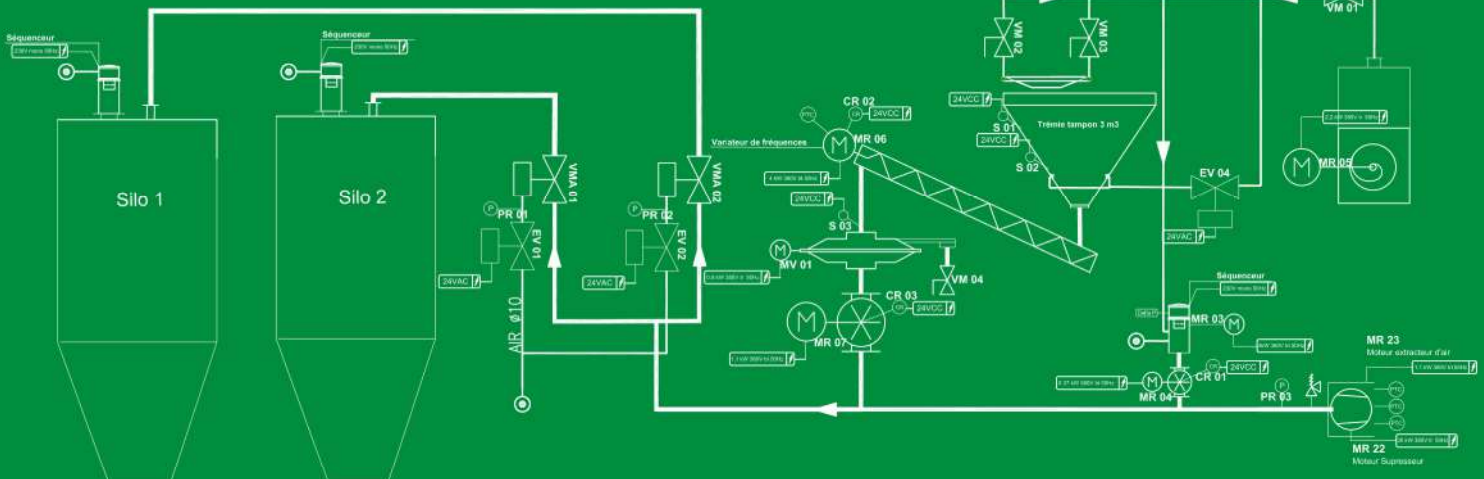
The automation design office is the guarantor of the proper functioning of your industrial automatons. In conjunction with the design office, it carries out the following operations:

- PLC programming (Siemens under TIA PARTAL V15, Schneider under Unity and SoMachine, Rockwell under CCW and Logic designer)
- Creation of operator screens (Siemens, Schneider, Rockwell, Beijer)
- Creation of supervision notices
- Analysis of customer specifications
- Permanent search for technical solutions
- Permanent updates of our programming standard.

Our automation staff will visit your plant to install your equipment.

### FEATURES

- SUPERVISION
- MANAGEMENT OF MANUFACTURING ORDERS
- MONITORING OF DOSAGES
- FORMULATION OF INGREDIENTS
- MANUFACTURING HISTORY
- REMOTE CONTROL OF THE PLC



# CHEMICAL INDUSTRY DIVISION



Dosing - microdosing - traceability - history - supervision

# EQUIPMENT



## UNLOADING

### Big bag discharging system

To facilitate the flow and containment ensuring ergonomics and operator safety

### Bag dump station

Bags opening, handling with manipulator, reduced size device

### Automatic sack opening system

Automatic opening with respect for fragile products and high cadence deconditioning

## FILLING

### Truck loading spout

Efficient loading of powdered and granular materials into tankers or open trucks.



## MIXING

### Mixer

Mixing 100% solid materials or incorporating liquids up to high viscosity

### Cyclone

Vacuum transfer in dense phase for all types of powders without retention and with line purge

### Hopper

Vacuum transfer system with integrated weighing system for introduction into melters

### Cyclofilter

For receiving powder on pneumatic conveying line





## AUTOMATING

### Pal'Touch

Lot traceability, operator identification and dosing reliability... Production monitoring is as important as the result



## DOSING

### Trough and tubular screw conveyor

Mechanical conveying for pulverulent



### Product feeding with pneumatic conveying

Weight or volume feeding for powders and granulates



### Rotary valves

Gravity or blow through rotary valves for the dosing of powders and the feeding of pneumatic conveying



## GRINDING

### Blade grinder

Micronization of your powders, blades technology, pins and hammers



### Granulator

Crushing of materials that tend to form clumps and ensure the fluidity of the product



### Centrifugal sifter

Implementation of the sieve on a pneumatic conveying line



### Vibratory sifter

Sieving for the protection of the line, elimination of agglomerates and foreign bodies



## PRODUCTION FEEDING

### Big bag filling station

Manual or automatic bagging unit for bulk and granular powders



### Big bag packaging

Conditioning of all types of big bags in a contained manner with densification and commercial weighing



## STORING

### Silos / Hoppers

For storage of your powders and granules, steel, stainless steel or aluminum manufacturing and flexible silos



### Stainless steel / steel container

For storage of your powders and granules, standard or customised models from 500 to 2500 l.

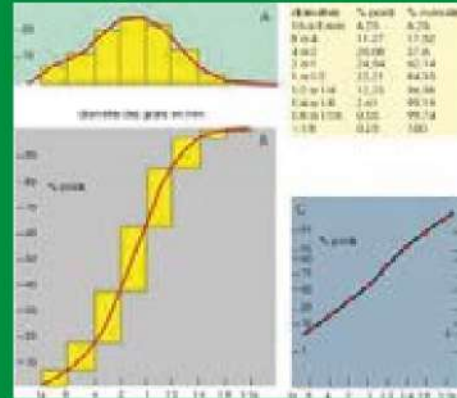


## ▶ TEST PLANT

Always with the aim to satisfy and provide you, the client with the best solutions for powders, PALAMATIC PROCESS can perform tests thanks to its in house **test centre** and its **demonstration equipment**.

- Pneumatic dense phase suction conveying
- Dosing
- Big bag unloading
- Milling
- Sifting

Thus, we validate the parameters required for your own products. This allows you to judge the performance of the PALAMATIC PROCESS equipment and secure your investment.



*Granulometric curve*





*Palamatic Process workshop*

## ► ASSEMBLY

We perform or supervise every step of your project from assembly to final commissioning. We can offer you a complete quality service with respect for your deadlines. The installation of our equipment in your premises is performed by our technicians anywhere in the world. The assembly of your production line includes handling, mechanical assembly, supporting piping and electrical wiring.

## ► COMMISSIONING

The commissioning stage provided by PALAMATIC PROCESS ensures the respect of your specifications. It includes :

- Final adjustments of the whole system by qualified personnel
- Checking of electrical connections
- Conducting of production tests

### **Training :**

PALAMATIC PROCESS provides comprehensive training to ensure optimal use of your production line. All your production, line conducting and maintenance teams are trained throughout the start phase.

A comprehensive and customised technical start up documentation is supplied with every installation.



*Plant installation*





[www.palamaticprocess.com/bulk-handling-equipment/mixer](http://www.palamaticprocess.com/bulk-handling-equipment/mixer)



*Mixer available for testing*

## ► SERVICE

### **Customer services and maintenance on site**

We guarantee after-sales service and quick delivery of spare parts and worn parts. Our service also proposes maintenance contracts adapted to your need.

PALAMATIC PROCESS after-sales service technicians move on site to provide the best solutions to your problems. Regular visits from one of our technicians guarantees operating efficiency and extends the life span of your installation.

Each of our technicians has received comprehensive technical training. Remote diagnostics are integrated into the automatons for increased reactivity. PALAMATIC PROCESS uses teleservice systems allowing remote diagnosis and support in a short time even if the clients are located far away.



# CHEMICAL INDUSTRY DIVISION



*Contained and automatic high rate unloading*

# ATEX REGULATIONS

## AUDIT AND COMPLIANCE



In your production processes, you are very frequently faced with the explosive nature of several materials like powder, gas or liquid. Explosions have huge consequences. When the atmosphere is explosive, a small spark (e.g. that of an electric switch or from the mechanical heating of a part of the machine) is enough to cause an accident or a disaster.

For many years, authorities and industries have worked on developing safety rules governing work conditions in such dangerous environments: explosive atmospheres. The new regulations, called ATEX regulations, were published and are effective as of the 1st of July, 2003.

PALAMATIC PROCESS provides its expertise to classify your risk zones based on the nature, frequency or duration of the presence of an ATEX regulation.

Today, PALAMATIC PROCESS delivers to its customers ATEX installations certified by notified organisms (Inéris, LCIE ...). PALAMATIC PROCESS has developed as a standard some equipment conforming to ATEX 0-20 / 1-21 / 2-22. Our engineers perform the zoning and drafting of risk analysis on new equipment and new facilities. PALAMATIC PROCESS ensures safe operation and full compliance with these standards.



**Palamatic**  
PROCESS >>> machines • engineering

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+33(0)2 99 86 08 10  
sav@palamatic.fr

CE Ex ATEX II 2/3D T240°C  
ATEX II 2/3G IIA T4  
T amb. -10°C / +40°C

DESIGNATION : VIDE SACS  
NUMERO DE SERIE : D 120 404 C  
ANNEE DE FABRICATION : 2012

En conformité avec les exigences de la directive 94/9/CE  
Le fabricant ne doit pas être mis en service sans que la machine dans laquelle il est incorporée ait été déclarée en conformité avec la directive sur les machines 2006/42/CE

80% of the installations delivered by Palamatic Process are ATEX compliant

# 5 SECTORS

*PALAMATIC PROCESS created five specific divisions to offer customers an efficient project team sensitised to constraints of these sectors.*

## FOOD & FEED

BABY FOOD ■ SPICES AND FLAVOURINGS  
■ MILK DAIRIES ■ ANIMAL NUTRITION FOR LIVESTOCK ■ PETFOOD ■ MILLS ■ BAKERIES  
■ SUGAR INDUSTRY ■ CONFECTIONERY ■ BEVERAGE AND JUICE MANUFACTURING ■ DIETARY SUPPLEMENTS ■ PRE-PREPARED MEALS



## CHEMICAL INDUSTRY

PETROCHEMICALS ■ PLASTICS ■ PAINT  
■ PIGMENTS AND DYES ■ PESTICIDES AND FERTILIZERS  
■ PAPER PRODUCTION  
■ TEXTILE MANUFACTURING



## FINE CHEMICAL INDUSTRY

PHARMACEUTICALS ■ COSMETIC COMPOUNDS ■ BIOTECHNOLOGY  
■ PRODUCTS ASEPTIC TREATMENT ■ DETERGENTS AND WASHING PRODUCTS  
■ AROMAS



## MINERALS & BUILDING INDUSTRY

CEMENT PLANTS ■ QUARRIES ■ INDUSTRIAL PLASTER (BOARDS AND POWDERS) ■ GLASS MANUFACTURING  
■ MINERALS AND METALS



## WASTE WATER & SMOKE TREATMENT

PREPARATION OF WHITENING ■ DISSOLUTION OF FUELS ■ TREATMENT OF ACTIVATED CARBON ■ ALUMINUM SULFATE TREATMENT ■ SLUDGE PROCESSING / TRANSFER / STORAGE / COOLING

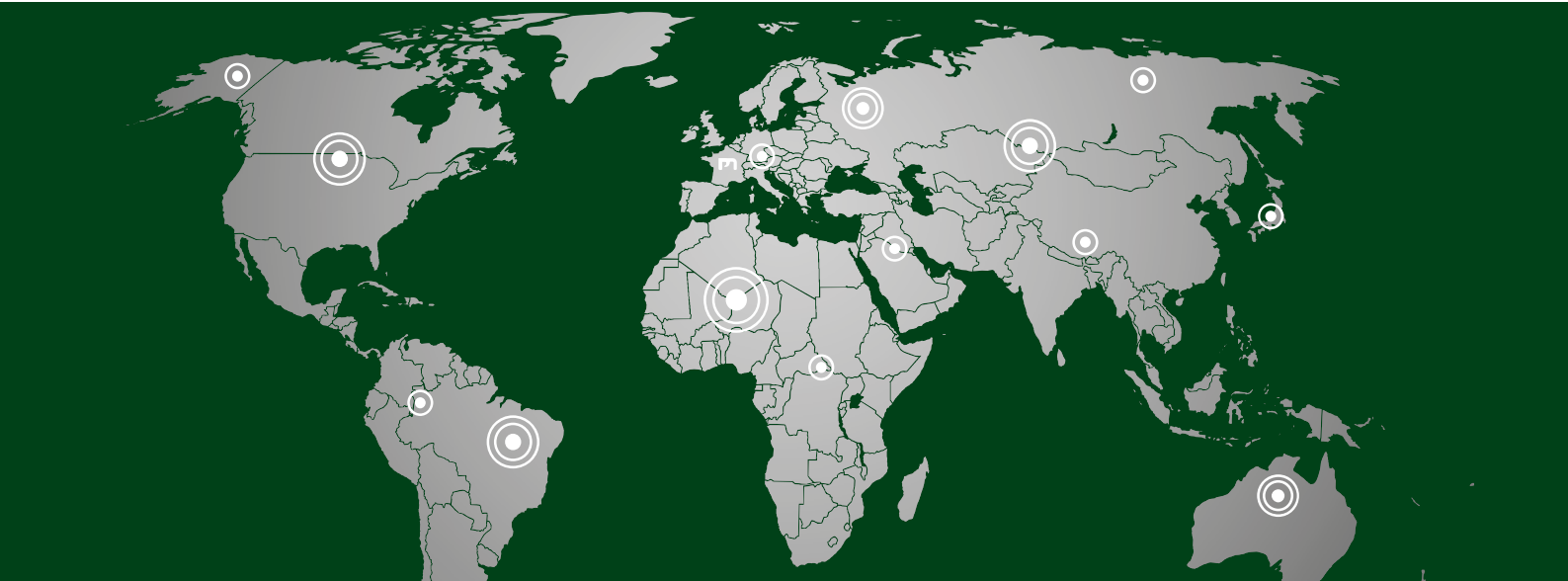




[www.palamaticprocess.com](http://www.palamaticprocess.com)



*Bulk material & powder  
handling solutions*



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