

# At the heart of your process

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# Activity

- Design and manufacture of industrial weighing and feeding equipment, mechanical and pneumatic handling equipment for bulk products.
- Assembly, wiring, commissioning, training, maintenance, spare parts.



# History

The company Sautelma was created in 1964 in Aix-en-Provence, south of France. During the first twenty years, the company had only been manufacturing the feeding and weighing machines for bulk materials (cement industry, carrier, foundries, coke production, steel industry, mining, and phosphate & fertilisers. Most of its clients were in France.

In order to anticipate the progressive decline of those industries in France and safeguard its future, **Sautelma has largely orientated towards Export and emerging countries**. Today, Sautelma achieves 60% of its turnover abroad.

Furthermore, **Sautelma has been diversifying** and currently also works in food industry, plastics, petrochemistry and mineral industry but also in the environment, water treatment and packaging.

The SAUTELMA buy-out by ROTOLOK Holdings Ltd in 1996 gave birth to SAUTELMA ROTOLOK. The cooperation between the different units of the group and Sautelma has provided the company with other activities such as pneumatic conveying systems and bulk handling.

Based on the market changes and on its clients request, Sautelma Rotolok has been more and more acting as a designer & supplier of industrial systems (packages). Sautelma Rotolok provides not only **engineering**, **design and manufacture** of these equipment but also **the assembly**, **commissioning and training**.



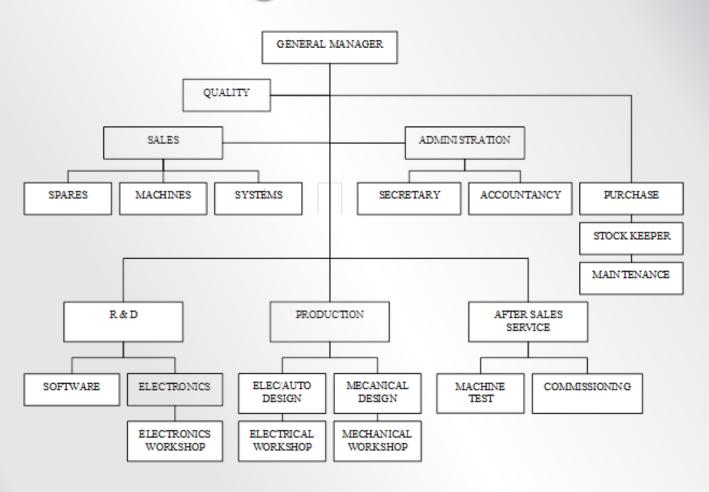
## Location

- Near Aix-en-Provence (South of France)
- 15 minutes from TGV station of Aix en Provence
  - 30 minutes from Marseille Provence Airport
    - 30 minutes from Marseille sea port
      - Next to the great highways





# Organisation





# The products

#### THE BELTWEIGH FEEDERS

#### BELT WEIGH FEEDER

The DLN type-belt weigh feeder with standard inlet hopper is selected for products flowing easily like limestone, clinker, coal, KCL, nitrate, ballast, carbonate, filler...)

\* It is often installed directly under a silo. It can also be fitted with a vibrating hopper.

#### BELT WEIGH FEEDER

The DLN type-belt weigh feeder with reversed sides feeding inlet hopper, is used for accurate dosing of very clogging products like gypsum, pyrite, clay, humid phosphate...

\* It is mainly fed by a rotating extractor.

#### BELT WEIGH FEEDER

The DLF type-belt weigh feeder with special inlet hopper (calming chamber) is selected for free and very free flowing materials. The weigh feeder is usually filled by a rotary valve or fluidised dosing valve. It can be used for dosing of row meal, fly ash, crushed phosphate or fluidised filler.





# The products

#### MINI WEIGHT BELT FEEDER:

The mini weight belt feeder is used for very diverse industries such as :

Food industry (petfood, cereals, chocolate, biscuits),

Chemicals industries (detergents, plastics, compound).

Fertilizers: Oligo-elements, filler, sulfate,

Pharmlaceutical industry: Calcium & Magnesium carbonates, silica,

Construction materials: Plaster

#### APRON WEIGH FEEDER

The DLM type-apron weigh feeder is used for accurate dosing of very clogging products (gypsum, humid limestone, pyrite, clay)as well as of the very hot clinker.

It's always installed directly under the silo

The advantage of this equipment is a low maintenance expenses.

It's also the only feeder which can be used for a very hot clinker dosing

### BELT WEIGHER (SCALE)

The Belt weigher SRT type is designed to acquire continuous material flow handled by a belt conveyor and by integration of flow rate determines the totalised amount of material.

The SRT Belt weighers are used for continuous weighing of all bulk materials.









#### BELT CONVEYORS & BELT WEIGHERS

SAUTELMA ROTOLOK design and manufacture a large range of mine type heavy duty belt conveyors.

The belt conveyor can be supplied with integrated weighing system (belt scale) or only as simple belt conveyor.

Some of Sautelma's belt weighers (conveyor with belt scale) are approved by OIML for commercial continuous weighing and can be used for commercial transactions.

SAUTELMA ROTOLOK supply also the "clean slide bed conveyors" for specific applications in food and chemical industries (cereals, detergents...).









#### LOSS-IN-WEIGH FEEDER

The Loss in Weight feeder extracts the product from a hopper and according with the fixed "set point" of the flow rate, adjusts the extracted weight by varying the extractor speed to keep constant the loss in weight flow.

The big size Loss-in-Weight feeder DPP 1000 is used in heavy duty industry for continuous or batch weighfeeding of Pulverized coal, secondary fuels, filler, phosphate, silica ...

The small size loss-in-weigh feeder are used for small rate of flow, to weight additive in the foodstuff, chemical, pharmacology and plastics (vitamins, salts, trace elements, enzymes, pigments)

The DPP300 **intermediate** Loss in Weight feeder, medium size, are used for average flowability products and for flow rates ranging from 100 to 1000 kg/h.









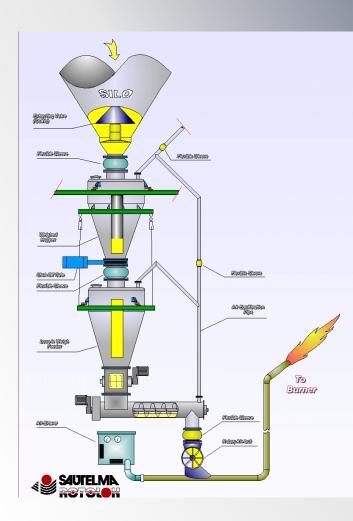
#### **SPECIAL WEIGHING SYSTEMS**

The double weight hoppers satisfies 3 requirements :

- . Loss in weigh system
- . Without dust emission
- . Automatically calibrated

This weighing system is a good alternative to the aux doseurs à rotor pesé ou débitmètre à effet Coriolis.

With the « twin » version, this special weighing system can be installed without having a great height.





#### FLOWMETER

The QUB Flowmeter is used for flow rate measuring of dispersed bulk products.

It is often used for measurment of refuse by the separator in cement grinding plants.

Associated with a weighing « helmet » valve in fluidised circuit, it can easily be used for raw meal or fly-ash weighing.



### WEIGHED SCREW FEEDER

Weighed screw, designed for continuous weighing of granular or powdery products. Combined with a variable throughput feeding device (Rotary and dosing valve, vibrating tray), it can also be used as continuous weigh feeding equipment.





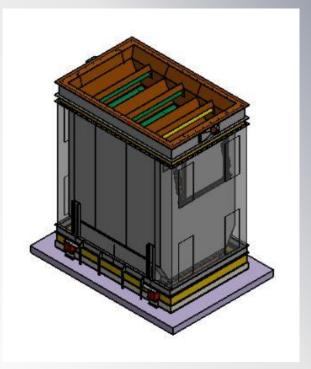
#### BULK HOPPER WEIGHER

The Bulk Hopper Weigher is a continuouse weighing equipment which act as discontinuouse totaliser with non constant batche weighing. The weighing is made by a high accurately weighed hopper headed by a set of filling clamshel gates mounted to the upper hopper and set of discharge clamshel gates mounted and flanged to the weighed hopper.

This equipment is specially well fitted for commercial transactions and highly accurate weighing of free flowing materials (cereals, fertilizers...) for ship loading & unloading applications.

The weighing cycle is managed by a MINISMART digital weighing controler (indicator):.

- In the beginning of the weighing cycle the clamshell gate of the weighing hopper is closed. Then the clamshell gate of filing hopper open and the material is transferred to the weighing hopper by gravity until it reaches the high level set point value. The SAUTELMA weighing controller MINISMART orders the closure of the filing clamshell gate.
- After a short time required cancelling the dynamic effects induced by the material fall into the hopper, the hopper is weighed, and the weight memorised saved and added to the previous sub-total including the unloaded residual mass.
- Then, the MINISMART system open the clamshell gate of the weighing hopper and the material is transferred by gravity in to the discharging hopper. After a certain amount of time which depends of the set point, a new cycle bregins.





## Pneumatic conveying

SAUTELMA ROTOLOK designs and installs DENSE and LEAN phase pneumatic conveying for all types of granular and powdery materials.

These installations are very often part of larger systems including storage silos, extraction and feeding equipment also proposed by SAUTELMA ROTOLOK

### PC « Dense phase »









## PC « Lean phase »









### « Vacuum pneumatic conveying system»









## Packaging

food, washing powder etc...

Sautelma Rotolok has designed, manufactured packaging machines such as check weighers and belt weighers.

### CV type Weigh feeding machine

The **vertical weighing & feeding machine** is gravimetric feeding equipment designed to deliver automatically out of the "weight" set point a specific quantity of product into the bags. The Sautelma Rotolok CV model weighing & bagging machine can be used for all type of granular and powdered free flowing materials like cereals, fertilizers, plastics, sugar, flour, pet







### Big bag weighing and bagging machine

The **BB weighfilling machine** is a gravimetric feeding equipment designed to deliver automatically out of weight set point a specific quantity of product into big bags .

The Sautelma Rotolok BB 1000 weighing & bagging machine can be also used in cement industries for cement packing in big bags.





### Check weighers

The **checkweigher** is a weighing machine running automatically to control the weight of any product automatically conveyed.

In the most various industries and for the most various products (boxes, tubes, pastry boats, bags, jars...) the SAUTELMA ROTOLOK checkweigher allows to:

- Check continuously the weight of pre-packed products and reject the unfit units. (metrological checking for pre-packed units),
  - Check the weight of grouped products to spot the missing units,
  - Categorize the products according to their weight,
  - Correct automatically a volumetric weigh feeding by feed-back program.









## Control command equipment

All Sautelma equipment are controlled by the MINISMART universal weighing & regulation microcontroller. The MINISMART is a digital electronics for control and display.

It can communicate with its environment through:

- Traditional wiring connections with 4.20 mA analogue signals and PFC digital signals,
- Serial connections (MODBUS)
- In networks in the field bus type such as PROFIBUS, INTERBUS, DEVICE NET, CONTROLNET...)
- ETHERNET IP / ETHERNET TCP MODBUS communications

The ELECTRICAL PART contains a frequency inverter, transformer, motor protections, relays and of course the MINISMART central unit.

It is usually settled in one electrical cubicle. When necessary is completed by one PLC.



## Control command equipment





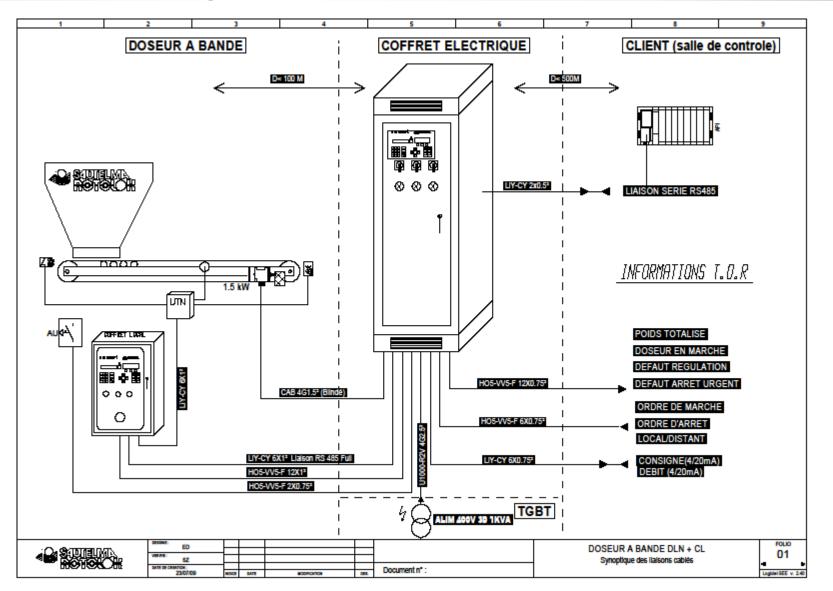


Standard control cubicle

Control cubicle with PLC and touch screen



### Connections: weigher – cubicle – PLC





## Supervision Applications

The PROCESSVISION is an ergonomic and easy to use supervision application.

It facilitates the control of a feeding station and continuous or discontinuous mixing of different ingredients.

The PROCESSVISION allows:

Controlling the achievement of a recipe,

Checking the operation of each feeder,

Presenting, storing the data specific to each feeders (tantalization, flow rates, alarms, etc),

Initiating files of statistics reports (can be used with Excel), Printing tickets or balances of production





# **Engineering activity**

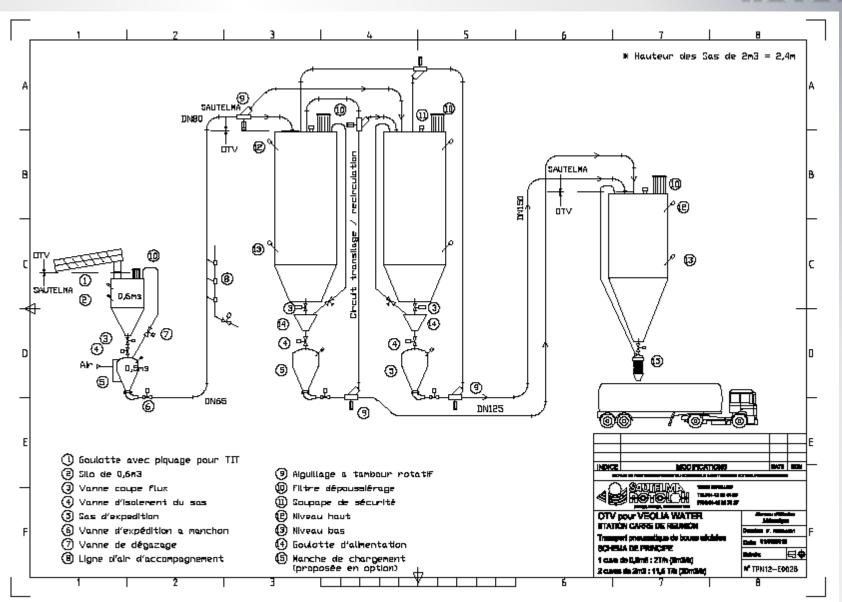
SAUTELMA ROTOLOK also design and supply a "package" or "turn key" projects including the handling (pneumatic or mechanic), storage, extraction and weigh feeding of bulk materials, for example:

- Fly ach handling and dosing systems,
- By-pass dust handling and dosing systems
- Pulverized coal handling and dosing systems
- Crushed phosphate handling and dosing systems
- Dry blending installations.

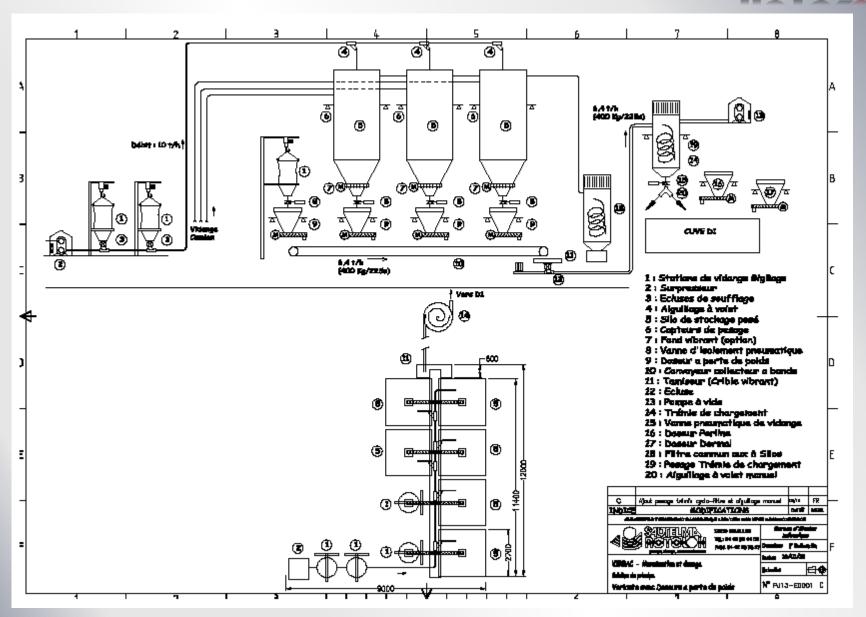
Our 45 years' experience in heavy duty industry allows us to respond to the majority of our customers needs.

Thereafter, a few sketches and achieved projects layouts:

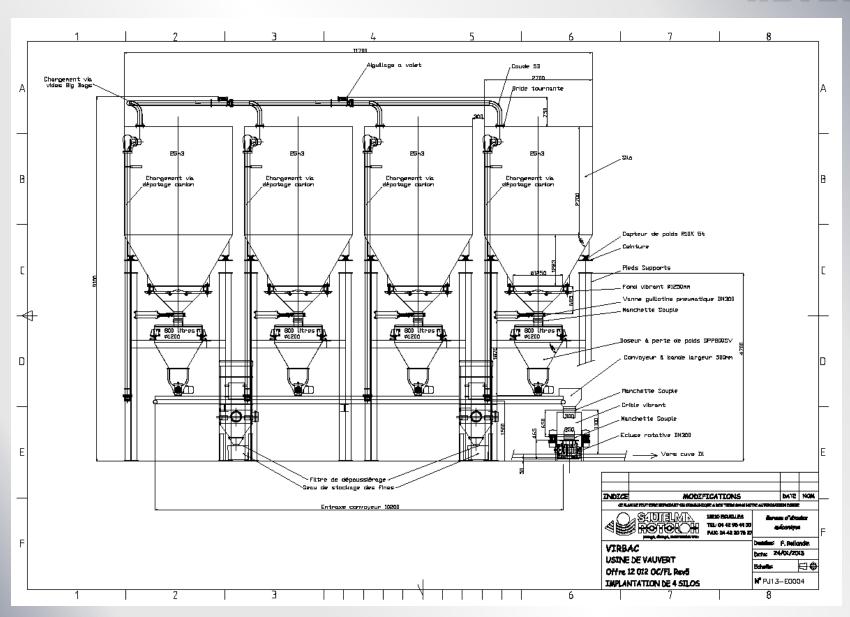




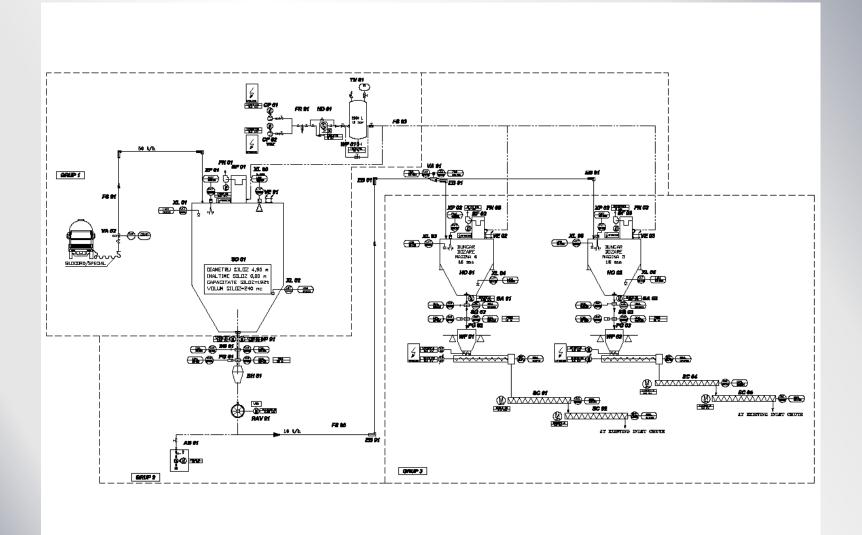


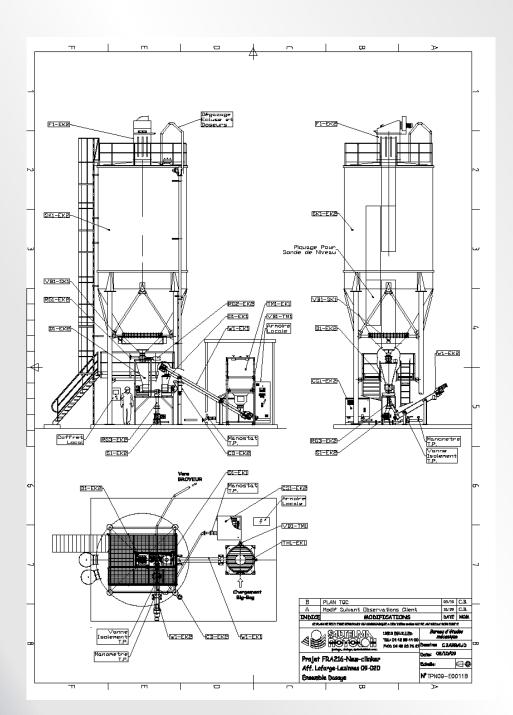
















## Assistance, Assembly & Commissioning

In addition to the **manufacture and supply** of its machines and systems Sautelma ROTOLOK offers a complete range of services to its clients including:

**Assembly and wiring support** providing a detailed documentation specific to the project. A multitasking engineer is dedicated to assist and advise our clients in the equipment assembly phase.

**Commissioning** is carried out by qualified technicians on site. It includes various tests: commissioning without the products, testing with the products and the industrial commissioning.

**The Users training** can be done at SAUTELMA ROTOLOK. The training includes:

- Theoretical training so as to know the machine, its optimum performance, maintenance and troubleshooting.
- Training applied on test benches specially installed in a dedicated area where various situations that may occur in a real factory operation can be simulated.

In order to assist its clients at all times, Sautelma ROTOLOK proposes a **hotline** dedicated to its customers. It allows them through a simple phone call and with limited financial contribution, to get immediate technical advice. Permanence of the hotline during the weekends is also provided.

Sautelma ROTOLOK also provides its customers with **long-term maintenance contracts** for their equipment



## Spare parts

Sautelma ROTOLOK proposes its customers all spare parts necessary to the equipment or systems provided.

We also participate in referencing the spare parts in the internal systems of some of our customers.

The list of spare parts along with the identification plans are provided in our Manufacturers' files

