ORIGAMI

THE BENCHMARK IN DRYMIX PROCESS

2023

PERSONAL FACTORY

1
R&D
R&D

R&D

ORIGAMI is: “the benchmark in drymix production“

Thanks to patented technologies, both in production techniques and in final products.

KNOW HOW

ORIGAMI is: “making life easier”

With advanced software that allows a punctual management of all parameters but, at the same time, easy and immediate to use.

2
Kh
KNOW HOW

3
Gn
GREEN

ECOLOGY

ORIGAMI is: “choosing sustainability”

With a compact, precise production system and a very low cross-contamination which reduces waste and produces at 0 km with very low energy absorption.

ORIGAMI is:
An exclusive patented robotic system to produce premixes in powder. In a few square meters, it stocks, weighes, mixes, packs and traces everything from the raw materials to the single package of finished product.

BUSINESS MODEL

ORIGAMI is:“creating profit“

Thanks to an assisted production system in real time, the manufacturer’s earnings increase without any major investments or worries, thanks to effective assistance.

5
Bm
BUSINESS MODEL

DESIGN

ORIGAMI is: “no limits to your creativity”

It allows you to produce powder colored products without having to worry about the process or the management of a complex products portfolio.

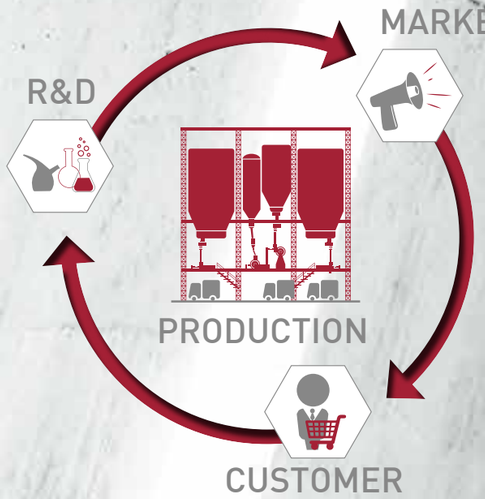
4
Ds
DESIGN

5
Bm
BUSINESS MODEL

INTEGRATED **SOLUTION**

The ORIGAMI plant is the only integrated solution currently on the market that produces premixes. In an extraordinary simple, fast and safe way, it manages all phases of the process: intelligent management of raw materials, dosage according to a recipe, mixing, packaging, process control, product traceability.

With an original approach, the ORIGAMI plant allows the production of hundreds of different formulations to be managed in the fastest, most flexible and advanced way, without complicating the processes. It is the ultimate solution in modern dry mix production.



YESTERDAY'S PRODUCTION

THE COMMODITIES PARADIGM
In the past, the core of production was the factory. Its purpose was to offer to a large number of customers what the plant could produce. Research and development efforts were limited. The customer only purchased relatively few products and had a limited choice.

TODAY'S PRODUCTION

THE SPECIALITIES PARADIGM. INDUSTRY 4.0
Today, the customer represents the center of business: the market dedicates important resources to the identification of new niches to be satisfied; the research and development are always able to formulate new products. The purpose is to cover every market requests. This logic has overloaded factories where the variability of production has become the norm. Traditional technologies face major difficulties trying to manage a constantly variable production.
THE ORIGAMI SYSTEM SOLVES THESE PROBLEMS BY FOCUSING ON PRODUCTION FLEXIBILITY

THE **BENCHMARK** IN DRYMIX

IMPROVED MANAGEMENT AND PRECISION OF RAW MATERIALS
Designed to fit any needs, ORIGAMI simultaneously manages from up to 15 raw materials or even more in customized configurations. The electronic control of the screw conveyors allows a fast and efficient dosage parameterized ad hoc for each raw material.

BETTER MIXING QUALITY
The patented ORIGAMI mixer, with its unique VHTM 2 technology, combines high peripheral mixing speed and drop of the material to the center of the mixer to ensure a perfect dispersion in a short time, even for low dosages.

VERY LOW CROSS-CONTAMINATION
With its specific mixer's profile and the special ultra-short discharge valve, ORIGAMI is easy to clean quickly. That allows for example, a red/white changeover in less than 10 minutes, without cross-contamination assured.

MAXIMUM PROCESS FLEXIBILITY
Managing up to 15 raw materials at the same time, changing the type of processed product in a few minutes, making micro-batches of product (even colored), packing in buckets or bags (open-mouth or valve), from 5 to 50 kg: all this is possible with ORIGAMI.

BEST PRODUCTION MANAGEMENT SOFTWARE
ORIGAMI is equipped with an embedded software, CloudFab 5.0, and the cloud platform, iNephos, both in-house designed and built technologies. This ensures the highest traceability on the market, combined with great ease of use that eliminates human error.

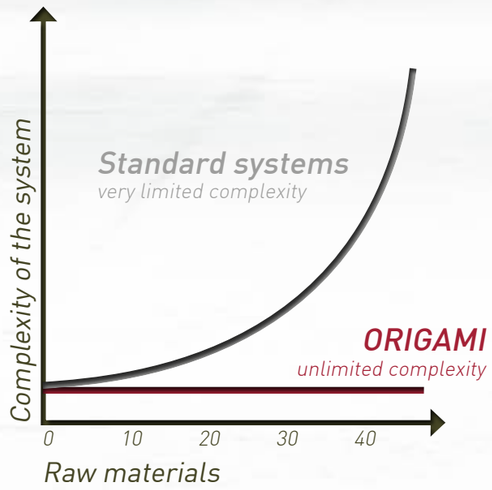
IT ALL STARTS WITH **RAW MATERIALS**

The entire plant structure is divided into 3 completely separate concentric frames. This approach mechanically isolates the various components and prevents the transmission of process vibrations to the dosing sensors. The ORIGAMI platform offers a very strong management of raw materials, which provides a high precision of dosage: +/-200 grams in standard hoppers, +/-20 grams for micro-dosing units.

With its dosing components that are easy to replace and/or clean, ORIGAMI enables variable production without cross-contamination, even in a few minutes. Thousands of different mix designs can be handled with hundreds of materials. This flexibility allows infinite opportunities in terms of complexity of formula, production variation, needed precision.

DESIGNED TO MANAGE THE COMPLEXITY OF FORMULATION AND PROCESS

ORIGAMI is able to handle different formulas. Potentially a single plant can manage an infinite number of raw materials without cross-contamination between production batches. It can also manage up to 15 raw materials independently in the same formula, plus some assisted integrations. The dosages are always precise, whether they are few grams or tens of kilos. This complexity is manageable thanks to easy-to-use software for formula and production management, and easy-to-clean dosage components. Unlike conventional systems, complexity does not depend on how many raw materials will be used in production but merely on how many of them will be used at the same time. So, we have a system capable of handling endless formulas.



EASYDOSE

It is a precision scale that can be combined with our plants with an accuracy of one gram, directly managed by the software. This scale guarantees the possibility of manual integrations in formula (color, low dosed additive, etc.), having the certainty of product quality and traceability.

MULTIRAW PLUS

It is a 2 m³ modular minisilos. It exists in 2 versions with 2 different screw angles. The silo is complete with mushroom-shaped fluidifiers, percussion, suction and inspection window, loading hatch and auger. Its intelligent shape allows up to 12 silos to be placed side by side in order to ensure a perfectly flat and balustraded walking surface. Unlike traditional solutions, the system can be extended with standard mountable components. The strong standardization and modularity allows to expand the functionality of an Origami system also at a later date. It can be equipped with accessories that allow dust reduction and operator access. The 2 models of MULTIRAW PLUS are equipped with the same auger making the management of spare parts efficient. If necessary, the auger can be equipped with CLEANSCREW technology.

*The units vary according to the model and its specification. Verify it on the technical datasheet.

BTS ULTRASONIC

Blow Through Sieve. This element has the purpose of sieving the material on a very fine mesh, mounted on piezo electrics that allow the vibrations at very high frequency through a 20,000hz wave generator. This accessory is useful, especially in decorative products, to avoid even the smallest presence of lumps in the finest products.

MULTIRAW FLEX

It is a flexible loading system for raw materials in bags or jumbo bags. The system allows for safe, flexible, and efficient handling of variable raw materials. It has a vulcanized rubber diaphragm that adheres perfectly to the jumbo bag, sealing the mouth and preventing dust from escaping or contaminating the material.
The hopper is equipped with a door for the closed opening of the jumbo bag. It has 5 vibro-aerators to facilitate the flow of material towards the screw conveyor and an electric vibrator that helps the flow of problematic materials. The hopper is equipped with a perimeter suction system with total elimination of high flow rate dust with a large diameter valve that can be connected to the centralized suction system. This helps to have a clean and safe working environment, especially when working manually with the bags.
The loading screw has a very large opening to make loading mechanically easy even in the presence of materials with difficult flow. The motorization is largely oversized in order to avoid jamming of the screw. Included in the system is a cross for the support and safe handling of the jumbo bag by both forklift and hoist. The loading screw has a protection grid that allows the operator to work safely.
The system includes as standard the closing plate with grid specifically designed for the loading in hopper of raw material in bags.
The system provides as an option the mounting of the BTS Ultrasonic (Blow Through Sieve ultrasonic).

DOSING **OPTIONS**

In the PLATFORM version, ORIGAMI offers different configurations to meet customer requirements. It supports until 15 raw materials at the same time, from modular loading hoppers to various types of micro-dosing units.

ODYRA 2.0

ORIGAMI DYNAMIC RAW MATERIALS FLOW CONTROL

Unlike conventional systems, the screw conveyor speed varies tens of times depending on the raw material, trying to adapt the best speed for maximum precision and loading speed. Therefore, it determines the flow rate every 10 milliseconds and makes it change.

CLEANSCREW

An innovative system that allows the opening of a loading screw conveyor in its entire length, without tools and in just a few seconds. It permits fast and safe cleaning of the component even in the case of material with a strong adhesive power, allowing the elimination of any element accidentally fallen into the raw materials.

MOVAHOP PLUS

It is a mobile minisilos, 1 m³, equipped with screws, control panel, rapid valve, suction nozzle and fluidisation funnels. MOVAHOP PLUS is forkliftable. Equipped with CLEANSCREW and EASYMOVE technologies, the system allows for the manual replacement of the raw material in a few minutes without having to proceed with the emptying of the component. In case the emptying is necessary, the numerous openings make the cleaning operations off-line with internal zero residue very easy. The material can then be repackaged directly from the component. The versatility of the component makes the management of materials extremely flexible and allows to automatically manage a virtually infinite number of different raw materials from the machine.

VARISCALE

Precision secondary load scale, equipped with percussors, fluidising mushrooms, discharge valve, cover and connection to the centralised suction system. It allows to dose in an automatic and extremely precise way the secondary raw materials that are loaded in formula through MOVAHOP PLUS or through MOVAFEED.

MOVAFEED

It is an innovative, 0.1 m³ microdoser that solves all the problems of flexibility, precision and cleanliness of classic microdosers. It is equipped with an internal agitator, fluidization valves, on board control panel. Equipped with all ORIGAMI technologies: CLEANSCREW for cleaning, XFLOW, MULTICELL for precision, EASYCHANGE, EASYMOVE, for flexibility and ease of management. In case emptying is necessary, the numerous openings make it very easy to clean off-line with internal zero residue. The material can then be repackaged directly from the component. The versatility of the component makes the management of materials extremely flexible and allows to automatically manage a virtually infinite number of different raw materials from the machine.

EASYCHANGE

EASY TO CONNECT, EASY TO CHANGE

Changing raw material easily is essential for flexibility. Smaller silos, hoppers and micro-dosing units with EASYCHANGE technology are simple to connect and disconnect with a connector. Maximum 2 wires (power supply + Ethernet).

BB-UP

It is a trolley on wheels, equipped with integrated electric hoist that allows the handling and lifting of big bags up to 2 tons and up to one cubic meter. Useful for easy and safe handling and emptying of big bags on silos.

XFLOW

This technology is used to improve the accuracy of the micro-dosing unit. By ensuring a constant and continuous load of the dosing screw conveyors, it homogenizes their capacity through a gentle shaking process, facilitating flow control by ODYRA 2.

EASYMOVE

It allows the replacement of a raw material in just a few minutes or the cleaning of an off-line screw conveyor or hopper without interrupting the production process. The component is independent and on castors, therefore it allows manual and safe movements.

THE KEY IS THE **MIXER**

ORIGAMI mixer has been designed to eliminate the restrictions of existing mixing systems (horizontal and vertical) while improving their advantages. Its patented VHTM 2 technology ensures a perfect dispersion even in a few grams additivation. It's a key feature for the creation of very complex blends without slowing down production, within a perfectly integrated system.

PERFECT AND FLEXIBLE INTEGRATION

The patented ORIGAMI mixer is perfectly integrated into a production line shorter than the one in conventional systems. It only needs a few square meters to store, dose, mix and package. It provides a change of production in less than 3 minutes for grey/grey changes and in less than 10 minutes for red/white changes.

POSSIBILITY OF MICRO-BATCHES

The mixer, which has a total volume of 0.36 m³, is nevertheless able to disperse the powder, even for micro-batches, smaller than 30 liters.

EASY TO INSPECT AND CLEAN

As in vertical systems, the mixer is easy to inspect thanks to its large door. The contact with the material is minimized and FASTCLEAN 2 technology also facilitates cleaning. It takes less than 10 minutes to clean manually and thoroughly the machine. Even the automatic procedure gives a good cleaning in less than 2 minutes. The cleaning surface is reduced to 1% compared to the one in classic system.

EASY MAINTENANCE

To minimize downtime, all wear parts are fastened with standard screws that can be replaced in just a few hours. Moreover, our technicians, with your agreement, can take remote control of the system and make a diagnosis to solve problems or to make improvements.

OML-MIX 2.0

ORIGAMI MULTILAYER LENS MIX

It is the patented mixer. It is composed of 2 metal lenses, each made of 2 layers of stainless steel, cold deformed and splined to form an extremely rigid and perfectly smooth component. All screws are embedded in the first layer, so there are no asperity.

Its innovative shape guarantees high mixing quality and allows a wide front door, easily accessible by the operator, who can inspect, clean and manually integrate the formulations if necessary.

Thanks to its patented profile, it can use the centrifugal force to pump the material into the bag. This eliminates the discharge, transport and packaging components present in a traditional plant, with considerable advantages in cleanliness, durability of the plant, speed of production changeover etc. The extremely short distance between mixer and pack (30 cm) avoids segregation and product de-mixing during transport.

The special profile of its OML-MIX blades enables it to reach a high peripheral speed without excessive power consumption, while it ensures a perfect dispersion. The shaft is controlled by an inverter, which allows the rotation speed to be dynamically altered. Innovative profile blades also facilitate the cleaning process, creating an air flow that helps to remove the material on the walls.

The new 11 kW motor coupled with the presence of ultra-high speed chopper allows to achieve the best mixing and elimination of all kinds of lumps in the market.

VHTM 2

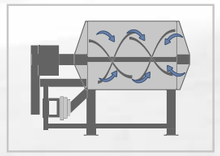
VERY HIGH TURBULENT MIXING
It has two major characteristics: high peripheral mixing speed and drop of the material at the center of the mixer. New blades and variable rotation allow the mixing process to work continually in excellent conditions, according to product density.

NO-DUST

With this technology the mixing unit can work at a lower pressure than the environment one. This allows the door opening for manual additions without dust releasing, to protect the operator's health.

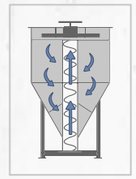
FASTCLEAN 2

It is a technology developed to facilitate the highest production changeover speed, ensuring very low cross-contamination between processes. Through a computerized procedure using valve nozzles, high rotations, high frequency vibrations and vacuum cleaner, it allows a perfect cleaning in a very short time.



THE BEST OF HORIZONTAL MIXING

In horizontal mixers, the high peripheral speed of the blades produces a turbulence that mixes the components. Similarly, OML-MIX generates turbulence too, but minimizes the material spreading on the sides, which in this case always drops in the middle.



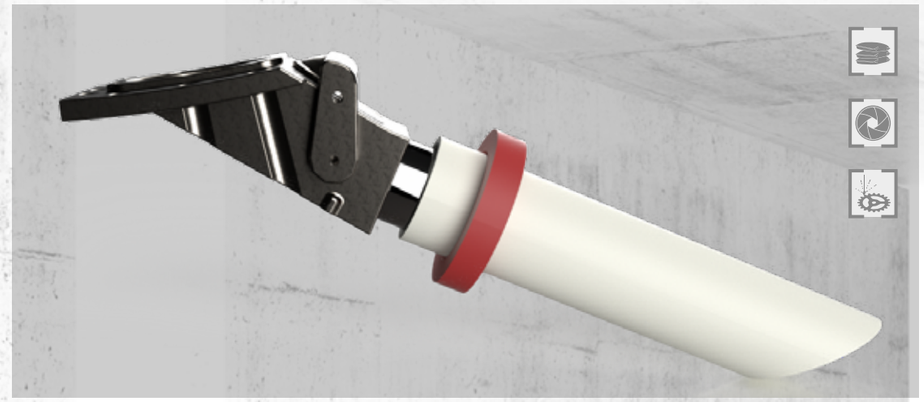
THE BEST OF VERTICAL MIXING

Vertical mixers create fountain effect. The material is conveyed through a screw from a small bottom section and projected upward. This generates issues when you are facing different densities and granulometries. In OML-MIX, on the contrary, the blades gather the material from a significantly smaller bottom than the one in vertical mixers. Therefore, it creates fountain effect in which the material drops in the middle anyway, without the need of a screw conveyor that would have difficulty to pick it up from the bottom.

FUTURE PROOF

ORIGAMI's packaging system combines the action of multiple components and technologies to create a reliable and compact packaging system. The combined work of mixer-valve-scale guarantees: precise weighing, great flexibility of weight and type of packaging, cleaning, absence of cross-contamination, homogeneity in the bag and between the different bags and an almost non-existent segregation. It works with mixtures of various materials, even when there are significant differences between particles densities.

EYEVALVE 4



EYEVALVE 4 is the most technologically advanced component of the ORIGAMI plant. It holds, in less than 20 cm, every essential component for a quick and accurate management of the packaging. It permits to handle very different materials with various densities and fluidities. The valve can withstand the violent aggression from extremely abrasive materials, like quartz and mineral aggregates, enduring easily hundreds of thousands of openings.

Realized thanks to DMLS technology, it is a unique piece in synthesized aeronautical stainless steel, with a speed of intervention of a few milliseconds. It includes 4 stages of compressed air nozzles that constantly clean the surfaces, creating a venturi effect. It helps the mixer's emptying process and fluidizes the material to facilitate its flow. The computerized management of all components makes the valve dynamic and adaptable to the various stages of the process. Its original shape has been designed to reduce the contact area and stroke, thus making opening and closing (a few milliseconds) instantaneous and at the same time eliminating problems of friction and therefore wear or blockage. In this last version it has a large diameter increased by 8 centimetres for the passage of the material as well as 3 different levels of opening, managing to partialize the flows. This ensures a dosage that is both precise and fast at the same time.

VSP2

VARIABLE SPIN PACKAGING dynamically manages the carrying capacity during packaging according to material, cycle phase and internal pressure of the mixer. Through a continuous speed variation of the shaft, it optimizes the capacity to maximize speed and accuracy. The system also varies its settings according to the packaging.

ADYFLOW 2

ADVANCED DYNAMIC FLOW CONTROL is the innovative material flow management. Through the fast movements of the discharge valve and through a dynamic management of the 4 stages of valve fluidization, it improves VSP2 efficiency increasing the range of processable materials and product quality.

DMLS

DIRECT METAL LASER SINTERING is the process used to create the patented discharge valve. It assures the highest mechanical performance on the market. In a compact body, it ensures very high mechanical performances and all the mechanisms for packaging management are embedded.

BS3

It is the new system for flexible packaging of the finished product able to use 3 different packages on the same device. With the possibility to vary dynamically and quickly both the size and the type of packaging without downtime. In this new version, the zero parasite voltage scheme and the new version of the MULTICELL technology have allowed us to increase precision and at the same time to eliminate inaccessible areas. This makes it easier to clean the device. The device has a very high precision electronics able to manage with accuracy very different weights.

VALVE BAG
10 KG - 50 KG

OPEN-MOUTH BAG
10 KG - 50 KG

BUCKET
5 KG - 30 KG

FLEXIBLE PACKAGING

It is the only packaging system that can create, using the same component, valve bags, made of paper or plastic, buckets, open-mouth bags. It can be used with weights that vary from 5 to 50 kg and the change of type of packaging is immediate.

NO TRANSPORTED MATERIAL

To avoid cleaning surface and complex plants, the path of the material between the mixer and the packaging is shorter than 30 cm. Most of the time, this replaces more than 10-20 meters of traditional line.

ZERO SEGREGATION

The key for a perfect mixing is to not transport the material for long distances between the mixer and the packaging. The ADYFLOW 2 system picks up the material directly from the turbulence of the mixer without any transport. So, there is no separation after mixing, even with materials with different densities.

AUTOMATIC CLEANING

To clean an empty tube is the easiest thing. When the valve is open, the nozzles automatically clean an empty 30 cm tube using a spiral flow, parallel to the pipe walls. It just takes a few seconds to clean.

NO CROSS-CONTAMINATION

Laboratory tests on samples show how, by performing cleaning cycles, production can be changed in just a few minutes without any contamination between batches of different products.

NO WEAR PART

The surface, made of stainless steel using DMLS, is extremely hard. This guarantees a durable valve, even if it works hard with tough materials such as quartz sand.

IT **SIMPLIFIES** YOUR WORK

ONLY ONE OPERATOR

The plant needs just one operator to work. Through a simple interface, it manages the process by making simple choices: what to produce, the quantity and the packaging. The only manual operations are the placement of the empty package, the insertion of a possible manual addition and the eventual palletizing. All other operations are automatic, including traceability, production control and quality management. No adjustment by the operator is required.

REMOTE ASSISTANCE

95% of all service operations do not require the presence of a Personal Factory technician on site. For any system management and adjustment, our technicians can work on all components via cloud. In extreme cases, under customer's request, the company's assistance can take full control of the plant remotely. For mechanical interventions, all procedures are simple and guided by us from distance.

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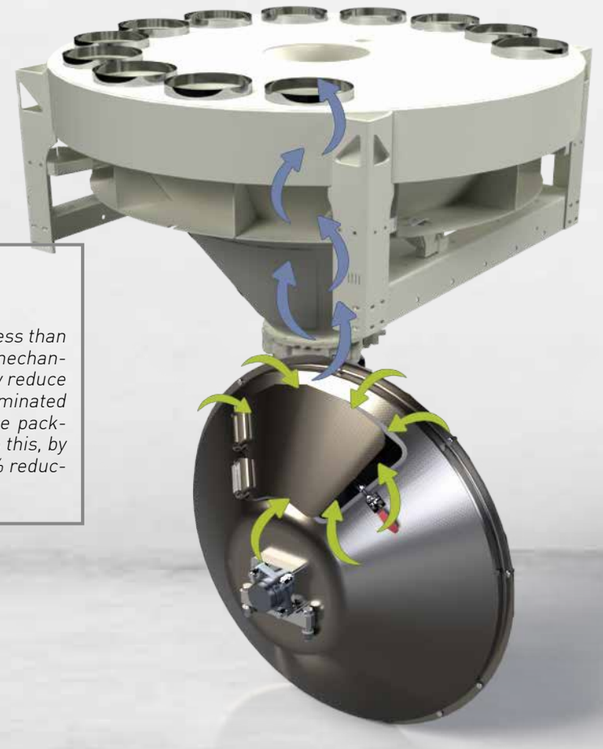
SPARE PARTS EASY TO FIND

The ORIGAMI plant was created to be easily manageable anywhere in the world. Since the first projects for the ORIGAMI platform, we have considered easy maintenance as central. That's why we have followed a continuous optimization that has led us to have few pre-assembled units that connect to the system with a connector. 80% of them can be replaced in less than one hour, simply by unscrewing 3 screws on average.

OPERATOR'S HEALTH

ORIGAMI plants are connected to dust aspiration units and operate at a lower pressure than the environmental one. Even if the operator opens the main flap of the mixer, the airflow is directed towards the inside of the mixer, preventing dust leakage.



ECOLOGY

In standard operating conditions, the plant absorbs less than 10 kW. This leads to less wasted energy. The lack of mechanical components that need to be cleaned significantly reduce the waste material. Since the wastes are of uncontaminated material, they can be used for sampling and can be packaged for sale in case of accumulations. In addition to this, by adopting the Personal Factory system, there is a 95% reduction of transported material over long distances.

EVEN MORE **OPTIONS**

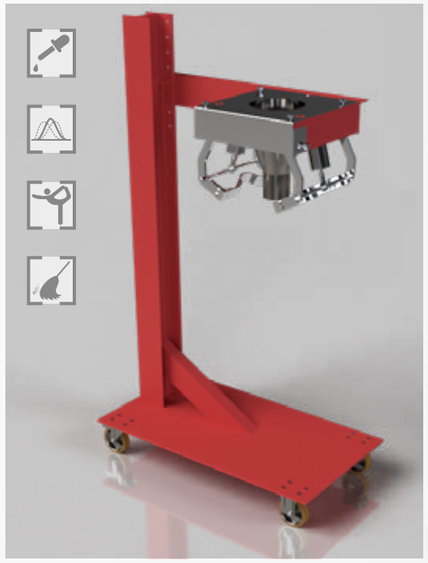
ZERO-DUST 2.0

It is a high-efficiency dust-abatement system that includes independent suction lines equipped with pneumatically operated valves. The high-efficiency bag filter specifically for fine mineral dust has 140 felt bags in 550 g/m² polyester with 100 Pa L/dm²/min air permeability on corrosion-resistant stainless steel baskets.

MULTICELL

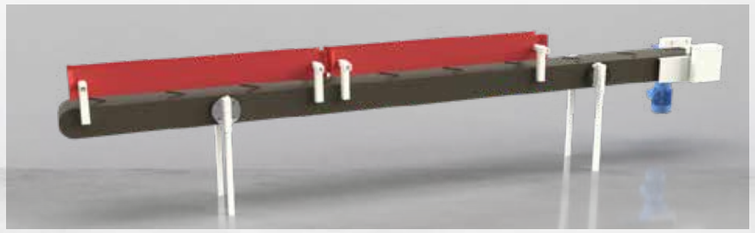
Unlike traditional systems that work on a single-sensor, both micro-dosing units and scales work on 3 load cells instead of one. This system allows to obtain accuracy in dosing even with load unbalances and level problems.

BS-OPEN



It is an independent packaging system for open-mouth bags for packaging the products in plastic or paper bags even of small size. The system feeds the dosing scale through a screw equipped with CLEANSCREW technology. Dosing is carried out directly into the bag. Therefore without contamination problems. The system is equipped with all the most advanced technologies such as ODYRA and MULTICELL.

P-BELT

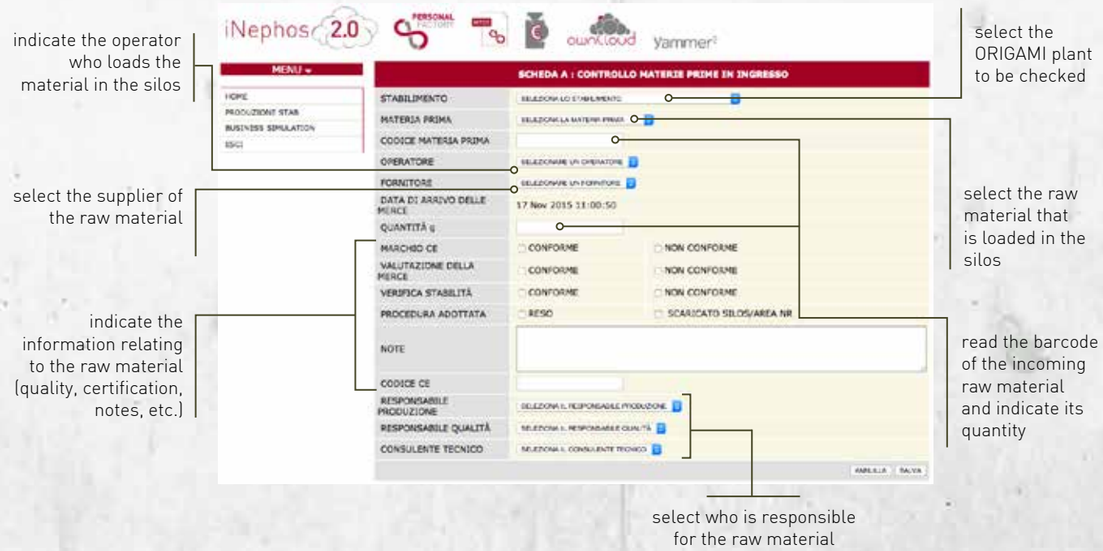


Conveyor belt, available in several sizes, from 3 to 5 meters adjustable in height with vibrating bars for the transport of ready packages. With full belt sensor, safety rope and management via software on board the machine.

MOST POWERFUL
CLOUD MANAGEMENT

iNephos is a cloud platform internally designed and created, that enables the complete traceability of the products realized with ORIGAMI plants, the management of costs, prices, budgets and the warehouse.

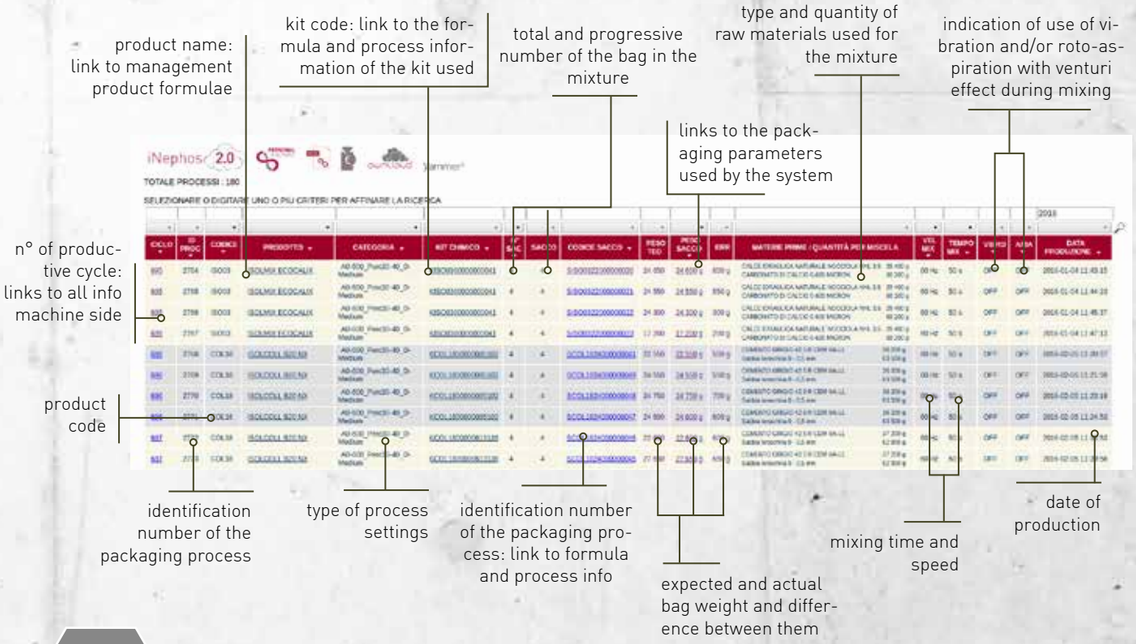
Every information and data related to your production plant are recorded in your private area on the Cloud platform. You can easily access this platform through a simple browser, by going on the site and entering your credentials. The platform is protected, as well as your data, by an SSL encryption protocol.



PRODUCTION CONTROL SYSTEM

This first level of enablement can be used to:

- verify every process of the plant
- have access to the virtual warehouse where all your purchased kits are registered
- look at and study the history of every single bag of finished product
- ensuring the correct CE marking of materials



BUSINESS SIMULATION

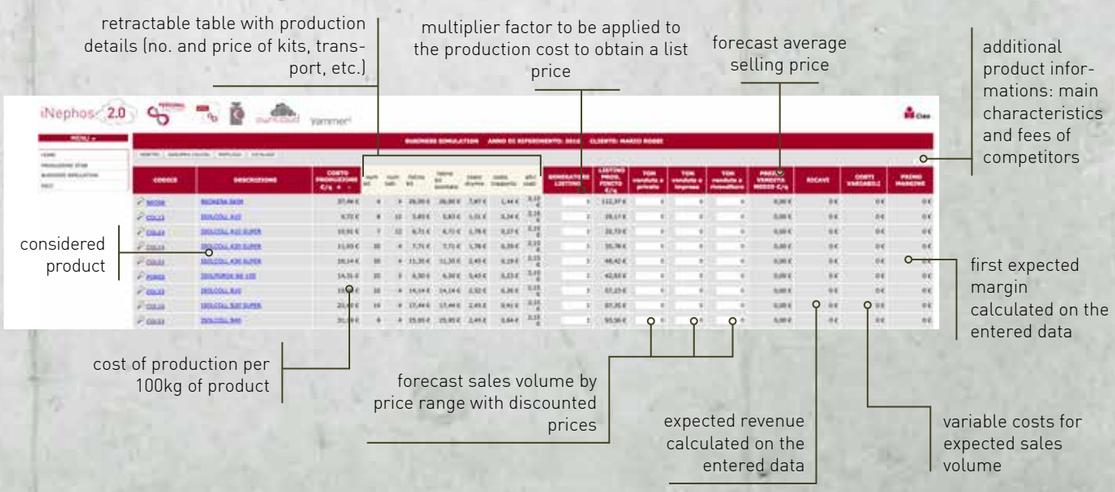
You can use this function to:

- create a forecast and/or a final budget
- see complete catalogue of Personal Factory compounds available
- generate your own catalogue of finished products

RAW MATERIALS' WAREHOUSE MANAGEMENT

You can use this function to:

- manage the virtual warehouse of raw materials, recording incoming movements in the warehouse and calculating consumption for production by means of Origami
- complete traceability by adding details about the production team, indicating the name of the operator, production manager, quality manager, technical consultant, supplier
- calculate the productivity of your system by checking the average number of bags produced per hour



ONE FINGER, ALL UNDER **CONTROL**

The Personal Factory software ecosystem is at the forefront in production management.
This ecosystem is made of:
- the unique cloud computing-based administration platform accessible via a simple browser, iNephos 2.0;
- the advanced CloudFab 4.0 plant control software that manages thousands of process and parameterization configurations.
The coordination between the two systems is entrusted to a powerful synchronization platform which guarantees the highest and most advanced level of traceability available on the market nowadays.

iNephos 2.0

FOR THE ADMINISTRATOR

• browser-accessible software on cloud, designed to manage the parameters of production processes

• vertical system for the management of information: formulas, machine parameters, quality management, budget and costs, warehouse and more

• advanced asynchronous and discontinuous synchronization management with CloudFAB 4.0

• interface with thousands of possible adjustments, both for process and product

• massive management system of account and access permissions that allows to differentiate access to economic, formula or machine control informations

CloudFAB 5.0

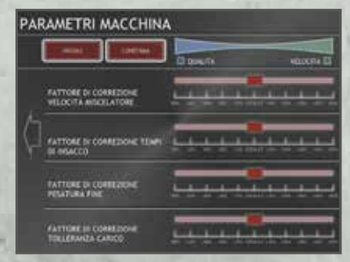
FOR THE OPERATOR

• software onboard to manage the Origami production plant

• step-by-step logic, the operator only chooses what to produce, in which amount and the kind of packaging

• automatic product traceability system without the need to enter information

• real data recording for raw materials, batches, process and final goods information



INTUITIVE INTERFACES

Thanks to its touch screen interfaces, managing all aspects of production is very simple and fast. Through the large 17-inch touch screen monitor, the software guides the operator step by step even using animations. The software, in an automatic and absolutely invisible way, manages all aspects of traceability, guiding even the simplest operations.

UPDATING

The software requires an internet connection to work. With each purchase of new chemical kits or when the operator decides to update it, the machine automatically connects with our central server on which we have all formulation databases constantly updated. The system downloads new products, new formulas or modifications to existing formulas during the connection.

THE PROCESS

1. Bags and chemical kits in single-dose packs arrive at the factory.
2. The CloudFab 5.0 software allows the operator to start production using the touch screen interface.
3. The operator chooses which product has to be produced and the amounts. He chooses the type and weight of the final packs.
4. The plant knows the formula: it doses and loads the raw materials in the mixer according to the newly created requests.
5. The operator reads the barcode of the chemical kit that he will use, so the production can be verified and traced.
6. Then, he reads the barcode of the finished product bag and places it on the discharge pipe.
7. ORIGAMI mixes everything and bags the final product.
8. The bag folds up and locks itself. ORIGAMI is ready for the next pack to be placed, filled, weighed and closed.

TRACEABILITY

With ORIGAMI platform, we set out to ensure the highest possible quality standards. These standards cannot be separated from the complete traceability of the final product. That's why we have equipped it with technologies that are able to guarantee, in a totally automatic and invisible way, more than 20,000 information per bag.

ORIGAMI

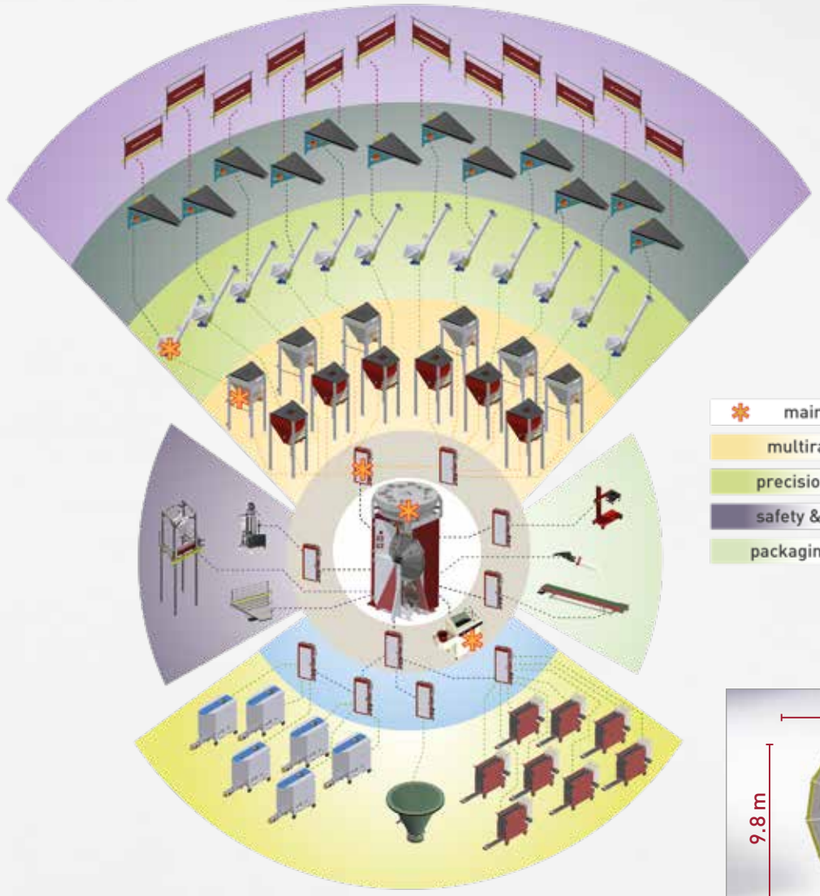
PLATFORM PLUS

ORIGAMI PLATFORM PLUS is a new and innovative modular production system. It produces variable powder items for the chemical, and building industries where there is a complex formulation and where cross-contamination issues must be below a few ppm.

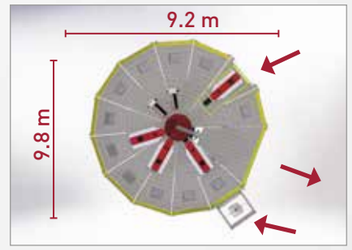
ORIGAMI PLATFORM PLUS is a solution for industrial customers that need to handle hundreds of formulations safely, with a precision range from one gram. The innovative raw material management system makes possible to replace and clean raw materials with absolute accuracy. The presence of parts that can be easily opened, disassembled and on castors allows components in contact with material to be easily and safely moved and cleaned, even off-line.

SOFTWARE & ELECTRONICS

CloudFab 5.0
personalized account iNephos



- main system
- multiraw plus
- precision dosers
- safety & comfort
- packaging options
- 2° level control units
- movahop & movafeed
- suction & floor extensions
- railings
- 3° level control units



MAIN COMPONENTS	
Storage and weighing of raw material	• MULTIRAW PLUS (up to 12 units) • core load scale • 1 unit EASYDOSE
Mixing	• mixer OML-MIX
Packaging	• discharge valve: single/double stage; with or without slide • BS3: flexible group • bucket/open bag accessory
System	• master electric and pneumatic panel • dust-free aspirator (predisposition)

OPTIONAL COMPONENTS	
Storage and weighing of raw material	• MOVAHOP PLUS (up to 8 units) • MOVAFEED (up to 6 units) • additional load scale VARISCALE
Loading of raw materials & safety	• elevator trolley for BB-UP (1 unit) • double safety gate (1 unit) • safety gangway + railing (up to 12 units) • discharge area cover (1 unit)
Packaging	• BS-OPEN • conveyor belt P-BELT
System	• slave electric and pneumatic panel • dust-free aspirator

DIMENSIONS	
On the ground (m)	9,2 X 9,8 X 4,3H (without BB-UP) 9,2 X 9,8 X 7,1H (with BB-UP)
Movement area (m)	12,2 X 14,20 X 7,2H

PERFORMANCE	
Raw material management	up to 18 at the same time
Precision color scale	present
Finished products portfolio ratio	100%
Productivity	1,5 ton/h
Typical mixture quantity	100 kg

ERGONOMICS	
Labor	1 operator
Powder management	dust-free system

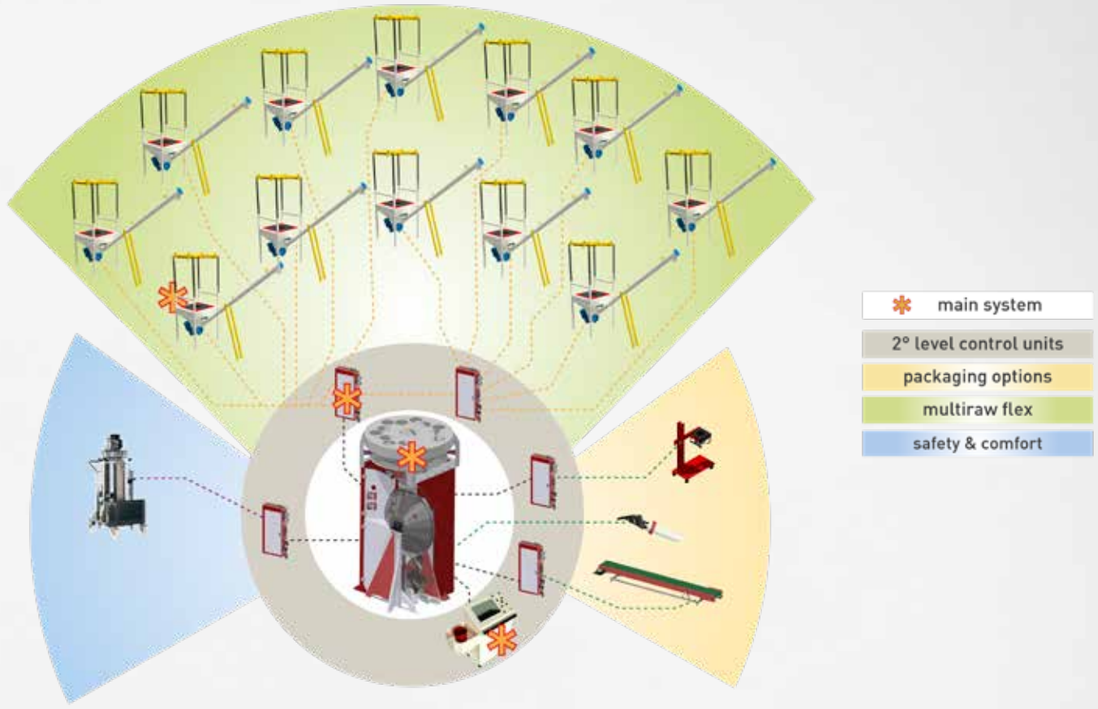
PACKAGING (according to the chosen options)	
Packaging types	valve bag open-mouth bag bucket
Packaging weights	10-50 kg (bag) 5-10 kg (bucket)

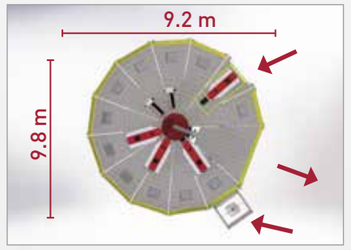
ORIGAMI

PLATFORM FLEX

ORIGAMI PLATFORM FLEX is a modular production system to easily handle production's variation of powder items for the chemical, and building industries without fear of cross-contamination problems.

ORIGAMI PLATFORM FLEX, in addition to maintaining the technological qualities that enable industrial customers to safely handle hundreds of formulations, with precision ranges from one gram. Raw materials are handled with MULTIRAW FLEX hoppers for flexible use of raw materials loaded directly into big bags or sacks, so raw materials can be easily changed.





DIMENSIONS	
On the ground (m)	9,2 X 9,8 X 4,3H
Movement area (m)	12,2 X 14,20 X 7,2H

MAIN COMPONENTS	
Storage and weighing of raw material	• MULTIRAW FLEX (up to 12 units) • core load scale • 1 unit EASYDOSE
Mixing	• mixer OML-MIX
Packaging	• discharge valve: single/double stage; with or without slide • BS3: flexible group • bucket/open bag accessory
System	• master electric and pneumatic panel • dust-free aspirator (predisposition)

PERFORMANCE	
Raw material management	up to 12 at the same time
Precision color scale	present
Finished products portfolio ratio	100%
Productivity	1,5 ton/h
Typical mixture quantity	100 kg

ERGONOMICS	
Labor	1 operator
Powder management	dust-free system

OPTIONAL COMPONENTS	
Packaging	• BS-OPEN • conveyor belt P-BELT
System	• slave electric and pneumatic panel • dust-free aspirator

PACKAGING (according to the chosen options)	
Packaging types	valve bag open-mouth bag bucket
Packaging weights	10-50 kg (bag) 5-10 kg (bucket)

SOFTWARE & ELECTRONICS

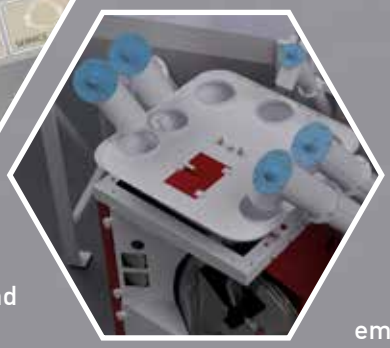
CloudFab 5.0
personalized account iNephos

A YOUNG AND EXPERIENCED TEAM

Over 60% of our team has a technical degree with experts in Industry 4.0 for over a decade, supported every year by the entry of new and young figures.

AWARD-WINNING COMPANY

Personal Factory has received several awards for its innovative technology and chemical products in 10 years: Cleantech Award, Confindustria Best Practices, Shanghai Expo and many more.

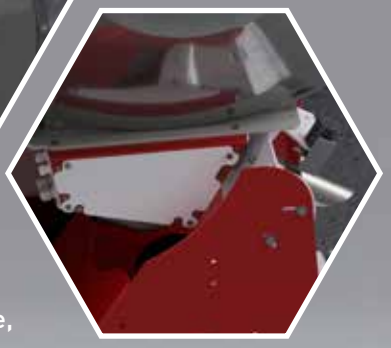


100% MADE IN ITALY

ORIGAMI plants are all produced, assembled and tested in our production site by our specialists.

INDUSTRY 4.0

Since its foundation, Personal Factory has embraced all the paradigms of the Industry 4.0, allowing flexible and traceable processes tailored for the customer.



100% IN-HOUSE

We have always invested in R&D. Electronics, software, cloud platform and mechanics: all has been internally developed to realize a perfectly integrated system.

UNIQUE EXPERIENCE IN PROCESS

Personal Factory is the only plant manufacturer that has always been a producer of premixes and chemical compounds. The entire know-how and attention in the creation of complex products can be noticed in ORIGAMI.

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