

NICOMAC COATING SYSTEM

NCS



NICOMAC
MANGINI



NCS SUPERIOR

A NEW WAY OF THINKING PELLETS AND TABLETS COATING SYSTEMS

NCS Superior represents the latest technological innovation, the *state of the art* of coating systems, a development based on Nicomac's experience in the industry, which lasts more than 45 years. NCS Superior is available in two models: PSC - Perforated Super Coater and SWC Solid Wall Coater. Our Company is the only one in the world that offers high performance coating systems with a perforated or solid drum with a unique design, innovative solutions and high reliability.

Nicomac's systems last the test of time: proof to this is a coating machine that for 30 years has been working efficiently and without problems at Euronovis, market leader company specialized in contract manufacturing coating and granulation for the nutraceutical industry.



4.500m²
of productive site

1.800+
successful projects

9
patented systems

65
Countries served

15
new devices and
novelties

45
years of experience

Nicomac is one of the leading companies in the international clean room and equipment for oral solid departments. Founded in 1977 in Milan, Italy, in over half a century successfully realized over 1800 projects in 65 Countries in the world, supplying clean rooms, coating systems and granulators that can also be under isolator.

The excellence in quality and products, along with the support of an expert and prepared team, are the foundation of the results obtained by Nicomac and the satisfaction of its clients, many of them FDA/EMA approved.



NCS - NICOMAC COATING SYSTEM



MIXING

An optimal mixing is the base for perfect core coating, a process that requires the homogeneous solution and drying air distribution.

Nicomac, thanks to its in-depth studies and operative tests, created highly efficient mixing baffles.

- Baffles with exclusive design for perforated drum systems in order to minimize hole cover space and ensuring a perfect mixing in any conditions.
- 3D Shark Fin Baffles® for solid drum systems



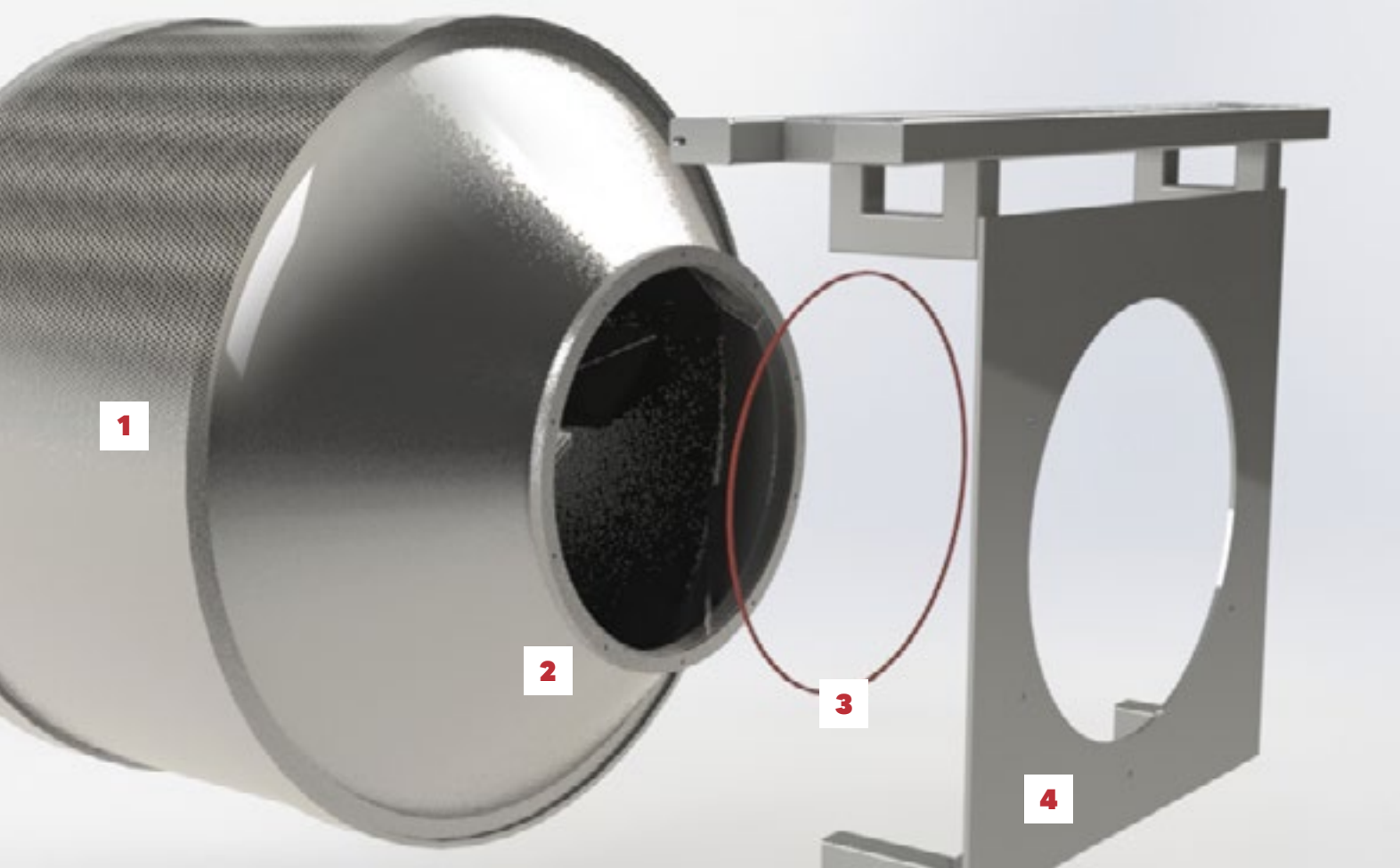
Blow Master
Patent N. 102003901171946

PSC Perforated Super Coater



FLEXIBILITY

The unique drum and baffles design, combined with the adjustable spray gun arm (patent N.102021000017075) allow every model of Superior coating system to work at a 15-20% minimum batch size, based on core type and formulation, up to 100% without any drum changing.

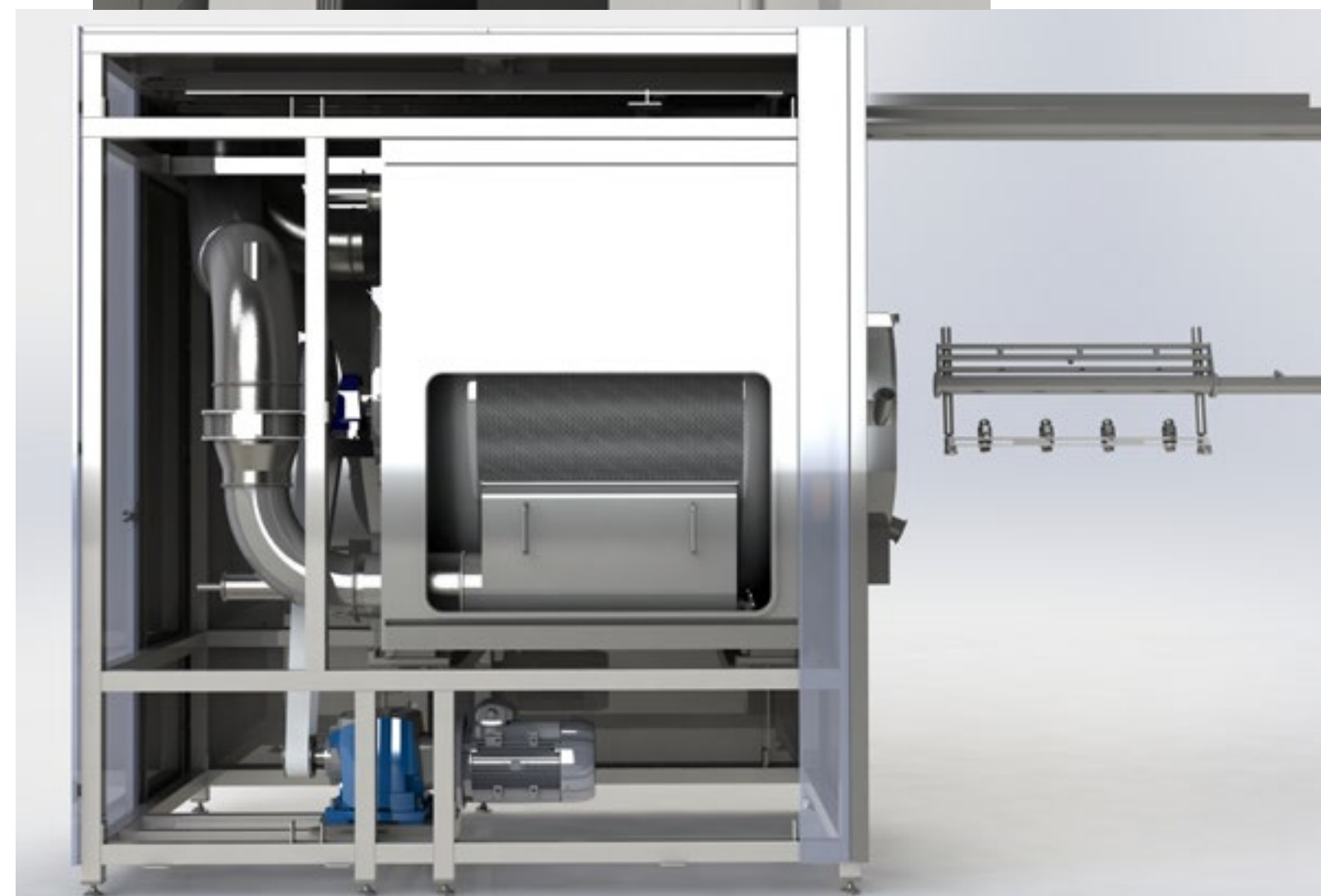


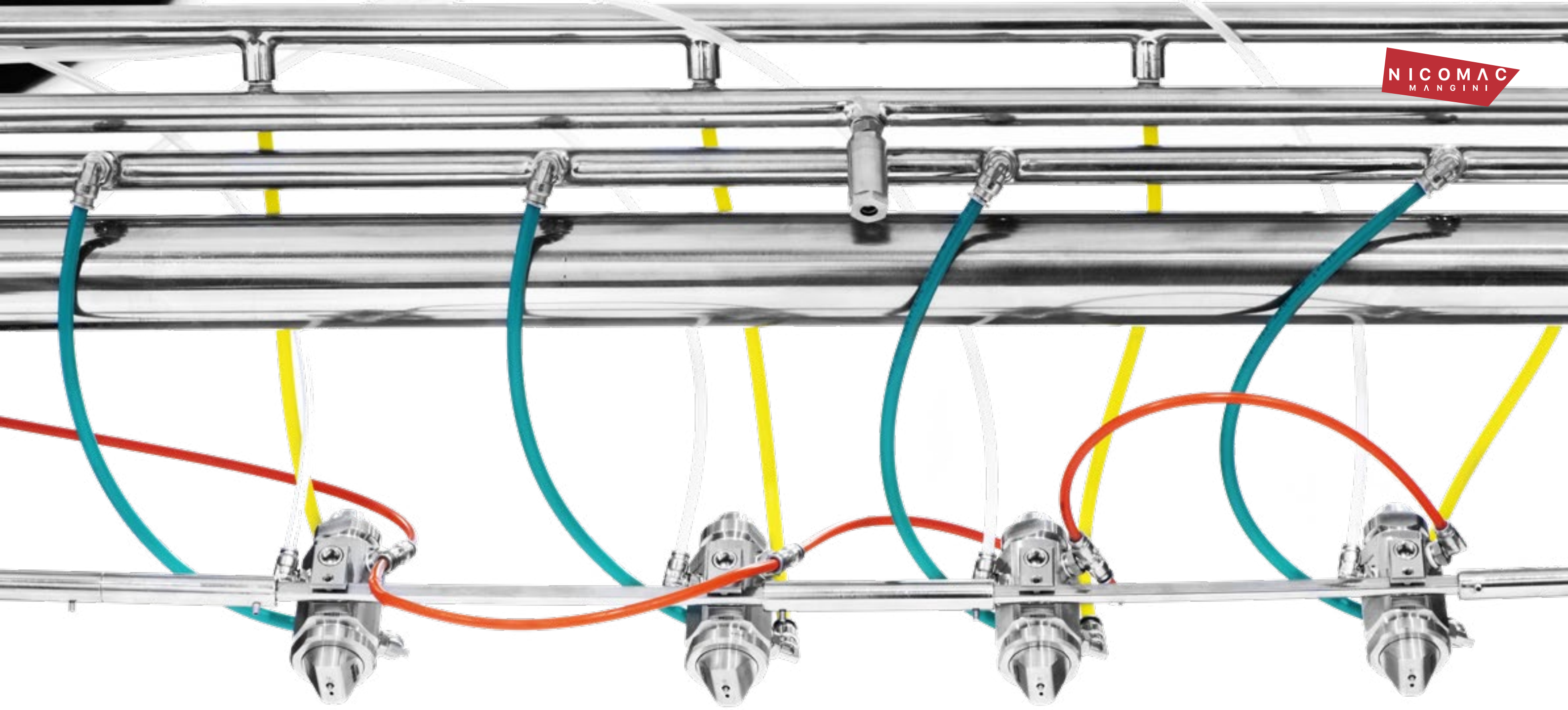
1. Drum (solid or perforated) 2. Nitrided Flange 3. Gasket 4. Chassis

STRUCTURE AND HOLD

The Superior models are designed to ensure a perfect air and water tightness. The drum is sealed with two V energized gaskets.

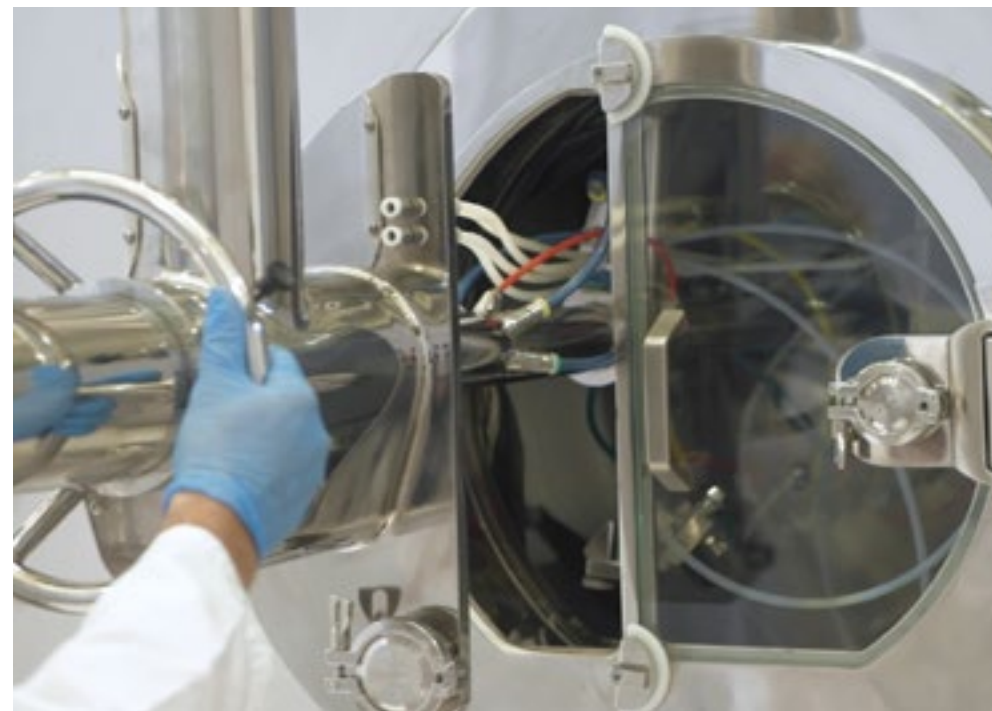
AISI 316L stainless steel undergoes a special treatment that ensures superficial hardness and usury resistance; stability and hardness in high temperatures, resistance to carvings and exertions; corrosion resistance; dimensional stability and sealed drum during the washing phases.





SLIDING SPRAY GUNS ARM

The SCHLICK spraying guns are fixed on a sliding arm (patent N. 102021000017075) which, thanks to an electric motor, adjusts the distance in relation to the core bed depending on the batch size or process phase. The guns are completely built in AISI 316L stainless steel, have a compact design and the spray is perfectly uniform. They also offer the automatic atomization and spraying fan regulation and do not clog. The ergonomic arm, adjustable in all directions, is removable from the front of the coating system.



TEMPERATURE CONTROL

An optical pyrometer inside the sliding arm accurately tracks in real time the tablet bed temperature, adjusting in an automatic loop the spraying solution quantity.



PRODUCT UNLOADING

In 1993 Nicomac developed a unique and patented system to unload tablets up to the very last one simply by reversing the drum rotation. A simple operation that requires no tool, using welded fixed slopes.

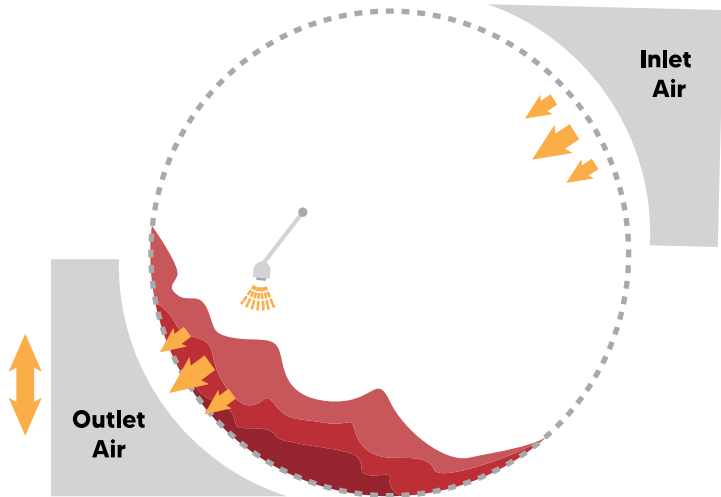


Film Coating
peristaltic pump
Watson Marlow



DRYING SYSTEM PSC - PERFORATED SUPER COATER

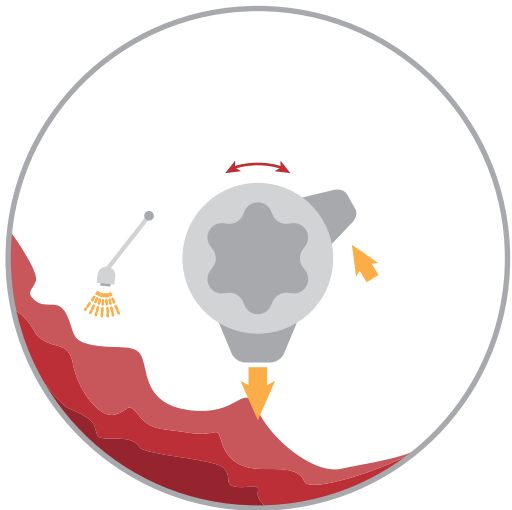
PSC has a perforated drum that allows a big quantity of air to invest the tablet bed. A dedicated air suction system, quickly interchangeable, allows to convey air where the tablets are placed according to the quantity of cores, ensuring drying efficiency in every condition with a consistent consumption reduction.



PSC Models	
LAB 1-3-5	SUPERIOR PSC 150
LAB 10-40-75	SUPERIOR PSC 250
SUPERIOR PSC 100	SUPERIOR PSC 400
SUPERIOR PSC 550	SUPERIOR PSC 700

DRYING SYSTEM SWC - SOLID WALL COATER

Our Blow Master® drying system, patent N.102003901171946, is the result of years of continuous technical evolution and offers high yield, low loss of suspended product and no turbulence in the spraying zone, replicating the drying system of a perforated coating system. Blow Master® has an automatic regulation for blowing the air directly on the tablets according to the size of the processed batch.



SWC Models	
LAB 9.9	SUPERIOR SWC 200
LAB 15	SUPERIOR SWC 350
LAB 30	SUPERIOR SWC 450
LAB 50	SUPERIOR SWC 650
SUPERIOR SWC 100	SUPERIOR SWC 1.200
SUPERIOR SWC 150	SUPERIOR SWC 2.300

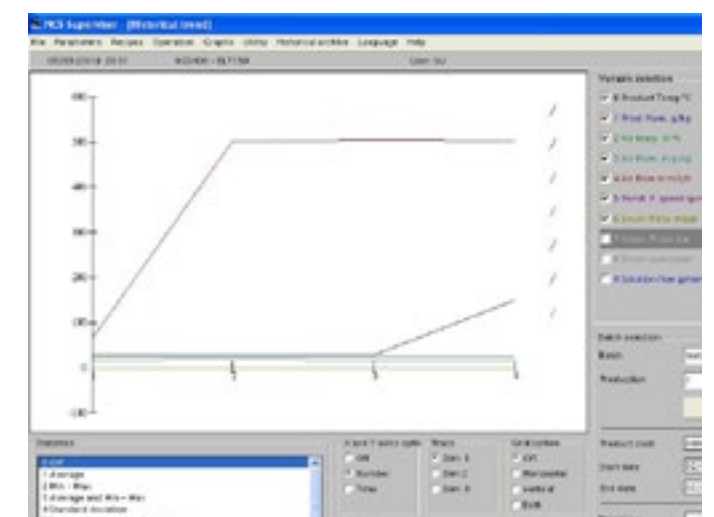


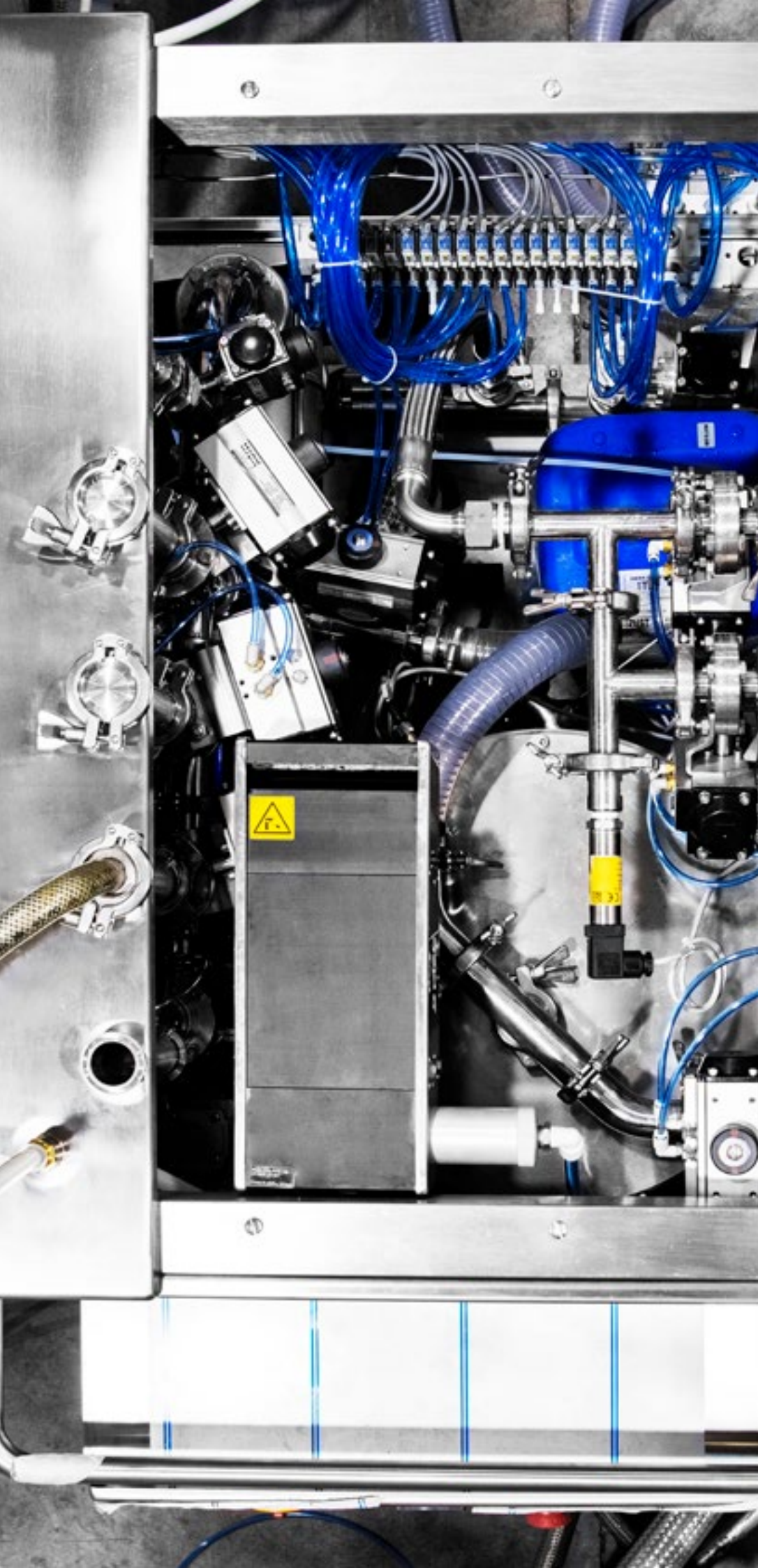


PC-PLC CONFIGURATION

The PC-PLC control system is developed with a user-friendly, CFR 21 part 11 compliant software equipped with many levels of password and can store up to 100 recipes, ensuring process repeatability. A synoptic allows to view all parameters, both the ones set in the recipe and the ones in real time. The control system tracks and adjusts: air quantity, drum rpms, negative

pressure, product temperature, guns atomization and process data. The software elaborates charts with the different variables and includes batch reports, alarm list, maintenance manuals, digital-analogic I/O and much more. The process is based on product IN-OUT air temperature and humidity control that adjusts in an automatic loop the range of the peristaltic pump.





WIP-CIP

Years of experience in Washing and Cleaning In Place technology allowed Nicomac to create a cutting-edge and cGMP compliant system that can be used for all the cleaning processes that need validation, resulting the best possible solution for the cleaning of coating machines. On both models are installed many sprayballs that allow an accurate washing in every place. The control system involves the possibility to insert numerous recipes that allow

to automatically manage all washing, rinsing, fluid drain and drying phases, ensuring a perfect cleaning.

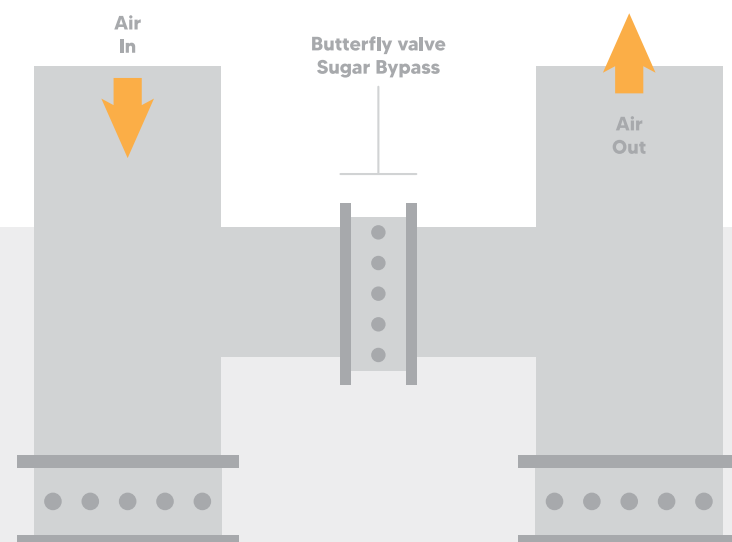
A wheeled skid contains a 10 bar washing Pump, detergent Pump and tank, membrane drying Pump, pipes, actuators, valves, membran pump to eliminate waste fluids, Control Panel with pneumatic and electronic components.



SOLID WALL COATER THE IDEAL SUGAR COATING SYSTEM

PNEUMATIC PUMP & *BY-PASS*

The sugar coating by-pass is used to keep constant the product temperature during the pause phases. the fan remains functioning, while the inlet air flow is directed, thanks to a by-pass with three valves, right towards the outlet air duct without passing from the drum. The pneumatic pump, with a 1:30 ratio, allows to spray sugar solutions with concentrations up to 80%.



SUGAR GUNS

A special model of AIRLESS guns allows, thanks to the high pressure, to nebulize the solution in an homogeneous way on the cores. The solution is recycled in order to avoid crystallizations during by-pass phases and in every case where the spraying is not active.





MULTIFUNCTIONALITY

Pellets, tablets, multivitamins, hard and soft capsules, complex shaped cores: these are the products that can be processed on the SWC coater, uniformly, in quick times and at the maximum quality.



PELLETS

The SWC model is capable of working with an automatic process any size of pellet. Starting from a sugar crystal, with a combination of binder spraying and automatic powder dosage of the active principle, high quality finished pellets are obtained.





EASY COATER

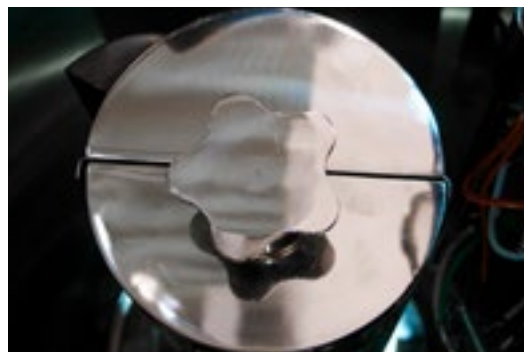
EASY COATER Models

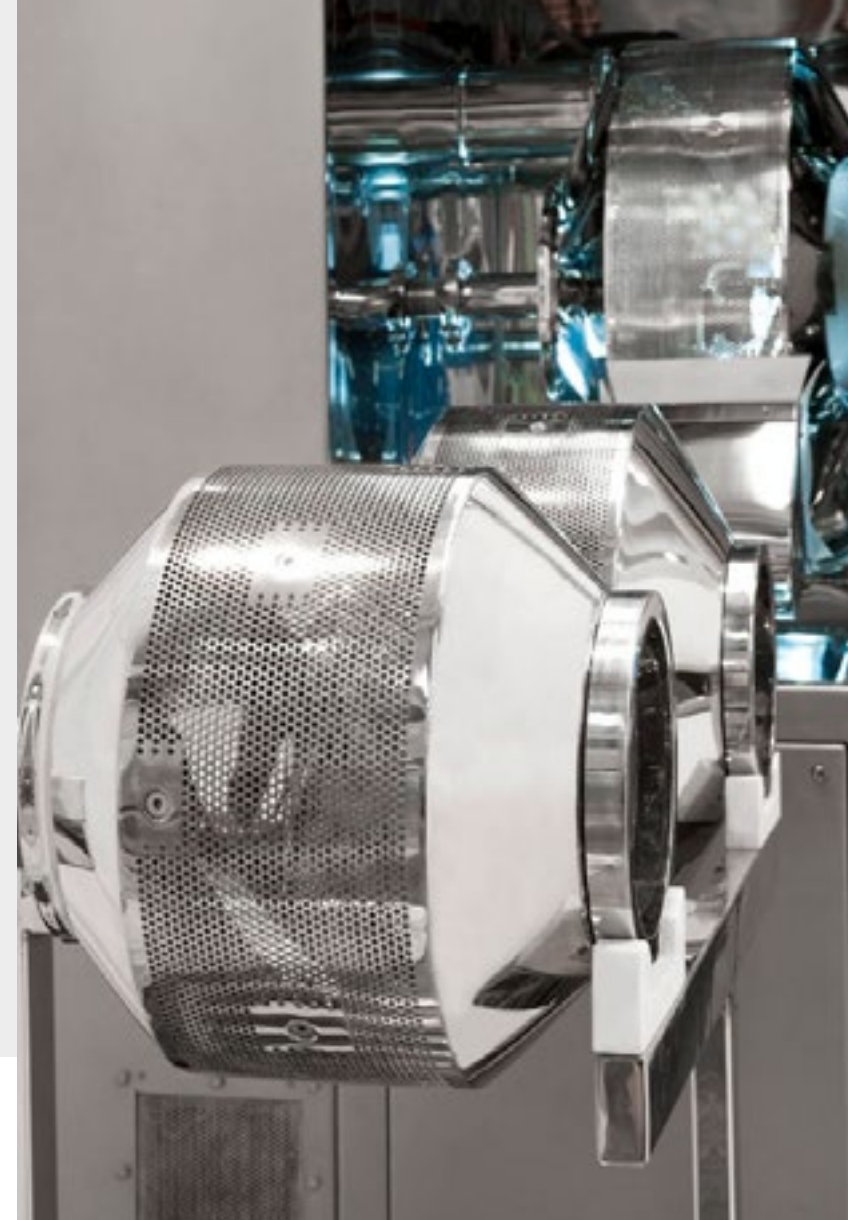
EASY 100

EASY 200

EASY 350

Easy Coater has the same features of the SWC equipment, but has a more compact design that requires less space and ensures quick installation times at a competitive price. The PLC-PC touch screen system is positioned on a movable arm, while the AHU and control panel are integrated in the instrumentation box. Furthermore, the system is equipped with last generation spray guns, 3D Shark Fin® baffles and Blow Master® can be dismantled in two parts for an easy washing.





R&D

Nicomac ensures a support of the highest professional level through the partner EURONOVIS, GMP certified for the nutraceutical market, research and development and for every type of test. Recipe development consulting, tests on machines from 1 to 400 kg., cosmetic, controlled release enteric-coated, sugar coating processes and a wide chromatic range for RAI color choices. Friability, hardness and disintegration tests.





GET IN TOUCH