

GRANULATION FOR PERSONAL CARE



GRANULATION FOR PERSONAL CARE

MYLAB
MODULAR
EQUIPMENT FOR FLUID
BED GRANULATION



ROTO MIX
HIGH SHEAR
MIXER



ARIA
FLUID BED
PROCESSOR



GRANULATION FOR PERSONAL CARE

IMA wet granulation technologies for batch manufacturing make every process smooth, reliable and highly efficient.

- IMPROVED SOLUBILITY OF INSTANT POWDERS
- PERFECTION OF POWDER CHARACTERISTICS FOR INCREASED MACHINABILITY AT A LATER MANUFACTURING PHASE
- ACCURATE DISTRIBUTION OF SMALL QUANTITIES OF INGREDIENTS LIKE VITAMINS AND ESSENTIAL OIL
- COATING WITH PIGMENT
- MOISTURE BARRIER APPLICATION FOR INCREASED PRODUCT STABILITY AND LONGER SHELF-LIFE



The GMP compliant design of IMA fluid bed granulators and high shear mixers allows for maximum product yield, while reducing maintenance and cleaning time to a minimum. Furthermore, installing the main equipment through the wall and locating all the auxiliary groups in a technical area, the room layout is optimised according to the latest safety regulations. Small laboratory-scale equipment for formulation and product development

up to larger scale industrial equipment are available to cover any production volume. Powder-to-lather shampoos, body and face cleaners, water-activated powder beauty masks, pre-mix for solid shower gel or toothpaste. IMA equipment treats every product with care, preserving the functional properties of even the most fragile and heat-sensitive ingredients. According to the product to be manufactured,

we will help you select the right equipment configuration for your needs. In addition, combining your product competences with our knowledge of machine behaviour and process skills, the development of new products or the optimisation of existing processes has never been so fast and easy. Our technologists are ready to support you both at our laboratory, on all the available IMA equipment, or at your plant.

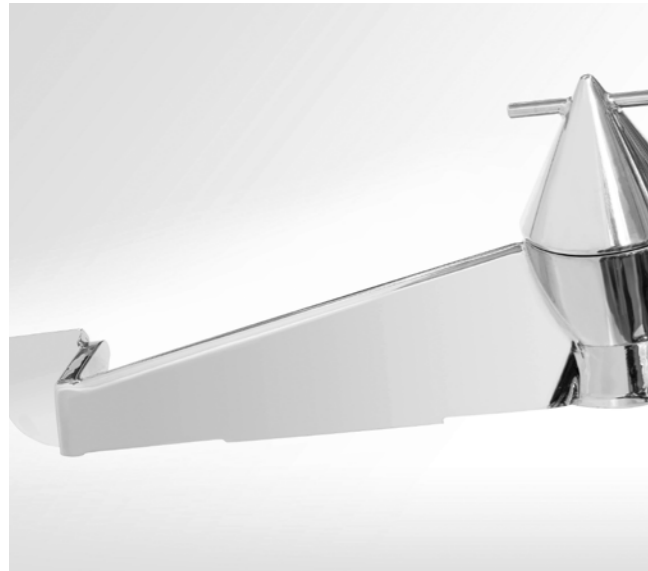


ROTO MIX

ROTO MIX is a high shear mixer granulator designed for the dry mixing of powders and wet granulation. Efficient mixing and agglomeration of powder particles are achieved by the combined action of impeller, chopper and solution distribution system. Being able to completely discharge the product bowl thanks to specially designed parts' details is fundamental for achieving maximum product yield.



ROTO MIX HIGHLIGHTS



IMPELLER

ROTO MIX has a unique impeller design conceived for the gentle manufacturing of granules.

The three blades are driven to provide the appropriate movement for the highest mixing and agglomeration efficiency at every speed.

The little wing on the tip and the scraper on the bottom of each blade ensure the minimum tolerance from the bowl to prevent product sticking and to maximise product yield.



DISTRIBUTION SYSTEM

Different types of nozzles for the spray lance, together with either a peristaltic pump or a membrane pump, can be selected according to the solution to be sprayed and the process to be achieved.

The height of the spray lance can be adjusted to concentrate the spray on the product mass, avoiding the solution being wasted on the wall of the bowl.

CHOPPER

The chopper is located on the side wall of the bowl and has a horizontal shaft. It runs at variable speed, counter directional to the impeller to prevent lumps forming.

The chopper can also control granule growth to achieve regular particle size distribution.



PRODUCT BOWL AND DISCHARGE VALVE

The product bowl is designed with no dead zones for mixing and cleaning. It also has a wide curvature radius on the bottom that prevents the product from sticking.

It is also easy to wash in place and has full access for inspection due to the valve housing that can be completely opened.

The discharge valve is located on the side wall of the bottom of the bowl and has a GMP design to facilitate discharge.

The ROTO MIX can be integrated with the IMILL, for wet granule sizing and direct transfer, in a closed system, to a fluid bed dryer.





ARIA

Simplified processing concepts based on smart design as well as repeatable and reliable process operations thanks to precise process control are the key features of ARIA fluid bed processors. ARIA can be installed in line with high shear mixer granulators for drying wet masses. With appropriate accessories, it can run as stand-alone equipment for granulating and coating small cores.



ARIA HIGHLIGHTS

FILTERS

Different types of filters can be installed based on product and process type: star-pleated or stainless steel cartridges, or even bag filters. All types are kept clean during the process by effective pulses of air counterflow, which do not disturb product fluidisation.

The operator can comfortably and safely inspect and quickly change the filters, minimising product changeover times.

SPRAYING SYSTEM

With appropriate accessories, ARIA is available in a top spray version for powder granulation and in a bottom spray version for coating small cores.

IMA can recommend the most suitable double fluid nozzle to use for each product. Spraying accuracy is achieved by the continuous control of liquid flow, volume and pressure.

PRODUCT CONTAINER

It is equipped with air distributor screens suitable for achieving maximum product yield. The air distributor can be easily washed in place and removed for inspection or replacement.

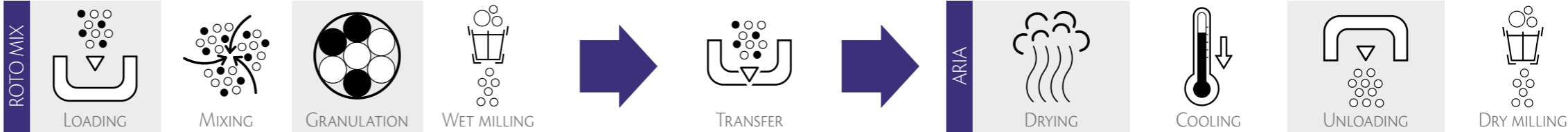
Moving from top spray version to bottom spray version is simply a matter of replacing the container for a quick changeover.



LINE DESIGN

IMA provides customised solutions that combine production efficiency and compliance with current health, environmental and safety regulations to protect the operators, the plant and to preserve the products.

- LOADING AND DISCHARGING SYSTEMS FOR PRODUCT HANDLING DURING ALL MANUFACTURING PHASES (PNEUMATIC TRANSFERS, VERTICAL PRODUCT FLOW, INTEGRATED MILLING, CONTAINERS)
- CONTAINED SOLUTIONS TO PREVENT CROSS-CONTAMINATION
- LINE INTERFACE FOR THE SUPERVISION OF THE PRODUCTION LINE FROM ONE SINGLE DISPLAY
- ENGINEERING SUPPORT TO CUSTOMER FOR THE FINALISATION OF THE ROOM LAYOUT



WASH IN PLACE

Wash-In-Place solution optimises cleaning times as well as the time to move from one product to another, saving production time for maximum yield and flexibility. Once the recipe has been set, the system takes care of the cleaning of the equipment, leaving the operator free to proceed with other activities. The interior design of the equipment is without dead zones and conceived to completely drain washing fluid to avoid any risk of product contamination and/or allergen transfer. With automatic washing cycles, the cleaning is reproducible and water consumption optimised. All internal areas are fully accessible to guarantee easy and fast inspection.

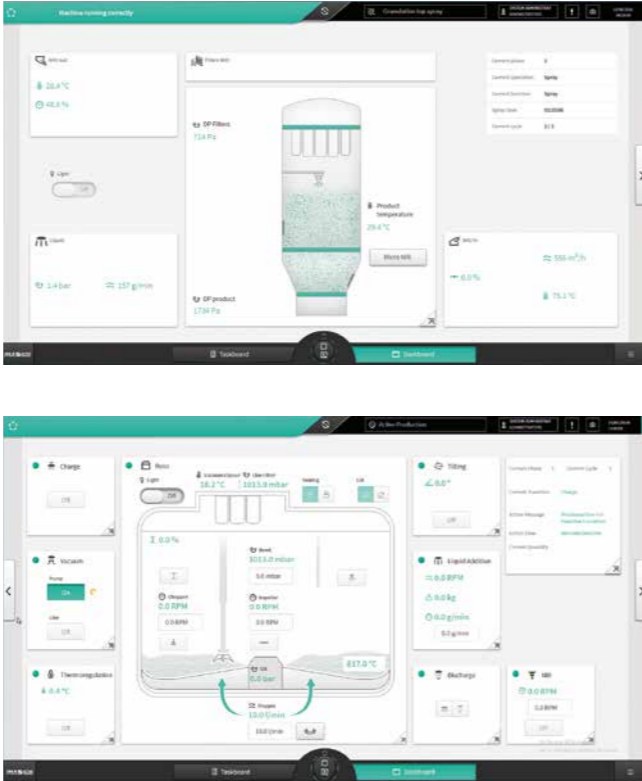


CONTROL SYSTEM

IMA wet granulation equipment is fitted with MAX corporate HMI. The synoptic plays a strategic role in improving operator efficiency:

- prompt responsiveness;
- enhanced productivity;
- easy learning.

A complete database of recipes can be stored in the PC and retrieved when necessary.



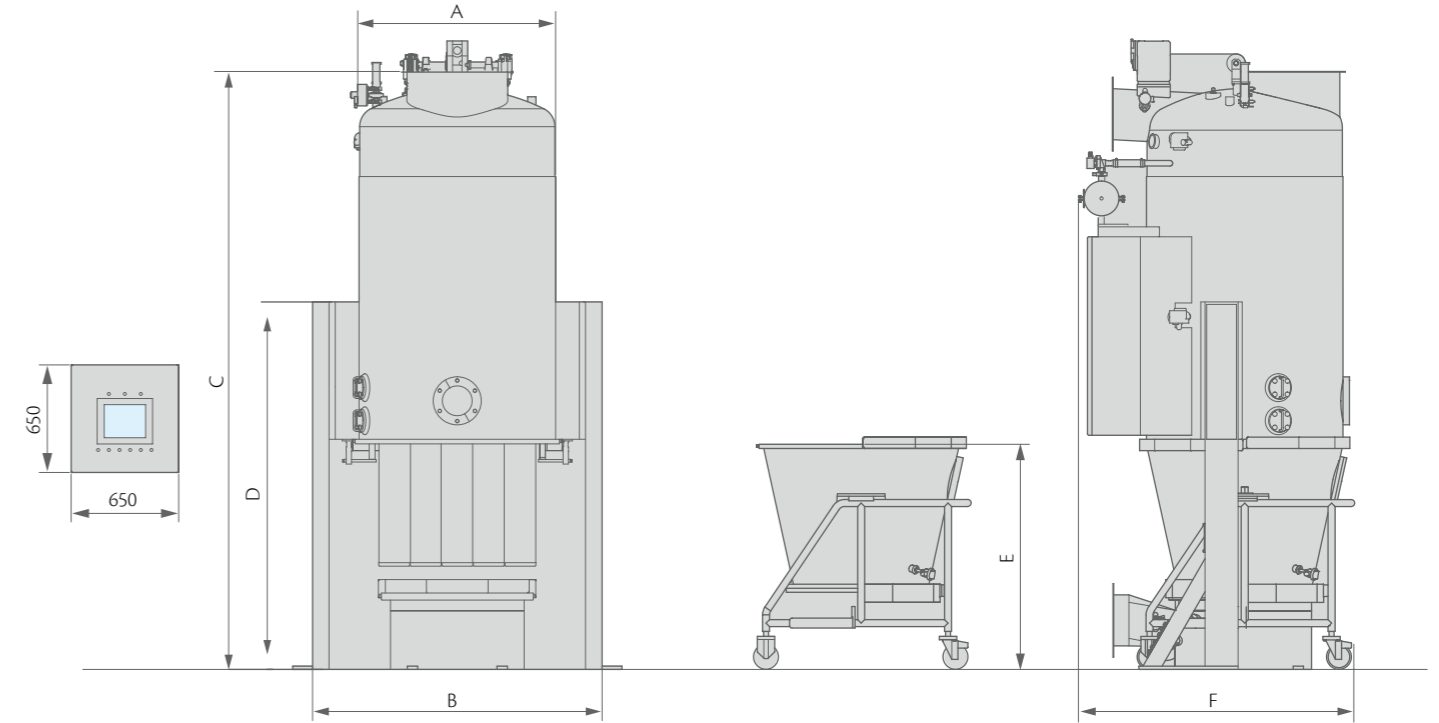
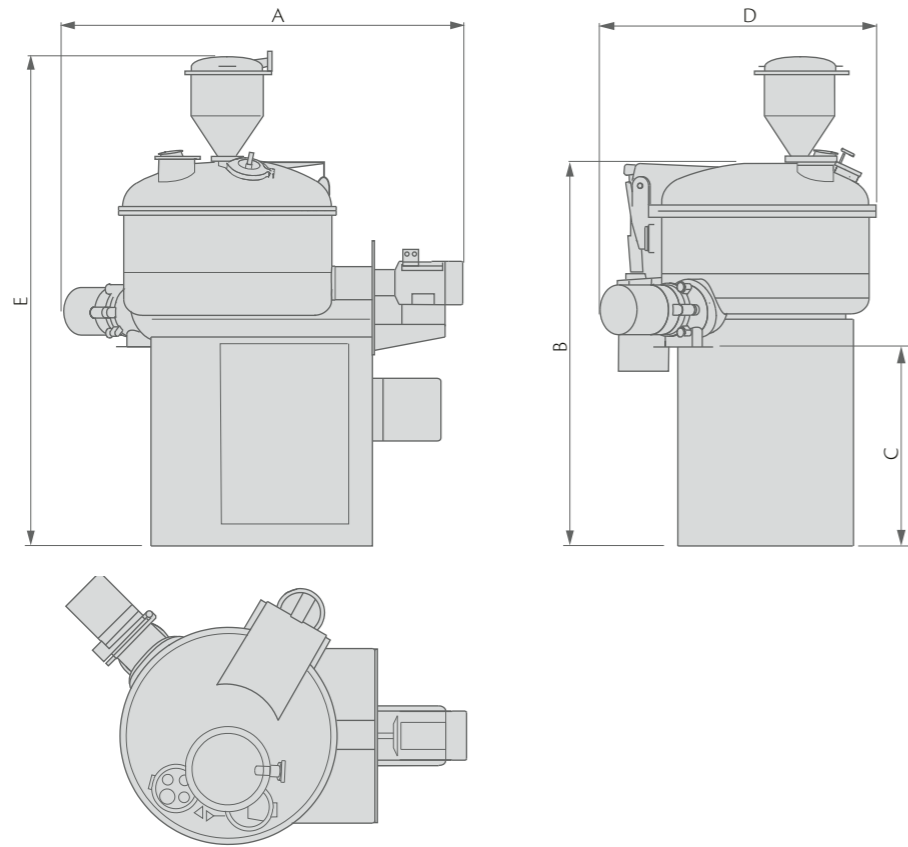
IMA LABORATORY

The IMA Active Laboratory Team is always at the customer's side in every phase of the project both at the R&D Laboratory and at the customer's site. IMA laboratory includes 20 test rooms with a controlled environment, managed by qualified chemists assisted by specialist engineers. The team understands the customer process and provide instructions and best practices to leverage our technology for improved product quality, maximum equipment reliability, and high production efficiency.

- MAIN ACTIVITIES:
- product technological characterization
 - feasibility study
 - process engineering and consultancy
 - assistance for process start-up
 - product and process optimization
 - process and cleaning validation
 - technology transfer
 - up and or down scaling



TECHNICAL DATA



Model	60	120	300	600	900	1200	1500	2500
A (mm)	1,380	1,720	2,180	2,430	2,620	2,750	2,850	3,500
B (mm)	1,520	1,620	2,000	2,400	2,650	2,700	2,830	3,020
C (mm)	870		1,060	1,240		1,300	1,300	1,340
D (mm)	850	1,050	1,315	1,500	1,700	1,800	1,900	2,240
E (mm)	2,120	2,220	2,600	3,070	3,320	3,370	3,490	3,890
Bowl capacity (litres)	60	120	300	600	900	1,200	1,500	2,500
Working capacity (litres)	minimum 25% - maximum 70%							
Impeller power (kW)	4	11	18.5	30	45	55	75	115
Impeller speed (rpm)	15-275	15-220	10-165	10-130	10-115	10-100	10-97	6-82
Chopper speed (rpm)	700-1,450 (up to 2,000 with frequency converter)							
Weight (kg)	500	1,200	2,000	2,750	3,200	3,500	4,000	7,000

Model	60	120	300	600	900	1200	1500	2000
Recommended batch size (kg)	25	50	120	250	400	500	600	800
ROTO MIX inline (l)	60	120	300	600	900	1,200	1,500	2,500
A (mm)	590	700	960	1,190	1,410	1,740		1,800
B (mm)	1,150	1,260	1,520	1,750	2,040	2,300		2,800
C (mm)	2,500	2,790	3,235	3,615	4,100	5,670		6,300
D (mm)	1,775	1,775	1,840	2,220	2,675	3,785		3,800
E (mm)	1,010	1,010	1,050	1,360	1,530	1,900		2,150
F (mm)	1,420	1,420	1,560	1,610	1,830	2,160		2,600



w w w . i m a . i t

ima.it/personalcare