

# ARIA

FLUID BED PROCESSOR



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Precise process control and premium quality engineering are the key features of IMA Active division's fluid bed processor. Simplified processing concepts based on smart design together with GMP-compliance for maximum efficiency and to fully respond to current industry requirements. Easily integrated with other granulation equipment, ARIA fits seamlessly into solid dose processing lines.

- INTELLIGENT DESIGN
- PROCESS IN HIGH CONTAINMENT
- CLOSED PRODUCT LOADING AND DISCHARGE
- SAFE USE OF SOLVENTS
- ACCURATE DETECTION OF PROCESS END-POINT
- FLEXIBILITY IN PRODUCT FILTRATION
- EASY MAINTENANCE AND CLEANING





## THROUGH THE WALL

ARIA fluid bed processor is designed to comply the current GMPs. It is suitable for through-the-wall installation to keep separated process and technical areas. It ensures fully contained process, including close product loading and unloading by means of pneumatic or gravity transfers.

## FILTERS

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

## SPRAYING TECHNOLOGY

IMA can recommend the most appropriate double fluid nozzles either for granulation or coating process. Accuracy of spraying is achieved by continuous control of liquid flow, volume and pressure.

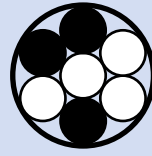
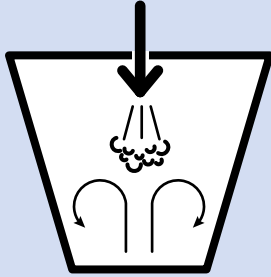
## PRODUCT BOWL

Product bowls can have air distributor screens designed to achieve the maximum product yield. The air distributor can be easily washed in place and removed for inspection or replacement.



# ARIA PROCESS TECHNIQUES

## TOP SPRAY



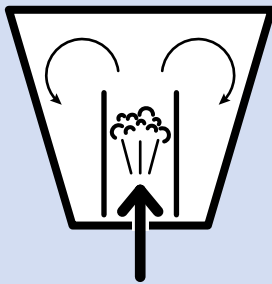
GRANULATION



COATING

GRANULES  
PELLETS  
MINI TABLETS  
HARD CAPSULES

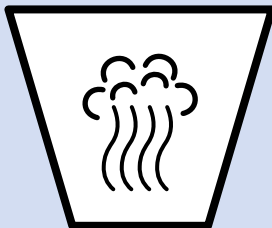
## BOTTOM SPRAY



COATING

GRANULES  
PELLETS  
MINI TABLETS  
HARD CAPSULES  
SOFTGEL CAPSULES

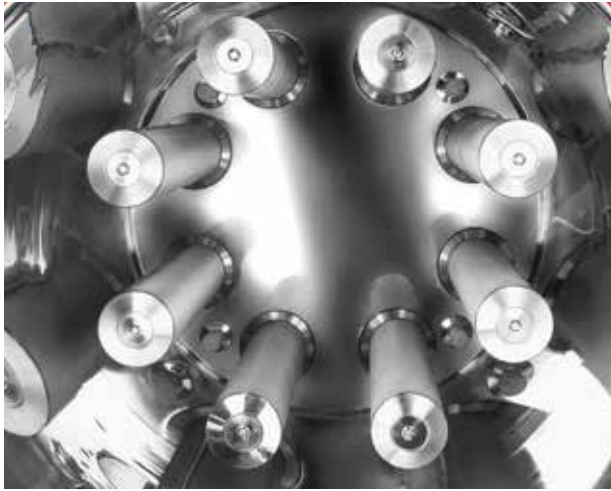
## DRYING



GRANULES  
PELLETS

## PROCESS GOALS

OPTIMISATION OF PARTICLE SIZE DISTRIBUTION  
INCREASED COMPRESSION ABILITY  
IMPROVED API BIOAVAILABILITY  
SUITABLE FOR PROCESSING OF CONTROLLED RELEASE FORMS  
EXCELLENT COATING OF SMALL CORES



## WASH IN PLACE

Wash In Place optimizes cleaning times and water consumption. Filters can be wetted in place too. Automatic washing cycles ensure cleaning reproducibility and facilitate validation.



## CONTROL SYSTEM

MAX, the latest generation of IMA HMI, is created paying maximum attention to User Experience and based on Visual Design to enhance User Interaction. MAX ensures prompt responsiveness, enhanced predictability and easy learning.

MAX HMI is based on iFix SCADA, IoT ready, to make easier connection with high shear mixer or other ancillary equipment in a granulation suite. Communication can be extended to a plant-wide supervision system and also to IMA remote service assistance.

Automatic recipes, reports and audit trails reports for processing or cleaning can be edited and managed to ensure maximum efficiency and consistent results in compliance with current directives and guidelines (ANSI/ISA-88, FDA CFR21 part 11, GAMP®, MHRA GMP Data Integrity).

MAX allows to easily achieve process end-point. In addition it can work with control instruments required for PAT approach, such as NIR or to determine moisture content, content uniformity and particle size.



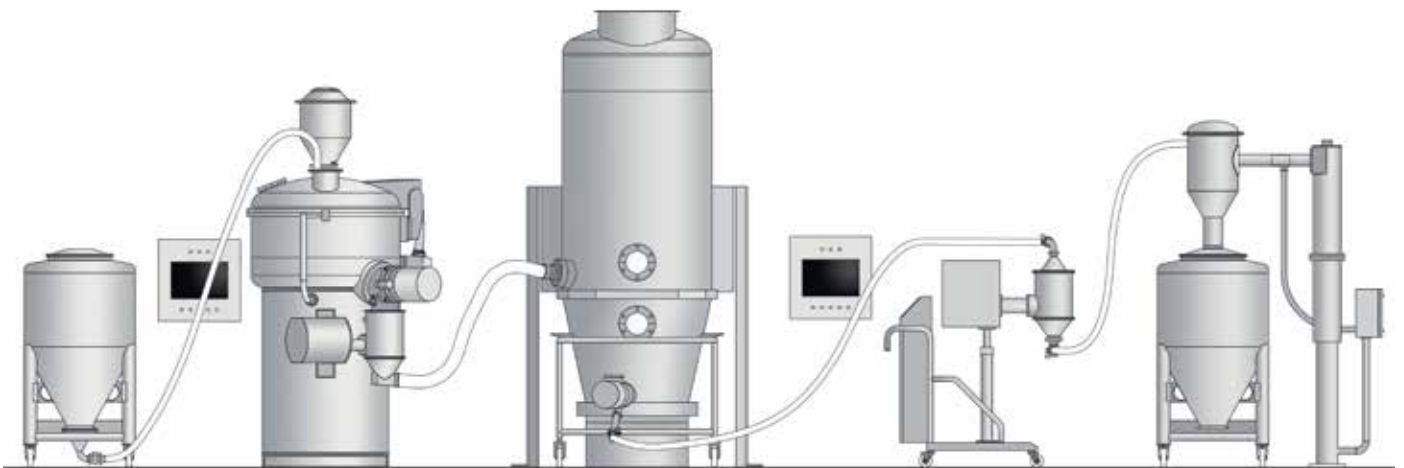


## INTEGRATED DESIGN

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

ARIA DESIGN FEATURES ALL KINDS OF PROTECTIONS FOR:

- CONTAINED AND SAFE SOLUTIONS FOR PRODUCT LOADING AND DISCHARGING: PNEUMATIC TRANSFER, VERTICAL PRODUCT FLOW, INTEGRATED MILLING STEP.
- EXPLOSION PROOF: UP TO 12 BAR PRESSURE SHOCK RESISTANCE, QUICK ACTION SAFETY VALVES, CONTROL OF STATIC CHARGES, ATEX COMPLIANCE.
- CONTROL OF EMISSIONS: POWDERS DEDUSTING, ABSOLUTE FILTRATION, SOLVENTS SCRUBBING.



## MYLAB

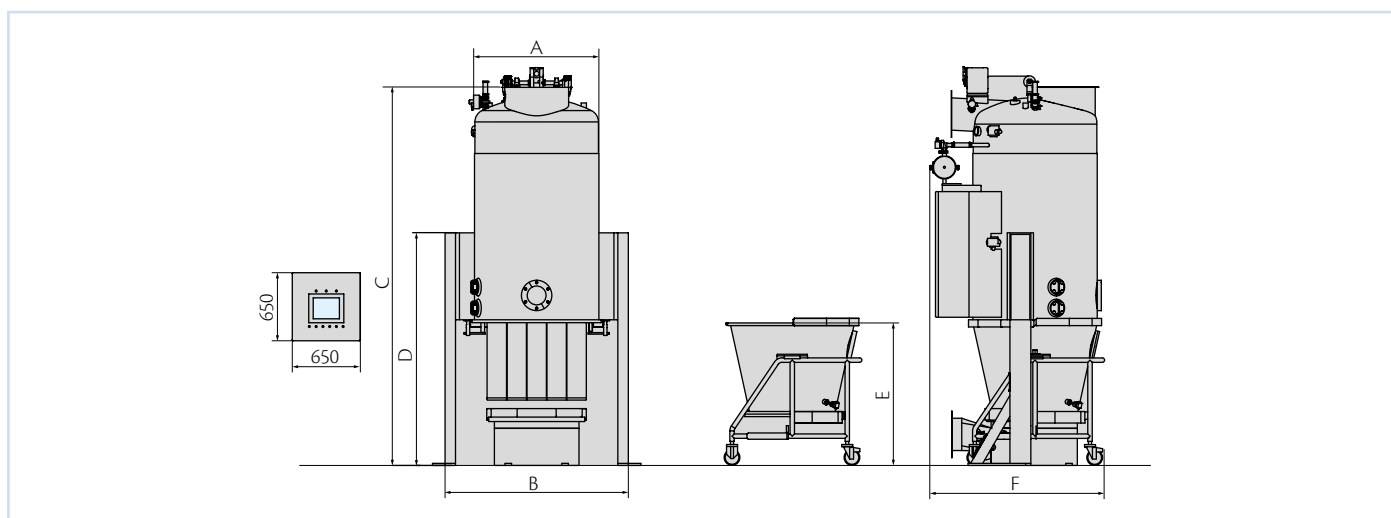
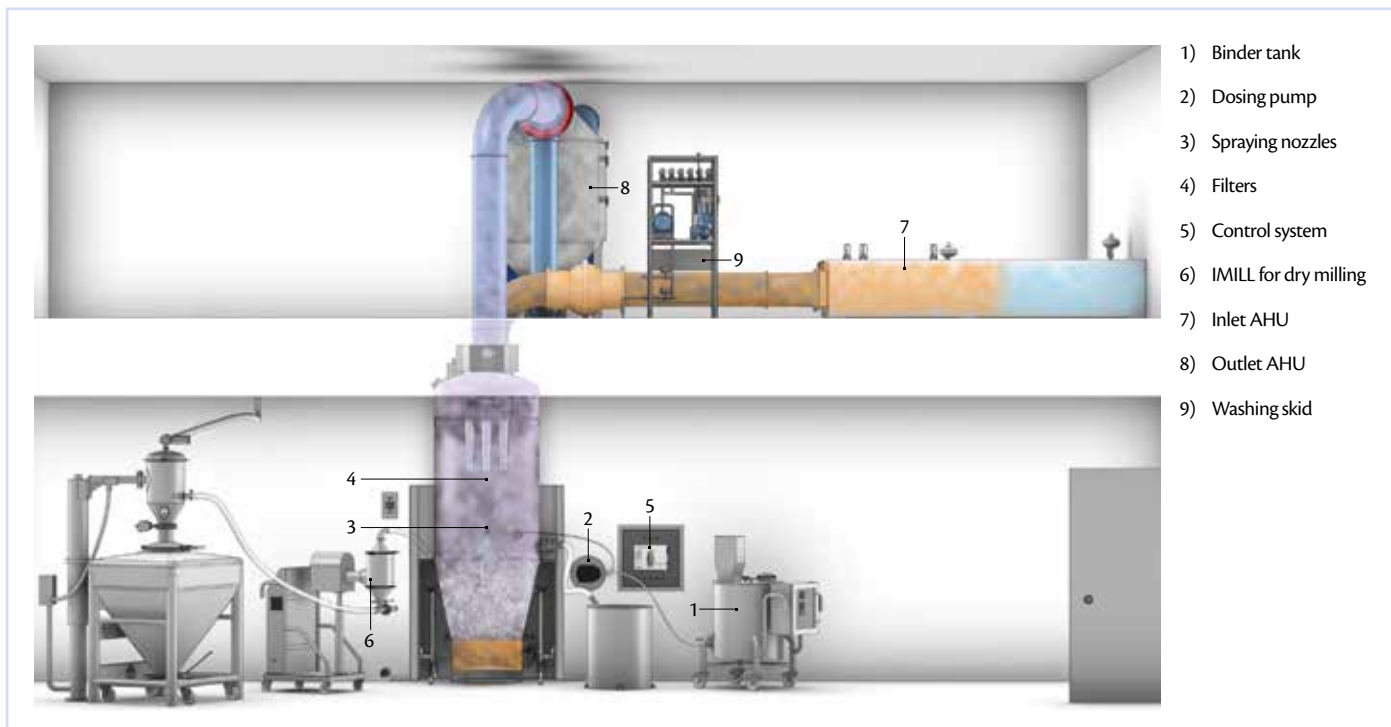
MYLAB is a laboratory scale equipment for R&D purposes, suitable for the granulation or coating process.

The fluid bed processor has interchangeable product containers for top or bottom spray process which can run batches from 2 to 6 litres.

The expansion chamber fits PE cartridges which have an automatic cleaning system by means of compressed air.



# TECHNICAL DATA



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

[www.ima.it](http://www.ima.it)



IMA S.p.A.  
**IMA ACTIVE division**  
Via l° Maggio 14 - 40064 Ozzano Emilia (Bologna) - Italy  
Tel. +39 051 6514111 - Fax +39 051 6514287  
[marketing.active.it@ima.it](mailto:marketing.active.it@ima.it)

