



# MAGNAFLO®/MAGNACOATER® FLUID BED SYSTEMS

OPTIMIZED DRYING, GRANULATING, & COATING



Experts in Solid  
Dosage Technology

A Division of *Spraying Systems Co.*





# OPTIMIZE YOUR SOLID DOSAGE APPLICATIONS

## DESIGN FLEXIBILITY ENSURES PEAK PERFORMANCE FOR FLUID BED DRYERS, GRANULATORS, AND COATERS

Fluid Air's MAGNAFLO® and MAGNACOATER® fluid bed systems can be quickly and cost-effectively customized based on your exact solid dosage processing applications. Choose from specialties such as custom air handling systems, solvent handling systems, material handling capabilities, and process control software.

**Let us help you optimize your production.**

### BENEFITS:

- Improved product quality
- Cost effective, combining 3 operations into one system
- Superior operation, with intuitive controls
- Reduced operation and maintenance costs

## DEFINITIONS

### What is Fluid Bed Drying?

Conditioned gas flows through a bed of material suspending the particles. The fluidized particles transfer moisture to the process gas quickly and efficiently. The evaporative effect keeps the particles cool during the process, allowing even temperature-sensitive products to be dried safely.

### What is Fluid Bed Granulation?

Also known as agglomeration, this process suspends particulates in an air stream and sprays a liquid from the top down onto the fluidized bed. Particles in the path of the spray get slightly wetted and become tacky. The tacky particles collide with other particles and adhere together forming a granule.

### What is Fluid Wurster Coating?

Also called air suspension coating, particles are accelerated upward in a high velocity process air stream where they pass through a solution spray cloud produced by a bottom mounted nozzle. As the particle leaves the spray cloud it dries, returns downward, and is recirculated back through the cloud.

## SIMPLIFY YOUR SCALE-UP

MAGNAFLO® and MAGNACOATER® fluid bed systems maintain critical scale-up factors including average bowl geometry, air velocity, and key operating ratios (e.g. volume of air/cubic foot of product) from smaller to larger units. Products processed in smaller systems can easily be scaled to full production using proportionally the same air conditions, speeding your product development cycle.

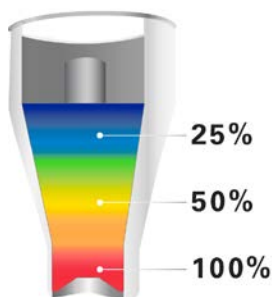
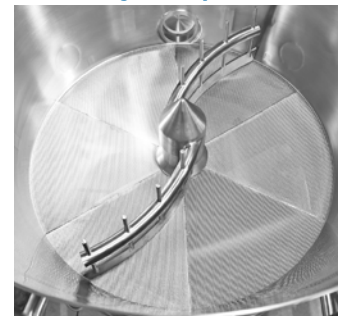
## REDUCE PROCESS TIME WITH FASTER GRANULATION

The conical shape of the expansion chamber reduces the velocity of the air in the filter chamber by 50%, keeping fines out of the upper filter region and below spray nozzles when granulating. Accelerated agglomeration and efficient solution transfer occurs when the particles are suspended in the proper position resulting in reduced process times and granule attrition.

## IMPROVE QUALITY BY PRODUCING HOMOGENEOUS PRODUCTS

The agitator system located in the bottom of the bowl rotates slowly through the bed of material, always ensuring proper and even fluidization of the product. This results in a more consistent and homogeneous product.

Agitator System



## MAGNAFLO®/MAGNACOATER® FLUID BED SYSTEM ADVANTAGES

- Tapered expansion chamber reduces air velocity by 50% reducing the distance from the bed where the particle reaches terminal velocity.
- Specific geometry maintains critical scale-up factors
- Conidur or Turboflo bed plates and high-capacity/high static pressure blowers ensure uniform air distribution through the bed
- Unique plenum geometry provides improved air dispersal
- Three process filtration options (one piece bag, cartridge, and bag/cartridge combination) provide production flexibility
- Agitator system located in bowl bottom eliminates dead spots to ensure proper fluidization of the product
- Superior granulation and spray distribution achieved with round "chandelier" spray delivery assembly

## MAGNALIFT® SANITARY ELEVATORS & BOWL INVERTERS

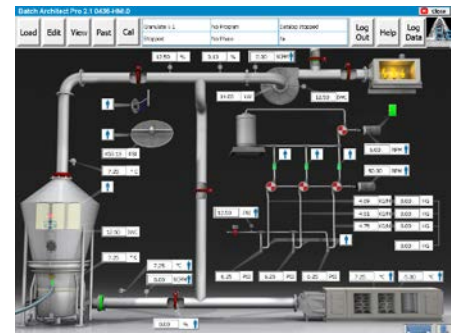
### PRODUCT BIN AND BOWL ELEVATORS/INVERTERS FOR DISCHARGING INTO SECONDARY PROCESSES

- Safe and robust construction
- GMP design for use in washdown environments
- Custom configured for each special application to meet loading and unloading requirements
- Pivoting or stationary posts with floor and ceiling or floor only support
- Inverting and/or lift only configurations
- Hydraulically driven for efficient movement, safety, and speed



**PROCESS CONTROL SOFTWARE  
MAXIMIZES OPERATING FLEXIBILITY**

- Simple enough for R&D scale machines; sophisticated enough for applications requiring 21 CFR Part 11 FDA compliance
- Configure for manual control or optional phase or recipe-based control
- Runs on Allen-Bradley® Logix processors, RSLogix™ 5000 Software, PanelView Plus™ or FactoryTalk® SE Platform



**Batch Architect Pro™ Status Screen**

Allen-Bradley is a trademark of Rockwell Automation

**MAGNAFLO®/MAGNACOATER® FLUID BED SYSTEMS: SPECIFICATIONS**

Model Number	2*	5*	20*	50	120	300	500	800	1000	1200
Standard bowl volume (L)	2	13	46	57	148	346	617	967	1205	1437
Max. granulating capacity (L)	2	10	34	51	133	311	555	870	1084	1293
Max. coating capacity (L)	1.8	6	31	46	124	193	477	720		
Extended bowl volume (L)	See Note 1	See Note 1	See Note 1	See Note 1	207	482	860	1346	1645	1961
Reduced volume bowls (L)	0.5	2	5	5, 46	46, 57, 97	148	148, 346			
System height (inches/mm)	72/ 1829	74/ 1880	80/ 2032	See Note 2	138/ 3505	160/ 4064	148/ 3760	174/ 4420	185/ 4699	192/ 4877
System width (inches/mm)	32/ 813	76/ 1930	78/ 1981	32/ 812	46/ 1168	72/ 1829	84/ 2134	96/ 2538	105/ 2667	114/ 2896

\*Dimensions are for portable systems only

Note 1: Standard construction of these bowls may allow for extra drying/granulating/coating capacity depending on the product. Contact factory for details.

Note 2: Unit collapses to height of 80"/2032 mm. Operating height is 140"/3556 mm.

†The Fluid Bed system contains patented technology. US7147717 B2, US7563325, US8876928 B2



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