



**Experts in Solid  
Dosage Technology**

A Division of *Spraying Systems Co.*

## **MAGNAFLO®/MAGNACOATER® FLUID BED SYSTEMS**

Optimized Drying, Granulating and Coating



# Optimize Your Solid Dosage Applications

Design flexibility ensures peak performance for fluid bed dryers, granulators, and coaters.

Whether you need solid dosage technology for R&D, pilot or production applications, Fluid Air can help. Our MAGNAFLO® and MAGNACOATER® fluid bed systems can be quickly and cost-effectively customized to meet your unique processing challenges. Processing ingredients with special requirements? Unusual solvent recovery needs? Let us help you optimize your production.

## Benefits

- Simplify your scale-up
- Minimize process downtime
- Eliminate waste
- Reduce maintenance
- Improve product quality



## 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 be easily scaled to full production using proportionally the same air conditions, speeding your product development cycle.

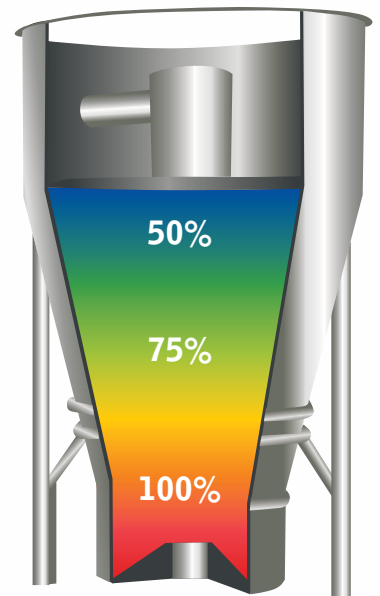
## Improve Quality with a Homogeneous Fluid Bed

The agitator system located in the bottom of the bowl rotates slowly through the bed of material, always ensuring proper fluidization of the product no matter what the operating conditions.



## 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 the spray nozzles when granulating. Agglomeration is faster with particles suspended in the proper position.



# MAGNAFLO®/MAGNACOATER®

## Fluid Bed Systems Advantages

- Tapered expansion chamber reduces air velocity by 50% to limit the amount of fine particles in the filter and improve granulation
- 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

## Easy-to-use Batch Architect™ 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

Allen-Bradley is a trademark of Rockwell Automation

## Definitions

### What is Fluid Bed Drying?

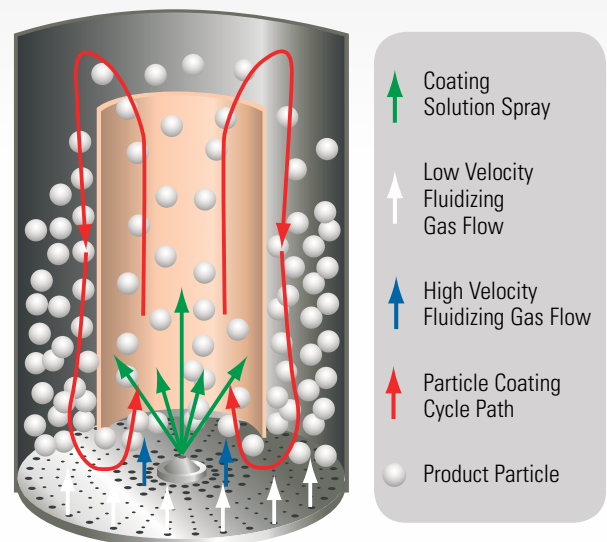
Conditioned gas flows through a bed of material, separating the particles and causing the bed to behave like a fluid. The fluidized particles transfer moisture to the process gas quickly and efficiently. The evaporative effect keeps the particles cool during the process, permitting even temperature-sensitive products to be fluid bed dried.

### What is Fluid Bed Granulation?

Also known as agglomeration, this process involves suspending particulates in an air stream and spraying 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 Wurster Coating?

The basic concept in Wurster coating, also called air suspension coating, is to separate particles from one another in an air (gas) stream. The desired coating formulation is then sprayed onto the particles while they are suspended.



## MAGNAFLO®/MAGNACOATER® Fluid Bed Systems: Specifications

Model Number	2*	5*	20*	50	100	120	300	500	650	800	1000	1200
Standard bowl volume (L)	2	13	46	57	97	148	346	617	797	967	1205	1437
Max. granulating capacity (L)	2	10	34	51	87	133	311	555	717	870	1084	1293
Max. coating capacity (L)	1.8	6	31	46	77	124	193	477	613	720		
Extended bowl volume (L)	See Note 1.	See Note 1.				207	482	860	1110	1346	1645	1961
Reduced volume bowls (L)	0.5	2	5	5, 46	46, 57	46, 57, 97	148	346				
System height (inches/mm)	72/ 1829	74/ 1880	80/ 2032	See Note 2.	126/ 3200	138/ 3505	160/ 4064	148/ 3760	172/ 4369	174/ 4420	185/ 4699	192/ 4877
System width (inches/mm)	32/ 813	76/ 1930	78/ 1981	32/ 812	36/ 914	46/ 1168	72/ 1829	84/ 2134	90/ 2286	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.

### Additional Resources

#### **A Guide to Spray Technology for Pharmaceutical and Biopharmaceutical Processing, Bulletin 599**

Addresses tablet coating nozzles and manifolds, SprayDry® nozzles, vessel cleaning nozzles and more.



#### **GRANUMILL® Size Reduction Systems, Bulletin FA102**

Details how these systems provide high-speed impact milling and low-speed screening of agglomerates.



#### **PHARMX® High-Shear Granulating Mixer Systems, Bulletin FA101**

Explains how these systems maximize mixing efficiency and shorten downtime between batches.



#### **Retrofit Batch Equipment and Controls, Bulletin FA103**

Explains how to update and expand the capabilities of current equipment through software upgrades and/or machine conversions.



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For more information on AutoJet solutions, visit [www.spray.com](http://www.spray.com).

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