

Flexible Fluid Bed
Processing

FlexStream™

Granulation, Drying and Coating in
One Process with built in linear Scale-up

FlexStream™ is a new multi-purpose processor from GEA Pharma Systems. Using proven Aeromatic-Fielder™ fluid bed technology to achieve fluid bed granulation, drying and pellet coating (or tablet coating) in ONE processor.

Advantages of FlexStream™

- Only ONE product container for all unit operations
Fluid Bed Granulator - Fluid Bed Dryer - Fluid Bed Coater,
ALL in 1 container
- Only one design/height for all unit operations
Reduced building envelope in both height and footprint
- Linear scale up
- Ready for fully contained loading and unloading
- Superior product homogeneity both for LOD and PSD
- Enabling PAT: in-line measurement of particle growth



Aeromatic-Fielder™

Flexible Fluid Bed Processing

FlexStream™

(Patent Pending)



Fluid bed technology from Aeromatic-Fielder™ addresses the current shortfalls of traditional fluid bed processing:

- Scaling up
- Contained loading and unloading
- Issues with homogeneous product quality

You have experienced some of those issues?

The FDA has ... as they point out in their 'GUIDE TO INSPECTIONS OF ORAL SOLID DOSAGE FORMS'

http://www.fda.gov/ora/Inspect_ref/igs/solid.html

FlexStream™ gives full flexibility and additional advantages:

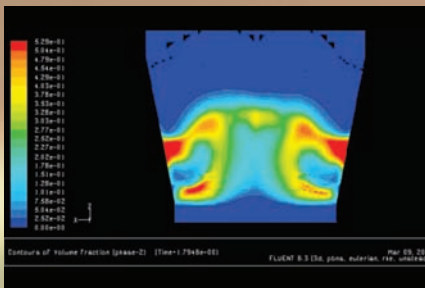
- No dedicated process container required
- No dedicated design/height required
- Higher output
- In-line PAT measurement

FlexStream™ has spray nozzles mounted in the side walls of the processor. Although this is the optimal nozzle position from a processing point of view, it still carries the risk of uncontrolled over-wetting the particles that get sucked into the area of very high humidity just in front of the nozzle tips.

Therefore in FlexStream™ particles are pneumatically driven away from this zone by a protective air stream taken from the normal process air.

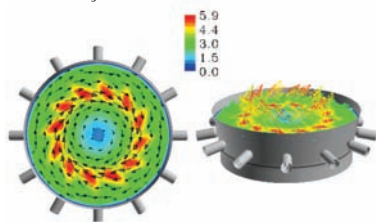
The FlexStream™ concept has the additional advantage that no mechanical adjustment is necessary to switch between using the equipment as a dryer, a granulator or a coater.

Impressive test data prove that, in addition to these commercial benefits, FlexStream™ gives superior product quality when compared with conventional top-spray granulation or wurster coating.



Fluent simulation showing clearly the areas of lower powder density created by the FlexStream™ nozzles

Fluent model showing the combined effect of the Niro Gill plate and the FlexStream™ spray nozzles in creating a rotating flow pattern which ensures no product backflow into the nozzles.



5 m/s isosurfaces from the airjets.

www.geapharmasystems.com

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