

Wet Granulation | Glatt Fluid Bed Dryer

Fluid bed agglomeration granules are built up out of individual dry particles by sticking these together with liquid (binder). Granules produced via this route normally have a relatively low density and a fairly open and porous structure. This makes this route very suitable for applications where the solubility and dispersability are very important.

The Glatt is a versatile fluid bed dryer that not only can be used on its own but also in combination with other processes. This flexibility makes it very suitable for a number of applications. The machine is suitable for the processing of 200 litre batches and therefore is also suitable for smaller campaigns.



The core possibilities of the machine are in drying and agglomerating a wide range of different products. It is designed to dry in a quick, careful and uniform manner. By means of a spray head, the dryer changes from a dryer into an efficient agglomerator for the production of homogenous granules.

The liquid can be water or a powder dissolved in a liquid. The wet/moist granules are then dried or cooled whereby the liquid bridges between the individual particles solidify. The result of

this process with a relative low mechanical exposure is a granule with a relatively open structure, low density and excellent dissolving capabilities.



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This technique is among others used to achieve the following characteristics of the end product:

- Reducing the quantity of fine material in the end product
- Improving the flow characteristics of the product
- Eliminating Segregation
- Homogenous distribution of the different components
- Improved compression capabilities for making tablets
- Controlling of the density of the end product
- Improved dissolving characteristics of the end product.

The characteristics of these granules like size, density and porosity can be closely controlled by changing the parameters. For agglomeration it is important that there is a uniform stream of particles within the product container and that the spray head is set correctly so that a reliable and reproducible product can be achieved.

Other applications for the fluidised bed machine

Fluid bed drying

Fluid bed drying is a very effective way to dry solids with the advantage that it happens fast, efficiently and with the necessary care for the agglomerates [See powders & Granules Drying].

Coating:

This is where a uniform layer is put onto individual particles. The chosen coating will influence the product characteristics for example, this can prevent particles from absorbing moisture.



Combinations:

This technique can also be used in combination with for example pre-agglomeration techniques whereby the wet granules are fed directly to the dryer where they are dried or processed or whereby the material from the fluid bed is fed directly to a sieve or other type of process.

The machine is completely stainless steel and lives up to the GMP Food standards. Typically the machine is designed to produce a couple of hundreds of kilos per hour.

We also have available a lab size piece of equipment from the same brand. This is a so called Uni-Glatt Fluid bed Dryer from about 1 litre. With this machine we can test for you on lab-scale in order to decide if this route might lead to the desired end-product.

As you can see this machine has a number of specialist applications. If you have any specific questions or remarks then we are more than happy to discuss these in more detail with you.

We look forward to hearing from you.

