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Reliable feeding of difficult flowing bulk material

Precise metering with high repeatability of the accuracy is not a big exercise with products like corn semolina, plastic pellets or dried vegetable.

More challenging is the weighing and feeding of flushing, bridging, cohesive or compacting bulk material, like icing sugar, calcium hydroxide, fibres or flakes.

The mechanical design and shape of a feeder influences mainly the capability and reliability to handle difficult products. Gericke has collected a large knowledge base by conducting field and testlab trials and converted the findings into the design of its entire feeder product range.

This includes aspects which orient on the physical behaviour of powders. To mitigate the phenomenon of bridging, feeders from the GAC and GDU series offer an over dimensioned entry section. Various types of agitators or homogenisers or even vibrated hoppers or ultrasonic induced energy are used for homogenising the bulk material in the feeder hopper and to introduce the particles into the feeding auger or helix in a constant way. These are some of the basic conditions for an accurate and repeatable volumetric feeding. It is logic, that a precise volumetric metering makes a gravimetric one even better.

The profile of the helixes and spirals play a significant role as well. This very important part of each feeder has to be adapted to the respective process and product characteristics. It influences the filling degree, the compression and mechanical stress on the product, should avoid the flushing or the pulsation at the outlet.

The selection and execution of the feeder type and its options takes Gericke after careful examination of the products and the process. Rheology analysis can be done in its laboratories and feeding trials with specific accuracy measurement software in the Gericke test centres.

As Gericke is capable to supply conveying systems and mixers, the interfaces between up- and downstream equipment as feeders is solved by one hand.

Simulate your powder process in our testcenters under industrial scale and conditions.

Picture: Gericke batch weighing system (Gericke Archiv)