

## MIXING OF POWDERS – NEW CHALLENGES CONCERNING ALLERGEN HANDLING, AVOIDING CROSS CONTAMINATION AND MINIMISING CLEANING DOWNTIME

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Mixing of powders is an essential process in various industries from chemical, pharmaceutical to food. Short mixing times and enhanced homogeneity while offering gentle product handling are challenges in defining modern mixing processes. The addition of ingredients in very low concentrations requires optimal solutions for automatic dosing as well as the selection of a mixer.

Other process criteria have also become the focus of producers. Recipes change more often. Cross contamination between different recipes must be avoided for reasons of productivity, minimising the risk of allergen contamination, and to ensure correct compliance with labelling regulations.

The design of mixers, as well as the complete mixing processes, for this so called “hygienic execution” is demanding. The key to increased productivity is the ease of cleaning, since cleaning time is dominating downtime. In the food industry, dry cleaning is the preferred option, as the risk of bacteria growth is reduced and also drying time is eliminated.

Gericke has been designing powder mixers for hygienic and other demanding applications. Based on scientific knowledge, extensive tests and expertise from installations worldwide, the double shaft mixer, GMS Mixer, has emerged in the mixer market. New options and functionalities allow the GMS to be versatile and it is available in sizes from 140 litres up to 5,000 litres.

High mixing quality for micro components, short mixing time, gentle to the mixing ingredients and ease of cleaning: This characterises the Gericke GMS mixer and is Gericke’s support to the needs of the food, pharmaceutical and chemical industries where hygiene demands have become more stringent, and product quality is of utmost importance.

### **Easy to clean and hygienic**

During the redesign of the GMS mixer family, optimal cleaning allowing the operator a safe and full access to the inside of the machine has been the focus of development. Full access to the mixing chamber, shaft sealing, discharge opening and inlet flanges is mandatory to allowing dry cleaning in a short time.

Even in the execution, the mixer front can be opened by a swiveling door. In the GMS Extractable Cantilevered Drive (ECD) version, the whole drive unit, including mixing rotors, can be extracted from the body, thus the mixing house is empty and optimally accessible for cleaning. However, seemingly small construction details can impact the speed of cleaning. How is the access to the outlet of the mixer? Can the shaft sealings be dismantled for inspection or cleaning? These are two of many examples how the GMS mixers are designed for the handling of allergens and demanding products.

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*This article is contributed by Gericke.*

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