



Product News

## Controlling & Optimising Metering and Blending Systems

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*Hennef, Germany –*

Today, many products are offered in various variations. Where there used to be one muesli bar, there are now 10. Flour is available in "wheat," "spelt" and "gluten-free. Even in the packaging sector, each type of shampoo not only has a different label - the entire bottle is individually colored. This is a product diversity that can no longer be meaningfully reproduced with manual mixing processes - especially in the food sector, where, in case of doubt, the mixing process must still be clearly documented and verifiable months later.

The solution: an automated, recipe-based mixing control system.

The Advantages of Controlling and optimising Mixing Plants automatically:

Facilitation for the plant operator

The operator can adjust the plant based on the current recipe, there are fewer sources of error, and the plant status can be seen at a glance via a dashboard.

## Robust documentation



The automated dosing and mixing control system ensures that the production process is cleanly documented. In addition to the obligatory reserve samples, this documentation provides strong security in case of later product problems. If desired, the document data can be archived in an audit-proof manner during the production process in order to be prepared, for example, for inspections by authorities.

Clear production status - 360° view of the plant

The complete plant status is visible to the machine operator at a glance - problems can be quickly identified and rectified via process visualization. The mixing process can be intuitively controlled, monitored and optimized via process data.

Precise control of the metering and mixing process

The various recipes for the individual products are stored in the recipe database. The mixing control pulls the respective recipe and automatically feeds the raw materials in the correct mixing ratio.

Allocation of raw material batches

The automated mixing process also documents the raw material batch numbers used and their assignment to the finished product. Identification takes place via a QR code (LOT number). If a particular batch is recalled by the manufacturer, for example, the end product made from it can be easily assigned.

## Compensation of environmental conditions

Bulk material feeding has many sources of error. Vibrations caused by passing forklifts are just as much a part of this as moisture, which can lead to clumping in the case of hygroscopic raw materials, or static charge, in which material is deposited on the discharge element. An automated control system can measure these environmental conditions and incorporate them into the metering and mixing process.

## Filling levels and refilling processes

When a hopper is completely full, a metering unit needs more force to transport the same amount of material. If the hopper is just being refilled from the silo, practically no meaningful measurement is possible - but the automated mixing control recognizes this and simply holds the current setpoints and starts measuring again as soon as the process is complete.

## Error prevention

We're all human, and experience shows that by the seventh hour of the night shift, concentration is no longer as high. Automating the dosing and mixing control minimizes the human factor and ensures that even at four in the morning, sugar is still added and not salt.

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