

Case story - Arla Foods

Reliable accuracy

Precision in every gram, reliability in every process. Jesma Weighing Solutions – where accuracy meets innovation.





Arla Foods - Saving costs and minimizing waste.

"Today we have three Jesma loss in weight systems, which fully complies with our high-quality standards. They are all part of our large mixing system and are functional and accurate."

Allan Petersen, Engineer, Arla Foods Samden, Denmark

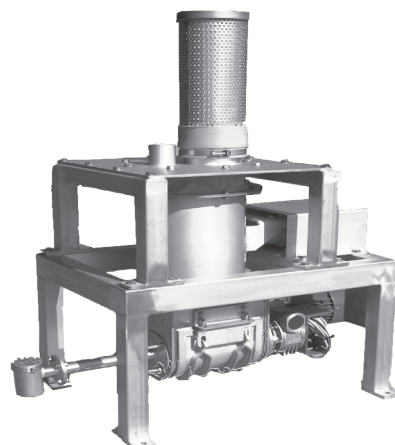
Working with wet-mix products is very demanding, expensive raw materials are dosed in large amounts as well as several additives are added in very precise amounts, and a possible error in production would be very expensive and mean that the products need destroyed.

At Arla Foods, Samden prev. Aabenraa, Denmark they wanted to improve the accuracy in the relation between flow and addition of additives. Simply, reach the highest possible accuracy between the actual flow and the additives; in other words, if the flow goes up so should the additives. Furthermore, they wanted something that could register and stop addition errors – as a wrongly added substance may destroy the batch.

High accuracy and securing errors

What fit the needs of Arla Foods Samden were a Loss-In-Weight system, where the purpose of the system was handling the addition of additives as well as monitor that no errors occur in the system, and in case of error the system reports and stops immediately. Securing high accuracy and less waste in production as errors are registered and stopped instantly.

"Jesma's machines are easy to operate, able to calculate the dosing based on specific requirements and very reliable" according to Allan Petersen, Engineer, Arla Foods Samden, Denmark.



Reliable accuracy



In general about Jesma loss-in-weight systems

The Jesma loss in weight feeder is a fully electronic weighing system, which is specially designed for continuous dosing of additives with a high dynamic accuracy incl. the critical stage of re-filling the weighing bin.

The functional principle for a LIW system is through repeated static weighing of the product bin to determine and regulate the mass flow. The product bin is slowly emptied, and the relation between the loss in weight and the speed of the discharge system gives the amount signal, which controls the dosing speed to the required value. To achieve highest possible dynamic accuracy, the discharge system is mounted with a 2-channel incremental encoder with high signal rate which continuously monitors the speed of the discharge and signals the actual speed to the Jesma weigh controller.

Through careful considerations regarding product characteristics, all Jesma loss in weight feeders are designed for highest possible dynamic accuracy, market leading operational reliability and user friendliness.

The loss in weight system consists of a weigh bin suspended in load cells, a discharge and a feeding device. The weigh bin is available in many sizes and designs – all of them carefully considered and perfectly designed to avoid product bridging and to keep a steady product flow. From the weigh bin the product is discharged mechanically or by gravity. Easy flowing and dry products can be discharged by gravity in conical outlets, however difficult flowing material such as vitamins or enzymes are extracted mechanically through a live scraper bottom with an agitator screw. From the bin discharge the material is mechanically dosed through a screw conveyor, rotary valve or belt conveyor – Also the type of feeding device is carefully considered and selected according to the product characteristics. The speed of the discharge is controlled by a frequency converter and the speed is continuously monitored and regulated through the incremental encoder and the control system.

With unknown products or limited experience in the product characteristics, Jesma offer to perform product tests in our test centre in order to achieve the optimum technical solution.

Depending on the project and product characteristics the loss in weight feeders are, completely or partly, available in following materials:

- Normal painted steel St.37.2
- Stainless steel AISI 304
- Stainless steel AISI 316
- Hardox

Jesma delivers all kinds of weighers and weighing systems, both as approved and as standard solutions. In close co-operation with the customer, Jesma prepares the perfect solution for the specific project - this is how the project at Arla Foods has emerged and been realized.



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