



Loss-in-weight



The peanut butter filling line

Mastering the Perfect Peanut Butter

SupperFood BV from Oosterhout in the Netherlands is a trading company that supplies private-label sauces, dressings, syrups, preserves and oils. However, as the company grew, so did its customer base, and SupperFood could not meet the demand for peanut butter. So in 2019, it decided to start producing peanut butter in Oosterhout, where SupperFood contacted an equipment supplier to find the right design for processing in a new facility.

Planning for Peanut Butter

CIH Breda specializes in engineering and supplying process lines for the food industry, so it was the ideal company to tackle the development of a dosing and grinding installation for SupperFood.

The dosing and grinding installation supplied by CIH Breda BV for SupperFood's peanut butter line needed a belt scale and three dosing units. These ensure that ingredients are processed in the correct quantities and proportions.

Moving Peanuts

To manage SupperFood's raw materials warehouse, CIH Breda needed a strong belt scale. SupperFood had three large bag unloading stations for peanuts and two dump stations for smaller ingredients. Peanuts are transferred from the bags into an intermediate bunker via a screw conveyor and bucket elevator. The

intermediate bunker then deposits peanuts onto a belt scale.

CIH Breda decided on Rice Lake Weighing Systems' Master™ 421 light-capacity belt scale to ensure durability and efficiency. The belt scale's capacity is controlled by the belt speed to ensure a consistent thickness, relying on flat rollers and a light-capacity conveyor belt to get accurate results. The conveyor belt deposits peanuts in a plate mill.

Proper Dosing for Every Recipe

Once peanuts reach the plate mill, Master dosing units add smaller ingredients such as sugar, salt and fat powder. These loss-in-weight screw feeders follow the belt scale's speed and operation to ensure smooth processing.

The belt scale supplies the main flow of peanuts, then transmits current capacity in kilograms per hour to dosing units. The set of three dosing units adjust according to belt scale capacity. Each dosing unit's weighing processor states the percentage to be added, then the processor calculates the amount of ingredients to be added in kilograms per hour.

The dosing units were installed on load cells so the actual dosing capacity could be derived from the loss-in-weight per time unit. The weighing processor compares this value with the setpoint and adjusts screw speed to ensure correct capacity. The flexible polyurethane wall avoids bridging, which is caused when products form a compacted bridge over a hopper and slow material flow. Quality dosing units ensure ingredients are always supplied in the correct ratio.

Finishing Peanut Butter Perfection

After dosing, the mixture is combined, ground and heated in an 18-inch plate mill, which produces a uniform, slurry-like paste that resembles peanut butter. It's ground finer in a second mill before entering a buffer tank to cool. For certain recipes, peanut pieces are added using a loss-in-weight dosing unit. The finished product is distributed into jars, fitted with a lid and labeled.

SupperFood prides itself on creating quality foods and needed a production process that matched its traditional recipes to produce high-quality peanut butter. Using Rice Lake's belt scales in CIH Breda's production design, SupperFood's peanut butter will reach the hands of many eager shoppers for years to come.



A Master loss-in-weight screw feeder

