



Case Study

Getting the right Mixture - Weighfeeders combine Measurement Precision with Durability

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To reduce maintenance work and increase weighing accuracy, a Danish manufacturer of cleaning products installed a new weighfeeder and weighing module. The result of this project convinced the company to replace all its weighfeeders with the new models.

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Nopa, founded in 1964, is headquartered in Hobro, Denmark. The company develops, produces, and sells a broad range of cleaning products including detergents used in clothing and textile laundering, dishwashing, and personal care. Nopa is northern Europe's largest private label manufacturer and has production at three factories in Jutland, Denmark.

Challenge

When producing washing powder, ingredients must be measured exactly. Not only do customers want a better overview of what their products contain, but authorities demand companies prove that the contents of their products reflect the list of ingredients on the packaging. Nopa, therefore, must ensure dosage accuracy of the various detergents it produces.



Fig. 1: After a simple installation of the weighfeeder, maintenance requirements were significantly reduced. (Pictures: Siemens AG)

Nopa required a heavy-duty weighfeeder that could handle continuous material flow, from 500 kilograms to six tonnes per hour, with a typical demand of two to three tonnes every hour.

If the weighfeeder's belt breaks or is damaged in some way, a switch automatically stops production so operators can fix or replace the belt. This can

be a time consuming process, so Nopa decided to upgrade its old weighfeeders to reduce maintenance and to ensure that materials were always measured according to specification.

Solution

Nopa purchased its first Sitrans WW200 weighfeeder from Siemens after thoroughly studying the weighing technology market. Although the company was the first in Denmark to buy such a weighfeeder, it was not afraid to take a chance on Siemens.



Fig. 2: Siwarex FTC weighing modules during commissioning they provide fast, continuous monitoring and control delivered directly to Nopa's control room.

Delivery from Canada took about eight weeks, and once the weighfeeder arrived, operators simply connected and tested it according to the company with no

installation problems at all. The new weighfeeder measures the powdered ingredients precisely in the quantities needed for Nopa's wide variety of products.

The installed weighfeeder features ± 0.5 percent accuracy in an operating range from 10 percent to maximum capacity. The weighfeeder's design is cantilevered to allow for quick and easy belt changes when required. The unique frame design does not have any idlers or rollers, but uses vertically supported flat bars to support the belt load.

These flat bars provide a strong, stable design and also make cleaning the underside of the belt during operation much easier. Of course, without any rollers there is also very little maintenance required on this weighfeeder. Furthermore, Nopa also added an automated greasing line to each of the pulley bearings so that operations can continue even during routine maintenance.



Fig. 3: The weighfeeder handles material flow ranging from 500 kilograms to 6 tonnes per hour.

The weighfeeders are connected to Siwarex FTC weighing modules, which are fully integrated into the Siemens Simatic PLC that controls the plant's operations. The control room can operate and monitor each of the feeders individually, as well as change recipe set points based on the product requirements.

The weighing module integrates easily into Nopa's automation system and continuously monitors process values such as belt load, flow rate, and belt speed. The system comes already factory-calibrated, so operators had no challenge installing these weighing modules.

Benefits



Fig. 4: A Siwarex weighing module.

After its positive experience with Siemens weighing technology, Nopa's management decided to replace a total of six older models with new weighfeeders of the Sitrans series.

“The Sitrans WW200 fully lives up to our expectations,” states John Ebdrup, Production Manager. The new weighfeeder ensures that Nopa's detergents are

mixed in the proper proportions, keeping ingredients continuously moving through the facility, from inventory silos to the final packaging process, with little maintenance required for the new system.

A Note from the Editor

For all statements in this article that refer – directly or indirectly – to the time of publication (for example “new”, “now”, “present”, but also expressions such as “patent pending”), please keep in mind that this article was originally published in 2012.

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