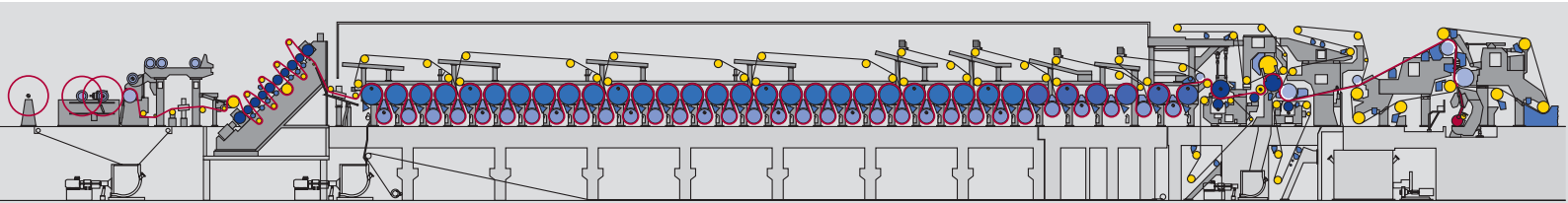




Stable grade changes on the PM 6 at Stora Enso Maxau

800 tons more paper thanks to OnQ GradeManager

How can you change from one paper grade to another without producing broke in the transition phase? Every papermaker concerns themselves with this question. The OnQ GradeManager by Voith Paper Automation offers a solution. It ensures a smooth grade change and therefore less production loss.



Based on Voith's in-depth process knowledge, OnQ GradeManager coordinates the quality controls on the PM 6 during a grade change and therefore brings about a huge reduction in broke.

All around the world, paper machine operators are looking for ways and means in which to increase the added value of their plants. However, the investments needed are usually only possible if guaranteed profitability is ensured. Voith Paper therefore set itself a goal of helping paper manufacturers improve their existing plants in three fundamental aspects with the aid of reliable automation products:

- to increase added value across the entire plant,
- in order to reduce the energy consumption required
- and to reduce the costs for the use of raw materials.

Stable, quick change

Using the latest multivariable control methods, the OnQ GradeManager which has already been implemented and tested on the PM 6 at Stora Enso Maxau, Germany, coordinates the

entire manufacturing process during the critical phase of a grade change. Practical experience shows that by using the OnQ GradeManager, grade changes on the PM 6 are more stable and 800 tons more paper can be produced annually. This translates to an increase in turnover of around € 500,000 per year.

The fact that several minutes normally pass before production is back to within the quality specifications highlights the challenge that is faced in a stable grade change. The result is clear: the paper produced in this time does not have the same quality as that produced under stable production conditions and, therefore, either cannot be sold or cannot be sold for the same price. However, a modern paper machine produces more than 10,000 m² paper per minute, which means the resulting production loss is considerable.

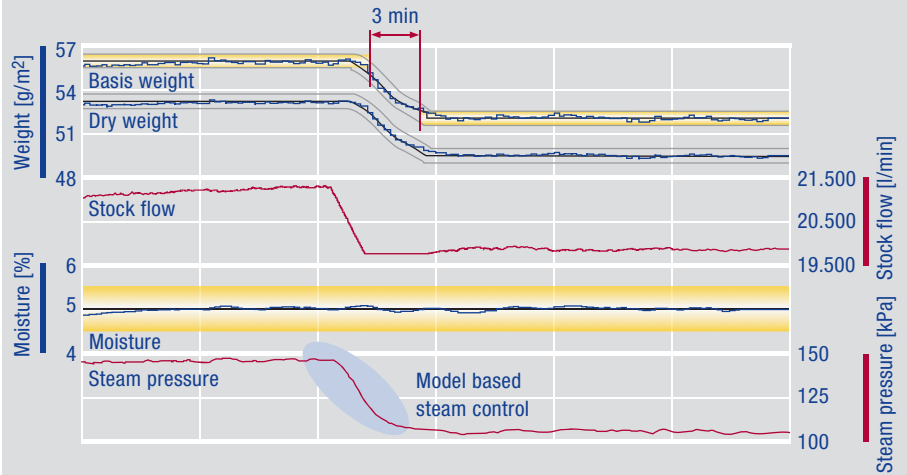
The OnQ GradeManager therefore monitors the paper quality during a grade change by essentially controlling three components:

- firstly, the stockflow into the short circuit to maintain the basis weight,
- secondly, the steam pressure in the dryer section for constant moisture
- and finally, the addition of fillers for the ash content in the paper.

Based on the paper machine's operating point in production and the new grade to be produced, OnQ GradeManager calculates accurate target values for stockflow, steam pressure and the addition of fillers. It also pre-sets when and how the three values are changed in the course of the grade change so the new grade can start as quickly as possible with the greatest process stability.

Niels Hardt, product manager at Voith Paper Automation, makes a compari-

Through model-based steam pressure adjustment, OnQ GradeManager makes quick grade change times possible in Maxau (here 3 minutes), while maintaining constant moisture. Production loss during a change is therefore reduced to a minimum.



Using data taken by the scanner, OnQ GradeManager monitors the grade change for the paper web's basis weight, moisture and ash content.

son with a navigation system. "There I also choose my destination. The program then leads me according to my preferences via either the quickest or the shortest route."

Stora Enso profits from less broke

Around 260,000 tons of SC/B paper are produced annually on the PM 6 in Maxau. On average, 20 grade changes are made per month, during which broke has been reduced drastically thanks to OnQ GradeManager.

"After optimizing the grade change, an average of 9,000 m less broke is produced per change," explains Michael Wehr, who is in Maxau responsible for the quality control system of the PM 6. On an annual basis, this means additional production to the value of € 500,000.

Due to the general trend in the paper industry towards smaller and smaller batches, Stora Enso Maxau will increase the number of grade changes in future too, which means the savings and therefore also the added value of the plant can increase even more.

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