CASE STUDY • PULP & PAPER

PAPER MILL IMPROVES QUALITY WITH VORTEX TECHNOLOGY ON SUPERCALENDAR STEAM FLOW

Customer

Paper mill in the United States

Application

Control of steam flow for the supercalendering process

Challenge

This paper mill wanted to add a new grade of paper that required high gloss. This would add a high value product to the mill and meant higher revenue per ton.

Steam demand to the supercalender varies greatly depending on the amount of gloss desired on the paper. High gloss paper demands a high steam flow rate, while low gloss paper demands a low steam flow rate. The addition of a high gloss grade increased the range of steam flow seen by the flow meter, and the low end steam flow could not be accurately measured. Conventional flow measurement methods could not attain the accuracy required over the wide steam flow rate ranges demanded to manufacture both high and low gloss paper.

Unfortunately, they were unable to control supercalendering effectively once this high gloss product was brought online. Since the low steam flow measurement required to manufacture low gloss paper was difficult and almost impossible to control, the mill experienced poor paper quality. This resulted in increased waste and rework for the low gloss grades of paper.

Results

- Improved paper quality
- Reduced waste and rework

Rosemount 8800 Vortex Flow Meter

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Solution

This customer installed the Rosemount™ 8800 Vortex Flow Meter to measure steam flow to the supercalender. The Rosemount 8800 provided high accuracy and turndown, which resulted in a more reliable and accurate signal at even the lowest flow rates.

This paper mill is now able to measure the wide flow range required to produce both high and low gloss paper. A single flow meter installation with a high turndown ensured the production of both high and low gloss grades of paper, remained within specification, and improved the control of the low gloss paper production.

The Rosemount 8800 Vortex Flow Meter improved the quality of low gloss paper by accurately measuring the low steam flow range required to the supercalender. Accurate steam flow measurements at the low flow rates improved process control for low gloss paper. The mill was able to add the high gloss grade to the product mix, while ensuring the low gloss paper production remained within specification. This resulted in decreased waste and rework for the paper mill.

The wide rangeability of the Rosemount 8800 Vortex Flow Meter improved the production quality of high and low gloss grades of paper.

For more information, visit
Emerson.com/pulp-paper
Emerson.com/Vortex

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