



PULP AND PAPER SUPPLIER IMPROVES PAPER QUALITY WITH HIGH PROCESS NOISE DIAGNOSTIC

Application

Pulp stock flow after LCR refiner

Customer

Leading global supplier of pulp and paper products

Challenge

This pulp and paper supplier uses a magnetic flow meter to measure the total flow of pulp stock after several LCR refiners. LCR refiners buff or curl the pulp fibers to help bond the fibers together creating a much stronger paper. This customer was having difficulty providing a uniform flow of the stock through the refiner blades and a continuous uniform fiber supply to the paper machine.

The source of the problem was due to an unstable flow measurement from the installed magnetic flow meter. The unstable measurement required that the loop be run in manual mode in order to maintain the correct paper strength.

Due to the unstable measurement, this customer risked decreased paper strength and reduced quality. In order to ensure product quality was met, target set points could not be optimized increasing waste. Increased operation costs were incurred while the loop remained in manual mode.

Results

- Reduced risk of decreased paper strength
- Decreased waste
- Decreased operations cost

The Rosemount™ 8700 Magnetic flow meter system high process noise diagnostic and selectable coil drive frequency restores automatic control and improves paper quality.



The Rosemount™ 8705 Sensor and 8712 Magnetic Flow Meter Transmitter



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Solution

Due to the critical nature of this measurement, it was decided to upgrade the remote transmitter to a Rosemount 8700 Magnetic flow meter system transmitter. As soon as the new transmitter was connected to the sensor, a High Process Noise diagnostic alert appeared on the display.

The transmitter displayed the signal to noise ratios at both 5 and 37 Hz. The signal-to-noise ratio at 5 Hz was below the recommended limit for a stable flow measurement. Based on this information, the technician switched coil drive frequency to 37 Hz. The 37 Hz coil drive frequency had a much higher signal to noise ratio and the measurement immediately stabilized.

Rosemount's High Process Noise Diagnostic and user-selectable coil drive frequency improved the stability of the measurement allowing the mill to run in automatic mode decreasing operation costs. With the ability to more tightly control the process, waste was reduced. The improved control also ultimately resulted in consistently higher paper strength ensuring the highest quality paper product.

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