



## HIGH PROCESS NOISE DIAGNOSTIC IMPROVES MEASUREMENT RELIABILITY AND LOWERS MAINTENANCE COSTS

### Application

Water Flow-Slurry

### Application Characteristic

Molecular sieve water removal consisting of 5-10% polymer solids

### Customer

A major chemical company

### Challenge

A major chemical company was using another manufacturer's magnetic flow meters on their molecular sieve water removal lines. The process has a 5-10% polymer solids content which resulted in a noisy flow signal. Operators logged three trouble calls per year for each of the four magmeters. Each time operations complained of an erratic flow rate, technicians did not find any instrument problems. For the twelve work orders per year, this customer estimated they spent \$6,000 in maintenance cost to try to locate the source of the erratic flow rate. Due to the noisy flow signal and the inability of the installed magmeters to filter the noise, or provide any diagnostic information to remedy the noise issue, they had to dampen the output to get a stable signal. This resulted in delayed response time, put the process at risk for reduced quality, and could have potentially damaged downstream mechanics. Since the amount of slurry feed is critical to their process, operators were required to perform visual inspections on the reactors to ensure product quality for every batch.

### Results

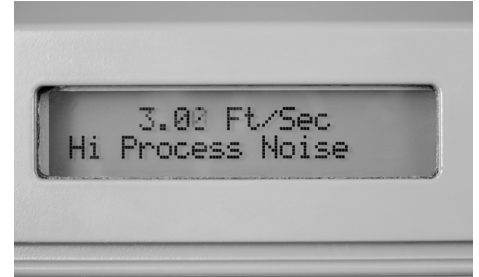
- Reduced process variability
- Reduced maintenance costs by \$6,000 annually
- Improved measurement reliability and product quality
- Improved throughput by decreasing overall batch time

The DA1 high process noise diagnostic improved measurement stability without increased damping, to reduce overall batch time.

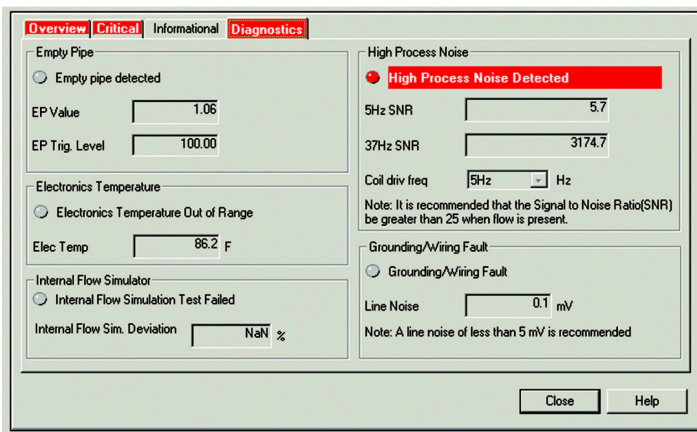
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## Solution

The Rosemount™ 8732 transmitter with the DA1 high-process noise diagnostic option gave this customer the ability verify the noise levels within the process, allowing for quick and easy troubleshooting. The high process noise diagnostic can be run from the local operator interface or AMS® Suite. The DA1 high-process noise diagnostic provided a signal to noise ratio at both 5 Hz and 37 Hz. Emerson recommends that the signal to noise ratio be greater than 25 when flow is present. Seeing that the signal to noise ratio at 5 Hz was substantially less than at 37 Hz, maintenance technicians changed the coil drive frequency to 37 Hz in order to reduce the variability in the output without having to add any damping. The more stable output provided tighter control of the slurry feed, which eliminated the need for visual inspection of the reactors and decreased the overall batch times. Not only did the DA1 high-process noise diagnostic solve the problem, the technicians were able to fix the problem without shutting down the process. In addition, this customer would remove their previously installed flow meters for inspection and cleaning once per year costing \$6,000. With the diagnostic information provided by the Rosemount 8732 transmitter, this customer knew their magmeters were working as intended, and they have eliminated this practice from their yearly maintenance procedures.



High Process Noise Diagnostic



High Process Noise Diagnostic in AMS Suite

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