

Benchmark Report

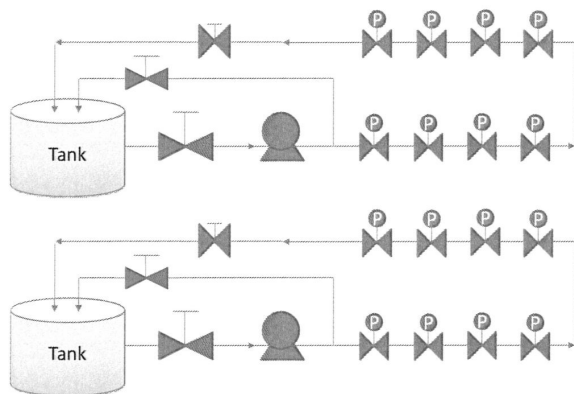
Comparison of the Impact of Furon® and GEMÜ® Valves on Cabot Semi-Sperse™ 12 Slurry

Furon® Q-Valve and GEMÜ CleanStar® valves were tested side by side to compare their impact on a slurry. For this test Cabot Semi-Sperse™ slurry was used. The analysis was conducted by SGR Shanghai, one of eight Saint-Gobain research and development centers.

Test Method

Eight Furon Q-Valves and eight GEMÜ CleanStar normally closed valves were assembled as represented in Figure 1. The valves were arranged in a series in order to maximize their impact on the slurry (8 times the impact) over other components present in the configuration. The cycling was set to enable the slurry to move freely through all the valves between two actuations with a valve open/close time of 10 seconds. A derivation was generated after the pump and before the series of valves to enable proper, continuous operation when the valves were closed.

Figure 1



The slurry's Particle Sizing Distribution (PSD) was monitored every 100 cycles at the beginning of the test and then was recorded every two hours with Laser Particle Size (LPS) analysis.

Results

Figure 2 graphs represent the PSD for both the Furon and GEMÜ valves at t=0, 3h, 7h, 24h, 50h.

Summary

As illustrated on the curves to the right, the impact of Furon Q-Valve and GEMÜ CleanStar valves on a Cabot Semi-Sperse slurry are relatively comparable. Though results at t=3h and t=7h indicate the Furon valve had less impact on the slurry than the GEMÜ valve, this can be explained by a tighter profile in distribution. Over time this difference is reduced and after t=50h the two valves share the same PSD profile.

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Figure 2

