

All's Well That Ends Well

By: Rachel J. Hartman

The Problem

The City of Fresno Water Department in California was experiencing valve slam at their well stations. Slam occurs after pump stoppage, when the system flow reverses back towards the pump before the valve is fully closed. Once the valve closes, this causes a sudden stoppage of the column of water and resultant water hammer, which has the potential to cause serious damage to the pumping system.

Initially, The City installed globe control valves in their well stations, however these valves failed to prevent slam. In a second attempt, a competitor's plug valves with actuators and pulse cards were installed to slow the flow and thus prevent slam. However, the competitor's valves allowed significant flow reversal prior to the valve being fully closed. As a result, the valves experienced slam and pump impeller reversal in the Vertical Turbine Pumps, which could lead to potential damage.

The Solution

Val-Matic Representative in N. Ca., DL Equipment, recommended The City install a Surgebuster® Check Valve at the pumping station. The Surgebuster® Check valve is a superior check valve that closes quickly to help eliminate slam. It works by achieving rapid closure through a short disc stroke of 35° and allows for 100% full flow area. The Surgebuster® is equipped with a Disc Accelerator which is a precision-formed stainless steel mechanism that works by closing the valve disc rapidly thus, minimizing flow reversal and resultant water hammer.

DL Equipment is so confident in Val-Matic Valve's performance that they offered The City 90 days same as cash to try the Surgebuster®. The City decided to install the Surgebuster®; within the week they called DL Equipment to say the valve successfully stopped the slam.

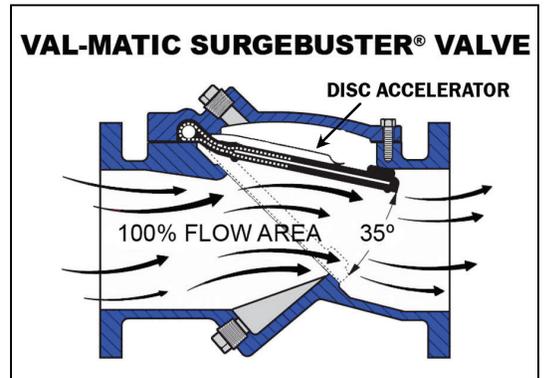
The Results

The City of Fresno has placed additional Surgebuster® orders from DL Equipment and is replacing its pumping station valves with the Surgebuster® at a rate of one valve per quarter for the next four years on the city's most demanding well stations. The success of this installation and the product's performance has given DL Equipment, Val-Matic and the Surgebuster® credibility and success where other valves have failed. Val-Matic's Surgebuster® technology makes valve slam a problem of the past

Reference

Ballun, J.V., 2007. A Methodology for Predicting Check Valve Slam. *AWWA Journal*, 99:30.

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