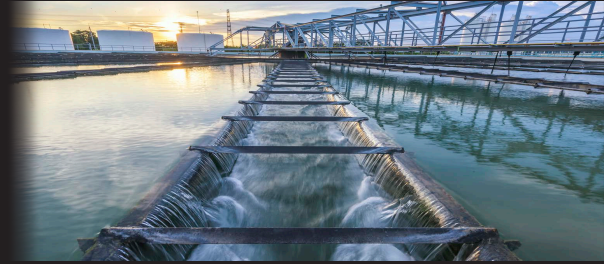


WATER TREATMENT



FACILITY:	APPLICATION PROBLEM:	SOLUTION:	SUCCESS SINCE:
Water Treatment Plant, Southeast, USA	Water Hammer, Plant Efficiency	DFT® Model ALC® Axial Flow Check Valves	2015

Challenge:

A water treatment plant within a Southeast U.S. County Water Department began experiencing issues with water hammer. Their membrane plant had a licensed capacity of 60 million gallons per day (mgd), but it was operating at an average of 30 mgd since plant completion. To meet its daily requirements, the plant utilized a system of 20 pumps and dual disc check valves.

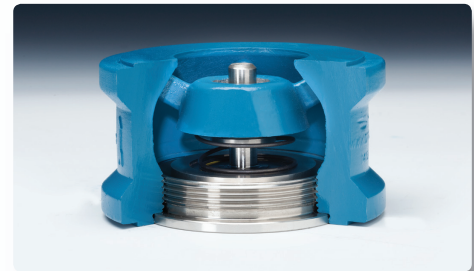
But water hammer was causing these check valves to slam shut, causing vibration. Because of this, the dual disc check valve springs were failing and had to be replaced every 3-4 months. The vibration was also necessitating more and more frequent flange tightening and instrument retuning. All of these interconnected issues were hurting plant efficiency, and the extra time spent on maintenance was reducing overall plant capacity.

The Solution:

To address this problem, the plant decided to install DFT® Model ALC® axial flow check valves, which, unlike traditional swing check valves, can reduce — and often eliminate — water hammer. When the fluid flow is reversed, the axial valve attains closed position prior to reverse flow. These valves were installed in vertical flow (up) orientation, as required by this specific treatment plant, without affecting the performance of the valve.

The DFT® Inc. check valves were installed in phases over a period of six weeks, but the operators immediately noticed a reduction in water hammer. In fact, the operating noise had dropped so significantly that a plant worker commented, "At one point, the system was so quiet we wondered if the pumps were running."

DFT® Model ALC®



DFT® Model ALC® Wafer Style Check Valve Features:

- 2" to 24" line size
- ASME class 150 and 300
- RF wafer ends
- API 594 face-to-face dimensions
- Standard Body Materials:
 - A216 WCB carbon steel
 - A351 CF8M stainless steel
- Stainless steel seat, disc & bushing
- Nitronic® 60 stem
- Inconel® X-750 spring
- Center-guided stem
- Spring assisted silent closing, non-slam
- Tight shutoff – lapped disc & seat
- Horizontal or vertical installation
- Protected spring
- Wafer and wafer-lug designs
- Axial Flow
- Nozzle style
- Easy maintenance

Contact DFT for a solution to your problem.