Water Treatment Plant Easily Resolves Priming and Leak Issues

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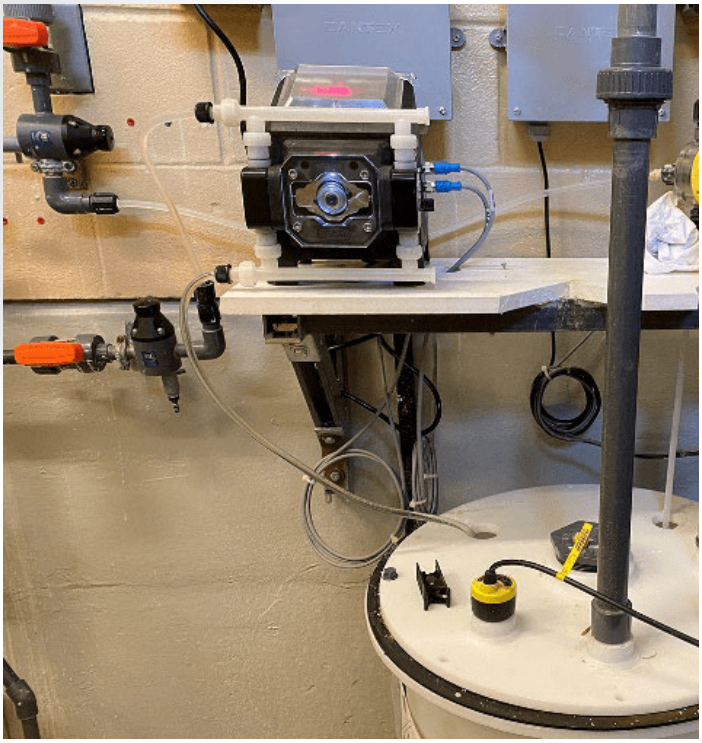

Application

A water treatment plant (WTP) located in Massachusetts strives to provide customers with low use rates, high reliability, and quality service. The plants drinking water comes from shallow sand and gravel deposits located within watersheds. Four groundwater production wells are in use to withdraw over a half million gallons per day of drinking water. The sand and gravel form an underwater reservoir, which is continually replenished by rainfall and snowmelt.

The WTP uses sodium hypochlorite dosed at 1 GPH at 100 psi for the treatment of bacteria and other contaminants.

Problem

The well site at the plant was using a single diaphragm pump to dose the sodium hypochlorite. The pump in use was having issues with loss of prime which often required the operator's attention and resulted in downtime. In addition to problems with keeping the pump primed, the unit was experiencing multiple leaks, which made the surrounding area both dangerous and messy.

Solution

The single diaphragm pump that had been in use was replaced with Blue-White®'s CHEM-FEED® MD1, a multi-diaphragm metering pump. The MD1 chemical feed pump is equipped with the company's exclusive hyperdrive technology. This technology and dual head configuration of the MD1 provides smooth near-continuous flow, mimicking the best performance traits of peristaltic pumps. When the MD1's first diaphragm is in the suction phase, the second diaphragm is in the discharge phase. This near-continuous flow helps to prevent air bubbles, produced by gaseous chemicals such as sodium hypochlorite, from becoming trapped in the head. MD1 virtually eliminates Vapor Lock and Lost Prime.

Figure 1. DiaFlex® PVDF diaphragms

The thoughtfully engineered MD1 is equipped with Blue-White's exclusive, single-layer DiaFlex® PVDF diaphragms. This patented, ultra-durable diaphragm is designed to provide long service life.

The issue of leaks has not presented itself since the switch was made to the MD1.

Installation of the new metering pump was simple. The MD1 was wired into the existing SCADA system panel, the suction line was changed and the MD1 was primed.

Figure 2. MD1 Multi-Diaphragm Metering Pump.

Results

The water treatment plant (WTP) has experienced an excellent level of success with the CHEM-FEED MD1 dual diaphragm metering pump, and maintenance has been reduced to near zero.