

Peristaltic Metering Pump eliminates Yellowing in Well Water through Precision Injection of 2% Potassium Permanganate

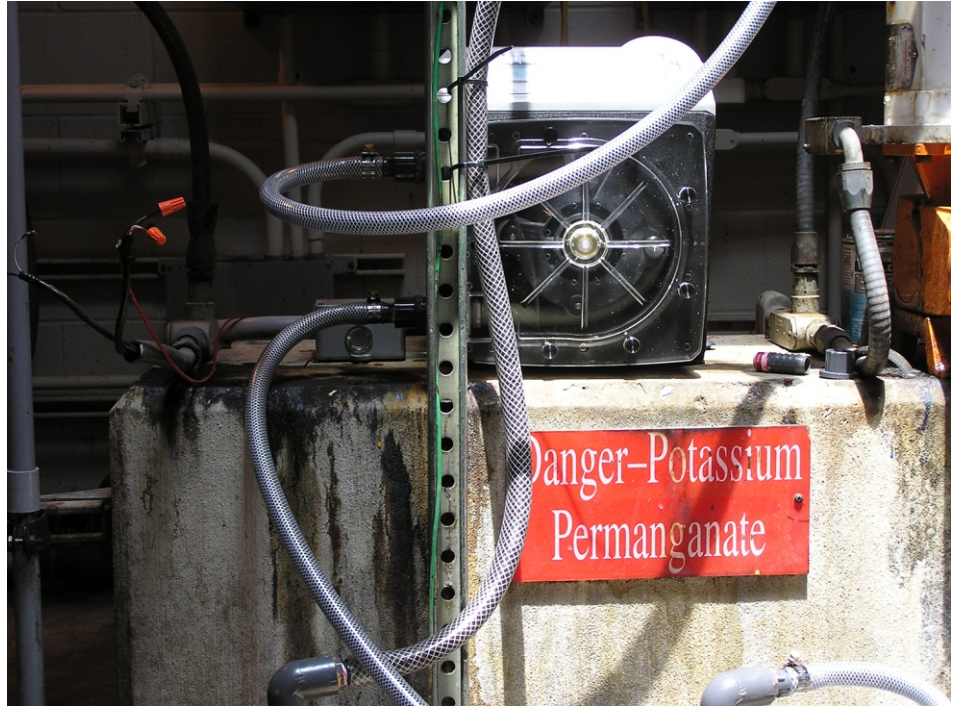
Jones ferry WTP – Chapel Hill, NC Plant; Operator: Dusty Martin

Objective: Switch out the diaphragm pump to a peristaltic pump to create a smooth flow rate that is most acceptable for dosing.

Challenge: Seeking a peristaltic pump that can run 24/7 at 84 GPH, pumping against a low psi (<15).

Current pump: Diaphragm; Current problem with using a diaphragm pump: Creates an inconsistent flow rate due to the inherent nature of the pulsating operation of the diaphragm.

Application/Chemical: 2% Potassium Permanganate feeding between 2 1/2 and 4 parts per million. Reason for using Potassium Permanganate: High levels of Oxide Iron and Magnesium in well water. Injecting the Potassium Permanganate prevents yellowing of the water and staining. However, too much of the chemical creates a pinkish tint to the water.



Reason for using the PERFECT peristaltic pump: The Jones WTP is attempting to achieve a Level 4 Standard in accordance with the national organization "Partnership to Save Water". They are hoping to become one of seven plants in the country to achieve such a standard. The standard is based partly on the level of turbidity of the water. The yellow water is a natural occurrence from the wells in this part of the country. Moreover, yellow water is reflected on the turbidity readings as dirty water. Eliminating the yellow water results in a cleaner reading, hence a Level 4 is achievable. Maintaining the precise amount in the most consistent manner is critical for clear, clean water.

Tested: Two Competitors, Blue-White FLEX-PRO A4

Results: Both the competitors pumps' tubes failed after 8 days. However, the Blue-White Flex-Pro A4 has out-performed both.

Reason for Success per Plant Manager: The Blue-White A4 contains four rollers (two for guiding and two for compressing) while the Periflo has two and the Masterflex has three. This special roller assembly on the A4 and the A3 creates less wear of the tube as inferred by the plant manager. In addition, it should also be noted that the Norprene tubes are manufactured in accordance to the Blue-White specifications and therefore unique to Blue-White.