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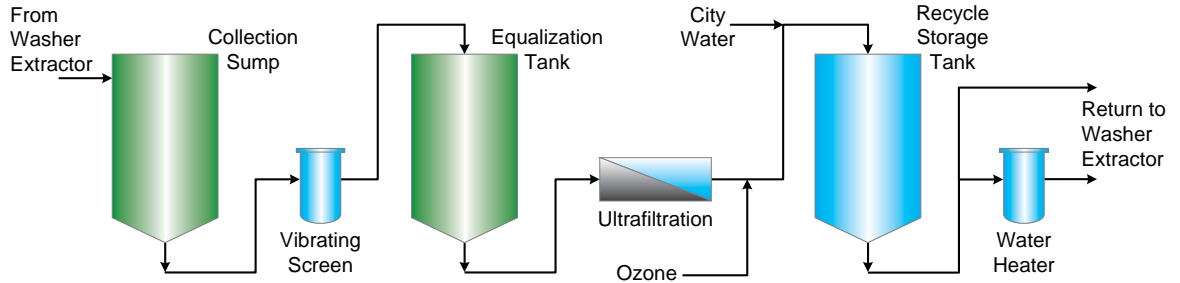
Reclaiming laundry wastewater reduces O&M costs through water and sewer savings

Product
Application
Profile

Ultrafiltration (UF) for Reclamation of Laundry Wastewater

Client: Aircraft Maintenance Facility

Laundry Wastewater Reuse System



Background:

Water, like energy, is becoming a more and more expensive resource. It has been proven in hundreds of laundries that it is very feasible to reclaim wastewater to achieve significant water and sewer savings. To make the wastewater acceptable for reuse in the wash cycles, contaminants such as oil, grease, TSS, TDS, detergents, and surfactants must be removed. Reclaimed water improves the overall efficiency of the laundry because it contains less hardness and is typically at a high pH; therefore, less alkalinity builder is required.

Solution:

AVANTech's simple, yet robust wastewater recovery system can be easily and cost effectively incorporated into commercial laundry facilities. The system is skid mounted, automated, and computer controlled, thus requiring minimal resources for installation and oversight during operation. The system pulls water from the laundry sump and processes it to a quality acceptable for reuse. The system is capable of recovering approximately 80% of the total water volume utilized by the laundry.

As shown in the figure, a sump pump pulls water from the laundry sump and transfers it through a vibratory shaker screen. The shaker screen removes all solids down to approximately 100 microns, including lint, tape, mop strings, and other common laundry debris. The solid debris is dewatered as it rotates off the screen and is collected in a drum for subsequent disposal. The screen filtrate flows by gravity to a small equalization tank. A centrifugal pump draws suction from the tank and supplies it to the UF system at pressures of up to 100 psig.

Water flows through the membranes in a cross-flow manner. Clean water diffuses through the membrane while impurities are flushed out of the system with the reject stream. Clean product water is ozonated in route to the Recycle Storage Tank to breakdown residual organics that may have permeated through the membrane and to act as a disinfectant in the stored water.

Finally, water is fed into the hot water heater and to the washer extractors from the Recycle Storage Tank. City water is used as makeup to the tank to maintain necessary operating volumes. Prior to installing the wastewater reclamation system, water was utilized once and directed to the sewer discharge, thus sending thousands of dollars of water and heat down the drain.



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