

Filter Backwash/Reclaim lowers costs and benefits the environment

With water shortages becoming more widespread and demands for preservation of our precious environment growing, more and more municipalities are utilizing a backwash/reclaim on the back end of their filtration system. Manufacturers are meeting these requirements with environmentally friendly technology such as Filtronics new Envirowash® Backwash/Reclaim system.

A backwash/reclaim system uses the reclaim module to automatically recycle the water used for purge (filter to waste) and backwash. With an Envirowash® system, more than 99% of this water is recovered through decanting and pumping.

The primary equipment requirement for reclaim is a holding tank that can accommodate three backwash volumes. Water used for purge and backwash is put to the reclaim tank to allow for the treatment residuals from backwash to sink to the bottom of the tank, allowing the supernatant to be recycled. Any time the water level is above the reclaim start level set point and a filter is in filtration, the reclaim timer begins its cycle. At the end of the timing cycle the reclaim pump will start as long as a filter is in filtration. The reclaim pumps are started by the Filter Control Panel.

The US EPA limits the return flow of reclaim water to 10% of the total flow for surface water applications. Most states have applied this universally to all treatment plants for well and surface sources. On a typical Filtronics system, the supernatant from the reclaim tank has lower contaminant levels than the source water.

Treatment plants that have one or two wells with one or two filters typically utilize one pump for each filter and well combination. Facilities with higher flow rates use variable speed pumps to reduce the number of pumps needed.

The reclaim sequence consists of backwash into the reclaim tank, purge into the reclaim tank, settling time during filtration (20 to 60 minutes depending upon contaminants), and pumping of the supernatant via a floating strainer until the reclaim tank level is dropped to the start/stop set point.

The treatment residuals are collected in the bottom of the tank and may be discharged to a sanitary sewer. For reclaim tanks that are above ground, a valve is used to open to drain. For below grade tanks, a small pump is used. The operator is able to choose automatic or manual operation of the drain at the Filter Control Panel. In the automatic mode, the number of backwashes is counted until it reaches a number selected by the operator. The residuals are drained out after the reclaim pump has shut down. The free flowing residuals are no more than 1.0% solids.



The environmental impact of utilizing an Envirowash® backwash/reclaim system is impressive. The reclaim system ensures the reduction of water lost from treatment to less than 0.01%. Using a 2 MGD plant as an example, the water conservation would be up to 48,000 gallons per day. The effluent discharge to the environment is reduced by 98 percent which virtually eliminates harmful residuals in our sewers and landfills while preserving wildlife and trees. The backwash/reclaim cycle reduces well pump usage thereby saving electrical use, operating costs and precious resources.

In a world where preservation and conservation are becoming more and more prevalent, Filtronics is paving the way with innovative solutions. For more information on Filtronics and our Envirowash® System, contact our sales department at 714-630-5040 or visit the company website at www.filtronics.com.