

DESIGN SOLUTIONS

Self-Cleaning Water-Filtration System Helps Airport Reduce Maintenance

Automatic backwash cycle results in less water use

John Wayne Airport, located in Santa Ana, Calif., had its beginnings in 1923 as a private landing strip built by aviation pioneer Eddie Martin on land owned by Irvine Co. Since then, it has evolved into a publicly owned, 337,900-sq-ft facility that serves about 8 million passengers a year. With average high summer temperatures running in the upper 70s in Southern California, travelers cannot exactly complain of high heat. Still, the airport keeps them cool with a recently upgraded air-conditioning system that includes five cooling towers and six condensers.

After hearing about how effective full-flow, in-line Tekleen filters were in cleaning the cooling water and reducing maintenance costs at Los Angeles International Airport, John Wayne Airport bought five 10-in. (1,800 gpm) filters and one 6-in. (800 gpm) filter for its air-conditioning system.



In addition to airports, Tekleen filters can be found in manufacturing plants, hotels, hospitals, university facilities, and office buildings.



John Wayne Airport is named for the legendary screen star.

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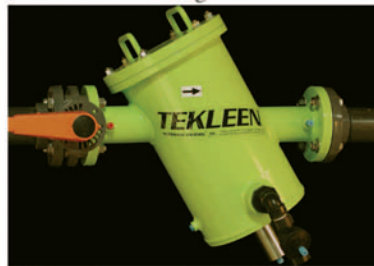
"We shopped around and considered buying sand filters," Merck continued, "but they take up more space, require more maintenance, and use considerably more water to rinse than Tekleen's filters, which have an automatic backwash mechanism that results in less water usage. This was important for us from

both an economic and environmental standpoint. We installed a site glass so we could observe the water flowing through the system and can see that it is much cleaner than before. In the fall, we'll open up the chillers and expect to find a major difference. In the past, the chillers had to be off line for a good month for cleaning and maintenance. We already can see from the clean water flowing through the system that that kind of maintenance

won't be necessary this year." "We originally had no filtration system whatsoever," Marty Merck, airport technical associate, said. "As all the dirt and dust from the planes got into the cooling towers, it lowered the efficiency of the system. This meant the system had to pump harder during peak times, and the buildup of contaminants forced us to do a thorough cleaning of all of the

parts in the system about once a year.

Manufactured by Automatic Filters Inc., Tekleen filters offer a self-cleaning system requiring no maintenance or attendance. As dirt particles collect on the screen, the line pressure at the filter outlet drops. When the pressure reaches a preset differential, the backwash cycle begins. Within seconds and without interrupting the main flow, vacuum nozzles aggressively suction the dirt from the inside of the screen and flush it to the drain using about 20 to 30 gal of water—much less than the 60 to 80 gal used by other screen filtration systems and the several hundred gallons used by sand-media filters. To prevent rust and corrosion, Automatic Filters employs stainless-steel housings.



Tekleen filters require virtually no attention.

The payback period for Tekleen filters is extremely short because of significantly lower electricity and water bills and reduced maintenance costs. Reduced pumping costs alone typically offset the cost of the filters within the first year.