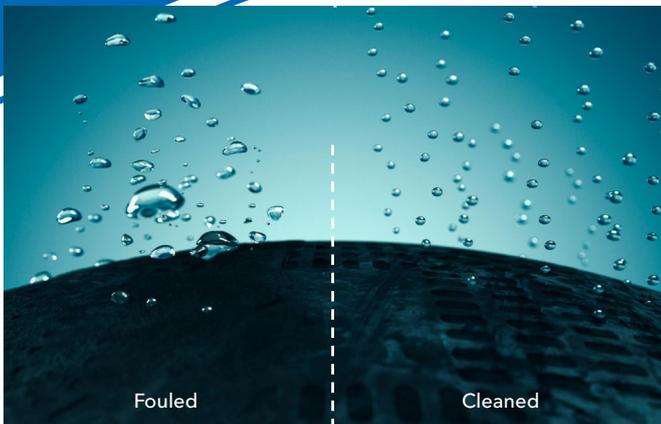


Diffuser Cleaning and Maintenance

OPTIMIZE DIFFUSER PERFORMANCE AND REDUCE ENERGY COSTS



Why it makes sense

Secondary biological treatment is the most energy-intensive phase in the wastewater treatment process, with aeration consuming between 25 and 60 percent of the total energy used in a municipal plant. There is great potential to save energy - and money - by ensuring that the system is running as efficiently as possible.

Regular cleaning and maintenance of your diffusers will ensure optimal equipment performance, consistently effective treatment of your wastewater, and substantial energy savings. It's a win-win situation for the environment and for your budget.

Sanitaire® diffusers are designed to provide efficient and reliable biological treatment of wastewater. However, fouling and scaling have a significant negative effect on diffuser performance over time, resulting in less effective treatment and rising energy costs.

The solution is simple - ensure that your diffusers are cleaned regularly. In the past, this could often be a cumbersome and costly process, but today, Xylem offers a new cleaning technology that makes it easy and economical.

What it is

As part of its Lifecycle Services offering, Xylem has developed a portable liquid cleaning process for membrane diffusers in Sanitaire and competitor installations. The major advantage of this Xylem system is that it runs while the diffusers are in operation - there is no disruption to drain basins or remove components. The cleaning process is fast and efficient.

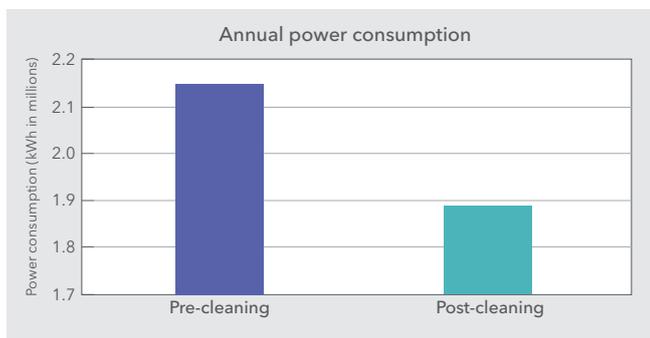
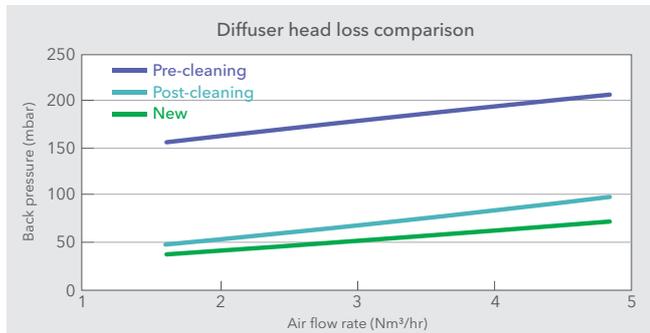


SANITAIRE
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Energy savings

When diffuser fouling builds up, dynamic wet pressure (DWP) increases too. Cleaning the diffusers creates immediate reduction in pressure, generating significant savings in energy consumption and operating cost.



If any of these apply, it's time to consider cleaning your diffusers.

1. More air is required to maintain process performance.
2. Residual DO levels are decreasing or are too low.
3. The back pressure at the blowers is increasing.
4. There is a year-on-year increase in the energy consumption of your blowers.
5. Your blowers are unable to produce enough air to meet DO requirements.



How it works

A Xylem authorized service technician brings the portable cleaning equipment to your facility on the appointed date. On site, the technician will:

- Install injector nozzles into the drop legs of each grid that is to be cleaned
- Calculate the duration and concentration of cleaning required for each grid through the Xylem cleaning analysis tool
- Upon completion, provide a full report with data related to the efficiency improvements as a result of the cleaning
- Present other efficiency gain recommendations such as a forecast for the next liquid diffuser cleaning
- Provide a recommended membrane replacement time frame

You can also talk to our team about installing the Sanitaire Digital Pressure Monitor (DPM) for real-time data on diffuser health, as well as potential energy savings from cleaning or replacement.

Why Xylem

When you work with Xylem Lifecycle Services, you get secure, optimal operations that come only with broad engineering expertise in water and wastewater.

- Minimize energy costs at the same time that you maximize system performance
- Reduce risk of process consent failures
- Extend equipment operating life with preventative maintenance

Case study

Challenge: Restore the performance of Sanitaire fine bubble diffusers in the wastewater treatment plant of a large UK utility company, where diffuser fouling and scaling were reducing treatment efficiency and causing additional back pressure on the blowers.

Solution: Xylem used its mobile Liquid Cleaning Service to remove the fouling and the plant recovered 97% of the aeration system's original performance. The system's DO set points are now easily achievable, strain on the blowers has eased, and the plant has achieved direct energy savings.