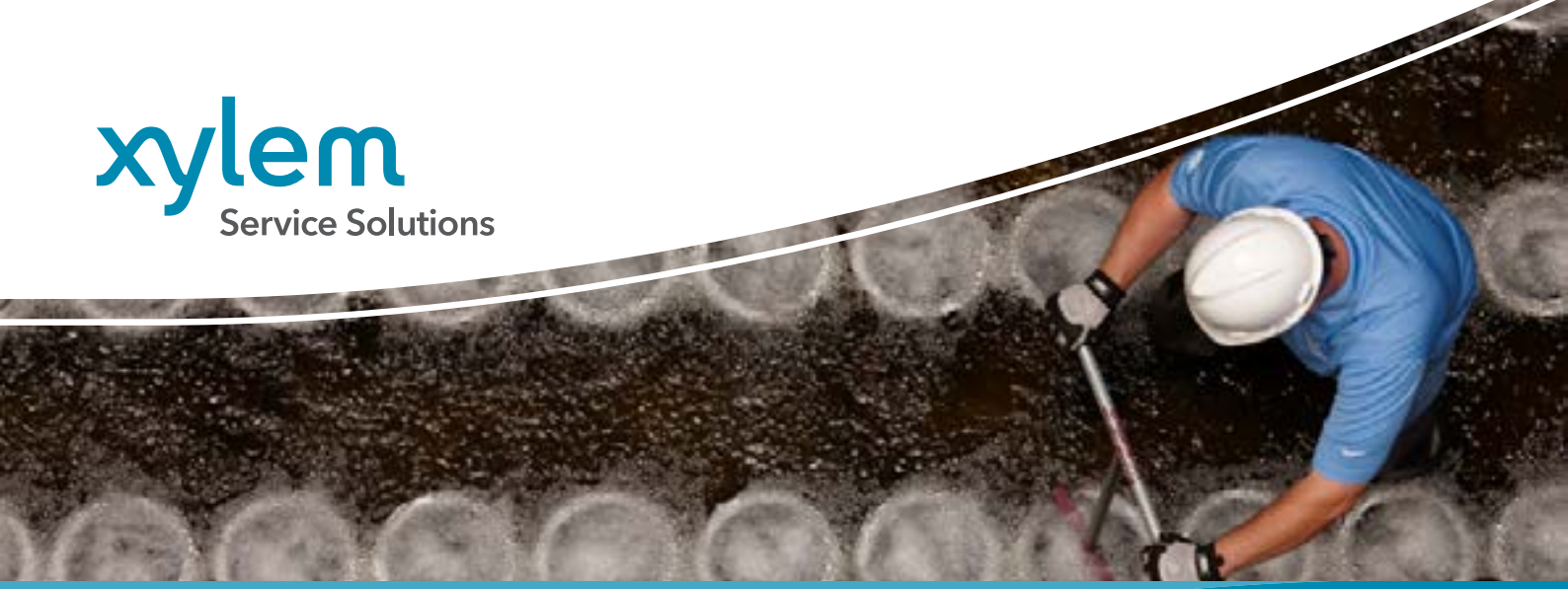
xylem
Service Solutions



Diffuser Membrane Replacement

RESTORE PERFORMANCE, REDUCE ENERGY COSTS

Sanitaire® diffusers are designed to provide efficient and reliable performance for biological wastewater treatment processes. Over time, however, dirt and residue build-up, as well as environmental aging of the membrane material, affect diffuser function, resulting in less effective treatment, higher energy costs, and greater carbon emissions.

Since aeration can account for more than half the energy consumption in a typical wastewater treatment plant, restoring diffuser efficiency offers significant potential for savings.

The useful life of diffuser membranes

The biological treatment environment exposes diffusers to many potential contaminants. Diffuser surfaces are susceptible to the formation of biological films or precipitation of inorganic components, such as calcium carbonate, that can clog the pores and increase head loss. As a result, blowers must work harder to deliver sufficient air volume to maintain dissolved oxygen (DO) targets.

Over their typical 10-year service life, diffuser membranes also experience loss of plasticizers, membrane creep, and absorption of substances in the wastewater. These factors can affect material hardness, dimensional stability, and ultimately, the oxygen transfer efficiency (OTE) of the diffusers.



The standard service life of a Sanitaire Silver Series II diffuser is 10 years. Due to variations in conditions, it is recommended that performance evaluation start around year seven.

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Diffuser Membrane Replacement

4 signs of diffuser fouling

1. More air is needed to maintain process performance.
2. Residual DO levels are being reduced or are too low.
3. Blower back pressure and energy consumption is increasing.
4. Blowers cannot produce enough air to cover DO requirements.



The Sanitaire Digital Pressure Monitor can help identify potential energy savings in your diffusers.

Xylem Preventative Maintenance Agreements

To minimize unplanned expenses and maximize equipment uptime, talk to us about a preventative maintenance agreement (PMA).

Xylem offers comprehensive services to enhance the service life, efficiency and sustainability of your equipment. PMAs can be tailored to your exact requirements, data infrastructure and budget to protect your assets and control your costs.

Invest in your diffuser grid

The replacement of diffuser membranes helps ensure optimal equipment performance and efficient wastewater treatment. Xylem experience shows that **an average 25% energy savings** can be achieved through replacement, regardless of grid size. The reduced stress on blowers provides further cost savings with reduced maintenance requirements and less risk of blower breakdown.

Xylem's highly trained service technicians provide expert service for performance testing, grid inspection, and membrane replacement, with the industry's highest quality diffusers.

Plan ahead and maximize ROI

To plan for this capital expenditure, acquire real-time, actionable data on diffuser health through the Sanitaire® Digital Pressure Monitor (DPM). Working with IQ SensorNet probes, the DPM system not only monitors diffuser pressure but also indicates potential energy savings and your return on investment with either diffuser cleaning or membrane replacement.

Trust your plant to the experts

As the world leader in diffused aeration and advanced biological treatment technologies, we offer unparalleled technical and field service for wastewater treatment facilities.

In the replacement of diffuser membranes, Xylem provides comprehensive support for planning and execution to ensure the least possible disruption to your operations.

- **Reliable rental equipment** to keep you on schedule with emptying the bioreactor and gaining access to the diffusers
- **Genuine OEM spare parts** to provide the highest quality and guaranteed performance
- **Expert recommendations on upgrades** to meet efficiency and compliance requirements
- **Periodic Liquid Diffuser Cleaning** to maximize your investment, without interrupting the treatment process

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Let's Solve Water

www.xylem.com

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