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Let's Solve Water

Xylem Edge Control Ammonia Removal

Achieving consistent ammonia concentration is a delicate balance. Under-aerating can result in missing limit regulations. Over-aerating can lead to over-treating for ammonia removal – which results in wasting energy.

This is most common under varying load conditions and can be avoided by implementing a means of accurate aeration control.

Xylem Edge Control Ammonia Removal helps you meet your facilities' nutrient discharge limits while saving energy.

It is specifically designed to benefit conventional activated sludge plants that:

- Target ammonia removal
- Have high power costs and need to reduce OpEx

How does it work?

Developed by expert wastewater scientists and engineers, Ammonia Removal uses an advanced algorithm to match various load conditions, resulting in consistent ammonia removal and a stable biological process. This algorithm works in concert with your ammonia and dissolved oxygen probes to maintain a proper ammonia concentration.

Ammonia Removal is built for versatility with our Xylem Gateway, which can operate with any PLC under various communication protocols using existing hardware. This makes it truly a quick, easy-to-install solution, requiring only:

- Airflow Meter
- D.O. Probe
- Modulating Valve
- Ammonia Probe

Your system integrator can configure the Xylem Gateway to talk to your PLC.

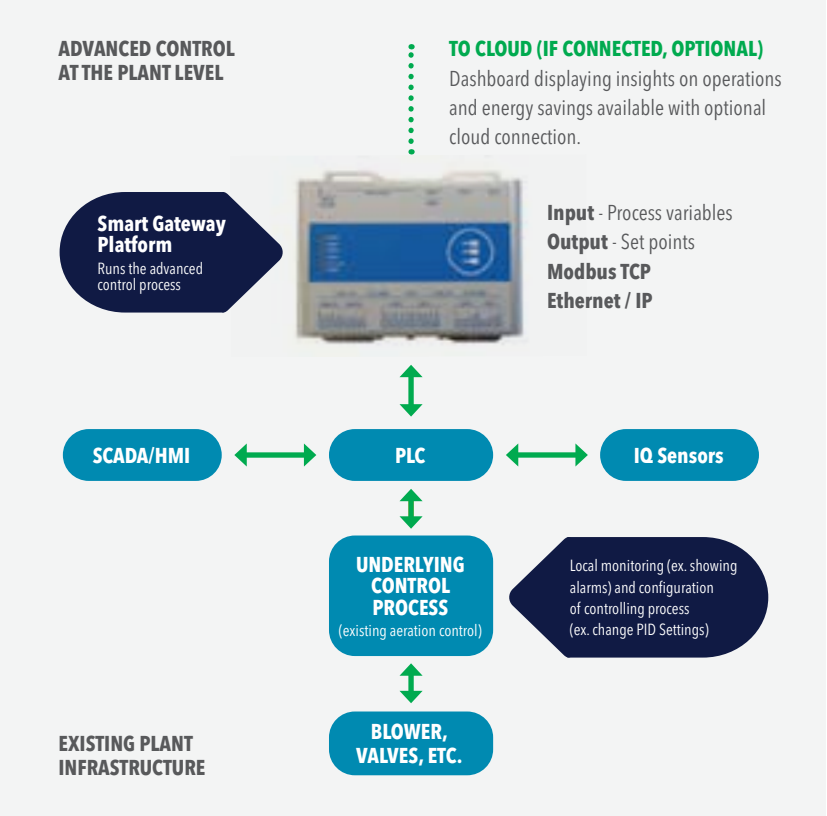
In addition to accurately achieving ideal ammonia concentrations (leading to increased energy efficiency), Ammonia Removal can conserve energy even further by creating instances of simultaneous nitrification-denitrification (SNDN) under various conditions. An SNDN process can result in reduced usage of organic carbon (mitigating the need for carbon dosing) while retaining alkalinity.

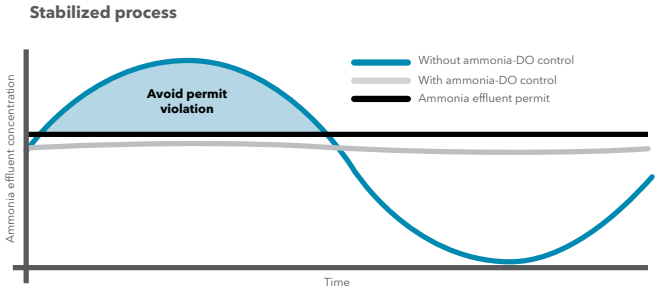
What can you expect from Ammonia Removal?

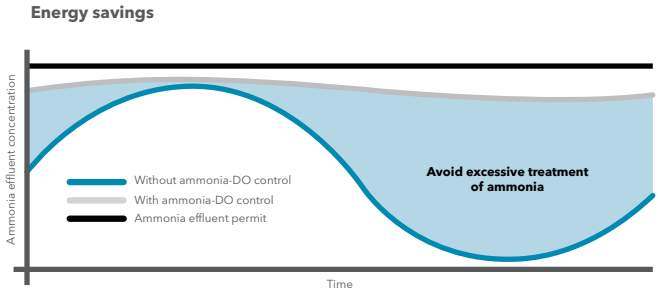
- Accurately meet ammonia permits
- Reduced TN concentration
- Reduced energy usage
- Improved nutrient removal
- A better overall bioprocess

The images below show how ammonia concentrations can change relative to load and amount of aeration delivered. The image on the left demonstrates how changes in load and aeration delivery can cause ammonia concentrations to fluctuate greatly throughout the day. Ammonia Removal helps continuously stabilize ammonia concentrations.

The image on the right shows how overaerating – while it can achieve low ammonia levels – will result in wasting energy.







About Xylem Edge Control

Ammonia Removal is part of Xylem Edge Control, an off-the-shelf suite of digital solutions designed for conventional activated sludge (CAS) facilities to improve process control, save energy and reduce chemical usage. All Xylem Edge Control solutions include the option of a dashboard (requiring cloud connectivity). Dashboards provide useful data visualization such as plant performance, calculated energy savings, real time data trends, asset status and more. The Xylem Edge Control suite of products includes:

Pulsed Aeration	Ammonia Removal	Ammonia + Nitrogen Removal	Phosphorous Removal
A digital, energy-saving solution that prevents over-aerating while providing adequate mixing to improve the overall biological process in plants that see underloaded conditions.	Ideal for plants with an ammonia limit while also serving the need to save energy and other means of OpEx reduction.	Ideal for plants with both TN and ammonia limits seeking significant energy savings and other means of OpEx reduction. Ammonia + Nitrogen Removal utilizes the patented, one-of-a-kind, AvN® wastewater treatment process.	Controls chemical feed pumps based on real-time phosphorus concentrations to reduce chemical usage while meeting today's strict phosphorus limits.

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Learn more at xylem.com