TOMORROW WATER

AMX
2-Stage Anammox

SHORTCUT NITROGEN REMOVAL

DAEJEON STP, KOREA
400 M^3/D

2-STAGE ANAMMOX PROCESS

— Anaerobic Ammonium Oxidization —

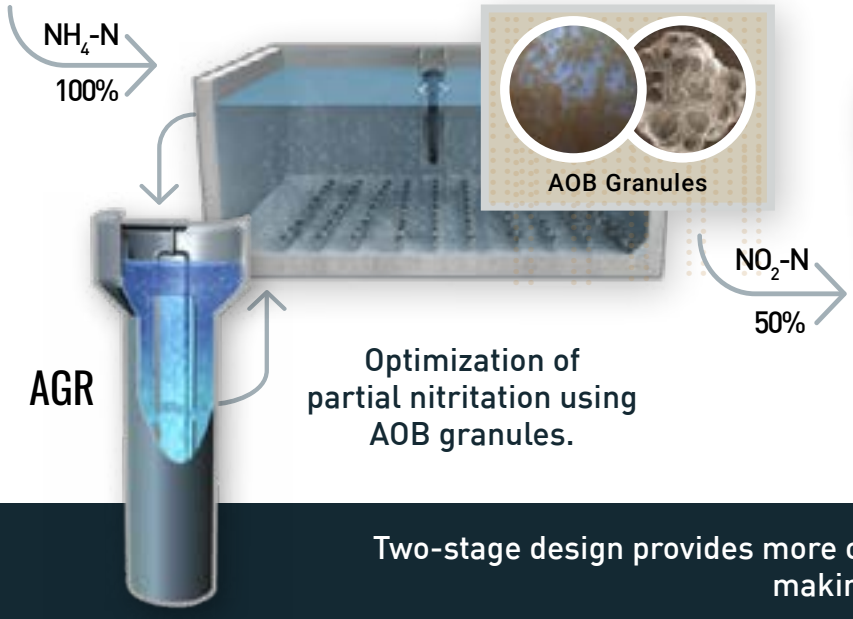
MAXIMUM CONTROL

- Two-stage AMX™ provides maximum process control by isolating nitritation and Anammox populations
- Wide temperature range
- High COD, High TSS compatible

CUT COSTS & SAVE ENERGY

- Reduce nitrification aeration requirements by 2/3
- AMX™ process does not require added carbon, eliminating chemical costs by 100% (compared to denitrification)
- Up to 90% less sludge production than conventional processes

PARTIAL NITRITATION REACTOR



Optimization of partial nitritation using AOB granules.

ANAMMOX REACTOR

Two-stage AMX™ ensures stable operation and rapid recovery via independent enrichment.

Two-stage design provides more opportunities for solids and organics removal, making it possible to treat stronger waste streams.

AMX
2-Stage Anammox

HONGCHEON, KOREA: ECO-ENERGY TOWN

ENERGY INDEPENDENCE THROUGH LIVESTOCK MANURE AND DIGESTATE

PIONEERING SHORTCUTS IN:

Mainstream • Sidestream • Landfill Leachate • Livestock Wastewater • Industrial Processes • Food Processing Wastewater

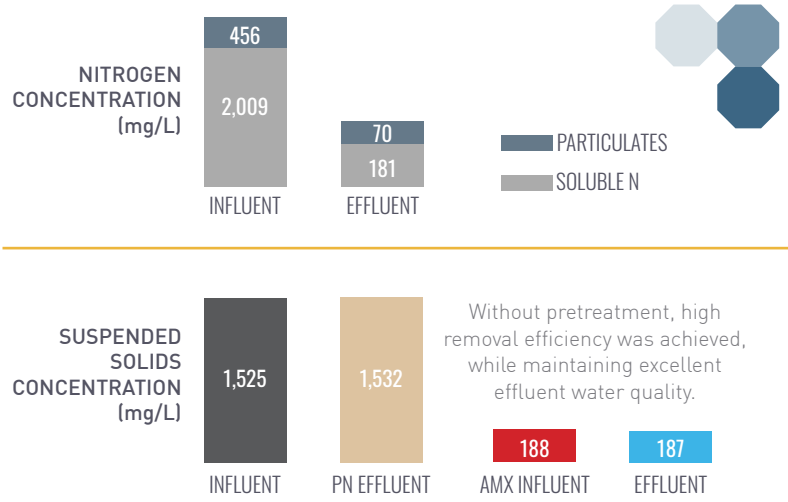
With livestock production at the core of Hongcheon's economy, managing the waste that comes along with it can be difficult. Hongcheon utilizes its high-strength wastes as a source of renewable biogas, but nitrogen removal remained an issue.

Hongcheon overcame this challenge by introducing Tomorrow Water's Two-Stage AMX™ technology into its treatment process. For the first time, anammox was successfully used to treat codigested livestock and food waste at full-scale. The benefit of a two-stage configuration made it possible to handle high concentrations of nitrogen, COD and TSS compared to single-reactor systems.

AMX™ confirmed stable performance of nitrogen removal at a rate of 89.8%, while delivering a:

- 53% reduction in aeration energy
- 100% reduction in carbon source
- 80% reduction in sludge volume

With the help of Tomorrow Water's AMX™, Hongcheon was able to gain energy independence and was designated as an Eco-Energy Town by the Korean Ministry of Environment.



What makes us DIFFERENT FROM OTHERS?

Our patented control processes and optimized culture conditions achieve the highest removal rates in the industry.

- Patented Air-lift Granular Reactor (AGR) fosters rapid ammonia oxidizing bacteria (AOB) granulation and concentration for super-efficient footprints.
- Unique anammox strain achieves 2X higher growth rates and higher salinity resistance (up to 3%).
- Separate AOB reactor prevents inhibition of Annamox by DO, solids slugs and high organic matter.

If you'd like to learn more, please reach out to:
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TOMORROW WATER