

Novozymes XP Denite

Significantly improved denitrification

A new technology for improving denitrification

Novozymes' XP Denite is a new product purposed at improving denitrification. Novozymes is interested in engaging innovative partners to better understand how the product benefits the industry and verify the product's technical capabilities in wider field applications.

What is denitrification?

During biological wastewater treatment, bacteria remove nitrogen from wastewater through two biological processes: Nitrification, followed by denitrification.

Figure 1 displays the steps for total nitrogen removal.

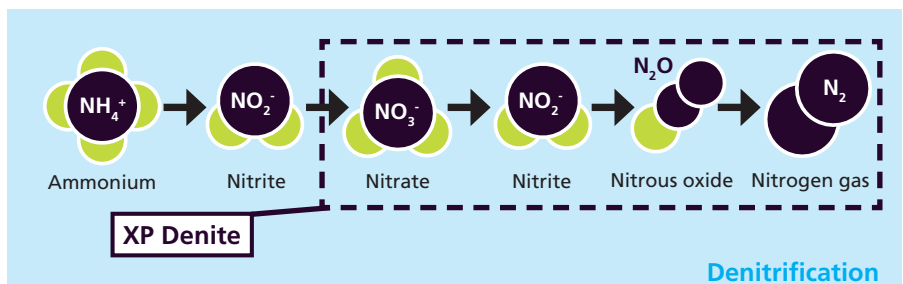


Fig. 1. Steps for total nitrogen removal, nitrification and denitrification.



What are the benefits of XP Denite?

- Increased start-up speed, and improved stability after start-up
- Shortened recovery time after upsets or system shocks
- Reduced incidents and risk of non-compliance
- Increased denitrification efficiency and plant capacity
- Delayed capital improvement
- Simplified operations



Why is XP Denite unique?

- The microorganisms in XP Denite complete the nitrogen cycle to improve total nitrogen reduction
- Other products claim denitrification capabilities but cannot reduce nitrogen compounds fully to N₂
- It is a simpler solution than capital expansion

How does XP Denite perform?

XP Denite performed well during different lab studies

A series of lab trials were completed to determine specific performance parameters for temperature, pH, and carbon utilization of XP Denite: Figure 2 shows that 15°C is the minimum operating temperature; Figure 3 shows that XP Denite is active above a pH of 7; and, Figure 4 exemplifies broad carbon utilization.

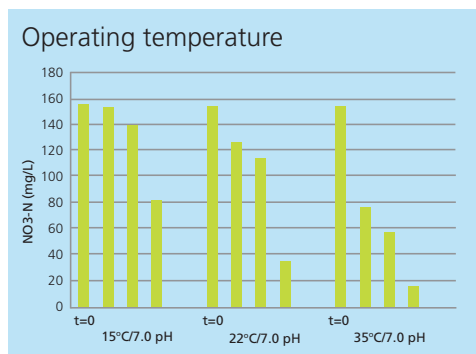


Fig. 2. Operating temperature.

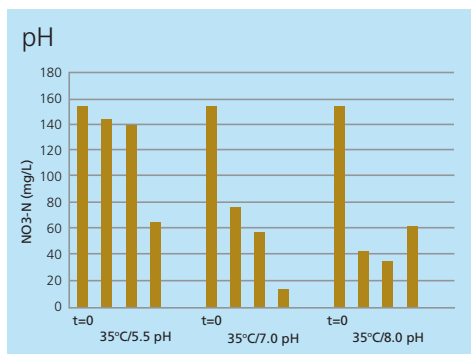


Fig. 3. Operating pH.

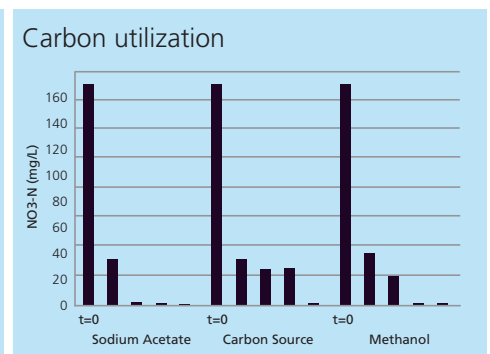


Fig. 4. Carbon utilization.

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Novozymes Biologicals, Inc. • 5400 Corporate Circle • Salem, VA 24153 • Tel. 800 859 2972 • Fax 540 389 2688

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