

The Anammox process removes nitrogen from wastewater in a cost effective way. Anammox offers great advantages compared to conventional nitrogen removal processes including:

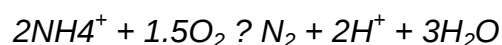
- Power consumption is reduced by up to 60% as compared to conventional nitrification/denitrification methodology.
- No additional carbon source needed.
- Overall operational cost reduced by up to 90% compared to conventional nitrification/denitrification methods.
- CO<sub>2</sub> emission reduced by approximately 88%.
- Plant foot print ~50% of conventional plants.
- Proven in full scale plants.

This innovative process is patented and supported by Paques BV of The Netherlands.

### The Process:

#### Anammox Bacteria:

The Anammox process (for Anaerobic ammonium oxidation) removes ammonium without oxygen and with nitrite as the electron acceptor. The cost of conventional ammonium removal via nitrification-denitrification from sludge reject waters is mainly associated with aeration-cost and the addition of an expensive electron donor (e.g. methanol). The Anammox® process provides an alternative for the nitrification, with no requirement for an extra electron donor. The (generalised) overall reaction of the One Step Anammox process is:



Also, the emission of greenhouse gases is enormously reduced using the Anammox process. The overall CO<sub>2</sub> emission of a wastewater treatment plant can be reduced by approximately 88% because the Anammox process itself consumes CO<sub>2</sub>. Furthermore, the production of nitrous oxide (N<sub>2</sub>O) that can easily be formed as a by-product of conventional denitrification is not emitted using the Anammox process.



### Potential Applications:

- Sludge

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**Product and Services:**

In cooperation with Paques BV, Aquatec Maxcon can provide a full scale solution for suitable high ammonia streams using the Anammox technology. We can also provide a pilot plant to test your effluent with the technology.

Please contact us for any queries regarding Anammox..