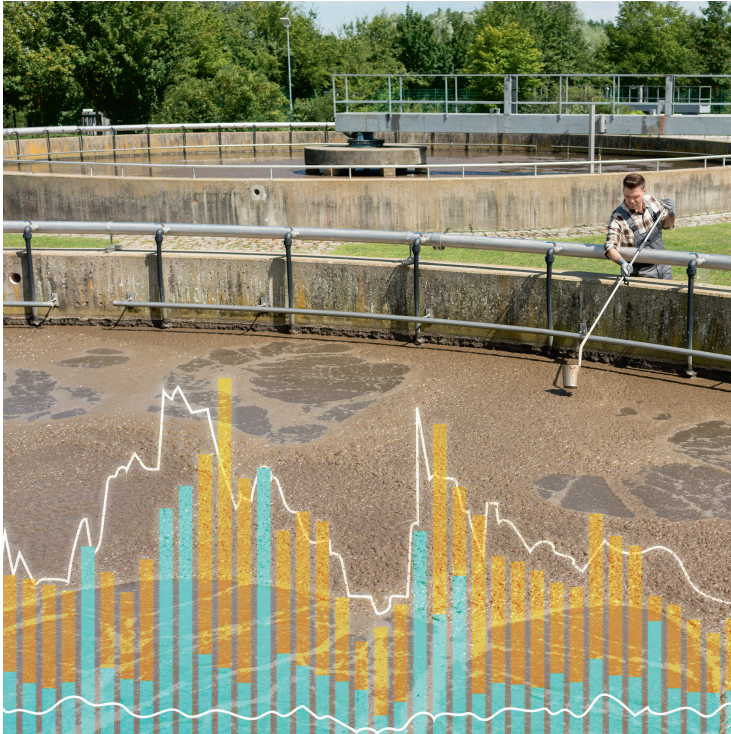




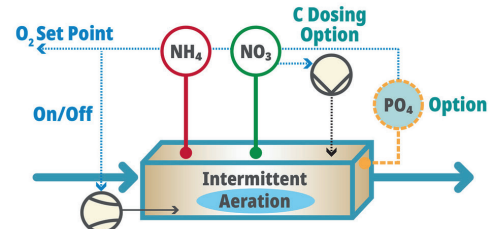
RTC N/DN-Module Real-Time Nitrification/ Denitrification Control Solution

Applications

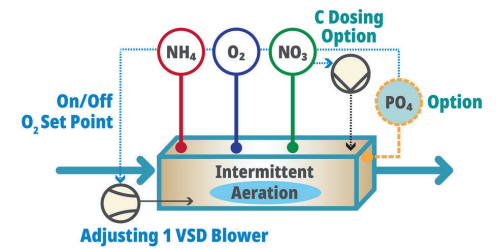
- Municipal Wastewater
- Industrial Wastewater



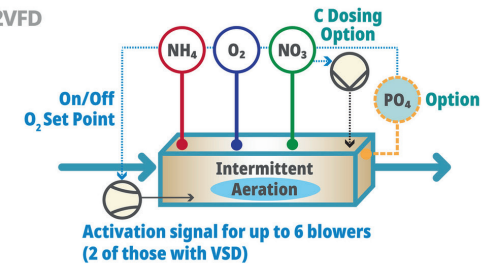
RTC-DN



RTC-DN DO



RTC-DN DO 2VFD



Nitrification/Denitrification. Under Control.

Hach[®]'s RTC-N/DN System, designed specifically for intermittently operated plants and sequencing batch reactors, optimises nitrogen elimination by determining the optimal times for nitrification and denitrification based on the continuous measurement of ammonium and nitrate concentrations.

Maintain compliance based on stable nitrogen discharge values

Controlling aerobic and anoxic cycles through continuously measured process variables makes your process more consistent. The RTC-N/DN system continually monitors the actual process conditions and responds automatically to load changes, keeping your facility compliant. Controlling your process has never been so simple.

Load-dependent aeration

RTC is a plug-and-play system that is ready to use after a very simple set up. Minimal downtime is needed to install the system and once installed Hach will help you program your setpoints so you are fully prepared to monitor and treat your water in real time.

Reduced energy consumption

The RTC-N/DN module is preprogrammed with algorithms that adjust blowers to maintain your desired DO setpoint based on ammonia and nitrate levels. By treating only when needed, you save on energy costs.

Predictive diagnostics

Prognosis is a predictive diagnostic system that allows you to be proactive in your maintenance, by alerting you to upcoming instrument issues. Know with confidence whether changes in your measurements are due to changes in your instrument or your water.

Hach Service - By your side

Commissioning, optimization and remote monitoring services help you get the most out of your investment. Let an expert team from Hach monitor your system to maintain optimum performance and identify potential issues before they occur. This makes for the ideal combination with the standard field service support you have come to trust.

The power of Hach's real time controls (RTC) software is now hosted on the SC4500 controller. Take advantage of the potential energy, chemical and labor savings, from a simple and environmentally friendly solution.

Principle of Operation

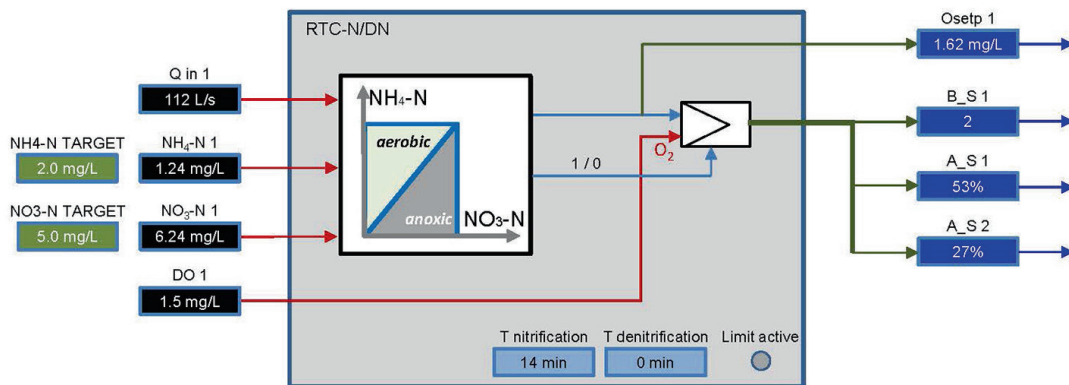
The RTC-N/DN controller determines for intermittently operated plants the time for nitrification and denitrification according to the measurements of $\text{NH}_4\text{-N}$ and $\text{NO}_3\text{-N}$ in the aeration tank. The N/DN controller is designed as proportional-differential controllers (PD controllers) and considers absolute concentrations as well as the rate of change for these parameters.

The RTC-N/DN provides a DO-set point for the nitrification phase considering the actual $\text{NH}_4\text{-N}$ in the aeration tank. The calculated DO set point is limited by min-max values.

As an option an additional dissolved oxygen controller (RTC-DO) is able to activate up to six aeration devices in order to control a single DO concentration to the DO setpoint calculated by the RTC-N/DN.

If input signals for ammonium and nitrite are not available, the system automatically switches to fallback strategies.

The RTC-N/DN control software can be combined with other control software modules and has to be hosted by a specific hardware.



Order Information

RTC-N/DN Module - SC1000

LXZ520

RTC-N/DN Module, software only. To be used with LXV515.

Control module for load-dependent control of nitrification and denitrification times in intermittently operating WWTPs. Available as 1- or 2-channel version.

An additional DO controller is available as option.

LXV515

IPC Hardware

Using RTC Module requires SC1000 controller and RTC card:

LXV400.99.xxxxx SC1000 controller

RTC-N/DN Module - SC4500

LXZ520.99.K0101

SC4500 NH_4/NO_3 , intermittent aeration control, aeration on/off, no DO control. No external carbon dosing, single channel.

LXZ520.99.K3101

SC4500 NH_4/NO_3 , intermittent aeration control, 1 aeration stage, with DO control, VSD, no external carbon dosing, single channel.

LXZ520.99.L0101

SC4500 ORP/ NH_4/NO_3 , intermittent aeration control, aeration on off, no DO control, no external carbon dosing, single channel

LXZ520.99.L3101

SC4500 ORP/ NH_4/NO_3 , intermittent aeration control, 1 aeration stage, with DO control, VSD, no external carbon dosing, single channel

Using RTC Module requires SC4500 controller:

LXV525.99xxxxxx SC4500 controller

Be certain in your control with a first class Service Partner. Be confident with Hach Service.

Hach's Commissioning Service for RTC provides the insurance that your complete Real Time Control solution is installed and configured properly as well as optimised efficiently. During the commissioning period (Start Up phase, Commissioning phase, Hand over phase), Hach will thoroughly monitor your system and review and analyse your data remotely in order to provide guidance to optimise your RTC at its highest performance and efficiency levels for your application.

