RTC-DOS MODULE REAL-TIME NUTRIENT DOSING CONTROL

Applications

- Municipal Wastewater
- Industrial Wastewater

PROGNOSYS® READY

Nutrient Dosing. Under Control.

Hach®'s RTC-DOS System optimizes dosing of P- and N-sources based on an online TOC measurement to achieve an optimal C/N/P-ratio for optimal carbon removal from carbon rich wastewater streams. As an option phosphate, ammonia and nitrate measurement signals can be used to further optimize the control in a feed-back manner.

Improved compliance on TOC / COD effluent values

The RTC-DOS makes sure the biological treatment is always operating at an optimal C/N/P ratio to ensure compliance with any given effluent limits.

Minimized additive consumption

Based on the influent TOC measurement the system only doses what is necessary and thereby eliminates overdosing.

Predictive diagnostics

Prognosys 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.

When we say Service, we mean Service!

A complete Service package includes local field service experts to provide routine maintenance visits and warranty repair, plus a team of remote technical experts with the ability to monitor your system to ensure optimum performance. It's like having a Hach Technician right there with you at the facility.

HACH®

Be Right™

Principle of Operation

The RTC-DOS is optimizing dosing of nutrients like urea and phosphoric acid on industrial wwtp's in order to ensure a specific C/N/P balance. The RTC-DOS combines a TOC load based feed forward algorithm with a PID type feed back control loop based on the residual NH_4-N resp. PO_4-P concentration in the effluent of the aeration.

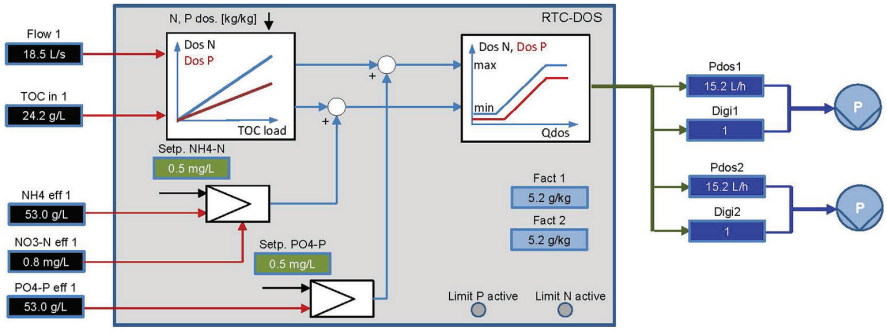
The feed forward algorithm calculates the dosing rates for urea and phosphoric acid based on the TOC inflow load and adjustable specific dosing rates for N/TOC = kg N / kg TOC and P/TOC= kg P / kg TOC.

Up to 4 different specific dosing rates can be stored and activated to accomplish for changes in upstream production.

The concentration and density of nutrients chemicals added can be adjusted.

To compensate for changing waste water composition and sludge characteristic as well as to avoid extended nitrification, additionally a closed-loop PID control is applied to reach a pre-defined the PO_4-P-, NO_3-N- and NH_4-N set point at the end of aeration. In order to avoid Nitrogen overdosing in case of nitrification the NO_3-N concentration effluent aeration is considered in the feedback control loop. The RTC-DOS is allows to split the calculated nutrient dose rate into several dosing points.

Minimum and maximum specific dosing rates can be defined in order to keep the dosing in a certain range.



Order Information

RTC-DOS Module

LXZ514	RTC-DOS Module, software only. To be used with LXV515. Control module for the optimization of nutrient dosing. Available as 1- or 2-channel version.
LXV515	IPC Hardware

Please note: Using RTC Module requires SC1000 controller and RTC card.

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 optimized 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 optimize your RTC at its highest performance and efficiency levels for your application.

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