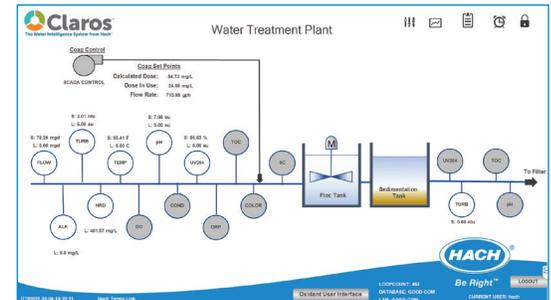


# RTC-COAG Module Real-Time Control Solution Coagulation

## Applications

- Municipal Source Water
- Industrial Source Water
- Municipal Drinking Water



## Coagulation. Under Control.

The Hach<sup>®</sup> RTC-COAG module simplifies the management of your coagulation processes and maximizes performance through real-time measurements and chemical dosing control, providing peace of mind and allowing you and your team to focus more time and energy on high-value tasks that matter most.

### Real-time coagulation process visibility

With real-time data and visualizations, you can see and understand exactly what is going on in the coagulation process at any time and how the software is responding. This visibility and new data eliminates guesswork and uncertainty, facilitates training and knowledge sharing opportunities, and offers a level of real-time understanding otherwise unattainable.

### Optimized chemical usage

RTC-COAG can optimize chemical use while meeting your target finished water quality, avoiding both over-dosing and under-dosing of coagulant. Real-time control improves your performance allowing for reduced chemical usage and helps you realize the full treatment capacity of your plant.

### Reduced operator effort

RTC-COAG's constant monitoring and automatic adjustments relieve you and your team of manual tasks such as jar tests, freeing up time and focus for other higher-value production tasks.

### Consistent finished water quality

Achieve your target finished water quality in variable conditions and across all staff shifts, 24/7. This means peace of mind as it helps ensure production continues, you comply with regulations, and your public reputation is protected. For peace of mind, the RTC-COAG module comes equipped with built-in fallback strategies with the ability to define ranges of valid measurements and automated alerts to the customer via text or email.

### We understand every plant is different

Hach has installed thousands of Claros Process Management systems, including RTC modules. Based on its modular design allowing millions of combinations, it fits almost all plant configurations and solves unique challenges. Only Hach offers a complete solution based on reliable analytical instrumentation and advanced algorithms. With Hach, you'll benefit from our dedication to innovation and over 80 years of process expertise.



Be Right<sup>™</sup>

## Principle of Operation

The Hach Claros Process Management (CPM) system for Coagulation (RTC-COAG) utilizes machine learning and a variety of parameter inputs to adjust coagulant dosing in real time, optimizing chemical costs and ensuring compliant finished water.

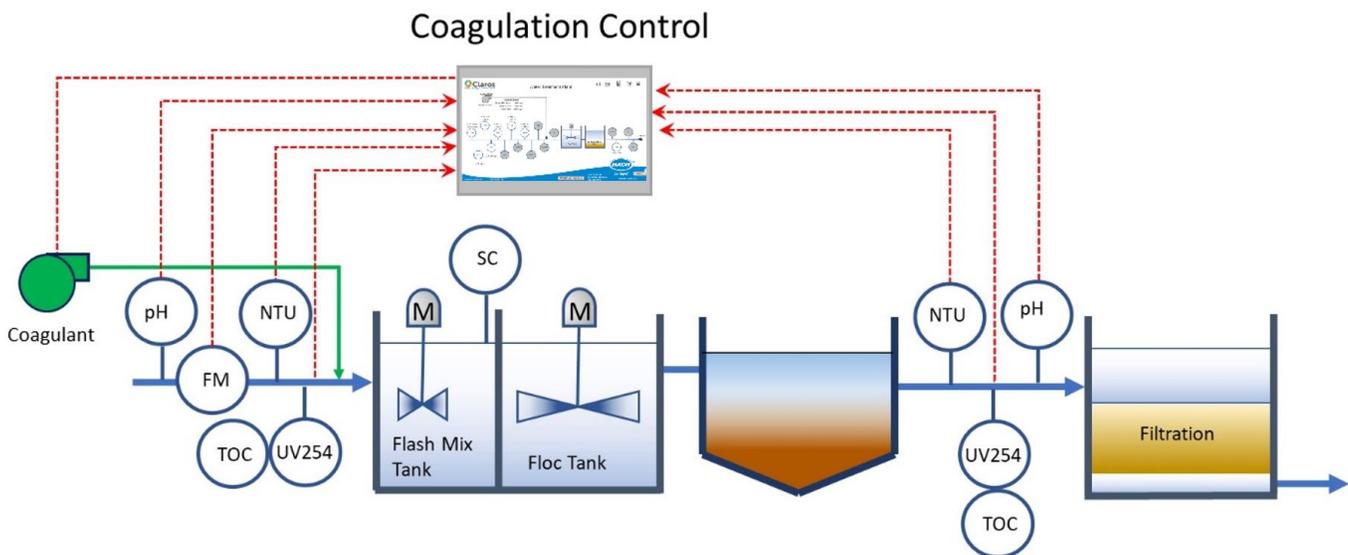
This system improves the coagulant usage to remove solids and natural organic matter (NOM) from the raw water supply. The RTC-COAG calculates coagulant dosing rates in the coagulation/flocculation/sedimentation process using feed forward and feedback control loops.

To build the feedforward model, Hach will collect available historical raw and finished water analytical data to develop a machine learning model that can predict the coagulation dosage based on raw water analytical data. Coagulation is a complex process which is influenced by several raw water parameters, therefore using a machine learning model that takes account of several raw water parameters will provide a more robust and optimal dosage calculation. The software will continually retrain the model as the system receives new data to ensure the model is accurate as possible.

The feedback trim modifies the specific dosing ratio for coagulant are based on available instrumentation and data available such as streaming current and or prefilter turbidity and organics.

The following benefits can be expected after implementation of the RTC-COAG system:

- Optimization of coagulation/ flocculation water treatment process
- Achieve savings on coagulant usage
- Improve solids and natural organic matter removal



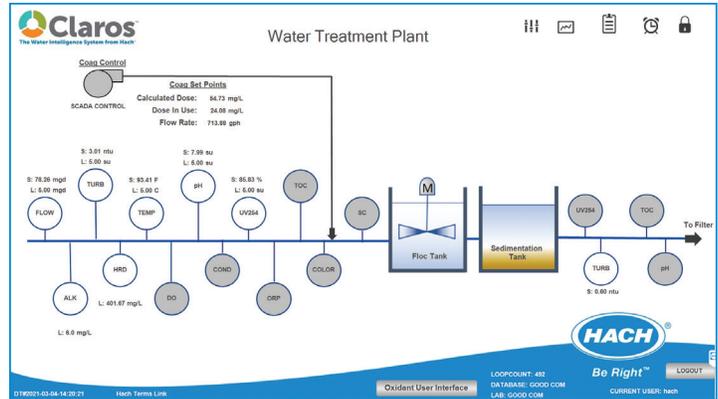
*Hach specialists provide free guidance on appropriate instrument placement, options and configuration to meet your site's needs.*



The RTC-COAG software includes powerful trending and visualization tools for real-time visibility of coagulation process performance and results.



The COAG controller utilizes your real-time inputs and historical data to keep coagulant dose within a specified range. As illustrated here, the RTC-COAG dynamically adjusts chemical dosing in real-time to achieve and maintain finished water quality targets, respond to load changes and events, and reduce waste.



Examples of a typical RTC installation and RTC-COAG user interface screens.  
All settings, validity and fallback strategies are configured through the touchscreen and can be password protected.

## Order Information

### RTC-COAG Module

**LXZ532 (A)** RTC-COAG Module, software only. To be used with LXV515.  
Control module for coagulation chemical dosing for optimal process management.

**LXV515** IPC Hardware

*Please note: Using RTC modules requires applicable transmitters, communication accessories and inputs from analytical instrumentation. Please consult your local Hach sales manager to learn more.*

### 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 RTC 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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