

TrueSense* online for cooling

FACT SHEET

Core Analytes Module

Description and Use

Cooling system performance for operational efficiency, asset preservation, water conservation, and environmental compliance is more critical now than ever before.

Production processes pushed to their limits, low tolerance for failure, limited manpower, and budgetary pressures, collectively, have created a demand for cost-performance of critical open recirculating cooling systems.

TrueSense Online for Cooling is an economically efficient, breakthrough technology for continuously applying and optimizing the right amount of product such that system performance is continuously protected with optimized cost-performance.

World-class cooling water treatment chemistry and applications expertise are the cornerstone of Veolia customer commitment.

The foundation of effective cooling water treatment includes management of the interrelationship between corrosion, scale/deposit, and microbiological activity (see Figure 1).

GenGard* with Stress Tolerant Polymer provides unparalleled corrosion, scale/deposit control, and biological control protection in the presence of halogens.

TrueSense Online technology directly measures the functional chemistry of all three key elements of a treatment program, including:

- Orthophosphate** for steel corrosion control,
- Polymers** for the prevention of deposits from mineral scales and dispersion of suspended solids, and
- Free halogen** for the cost-effective control of microbiological growth

Veolia sets the optimum target points for available polymer concentration, soluble orthophosphate, and free halogen, based on the specific conditions of your cooling system.

The targeted available polymer concentration is always maintained, despite fluctuations in demand caused by system variations or upset conditions that exert stress.

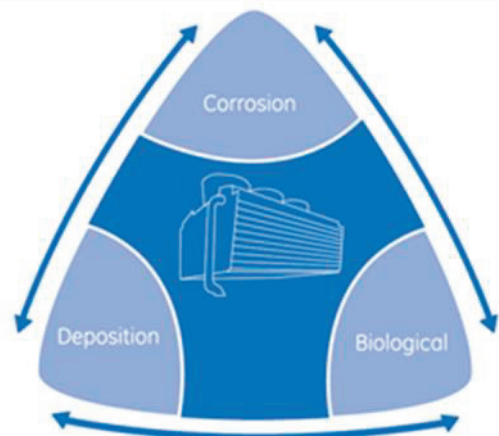


Figure 1: The technology of TrueSense Online for Cooling optimizes the management of the interdependent elements of effective cooling water treatment.

Maintaining adequate soluble orthophosphate in the system is critical to ensure effective steel corrosion inhibition. Veolia's rigorous definition of soluble phosphate is its ability to pass through a 0.22 micron filter. TrueSense Online technology measures both unfiltered and filtered (soluble) orthophosphate, and automatically monitors the difference between them. Polymer addition is automatically adjusted to maintain the difference under a target maximum.

As a result, the corrosion inhibition system remains intact and phosphate is not lost to the formation of insulating deposits on heat transfer surfaces.

TrueSense Online's direct chemistry measurement and control, combined with the most advanced suite of halogen-stable cooling water treatment technologies of GenGard provide a clear choice for superior cooling system performance.

Each application of TrueSense Online for Cooling includes a Core Analytes Module (Figure 2), a controller, and appropriately sized chemical feed pumps.

A range of controllers—from simple to complex—can be paired with TrueSense Online for Cooling to meet the specific system requirements, goals, and budget of any customer.

Veolia offers a world-class range of controllers, from simple to sophisticated, either as freestanding modules or part of preconfigured systems, including sensors. The standard configuration incorporates Veolia’s TrueSense Online Control Module.

After surveying the cooling system, Veolia Applications Engineers will configure a solution to meet the system complexity, specific needs, goals, and budget of any customer.

Features

Attention to user needs makes the sophisticated TrueSense Online technology easy to install, operate, and maintain.

Advanced technologies enable a single measurement platform to measure all three core analytes.

Innovative onboard filtration ensures reliability and minimal maintenance in the toughest of high suspended solids and turbidity waters, without the use of troublesome pre-filtration devices.

Equipment is designed to meet the performance needs of an industrial environment with simple maintenance procedures performed once per month.

Alarming features and self-contained diagnostics make troubleshooting fast and effective.

Interfaces with TrueSense View, Veolia’s suite of knowledge management software, enabling the right information, tailored to the recipient, is delivered at the right time and frequency, using local pc and/or web-based modes.



Figure 2: The electronics and fluidics enclosures that comprise the Core Analytes Module are lightweight and easy to install in a variety of flexible configurations that make optimal use of the available space.

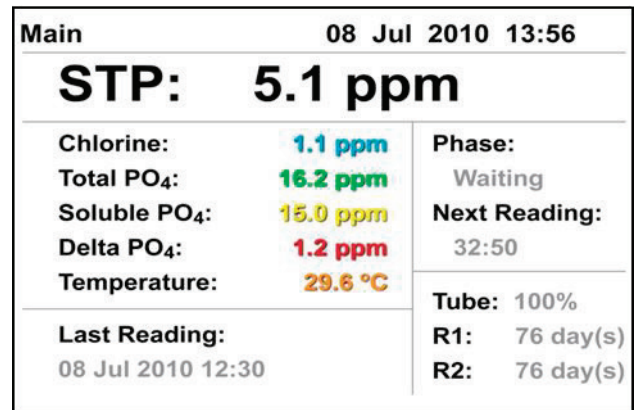


Figure 3: Simple touch screen interface provides quick and easy navigation through all functionality.

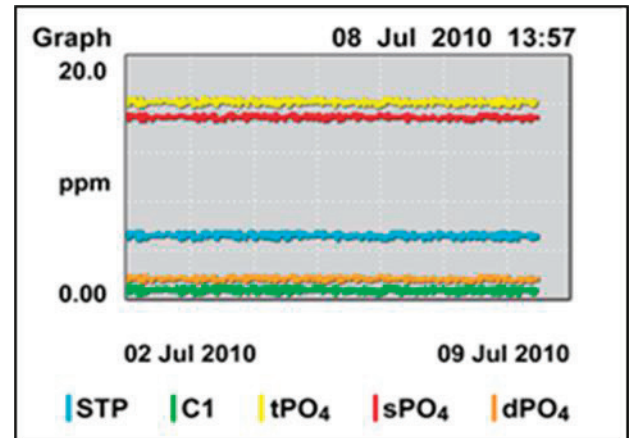


Figure 4: Onboard knowledge management tools enable the historical view of multiple parameters, simultaneously.

Installation

Veolia coordinates with plant personnel, and is present for a smooth, speedy installation.

In most applications, only minor customer preparation and support is required. In more complex situations, or in cases where the customer chooses to outsource installation, Veolia will support the installation contractor.

Ongoing Services

Skilled personnel perform simple and fast monthly services for the ongoing reliable performance of TrueSense Online. If a problem develops, repairs are either conducted onsite, or a replacement unit is promptly provided based on the commercial arrangement chosen by the customer.

Specifications & System Requirements

Analytes:	Polymers: STP HPS-I Orthophosphate: Unfiltered Filtered (soluble) ¹ Free Chlorine
Dynamic range:	Polymers, ppm STP: 1 to 30 HPS-I: 1 to 20 Orthophosphate, ppm as PO ₄ Unfiltered: 1 to 30 Filtered: 1 to 30 Free Chlorine: 0.15 to 5.0ppm
Accuracy:	Polymers: greater of 0.33 ppm or 10% Orthophosphate: greater of 0.17 ppm or 5% Free Chlorine: greater of 0.05 ppm or 10%
Precision:	Polymers: greater of 0.33 ppm or 5% Orthophosphate: greater of 0.33 ppm or 5% Free chlorine: greater of 0.05 ppm or 5%
Measurement Frequency	Every 20 minutes to once/day

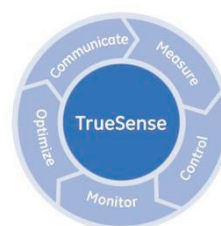
Dimensions: (both electronics and fluidics enclosures)	19.5" H x 17.3" W x 9.0" D (49.5 cm x 44.0 cm x 22.7 cm)
Weight:	Fluidics enclosure: 28 lbs (11kg) Electronics enclosure: 23 lbs (9.1 kg)
Ambient Temperature:	40° to 122°F (5° to 50°C)
Outputs	4-20 mA
Enclosure Rating	IP 54
Power:	100 to 240 VAC, 50/60 Hz, 1.0A service
Cooling water sample stream flow:	Minimum 1gal/min (3.8 L/min) differential pressure between the monitor's inlet and outlet of 10 psig (0.7 bar), with a maximum inlet operating pressure of 50 psig (3.4 bar)

¹Soluble orthophosphate defined as passing through a 0.22-micron filter

Performance Tested

TrueSense Online technology is the result of an extensive research and development effort by Veolia's technologists around the globe.

Testing and validation in real-world industrial applications has resulted in a robust commercial design that meets expectations for ruggedness and reliability.



The TrueSense Online for Cooling Core Analytes Module is a core element of a suite of complementary technologies from Veolia that represent world-class automation and process control capability. Your Veolia representative can help you realize the impact of our total solution for achieving extreme cost-performance and value from your cooling systems.