NITRATE
MONITORING SYSTEM

REAL
NITRATE

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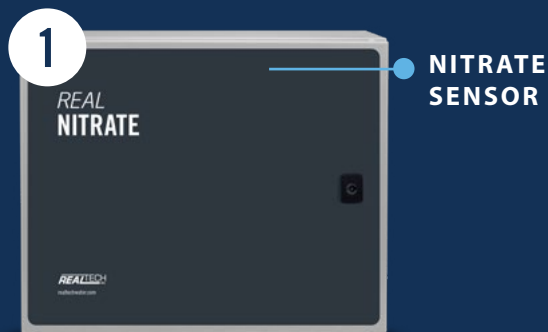realtechwater.com

REAL
CONTROLLER

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DRINKING WATER

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INC.

Nitrate in source water can be challenging to manage and lead to potential non-compliance issues. Continuous monitoring of nitrate enables you to keep a real-time pulse on nitrate concentrations from source water to finished water. Continuous monitoring offers many benefits including; compliance assurance, optimization of the blending process, maximizing ion exchange or reverse osmosis treatment efficiency, and improved water quality for public health and safety.

Nitrate Monitoring System

1 NITRATE SENSOR

2 FLEXIBLE CONTROLLER

3 AUTOMATIC CHEMICAL CLEAN

MONITORING SYSTEM FEATURES

- Accurate and reliable monitoring of nitrates (NO_3)
- Automatic chemical cleaning
- Optical measurement method (reagent free)
- Simple integration with 4-20mA output
- Easy to install and operate
- Liquid Ai compatible for optional Remote Monitoring service

MEASUREMENT PRINCIPLE

The Real Nitrate sensor utilizes UV-VIS light for measurement as nitrate ions have a natural absorbance peak in the 200-220 nm wavelength range. Common interferences with nitrate measurement at 220 nm, such as organic compounds, nitrite, iron (II), and turbidity or suspended solids are automatically compensated for by measurements at additional reference wavelengths in the UV-VIS spectrum where the interfering compounds absorb, but nitrates do not.

Real Tech's advanced measurement technology combined with a low maintenance automatic chemical cleaning system allows reliable and accurate measurements over time compared with competing systems which often experience significant measurement drift and require frequent manual cleaning.

NITRATE

MONITORING SYSTEM SPECIFICATIONS

CHARACTERISTIC	TECHNICAL DATA
SENSOR	
Parameters	NO_3 , NO_3^-N
Units	mg/L or ppm
Range	Depends on model selected. Refer to range chart on page 4
Sampling Time	30 seconds
Calibration	Zero to DI water or custom calibration to existing process sample
Cleaning	Real Clean automatic chemical cleaning system
Self-Diagnostics	Continuous detection of leaks, lamp output, humidity, temperature and electrical fault
Humidity Control	Humidity sensor with large plug-in regeneratable desiccant pack
Wavelengths	Multiple UV-VIS wavelengths
Light Source	Xenon flash lamp
Pressure Rating	20 PSI
Flow Rate	300-1000 mL/min
CONTROLLER	
Display	4 line x 20 character backlit LCD with LED indicator
Operator Interface	Five push buttons to control a comprehensive hierarchical menu system
Alarms	Display of sensor specific alarms
Communication	Modbus (RS485), 4-20mA output standard. Optional WiFi, additional 4-20mA, cellular modem
Data Logging	Onboard (6 month nominal configuration dependent). Optional remote data logging. Export data via USB
CLEANING	
Clean Frequency	User configurable
Cleaning Capacity	1L storage container, cleaning fluid recapture feature reduces fluid replenishment frequency
FULL MONITORING SYSTEM	
Electrical	24VDC 13.4A power adapter (accepts 90-250VAC 50/60Hz)
Fluid Connections	1/4" tube push in fittings
Enclosure	NEMA 4, wall mountable cabinets
Storage Temp.	-20 to 60°C (-4 to 140°F)
Operating Temp.	0 to 45°C (32 to 113°F)
Warranty	2-year limited warranty (Extended care packages available)

* Technical Specifications are subject to change without notice.

Build your Nitrate Monitoring System

1

SELECT A NITRATE SENSOR

PRODUCT#	NO$_3^-$N (mg/L)	NO$_3$ (mg/L)
NL2010	0 - 50	0 - 220
NL2020	0 - 25	0 - 110
NL2040	0 - 12.5	0 - 55
NL2080	0 - 6.25	0 - 27.5

* Stated ranges are approximate, dependent on industry, site and application.
  Contact Real Tech to confirm model selection.

2

REAL CONTROLLER

PRODUCT #	DESCRIPTION
S-169000	Wall mounted controller with 4-line x 20-character back lit LCD display for sensors

3

REAL CLEAN SYSTEM I

PRODUCT #	DESCRIPTION
UVT-078130	Automatic chemical cleaning system for use with 2000 series sensor models

Additional Selections

BACKBOARD MOUNTING

PRODUCT #	DESCRIPTION
S-179034	Sensor, controller and cleaning system pre-mounted, plumbed and wired to backboard (with stand S-179035)

DATA SERVICE

PRODUCT #	DESCRIPTION
Liquid Ai Remote Monitoring	User friendly, secure web-based platform for remote access to sensor system information anywhere, anytime

Additional water quality parameters can be added to any monitoring system configuration.

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