

9210p On-line Total Organic Carbon Analyzer

Accurate and Dependable Wa



The OI Analytical 9210p On-line Total Organic Carbon (TOC) Analyzer is designed to continuously monitor TOC levels in process water streams. The 9210p uses proven heated persulfate oxidation technology for accurate, dependable operation and regulatory compliance. Virtually all organic compounds dissolved in water can be oxidized with high efficiency by this technique.

The 9210p On-line TOC Analyzer is specifically engineered for operation in process environments. The instrument can be wall or rack mounted in indoor or shade-sheltered outdoor locations. Instrument calibration is accomplished in minutes using a simple protocol. 9210p TOC analyzers maintain excellent long-term calibration stability providing accurate and dependable data with minimal maintenance.

Applications

The 9210p TOC Analyzer supports continuous on-line monitoring of organic contaminants in water streams for regulatory compliance and optimization of water treatment processes.

Drinking Water

Standard Method 5310 C
USEPA Method 415.3

Municipal Wastewater

Standard Method 5310 C

Industrial

Process Water
Boiler Feedwater
Cooling Water

Environmental

Surface Water
Ground Water



Water Quality Monitoring

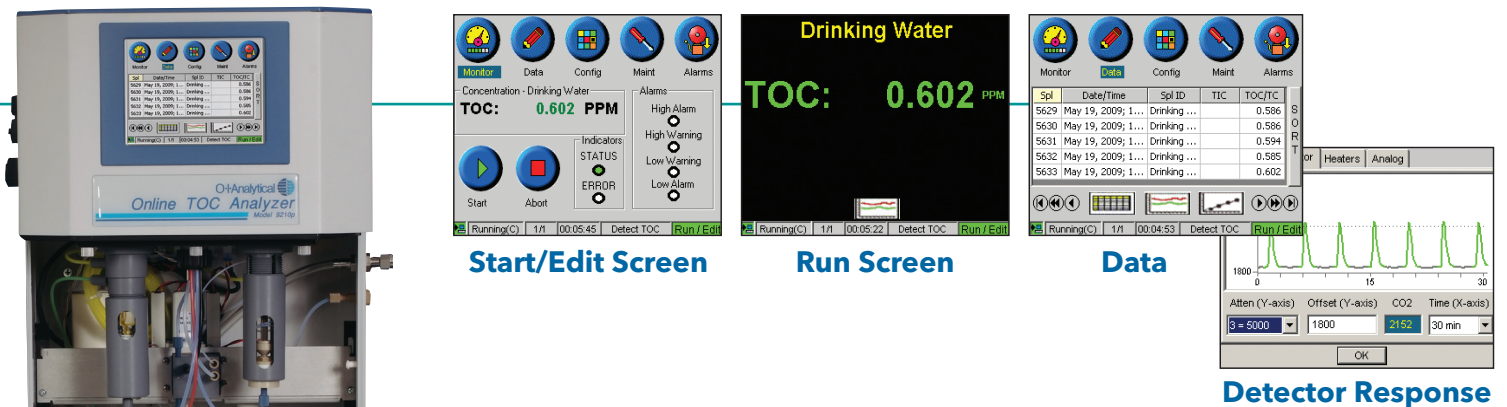
Simple Operation and Reliable Data for Process Control

The 9210p On-line TOC Analyzer employs the heated sodium persulfate ($\text{Na}_2\text{S}_2\text{O}_8$) oxidation technique to continuously monitor the total organic carbon level in process water streams.

In operation, samples are drawn into the 9210p at 4 to 9 minute intervals from a fill and spill sampling system. Phosphoric acid is introduced into the syringe to sparge and remove the inorganic carbon (TIC) content. The TIC-free sample is then transferred into the reaction chamber and oxidized at a programmed temperature up to 100 °C.

Organic compounds are oxidized and converted to CO_2 , which is measured by a solid state non-dispersive infrared (SSNDIR)* detector to calculate the TOC content. Results for each sample are shown on the touch-screen display and can be output to a Supervisory Control and Data Acquisition (SCADA) system, PC via Ethernet connection, relay/alarm closure, or as a 4-20mA analog signal.

A color touch-screen display with Windows® CE-based user interface simplifies instrument set-up, and access to data, trending, and diagnostic screens. Result data can be sent to a LAN network in a Microsoft® Excel®-ready .csv format as each sample is processed, or retrieved using a USB memory stick.



Water-tight, Dust-tight Housing for Indoor or Outdoor Installation

The 9210p instrument housing has a sealed electronics compartment designed to meet NEMA 4X and IEC class IP56 standards. A locking hinged door provides access to the modular fluid components for simple low-cost maintenance.

Stable Isothermal Operation

An external heater maintains isothermal conditions as successive samples from the process stream are drawn into the 9210p reaction chamber for oxidation and stable 24-7 operation.

*Patent Pending

9210p Specifications

Operating Principle	Heated sodium persulfate oxidation
Measurement Technique	Non-dispersive infrared (NDIR) detection
Regulatory Method Compliance	SM 5310 C, USEPA 415.3 (Drinking Water) SM 5310 C (Wastewater)
Measurement Ranges (ppm)	0.050 to 25 / 5 to 250 ppm carbon
Calibration	2 point (KHP two standards)
Measurement Accuracy	+5%
Sample Processing / Analysis Time	4 to 9 minute intervals
Operating Environment	5 - 45 °C, up to 90% humidity (non-condensing)
Operator Interface	Windows® CE-based, Color touch-screen display
Reagents Required	Sodium persulfate, Phosphoric acid
Gas Requirements	< 200 mL/min. 99.99% N ₂ or CO ₂ -free air
Power Requirements	24V _{DC} (Optional 24V _{DC} power supply allows operation with 90-250V _{AC} 50/60Hz source)
Input Relays	2 (Remote Start, Remote Stop)
Output Relays	2 (System Alarm, Sample Alarm)
Analog Outputs	2 4-20mA (User-configurable concentrations)
Data Export	To PC via Ethernet, or using a USB memory stick (Microsoft® Excel®-ready .csv file format)
Instrument Enclosure	NEMA 4X / IEC Class IP-56
External Dimensions	48.3 cm H x 31.1 cm W x 31.1 cm D (19 " H x 12.25 " W x 12.25 " D)
Weight	11 kg (24 lbs.)
Certifications	CE, EMC EN50082-1 and EN 55011 Group 1 Class A



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151 Graham Road
PO Box 9010
College Station, Texas
77842-9010

(979) 690-1711
(800) 653-1711 USA/Canada
FAX (979) 690-0440

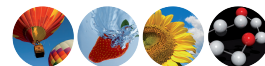
www.oico.com
E-mail: oimail@oico.com

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Aurora 1030W Laboratory TOC Analyzer



The Aurora 1030W can be used to test grab samples and confirm the calibration of the 9210p On-line TOC Analyzer.



SOLUTION

Via alla Castellana, 3
20063 Cernusco s/N I MI
Tel. 02 9214 3258
Fax 02 9247 0901

www.srainstruments.com
info@srainstruments.com

