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Process Insights™
Premium Insights Into Process

INNOVATIVE ONLINE TOC WATER ANALYSIS SOLUTION

PRODUCT DATASHEET

QuickTOCeco™

NEW

REAL-TIME ONLINE TOC WATER ANALYZER

Fast, accurate, and affordable TOC analysis

- Water treatment plants
- Industrial processes
- Environmental monitoring
- Drinking water quality control
- Pharmaceutical and biotechnology
- Food and beverage industry
- Power generation

Key applications

Industrial Water Treatment

Wastewater Monitoring

Environmental Monitoring

Fast, accurate, and affordable TOC analysis

Introducing the QuickTOCeco™ TOC analyzer, the latest and easy to use online TOC water analysis. It provides continuous real-time monitoring of TOC levels in water, allowing for quick identification of changes in water quality and immediate action to be taken if necessary.

The QuickTOCeco delivers rapid and accurate measurements of total carbon (TC) and total organic carbon (TOC) across various applications, including industrial process water control, pure water monitoring, environmental monitoring, and municipal wastewater. Additionally, this versatile device can also simultaneously analyze biological oxygen demand (BOD) and chemical oxygen demand (COD) after correlation BOD and COD.

Applications

Here are some applications and types of water that are ideal for the QuickTOCeco TOC analyzer:

- **Water treatment plants:** Monitoring TOC levels to optimize treatment processes
- **Industrial processes:** Tracking TOC in process water, cooling water, and wastewater
- **Environmental monitoring**: Analyzing TOC in surface water, groundwater, and wastewater
- **Drinking water quality control:** Ensuring TOC levels meet regulatory standards
- **Pharmaceutical and biotechnology:** Monitoring TOC in water used in manufacturing processes
- **Food and beverage industry:** Analyzing TOC in process water and wastewater
- **Power generation:** Monitoring TOC in cooling water and boiler water

How It Works

The water sample undergoes complete oxidation at a high temperature of 1,200°C, resulting in the production of CO2. The CO2 is then detected and quantitatively measured. The elevated temperature eliminates the need for additional oxidizing agents, ensuring a streamlined and efficient analysis process. Meets the EPA 415.1 standard Test Method for Organic Carbon in drinking, surface and saline Water by High Temperature Catalytic Combustion and Infrared Detection.

- High temperature combustion at 1,200°C
- User-friendly 7" Siemens PLC with touchscreen
- Batch principle
- Accurate measurement of TOC and TC, after correlation BOD and COD

Benefits

Evaluate key parameters with a single device, backed by robust hardware for seamless analysis.

- All-in-one, continuous TOC water quality monitoring solution
- Measure TOC and TC accurately, and analyze after correlation BOD and COD with a single analyzer
- Low maintenance and has self-cleaning feature and long-lasting UV lamp
- Easy to install and can be integrated into existing monitoring systems
- Fast Response Time
    - TC< 2 min
    - TOC (NPOC) < 3-4 min
- Ideal for industrial process control
- Alerts allow for more informed decision-making minimizing waste and environmental harm
- Accurate TOC analysis informs treatment process optimization
- Reduces operatonal costs
- Low cost of ownership

Technical data according to NE61

A.1 General details

1.1	Device designation	QuickTOCeco
1.2	Device type / Serial number	Water sum parameter online analyzer SN type ECOXXXXXX, X denotes a number
1.3	Manufacturer / Supplier	Process Insights GmbH
1.4	Measuring principle	High Temperature Oxidation (Non catalytic at 1,200 °C)
1.4	Measurement compliance	TOC according to DIN EN 1484:1997-08/ ISO 8245:1999-03/ US-EPA 415.1/ ASTM D-5173/ Standard Methodes 5310B/ US-EPA 9060/ DIN 38409-H3
1.5	Measuring range examples, (approximately):	TC, TOC by correlation COD
	TOC µg/l (ppb) TOC mg/l (ppm) TOC mg/l (ppm) TOC mg/l (ppm)	Cooling water (5-50 or 10-100) Effluent monitoring / discharge control (5-50) Surface water monitoring (5-50 or 10-100) Water outflow to river (5-50)
	Measuring range: mg/l (ppm)	1-5,000 mg/l (ppm) TOC or TC, DOC, COD by correlation; Other ranges on request
1.7	Digital Input Digital Output signals	3x 24V DC 3 freely programmable relais
1.7.1	Analog output signals	1x 0/4 - 20 mA
1.7.3	Digital interface	OPC UA, Ethernet
1.8	Electrical power consumption	700 W
1.9	Power supply	100 - 240 VAC, 50 / 60 Hz
1.9.1	Safety	8 A
1.10	Ambient temperatures for Measuring transducers and Sensors (°C)	5 - 40°C (we recommend: 10 - 30°C)
1.11	Storage temperature (°C)	5 - 35°C
1.12	Medium temperature Limits (°C)	< 50°C
1.13	Thermostat control or Temperature compensation	CO_2-detector
1.14	Medium pressure limits on Input (absolute; bar)	Max. 0.2 bar
1.15	Medium pressure limits on Output (absolute; bar)	Pressure-less
1.16	Constant pressure Maintenance or pressure Compensation	None
1.17	Medium flow limits	100 - 150 ml per measurement
1.18	Constant flow maintenance or Flow compensation	Sample quantity without pressure load
1.19	Housing material	Standard: 1.5 mm 1,0330 housing, powder coated (RAL7035); IP65, powder-coated steel housing; optional: + Stainless steel 1.4307 / AISI 304L Stainless steel 1.4404 / AISI 316L for corr. Env.
1.20	Material of parts in Contact with medium	Inflfluent-tubing: Peripren; glassware: Duran-Glas, effluent: PVC; Metallic parts: stainless steel, warm parts: PTFE, ceramics

Technical data according to NE61

A.1 General details

1.21	Design / Dimensions Standard housing	W 1140 x W 600 x D 350 mm
1.22	Weight	85 kg (standard housing)
1.23	Installation conditions	Wall-mounted or rack
1.24	Process connection	4.8 mm, 8 mm, 12 mm ID tube
1.25	Electrical connection	Connection to customer terminal box
1.26	Ingress protection (DIN EN 60529)	Protection class according to DIN EN 60529 IP65: Peltier cooler, Vortex Cooler, Heat Pipe IP54: Ventilation
1.27	Explosion protection	Class I, Division 2, Zone 2 Groups ABCD Temperature Class: T4
1.29	EMC immunity requirements	2014/30/ EU
1.30	CE Declaration of Conformity	Yes
1.31	Official approvals Special certificates	cETLus, NFPA 496, UL61010-1; UL611010-2, CSA C22.2, UL 698A
1.32	User interface specifications	7" Siemens HMI (touchscreen)

Further information

Measurement technique and sample preparation

Sensitivity	Depending on the detector / measuring range used
Cycle Time	3 min. (TC); 5 - 6 min. (TOC/NPOC)
Calibration / Validation	Auto-calibration and automatic system check with liquid-standard
Particle size	Particles less than or equal 100 µm

Other used directives

Machinery directive	2006/42/ EG
HazLoc	Purged and Pressurized Enclosures for Electrical Equipment [NFPA 496:2020 Ed.2021] Industrial Control Panels Relating To Hazardous (Classified) Locations [UL 698A:2018 Ed.4+R:17Jan2019]
Restriction of Hazardous substances	2011/65 EU 2015/863/ EU2015/EU

ProcessInsights™
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GAIN REAL-TIME INSIGHT INTO YOUR PROCESS

Process Insights delivers premium analytical sensors, analyzers, instrumentation, software and solutions that are mission-critical to keep your operations, personnel, and the environment safe. Our commitment to customer satisfaction is evident through our diverse range of products, programs, and services, designed to accommodate various budgets and application needs.

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