

Hach BioTector B3500ul Online TOC Analyzer

Applications

- Petrochemical Industry
- Power
- RO Water



Precise, low-level TOC measurement that you can trust

Changes in water quality for ultra pure applications are disruptive to plant operations. Accurate, on-line analysis is important to protect critical equipment that depends on ultra pure water resources. Leading manufacturers know that it is critical to analyse for contaminants precisely at ppb levels to maintain water quality. Reliability and effective oxidation of large samples ensures that manufacturers can trust the results reported by the BioTector B3500ul analyzer. With a full picture of organic contaminants in critical water applications manufacturers make water treatment decisions more efficiently.

The Hach® BioTector B3500ul provides reliable and accurate TOC analysis at ppb levels for ultrapure water applications. The patented two stage advanced oxidation technology behind the BioTector thoroughly, and reliably oxidizes samples for valuable real-time water analysis.

Maximum uptime for your process

With uptime certified at 99.86% and two short, scheduled maintenance events per year, you will not be missing critical process information when you need it the most.

Instant and long term savings

Reduce the costs related to water re-treatment, and save on operational expenses. On-line TOC analysis enables maximum water reuse and keeps critical water resources at their best to maximize the lifetime of high-value capital equipment.

Technical Data*

Parameter	TOC, TIC, TC, VOC, after correlation COD, BOD	Sample Inlet Temperature	2 - 60 °C (36 - 140°F)
Measurement Method	Infrared measurement of CO ₂ after oxidation	Ambient Temperature	5 - 45 °C (41 - 113 °F)
Oxidation Method	Patented Two-Stage Advanced Oxidation Process (TSAO) using Hydroxyl Radicals		Cooling and heating options are available.
Range	0 - 5000 µg/L C	Humidity	5 - 85 % (non-condensing)
Multi-Stream	Up to 2 process streams and grab sample	Particle Size	Up to 100 µm
Repeatability	± 2 % of reading or ± 10 µg/L C, whichever is greater;	Data Storage	Previous 9999 analysis data on screen in the microcontroller memory and storage of data archive for the lifetime of the analyser in the SD/MMC card.
	Lower limit of detection LOD = 10 µg/L		Previous 99 fault data on screen in the microcontroller memory and storage of fault data archive for the lifetime of the analyser in the SD/MMC card.
Cycle Time	TOC from 5 minutes, depending on application	Display	High contrast 40 character x 16 line backlit LCD with LED backlight
Communication	Modbus, Profibus, Ethernet industrial interface options are available.	User Interface	Microcontroller with membrane keyboard
Protection Class	IP44, standard fan cooled, maximum ambient temperature 45 °C	Power Requirements (Voltage)	115 V AC/230 V AC
	IP54, air cooled, maximum ambient temperature 35 °C	Power Requirements (Hz)	50/60 Hz
	IP54, vortex cooled, maximum ambient temperature 50 °C	Service Interval	6 months service intervals
EEExp / Hazardous Location	Certification options are available to European Standards (ATEX for Zone 2) and to North American Standards (Class I Division 1 and Class I Division 2).	Dimensions (H x W x D)	1000 mm x 500 mm x 320 mm
	Other options are available on request.	Weight	50 kg

*Subject to change without notice.

Principle of Operation

TIC

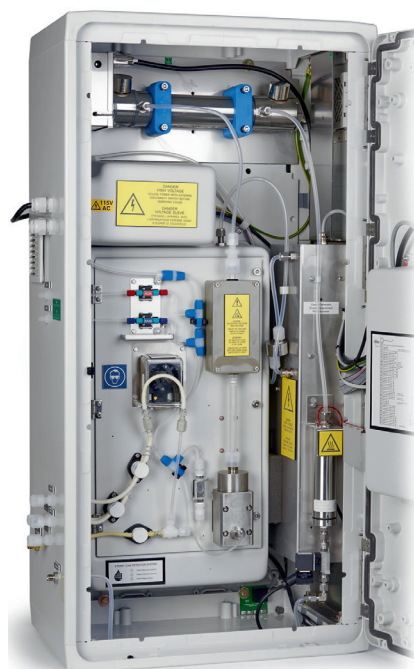
Acid is added to lower the pH so that inorganic carbon is sparged off as CO₂. This is also measured to ensure the Total Inorganic Carbon (TIC) is not carried over into the TOC.

Oxidation

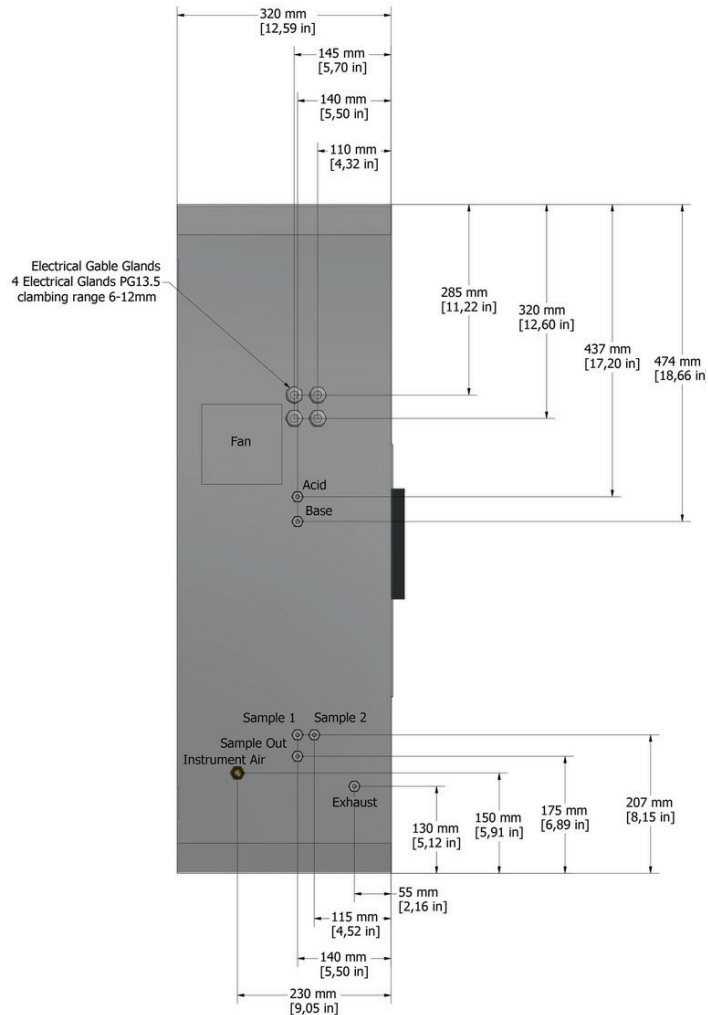
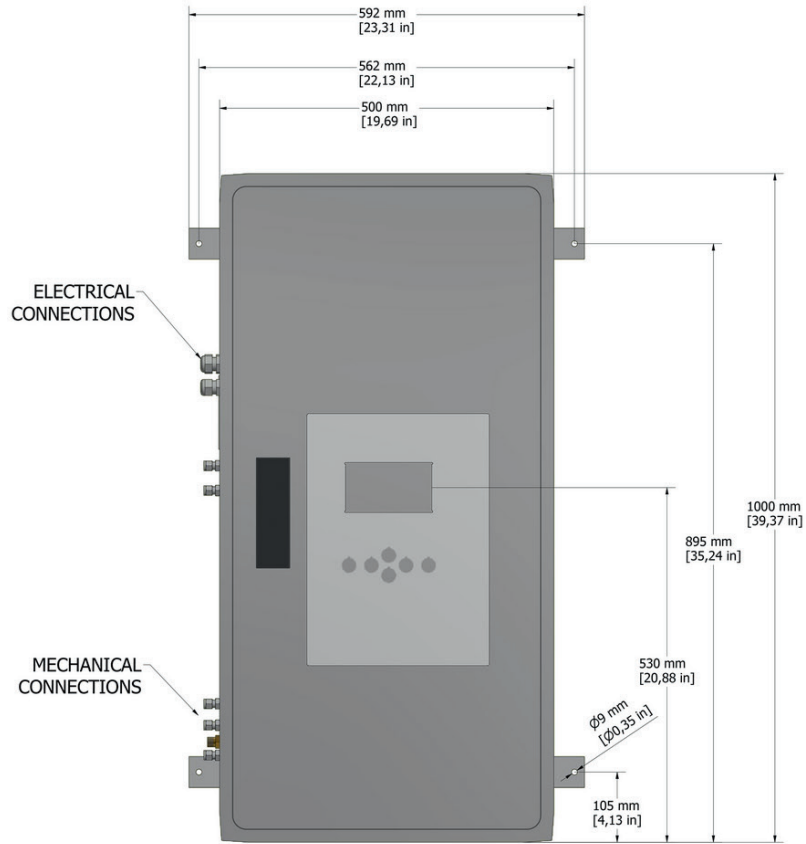
BioTectors's patented oxidation method (TSAO) efficiently oxidizes the organic carbon in the sample to CO₂. TSAO utilizes hydroxyl radicals generated within the analyzer by combining oxygen, which passes through the ozone generator, with sodium hydroxide.

TOC

To remove CO₂ from the oxidized sample, the pH of the sample is lowered again. The CO₂ is sparged and measured by the specially developed NDIR CO₂ analyzer. The result is displayed as Total Organic Carbon (TOC).



Dimensions



Order Information*

Instruments

B5EBAA152EAC2 Hach BioTector B3500ul TOC analyzer, 0 - 5 mg/L C, 1 stream, grab sample, 115 V AC

B5EBAA152EAF2 Hach BioTector B3500ul TOC analyzer, 0 - 5 mg/L C, 2 streams, grab sample, 115 V AC

There are additional options available. Please contact Hach for more details.

Accessories

19-COM-160 BioTector Compressor 115 V / 60 Hz

19-COM-250 BioTector Compressor 230 V / 50 Hz

10-SMC-001 Air supply filter pack

19-KIT-123 Six months spare part kit for BioTector B3500

19-BAS-031 BioTector sample overflow chamber

Reagents

2985562 BioTector base reagent 1.2 N sodium hydroxide

25255061 BioTector acid reagent 1.8 N sulfuric acid containing 80 mg/L Mn

**Part numbers may vary by country.*

Be certain in your measurements with a first class Service Partner. Be confident with Hach Service.

By having regular on-site preventative maintenance and calibration, you maximize your measurement reliability and instrument uptime. Hach Service Programs give you full assurance that your instruments stay in compliance, and you stay within your budget.

Start-Up:

Commissioning will ensure you get the best performance from your instrumentation from the first day you use it.

Service Agreements:

Hach offers a wide range of service agreements that can be tailored to you to help maximize your measurement reliability and instrument uptime.

Contact us to get a service offering designed for you.

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