Hach BioTector B3500ul Online TOC Analyser

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 contaminates 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 analyser. 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 unique two stage advanced oxidation technology behind the BioTector thoroughly, and reliably oxidises samples for valuable real-time water analysis.

Maximum uptime for your process

With uptime certified at 99.86% and 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 maximise the lifetime of high-value capital equipment.

HACH®
Be Right™

Technical Data*

Parameter	TOC, TIC, TC, VOC, after correlation COD, BOD
Measurement method	Infrared measurement of CO_2 after oxidation
Oxidation method	Unique Two-Stage Advanced Oxidation Process (TSAO) using Hydroxyl Radicals
Measuring range	0 - 5000 µg/L C
Multi-Stream	Up to 2 process streams and grab sample
Repeatability	± 2 % of reading or ± 10 µg/L C, whichever is greater; Lower limit of detection LOD = 10 µg/L
Cycle time	TOC from 5 minutes, depending on application
Communication: digital	Modbus, Profibus, Ethernet industrial interface options are available.
Protection class	IP44, standard fan cooled, maximum ambient temperature 45 °C IP54, air cooled, maximum ambient temperature 35 °C IP54, vortex cooled, maximum ambient temperature 50 °C
EExp / 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). Other options are available on request.
Sample inlet temperature	2 - 60 °C
Ambient temperature	5 - 45 °C Cooling and heating options are available.
Humidity	5 - 85 % (non-condensing)
Particle size	Up to 100 µm
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. 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.
Display	High contrast 40 character x 16 line backlit LCD with LED backlight
User interface	Microcontroller with membrane keyboard
Power requirements (Voltage)	115 V AC/230 V AC
Power requirements (Hz)	50/60 Hz
Service interval	6 months service intervals
Dimensions (H x W x D)	1000 mm x 500 mm x 320 mm
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 CO_2. This is also measured to ensure the Total Inorganic Carbon (TIC) is not carried over into the TOC.

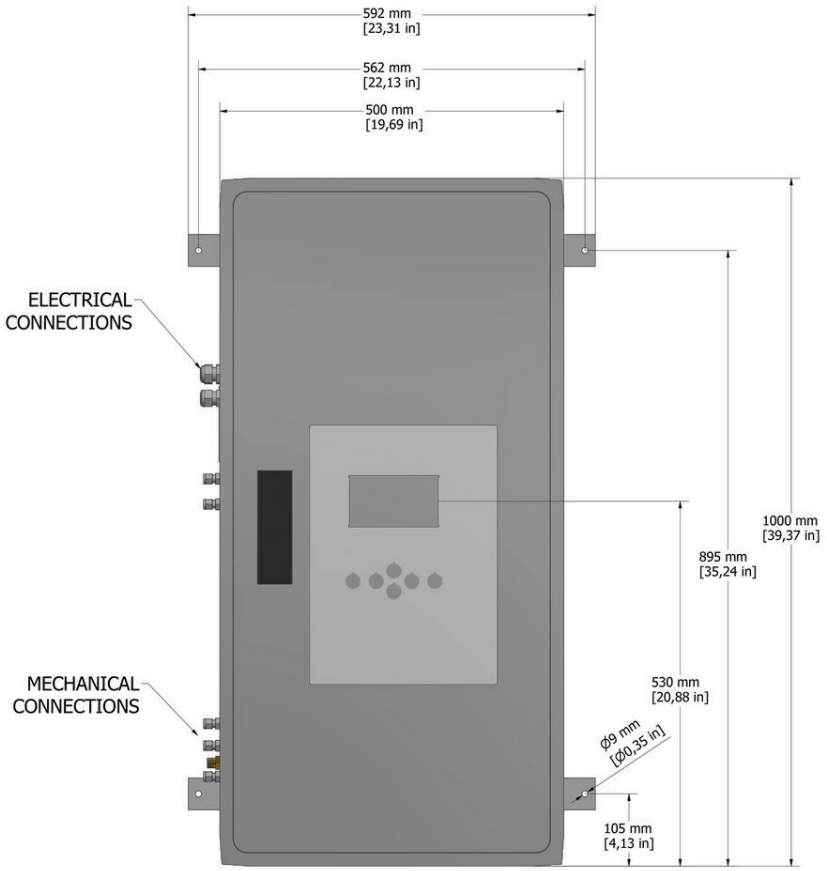
Oxidation

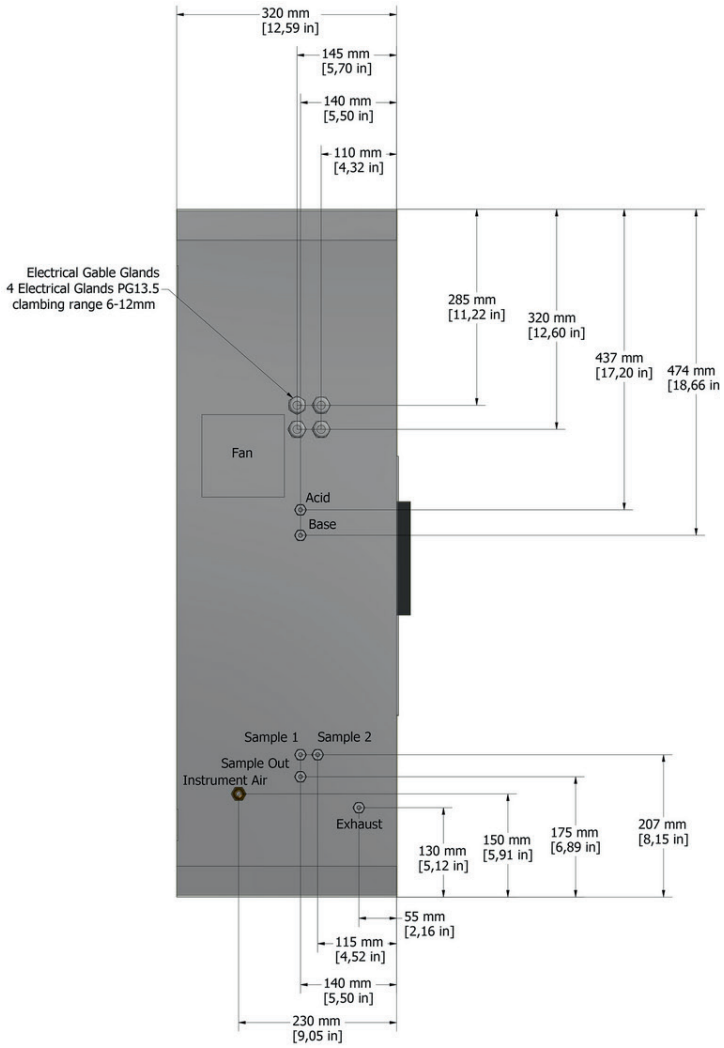
BioTectors's unique oxidation method (TSAO) efficiently oxidises the organic carbon in the sample to CO_2. TSAO utilises hydroxyl radicals generated within the analyser by combining oxygen, which passes through the ozone generator, with sodium hydroxide.

TOC

To remove CO_2 from the oxidised sample, the pH of the sample is lowered again. The CO_2 is sparged and measured by the specially developed NDIR CO_2 analyser. The result is displayed as Total Organic Carbon (TOC).

Dimensions


592 mm
[23,31 in]
562 mm
[22,13 in]
500 mm
[19,69 in]
ELECTRICAL
CONNECTIONS
MECHANICAL
CONNECTIONS
1000 mm
[39,37 in]
895 mm
[35,24 in]
530 mm
[20,88 in]
Ø9 mm
[Ø0,35 in]
105 mm
[4,13 in]


320 mm
[12,59 in]
145 mm
[5,70 in]
140 mm
[5,50 in]
110 mm
[4,32 in]
Electrical Gable Glands
4 Electrical Glands PG13.5
clambing range 6-12mm
285 mm
[11,22 in]
320 mm
[12,60 in]
437 mm
[17,20 in]
474 mm
[18,66 in
Fan
Acid
Base
Sample 1
Sample 2
Sample Out
Instrument Air
Exhaust
130 mm
[5,12 in]
150 mm
[5,91 in]
175 mm
[6,89 in]
207 mm
[8,15 in]
55 mm
[2,16 in]
115 mm
[4,52 in]
140 mm
[5,50 in]
230 mm
[9,05 in]

Order Information*

Instruments

B5FBAA152EAC2	Hach BioTector B3500ul TOC analyser, 0 - 5 mg/L C, 1 stream, grab sample, 230 V AC
B5FBAA152EAF2	Hach BioTector B3500ul TOC analyser, 0 - 5 mg/L C, 2 streams, grab sample, 230 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 maximise 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 maximise your measurement reliability and instrument uptime.

Contact us to get a service offering designed for you.

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