

# Hach BioTector B7000i Online TOC Analyzer



## Applications

- Petrochemical Industry
- Oil & Gas
- Airport
- Pulp & Paper
- Pharmaceutical
- Wastewater Influent and Effluent
- Industrial Water
- Product Loss Control

## The ideal online TOC Analyzer to achieve precise results even for your most challenging applications

A patented self-cleaning oxidation technology enables the B7000i analyzer to easily handle difficult samples and significantly reduce the maintenance schedule and costs associated with traditional on-line measurement. This TOC analyzer eliminates build up issues from salts, particulates, fats, oils and greases that lead to drift and high maintenance.

With reliable, continuous environmental monitoring and real-time process control, BioTector analyzers allow plants to optimize processes and reduce product loss.

### Worry-free TOC with smart design

The B7000i comes with a built in self-cleaning sample line and reactor. This enables the B7000i to deliver trustworthy results even if your water contains high levels of fats, oils, greases, sludge and particulates or has pH swings.

### Easy handling

All B7000i come with unique oversized tubing which eliminated the need for filtration and you can be sure to have a fully representative sample. The special tubing also prevents clogging as well as sample contamination.

### Superior reliability

Using BioTector's internationally proven and patented Two Stage Advanced Oxidation technology the B7000i delivers maximum reliability, accuracy and availability with a MCert certified uptime of 99.86%. In addition no calibration or maintenance is required between 6-month service intervals.

### Flexible field of application

Depending on the type of application, the instrument can operate across a very wide measuring range. The B7000i analyzer also has multistreaming capabilities with up to 6 process streams possible. Additionally, it can be adapted for indoor or outdoor use.

### Low cost of ownership

Installing a B7000i provides cost savings through optimizing processes by decreasing chemical dosing, waste reduction, reducing samples processes and lowering overall plant operation costs.



## Technical Data\*

<b>Measurement Method</b>	Infrared measurement of CO <sub>2</sub> after oxidation (DIN EN 1484:1997-08, ISO 8245:1999-03, EPA 415.1)	<b>Sample Inlet Temperature</b>	2 - 60 °C (36 - 140°F)
<b>Oxidation Method</b>	Patented Two-Stage Advanced Oxidation Process using Hydroxyl Radicals.	<b>Ambient Temperature</b>	5 - 40 °C (41 - 104 °F) Air conditioning and heating options are available.
<b>Range</b>	0 - 20000 mg/L C	<b>Humidity</b>	5 - 85 % (non-condensing)
<b>Range Selection</b>	Automatic or Manual Range Selection	<b>Particle Size</b>	Up to 2 mm, soft particulates
<b>Multi-Stream</b>	1, 2, 4 and 6 streams	<b>Data Storage</b>	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.
<b>Repeatability</b>	±3 % of reading or ±0.3 mg/L C, whichever is greater, with Automatic Range Selection	<b>Display</b>	High contrast 40 character x 16 line backlit LCD with CFL backlight
<b>Cycle Time</b>	From 6.5 minutes, depending on range and application	<b>Power Requirements (Voltage)</b>	115 V AC / 230 V AC
<b>Permissible Chloride Range</b>	Up to 30 %	<b>Power Requirements (Hz)</b>	50/60 Hz
<b>Communication</b>	Modbus RTU, Modbus TCP/IP & Profibus (when the Profibus option is selected, the digital output signals are sent through the Profibus converter with its specific communication protocol)  Except for Zone 1 certification then Modbus RTU, Modbus TCP/IP & Modbus TCP/IP Redundant is available	<b>Service Interval</b>	6 months service intervals
<b>Enclosure Rating</b>	IP44; optional IP54 with air purge	<b>Dimensions (H x W x D)</b>	1250 mm x 750 mm x 320 mm
<b>EExp / Hazardous Location</b>	Certification options are available to European Standards, (ATEX Zone 1, Zone 2), North American Standards (Class I Division 2) and IECEx Zone 1	<b>Weight</b>	90 - 120 kg  Enclosure weight may change depending on system optional features.
		<b>Parameter</b>	TOC, TIC, TC, VOC, after correlation COD, BOD, TOG

\*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<sub>2</sub>. 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 CO<sub>2</sub>. TSAO utilizes hydroxyl radicals generated within the analyzer by combining oxygen, which passes through the ozone generator, with sodium hydroxide.

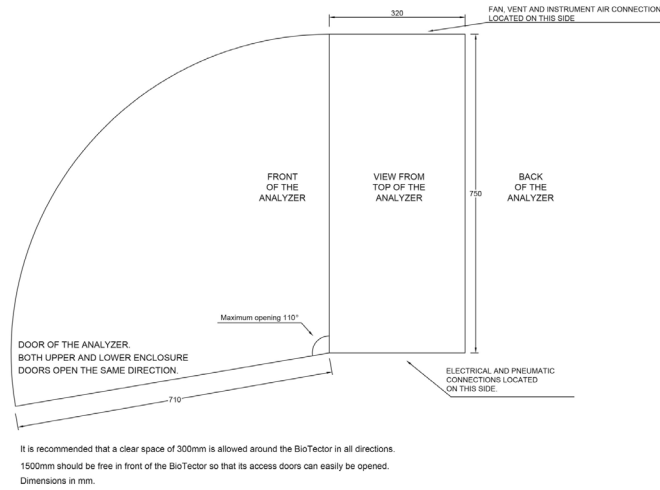
### TOC

To remove CO<sub>2</sub> from the oxidized sample, the pH of the sample is lowered again. The CO<sub>2</sub> is sparged and measured by the specially developed NDIR CO<sub>2</sub> analyzer. The result is displayed as Total Organic Carbon (TOC).

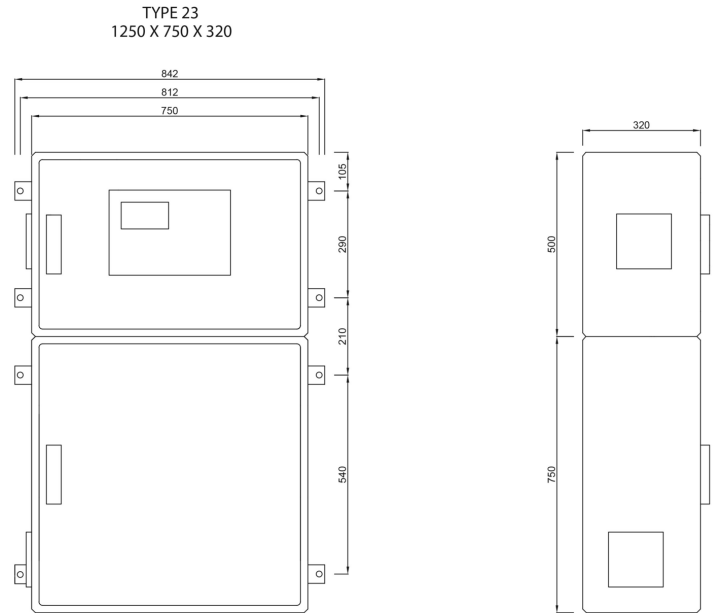


# Dimensions

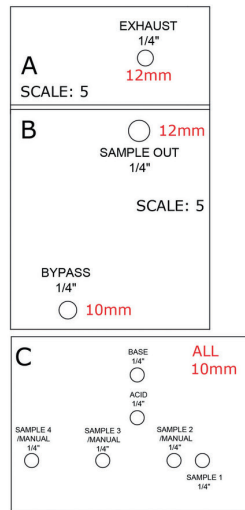
## Access requirements



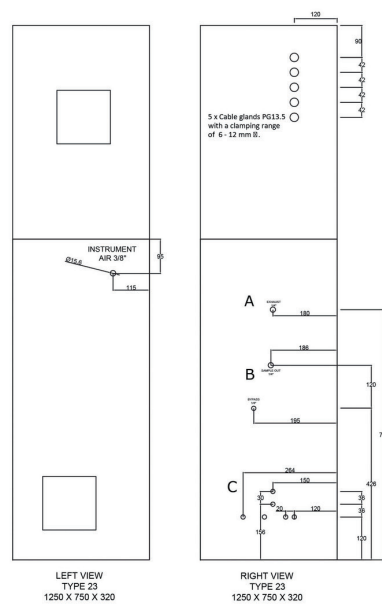
## Enclosure



## TOC connections



PRODUCTION NOTES:  
DIMENSIONS IN RED ARE HOLES SIZES



## Order Information

### Instruments

**B7AAAA052AABAA2** Hach BioTector B7000i Online TOC analyzer, 0 - 10000 mg/L C, 1 channel, 115 V AC

**B7ABAA052AABAA2** Hach BioTector B7000i Online TOC analyzer, 0 - 20000 mg/L C, 1 channel, 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-131** B7000i 6 month service kit

### Reagents

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

**2985562** BioTector base reagent 1.2 N sodium hydroxide

### Be confident with Hach Service

**Start-Up/Commissioning:** Our service technicians visit your site and setup instrumentation, provide basic end-user training on operations and maintenance, and validate settings and performance to get you started.

**Service Agreement:** Hach provides on-site and in-factory repair, preventive maintenance, and calibration programs for your instruments to ensure reliability and instrument up-time. We have services to fit your specific needs.

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