

Hach BioTector B7000i Online TOC Analyser



Applications

- Petrochemical industry
- Oil & Gas
- Airport
- Pulp & paper
- Pharmaceutical
- Wastewater influent and effluent
- Industrial water
- Product loss control

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

A unique self-cleaning oxidation technology enables the B7000i analyser to easily handle difficult samples and significantly reduce the maintenance schedule and costs associated with traditional on-line measurement. This TOC analyser 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 analysers allow plants to optimise 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 innovative 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 analyser 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 optimising processes by decreasing chemical dosing, waste reduction, reducing samples processes and lowering overall plant operation costs.

Technical Data*

Measurement method	Infrared measurement of CO ₂ after oxidation (DIN EN 1484:1997-08, ISO 8245:1999-03, EPA 415.1)	Sample inlet temperature	2 - 60 °C
Oxidation method	Innovative Two-Stage Advanced Oxidation Process (TSAO) using Hydroxyl Radicals	Ambient temperature	5 - 40 °C Air conditioning and heating options are available.
Measuring range	0 - 20000 mg/L C	Humidity	5 - 85 % (non-condensing)
Range selection	Automatic or Manual Range Selection	Particle size	Up to 2 mm, soft particulates
Multi-Stream	1, 2, 4 and 6 streams	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.
Repeatability	±3 % of reading or ±0.3 mg/L C, whichever is greater, with Automatic Range Selection		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	From 6.5 minutes, depending on range and application		
Permissible Chloride range	Up to 30 %		
Communication: digital	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	Display	High contrast 40 character x 16 line backlit LCD with CFL backlight
Enclosure waterproof rating	IP44; optional IP54 with air purge	Power requirements (Voltage)	115 V AC / 230 V AC
EExp / Hazardous Location	Certification options are available to European Standards, (ATEX Zone 1, Zone 2), North American Standards (Class I Division 2) and IECEx Zone 1	Power requirements (Hz)	50/60 Hz
		Service interval	6 months service intervals
		Dimensions (H x W x D)	1250 mm x 750 mm x 320 mm
		Weight	90 - 120 kg Enclosure weight may change depending on system optional features.
		Parameter	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 CO₂. 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 CO₂. TSAO utilises hydroxyl radicals generated within the analyser by combining oxygen, which passes through the ozone generator, with sodium hydroxide.

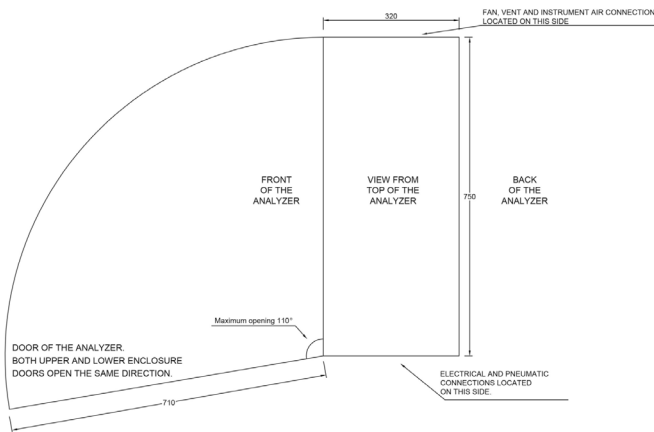
TOC

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



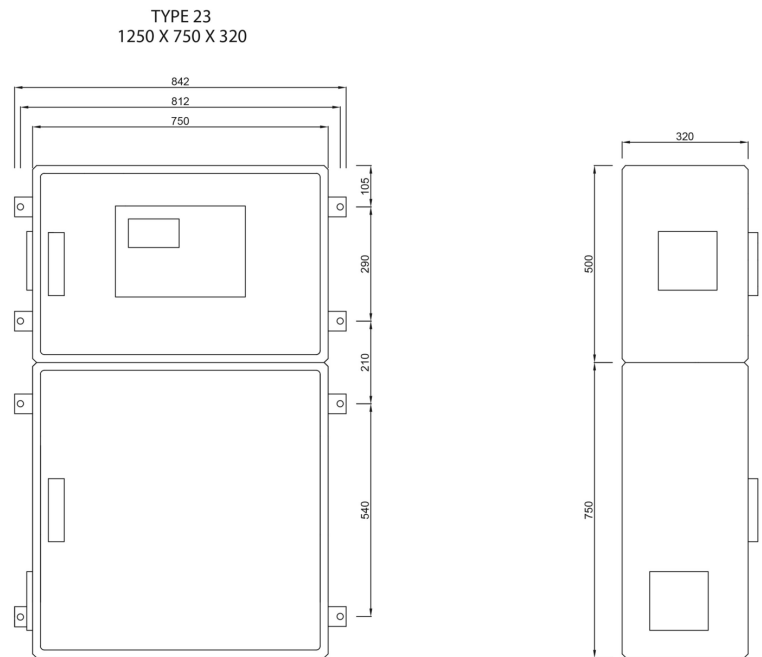
Dimensions

Access requirements

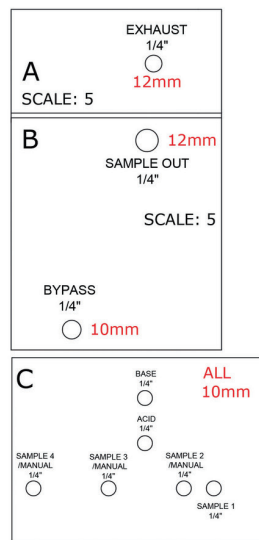


It is recommended that a clear space of 300mm is allowed around the BioTector in all directions. 1500mm should be free in front of the BioTector so that its access doors can easily be opened. Dimensions in mm.

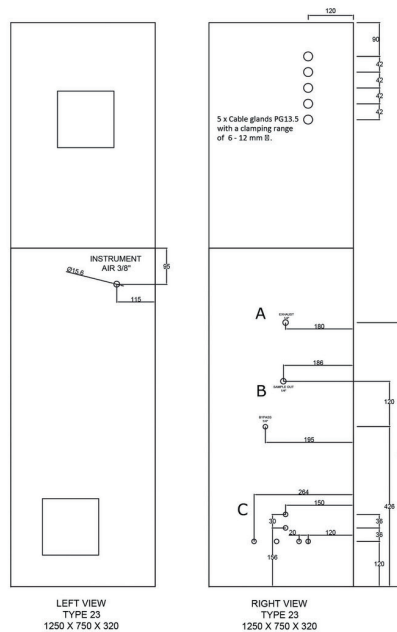
Enclosure



TOC connections



PRODUCTION NOTES:
DIMENSIONS IN RED ARE HOLES SIZES



Order Information

Instruments

B7BAAA052AABAA2 Hach BioTector B7000i Online TOC analyser, 0 - 10000 mg/L C, 1 channel, 230 V AC

B7BBAA052AABAA2 Hach BioTector B7000i Online TOC analyser, 0 - 20000 mg/L C, 1 channel, 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-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.