LAT Lambda Advanced Technology Ltd

# TOC Analysers

- Total Organic Carbon
- Total Carbon
- Total Nitrogen
- Inorganic Carbon
- Nonpurgeable Organic Carbon

TELEDYNE TEKMAR
Everywhereyoulook™

## Highly sensitive carbon and nitrogen analysis

TOC analysers are an essential requirement in many water treatment and quality control laboratories worldwide ranging from high purity water used in the pharmaceutical industry to municipal and industrial wastewater. Built on the foundations of the highly respected Dohrmann brand of TOC analysers, first introduced in 1960, Teledyne Tekmar offers a versatile range of TOC analysers that use either combustion or UV/Persulphate analysis with highly sensitive Non-Dispersive Infrared (NDIR) detection methods. These deliver high performance analysis at extremely competitive prices. While primarily used for water analysis, modules are available for solids solid analysis. Teledyne Tekmar combustion systems have add on modules for simultaneous TN analysis which feature their own chemiluminescence detector.

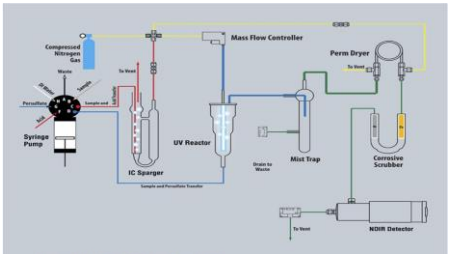
## Environmental and pharmaceutical standards

Teledyne Tekmar TOC products meet the requirements of many internationally recognised test methods in the environmental and pharmaceutical industries. Fully ISO9001 compliant, Lambda Advanced Technology can provide technical, service and calibration support to maintain the analysers in peak condition.

## Combustion analysis

High temperature catalytic combustion is used to oxidise carbon material into carbon dioxide for the analysis of waste water, drinking and surface water, ground water, sea water, and other hard to oxidize matrices. The combustion tube contains a bed of a proprietary platinum catalyst that promotes oxidation of organics.

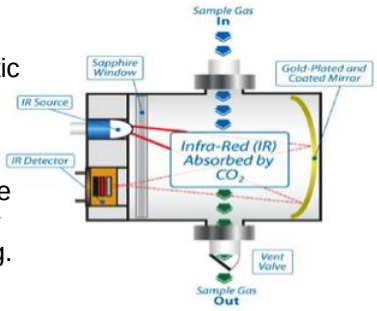
## UV/Persulphate analysis




In UV/Persulphate methods, UV light is the main oxidiser but the oxidation power of the reaction is enhanced by the addition of a persulphate compound. The UV/ Persulphate oxidation method is generally best suited for the pharmaceutical and biotechnological industries. This is primarily due to low instrument background and the large sample volumes that may be tested for TOC content.

## NDIR detection methods

The flowthrough NDIR detector used in the Lotix analyser is a single path, dual wavelength detector. It provides high stability with low zero and span drift and guarantees high accuracy over the entire measurement range thanks to automatic temperature and pressure compensation. In the patented pressurized NDIR detector used in the Torch and Fusion analysers, all of the carbon dioxide produced by the oxidation process is swept into the detector using a non-interfering, inert gas and not allowed to escape. This pressurization of the sample gas stream in the NDIR detector allows for increased sensitivity and precision by measuring the entirety of the oxidation products of the sample in a single reading.



## Lotix TOC/TN Analyser

The robust Lotix TOC combustion analyser has been designed to provide accurate and reliable measurement of carbon down to the ppb level at a price point affordable for most laboratories. Lotix can measure 0-20,000 ppm with a single 0.5 mL injection volume, virtually eliminating the need for multiple calibration curves. Lotix has been specifically designed to simplify and speed up TOC analysis, with an average run time of just 13-15 minutes for triplicate TOC, depending on concentration. A 30-position, conveyor style autosampler ensures rapid sample throughput. The new optional TN module for Lotix allows simultaneous carbon and nitrogen analysis with real-time results, with a nitrogen measurement range of 50 ppm – 100 ppm.

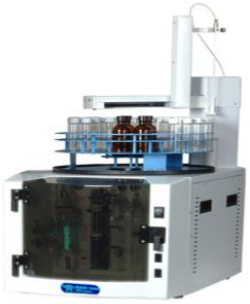
## LSS Boat


The LSS Boat Module is an ideal add-on to the Lotix TOC analyser. It uses high-temperature combustion to accurately measure carbon content in a variety of matrices, including soils, sludges, sediments, particulate-laden liquids and hard-to-oxidize samples. Analysis of 1 gram samples with up to 20mg carbon content can reduce errors associated with using small sample sizes. Switching between liquids and solids takes just minutes.

## Torch TOC/TN Analyser

The Torch Combustion TOC/TN analyser features the patented pressurized NDIR detector in combination with high temperature combustion to provide unprecedented detection levels of 50ppb to 30,000 ppm for carbon. A built-in autosampler, PC-control, automated calibration and intelligent dilution capabilities guarantee high sample throughput and productivity. Torch is a versatile instrument with an optional TN module that allows simultaneous analysis for carbon and nitrogen with detection levels of 50 ppb to 2,000 ppm for nitrogen.

## Fusion UV/Persulphate Analyser



The Fusion is a 5$^{th}$ Generation UV/Persulfate TOC Analyser. The newly designed UV reaction chamber provides improved release of carbon from even the most challenging matrixes. Also featuring the patented pressurized NDIR detector, Fusion is able to achieve unprecedented low-end sensitivity down to 0.2 ppb. The Fusion analyser and TekLink™ Software offer solutions for increased sample throughput while improving the reliability of the analysis data. With many applications in water purity determination, 21 CFR 11 functionality is included.

# LAT Lambda Advanced Technology Ltd

## Analytical Instrumentation, Consumables, Service and Support

**Lambda Advanced Technology** is a leading UK supplier of analytical instrumentation, consumables and accessories from some of the world's leading manufacturers. We're experienced analysts ourselves, so we understand what our customers want from their equipment - whether in routine quality control or the most demanding research environment.

Fully ISO 9001 compliant, LAT offers an extremely high level of post sales support, including a comprehensive range of service contracts for a wide range of analytical instruments to keep them calibrated and in tip-top condition.

- Preventative maintenance contracts
- Fully comprehensive 24/7 service contracts
- Emergency breakdown cover
- Calibration and certification of performance
- IQ/QQ/PQ qualification
- Basic and advanced operator training courses

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