

The PRIMACS^{SLC} TOC Analyzer



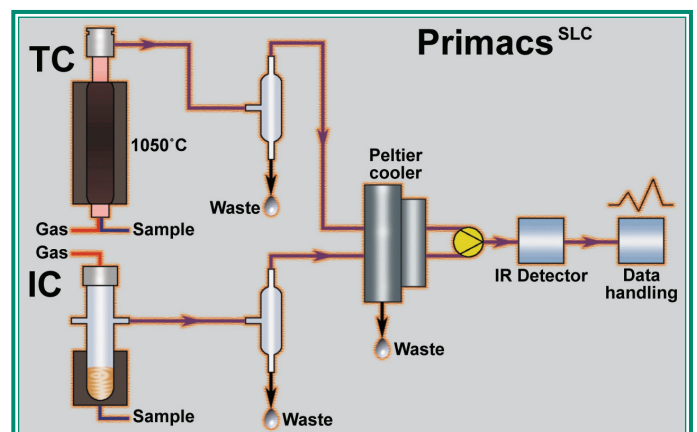
The Primacs^{SLC} Total Organic Carbon (TOC) analyzer provides a solution for true TOC analysis on solid and liquid samples. The analyzer is equipped with a unique sample handling device. This allows the user to determine the Total Carbon (TC) concentration as well as the Total Inorganic Carbon (TIC) concentration in a wide variety of samples such as soil, plant, solid waste, cement and even strong acid and alkaline solutions. The software automatically calculates the TOC by subtraction ($TOC = TC - TIC$).

The TC is analyzed by high temperature combustion at temperatures up to 1050°C. The carbon present is oxidized to carbon dioxide (CO₂) and dispersed into the carrier gas. After passing a Peltier cooler for moisture removal and a scrubber system, the CO₂ is measured by Non Dispersive Infrared detection (NDIR). TIC is analyzed successively by automatic acidification and purging. The inorganic carbon is then converted into CO₂ and measured.

The Primacs^{SLC} is equipped with an automatic back flush system, to avoid contamination of ambient air during analysis. Furthermore, it includes a vertical sample introduction system. This reduces maintenance of the system as the ashes, formed during the combustion, remain in the sample crucible. Also it prevents the direct contact of samples with the catalyst and the combustion tube.

Features:

- Measurement of TC, TIC and TOC
- Dual furnace design
- Back flush system for accurate low level analysis
- Re-usable quartz crucibles
- Sample weights up to 3 grams
- Automatic balance interfacing
- Unique vertical bottom-to-top sample



Flow diagram of the Primacs^{SLC}

Typical applications:

- Waste water
- Sludges and sediments
- Soil, Plant and Fertilizer samples
- Cement industry
- Mining industry
- Water with a high content of solid particles
- Swab sampling
- Strong acids and alkaline solutions



General Characteristics

Analytes	Total Carbon, Total Inorganic Carbon, Total Organic Carbon
Method	High temperature catalytic combustion, with Infra Red Detection (NDIR)
Samples	Solid and liquid samples - Soil, plant, sediment, sludge, waste, swab method for cleaning validation etc
Sample introduction	Unique vertical bottom to top sample introduction system
Features	Automatic balance interfacing
	Back flush system for accurate low level analysis
	Re-usable quartz crucibles
	Complies with international regulations such as ISO 10694, EN 13137 and EN 13639

Operational and Performance Characteristics

Measuring range	0.001 – 100%
Analytical Range	0.005 – 120 mg C Absolute
Analysis time	Approx. 3 - 5 minutes
Sample size	Solid samples: up to 3 gram (100-500 mg nominal)
Liquid samples:	up to 1000 mg (µl)
Furnace Temperature	1050°C
Reproducibility	< 2 % RSD, FSD (full scale deflection)
Data processing	Area calculation

Physical Characteristics

Gas Combustion	Oxygen analytical grade ≥ 3.5 (containing less than 10 ppm CO ₂)
Power requirements	110 – 120 V, 220 – 240 V, 50/60 Hz
Dimensions (hxdxw)	70 x 47 x 45 cm
Weight	45 kg

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