



The PRIMACS^{ATC} Total Carbon Analyzer for solid samples



The analysis of Carbon is one of the most important parameters analyzed in soil & plant, sediment, sludge and many others. The Skalar Primacs^{ATC} Analyzer allows fast and accurate analysis of Total Carbon by high temperature catalytic combustion.

Operating Principle

The samples are weighed into re-usable quartz crucibles and loaded onto the integrated autosampler. The analytical balance is interfaced with the software, which allows sample weights to be transferred automatically to the worklist by a simple mouse click.

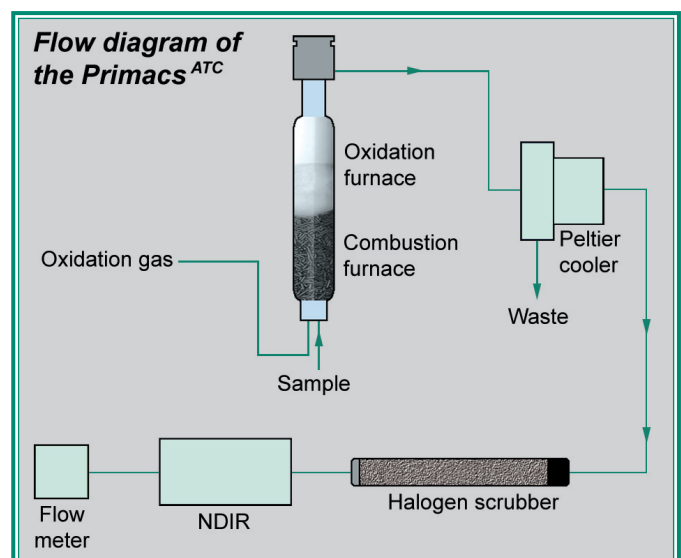
The unique vertical “bottom-to-top” sample introduction system lifts the samples into the high temperature combustion furnace. At 1050°C the samples are oxidized and the carbon in the sample is converted into CO₂. The CO₂ is measured by Non Dispersive Infra Red Detection (NDIR). The software displays the peaks in real-time and the results can easily be printed or exported to a LIMS system. After complete combustion, the sample crucible is automatically removed from the furnace. Any remains of the sample are removed from the combustion zone with the crucible, so no ash build-up will occur which reduces maintenance on the instrument.

The combination of a high temperature combustion furnace with a sensitive dual-range Infrared detector allows the Primacs^{ATC} to analyze samples containing carbon concentrations from low ppm levels to % levels.

Analyzing both solid and liquid samples

The Primacs^{ATC} can also be used to analyze liquid samples. A three step water-removal assures complete removal of condensate which allows liquid, sediment and sludge samples to be analyzed accurately. This makes the Primacs^{ATC} the perfect tool to automate a variety of analysis on a wide application range of solid and liquid samples. The high degree of automation assures an increased accuracy and considerable cost saving.

The Primacs^{ATC} complies with international regulations such as ISO 10694, EN 13137 and EN 13639.



Typical applications:

- Soil, Plant and fertilizer samples
- Waste incinerators
- Sludges and sediments
- Waste water plants
- Cement industry
- Mining industry
- Strong acids and alkaline solutions



General Characteristics

Analytes	Total Carbon
Method	High temperature catalytic combustion, with Infra Red Detection (NDIR)
Samples	Solid and liquid samples
	Food, soil, plant, sediment, sludge, waste, etc.
Autosampler	20 position integrated autosampler
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	0.01 – 120 mg C Absolute
Analysis time	Approx. 3 - 5 minutes
Sample size	Solid samples: up to 1 gram (100-300 mg nominal)
	Liquid samples: up to 200 mg (µl)
Furnace Temperature	1050°C
Reproducibility	< 1 % RSD, FSD (full scale deflection)
Data processing	Area calculation

Physical Characteristics

Gas	Combustion: O ₂ (99.9%)
Power requirements	110 – 120 V, 220 – 240 V, 50/60 Hz
Dimensions (hxdxw)	83 x 50 x 59 cm (32.7 x 19.7 x 23.2 inches)
Weight	56 kg (123 lb)

Skalar's Headquarters
Skalar
 P.O. Box 3237
 4800 DE Breda
 The Netherlands
 Tel. +31 (0)76 5486 486
 Fax. +31 (0)76 5486 400

USA
Skalar, Inc.
 5995 Financial Drive, Suite 180
 Norcross, GA 30071
 Tel. + 1 770 416 6717
 Toll Free: 1 800 782 4994
 Fax. + 1 770 416 6718

United Kingdom
Skalar (UK) Ltd.
 Breda House,
 Millfield Industrial Estate,
 Wheldrake, York, YO19 6NA
 Tel. + 44 (0)1904 444800
 Fax. + 44 (0)1904 444820

Germany
Skalar Analytic GmbH
 Gewerbestraße Süd 63
 41812 Erkelenz
 Germany
 Tel. + 49 (0)2431 96190
 Fax. + 49 (0)2431 961970

Austria
Skalar Analytic GmbH
 Am Anger 22
 A-7451 Oberloisdorf
 Austria
 Tel. + 43 (0)2611 2023411
 Fax. + 43 (0)2611 2023412

France
Skalar Analytique S.A.R.L.
 79, Avenue Aristide Briand
 94110 Arcueil
 France
 Tel. + 33 (0)1 4665 9700
 Fax. + 33 (0)1 4665 9506

Belgium
Skalar Belgium bvba
 Antwerpsestraat 126
 2850 Boom
 Belgium
 Tel. + 32 (0)3888 9672
 Fax. + 32 (0)3844 3441



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