

Coal



Steel



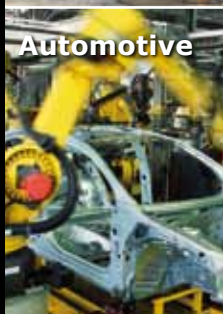
Soils



Construction
Materials



Automotive



Aviation



ELTRA
ELEMENTAL ANALYZERS



Excellence in Elemental Analysis

ELTRA's combustion analyzers are high-quality instruments for quick, precise and easy CHNOS analysis of solid materials. In contrast to other methods, such as ICP or XRF, sample preparation by milling is sufficient for combustion analysis. ELTRA analyzers cover a measuring range from a few ppm up to 100%.



Carbon / Sulfur Analysis

The carbon and sulfur content are crucial parameters in all organic (coal, coke) and inorganic (steel, cast iron, copper) samples. ELTRA offers tailor-made solutions for a wide range of samples and concentrations. Thanks to their robust design, ELTRA analyzers are also suitable for use in production environments. The ELTRA CS-2000 is the only analyzer in the market for organic as well as inorganic samples. For this purpose, the CS-2000 is equipped with both an induction and a resistance furnace (**ELTRA Dual Furnace Technology**).

With ELTRA's unique Dual Furnace Technology!



Carbon / Sulfur Analyzers

CS-580 | CS-800 | CS-2000

With ELTRA's CS series a wide range of samples such as coal, coke, cement, steel, cast iron, titanium and ceramics can be analyzed for their carbon and sulfur content. CS analysis with ELTRA instruments is quick, precise and convenient:

- Measuring ranges can be adapted to the user's requirements
- Analyzers with induction or resistance furnace (also available as combination)
- Measuring ranges from ppm level up to 100 %
- Variety of options, such as automatic sample loader

Carbon / Sulfur Analyzer CS-2000
with „Autoloader“

ELTRA combustion analyzers at a glance

	Carbon / Sulfur Analyzers			Thermo-gravimetry	Carbon Dioxide / Water Analyzer
	CS-580	CS-800	CS-2000	THERMOSTEP	CW-800M
Sample material	Coal, coke, oil, plastics, rubber, soil	Alloys, carbides, cast iron, cement, ceramics, copper, ores, steel	Alloys, carbides, cast iron, cement, ceramics, copper, ores, steel and coal, coke, oil, plastics, rubber, soil	Coal, coke, food, plants, plastics, refuse-derived fuels, tobacco	Cement, gypsum, soils, waste
Combustion temperature	In steps of 1°C adjustable up to 1,550°C, with resistance furnace	2,500°C with induction furnace	1,550°C and 2,500°C with induction and resistance furnace	In steps of 1°C up to 1,000°C with / without holding time	In steps of 1°C up to 1,000°C with / without holding time
Options include sample loaders, dispensers, carrier gas cleaning, and a module for TIC determination. The determination of hydrogen in organic samples is possible with the CHS configuration of the CS-580.					

Organic Analysis

In addition to carbon, sulfur and hydrogen analysis in organic samples ELTRA also offers solutions for thermogravimetric analysis and fractional carbon analysis (TC, TOC, TIC) to reliably characterize complex samples such as coal, soil or waste.



Placing and removing the crucible lids during analysis

Thermogravimetry

THERMOSTEP

Moisture, volatiles and ash content are important parameters of fuels, food, plastics and many other products. The THERMOSTEP automatically determines these parameters in one single analysis cycle. It places and removes the crucible lids during analysis, thus ensuring correct determination of volatile components.

- Flexible ramps from 50 to 1,000 °C
- Large sample volumes up to 5 g
- Simultaneous analysis of 19 samples
- Flexible operation under air, oxygen, nitrogen atmosphere

Carbon Dioxide / Water Analyzer

CW-800 I CW-800M Multiphase

The determination of total organic carbon (TOC) is required for soils, waste, cement and ores. For this application ELTRA offers the CW-800 analyzers which work with different temperatures.

- Simultaneous determination of CO₂ and H₂O
- Powerful resistance furnace with quartz tube up to 1,000 °C
- TOC analysis without addition of acids
- CW-800: Measurement with constant temperature
- CW-800M: Measurement with temperature intervals (Ramping)



Carbon Dioxide / Water Analyzer CW-800M Multiphase

Applications

Coal



ELTRA offers a wide range of innovative analyzers for the characterization of coal. The CHS-580 is designed for simultaneous carbon, hydrogen and sulfur determination in organic samples such as coal, coke and oil. The THERMOSTEP analyzer measures parameters such as moisture, volatiles and ash fully automatically in one analysis cycle.

Steel



The concentration of the elements C, H, N, O, S in steel influences material properties such as malleability or corrosion behavior. Therefore, precise elemental analysis for quality control in production and final inspection is indispensable. With the ONH-2000 and CS-800 ELTRA offers powerful analyzers for the complete CHNOS analysis in steel, metals, and other inorganic sample materials (e. g. ceramics).

Construction Materials



For the production of construction materials both the fuels used in the process and the final product need to be analyzed. With the CS-2000 ELTRA offers a powerful analyzer for carbon and sulfur analysis in both organic and inorganic samples. For the determination of TIC and TOC the TIC module or the CW-800 analyzer can be used.

Inorganic Analysis

ELTRA offers a comprehensive product line for the characterization of inorganic samples (such as steel, aluminum, ceramics), ranging from classic CHNOS analysis to surface carbon determination.

Oxygen / Nitrogen / Hydrogen Analyzers

ON-900 | OH-900 | ONH-2000

By using an electrode impulse furnace with temperatures in excess of 3,000 °C it is even possible to analyze the element concentrations in refractory metals and alloys.

- ONH analysis for metals, alloys, ceramics
- Fractional analysis is supported
- Optional furnace for determination of diffusible and residual hydrogen
- Analysis of granulates without capsules



Hydrogen Determination

H-500

With the H-500 the hydrogen content is determined by hot extraction, completing ELTRA's product range with a separate analyzer for the measurement of diffusible and residual hydrogen.

- High-performance thermal conductivity cell
- Calibration with standards or gas
- Precise measurement results, also for low concentrations



Surface Carbon Analyzer

SC-800

Along with total carbon analysis in an induction furnace, the automotive and steel industry also require analysis of surface carbon. The SC-800 is characterized by the following features:

- Flexibility in sample size (32 x 145 mm max.)
- Wide measurement range thanks to a max. of two infrared cells
- Quartz tube furnace up to 1,000°C, adjustable in steps of 1°C
- Analysis time of 60 to 300 seconds

Free test measurements

Our professional team of application specialists will find the best possible solution for your analysis requirements. Measuring your samples in our inhouse application laboratory, they will determine a suitable analyzer and configuration. This service is free-of-charge.

For more information please visit our website.

www.eltra.org



ELTRA GmbH is part of the German-Dutch Verder Group and has been one of the leading manufacturers of elemental analyzers for more than 30 years. With a global network of distributors, ELTRA offers excellent local support and service.

ELTRA
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