

# ELTRAC<sup>®</sup> ELEMENTAL ANALYZERS

part of **VERDER**  
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## ELEMENTRAC<sup>®</sup> CS-*i*

NEW



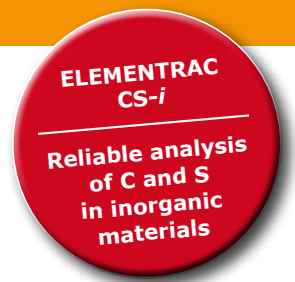
## Precise Carbon / Sulfur Analysis by Inductive Combustion

The new ELEMENTRAC CS-*i* was developed for accurate and safe analysis of carbon and sulfur. It uses an induction furnace for sample combustion as well as highly sensitive IR cells to determine concentrations of C and S. The measuring range may be adapted to the user's specific requirements.

The CS-*i* reliably analyzes inorganic materials like steel, cast iron, copper, ore, cement, ceramics, glass.

# Carbon / Sulfur Analyzer

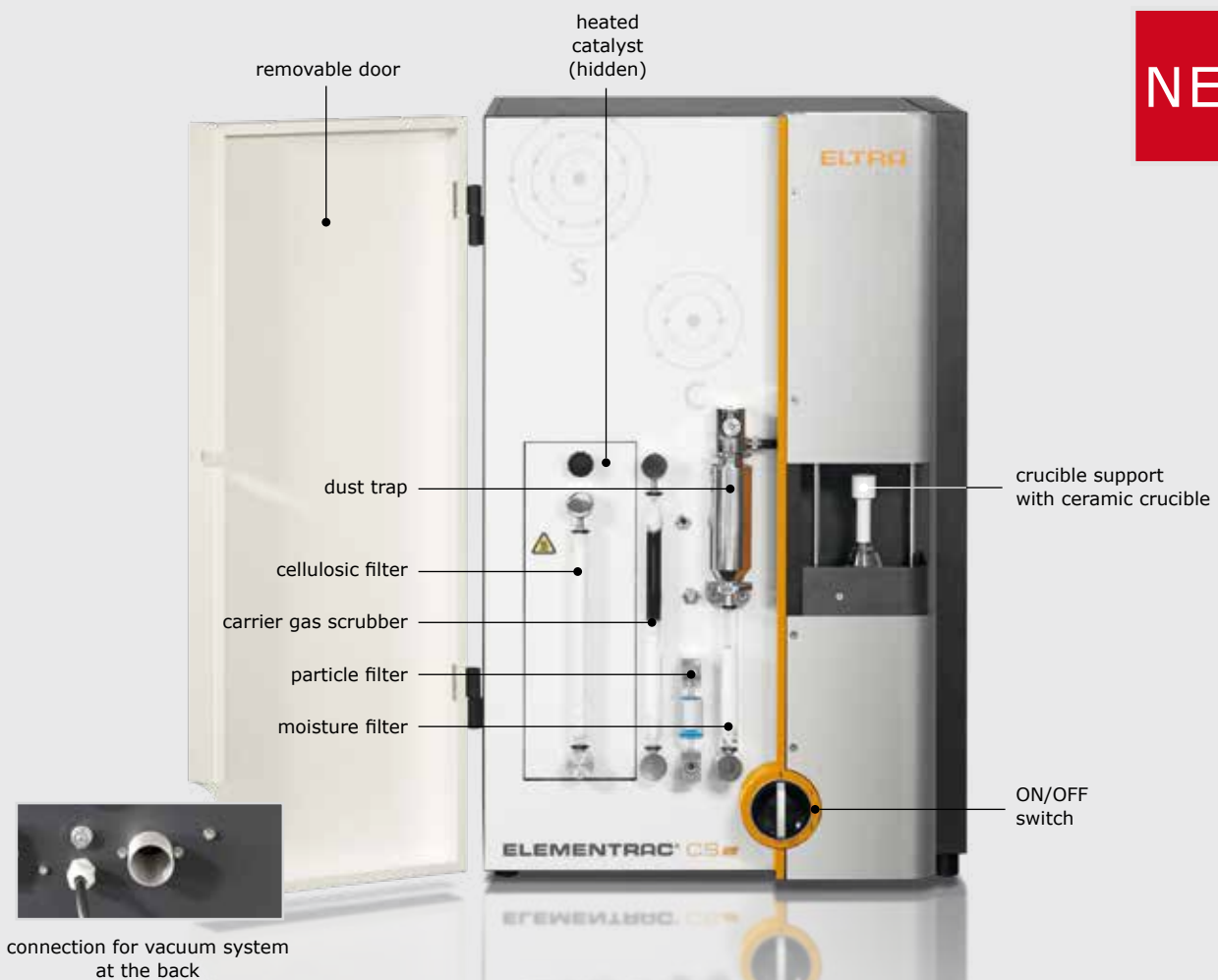
ELEMENTRAC® CS-i



## Superiority in Detail – the new ELEMENTRAC® CS-i

The robust ELEMENTRAC CS-i offers some new performance features which make the analysis process even more easy and convenient:

- ▶ **Freely selectable configuration of each IR cell**
- ▶ **New vacuum system ensures higher measurement precision and stability**
- ▶ **Heated dust trap allows for improved sulfur detection**
- ▶ **Optimized catalyst reactor permits more accurate carbon detection**
- ▶ **Control of induction performance provides more precise analysis of samples with low melting temperature**
- ▶ **New ELEMENTS software with comprehensive analysis and diagnosis tools**



ELTRA puts a special focus on user convenience. All chemicals which require regular replacement are easily accessible at the front of the analyzer but remain conveniently hidden behind a door during routine operation.



## NEW: ELEMENTS Software

The comprehensive functionalities of the new ELEMENTS software include statistics, groupings, reports and diagnosis tools for the ELEMENTRAC analyzers. A central analysis window is the starting point from which subordinated windows and functions, like settings or maintenance, may be selected, ensuring quick and simple operation while providing optimum clarity. Sensitive functions like calibration require a defined, password-protected user level. The user may program individual service instructions.

The various control and monitoring functions of the ELEMENTS software ensure precise, traceable and reliable analysis results.

### Benefits at a glance

- ▶ **Comprehensive diagnosis and test functions**
- ▶ **Quick and easy operation via central analysis window**
- ▶ **A selection of application settings helps to improve repeatability of analysis results**
- ▶ **Convenient report designer and LIMS export function**
- ▶ **PC-controlled segmented leakage test**
- ▶ **Password-protected user levels**
- ▶ **Individually programmable service instructions**
- ▶ **Multilingual menu guidance**



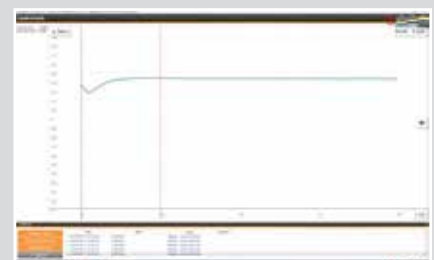
### Clearly structured and convenient to use



Maintenance and diagnosis window




Analysis window



PC-controlled leakage test

# Specifications

CS Analyzer ELEMENTRAC® CS-i	
	
<b>Measuring ranges*</b>	<b>500 mg sample</b>
Carbon*	0.0001% – 12%
Sulfur*	0.0001% – 9%
<b>General Data</b>	
Analysis time	40 seconds (nominal)
Calibration	Solid standards
Detection	Infrared absorption (individual measuring range)
Typical samples	steel, cast iron, copper, ore, cement, alloys, soil, glass
Reagents	– Magnesium perchlorate – Sodium hydroxide on inert carrier – Platinum-based catalyst
Power supply	230 V AC ±10 % 50/60 Hz max. 15 A 3 450 W
Required gasses	– Oxygen 99.5 % (2 – 4 bar) – Compressed air (4 bar)
Interface	USB
* Measuring range depends on selected configuration	

# Variety of configurations

The ELEMENTRAC CS-i may be equipped with infrared cells of different sensitivity for carbon and sulfur, according to the customer's requirements. Thus, it is possible to precisely measure both high and low element concentrations.

In contrast to analyzers of other manufacturers, the ELEMENTRAC CS-i is not only available in standard configuration with two IR cells for carbon and sulfur respectively, but also in individual configurations with single IR cells. Defined measuring ranges (for example, high carbon content in cast iron, low sulfur content in steel) can be freely combined, thus allowing for economic configuration of the CS-i.

# Options

- ▶ Detectors with IR path of massive gold resist aggressive halogens and acids
- ▶ Autoloader with 36 or 130 positions for extensive applications
- ▶ Halogen trap absorbs fluorides or chlorides
- ▶ Carrier gas purification

# Typical Analysis Results

CS Analyzer ELEMENTRAC® CS-i				
Sample weight approx. 500 mg, 10 measurements each				
Matrix	Reference material	Reference material	Carbon	Sulfur
Ore	AR 4005 (Lot 120602)	certified:	1.42% ±0.10	1.41% ±0.12
		<b>measured with CS-i:</b>	<b>1.42% ±0.01</b>	<b>1.41% ±0.01</b>
Cast iron	ELTRA 92400-3090 (LOT 514D)	certified:	1.99% ±0.06	0.0162% ±0.0014
		<b>measured with CS-i:</b>	<b>1.99% ±0.018</b>	<b>0.0162% ±0.0006</b>
Stainless steel	ECRM 284-3	certified:	0.0025% ±0.0004	0.0066% ±0.0006
		<b>measured with CS-i:</b>	<b>0.0025% ±0.0002</b>	<b>0.0065% ±0.0002</b>

The values above show that the ELEMENTRAC CS-i determines the C/S content in reference materials with considerably better precision than certified!

**ELTRA**®  
ELEMENTAL ANALYZERS



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