inductar EL cube

Groundbreaking analyzer and technology for CS/ONH determination

High sensitivity

High data quality

Extreme durability

Great flexibility



elementar
EXCELLENCE IN ELEMENTS

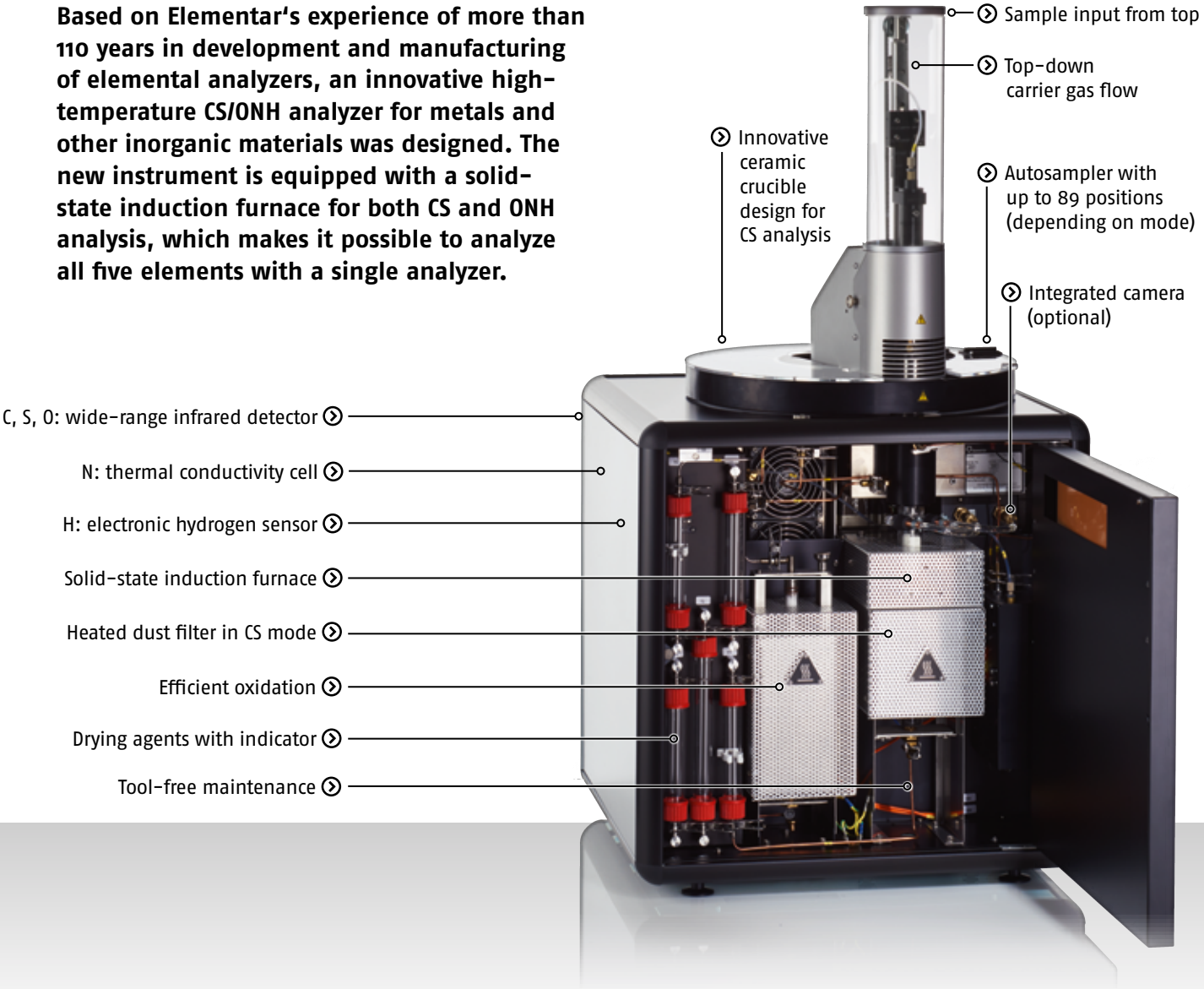
inductar EL cube

The world's first 5 element analyzer for metals

KEY FEATURES

- Industry-leading flexibility to cover all applications
- Manual or automated with up to 89 sample positions for secure and unattended operation
- Solid-state technology for long-living induction furnace
- Gas-tight clamp connection system ensures easy maintenance
- Intuitive and feature-rich software makes operator's life incredibly simple

Based on Elementar's experience of more than 110 years in development and manufacturing of elemental analyzers, an innovative high-temperature CS/ONH analyzer for metals and other inorganic materials was designed. The new instrument is equipped with a solid-state induction furnace for both CS and ONH analysis, which makes it possible to analyze all five elements with a single analyzer.



Innovative ideas

For the first time, a powerful but energy-efficient solid-state induction furnace enables extremely high temperatures up to 3,000 °C. Combined with high-performance detectors, the inductar® EL cube shows excellent accuracy and outstanding reliability.

Automated Analysis

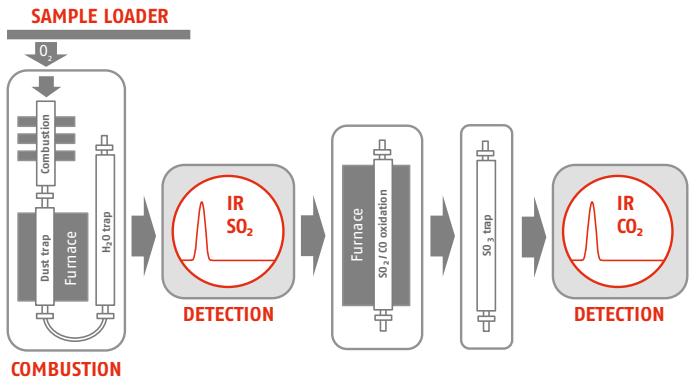
The fast and precise autosampler with its innovative robotic arm (patent pending) allows unattended operation. The sequence of all sample positions is user configurable and can be changed at any time. Automation is further accomplished by automatic weight transfer from balance, barcode reader support and easy LIMS integration. The inductar EL cube is easy to use and configurable to fulfill all requirements in R & D, quality control, and high-throughput laboratories.

CS ANALYSIS

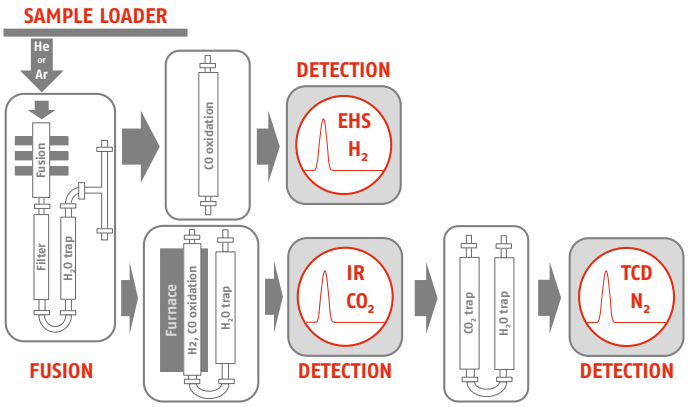


In a pure oxygen atmosphere, the sample is introduced to the induction furnace. Unlike conventional systems, the inductar series feeds the sample from the top. The high temperature in the furnace converts the traces of sulfur and carbon from the sample into sulfur dioxide, carbon monoxide and carbon dioxide. After detection of the sulfur dioxide using an IR detector, the carbon monoxide is quantitatively oxidized to carbon dioxide. After removal of remaining oxidized sulfur trioxide the carbon dioxide is detected via a second IR detector.

CS Mode



ONH Mode



ONH ANALYSIS



For the first time, it is technologically possible to use induction heating also for ONH analysis. By using smart instrument design and modern induction technology, the required temperatures of up to 3,000 °C can be reached directly at the sample. The temperature ramping function enables the user to also distinguish between different element fractions and quantify them. In combination with new detection techniques (patent pending), sample introduction procedures and gas flow schematics, a simple to use instrument enables the user to reach the best detection limits.

Metal analysis has never been more flexible!

CS MODE

SAMPLE	CARBON [%]	SULFUR [%]
MARAGING STEEL	0.0014 ± 0.0001	0.0025 ± 0.0001
CARBON STEEL	0.1738 ± 0.0010	0.1309 0.0022
FERRO MANGANESE	0.3469 ± 0.0011	0.0045 ± 0.0008
CAST IRON	2.8301 ± 0.0073	0.2420 ± 0.0006

ONH MODE

SAMPLE	OXYGEN [%]	NITROGEN [%]	HYDROGEN [%]
STEEL	0.0052 ± 0.0004	0.0038 ± 0.0001	0.0005 ± 0.0001
STEEL POWDER FOR 3D PRINTING	0.0526 ± 0.0012	0.0063 ± 0.0005	0.00049 ± 0.00004
TITANIUM	0.4853 ± 0.0043	0.0270 ± 0.0005	0.0127 ± 0.0002
COPPER (Cu)	0.0327 ± 0.0013	0.0027 ± 0.0001	0.0003 ± 0.0001

EASE OF USE

The inductar EL cube is optimized to significantly simplify the daily routine operation. Clearly arranged, easily accessible system components and the long-life combustion tubes minimize maintenance efforts. The tool-free clamp connection system ensures a reliably leak-tight instrument at any time. Thus, customers can enjoy smooth analysis and low instrument-handling time.

QUALITY YOU CAN TRUST

Our consumables and spare parts are designed to meet the highest quality standards and reliability. They are certified and validated in accordance with international norms and standards. We do not compromise on quality of our parts and chemicals – this is the prerequisite of a guaranteed long lifetime of our instruments.

IDEAL SOLUTION FOR

- Research institutes
- Foundries
- Steel mills
- Automotive industry
- Aerospace industry

SAMPLE TYPES ANALYZED

- Steel
- Cast iron
- Refractory metals
- Ceramics
- Other metals and inorganics

High sensitivity

Outstanding sensitivity thanks to high performance, state-of-the-art technology.

High data quality

Outstanding precision and accuracy through high performance combustion/complete fusion. Longterm stability of calibration.

Extreme durability

Outstanding robustness and longevity thanks to state-of-the-art technology.

Great flexibility

Wide range of materials analyzable and all five elements (CS/ONH) detectable with one device only.

Elementar – your partner for excellent elemental analysis

Elementar is the world leader in high performance analysis of organic and inorganic elements. Continuous innovation, creative solutions and comprehensive support form the foundation of the Elementar brand, ensuring our products continue to advance science across agriculture, chemical, environmental, energy, materials and forensics markets in more than 80 countries.

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