vario EL cube

Experience the gold standard

Great flexibility

High data quality

Extreme durability

Ease of use



elementar

EXCELLENCE IN ELEMENTS

vario EL cube

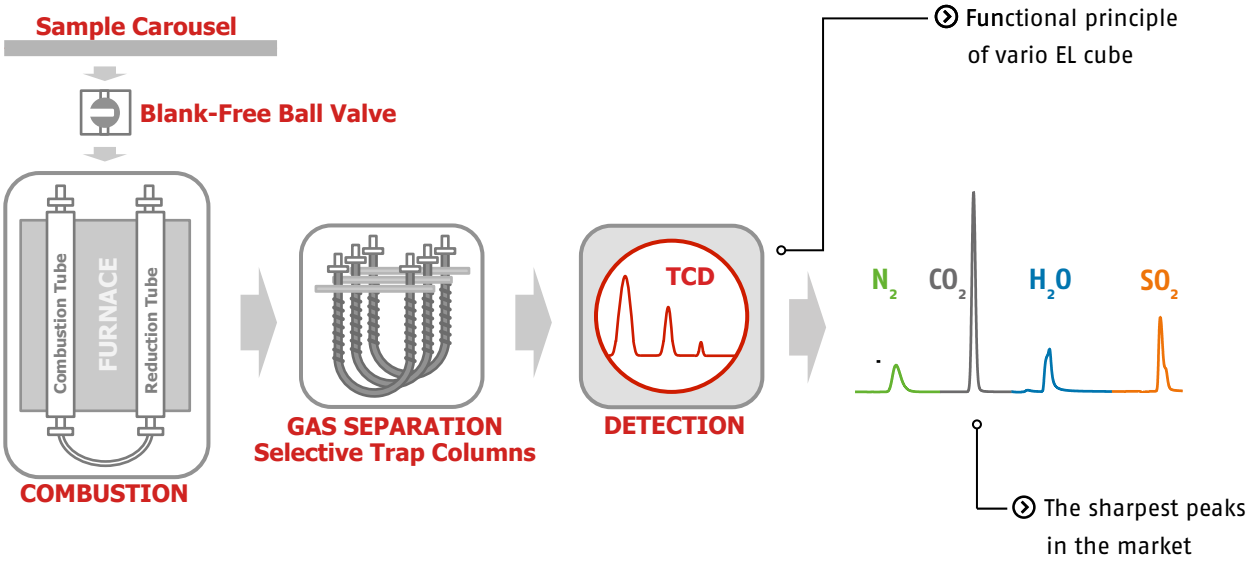
Enjoy unsurpassed performance and versatility

KEY FEATURES

- Industry-leading performance and versatility
- C / N elemental ratios of up to 12,000 : 1
- Outstanding robustness
- 10 year warranty on furnace and thermoconductivity detector cell
- Integrated 80 position autosampler as standard
- Patented ball valve for blank-free sample transfer
- Argon as alternative carrier gas

With more than 100 years of experience in elemental analysis, our demands placed upon modern elemental analysis are high. The result is vario EL cube – the definition of an elemental analyzer. The instrument can determine samples with even the most challenging C / N elemental ratios of up to 12,000 : 1 with highest accuracy.

This can be achieved thanks to patented Advanced Purge and Trap technology, provided exclusively by Elementar. From pharmaceuticals in the low microgram range to soil samples in the three-digit milligram range – vario EL cube will perfectly fit all your needs in elemental analysis.



Outstanding sample flexibility

The large dynamic range of the vario EL cube allows measurement of samples in the low microgram as well as in the two-digit milligram range. The possible applications range from testing pure organic material (e. g. gasoline) to sediments with only trace amounts of organic material. Even fluorinated samples can be measured without any compromises. Together with its outstanding precision, the vario EL cube is a versatile and reliable solution for a wide range of sample types.

One instrument for multiple tasks

For the determination of very low S concentrations down to 2 ppm, the vario EL cube can be equipped with an optional IR detector. Even total inorganic carbon (TIC), oxygen and chlorine can be detected after conversion of the instrument. All optionally available conversion kits allow upgrading the vario EL cube at any time for special applications.

HIGH-TEMPERATURE COMBUSTION



All elemental analyzers from Elementar are designed for minimal sample preparation and secure, unattended 24 / 7 operation. They use the safe, simple and environmental friendly high-temperature combustion principle. The proven Elementar furnace technology combined with efficient oxygen dosing guarantees quantitative conversion of the sample to measuring gas – a prerequisite for highly precise and matrix-independent elemental analysis.

Reliable results

The vario EL cube guarantees outstanding precision and accuracy through quantitative combustion via controlled oxygen jet-injection directly into the active zone. This leads to matrix-independent results even for samples which are difficult to combust. There is no need for time-consuming recurrent calibrations, drift corrections or costly matrix-specific standards. In combination with the state-of-the-art thermoconductivity detector, the instrument provides an elemental detection limit of < 40 ppm.

Future-proof investment

Thanks to the outstanding robustness and longevity, all analyzers include a 10 year warranty on high temperature combustion furnace and thermoconductivity detector (TCD) cell. With the confidence that you will receive the highest level of technical support from our experienced team, Elementar provides spare parts for a minimum of 10 years after the end of production. This results in outstanding low total cost of ownership and gives customers confidence in return of investment.

ADVANCED PURGE AND TRAP (APT)



Elementar's proprietary APT technology is a unique high performance chromatographic technique for the determination of nonmetal elements. The fractionation-free APT technology is capable of resolving e. g. C / N ratios of up to 12,000 : 1. The distinct peak separation assures absolutely reliable and troublefree data acquisition. The data analysis can therefore be easily automated for larger sample amounts while maintaining highest possible data quality. Elementar's unique APT columns are optimized to provide unmatched robustness and longevity compared to GC columns. Furthermore, they can be loaded up to 20-fold higher, resulting in outstanding sample flexibility. Analysis of samples with an absolute carbon content of up to 40 mg is therefore possible – even in CHNS mode. Thus, customers enjoy industry-leading accuracy, sensitivity and versatility.

Elemental analysis has never been easier!

SAMPLE	CARBON [%]	HYDROGEN [%]	NITROGEN [%]	SULFUR [%]
SULFANILIC ACID	41.68 ± 0.02	4.04 ± 0.02	8.05 ± 0.02	18.47 ± 0.02
WHEAT FLOUR	39.40 ± 0.05	6.62 ± 0.01	1.09 ± 0.003	0.07 ± 0.003
SOY EXTRACT	43.31 ± 0.08	6.30 ± 0.01	12.79 ± 0.02	0.48 ± 0.03
AEOLIAN SEDIMENT	1.515 ± 0.001	0.30 ± 0.02	0.03 ± 0.007	0.0067 ± 0.0006
LUVISOL AH HORIZON	2.02 ± 0.06	0.45 ± 0.02	0.237 ± 0.006	0.032 ± 0.002
JET FUEL*	86.22 ± 0.09	13.12 ± 0.01	0.004 ± 0.003	0.104 ± 0.014
FUEL OIL*	85.79 ± 0.05	10.71 ± 0.01	0.366 ± 0.003	2.373 ± 0.012
WOOD PELLETS	46.2 ± 0.07	6.33 ± 0.06	0.08 ± 0.01	0.006 ± 0.0004

*10 µL liquid injection with vario liquid sampler
Sample weight between 10–100 mg

HIGH PRECISION HYDROGEN MEASUREMENTS

The vario EL cube is optimized for highly precise hydrogen concentration measurements. Through detection with a reliable thermoconductivity detector, possible interferences and imprecisions of H_2O measurements encountered with infrared detection are avoided. Furthermore, all tubing in contact with water is actively heated to avoid condensation of traces of water inside the system and thus misquantification.

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

- Chemical contract laboratories
- Pharmaceutical laboratories
- Quality control laboratories
- Academic research groups

SAMPLE TYPES ANALYZED

- Chemicals
- Pharmaceuticals
- Polymers
- Petroleum products
- Soil

Great flexibility

Wide range of optional conversion kits available for special applications. Upgradeable at any time.

High data quality

Outstanding precision and accuracy through high performance combustion. Matrix-independent results. Longterm stability of calibration.

Extreme durability

Outstanding robustness and longevity thanks to state-of-the-art technology. 10 year warranty on furnace and TCD cell.

Ease of use

Easy, labor-saving instrument operation and sample preparation. Simplified maintenance.

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.

Elementar Analysensysteme GmbH
Elementar-Straße 1 · 63505 Langenselbold (Germany)
Phone: +49 (0) 6184 9393-0 | info@elementar.de | www.elementar.com

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