

vario EL cube

Meet the gold standard



Great flexibility



High data quality



Extreme durability



Ease of use

vario EL  cube

vario EL cube

Enjoy industry-leading performance and versatility

KEY FEATURES

- Industry-leading performance and versatility
- C/N elemental ratios of up to 7000 : 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

Outstanding sample flexibility

The large dynamic range of the vario EL cube allows measurement of samples in the micro- (below 1 mg) as well as in the semi-macro range. Possible applications range from testing pure organic material (e.g. fine chemicals) to sediments with only trace amounts of organic material. Even fluorinated samples can be measured without any compromises using an optionally available kit. 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. 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.

The vario EL cube is designed to offer industry-leading versatility in elemental analysis. The instrument can determine samples with even the most challenging C/N elemental ratios of up to 7000 : 1. This is achieved thanks to the Advanced Purge

and Trap technology provided exclusively by Elementar. The vario EL cube addresses all customer needs with sample volumes and weights up to 50 mg organic sample or up to 1 g soil.

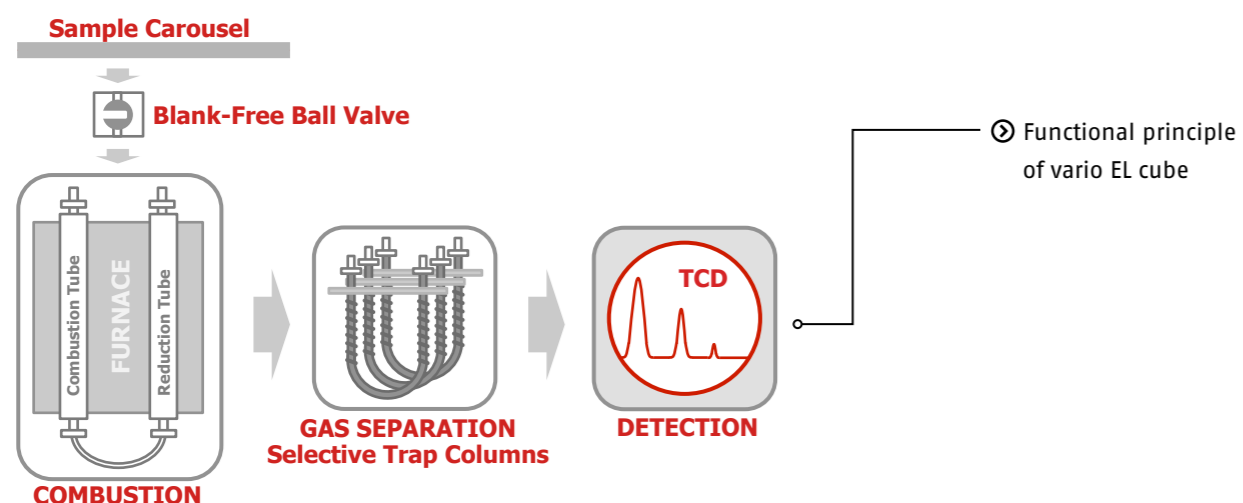
Reliable results

The vario EL cube guarantees outstanding precision and accuracy through controlled oxygen jet-injection directly into the active zone. This leads to matrix-independent results for even hard to digest samples. Together with the state-of-the-art thermoconductivity detector the instrument provides a lower detection limit of < 40 ppm.

ADVANCED PURGE AND TRAP



Elementar's proprietary APT technology is the leading chromatographic technique for the determination of non-metal elements. In conjunction with the detection of the complete combustion gas without gas splitting and dilution, the APT technology is capable of resolving e.g. C/N ratios of up to 7000 : 1. The distinct peak separation assures absolutely reliable and trouble-free data acquisition. The data analysis can therefore be easily automated for larger sample amounts while maintaining highest possible data quality and accuracy. Elementar's unique purge and trap columns are optimized to provide unmatched robustness and longevity compared to GC columns. Furthermore, they can be loaded up to 250-fold higher, resulting in outstanding sample flexibility. The analysis of samples with an absolute carbon content of up to 40 mg is therefore possible. Thus, customers enjoy industry-leading accuracy, sensitivity and versatility.



Future-proof investment

Thanks to the outstanding robustness and longevity for all elemental analyzers a 10 year warranty on furnace and thermoconductivity detector (TCD) cell is granted. With our well-known long term oriented dedication to technical support 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.

Elemental analysis has never been that easy!

SAMPLE	CARBON [%]	HYDROGEN [%]	NITROGEN [%]	SULFUR [%]
SULFANILIC ACID	41.68 ± 0.02	4.04 ± 0.02	8.05 ± 0.02	18.47 ± 0.02
WHEAT FLOWER	39.40 ± 0.05	6.62 ± 0.01	1.09 ± 0.003	0.07 ± 0.003
SOY ISOLATE	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 VLS
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 H₂O measurements encountered with infrared detection are avoided. Furthermore, all tubing in contact with water are heated to avoid condensation of trace water inside the system and thus low results.

TRUSTFUL QUALITY

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. Whether it is FDA 21 CFR part 11, CE or ISO 9001 — Elementar applies the tightest international regulations governing quality control and product safety.

IDEAL SOLUTION FOR

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

SAMPLE TYPES ANALYZED

- Chemicals
- Pharmaceuticals
- Polymers
- Petroleum products
- Soils



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.

Elementargroup – your partner for elemental analysis

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

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