

# rapid OXY cube

*Get OXYted about oxygen analysis*



High sensitivity




High data quality



High sample throughput



Extreme durability

rapid OXY  cube

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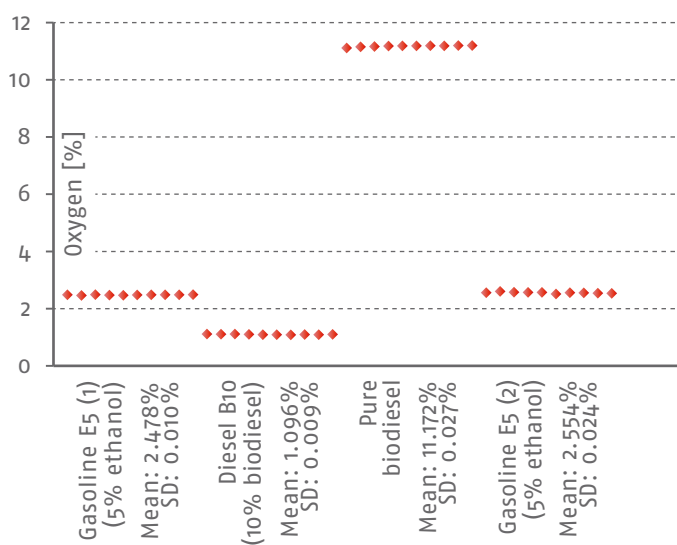
*Oxygen analysis has never been more reliable!*

## KEY FEATURES

- 1450 °C furnace temperature for quantitative, matrix-independent pyrolysis
- Industry-leading performance
- Blank-free oxygen detection
- Outstanding robustness
- 10 year warranty on thermo-conductivity detector cell
- Integrated 120 position autosampler as standard
- Patented ball valve for blank-free sample transfer

Precise oxygen analysis does not have to be complicated. The new rapid OXY cube® perfectly adapts to your analytical demands in oxygen concentration measurement. With our patented backflush technology, you no

longer have to worry about distortion of your analytical results through interfering gases. The new rapid OXY cube combines highest accuracy with unmatched operating comfort and great robustness.



② Reproducibility of oxygen concentration measurement of liquid fuel samples using rapid OXY cube equipped with vario liquid sampler (VLS).

## Reliable results

The rapid OXY cube ensures highly reliable results through its innovative backflush technology. Analytical results are always accurate and precise, as gaseous interferences from the pyrolysis reactor are excluded. This results in measurement accuracies of  $< \pm 0.1\%$ .

## Great flexibility

The rapid OXY cube utilizes superior purge and trap separation of the analysis gas, thus creating a large dynamic measurement range. Sample weights in the sub-milligram as well as in the three-digit milligram range are possible. In addition, the instrument can be easily retrofitted to measure liquid samples.

## High operating comfort

The rapid OXY cube stands for unmatched user-friendliness. The instrument is designed for safe unattended overnight measurements. During operation all sample positions are accessible and reloadable at any position and time. The feature-rich software and a high level of automatization guarantees ease of use for all users.

## Extreme durability

The rapid OXY cube is characterized by a low consumption of consumables. The pyrolysis reactor can be used for several thousand samples. This reduces maintenance effort and increases the system uptime. In combination with a low carrier gas consumption, low operating costs are guaranteed.

### PYROLYSIS



Oxygen concentration analysis relies on the conversion of sample oxygen to carbon monoxide following the temperature-dependent Boudouard equilibrium, which favors the formation of carbon monoxide over carbon dioxide with increasing temperature during pyrolysis. Therefore, a full conversion of sample oxygen to carbon monoxide requires furnace temperatures in excess of 1400 °C. The rapid OXY cube is a designated elemental analyzer for extremely precise and matrix-independent oxygen concentration measurement via high temperature pyrolysis at 1450 °C.

### ADVANCED PURGE AND TRAP



Elementar's proprietary APT technology is a unique high performance chromatographic technique for the determination of non-metal elements. The fractionation-free APT technology is capable of resolving even extreme elemental ratios. 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. Elementar's unique APT columns are optimized to provide unmatched robustness and longevity compared to GC columns. Furthermore, the rapid OXY cube can be loaded up to 20-fold higher, resulting in outstanding sample flexibility. The analysis of samples with an absolute oxygen content of up to 6 mg is therefore possible. Thus, customers enjoy industry-leading accuracy, sensitivity and versatility.

# Oxygen analysis has never been more precise!

SAMPLE	O [%]	SD [%]
GASOLINE E5*	2.478	0.010
DIESEL B10*	1.096	0.009
PURE BIODIESEL*	11.172	0.027
OIL*	0.34	0.03
COKE	3.93	0.05
COAL	6.32	0.08
1-HEXANOL*	15.65	0.03
ACETANILIDE	11.97	0.05

Liquid and solid samples

\*3–9 µL liquid injection with vario liquid sampler

Sample weight between 0.5–10 mg

## EASE OF USE

The rapid OXY cube is optimized to significantly simplify daily routine operation. Clearly arranged, easily accessible system components as well as a furnace that slides out minimize maintenance efforts. The tool-free clamp connection system ensures a reliably leak-tight instrument at any time. Thus, customers can enjoy smooth analyses and confidence in their results.

## 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

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

## SAMPLE TYPES ANALYZED

- Coal
- Petroleum products
- Chemicals
- Pharmaceuticals



### High sensitivity

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



### High data quality

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



### High sample throughput

Designed for 24 / 7 unattended operation. Industry-leading system uptime for highest laboratory efficiency.



### Extreme durability

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

## 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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