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Analyzer for the fast and absolutely safe measurement of nitrogen or protein according to the Dumas combustion method. The innovative EAS REGAINER® technology ensures binding of excess oxygen without reduction metals. EAS REDUCTOR® tube lifetime is at least 1000 samples*. Sample weights range up to approx. 5 g / 5 ml in reusable crucibles with automatic ash removal. Argon or helium may be employed as carrier gas.

Elemental combustion analyzer

Analyzer

Concentration analysis of	Nitrogen
Operating modes	N
Design	Compact benchtop with single power supply
Sample introduction	Vario Sample System
Furnace design	Triple furnace system, 10 years warranty
Gas separation	Patented purge & trap technology
Detector type	High sensitivity thermal conductivity detector
Control	Fully digital via external PC (no additional control panel required)

Sample Introduction

Construction	One block, auto-aligned integrated turret
Access	Inert gas free easy access, no purging of sample carousel required
Movement control	Fully electrical
Turret type	Non-stacked 90 position random access
Sampling system	Radial sample turret with central rotating sample insertion arm
Sample container	Reusable steel or ceramic crucibles holding up to 5 g / 5 ml
Liquid sample handling	In standard crucibles with no additional liners, fillers, absorbers, etc.

Furnace

Type	Slide-out, vertical triple furnace system for usage of 28 mm inner diameter steel reaction tubes
Furnace	Resistive heater element with 1200 °C maximum temperature
Electrical supply	48 Volt safety design for entire instrument including furnaces
Control	Automatic power output adjustment (no hardware change required)
Combustion/reduction reactor	Separated straight steel combustion and EAS REDUCTOR tube
Post-combustion reactor	Straight steel tube with copper oxide, platinum catalyst and EAS REGAINER
Ash removal	Automatic
Reactor stability	No need for cooling down during routine maintenance
Carrier gas	Argon or helium
Connections	Quick swap clamp connections for fast changing with no tools required

Gas Drying	Three-fold water removal with condensor, gas membrane and chemical fine drying
Gas Recycling	CO_2 from purge and trap column subjected to gas membrane drying

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Gas Separation

Type	Dynamically heated chromatographic separation system for aliquot-free whole gas analysis
No of Columns	2
Recovery rate	100%

Detectors / Electronics

Type	Thermal Conductivity Detector (TCD)
Design	Thermistor, oxygen proof, imbalanced flow, double channel
Detection limit**	< 20 ppm
Calibration	Multipoint, multirange, matrix-independent calibration
Analysis time**	~4-5 min self-optimizing according to element content and sample weight
Electronics	Fully digital, fully integrated in unit, no external control panels
Security norms	EU machinery directive 2006/42/EG

Software

Operating system	Windows® 10, Windows® 8, Windows® 7, minimum XP, other systems upon request
Analyzer software	Winvar proprietary software
Features	Automatic leak finding software
	Intelligent error indicator with sophisticated self-diagnostics
	Auto sleep and wake-up
	Statistical calculations
	Indication service cycle
	LIMS integration
	21 CFR part 11 compliant*
	Comprehensive documentation for fast part identification
Data Storage	Non manipulated storage of experimental raw data and peak graphics
Balance	Automatic read out of weighing data*

* requires optional configuration   **depending on sample type, analysis mode and configuration

Measuring Range and Technical Specifications

nitrogen:	0 – 500 mg absolute or 0 – 100%
standard deviation:	helium: < 0.05% absolute (250 mg glutamic acid)
	argon: < 0.15% absolute (250 mg glutamic acid)
weight:	approx. 90 kg
electrical connections:	100/110/200/230 V, 50/60 Hz, 1.8 kW
oxygen consumption**:	approx. 0.4 l / analysis
required gases:	carrier gas and oxygen only
dimensions:	63 x 55 x 106 cm (W x D x H)

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