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Element⁵ 840 CHNSO Elemental Analyzer



The Element5 840 CHNSO Elemental Analyser is a high-quality organic elemental analyser produced by YUKE with the technology of NCT (former Costech) from Italy, combined with Dumas' "flash combustion" technology and chromatographic separation method, which can measure the elements of Carbon, Hydrogen, Nitrogen and Sulphur by oxidation process, or Oxygen by reduction process. The Element5 800 series is an upgrade and expansion of the 600 series with additional automation features, i.e. automated system leak detection, automated flow rate setting, intelligent oxygen dosing, etc. As with the 600 series, the Element5 800 series is an upgrade and expansion of the 600 series with automated system leak detection, automated flow rate setting, and intelligent oxygen dosing. Like the 600 series, the Element5 800 series elemental analysers are available in single and dual furnace designs to differentiate whether the oxidation and reduction processes are carried out in a single furnace or between dual furnaces; different diameters of oxidation and reduction tubes are available to meet the needs of different types of tests (e.g. solids and liquids) and samples of varying carbon content (from micrograms to grams) and different oxygen dosages are configured to correspond to different samples being measured in order to save on consumables; and manual oxygen rationing is available. The Element5 840 CHNSO can be used with either a manual injector or an autosampler to meet the needs of different injection operations and sample quantities. The innovative design of the TCD detector is self-calibrating, eliminating the need for reference gases and optimising the user experience for the customer.

The Element5 840 CHNSO Elemental Analyser is an economical single-furnace design, with oxidation and reduction in a single furnace, fully automatic control of the oxygen dosage and the status of consumables, and intelligent automatic leakage detection. The Element5 840 inherits the excellent quality of NCT's products, and in the optimization process of PREMIUM TECHNOLOGY, the stability and applicability are further improved, which can be widely used in ecological, environmental and other industries. Element5 840 can be widely used in ecology, agriculture, medicine, marine research, food analysis, petrochemical, quality control and other industries and fields. e, marine research, food analysis, petrochemical, quality control and other industries and fields.



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Technical principle

Dumas "Flash Combustion" Technique and Chromatographic Separation

Main feature

- High sensitivity, accuracy and precision;
- Optional redox tubes of different diameters;
- With automatic oxygen input configuration function;
- With automatic gas leakage self-test function;
- Electronic/pneumatic automatic and manual feeders;
- TCD detector without reference gas;
- Compact and durable single-oven economical design.
- Connection to spectrometer and mass spectrometer isotopes.

Technical Parameters.

Measurable elements: CHNS/O

Injector: Pneumatic autosampler: 147 bits; Motorised autosampler: 32,50,100 bits; Manual injector.

Analysis time: CN: 5min; CHN: 8min; CHNS: 10/25min; O: 4min;

Measuring range: C:0.002-20 mg; H:0.002-5 mg; N:0.002-20 mg; S:0.002-6 mg; O:0.002-2 mg;

Accuracy: <0.2% (standard, purity >99.9%)

Reactor: Single furnace system

Accuracy : <0.1% (standard, purity >99.9%)

Display: Touch screen display

System Parameters.

Dimensions: 510 x 500 x 370 mm

Weight: 53 kg

Power supply: 230V, 50/60Hz

Power consumption: 4A, 900W

Gas requirements: Helium (99.999%), 3-5 bar; Oxygen (99.999%), 3-5 bar; Air (oil-free compressed air)

Analysing conditions.

Carrier gas: Helium

Leak Detection: Automatic Leak Detection

Reactor temperature: up to 1100°C;

Separation oven temperature: max. 110°C

Oxygen demand: automatically calculated by oxygen doser

Flow regulation: Electronic flow regulation



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Gas separation: 0.8-4m GC columns

Detector: High sensitivity TCD

Software: EAS Clarity

Calibration: Linear, quadratic, cubic

Sample size: 0.1-500mg (depending on sample nature), up to 1000mg for soil samples

Sample types: solids, liquids

Packing: High purity tin or silver cups

Options: Balance, Consumables