

Element⁵ 820 CHNSO Elemental Analyzer



The Element5 820 CHNSO Element analyzer is a high-quality organic element analyzer produced by YUKE with the technology of NCT (formerly Costech) in Italy, combined with Dumas' dynamic flash burning technology and chromatographic separation. It can measure carbon, hydrogen, nitrogen and sulfur through oxidation process, or oxygen through reduction process. The Element5 800 series is an upgraded and expanded version of the 600 series products, adding the automation function of the equipment, that is, the automatic system leak detection, automatic flow rate setting, intelligent oxygen distribution and other functions. Like the 600 series, the Element5 800 series element analyzer can be selected in single and dual furnace design to distinguish whether oxidation and reduction processes are carried out in a single furnace or in a dual furnace; Different diameter oxidation and reduction tubes can be selected to meet the test requirements of different types (such as solid and liquid) and different carbon content samples (from micrograms to grams), and corresponding to different measurement samples, configured with different oxygen dosages to save consumables; Dynamic sampler or automatic sampler can be selected to meet the needs of different injection operations and injection quantities; The innovative design of the TCD detector has a self-calibration function, does not need to use reference gas, maximize the optimization and enhance the customer experience.



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Oxidation and reduction of the Element5 820 CHNSO element analyzer is carried out in two furnaces, oxygen usage and consumable status are fully controlled, and intelligent automatic leak detection is available. Element5 820 inherits the excellent quality of NCT's products. In the optimization process of YUKE, its stability and applicability are further improved, and can be widely used in ecology, agriculture, medicine, Marine research, food analysis, petrochemical, quality control and other industries and fields.

Technical principles

Dumas' dynamic flash burning technology and chromatographic separation

Main features

- High sensitivity, accuracy and precision;
- REDOX tubes of different diameters are optional;
- With automatic oxygen input configuration function;
- With automatic gas leakage self-test function;
- Electronic/pneumatic automatic and manual sampler;
- No reference gas required for TCD detectors;
- Dual combustion furnace, designed for economical operation;
- Can be connected to spectral and mass spectrometry isotope instruments.

Performance indicators

Technical parameters			
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	Analysis time	CN: 5 min; CHN: 8 min; CHNS: 10/25 min; O: 4 min
Accuracy	<0.2% (standard, purity >99.9%)	Reactants	Dual furnace system
Precision	<0.1% (standard, purity >99.9%)	Display	Touch screen display
Sampler	Pneumatic automatic sampler: 147 bit; Electric automatic sampler: 32,50,100 bit; Manual sampler		
System parameters			
Dimensions	810 x 500 x 370 mm	Weight	68 kg
Power supply	230 V, 50/60 Hz	Power consumption	5 A, 1100 W
Gas requirements	Helium (99.999%), 3-5 bar; Oxygen (99.999%), 3-5 bar; Air (oil-free compressed air)		
Analytical conditions			



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Carrier Gas	Helium	Leak detection	Automatic leak detection
Reactor temperature	Left furnace: maximum 1100 °C; Right furnace: maximum 1100 °C	Separator temperature	Max. 110 °C
Oxygen requirements	Automatically calculated from the oxygen gauge	Flow regulation	Electronic flow regulation
Gas separation	0.8-4 m GC columns	Detector	High sensitivity TCD
Software	EAS Clarity	Calibrate	Linear, conic, cubic
Sample size	0.1-500 mg (depending on sample nature), maximum soil sample injection up to 1000 mg	Sample type	Solid, liquid
Bag sample	High purity tin cup or silver cup	Optional accessories	Scales, consumables