

Element⁵ 624 CHNSO Elemental Analyzer

The Element5 624 CHNSO elemental analyzer is a high-quality organic element analyzer produced by YUKE using technology introduced from NCT (formerly Costech) of Italy, combined with Dumas "flash combustion" technology and chromatographic separation. It can measure carbon, hydrogen, nitrogen, and sulfur elements through an oxidation process, or measure oxygen elements through a reduction process. The Element5 600 and 800 series elemental analyzers offer single-furnace and dual-furnace designs, allowing for the determination of whether the oxidation and reduction processes are performed in a single furnace or in a separate furnace. Different diameters of oxidation and reduction tubes are available to meet the testing needs of different sample types (such as solids and liquids) and carbon contents (ranging from micrograms to grams). Different oxygen dosages can be configured for different sample types to conserve consumables. Manual or automatic sample injectors are available to accommodate different injection operations and sample quantities. The innovative TCD detector features a self-calibration function, eliminating the need for reference gas and maximizing the user experience. Furthermore, the Element5 800 series analyzers are equipped with intelligent automated leak detection and automated flow rate control.

The Element5 624 CHNSO elemental analyzer is an economical single-furnace design, performing oxidation and reduction in a single furnace. Element5 624 inherits the excellent quality of NCT products, and through the optimization process of Preeco, the product stability and applicability have been further improved. It can be widely used in many industries and fields such as ecology, agriculture, medicine, marine research, food analysis, petrochemicals, quality control, etc.

Technical principle

Dumas "Flash Combustion" Technique and Chromatographic Separation

Main feature

- High sensitivity, accuracy and precision;
- Redox tubes of different diameters are available;
- With different oxygen input settings;
- Electronic/pneumatic automatic and manual injectors;
- The TCD detector does not require a base reference gas;
- Single furnace economical design, compact and durable;;
- Can be connected to spectroscopy and mass spectrometry isotope instruments.



Performance

Analyzer detector detection range: carbon, hydrogen, nitrogen, sulfur, and oxygen: 200 ppm to 100%;

Sample size: 0.01 mg - 100 mg (depending on sample characteristics);

Accuracy: < 0.2% (reference);

Precision: < 0.1% (reference);



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Combustion monitoring: Standard top view;

Detector: TCD;

LOQ: 1-5 µg;

Oxidation/reduction reactor: 800-1100 °C;

Manual injector: Single sample;

Autosampler: Pneumatic injector: Up to 3 stackable rotating sample trays, up to 147 sample positions;

Electronic injector: Rotating sample tray with 32, 50, and 100 sample positions;

Analysis time: 15 minutes for CHNS analysis; 3 minutes for CN analysis using a 2-meter GC column. minutes (reference);

Calibration curves: Linear, quadratic, cubic;

Active curve: On-demand;

Software: EAS CLARITY;

Gas requirements: High-purity compressed air, helium (99.999% (5.0), 3-5 bar), oxygen (99.999% (5.0), 3-5 bar);

Dimensions: 760 x 350 x 700 mm (L x W x H);

Power requirements: 230 VAC ± 10%, 1-10 A.