

## Element<sup>5</sup> 610 CHNSO Elemental Analyzer

Element5 610 CHNSO elemental analyzer is a high-quality organic element analyzer produced by Shanghai Yuke using technology introduced from Italy's NCT (formerly Costech) company, combined with Dumas' "flash combustion" technology and chromatographic separation method. It can measure carbon, hydrogen, nitrogen, and sulfur elements through an oxidation process, or measure oxygen elements through a reduction process. Element5 600 and 800 series elemental analyzers can be designed with single or double furnaces to distinguish whether the oxidation and reduction process is carried out in a single furnace or between two furnaces; different diameters of oxidation and reduction tubes can be selected to meet the test requirements of different types (such as solids and liquids) and different carbon content samples (from micrograms to grams), and different oxygen dosages are configured for different measurement samples to save consumables; manual samplers or automatic samplers can be selected to meet different injection operations and injection quantity requirements; the innovatively designed TCD detector has a self-calibration function and does not require the use of reference gas, which maximizes the optimization and improvement of the customer's experience; in addition, the Element5 800 series analyzers are equipped with intelligent automatic leak detection, automatic flow rate control and other functions.

Element5 610 CHNSO elemental analyzer adopts a double furnace design, and oxidation and reduction are realized in two furnaces. Element5 610 inherits the excellent quality of NCT products, and in the optimization process of Preeco, the product stability and applicability are further improved. It can be widely used in ecology, agriculture, medicine, marine research, food analysis, petrochemical, quality control and other industries and fields.

### 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;
- Double combustion furnace, designed for economical operation;
- Can be connected to spectroscopy and mass spectrometry isotope instruments.



### Performance

CHNS/O range: 200 ppm-100%;

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

Accuracy %: < 0.2 (reference);

Precision %: < 0.1 (reference);

Combustion condition viewing facility: standard top view;



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Detector: TCD;

LOQ: 1-5 µg;

Oxidation/reduction reactor: oxidation 800-1100 °C / reduction 600-1100 °C;

Manual injector: single sample;

Automatic injector: pneumatic injector: up to 3 stackable rotating injector plates, up to 147 sample positions;

Electronic injector: rotating injector plate, sample positions are 32, 50, 100;

Analysis time: CHNS analysis takes 15 minutes; CN analysis takes 3 minutes with a 2-meter GC column minutes (reference);

Calibration curves: linear, quadratic, cubic;

Active curves: 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.