

Microcomputer Fully Automatic Multi Sample Sulfur Analyzer

Item Number: KT-TE12



Introduction

Engineered for high throughput testing labs, this microcomputer fully automatic multi sample sulfur analyzer provides accurate coulometric titration from zero to ninety nine percent. It features a twenty four position autosampler, dynamic priority queueing, and rapid thermal cracking control.

[Learn More](#)

Application	Description	Key Benefit
Coal Mining & Washing	Routine quantitative determination of total sulfur in raw run-of-mine coal, washed clean coal, and coal gangue byproducts.	Ensures accurate sulfur grading, prevents environmental penalty fees, and optimizes coal blending ratios with rapid 4 to 7 minute test cycles.
Thermal Power Generation	Monitoring sulfur concentrations in incoming pulverized fuel feeds, furnace slag, and flue gas desulfurization input materials.	Optimizes combustion efficiency, minimizes boiler tube corrosion, and ensures strict adherence to regional sulfur dioxide emission quotas.
Coke & Byproduct Manufacturing	Elemental sulfur monitoring in metallurgical coke, foundry coke, semi-coke, and coking coal feedstocks.	Delivers precise tracking of sulfur carryover into blast furnaces, preserving molten iron purity and optimizing flux consumption.
Petrochemical & Heavy Fuel Oil Testing	Analysis of total sulfur content in heavy residual fuel oils, petroleum coke, crude residues, and lubricating greases at 920°C.	Meets regulatory maritime and industrial sulfur limits while preventing downstream catalytic poisoning in refining operations.
Metallurgy & Blast Furnace Operations	Determination of sulfur in iron ores, sintering mixes, metallurgical fluxes, and combustion ash residues.	Prevents hot-shortness in steel manufacturing by enforcing rigorous incoming raw material screening with GB/T 214-2007 compliance.
Commercial Inspection & Testing Labs	High-volume contract analytical screening of diverse solid mineral fuels and combustible industrial wastes.	Maximizes billable daily sample throughput through the 24-position autosampler and priority sample queue-jumping functionality.
Environmental Waste Characterization	Measurement of combustible sulfur fractions in solid municipal waste, refuse-derived fuel (RDF), and biomass pellets.	Provides verified emission modeling data for waste-to-energy incineration facilities to ensure environmental compliance.
Geological & Mining Exploration	Geochemical assaying of core samples, sedimentary strata, and exploratory mineral deposits for total sulfur mineralization.	High resolution down to 0.00001% permits dependable trace sulfur tracking in geological formations with minimal sample mass requirements.

Parameter	Specification (KT-TE12)
Model Identifier	KT-TE12
Operating Principle	High-temperature catalytic combustion with coulometric titration (microcoulometry)
Standard Compliance	GB/T 214-2007 (Determination of Total Sulfur in Coal)
Total Sulfur Measuring Range	0.00% - 99.99%
Analytical Resolution	0.00001% (0.001% display resolution)
Autosampler Capacity	24 sample positions per carousel load
Sample Introduction Method	Automatic continuous push-rod feeder with dynamic priority insertion and queue reordering
Analysis Time Per Sample	4 - 7 minutes (matrix and sample mass dependent)
Operating Combustion Temperature	1150 °C for coal, coke, and minerals; 920 °C for oil and petroleum products
Temperature Control Accuracy	±1 °C across the entire heating envelope
Sample Weight Range	10 mg - 100 mg

Parameter	Specification (KT-TE12)
Analytical Repeatability & Accuracy	Within the permissible tolerance limits of certified reference materials per GB/T 214-2007
Furnace Design	Horizontal pyrolysis tube furnace with low-thermal-mass insulation
Control System Core	32-bit ARM industrial microcontroller with embedded real-time multitasking OS
Host Communication Interface	Hot-swappable USB interface (supports one-PC-to-multiple-analyzers networking)
Balance Interface	Direct bi-directional serial/USB link for automatic one-touch weight acquisition
Carrier Gas Source	Internal air purification, desiccation, and steady-flow diaphragm delivery system
Power Supply Requirements	220 V $\pm$ 10% AC, 50 Hz
Maximum Power Consumption	$\leq$ 3.0 kW