

Split Intelligent Rapid Sulfur Analyzer For Coal Petroleum And Coke Testing

Item Number: KT-CD4



Introduction

Discover high precision split intelligent rapid sulfur analyzer technology for coal, petroleum, and coke testing. Featuring modular coulometric titration, automated dual-stage combustion, and stable platinum electrodes, this system ensures rapid, compliant, and accurate analytical results every cycle.

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Application	Description	Key Benefit
Coal-Fired Power Generation	High-throughput analysis of total sulfur in raw feed coal, pulverized coal, and post-combustion slag to evaluate boiler slagging and calculate flue gas desulfurization (FGD) loads.	Delivers rapid turnaround times of 3 to 5 minutes per sample, enabling real-time boiler fuel blending and regulatory emission compliance.
Metallurgical Coke & Smelting	Determination of total sulfur in foundry coke, metallurgical coking coal, and iron-bearing sinter mixes to protect blast furnace linings and control pig iron quality.	Eliminates manual titration variance with direct digital sulfur percentage readouts, maintaining steel melt purity within tight process bounds.
Petroleum & Petrochemical Refining	Quantification of bound sulfur in residual fuel oils, heavy crudes, bitumen, petroleum coke, and refining catalysts to monitor catalyst poisoning and emissions.	Provides a wide measurement dynamic range up to 99%, handling dense hydrocarbons without incomplete combustion fouling.
Geological Exploration & Mineral Ore Mining	Rapid screening of mineral core samples, strata rock specimens, and sulfide ore concentrates to delineate commercial deposit viability and ore grade.	Superior $\pm 0.01\%$ linearity and standard-sample calibration capabilities allow precise low-sulfur and high-sulfur assaying within the same analytical run.
Environmental & Third-Party Commercial Labs	Contract testing and verification of solid fossil fuels, bio-pellets, and municipal solid waste-derived fuels following domestic and international coulometric norms.	Built-in 1,000-entry memory and automatic sample numbering ensure full chain-of-custody data integrity and seamless reporting for external audit audits.
Chemical & Synthetic Fuel Manufacturing	In-process monitoring of sulfur contaminants in synthetic carbon feedstocks, carbon black, and carbonaceous chemical additives.	Independent furnace heating control (700°C–1300°C) allows custom pyrolysis profiling to decompose thermally stubborn sulfur compounds.

Parameter Category	Specification Details (KT-CD4)
Model Designation	KT-CD4
Measurement Principle	Coulometric Titration Method (GB/T 214-2003 Compliant)
Measuring Range	0% – 99% Total Sulfur Content
Analysis Cycle Duration	3 – 5 minutes total per sample
Combustion Staging Program	Stage 1: ~500°C dwell for 45 seconds Stage 2: 1150°C dwell for 4 minutes 30 seconds
Furnace Temperature Range	700°C – 1300°C (Continuously adjustable; factory preset at 1150 $\pm$ 5°C)
High-Temperature Zone Length	~90 mm isothermal center
Furnace Heating Element	High-density Silicon Carbide (SiC) heating tube (Dimensions: 40/30 $\times$ 200/160 mm)
Heating Current Control	0 – 12 A (Continuously adjustable via keypad)

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Sample Introduction Mechanism	High-reliability automated electronic switch feed mechanism
Indication Electrode System	Dual platinum (Pt) indicator electrodes
Electrode Dynamic Response Time	≤ 3 seconds (Iodine-iodide ion equilibrium response)
Electrode Surface Area	Electrolytic platinum electrode plate: 10 mm × 15 mm (1.5 cm²)
Electrolytic Cell Volume	400 mL capacity reaction vessel
Integrator Zero-Point Drift	≤ ±0.2 ppm Sulfur over a 10-minute continuous baseline window
Analytical Linearity	±0.01%
System Error Correction	Calibration via certified standard reference materials (SRMs)
Data Logging & Storage	1,000 historical test records with on-board query and printout functions
Auto-Indexing & Counting Range	Automatic sequential incrementing from 1 to 65535 (Power outage persistent)
User Interface & Control	Tactile membrane keypad with digital display of sulfur percentage and milligrams
Controller Dimensions (W × D × H)	360 mm × 300 mm × 140 mm
Tube Furnace Dimensions (W × D × H)	600 mm × 290 mm × 300 mm
Power Supply Requirements	AC 220 V ± 10%, 50 Hz, Single Phase
Maximum Power Consumption	3.0 kW