Microcomputer Integrated Sulfur Analyzer For Coal Coke And Combustible Materials

Item Number: KT-TE14

Introduction

Designed for coal, coke, and combustible analysis, this integrated microcomputer sulfur analyzer provides automated coulometric determination compliant with GB/T214-2007 standards. The system features 0.00001 resolution, rapid multi-level calibration, intelligent endpoint judgment, platinum electrodes, and reliable continuous industrial laboratory operation.

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Application	Description	Key Benefit
Thermal Power Generation	Quantitative screening of pulverised boiler coal and blended fuel stocks prior to boiler feed.	Guarantees compliance with environmental sulfur dioxide emissions and guides flue gas desulfurization systems.
Metallurgical & Coking Operations	Rigorous monitoring of coking coal, metallurgical coke, and blast furnace reductants.	Prevents excessive sulfur uptake in molten pig iron, protecting steel ductility and processing efficiency.
Coal Mining & Beneficiation	Online and laboratory quality grading of raw coal, washed clean coal, middlings, and mine tailings.	Delivers rapid calorific-to-sulfur ratio data to optimize coal blending, washing yields, and commercial pricing.
Gangue & Mineral Waste Valorization	Profiling sulfur concentrations in coal gangue, oil shale, and solid carbonaceous mineral residues.	Classifies mineral by-products for refractory brick manufacture or safe backfill disposal without acid run-off.
Commercial Inspection Laboratories	High-throughput contractual quality verification and compliance testing under GB/T 214-2007.	Delivers indisputable, highly repeatable analytical reports with rapid turnaround times of 3 to 9 minutes per test.
Petrochemical & Synthetic Fuels	Testing of heavy petroleum coke, synthetic coal-to-liquid solids, and secondary industrial fuels.	Identifies corrosive sulfur precursors that degrade cracking catalysts and downstream refining reactors.
Environmental Waste Combustion	Determination of sulfur thresholds in municipal solid waste RDF, biomass briquettes, and industrial sludge.	Provides essential stoichiometric data to size acid gas scrubbers and assess environmental permitting standards.

Specification Parameter	Value / Operational Characteristic
Product Model Reference	KT-TE14
Testing Methodology	Microcomputer-controlled coulometric titration (combustion method)
Governing Analytical Standard	GB/T 214-2007 (Determination of Total Sulfur in Coal)
Sulfur Measurement Range	0.00% to 99.99% Total Sulfur
Minimum Analytical Resolution	0.00001 (1×10^{-5} / 0.001%)
Single Sample Analytical Duration	3 to 9 minutes (automated sample feed, combustion, and return)
Temperature Control Accuracy	1150 °C ± 5 °C (programmable operating temperature setpoint)
Pyrometric Measurement Precision	Class 0.5 industrial temperature measurement standard
Heating Core Element	High-purity silicon carbide (SiC) resistance heating tube

Specification Parameter	Value / Operational Characteristic
Thermal Ramp Capability	25 °C/min to 30 °C/min (attains 1200 °C in approximately 35 minutes)
Ready-to-Test Stabilization Time	≤ 1 minute from cold power-on to stabilized electrical baseline
Electrolytic Cell Specification	450 mL transparent reservoir with integrated magnetic stirring
Electrode Material & Configuration	Metallic platinum (Pt) analytical indicator and counter electrodes
Carrier Gas Working Flow Rate	1000 mL/min purified air / oxygen stream
Titration Endpoint Detection	Automated intelligent microcomputer derivative calculation
Calibration Architecture	Multi-level linear and non-linear mathematical calibration matrix
Data Archiving Capability	Internal non-volatile memory with automated historical query and logging
Operational Power Supply	220 V ± 20% AC, single-phase, 50 Hz
Maximum Power Draw	≤ 2.2 kW at full thermal ramp