

Automatic Calorimeter Oxygen Bomb Calorific Value Tester

Item Number: KT-TE4



Introduction

Engineered for coal, coke, and solid fuels, this automatic calorimeter delivers 0.0001K temperature resolution, automated water conditioning, and full GB/T213-2008 compliance to optimize thermal analysis precision and industrial testing throughput across high-demand laboratory environments.

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Application	Description	Key Benefit
Power Plant Coal Grading	Routine calorific value testing of pulverized bituminous coal, sub-bituminous coal, and lignite prior to boiler combustion.	Optimizes air-to-fuel ratios, enhances combustion efficiency, and verifies supplier billing energy content.
Commercial Coal Quality Inspection	Third-party inspection and trade verification of raw, washed, and blended coals at transportation hubs and ports.	Delivers certified, legally defensible calorific determinations compliant with GB/T 213-2008 benchmark standards.
Metallurgical Coke Evaluation	High-precision thermal characterization of metallurgical coke, semi-coke, and carbon anodes used in blast furnaces and smelters.	Guarantees stringent energy density specifications required for stable blast furnace thermal profiles.
Gangue and Tailings Assessment	Calorific quantification of coal gangue, washing rejects, and mineral tailings for fluidized bed combustion or utilization.	Identifies viable low-grade fuel streams while supporting mine waste valorization and environmental compliance.
Petrochemical Fuel Sludge & Petcoke Analysis	Determination of higher heating values in petroleum coke, heavy fuel oil residues, and refinery carbonaceous byproducts.	Enables precise blending calculations for industrial boilers and secondary petrochemical heat recovery systems.
Biomass & Refuse-Derived Fuel (RDF) Testing	Analytical screening of pelletized agricultural biomass, municipal solid waste fractions, and industrial refuse fuels.	Provides standardized energy yield metrics (0.1% accuracy on benzoic acid standards) for renewable energy conversion.

Parameter	Specification Value (Model: KT-TE4)
Item Number	KT-TE4
Heat Capacity	Approximately 10,500 J/K
Temperature Resolution	0.0001 K (0.1 mK)
Test Duration	Approximately 15 min per sample
Outer Water Jacket Capacity	30 L
Inner Cylinder Water Capacity	Approximately 2.3 L
Water Quantitative Error	≤ ±0.1 g
Ignition Voltage	24 V
Ignition Timing Sequence	6 min ignition interval
Calorific Accuracy / Repeatability	≤ 0.1% (Benzoic Acid benchmark)
Temperature Measurement Range	0°C to 65°C
Ambient Operating Temperature Range	5°C to 40°C
Power Supply Requirements	AC 220 V ± 10%, 50 Hz
Power Consumption	< 300 W

Parameter	Specification Value (Model: KT-TE4)
Analytical Standard Compliance	GB/T 213-2008 (Determination of Calorific Value of Coal)
User Interface & Display	Large-screen LCD with step-by-step menu prompts
Communication & Control Expansion	Optional USB port, Windows XP / PC system integration