

Microcomputer Automatic Vertical Calorimeter Solid Combustible Calorific Value Analyzer

Item Number: KT-TE1



Introduction

Engineered for high-precision analytical laboratories, this microcomputer automatic vertical calorimeter delivers accurate solid combustible gross calorific value determination, featuring automated oxygen bomb sequencing, 0.0001K temperature resolution, integrated cooling correction, and complete compliance with GB/T213 standards for industrial testing facilities.

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Application	Description	Key Benefit
Power Plant Fuel Analysis	Determining gross and net calorific values of pulverized boiler feed coal, raw coal stockpiles, and co-fired fuel blends.	Guarantees heat-rate efficiency monitoring, optimizes combustion air ratios, and supports fuel inventory cost accounting.
Coal Mining and Beneficiation	Quality grading of raw coal, middlings, washed clean coal, and high-ash refuse gangue at preparation plants.	Facilitates accurate contractual grading, enhances sorting efficiency, and verifies compliance with commercial delivery standards.
Metallurgical Coke Evaluation	Thermal energy assessment of foundry coke, metallurgical blast-furnace coke, and carbonaceous reducing agents.	Provides precise energy-input data critical for thermal mass balances in ironmaking and smelting operations.
Petrochemical Byproduct Testing	Characterization of solid petroleum cokes, distillation residues, and pitch byproducts utilized for industrial energy recovery.	Delivers reproducible heat value metrics for high-sulfur and high-density carbon fractions under regulated conditions.
Commercial Quality Inspection	Independent third-party validation, arbitrated trade dispute testing, and compliance certification for export or domestic transit.	Delivers legally defensible data adhering strictly to GB/T 213-2008 standards with 0.1% repeatability against benzoic acid.
Environmental Waste-to-Energy	Calorific profiling of refuse-derived fuels, processed solid waste pellets, and agricultural biomass waste.	Identifies combustible energy yields and slagging propensity to evaluate economic feasibility in thermal power boilers.

Parameter Category	Specification Attribute	Value / Characteristic (KT-TE1)
Model Designation	Equipment Item Number	KT-TE1
Thermodynamic Performance	Effective Heat Capacity	Approximately 10,500 J/K
	Temperature Resolution	0.0001 K
	Test Repeatability (Calorific Value)	≤ 0.1% (Certified Benzoic Acid)
	Testing Standard Conformity	Fully compliant with GB/T 213-2008
	Analytical Cycle Duration	Approximately 15 minutes per test run
Measurement & Environmental	Temperature Measuring Range	0°C to 65°C
	Operating Ambient Temperature	5°C to 40°C
	Dosing / Quantification Error	≤ ±0.1 g
Volumetric Capacities	Outer Water Jacket Volume	50 L
	Inner Water Cylinder Volume	Approximately 2.3 L

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Ignition Parameters	Ignition Circuit Voltage	24 V
	Ignition Timing Parameter	6 minutes programmed ignition cycle
Control & Interface	Operating System Platform	Windows OS with interactive guided user interface
	Heat Capacity Calibration	Automated microcomputer-controlled calibration
	Data Handling Capabilities	Database storage, tabulation, result editing, auto-printing
	Cooling Compensation	Integrated thermodynamic cooling correction system
Electrical Specifications	Operating Voltage	AC 220 V $\pm$ 10%, 50 Hz
	Total Power Consumption	< 300 W