

Microcomputer Dual Control Oxygen Bomb Calorimeter For Solid Combustibles Calorific Value Determination

Item Number: KT-TE7



Introduction

Engineered for high-precision calorific determinations, this microcomputer dual-control oxygen bomb calorimeter features independent twin-vessel asynchronous testing, automated water handling, ultra-sensitive thermal resolution, and strict regulatory compliance to streamline solid fuel quality control across power generation, metallurgy, and petrochemical laboratories.

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Application	Description	Key Benefit
Coal-Fired Power Generation	High-frequency calorific profiling of incoming pulverized coal, blended boiler fuels, and bottom ash	Optimizes combustion stoichiometry, ensures regulatory thermal compliance, and prevents boiler fouling
Coal Mining and Mineral Processing	Evaluation of raw run-of-mine coal, washed clean coal fractions, tailings, and washery gangue	Accurately dictates commercial product grading, optimizes washing plant yield, and validates contract specifications
Metallurgical Coke Manufacturing	Enthalpy testing of coking coals, semi-coke blends, and metallurgical-grade foundry coke products	Secures consistent blast furnace thermal profiles and verifies carbonaceous raw material reactivity
Petrochemical Residue Analysis	Determining gross heat values of petroleum coke, refinery pitch, heavy distillation residues, and carbon black	Delivers accurate thermal balance data required for industrial waste heat recovery and commercial fuel sales
Commercial Quality Inspection	Independent third-party validation, custody transfer settlement, and export certification of solid fuels	Ensures reproducible, audit-proof analytical documentation complying with statutory energy standards
Environmental Waste-to-Energy	Calorific screening of municipal solid waste (MSW) pellets, refuse-derived fuel (RDF), and biomass briquettes	Establishes furnace feed rates, predicts energy recovery efficiency, and prevents sub-temperature incinerator emissions
Cement Clinker Manufacturing	Continuous energy characterization of alternative fuels, waste tires, and carbonaceous kiln fuels	Maintains stable sintering zone temperatures while reducing procurement expenditure on primary fossil fuels

Specification Parameter	Technical Metric (KT-TE7)
Product Item Number	KT-TE7
Dual-Control Operating Mode	Asynchronous dual-vessel microcomputer control (independent barrel operation)
Heat Capacity (Calorimeter Equivalent)	Approximately 10500 J/K
Temperature Resolution	0.0001 K
Single Test Duration	Approximately 15 minutes
Outer Jacket Reservoir Capacity	30 L
Inner Vessel Capacity	Approximately 2.3 L
Quantitative Dosing Error	$\leq \pm 0.1$ g
Ignition Voltage	24 V

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Ignition Timing Program	6-minute timed ignition cycle
Temperature Measurement Range	0°C to 65°C
Ambient Operating Temperature Range	5°C to 40°C
Calorific Value Measurement Accuracy	0.1% (Standard Benzoic Acid evaluation)
Standard Compliance	Conforms fully to GB/T213-2008 Requirements
Input Power Supply	AC 220V ± 10%, 50 Hz
Power Consumption	< 300 W
Analytical Corrections	Integrated real-time cooling correction system
Data Management System	Automated heat capacity calibration, conversion, spreadsheet storage, and print output