

Coal Fluorine Analyzer High Temperature Combustion Hydrolysis System

Item Number: KT-TE54



Introduction

This coal fluorine analyzer provides rapid pyrohydrolysis separation within 15 minutes, featuring PID furnace regulation up to 1200°C, digital ion measurement, and automated reporting software for compliant industrial analytical laboratory testing.

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Application	Description	Key Benefit
Coal & Fuel Characterization	Quantifying trace and major fluorine content in raw, washed, and blended coals prior to combustion.	Prevents boiler tube corrosion and verifies compliance with environmental atmospheric emission thresholds.
Cement Clinker & Raw Meal Testing	Monitoring fluorine additions and naturally occurring fluoride in raw meal, kiln dust, and finished clinkers.	Optimizes mineralizer dosage, prevents kiln coating instability, and controls cement hydration kinetics.
Rapid-Setting Cement Additives	Assessing fluorine concentrations in ultra-early strength cements, dual-fast formulations, and accelerators.	Ensures exact chemical additive proportions to guarantee targeted rapid-setting performance without strength regression.
Phosphogypsum & Phosphate Rock Processing	Determining residual and total fluorides in raw phosphate ore and byproduct phosphogypsum cakes.	Facilitates chemical quality grading and supports safe environmental utilization of industrial gypsum byproducts.
Fluorite & Metallurgical Flux Analysis	Extracting high-percentage fluorides from natural fluorite ores and metallurgical smelting slags.	Provides rapid assays for metallurgical grade classification and precise fluxing performance monitoring.
Rare Earth Tailings & Mineral Slurries	Evaluating halogen concentrations in complex mineral processing residues and rare earth beneficiation tailings.	Delivers reliable extraction from refractory mineral structures to track recovery yields and environmental tailings compliance.
Bleaching Clay & Industrial Adsorbents	Measuring fluorine adsorption capacity and residual halide content in acid-activated bentonites and clay media.	Confirms product purity specifications for petroleum refining, edible oil decoloring, and industrial filtration.

Specification Parameter	Value / Technical Metric
Product Item Number	KT-TE54
Test Method	High-Temperature Combustion Hydrolysis (Pyrohydrolysis)
Temperature Setting Range	900°C to 1200°C
Temperature Control Accuracy	1100 ± 2°C
Heating Rate Performance	Ambient to 1100 ± 2°C in approximately 25 minutes
Fluorine Separation Capacity	Up to 40 mg total fluorine per analytical sample charge
Separation / Distillation Duration	Approximately 15 minutes
Heating Element Type	High-durability Silicon Carbide (SiC) Tube
Evaporation Control Component	Precision Taiwan TOCOS Linear Potentiometer
Analytical Standards Compliance	Fluorine: GB/T 4633—2014; Chlorine: GB/T 3558—2014
Analytical Measurement System	Integrated High-Precision Digital Ion Meter

Specification Parameter	Value / Technical Metric
Software Integration	Supervisory PC Automated Calculation & Reporting Software
Display & Interface	High-Resolution Graphical LCD Screen
Process Monitoring Alerts	Timed Sample Feeding Alarm, Fault Self-Diagnosis, Over-Temperature Protection
Power Supply Requirements	AC 220V $\pm$ 10%, 50 Hz
Maximum Power Consumption	$\leq$ 3.5 kW
Equipment Dimensions	600 mm $\times$ 400 mm
Total System Weight	30 kg