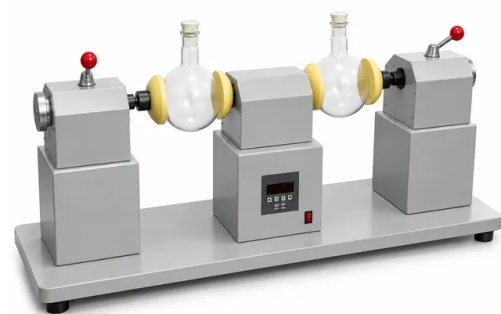


Coal Gangue Slaking Inversion Testing Machine

Item Number: KT-TE53



Introduction

Evaluate gangue degradation accurately with this coal gangue slaking inversion testing machine. Engineered for standard compliance, it features precision 40 rpm rotation, automated cycle tracking, and stable PT100 temperature monitoring for reliable laboratory sediment and slurry slaking analysis.

[Learn More](#)

Application	Description	Key Benefit
Coal Washing & Preparation	Quantifying the slaking index and degradation rate of run-of-mine gangue rocks entering wet processing circuits	Prevents unexpected accumulation of ultra-fine slime, allowing operators to optimize thickener capacity, flocculant dosing, and water recovery systems.
Tailings Dam & Geotechnical Safety	Determining the breakdown propensity and weathering behavior of coal gangue piles exposed to rainfall and hydraulic saturation	Delivers critical degradation data required to model long-term embankment stability, dam liquefaction risks, and physical settling properties.
Environmental Reclamation Research	Assessing fine silt release (particles smaller than 10 µm) from waste rock during backfilling, road base stabilization, and surface storage	Identifies high-risk leaching and suspension-prone gangue formations, assisting environmental engineers in designing effective runoff containment and soil stabilization strategies.
Metallurgical Coking Evaluation	Testing carbonaceous shale and mineral impurities within coal feeds before coke oven charging	Identifies excessive clay slaking and mineral dispersal that can interfere with flotation recovery and degrade clean coal concentrate purity.
Academic & Geological Research	Conducting fundamental mineralogical studies on clay swellability, mudstone dispersion, and sedimentary rock degradation under standard Andreasen pipette protocols	Ensures strictly standardized test conditions that yield reproducible baseline values for academic papers, geological classification, and standard test development.
Mine Backfill & Construction Material Formulation	Testing the mechanical degradation of coarse gangue aggregates subjected to dynamic slurry movement in backfill pipelines	Evaluates pipe wear potential, slurry rheological changes, and cementitious bonding durability by identifying aggregate breakdown during transit.

Specification Parameter	Value / Characteristic
Model Item Number	KT-TE53
Standard Compliance	MT/T 109-1996 (<i>Test Method for Slaking of Coal and Gangue</i>)
Spindle Rotation Speed	40 r/min (horizontal axis inversion)
Rotational Speed Stability	Constant drive under standard load
Sample Capacity	100 g dry sample (5.6 mm to 2.8 mm initial grain fraction)
Liquid Carrier Volume	500 mL distilled or test water
Testing Vessel Compatibility	Specialized ground-glass stoppered washing bottle
Standard Inversion Duration	Typically 30 minutes (programmable/timed)
Downstream Particle Separation	500 µm (0.5 mm) wire mesh sieve & Andreasen sedimentation (<10 µm)
Temperature Measurement Range	0.0 °C to 90.9 °C
Temperature Sensor Type	High-precision PT100 platinum resistance thermocouple
Temperature Measurement Accuracy	±0.1 °C

Specification Parameter	Value / Characteristic
Temperature Control Precision	±0.2 °C
Auxiliary Temperature Control Power	1 kW
Drive Motor Power	10 W
Total Instrument Power	< 10 W (drive operation)
Display Type	Industrial LED digital display
Reset Mechanism	Manual reset or automatic startup reset
Main Power Supply	AC 220 V ± 10%, 50 Hz ± 1 Hz
Operating Ambient Temperature	0 °C to 40 °C
Operating Ambient Relative Humidity	≤ 80% RH (non-condensing)
Overall Instrument Dimensions (L × W × H)	400 mm × 400 mm × 860 mm
Total Equipment Weight	Approximately 20 kg