

Coal Tumbler Test Machine For Coal Friability And Dust Index Testing

Item Number: KT-TE34



Introduction

Determine coal friability and dust index with this industrial coal tumbler test machine. Engineered with a 40 rpm drum speed, preset 2400 revolution counter, and dependable motor, it provides accurate particle breakdown data.

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Application	Description	Key Benefit
Commercial Coal Friability Grading	Evaluates the physical degradation rate of commercial coal lots by measuring post-tumble particle size breakdown after standard 2400-revolution agitation cycles.	Provides verifiable physical quality metrics for commercial coal trade contracts and pricing negotiations.
Coal Dust Index Determination	Measures fine particulate formation and dust-generating propensities of mined coals subjected to controlled mechanical attrition.	Informs environmental mitigation protocols, dust suppression system design, and storage stockpile safety management.
Power Plant Pulverizer Optimization	Assesses incoming fuel friability to predict grindability, wear patterns, and energy requirements across boiler feed coal preparation systems.	Maximizes thermal power milling efficiency, lowers operational power consumption, and minimizes unplanned mill maintenance.
Metallurgical Coking Coal Assessment	Determines the mechanical durability and degradation tendencies of coking coal blends prior to high-temperature carbonization and battery charging.	Ensures stable blend formulations that maintain aggregate structure and prevent excessive breeze generation during coke production.
Bulk Handling and Logistics Simulation	Simulates dynamic impact, drop degradation, and inter-particle friction experienced throughout conveyor transfer points, rail transshipment, and ship loading.	Accurately predicts downstream fine generation, aiding in logistics planning and minimizing physical product losses during transit.
Mining Exploration and Seam Evaluation	Analyzes core sample strength and structural coherence across varying coal seams during exploratory geological surveys.	Assures precise classification of extractable reserves to guide extraction methodology and wash plant equipment selection.

Parameter	Value	Specification Notes
Equipment Model Identifier	KT-TE34	Standardized mechanical friability testing unit
Drum Revolutions per Cycle	2400 r	Fixed automatic shut-off via integrated cycle monitor
Drum Rotational Speed	40 r/min	Precision-gearred continuous operating velocity
Motor Power Rating	0.37 kW	High-torque industrial induction drive motor
Electrical Power Requirements	380V / 220V AC, 50 Hz	Factory-configurable dual-voltage electrical design
Applicable Sampling Standard	GB/T 475 Standard Method	Sampling of commercial coal and aggregate preparation
Measurement Principle	Fractional Sieving & Degradation	Mean particle size reduction calculation method
Primary Test Outputs	Friability Index (%), Dust Index (%)	Derived from fractional mass differential analysis
Agitation Chamber Material	High-Tensile Structural Steel	Abrasion-resistant construction for extended service life
Drum Sealing Mechanism	Continuous Elastomeric Dust Gasket	Zero-particulate escape during continuous high-speed rotation
Operational Duty Profile	Continuous Laboratory Duty	Engineered for multi-batch consecutive evaluation cycles