

Coal Caking Index Briquetting Press Laboratory Bituminous Coal Sample Compactor

Item Number: KT-SYK



Introduction

Engineered for standardized metallurgical coal quality evaluation this automated caking index briquetting press delivers precise sample compaction uniform density distribution and repeatable briquette formation in strict compliance with international coal testing standards for industrial laboratories and coking research facilities worldwide

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Application	Description	Key Benefit
Coking Coal Quality Classification	Routine sample preparation of coking and fat coals to calculate the standardized G index in industrial coal classification systems.	Guarantees test-to-test repeatability, enabling precise classification of coal blend components and accurate commercial valuation.
Blast Furnace Coke Optimization	Compaction of trial coking coal blends to forecast caking behavior, thermal plastic properties, and final blast furnace coke strength.	Delivers uniform briquette density, reducing variability in subsequent carbonization trials and metallurgical coke yield modeling.
Coal Washing and Beneficiation Plants	Rapid quality control of clean coal fractions following heavy-media separation, froth flotation, and thermal drying operations.	Provides rapid turnaround of structural test briquettes, allowing operators to adjust separation gravities to meet contractual caking targets.
Commercial Commodity Inspection	Independent third-party inspection and certification of export and import metallurgical coal shipments at maritime ports and rail terminals.	Eliminates human bias in briquetting preparation, ensuring international standard compliance and non-disputable commercial testing documentation.
Geological Survey and Coal Exploration	Laboratory testing of core drill samples to characterize coal seam ranks, caking indices, and carbonization potential in unmined reserves.	Consistently prepares reliable test specimens even from limited core sample volumes, optimizing geological resource valuation.
Steel Mill Fuel and Energy Laboratories	In-house verification of pulverized coal injection blends and metallurgical coke plant feedstocks against supplier technical specifications.	Prevents off-spec coal batches from entering commercial coke oven batteries, protecting refractory walls and stabilizing battery productivity.
Advanced Carbonaceous Materials R&D	Specialized briquetting of synthetic carbon blends, pitch additives, and biomass bio-char mixtures for alternative carbonization research.	Enables precise density control and mechanical cohesion evaluation across experimental formulations with non-standard packing behaviors.

System Parameter	KT-SYK Specification Detail
Product Item Reference	KT-SYK
Primary Function	Coal Caking Index (G Index) Briquetting and Compaction
Standard Compliance	GB/T 5447, ISO Bituminous Coal Caking Index Equivalent Protocols
Loading Mechanism	Precision Electro-Mechanical / Calibrated Dead-Weight Compaction Assembly
Nominal Compaction Force	Calibrated Standard Testing Force (Preset to Standard Testing Specifications)
Force Accuracy	±0.5% of Full Scale Applied Load
Compaction Ram Stroke	45 mm Standard Guided Axial Travel
Ram Concentricity Tolerance	≤ 0.02 mm Total Indicator Reading (TIR)
Compactor Die Internal Diameter	Optimized for Standard Caking Index Crucibles and Molds

System Parameter	KT-SYK Specification Detail
Die Wall Surface Hardness	HRC 58-62 High-Wear Tool Steel
Surface Roughness of Forming Face	Ra ≤ 0.2 μm Mirror Polish Finish
Sample Briquette Form Factor	Cylindrical Compacted Cake (Uniform Mass and Height)
Cycle Automation	One-Touch Automatic Press, Dwell, and Demold Release
Dwell Time Range	0 to 99 Seconds (Digitally Programmable, Factory Calibrated)
Ejection Method	Integrated Coaxial Ejection Lift Mechanism
Operational Safety Interlocks	Transparent Acrylic Interlocked Chamber Guard and Emergency Cutoff
Frame Construction	Heavy-Gauge Precision-Milled Carbon Structural Steel with Powder Coating
Electrical Power Requirement	220V AC ±10%, 50/60 Hz, Single Phase (Standard Lab Power)
Power Consumption	≤ 350 W Maximum Operating Draw
Control System	Microprocessor-Based Digital Logic Controller with Membrane Keypad
Environmental Operating Range	10°C to 40°C Ambient Operating Temperature; ≤ 80% Relative Humidity