Automatic Coke Shatter Test Apparatus For Foundry And Metallurgical Coke Drop Strength Testing

Item Number: KT-LQ

Introduction

Engineered for strict compliance with standardized test protocols, this automated coke drop strength apparatus accurately evaluates the shatter resistance of metallurgical and foundry coke through precision mechanical lifting, automated bottom-door discharge, and reliable motorized drive control.

Learn More

Application	Description	Key Benefit
Blast Furnace Quality Assurance	Evaluates the shatter index and mechanical impact degradation of metallurgical lump coke before blast furnace charging.	Prevents blast furnace permeability loss and uneven gas distribution by identifying friable, low-strength coke batches prior to loading.
Foundry Coke Evaluation	Measures the drop breakage characteristics and structural cohesion of large-size foundry coke used in cupola melting operations.	Ensures optimal bed permeability, prolonged combustion efficiency, and minimal carbon bed breakdown during heavy metal melting.
Coking Plant Process Optimization	Serves as a vital bench-scale quality control checkpoint for evaluating the efficacy of coal blending, coking times, and quenching methods.	Delivers rapid empirical feedback to coking engineers, allowing proactive adjustments to coal blends to maximize final mechanical yields.
Commercial Cargo Verification	Provides neutral third-party inspection laboratories and maritime shipping terminals with standardized shatter strength certification.	Resolves contractual disputes and certifies compliance with international merchant coke physical quality benchmarks prior to dispatch.
Coal & Carbon Materials Research	Enables metallurgical research institutes and universities to investigate the microstructural strength and fracture kinetics of carbonaceous fuels.	Facilitates data-driven development of non-recovery coking techniques, binderless briquetting, and novel bio-coke formulations.
Sinter Plant Raw Material Screening	Assesses the mechanical breakdown tendencies of coke breeze and nut coke fractions during aggressive transit and chute transitions.	Optimizes sizing distribution across sintering lines, minimizing unburned carbon loss and improving operational thermal balance.

Parameter Category	Specification Details	Unit / Value
Product Item Number	Model Series Reference	KT-LQ
Applicable Standard	Testing Methodology Compliance	GB/T 4511.2–1999
Sample Box Dimensions	Internal Length × Width × Height	710 × 455 × 380 mm
Drop Base Dimensions	Working Impact Base (L × W × H)	220 × 965 × 200 mm
Drop Elevation Height	Standardized Lifting Height (Selectable Stop)	1830 mm
Electric Drive Power	Input Motor Power Rating	1.5 kW
Power Supply Requirements	Operating Voltage / System Phase	380V ± 10% (3-Phase, 4-Wire)
Speed Reducer Model	Industrial Heavy-Duty Worm Reducer	WPA-80
Speed Reduction Ratio	Drive Transmission Ratio	1:50-E
Total Equipment Mass	Total Dry Operational Weight	400 kg
Operational Mechanism	Mechanical Elevation & Bottom Discharge	Motorized lifting, automated bottom gate release
Control Architecture	Dedicated Electrical Enclosure	Integrated limit switches with automatic stop control