Coke Coal Lump And Industrial Briquette Drop Shatter Strength Tester

Item Number: KT-TE43

Introduction

Evaluate metallurgical coke coal lumps and industrial briquettes with this automated drop shatter strength tester featuring precision height positioning heavy duty steel impact plates and reliable motorized release for standardized shatter resistance quality control testing.

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Application	Description	Key Benefit
Metallurgical Coke Quality Assurance	Determination of shatter indices for blast furnace coking charges dropped four consecutive times onto the impact plate to assess yield over 50 mm and 25 mm screen thresholds.	Prevents blast furnace permeability loss and uneven gas distribution by identifying mechanically weak coke batches before charging.
Foundry Coke Toughness Verification	Evaluation of large-size foundry coke structural resilience under high-velocity collision modeling the harsh handling cycles of cupola charging.	Assures thermal bed stability, consistent combustion rates, and minimal fines generation in heavy casting melt campaigns.
Industrial Briquette Mechanical Screening	Progressive single-briquette shatter assessment dropping formed solid fuels from 2000 mm over three cycles to quantify remaining fractions above 13 mm.	Eliminates premature crumbling, optimizes binder formulations, and reduces fuel losses during long-haul transport and bin storage.
Coal Preparation & Washing Plant Control	Assessment of coarse coal lump degradation susceptibility through chutes, transfer hoppers, and screening circuits during beneficiation operations.	Minimizes unintentional generation of ultra-fine coal fractions, lowering downstream slurry dewatering and clarification operating costs.
Third-Party Inspection & Research Testing	Standardized compliance verification for commercial certification of metallurgical solid fuels, synthetic briquettes, and industrial furnace charges.	Delivers auditable, non-biased shatter indices meeting regulatory protocols with exceptional inter-laboratory correlation reproducibility.
Alternative Binder & Biomass Briquette R&D	Comparative shatter testing of novel bio-coal composites, torrefied pellets, and cold-bonded agglomerates subjected to repeated mechanical drops.	Provides quantifiable screening benchmarks to rapidly validate curing times, binder chemistries, and compaction press pressures.

Specification Parameter	Standard Configuration (KT-TE43)	Briquette Testing Variant (KT-TE43-B)
Applicable Standards	GB/T 4511.2-1999 (Coke shatter test)	MT/T 925-2004 (Industrial briquette shatter test)
Target Test Materials	Metallurgical coke, foundry coke, raw lump coal	Industrial formed briquettes, biomass solid fuels
Standard Drop Height	1830 mm (fixed reference setting)	2000 mm (adjustable drop positioning)
Vertical Height Adjustment	Continuously variable with position stops	Continuously variable with position stops
Sample Box Dimensions (L × W × H)	710 mm × 455 mm × 380 mm	710 mm × 455 mm × 380 mm (optional briquette trays)
Sample Box Plate Thickness	3 mm structural carbon steel	3 mm structural carbon steel
Sample Box Discharge Action	Automated split bottom-door trip release	Automated split bottom-door trip release
Impact Base Plate Dimensions	1220 mm × 965 mm	1220 mm × 965 mm
Impact Base Plate Thickness	12 mm solid high-tensile steel	12 mm solid high-tensile steel
Base Enclosure Retaining Wall	200 mm high integrated steel perimeter rim	200 mm high integrated steel perimeter rim

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Elevation Drive Motor Power	1.5 kW	1.5 kW
Operating Voltage & Phase	380 V AC ± 10%, 50 Hz, 3-Phase 4-Wire	380 V AC ± 10%, 50 Hz, 3-Phase 4-Wire
Gear Speed Reducer	WPA-80 worm gear reducer	WPA-80 worm gear reducer
Reduction Ratio	1:50-E	1:50-E
Vertical Elevation Guide Type	Rigid structural upright twin guide columns	Rigid structural upright twin guide columns
Travel Limit Protection	Dual upper and lower electro-mechanical limits	Dual upper and lower electro-mechanical limits
Operating Control Scheme	Independent NEMA-style push-button control station	Independent NEMA-style push-button control station
Equipment Weight	Approximately 400 kg	Approximately 410 kg
Floor Footprint Footing	Anchored structural baseplate configuration	Anchored structural baseplate configuration