

Coal Briquette Compressive Strength Tester Electronic Mechanical Crushing Strength Testing Machine

Item Number: KT-TE31



Introduction

Evaluate fuel pellet durability with this coal briquette compressive strength tester, featuring a 5000 N capacity, precision lead screw drive, automatic peak fracture detection, programmable speed control, and dual limit protection for rigorous industrial laboratory quality assurance operations.

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Application	Description	Key Benefit
Industrial Coal Briquette Quality Control	Crushing strength verification of raw, dried, and carbonized coal briquettes produced for industrial gasifiers and industrial boilers.	Identifies fragile batches prior to transport, preventing excessive fines generation and downstream fuel feed line clogs.
Metallurgical Pellet & Sinter Evaluation	Compressive mechanical resistance testing of iron ore pellets, direct-reduced iron (DRI) agglomerates, and composite blast furnace burdens.	Ensures pellets withstand immense static burden pressure inside high-temperature blast furnaces without premature degradation.
Biofuel & Biomass Pellet Durability	Determination of rupture limits and handling toughness for densified wood pellets, agricultural biomass briquettes, and torrefied fuels.	Verifies binder effectiveness and moisture resistance, minimizing mechanical degradation during bulk pneumatic handling and silo storage.
Mining & Mineral Agglomerate Research	Laboratory assessment of binder chemistry, moisture levels, and curing kinetics on the green and cured compressive strength of mineral pellets.	Accelerates the development of cost-effective, environmentally friendly binder systems through precise, repeatable mechanical testing.
Carbon Anode & Electrode Core Testing	Compression and shear failure evaluation of small-diameter carbon cores, graphite electrode segments, and carbonaceous block materials.	Delivers quantitative crushing data to evaluate structural homogeneity and crack resistance under heavy thermal-mechanical stress.
Fertilizer Granule Mechanical Characterization	Uniaxial compression testing of slow-release chemical fertilizers, urea prills, and composite agricultural pellets.	Prevents granule caking and structural breakdown during mechanical bagging, bulk transport, and commercial spreading operations.

Parameter Category	Specification Attribute	Value / Characteristic
Model Identification	Item Number	KT-TE31
Load Capacity	Nominal Maximum Test Force	5000 N (5 kN)
	Force Measuring Range	0 N to 5000 N
	Test Force Indication Accuracy	±1% of displayed value
Displacement & Stroke	Displacement Resolution	0.01 mm
	Displacement Measurement Accuracy	±1% of reading
	Standard Compression Stroke	800 mm (Customizable based on user requirements)
	Standard Tensile Stroke	800 mm (Customizable based on user requirements)
	Total Usable Test Stroke	800 mm (Customizable based on user requirements)
Velocity Control	Standard Displacement Speed Range	1 mm/min to 500 mm/min

Parameter Category	Specification Attribute	Value / Characteristic
Mechanical & Drive	Extended Mechanical Drive Range	0.2 mm/min to 500 mm/min
	Speed Control Accuracy	±1% of set speed
	Drive Motor Architecture	High-torque stepper motor with integrated reduction gearbox
	Kinematic Transmission	High-efficiency circular-arc synchronous toothed belt with dual lead-screw assembly
	Alignment Fixture Mounting	Cross-pin universal joint with integrated angular swing limit mechanism
User Interface & Controls	Display Screen	High-visibility industrial liquid crystal display (LCD)
	Control Panel	Sealed tactile touch-key keypad
	Real-Time Displayed Metrics	Active test force, peak fracture load, displacement, crosshead speed, running status
	Automation Functions	Automatic calibration routine, parameter-driven auto-testing, automated fracture stop
Safety & Compliance	System Safety Protection	Dual mechanical limit switches, programmable firmware limit stops, load overload trip, overcurrent and overvoltage safeguards
	Design & Build Standard	Fully compliant with GB/T2611 General Requirements for Testing Machines
	Completeness of Delivery	Fully integrated unit compliant with national laboratory testing apparatus standards
Electrical Specifications	Power Supply Requirements	220 V AC ±10%, 50 Hz, Single Phase