

Microcomputer Controlled Iron Ore Pellet Compressive Strength Tester Pellet Crushing Resistance Testing Machine

Item Number: KT-JTK



Introduction

Engineered for ISO 4700 compliance this microcomputer iron ore pellet compressive strength tester delivers precise ten kilonewton capacity high accuracy load sensing real time deformation analysis and automated batch statistics to ensure rigorous metallurgical quality control in production laboratories

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Application	Description	Key Benefit
Blast Furnace Feed Quality Control	Quantifying the compressive failure threshold of fired iron ore pellets prior to blast furnace charging.	Prevents in-furnace degradation, mitigating gas channeling risks and preserving furnace bed permeability.
Direct Reduction Iron (DRI) Production	Verifying the cold crushing strength of pellets destined for gas-based shaft furnaces and fluidized bed reactors.	Ensures pellets withstand shaft burden pressure without premature disintegration or dust generation.
Pelletizing Plant Optimization	Evaluating green pellet firing profiles, bentonite binder dosages, and moisture content adjustments during agglomeration.	Enables rapid feedback loops for optimizing furnace thermal profiles and raw material additive ratios.
Shipping and Handling Durability Studies	Simulating mechanical stresses induced during long-distance bulk maritime shipping, rail transfer, and conveyor discharge.	Accurately predicts generation of sub-sieve fines, preventing commercial financial penalties and cargo loss.
Metallurgical Academic Research	Investigating novel non-bentonite organic binders, composite pellets, and cold-bonded agglomeration technologies.	Provides high-precision deformation curves and quantitative peak load data for academic publications.
Third-Party Material Certification	Performing independent, standards-compliant verification of commercial iron ore pellet batches for trade settlement.	Delivers fully traceable, ISO 4700-compliant test certificates with verifiable batch statistical records.

Specification Parameter	Value / Characteristic
Product Item Number	KT-JTK
Applicable Testing Standards	GB/T 14201-93, ISO 4700-2007
Maximum Load Capacity	10 kN (10,000 N)
Testing Force Range	0 N to 10,000 N
Testing Machine Accuracy Class	Grade 1 (Indication error within $\pm 1\%$)
Force Measurement Precision	$\pm 1\%$ of indicated value
Pressure Sensor Accuracy	$\leq 0.05\%$ Full Scale (FS)
Specimen Diameter Range	5 mm to 60 mm
Crosshead Travel Stroke	500 mm
Stroke Displacement Precision	± 0.01 mm
Testing Speed Range	1 mm/min to 100 mm/min (continuously variable)
Displacement Measurement Device	High-resolution column-mounted photoelectric encoder
Force Detection Element	High-accuracy load cell mounted to underside of moving crosshead

Specification Parameter	Value / Characteristic
Drive Architecture	Electric motor coupled with reduction gearbox and column-enclosed lead screws
Control System Architecture	Column-mounted intelligent micro-control unit alongside PC microcomputer interface
Data Visualization & Outputs	Real-time LCD curve plotting, automated batch statistics, onboard micro-printer
Motor Power Rating	0.75 kW
Operating Power Supply	380V AC, 50 Hz, 3-Phase