Intelligent Pellet Compressive Strength Tester Automated Iron Ore Pellet Crushing Strength Testing Machine

Item Number: KT-JTJ

Introduction

Designed for rigorous metallurgical quality control, this intelligent pellet compressive strength tester delivers high precision crushing load evaluation in full compliance with ISO 4700 and GB/T 14201 standards for blast furnace pellets, direct reduction feedstocks, and industrial catalyst spheres.

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Application	Description	Key Benefit
Iron Ore Pellet Quality Control	Rapid verification of crushing strength for commercial iron ore pellets prior to blast furnace charging.	Prevents in-furnace degradation, minimizes fines generation, and maintains optimal bed permeability.
Direct Reduction (DRI) Feed Evaluation	Compressive mechanical assessment of oxidized and pre-reduced pellets used in shaft and rotary furnaces.	Ensures pellet integrity under static reduction loads, reducing dust losses and gas channel blockage.
Industrial Catalyst & Sorbent Testing	Mechanical crushing evaluation of spherical or cylindrical extruded chemical catalyst carriers.	Validates resistance against operational attrition and thermal-mechanical pressure in fixed-bed reactors.
Pelletizing Binder Optimization	Comparative mechanical testing of green and fired pellets formulated with varied organic or bentonite binders.	Accelerates binder formulation screening and lowers production costs without compromising structural toughness.
Coking & Coal Agglomerate Inspection	Load-bearing capacity characterization of composite briquettes, formed coke, and carbonaceous compacts.	Assures handling resilience during bulk storage, pneumatic conveying, and high-temperature metallurgical descent.
Academic & Metallurgical Research	High-accuracy compression testing for mineral processing departments and materials certification centers.	Generates publication-grade mechanical deformation data adhering strictly to recognized global standards.

Parameter	Specification
Product Item Number	KT-JTJ
Frame Architecture	Single-arm / Single-column electromechanical structure
Maximum Test Force	5 kN (5000 N)
Force Range Staging	0 N to 5000 N continuous
Effective Measurement Range	2% to >99% of full rated force (100 N to 5000 N)
Metrological Accuracy Class	Grade 1 (Class 1)
Force Indication Accuracy	±1% of indicated value
Test Force Resolution	0.01 N
Displacement Resolution	0.01 mm
Deformation Accuracy	±1%
Speed Control Range	1 mm/min to 300 mm/min (stepless regulation)
Maximum Test Stroke	200 mm
Vertical Compression Space	200 mm

Parameter	Specification
Operator Interface	LCD screen with menu-driven navigation
Display Content	Test force, displacement, deformation, running speed, operating status
Overload Protection	Automatic electronic motor cutoff upon load threshold breach
Limit Protection	Upper and lower adjustable mechanical/electrical limit switches
Applicable Standards	GB/T 14201-1993, ISO 4700-2007
Electrical Requirements	220V AC ±10%, 50 Hz