Vertical Nut Shell Activated Carbon Mechanical Strength Tester

Item Number: KT-JTR

Introduction

Engineered for precise catalyst carrier and adsorbent quality control, this vertical mechanical strength tester delivers standardized tumbling abrasion analysis, precision steel ball impacts, and reliable drum index determination under GB/T 13803.5 test protocols.

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Application	Description	Key Benefit
Vinyl Acetate Catalyst Carriers	Evaluates the structural survivability of nut shell carbon carriers subjected to high gas velocities in synthesis reactors.	Prevents in-reactor bed attrition, channel formation, and premature catalytic dusting.
Precious Metal Catalyst Substrates	Assesses granular carrier strength before impregnating costly platinum, palladium, or ruthenium catalysts.	Eliminates expensive precious metal catalyst loss caused by carrier fracture during bed packing.
Industrial VOC Solvent Recovery	Analyzes coconut and fruit shell carbons used in fluidized and fixed-bed solvent vapor recovery units.	Minimizes fines generation and reduces downstream filter blinding during continuous regeneration cycles.
Gold Extraction (CIP/CIL Processes)	Measures attrition resistance of hard nut shell carbons subjected to severe mechanical agitation in mineral slurries.	Lowers soluble gold loss by preventing micro-particulate carbon detachment in pulp processing.
Potable Water Deep Filtration Beds	Tests granular activated carbon before deployment in deep municipal and industrial filtration columns.	Guarantees long service life under high backwash pressures without particulate breakdown.
Ultra-Pure Gas Scrubbing Media	Validates the physical hardness of high-capacity adsorbents designed for electronic and specialty gas filtration.	Prevents particulate contamination of sensitive downstream semiconductor production processes.
Carbon Manufacturing QA/QC	Serves as an end-of-line batch release testing apparatus for activated carbon production kilns and activation facilities.	Ensures strict commercial grading and standardized compliance reporting for commercial distribution.

Specification Parameter	KT-JTR Value / Dimension
Equipment Model Number	KT-JTR
Operational Orientation	Vertical Console / Horizontal Drum Axis
Testing Standard Conformity	GB/T 13803.5-1999
Test Drum Inner Diameter	108 mm ± 1.5 mm
Test Drum Effective Length	110 mm ± 1.5 mm
Drum Rotational Speed	66 rpm ± 1 rpm
Grinding Media Specification	Ø14 mm Precision Alloy Steel Balls
Material Elevation Mechanism	Internal Radial Lifting Baffle Plates
Material Free-Fall Angle	Elevation Exceeding 90° Prior to Drop
Motor Power Rating	0.55 kW
Operating Electrical Supply	380 V AC, 50 Hz (3-Phase)
Preset Automated Run Duration	15 Minutes (Integrated Auto-Shutoff)
Primary Material Target	Nut Shell & Fruit Shell Activated Carbon Granules

Specification Parameter	KT-JTR Value / Dimension
Test Metric Output	Drum Index / Mechanical Strength Percentage
Structural Chassis	Welded Industrial Structural Steel with Anti-Corrosive Coating