

Laboratory Sample Pulverizer Machine For Precision Grinding And Material Testing

Item Number: KT-YYQ



Introduction

Streamline material testing with our high-performance laboratory sample pulverizer, engineered for rapid fine grinding, versatile ambient or cryogenic processing, zero sample contamination, minimal product waste, and superior particle uniformity across analytical metallurgy, geology, and chemical research.

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Application	Description	Key Benefit
Mining and Mineral Processing	Rapid comminution of geological cores, rocks, hard ores, and concentrate specimens for routine grade control.	Achieves consistent sub-75 micron powders for rapid assay without mineral segregation or selective loss.
Cement and Construction Materials	Size reduction of raw meal, clinker, limestone, blast-furnace slag, and dry concrete specimens.	Delivers narrow particle size distributions required for precise X-ray fluorescence (XRF) pellet preparation.
Metallurgy and Foundry Quality Control	Pulverization of ferroalloys, slags, fluxes, and foundry additives for chemical composition verification.	Eliminates reliance on external test centers, providing near real-time elemental feedback directly on the shop floor.
Environmental Soil and Waste Testing	Fine homogenization of dried environmental soil cores, contaminated sediments, ash, and sludge cakes.	Prevents loss of volatile trace constituents and limits cross-contamination during high-throughput screening.
Advanced Ceramics and Refractories	Grinding of ultra-hard ceramic matrices, refractory oxides, glass, and technical porcelain raw materials.	High wear resistance of contact components prevents mechanical spalling and metallic matrix contamination.
Cryogenic Biological and Polymer Milling	Pulverization of temperature-sensitive plastics, resins, elastomer pellets, and fibrous botanical samples cooled with liquid nitrogen.	Prevents thermal degradation, structural melting, or phase transitions, preserving sample integrity for spectroscopy.

Parameter	Specification (KT-YYQ Series)
Product Item Number	KT-YYQ
Pulverizing Principle	Impact, Friction, and Disc Shearing Comminution
Processing Modes	Ambient Temperature / Cryogenic Temperature Ready
Feed Material Hardness	Soft, Medium-Hard, Hard, Brittle (up to 9 Mohs)
Maximum Initial Feed Size	≤ 15 mm (matrix dependent)
Final Analytical Fineness	Down to < 45 µm / 325 mesh (adjustable by grinding duration and media)
Batch Processing Volume	50 mL to 250 mL per grinding set
Motor Drive Rating	1.5 kW – 2.2 kW High-Torque Industrial Induction Motor
Rotational Speed	Fixed / Variable 950 to 1420 RPM
Grinding Chamber Materials	Hardened Chrome Steel, Tungsten Carbide, Zirconia, Agate (Interchangeable)
Feed Hopper Type	Multi-Functional Gravity Hopper with Anti-Blowback Deflector
Mobility Feature	4 Heavy-Duty Industrial Swivel Casters with Integrated Dual-Locking Brakes
Dust Protection & Sealing	Heavy-Duty NBR/Silicone Lip Seals with Vacuum Port Compatibility

Parameter	Specification (KT-YYQ Series)
Safety Interlocks	Redundant CE-Compliant Hood Interlock Switch and Motor Thermal Overload Guard
Acoustic Sound Pressure Level	≤ 75 dB(A) under full grinding load
Electrical Requirements	220V / 380V (±10%), 50/60 Hz, Single/Three-Phase (Configurable)
Structural Chassis	Powder-Coated Heavy-Gauge Cold-Rolled Carbon Steel