

Laboratory Conical Rod Mill Fine Grinding Machine

Item Number: KT-BMS



Introduction

Engineered for precise ore beneficiation and mineral research, this laboratory conical rod mill delivers uniform grinding from 180 to 400 mesh with minimal overgrinding. Featuring automated electric controls, dry and wet milling versatility, and interchangeable grinding media for reliable testing.

[Learn More](#)

Application	Description	Key Benefit
Ore Beneficiation & Flotation Testing	Preparing finely ground mineral samples such as copper, gold, iron, and polymetallic ores for artificial heavy-medium separation and froth flotation screening	Delivers a tightly controlled 180 to 400 mesh discharge that prevents slime formation and maximizes mineral liberation efficiency
Coal & Coke Analytical Characterization	Grinding raw coal, coke, and carbonaceous feedstocks down to uniform powder consistency for proximate analysis and calorific evaluation	Minimizes ultrafine dust generation while preserving representative maceral distribution across tested sample volumes
Geological Survey Heavy Mineral Analysis	Pulverizing bulk drill cores, rock cuttings, and geological field specimens to isolate heavy sands, rare earth elements, and trace minerals	High single-batch sample capacity accelerates throughput while preventing micro-fracture damage to crystalline marker minerals
Advanced Ceramic & Refractory Processing	Wet and dry batch grinding of technical oxide ceramics, silicates, and raw refractory compounds prior to pressing and thermal sintering	Eliminates particle aggregation through uniform rod action, ensuring homogenous packing density during downstream compaction
Cement & Construction Material Testing	Milling clinker, blast furnace slag, pozzolanic additives, and gypsum to evaluate reactivity curves and hydration kinetics	Consistent roller speed control yields precise particle fineness curves that mirror full-scale industrial ball mill performance
Environmental Soil & Slag Remediation	Comminuting solid industrial residues, metallurgical tailings, and contaminated soil matrices for chemical extraction and leaching kinetics	Motorized electric discharge prevents cross-sample contamination and ensures complete slurry recovery for analytical integrity

Specification Parameter	KT-BMS-1	KT-BMS-2	KT-BMS-3
Roller Architecture	Three-Roller System	Four-Roller System	Four-Roller System
Barrel Capacity Configuration	4 Simultaneous Barrels	16 Simultaneous Barrels	50 Simultaneous Barrels
Roller Diameter	φ127 mm	φ127 mm	φ127 mm
Roller Rotational Speed	140 / 160 r/min	140 / 160 r/min	140 / 160 r/min
Compatible Barrel Diameters	φ108 mm, φ127 mm, φ146 mm	φ108 mm, φ127 mm, φ146 mm	φ108 mm, φ127 mm, φ146 mm
Maximum Feed Particle Size	≤ 2.0 mm	≤ 2.0 mm	≤ 2.0 mm
Final Discharge Fineness	180 - 400 Mesh	180 - 400 Mesh	180 - 400 Mesh
Grinding Media Options	Alloy Steel Rods / Steel Balls	Alloy Steel Rods / Steel Balls	Alloy Steel Rods / Steel Balls
Processing Modes	Dry Milling & Wet Slurry Milling	Dry Milling & Wet Slurry Milling	Dry Milling & Wet Slurry Milling
Barrel Positioning Control	Motorized Electric Tilting	Motorized Electric Tilting	Motorized Electric Tilting
Display & Interface	LCD Digital Menu Screen	LCD Digital Menu Screen	LCD Digital Menu Screen
Process Timer Adjustment	Fully Arbitrary / Programmable	Fully Arbitrary / Programmable	Fully Arbitrary / Programmable
Rated Motor Power	2.2 kW	2.2 kW	2.2 kW

Specification Parameter	KT-BMS-1	KT-BMS-2	KT-BMS-3
External Dimensions (L × W × H)	760 × 510 × 520 mm	1250 × 710 × 720 mm	2180 × 966 × 868 mm
Equipment Net Weight	120 kg	220 kg	450 kg