

Electromagnetic Ore Sample Preparation Pulverizer Laboratory Grinding Mill

Item Number: PSDF



Introduction

Accelerate laboratory workflows with this electromagnetic ore sample preparation pulverizer delivering rapid high frequency impact milling Transform raw mineral feeds up to 15 mm into fine 80 to 200 mesh powders within minutes for precise analytical testing today

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Application	Description	Key Benefit
Geochemical Exploration & Mining	Grinding core drillings, rock chips, and run-of-mine ore samples for assaying precious and base metals.	Delivers uniform 200-mesh powders rapidly, eliminating matrix bias in fire assay and spectroscopic quantification.
Cement & Clinker Quality Control	Pulverizing limestone, raw meal, clinker, and gypsum for rapid elemental X-ray fluorescence (XRF) monitoring.	Rapid cycle times of 1 to 3 minutes accelerate production feedback loops to maintain tight kiln chemical control.
Metallurgical Slag & Flux Analysis	Crushing furnace slag, sinter, iron ore concentrates, and casting fluxes for compositional validation.	Impact grinding reduces extremely hard, abrasive slag samples without excessive chamber erosion or alloy contamination.
Refractory & Ceramic Raw Materials	Size reduction of bauxite, alumina, zirconia, magnesite, and silica minerals prior to structural phase evaluation.	High kinetic impact energy crushes tough ceramic minerals to target fineness without requiring secondary milling stages.
Coal & Coke Petrographic Testing	Pulverizing solid fuel samples to fine mesh sizes for proximate analysis, calorific value determination, and sulfur testing.	Sealed milling chamber minimizes moisture loss and dust dispersion during short-duration impact cycles.
Environmental Soil & Sediment Screening	Homogenizing dry soil cores, river sediments, and mine tailings for heavy metal contamination screening by ICP-MS.	Low sample retention on chamber walls ensures maximum recovery and minimizes carryover cross-contamination between specimens.
Academic Materials Science Research	Grinding synthesized oxides, advanced ceramics, and mineral composites for powder X-ray diffraction (XRD) characterization.	Narrow, reproducible particle size distribution prevents line-broadening artifacts during high-resolution crystallographic scans.

Specification Parameter	Technical Data (PSDF Series)
Product Model Number	PSDF
Operating Principle	Electromagnetic Vibration Impact Milling
Impact / Vibration Frequency	3,000 vibrations / min
Maximum Feed Particle Size	≤ 15 mm
Discharge Particle Fineness	80 - 200 mesh (approx. 178 - 74 μm)
Sample Batch Capacity	40 - 80 g
Process Timer Range	0 - 5 minutes (continuously adjustable)
Electrical Supply	220 V AC, 50 Hz, Single Phase
Operating Current	6 A
Drive Mechanism	Direct electromagnetic coil actuator (direct drive)
Chamber Sealing	Dust-tight mechanical quick-lock mechanism

Specification Parameter	Technical Data (PSDF Series)
Cooling & Duty Cycle	Ambient convective cooling, intermittent high-throughput laboratory duty