

Sealed Sample Preparation Pulverizer Zirconia Grinding Bowl Laboratory Grinding Mill

Item Number: KT-LB



Introduction

This sealed sample preparation pulverizer with a pure zirconia grinding bowl rapidly crushes tough geological ores coal and minerals to fine mesh powder preventing heavy metal contamination during demanding laboratory testing across industrial analysis facilities and quality control

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Application	Description	Key Benefit
Mining and Mineral Exploration	Rapid pulverization of drill cores, quartz veins, hard rock ores, and tailings prior to fire assay or XRF elemental analysis.	Prevents metallic tool contamination while delivering uniform 200-mesh fineness for reliable grade determination.
Coal and Coking Quality Testing	Comminution of raw coal, washed coal, anthracite, gangue, and metallurgical coke according to standard assay protocols.	Fully complies with GB474-1996 sample preparation requirements with zero moisture or volatile loss due to sealed milling.
Metallurgical Slag and Alloy Refining	Fine crushing of furnace slag, sinter, limestone flux, and non-ferrous smelting intermediates for process control assays.	Withstands abrasive mineral hardness up to 800 kg/cm ² compressive strength with negligible bowl wear.
Geochemical Trace Element Surveying	Ultra-fine grinding of soil, sediment, and geological specimens requiring ultra-trace ICP-MS and AAS elemental quantification.	High-purity zirconia grinding medium prevents ppm-level background spikes of Fe, Ni, Cr, and Co.
Advanced Technical Ceramics	Preparation of precursor oxide powders, electronic substrate materials, and structural ceramic batches.	Eliminates cross-phase impurities and produces tightly distributed micro-particle profiles without silica contamination.
Chemical and Pharmaceutical R&D	Homogenization and particle reduction of dry chemical intermediates, active catalysts, and crystalline compounds.	Chemically inert contact surfaces prevent vessel-reagent reactions, ensuring pristine analytical repeatability.

Model Identifier	Sample Stations (Pots)	Maximum Feed Particle Size (mm)	Load Capacity per Station (g)	Pulverizing Duration (min)	Discharge Fineness (Mesh)	Motor Power (kW)
KT-LB-100-1	1	< 13	100 × 1	< 2	120-200	1.1
KT-LB-100-2	2	< 13	100 × 2	< 2	120-200	1.1
KT-LB-100-3	3	< 13	100 × 3	< 2	120-200	1.5
KT-LB-100-4	4	< 13	100 × 4	< 3	120-200	1.5
KT-LB-100-5	5	< 13	100 × 5	< 3	120-200	1.5
KT-LB-100-7	7	< 13	100 × 7	< 3	120-200	1.5
KT-LB-200-1	1	< 20	200 × 1	< 3	120-200	1.5
KT-LB-200-2	2	< 20	200 × 2	< 3	120-200	1.5
KT-LB-200-3	3	< 20	200 × 3	< 3	120-200	1.5
KT-LB-200-4	4	< 20	200 × 4	< 3	120-200	1.5
KT-LB-400-1	1	< 26	400 × 1	< 3	120-200	1.5
KT-LB-400-2	2	< 26	400 × 2	< 3	120-200	1.5

Model Identifier	Sample Stations (Pots)	Maximum Feed Particle Size (mm)	Load Capacity per Station (g)	Pulverizing Duration (min)	Discharge Fineness (Mesh)	Motor Power (kW)
KT-LB-400-3	3	< 26	400 × 3	< 3	120-200	1.5
KT-LB-400-4	4	< 26	400 × 4	< 3	120-200	1.5
KT-LB-500-1	1	< 26	500 × 1	< 3	120-200	1.5
KT-LB-1000-1	1	< 26	1000 × 1	< 3	120-200	1.5
KT-LB-100/200-I	Dual Mixed Station	< 13 / < 12	100 / 200	< 2	120-200	1.5
KT-LB-300/400-II	Dual Mixed Station	< 23 / < 26	300 / 400	< 2	120-200	1.5

Engineering Parameter	Technical Specification
Grinding Media and Vessel Material	High-Purity Yttria-Stabilized Zirconia (ZrO2) with matching puck and ring
Media Abrasion Level	Ultra-low ppm-level loss, zero heavy metal / glass matrix contamination
Permissible Material Compressive Strength	< 800 kg/cm ²
Dynamic Milling Mode	High-speed orbital vibratory impact and frictional shear comminution
Sample Preparation Compliance	Exceeds national standard GB474-1996 preparation specifications
Enclosure Architecture	Heavy-gauge cold-rolled steel plate, anti-vibration sealed shell with powder finish
Machine Base Construction	High-density cast iron dampening platform with low-center-of-mass design
Primary Vibration Isolation	Multi-point high-strength, high-elasticity alloy spring suspension
Secondary Vibration Absorption	Industrial-grade molded dampening rubber base pads (dual-action vibration reduction)
Power Transmission Assembly	Heavy-duty electric motor with shielded eccentric counterweight and enclosed pin sleeve
Clamping System	High-pressure vertical quick-action mechanical lock with ergonomic handle
Control System Options	Standard manual operation or automated digital timer control (denoted by -A suffix)