

Stainless Steel Cross Sample Divider Coning And Quartering Tool For Laboratory Sampling

Item Number: KT-FB



Introduction

Engineered to GB/T 474 standards, this stainless steel cross sample divider ensures contamination-free coning and quartering for coal, ores, and soil. Accelerate laboratory reduction with precision orthogonal quadrant splitting, ergonomic handling, and rugged industrial-grade durability for exact analytical testing.

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Application	Description	Key Benefit
Coal Preparation and Petrochemical Assays	Partitioning raw coal, pulverized coal, washed coal, and industrial coke samples prior to proximate analysis, sulfur content testing, and bomb calorimetry.	Meets mandatory GB/T 474 preparation protocols while eliminating moisture loss and particulate segregation during splitting.
Mining and Geological Exploration	Manual splitting of crushed metallic and non-metallic ores, drill core cuttings, and exploration geological bulk samples.	Heavy-gauge stainless steel resists abrasive rock wear and eliminates trace metal contamination before spectroscopic analysis.
Soil Science and Environmental Remediation	Sub-sampling of agricultural soils, contaminated site bore samples, marine sediment cores, and industrial sludge.	Chemical passivity prevents leaching or chemical reactions, preserving true organic and inorganic baseline compositions.
Metallurgy and Foundry Quality Control	Division of sinter cakes, pelletized iron ores, furnace slag, fluxing agents, and ferroalloy granular materials.	Robust mechanical rigidity penetrates dense, heavy mineral aggregates cleanly without blade distortion or twisting.
Construction Aggregates and Cement Processing	Quartering crushed limestone, clinker, concrete aggregates, gypsum, and raw meal powders in building material testing labs.	Slices cleanly through mixed coarse and fine aggregates without inducing density-driven particle migration.
Solid Waste and Biomass Fuel Characterization	Homogenizing and reducing municipal solid waste fuel fractions, wood pellets, agricultural biomass, and shredded refuse.	Spacious quadrant layout isolates fibrous and irregular particle matrices without clogging or snagging along blade junctions.

Specification Parameter	KT-FB-400	KT-FB-500	KT-FB-600	KT-FB-800
Product Item Number	KT-FB-400	KT-FB-500	KT-FB-600	KT-FB-800
Nominal Diameter (mm)	400	500	600	800
Recommended Sample Mass Range (kg)	2 to 10	8 to 25	20 to 50	45 to 120
Design Standard	GB/T 474	GB/T 474	GB/T 474	GB/T 474
Structural Material	High-Grade Stainless Steel	High-Grade Stainless Steel	High-Grade Stainless Steel	High-Grade Stainless Steel
Cross Blade Angle	90° Perpendicular	90° Perpendicular	90° Perpendicular	90° Perpendicular
Handle Architecture	Reinforced Center T-Bar	Reinforced Center T-Bar	Reinforced Center T-Bar	Reinforced Center T-Bar
Operating Mode	Manual Downward Press	Manual Downward Press	Manual Downward Press	Manual Downward Press
Primary Function	Coning & Quartering / 9-Point	Coning & Quartering / 9-Point	Coning & Quartering / 9-Point	Coning & Quartering / 9-Point
Surface Finish	Polished / Anti-Adhesion	Polished / Anti-Adhesion	Polished / Anti-Adhesion	Polished / Anti-Adhesion

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Applicable Material Types	Solid particulates, coal, ores, soil, clinker, biomass granules			

Process Step	Operational Requirement	Methodological Objective
Step 1: Coning & Mixing	Shovel material into a symmetrical conical pile, repeating three times to achieve homogeneous distribution.	Ensure localized mineral fractions and particle size distributions are thoroughly mixed radially.
Step 2: Bed Flattening	Gently flatten the top of the conical heap radially outward to form a uniform circular cake of consistent thickness.	Establish an even bed height to maintain equal volume across all four geometric quadrants.
Step 3: Vertical Penetration	Align the center of the cross divider over the geometric apex of the cake and press the blades vertically down to the base.	Isolate four distinct 90-degree sectors without causing lateral particle scatter or shearing.
Step 4: Quadrant Reduction	Discard two diagonally opposing quadrant sectors; retain and combine the remaining two sectors for subsequent processing.	Reduces total sample mass by 50% while strictly preserving original grain size distribution and chemical profile.
Step 5: Auxiliary 9-Point Sampling	Use the orthogonal blade edges as coordinate references to locate and extract 9 equal sample increments across the bed.	Satisfies specialized secondary sampling requirements with standardized geometric point extraction.