

# Industrial Laboratory Bulk Material Sampling Scoop Shovel

Item Number: KT-CYA



## Introduction

Engineered for representative bulk material extraction across mining and chemical processing plants this industrial sampling scoop delivers reliable granular collection with mouth widths up to 300mm to seamlessly handle maximum particle sizes up to 100mm for accurate laboratory quality assurance.

[Learn More](#)

| Application                                               | Description                                                                                                                                                                                         | Key Benefit                                                                                                                                                                      |
|-----------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mining and Mineral Beneficiation                          | Manual increment extraction of uncrushed or primary crushed copper, iron, gold, and bauxite ores directly from stopes, transfer chutes, or stopped conveyor belts during grade control inspections. | Accommodates coarse fragment top-sizes up to 100 mm without jamming, preventing extraction bias and preserving representative mineral grade variance across geological strata.   |
| Highway Aggregate and Ballast Quality Control             | Routine sampling of coarse sub-base gravels, crushed rail ballast, and asphalt aggregates from stockpiles and delivery haulers in compliance with civil engineering construction standards.         | Deep-well parallel sidewalls eliminate rolling loss of spherical gravel, ensuring that sieve gradation curves accurately reflect true quarry output without fines distortion.    |
| Metallurgy and Blast Furnace Raw Feeds                    | Collection of representative aliquots of limestone flux, coke breeze, and ferro-alloy additives from storage silos and batch weigh-hoppers prior to furnace charging.                               | Structural resilience withstands sharp, abrasive metallurgical materials, preventing tool wear while ensuring precise elemental stoichiometry in molten bath feeds.              |
| Thermal Coal and Solid Fuel Power Utilities               | Taking gross and sub-lot samples of pulverized or crushed bituminous coal, anthracite, and petroleum coke from stationary stockyards and mechanical sampling bypass diverters.                      | Non-clogging open throat design permits swift extraction of moisture-laden or cohesive fuel fines, providing accurate gross calorific value (GCV) and ash content determination. |
| Granular Fertilizer and Agrochemical Production           | In-process sampling of prilled urea, diammonium phosphate (DAP), potassium chloride, and blended soil nutrients across drying drums and bulk packaging lines.                                       | Crevice-free internal surfaces ensure zero particulate retention between chemically distinct batches, safeguarding formulation purity and avoiding nutrient cross-contamination. |
| Cement Kiln Clinker and Raw Meal Processing               | Extraction of hot clinker nodule samples and crushed limestone feedstocks at kiln discharge coolers and primary roller mill inspection points.                                                      | High thermal stability resists ambient process heat up to 250°C without handle weakening or metal oxidation, maintaining operator safety and mechanical integrity.               |
| Industrial Slag Reclaim and Recycled Aggregate Processing | Quality monitoring of crushed demolition concrete, steelmaking slag, and glass cullet across secondary crushing circuits and sorting grids.                                                         | Heavy-gauge wear lip resists gouging against sharp cullet and hardened slag fragments, delivering multi-year working life under aggressive mechanical abrasion.                  |

| Model / Parameter                      | KT-CYA-S (Small)                                    | KT-CYA-M (Medium)                                           | KT-CYA-L (Large)                                        |
|----------------------------------------|-----------------------------------------------------|-------------------------------------------------------------|---------------------------------------------------------|
| Scoop Mouth Width                      | 100 mm                                              | 150 mm                                                      | 300 mm                                                  |
| Maximum Applicable Particle Size       | 25 mm                                               | 50 mm                                                       | 100 mm                                                  |
| Recommended Aperture-to-Particle Ratio | 4.0 : 1                                             | 3.0 : 1                                                     | 3.0 : 1                                                 |
| Target Material Granulometry           | Fine powders, sand, crystalline chemicals, pellets  | Intermediate crushed minerals, washed gravel, clinker, coal | Run-of-mine ore, quarry ballast, riprap, heavy slag     |
| Operational Environment                | Laboratory benchtop, pilot plants, fine chute ports | Bulk material plants, conveyor discharge chutes, railcars   | Primary crushers, bulk stockpiles, heavy transport bins |
| Sidewall Profile                       | Straight vertical retention                         | Straight vertical retention                                 | Deep-well reinforced containment                        |
| Construction Joinery                   | Continuous sanitary welds                           | Continuous sanitary welds                                   | Continuous high-load gusseted welds                     |

| Specification Category             | Parameter Details                                                                        |
|------------------------------------|------------------------------------------------------------------------------------------|
| Product Item Series                | KT-CYA                                                                                   |
| Available Mouth Width Range        | 100 mm to 300 mm                                                                         |
| Particle Size Envelope             | Up to 100 mm (KT-CYA-L), 50 mm (KT-CYA-M), 25 mm (KT-CYA-S)                              |
| Fabrication Architecture           | U-shaped flat-bottom trough with vertical retaining sidewalls                            |
| Internal Corner Radii              | Smooth flush-ground transitions for zero sample retention                                |
| Handle Configuration               | Reinforced tubular ergonomic grip with dual-gusset base attachment                       |
| Thermal Stability Range            | Continuous operation from -20°C to +250°C                                                |
| Surface Passivation                | Industrial smooth, non-reactive finish                                                   |
| Methodological Standards Alignment | Compliant with ASTM D2234, ASTM C127, ISO 13909, and ISO 3082 manual increment protocols |