

Automatic Sampling System For Bulk Materials And Coal Quality Inspection

Item Number: KT-CYX



Introduction

Optimize bulk material intake with our heavy-duty automatic sampling system designed for trucks and railcars featuring intelligent CCD vehicle positioning, depth auger extraction, automated crushing division, and reliable anti-clogging engineering for demanding coal and metallurgy industries.

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Application	Description	Key Benefit
Coal-Fired Thermal Power Plants	Automated sampling of incoming railcar and truck consignments of raw and bituminous coal directly at boiler intake zones.	Guarantees unbiased calorific value verification, prevents fuel billing discrepancies, and standardizes combustion efficiency calculations.
Metallurgical & Steel Works	Continuous representative core extraction of metallurgical coking coal, iron ore concentrates, and flux limestone from open freight cars.	Provides fast metallurgical assay feedback, protects blast furnace chemistry, and prevents sub-grade raw material loading.
Bulk Port & Transshipment Terminals	High-throughput extraction and online preparation of commercial bulk solid consignments unloaded from bulk freight trains and continuous trucks.	Accelerates terminal turnaround times, mitigates railcar demurrage charges, and produces indisputable third-party commercial referee samples.
Coal Washing & Preparation Plants	Real-time sampling of raw ROM (run-of-mine) coal feeds, washed clean coal fractions, and middling reject flows across processing yards.	Monitors washability curves accurately, optimizes dense medium cyclone yields, and maintains strict ash-content quality margins.
Chemical & Coal Gasification Facilities	Quality inspection of high-grade anthracite, semi-coke, and carbonaceous chemical feedstocks prior to hopper storage.	Prevents chemical reactor catalyst fouling by identifying anomalous silica and moisture contents prior to downstream processing.
Cement & Calcination Plants	In-line extraction of fossil fuels, industrial gypsum, clinker additives, and raw shale arriving via heavy haulage trucks.	Stabilizes kiln thermal balances, maintains product consistency, and ensures compliance with strict environmental emissions monitoring.

Specification Parameter	Truck-Mounted System (KT-CYX-600)	Railcar-Mounted System (KT-CYX-800)
Target Bulk Materials	Raw coal, clean coal, coke, iron ore, minerals	Raw coal, clean coal, coke, iron ore, minerals
Primary Sampling Method	Bridge-type vertical mechanical auger drilling	Heavy bridge-type vertical mechanical auger drilling
Applicable Carrier Vehicles	Heavy-duty commercial trucks, dump trailers	Open-top freight railcars, gondola railcars
Auger Drill Head Diameter	Φ100 mm – Φ300 mm (selectable)	Φ100 mm – Φ300 mm (selectable)
Auger Vertical Stroke Range	0 – 3000 mm	0 – 3000 mm
Material Feed Particle Size	1 mm – 300 mm	1 mm – 300 mm
Sampling Point Selection Mode	Computer-controlled random grid (1-5 points)	Computer-controlled random grid (1-5 points)
Single Point Sampling Cycle	Approx. 40 seconds / point (configurable)	Approx. 40 seconds / point (configurable)
Positioning Technology	CCD optical imaging & industrial proximity sensors	Advanced CCD imaging & dual high-dust sensors
Sample Reduction Path	Integrated crushing, rotary division, automated collection	Integrated crushing, rotary division, automated collection
Material Flow Chute Lining	Polished heavy-gauge stainless steel	Polished heavy-gauge stainless steel
Moisture Compatibility	Optimized for high-moisture wet coal feeds	Optimized for high-moisture wet coal feeds

Specification Parameter	Truck-Mounted System (KT-CYX-600)	Railcar-Mounted System (KT-CYX-800)
Structural Carriage Protection	Contact sensors & reinforcement rib detectors	Contact sensors & reinforcement rib detectors
System Installed Capacity	30 kW	30 kW
Main Power Supply	380V AC, 50 Hz, 3-Phase	380V AC, 50 Hz, 3-Phase