

sealed hammer knife crusher for carbon and ferroalloys

Sealed Hammer Knife Crusher is a kind of laboratory and industrial sample making equipment integrating high efficiency crushing, sample mixing and environmental protection performance, specially designed for processing hard or representative solid bulk samples.

Sealed Hammer Knife Crusher

The Sealed Hammer Knife Crusher operates under fully sealed and dust-free conditions, efficiently and quickly crushing minerals, coal, coke, ferroalloys, and other samples to required particle sizes. It is widely used in energy, metallurgy, mining, building materials, environmental protection, scientific research, and third-party testing fields.

This equipment strictly implements and meets national standards including “Method of Preparation of Coal Samples” (GB 474), “Methods of Sampling and Acceptance of Commodity Coal Quality” (GB/T 18666), and “General Rules for Sampling and Sample Preparation of Bulk Mineral Products” (GB/T 2007), ensuring experimental accuracy and representativeness.

Features

1. Fully sealed structure design, effectively prevents dust leakage, meeting national environmental and occupational safety standards.



2. Crushing chamber made with thick-walled seamless steel tube for strong impact resistance, avoiding sample contamination and heat deterioration, preserving sample integrity.
3. Alloy hammer knife offers high strength and wear resistance, suitable for high hardness materials.
4. Inserted sieve plate design allows tool-free, quick replacement for different particle size requirements.
5. Full cross-section crushing technology ensures no blockage, no residual samples, and no dead ends.
6. Versatile: Suitable for coke, ferroalloy, sintered ore, and other hard or brittle samples.
7. Rapid crushing with synchronized sample mixing, minimal moisture loss, and high fidelity.
8. Compact structure, convenient operation and maintenance, rotating parts with protection devices, stable operation, and low noise.

Main Advantages

1. Efficient sample making: Rapid crushing and homogeneous mixing completed in a short time, greatly improving laboratory or field sampling efficiency.
2. Environmental protection and safety: Fully sealed, dust-free design effectively controls pollution sources and protects operator health.
3. Standardization and compatibility: Complies with multiple national and industry standards for sampling and sample preparation, ensuring quality control and traceability.

4. Low maintenance costs: Modular, wear-resistant design reduces failure rate and maintenance frequency.

Working Principle

Sealed Hammer Knife Crusher rapidly crushes materials by impacting, shearing, and grinding them with high-speed rotating hammer knives. Under centrifugal force and gravity, materials are evenly distributed in the crushing chamber and repeatedly collide with the fixed liner plate until they reach the set particle size, then discharged through the sieve plate. The airtight environment prevents dust and moisture loss during the crushing and mixing process.

Application Fields

1. Coal industry: Coal sample crushing and preparation for calorific value, moisture, ash, and other pre-analytical processes.
2. Metallurgy and iron & steel: Preparation of ferroalloys, ores, sintered ore, pellets, and other high hardness samples.
3. Geological exploration and scientific research: Crushing of rock and ore samples for assay and composition testing.
4. Building materials and chemical industry: Preparation of cement raw materials, ceramics, and chemical samples.

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Model	TR80	TR150
Feed size	≤80mm	≤150mm
Output size	less than 3mm or 6mm(adjustable)	less than 6mm or 13mm(adjustable)
Production rate	1200 to 1800kg per hour	1800 to 3000kg per hour
Motor power	4kw	7.5kw
Power supply	three phase 380Vac	
Weight	300kg	480kg
Dimensions	900x640x1250mm	1100x800x1500mm
Note	Alloy coated hammer blade, can crush iron ore, coke, gangue	