roll crusher with relative differential rotation principle

Roll crusher is a kind of equipment used for material crushing, mainly through the principle of relative differential rotation of two rolls to achieve material crushing, its simple structure, uniform discharge, stable performance and widely used in many fields.

Roll Crusher

The Roll Crusher is designed for high-efficiency crushing with uniform discharge, simple structure, and reliable performance. It is suitable for various industries demanding precise particle size control, including coal, metallurgy, building materials, and more.

Main Features

1. Simple structure design: Easy to operate and maintain, reducing equipment failure rate.
2. Uniform discharge: Achieves consistent particle size through the crushing action between two rolls, making it ideal for strict production requirements.
3. Flexible adjustment: Crushing size can be precisely controlled by adjusting the gap between the rolls, meeting diverse material size needs.

4. Roll surface treatment: Special technology prevents material adhesion, improving production efficiency and reducing maintenance frequency.
5. High performance and stability: Stable operation for long-term, continuous production with high efficiency.
6. Industry standards compliant: Meets GB/T19494 “Coal Mechanized Sampling”, GB474 “Coal Sample Preparation Methods”, and other standards for accuracy and reliability in strict testing scenarios.

Working Principle

1. Material entering crushing chamber: Material enters through the inlet, and the two high-speed rotating rollers clamp the material.
2. Material crushing: Materials are extruded and crushed between the rolls, achieving the desired size through friction and pressure.
3. Adjust particle size: The gap between the rollers can be adjusted to flexibly control the discharge size for different applications.

Advantages

1. High efficiency crushing: Effectively crushes hard materials with strong adaptability.
2. Energy saving and environmental protection: Low energy consumption and minimal waste, supporting sustainable production.
3. Strong stability: Reasonable design ensures stable operation and fewer failures, minimizing production interruptions.
4. Easy to operate: Simple structure allows convenient operation and maintenance for long-term, mass production.
5. Uniform particle size: Crushed material has a consistent size, meeting strict production standards.
6. Low noise and vibration: Optimized structure ensures quiet and smooth operation, suitable for modern industrial requirements.

Application Fields

1. Coal industry: Crushing and preparation of coal samples for accurate quality inspection in mines and power plants.
2. Iron and steel metallurgy: Ore crushing to improve efficiency and reduce energy consumption in steel production.

3. Geology and building materials: Stone and ore crushing for uniform raw materials in building materials production.
4. Third-party testing organizations: Sampling equipment for material testing and analysis to ensure experiment accuracy.
5. Chemical and ceramics industries: Crushing softer materials such as limestone and clay for medium particle size sample preparation.

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Model	**GP200**	**GP250**	**GP300**
Feed opening size	ϕ200x125mm	ϕ250x150mm	ϕ300x300mm
Feed size	⩽13mm	⩽20mm	⩽20
Output size	less than 0.5mm or 3mm(adjustable)		less than 1mm or 3mm(adjustable)
Production rate	250 to 300kg per hour	300 to 450kg per hour	600 to 900kg per hour
Motor power	3kw	3kw	5.5kw
Power supply	three phase 380Vac		

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Model	**GP200**	**GP250**	**GP300**
Weight	230kg	285kg	605kg
Dimensions	900x580x810mm	1100x650x930mm	1300x800x850mm