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SHIBANG High pressure grinding mill

The machine is mainly applied to the powder processing of mineral products in the industries of metallurgy, construction materials, chemical, and mining, etc. it can produce powder from various non-flammable and non-explosive mineral materials with Mohs hardness below 9.3 and humidity below 6%, such as quartz, feldspar, calcite, talcum, barite, fluoride, Xircom, cinder, white lime, cement clinker, activated carbon, dolomite, granite, soft coal, coking coal, lignite, magnesia, chromium oxide green, gold ore, red clay, clay, kaolin, coke, coal Gangue, porcelain clay, kyanite, fluorspar, bentonite, medicinal stone liparite, diabase, pyrophyllite, shale red stone, emeraldite, basalt, gypsum, graphite, carborundun, heat insulating material, etc.

Features of the high pressure grinding mill

1. Compared with the common Raymond grinding mill under the same power conditions, the capacity can be increased by 10%, under the performance of high-pressure springs, the rollers grinding pressure on raw materials can be raised by 1500kgf.
2. All the mineral materials with Mohs hardness below 9.3 can be crushed.
3. The final product size ranges from the maximum particle diameter of 0.95mm (20mesh) to the finest diameter of 0.038mm (400 mesh). A few materials can reach 0.013mm (1000 mesh).
4. Its dust-removing effect fully meets the national dust discharge standard.
5. The classifier is easy for adjustment.
6. The grinding device adopts a superposition multi-grade sealing with good sealing performance.

Working principle

The whole system of High pressure Grinding Mill consists of main frame, decelerator, classifier, piping device, blower, jaw crusher, dustpan elevator, electromagnetic vibration feeder, and electric switch box , motor, etc.
1, Materials are firstly crushed by the jaw crusher; then the crushed materials is transferred to a hopper by the elevator and fed uniformly, quantitatively and continuously by the vibration feeder in the grinding chamber of the main frame for grinding. The grinding particles are brought up by the air current of the blower into the classifier for classification. The particles with the required fineness are brought up by the air current through the pipe into a cyclone collector for separation and collection and the finished particles are discharged from a pipe outlet.
2, Due to some moisture contained in the materials to be grinded, the heat resulting from grinding leads to the vaporized air which changes the airflow volume. Moreover, the outside air inhaled from the narrow gaps, of the piping connections can increase the volume of air current. Therefore, it is necessary to adjust to redundant air pipe between the blower and the main unit for keeping the balance of the air current. The redundant air is then guided into a cloth bag of a dust cleaner to collect the fine powder in the air. And the redundant air is discharged after purification.
3, the main unit runs with a central shaft is driven by a transmission device. The top of the shaft is connected with a quincunx stand, on which a grinding roller is installed to form a swing support, the grinding roller not only rotates around its own axis due to the friction, it also rotates around the ring.
4, The classifier performs the function of classifying the particles by the rotation of blades on the disk driven by a speed-adjustable motor. The rotation speed of the blades is regulated according to the particle size of the finished powder. The coarse particles drop because of self-gravity into the grinding chamber for regrinding. The qualified particles go through the blades and are inhaled by the air current into the cyclone. Then the particles are separated from the air current and collected.
5. The cyclone collector plays an important role in the performance of the grinding mill. Because the core of the upward rotating air current is in state of negative

pressure, the lower part of the collector must meet a very strict requirement of sealing and be isolated entirely form the outside air. Otherwise, the collected particles will be taken away by the central air current, which will directly influence the output of the complete system. Therefore, a powder-locking unit is installed under the collector. Its is a very important component. If the powder-locking unit has not strict sealing,the output of the complete system will be seriously influenced with no or less production of the finished powder.

Name	Unit	Specification			
		YGM7815	YGM8314	YGM9517	YGM4124
Quantity of grinding rollers	Piece	3	3	4	5
Grinding roller, diameter X height	mm	260×150	270×140	310×170	410×210
Grinding ring, diameter X height	mm	780×150	830×140	950×170	1280×210
Max. Feeding size	mm	15	20	25	30
Product fineness	mm	0.613-0.033			
Capacity	Ton/hour	1-3	1-5	2-8	2-10
Overall dimension: LxwxH	m	4.3×3.5×5.1	5.3×4.1×5.2	7.1×5.9×7.9	9.2×7.25×9.7
Total weight	Ton	26.1			

Basic units		Unite	Specifications and technical parameters			
			YGM7815	YGM8314	YGM9517	4121
Motor of main unit	Model		Y225S-8	Y225M-8	Y225S-4	Y280S-4
	Power	Kw	18.5	22	37	75
	Rotating	Rpm				1480
Motor of classifier	Model		Y112M-6	YCT200-4	YCT200-4A	YCT200-4B
	Power	Kw	2.2	5.5	5.5	7.5
Motor of elevator	Model				Y100L-4	Y100L2-4
	Power	Kw			3	3
Motor of blower	Model		Y160M-4	Y180M-4	Y200L-4	Y250M-4
	Power	Kw	15	22	30	55
Motor of jaw crusher	Model		200×350	200×350	200×400	250x400
			Y160M-6	Y160M-6	Y180L-6	Y180L-6
	Power	Kw	7.5	7.5	15	15

Electromag-netic vibration feeder	Model		GZ2F	GZ2F	GZ2F	GZ2F
	Power	Kw	100	100	100	150

Note: This specification is just reference, any changes are subject to the products.