SBM
MINING AND CONSTRUCTION MACHINERY

HIGH PRESSURE SUSPENSION MILL

SHANGHAI SHIBANG MACHINERY

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Application

High Pressure Suspension Grinding Mill is mainly composed of host machine, fineness analytic engine, air blast, cyclone dust accumulator, cloth dust control and connecting ventilation pipe. Crushing engine, elevating conveyor, storage silo, and electro-vibrating feeder and electrical control tank etc.
support equipment can also be provided according to requirements of user. In host machine, grinding roller module hangs on roller suspender through cross shaft. Roller suspender, main shaft, and shovel blade shelf connect fixedly. Pressure spring is on the outside face of boom of grinding roller bearing chamber; it takes cross shaft as support to let grinding roller pressure closely against surface of inner circle of grinding ring.

Features

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.

Operation principles

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.

Specification

table 1:

Type	Roller Num-ber	Roller		Ring		Max .Feeding Size (mm)	Size of finished product (mm)	Main frame power (Kw)	Finenessof finished product(mm)			Overrall Dimension (mm)
		Diameter (mm)	Height (mm)	Inner Diameter (mm)	Height (mm)				0.125	0.075	0.044	
									Capacity(t/h)			
YGM7815	3	260	150	780	150	15	0.613-0.033	18.5	2.2-3	1.5-2.2	1-1.4	4300×3500×5100
YGM8314	3	270	140	830	140	20	0.613-0.033	22	3.4-4.6	2.2-2.8	1.2-2	5300×4100×5200
YGM9517	4	310	170	950	170	25	0.613-0.033	37	4.3-5.6	3-3.8	2.1-3	7100×5900×7900
YGM4121	5	410	210	1280	210	30	0.613-0.033	75	5.0-9.3	4-6.6	2.8-4.4	9200×7250×9700

table 2:

Name		Unit	Specification and technical data			
			YGM7815	YGM8314	YGM9517	YGM4121
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		Y112-6	YC T200-4	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	250×400
			Y160M-6	Y160M-6	Y180L-6	Y180L-6
	Power	Kw	7.5	7.5	15	15
Electromag-netic Vibrating feeder	Model		GZ2F	GZ2F	GZ2F	GZ2F
	Power	Kw	100	100	100	100

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

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