KEFID

Reach new height with KEFID

VM - Vertical Grinding Mill

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Brief Introduction:

VM-series vertical mill is one advanced mill, adopting top technology domesic and abroad, and based on many years' mill experiences. It can crush, dry, grind, and classify the materials. VM series vertical milling machine can be widely used in such industries as cement, power, metallurgy, chemical industry, non-metallic mineral. It is used to grind granular and powdered materials into powder with required fineness.

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Main Features:

1.Low Investment Cost
This mill itself can crush, dry, grinding, classifying, so the system is simple, and occupation area is about 50% of ball mill system. In addition, it can be installed outside, so it will reduce a large number of investment costs.

2. Low Operation Cost
(1) high efficiency: roller compacted materials directly onto the grinding disc, so power consumption is low. Compared with ball mill, it saves energy consumption by 30% ~ 40%.
(2) less wear and tear: As the roller is not in direct contact with the disc, and material of the roller and liner is high quality, so life lime is long.

3. High Drying Ability As the hot air inside contacts directly with the material, drying ability is higher, and it saves energy. By regulating the air temperature, it can meet requirements with diffirent humidity.

4. Simple and reliable operation
(1) It is equipped with automatic control systems, so remote control makes it easy to operate.
(2)It is equipmented with one device,which prevents the roller from contacting with the liner directly, and avoids the destructive impact and severe vibration.

5. the stability of product quality
As the material stays in the mill for a short time, it is easy to detect and control the product particle size and chemical composition, to reduce duplication of milling, stable product quality.

6. Maintenance convenience
By reparinging fuel tank, rotating the arm, it is fast to replace the roller sleeve, and liner, and reduce the downtime loss.

7. Environmental protection

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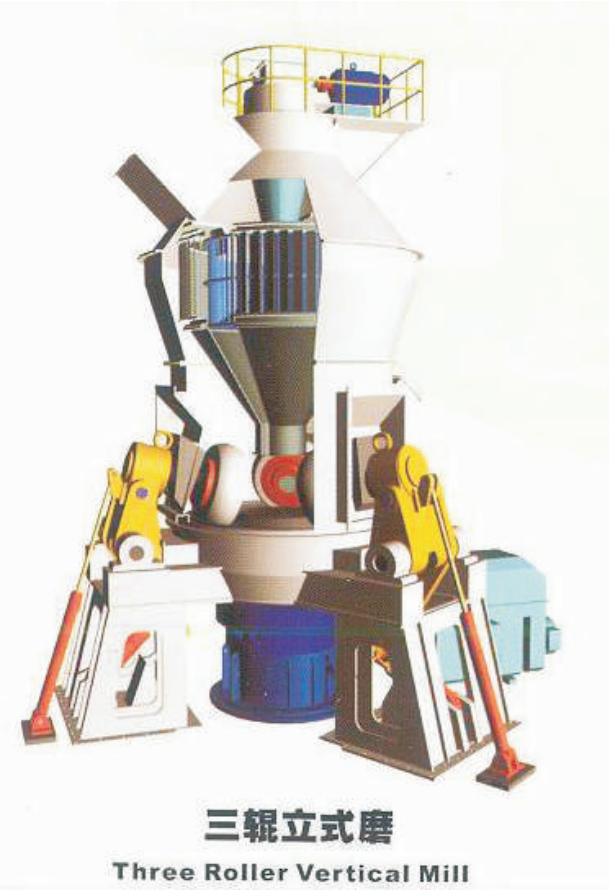
Working principle:

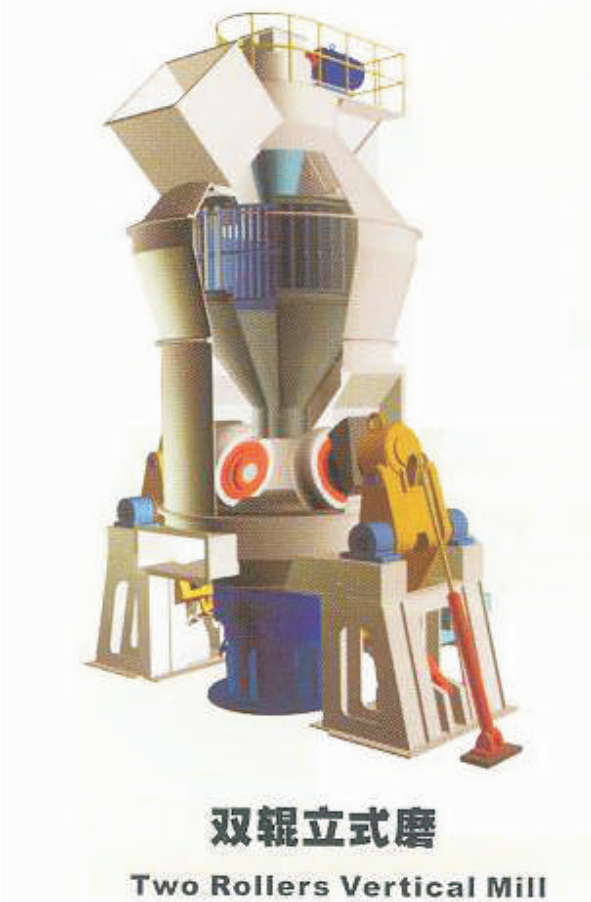
As chart 1 shows, motor runs under the condition that reducer drives the grinding device. The materials fall into the center of device through powder feed lock device, and hot air comes into mill through air inlet. Under the function of centrifugal force, the materials move to the edge of the grinding device as it runs and rollers will grind the materials when they come by the annular chute. The grinded materials will be taken up by air circulation and the bigger powders will fall down for regrinding. Qualified powders will be collected by collecting device as to be finals. Materials containing water will be dryed when they contact with the hot air. Different humidity materials can be dryed to the requirement through adjusting the temperature of hot air. Adjusting the separator can get the required fineness powders.

Main structure:

VM series vertical grinder mainly includes separator， roller device,grinding device,compression device,reducer,motor, frame and so on.(See chart 1). Separator is a kind of separating device with characteristic of high efficiency and energy saving. Roller is the part to grind the materials. Griding disc on which materials are grinded is fixed on the output shaft of the reducer. Compression device is the part to provide enough pressure for the rollers to grind the materials.



三辊立式磨
Three Roller Vertical Mill



双辊立式磨
Two Rollers Vertical Mill

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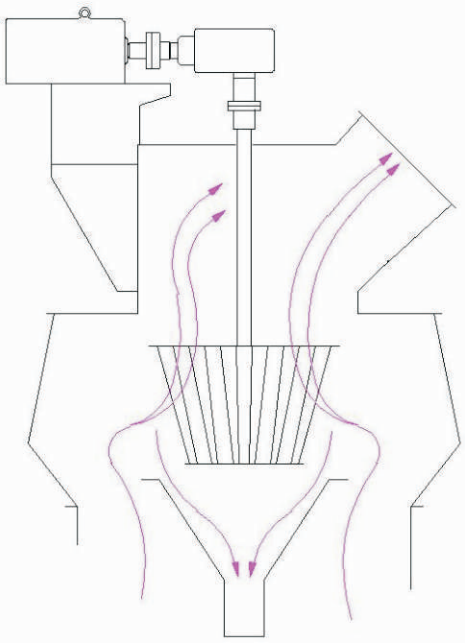
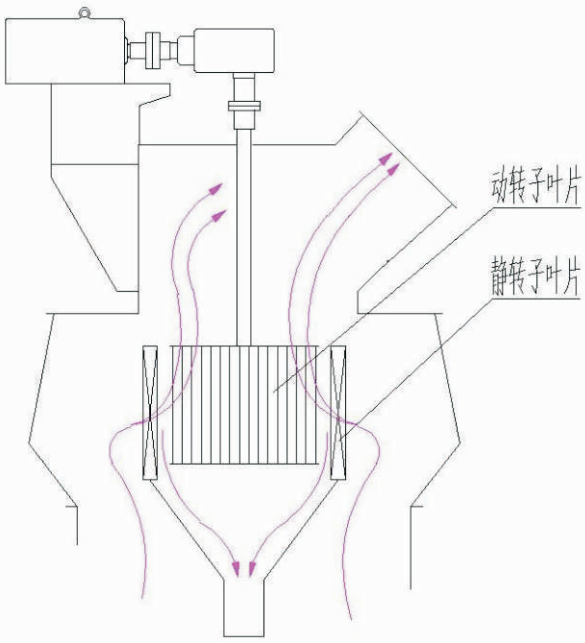
Comparison of separator of conventional grinder and fineness grinder:



Conventional grinder



fineness grinder

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Ore Mill

Contents|Data\Model		LM130K	LM150K	LM170K	LM190K	LM220K	LM240K
Disc Dia. (Mm)		1300	1500	1700	1900	2200	2400
Capacity (t/h)		10~30	13~40	18~57	23~72	36~114	41~128
Output fineness	Micron	170~45	170~45	170~45	170~45	170~45	170~45
	mesh	80~325	80~325	80~325	80~325	80~325	80~325
Product moisture		=1%	=1%	=1%	=1%	=1%	=1%
Max.input size（mm）		<38	<40	<42	<45	<50	<55
Best input moistrure		<4%	<4%	<4%	<4%	<4%	<4%
input moistrure(drying required)		<15%	<15%	<15%	<15%	<15%	<15%
Inlet air temperature（℃）		<350	<350	<350	<350	<350	<350
Outlet air temperature（℃）		70~95	70~95	70~95	70~95	70~95	70~95
Main mill power（KW）		185~220	250~280	355~400	450~500	710~800	800~900
Dimension	Lmm	3500	4200	4700	8500	10200	11700
	Wmm	3400	3900	4500	5600	6700	7700
	Gmm	5800	7100	8300	8800	10600	12200
Weight（t）		48	75	90	100	125	160

Notes:
1. Material should be with hardness less than 7 in Mohs'.
2. Hot air is only necessary if outlet moisture is required to be less than inlet moisture.
3.When grinding material is difficult to grind, please use the largest power.

Coal Mill

Contents|Data\Model		LM130K	LM150K	LM170K	LM190K	LM220K	LM240K
Disc Dia.（mm）		1300	1500	1700	1900	2200	2400
Capacity（t/h）		10~15	16~22	20~28	26~35	35~45	40~50
fineness（R0.08）		<15%	<15%	<15%	<15%	<15%	<15%
Coal powder moisture		<1%	<1%	<1%	<1%	<1%	<1%
Max.input size（mm）		<38	<40	<42	<45	<50	<55
input moistrure		<15%	<15%	<15%	<15%	<15%	<15%
Inlet air temperature（℃）		<350	<350	<350	<350	<350	<350
Outlet air temperature（℃）		75~95	75~95	75~95	75~95	75~95	75~95
Hardgrove index of raw coal (HGI)		>55	>55	>55	>55	>55	>55
Main mill power（KW）		185	250	315	400	500	560
Dimension	Lmm	3500	4200	4700	8500	10200	11700
	Wmm	3400	3900	4500	5600	6700	7700
	Gmm	5800	7100	8300	8800	10600	12200
Weight（t）		46	75	94	100	122	157

Note: Any change of VM Vertical Mill technical data shall not be advised additionally.

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