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世邦机器 品质与文明之光闪耀世界
Shibang Machinery, The light of quality and civilization shines the world

LM 系列立式磨粉机
Series Vertical Grinding Mill

LM

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产品概述

LM系列磨粉机是我公司在广泛采用国内外先进技术的基础上，结合多年各种磨机生产经验，设计开发的先进粉磨设备。该机型集破碎、干燥、粉磨、分级输送于一体，是磨粉行业理想设备。

Brief Introduction

LM series vertical grinding mill is one advanced powder making mill through many years' research & experience and bringing in the latest mechanical technical techniques of Europe. It is one complete plant which integrated with drying, milling, classifier, elevator. It is the high standard mill which can fully meets the requirement of clients in the high production of powder.



技术优势

运行可靠

安装自动控制系统，可实现远程控制，操作简便
通过检修油缸，翻转动臂，更换辊套、衬板方便
快捷，减少停机损失
设备整体密封，系统在负压下工作，无粉尘外溢，环境清洁
震动小，噪音低

Technical Advantage

Reliable Operation

Automatic control devices equipped, remot control can be realized, the operation is easy and simple.

By turning the rockers well as oil jack maintenance, the hard surfacing, roller and ring can be maintained within short time, and reduce the loss because of stop operation.

The equipment is sealed, the whole system working in negative pressure, there is no powder overflow, clean operation environment. Small vibration, low noise.

高性能

热风在磨内直接与物料接触，烘干能力强，节约能源
通过调节热风温度，满足不同湿度物料要求 物料在磨内停留时间短，易于检测和控制产品粒度及化学成分，减少重复碾磨，产品质量更加稳定
辊套和磨盘衬板安装有防止直接接触的装置，避免破坏性冲击和剧烈震动

High Capacity

The hot air can contact with the material in the main unit, this can improve the capacity of drying, and save power.

The hot air can adjust the temperature of different material, and it can reach to the requirement of different humidity.

The grinding time of certain material in the main unit is short, this is easy to control and detect the produce size and chemical composition. And reduce the repeated grinding, the quality of mill is more stable.

The equipment has a device which prevents direct contact between the roller hard surfacing, this can avoid devastating impact and strenuous

低投入

集破碎、干燥、粉磨、分级输送于一体，布局紧凑，占地面积仅为球磨系统的50%
磨辊在磨盘上直接碾压磨碎物料，能耗比球磨系统降低30%~40%
磨辊与衬板采用优质材料制作，减小磨损，增加使用寿命可露天布置，节省投资费用

Low Cost

Because of the integration of crushing, drying, grinding and classification, the system is simple, the layout is compact, comparing with ball mill, the building area can be reduced by 50%.

The roller can grind material on the millstones directly, the power consumption of grinding system is lower 30%-40% than ball mill.

The linner and rollers made by special material, which can reduce the operation cost and prolong the life of roller and linner.

Open layout, Save investment costs

适用范围

LM系列磨粉机广泛应用于水泥、电力、冶金、化工、非金属矿等行业，用于将块状、颗粒状及粉状原料磨成所要求的粉状物料。

Application

LM series vertical grinding mill is widely used in cement, electricity, metallurgy, chemical and non-metal industry. It can grind these material into powder as required fineness.



主要结构

LM系列立式磨粉机主要由选粉机、磨辊装置、磨盘装置、加压装置、减速机、电动机、壳体等部分组成。分离器是一种高效、节能的选粉装置。磨辊是用来对物料进行碾压粉碎的部件。磨盘固定在减速机的输出轴上，是磨辊碾压物料的地方。加压装置是为磨辊提供碾压力的部件，向磨辊提供足够的压力以粉碎物料。

Main Structure

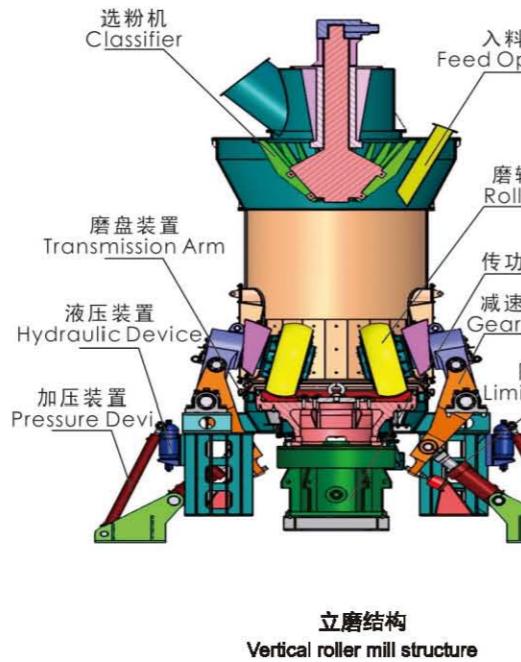
The main structure consists of classifier, roller, millstones, pressurization device, deceleration machine, motor, shell body, etc. Separator is one high efficiency and power saving classifier device. Roller is the main part to grind the materials into powder. The millstone is fixed at the output shaft of the decelerator which is the space material grinded by rollers. The pressurization device which brings pressure for the rollers to grind the material.

工作原理

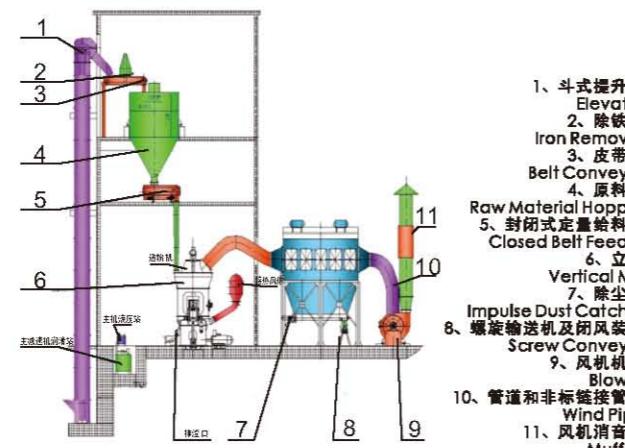
电动机通过减速机带动磨盘转动，物料经锁风喂料器从进料口落在磨盘中央，同时热风从进风口进入磨内。随着磨盘的转动，物料在离心力的作用下，向磨盘边缘移动，经过磨盘上的环形槽时受到磨辊的碾压而粉碎，粉碎后的物料在磨盘边缘被风环高速气流带起，大颗粒直接落到磨盘上重新粉磨，气流中的物料经过上部分离器时，在旋转转子的作用下，粗粉从锥斗落到磨盘重新粉磨，合格细粉随气流一起出磨，通过收尘装置收集，即为产品，含有水分的物料在与热气流的接触过程中被烘干，通过调节热风温度，能满足不同湿度物料要求，达到所要求的产品水分。通过调整分离器，可达到不同产品所需的粗细度。

Working Principle

The grinding table is by the motor through decelerator, the material is feed to the center of the grinding table through the inlet by the air locking feeder, at the same time, hot air comes into the roller mill from the air inlet. Because of the centrifugal force, the materials move to the edge of grinding table from the centre. The materials are crushed by the grinding roller when pass of the groove on the grinding table. The crusher materials continue to move to the edge of the grinding table until taken away by the airstream. Then the bigger materials fall down the grinding table and the process of crushing continues. When the material in the airstream pass the separator on the top of the mill, the materials fall down the grinding table from the taper filler under the force of guide ales af blade. The fine powder comes out with the airstream, and is gathered by the dust catcher of the system. The powder gathered is the final product of roller mill. In the process of the contact of airstream, the moisture materials are dried to meet the clients' need at the proper moisture. Through the adjustment of separator, it can reach the proper fineness of the materials.



立磨结构
Vertical roller mill structure



LM150K型立式矿石磨基本系统图（开路系统）
LM150K type mineral ore grinding mill flow chart (open system)

主要技术参数 Main Specification

LM系列立式矿石磨规格参数

Vertical Mineral Mill Model and Technical Date

Item 项目	Parameter 参数	Model 型号	LM130K	LM150K	LM170K	LM190K	LM220K	LM240K
转盘中径(mm)	Rotate Median Diameter	1300	1500	1700	1900	2200	2400	
产量(t/h) 成品细度 目	Capacity	10~30	13~40	18~57	23~72	36~114	41~128	
	Mm 目	170~45	170~45	170~45	170~45	170~45	170~45	170~45
成品水份	Moisture	<1%	<1%	<1%	<1%	<1%	<1%	<1%
入磨物料最大尺寸(mm)	Max Feeding Size	<38	<40	<42	<45	<50	<55	
最佳入磨物料水份	Moisture of Feeding Material	<4%	<4%	<4%	<4%	<4%	<4%	<4%
须烘干入磨物料水份	Moisture Should Be Dry	<15%	<15%	<15%	<15%	<15%	<15%	<15%
入磨风温(℃)	Temperature of Inlet	<350	<350	<350	<350	<350	<350	<350
出磨风温(℃)	Temperature of Outlet	70~95	70~95	70~95	70~95	70~95	70~95	70~95
主电机功率(kW)	Power of Main Motor	185~220	250~280	355~400	450~500	710~800	800~900	
外形尺寸 Overall Dimension	长(mm) Length	3500	4200	4700	8500	10200	11700	
	宽(mm) Width	3400	3900	4500	5600	6700	7700	
	高(mm) Height	5800	7100	8300	8800	10600	12200	

LM系列立式煤磨规格参数

Vertical Coal Mill Model and Technical Date

Item 项目	Parameter 参数	Model 型号	LM130M	LM150M	LM170M	LM190M	LM220M	LM240M
转盘中径(mm)	Rotate Median Diameter	1300	1500	1700	1900	2200	2400	
产量(t/h)	Capacity	10~15	16~22	20~28	26~35	35~45	40~50	
煤粉细度(R0.08)	Product Size	<15%	<15%	<15%	<15%	<15%	<15%	<15%
煤粉水份	Moisture	<1%	<1%	<1%	<1%	<1%	<1%	<1%
入磨物料最大尺寸(mm)	Max Feeding Size	<38	<40	<42	<45	<50	<55	
入磨物料水份	Moisture of Feeding Material	<15%	<15%	<15%	<15%	<15%	<15%	<15%
入磨风温(℃)	Temperature of Inlet	<350	<350	<350	<350	<350	<350	<350
出磨风温(℃)	Temperature of Outlet	75~95	75~95	75~95	75~95	75~95	75~95	75~95
原煤哈氏可磨指数(HGI)	Hardgrove Grindability Index	>55	>55	>55	>55	>55	>55	>55
主电机功率(kW)	Power of Main Motor	185	250	315	400	500	560	
外形尺寸 Overall Dimension	长(mm) Length	3500	4200	4700	8500	10200	11700	
	宽(mm) Width	3400	3900	4500	5600	6700	7700	
	高(mm) Height	5800	7100	8300	8800	10600	12200	

注：1、入磨物料应是莫氏硬度小于7级的脆性物料。

2、当要求成品水份小于入磨原料的水份时才通入热风。

3、当粉磨难磨物料时，主电机功率取大值。

Note: 1. Feeding material's hardness below than 7 Moh's degree

2. Hot air can be feed on the condition that final product temperature less than raw material temperature

3. Main motor adjust to bigger amount when material hard for grinding