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LM 系列立式磨粉机

Series Vertical Grinding Mill

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Series Vertical Grinding Mill

产品简介 / *Brief Introduction*

LM系列立式磨粉机是我公司在广泛采用国内外先进技术的基础上，结合多年的各种磨机生产经验设计开发的先进粉磨设备。是一种集破碎、干燥、粉磨、分级输送于一体的磨粉行业理想设备。

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

用途及特点
Application and Characters

LM系列立式磨粉机可广泛应用于水泥、电力、冶金、化工、非金属矿等行业。高效率地将块状、颗粒状及粉状原料磨成所要求的粉状物料。

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 efficient.

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主要特点 / *Technical Advantage*

操作简便运行可靠

Easy and Reliable Operation

备有自动控制系统，可实现远程控制，操作简便。装备有防止辊套和磨盘衬板直接接触的装置，避免了破坏性冲击和剧烈震动。布局紧凑，占地面积约为球磨系统的50%，而且可露天布置。

Automatic control devices equipped, remote control can be realized, the operation is easy and simple.The equipment has a device which prevents direct contact between the roller hard surfacing, this can avoiddevastating impact and strenuous vibration.The layout is compact. Comparing with ball mill, the building area can be reduced by 50%, what is more, it can befixed up in the open air.

环保

Environmental Protection

震动小，噪音低，且设备整体密封，系统在负压下工作无粉尘外溢，环境清洁，满足国家环保要求。

Small vibration, less noise. The equipment is sealed working in negative pressure, there is no powder overflow clean operation environment. It meets the state environmental protection standard.

运行成本低

Low Cost

磨粉效率高:采用磨辊在磨盘上直接碾压磨碎物料，能耗低，与球磨系统相比节约能耗30%--40%。磨损少:由于工作中磨辊并不与磨盘直接接触，且磨辊与衬板采用优质材料制作，因此磨损少，寿命长。

The roller can grind material 40% than ball mill.The linner and rollers madeon the millstones directly, the energy consumption of grinding system is lower 30%-by special material, which can reduce the operation cost and prolong the life of them.

维修方便

Convenient Maintenance

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。

Turn the rockerers by oil jack to maintain the roller shell and liner within short time,and reduce the downtime.

主要结构 / *Main structure*

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。

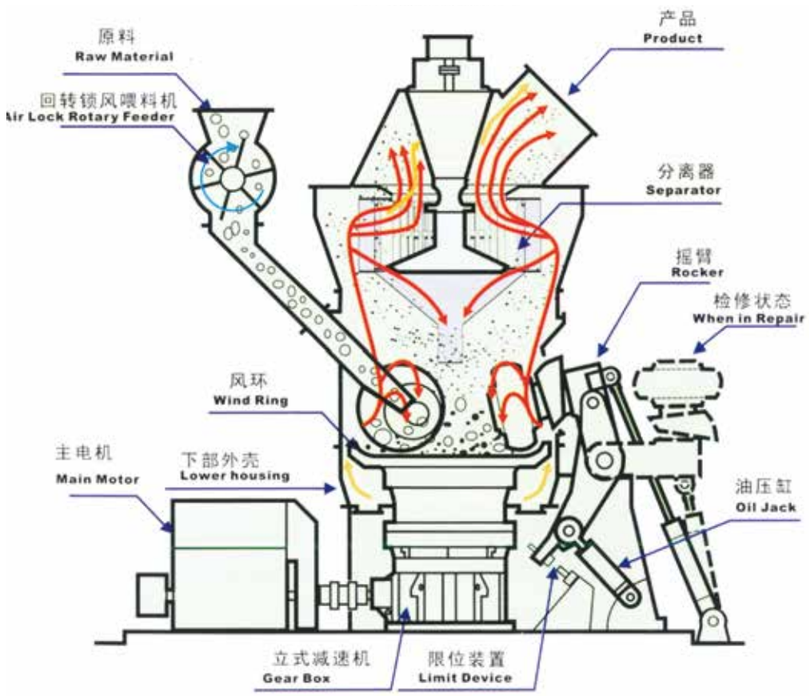
The main structure consists of classifier, roller, millstones, pressure device, deceleration machine, motor, shell body, etc.Separator is one high efficiency and power saving classifier device. Roller is the main part to grind the materials into powder. The millstone is fixed at the output shaft of the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

1、选粉机 Classifier
2、磨辊装置 Roller Device
3、磨盘装置 Millstones Device
4、加压装置 Pressure Device
5、减速机 Decelerator
6、壳体 Shell

工作原理 / *Working Principle*

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。

Motor drives grinding table through gear box, the material is feed to the centre 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 materials in the airstream pass the separator on the top of the mill, the materials fall down the grinding table from the taper filler under force of guide leaf 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.



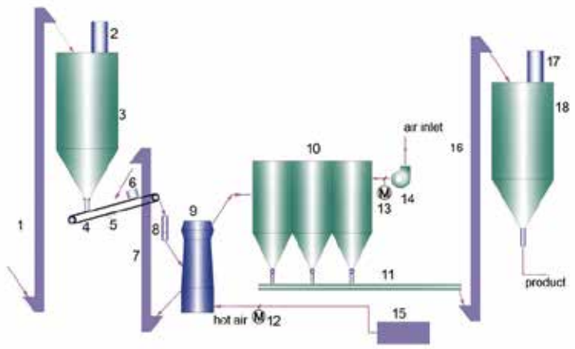
系统工艺流程 / *System Process*

单脉冲除尘器开路系统

Single pulse dust filter open circle system

本系统原料通过斗式提升机进入原料仓，经称量、除铁后用带式输送机送入锁风喂料器，尽可能保证原料进入磨机时不串风。产品收集用一台脉冲除尘器来完成，减少了设备台数，简化了系统配置。产品收集后用螺旋给料机通过斗式提升机送入成品料仓可对入磨潮物料讲行烘干。

The raw materials are sent into the storage through bucket conveyer, and then enter the air-locking feeder by belt conveyor after quantifying, removal of iron, which prevent the air entering. One pulse filter can finish powder collecting, which simplify the system configuration. The worm distributor send the powder into finished-powder storage by bucket conveyer, which parch the wet powder.



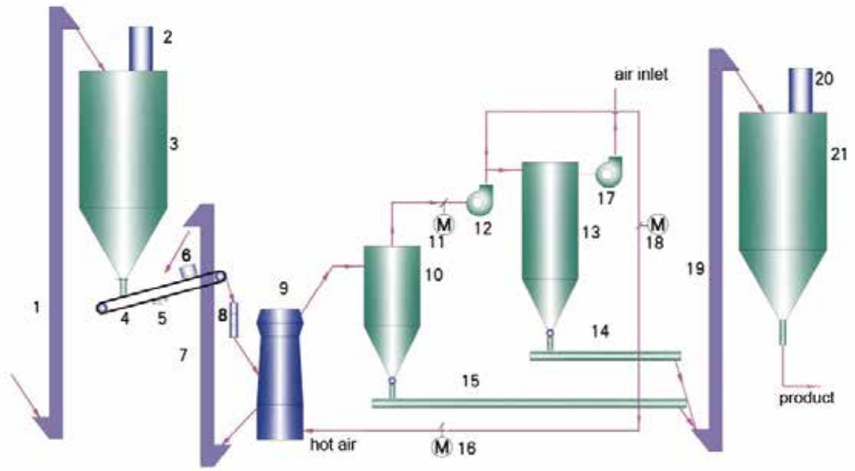
1、 斗式提升机 Bucket Elevator
2、仓顶除尘器 Dust fi lter on Top Hopper
3、原料仓 Raw Material Hopper
4、带式输送机 Belt Conveyor
5、皮带秤 Belt Weighter
6、磁选机 Magnet Separator
7、斗式提升机 Bucket Elevator
8、锁风喂料器 Air-Locking Feeder
9、立磨 Vertical Mill
10、袋式除尘器 Bag Filter
11、螺旋给料机 Screw Feeder
12、电动调风阀 Electric Air-Adjust Valve
13、电动调风阀 Electric Air-Adjust Valve
14、风机 Blower
15、热风炉 Hot air stove
16、斗士提升机 Bucket Elevator
17、仓顶除尘器 Dust fliter on Top Hopper
18、成品料仓 Final Product Hopper

旋风加脉冲除尘器闭路系统

Cyclone and pulse dust filter close circle system

本系统与单脉冲除尘器开路系统区别在于产品收集用一组旋风除尘器来完成，引风机将大部分气体引入磨机进行循环利用，可降低系统的工作负压，减少通过收尘器的气体量，最终除尘设备可用脉冲除尘器。

The difference between whirlwind and Single-pulse filter is that powder collecting is finished by one set of whirlwind filter. Most of the air in the draft fan is pulled into mill to cyclic utilization, which reduce the system sub-pressure and the gas through dust precipitator, and the final equipment can choose pulse filter.



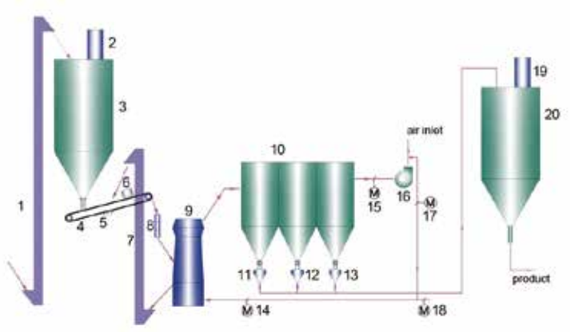
1、斗式提升机 Bucket Elevator
2、仓顶除尘器 Dust Cleaner on Top Hopper
3、原料仓 Raw Material Hopper
4、带式输送机 Belt Conveyor
5、皮带秤 Belt Weighter
6、磁选机 Magnet Separator
7、斗式提升机 Bucket Elevator
8、锁风喂料器 Air-Locking Feeder
9、立磨 Vertical Mill
10、旋风除尘器 Dust filter
11、电动调风阀 Electric Air-Adjust Valve
12、风机 Blower
13、袋式除尘器 Bag Filter
14、螺旋给料机 Screw Feeder
15、螺旋给料机 Screw Feeder
16、电动调风阀 Electric Air-Adjust Valve
17、风机 Blower
18、电动调风阀 Electric Air-Adjust Valve
19、斗式提升机 Bucket Elevator
20、仓顶除尘器 Dust filter on Top Hopper
21、成品料仓 Final Product Hopper

单脉冲除尘器闭路系统

Single pulse dust filter close circle system

本系统与单收集器系统区别在于产品收集后用气力输送系统将成品送入成品料仓，同时引风机将大部分气体引入磨机进行循环利用。

The difference between Single-pulse dust collector and Single collector is that powder is sent to finished storage hopper by conveying system, at the same time most of the air in the draft fan is pulled into mill for cyclic utilization.



1、斗式提升机 Bucket Elevator
2、仓顶除尘器 Dust fi lter on Top Hopper
3、原料仓 Raw Material Hopper
4、带式输送机 Belt Conveyor
5、皮带秤 Belt Weighter
6、磁选机 Magnet Separator
7、斗式提升机 Bucket Elevator
8、锁风喂料器 Air—Locking Feeder
9、立磨 Vertical Mill
10、袋式除尘器 Bag Filter
11、发送器 Transmitter
12、发送器 Transmitter
13、发送器 Transmitter
14电动调风阀 Electric Air-Adjust Valve
15动调风阀 Electric Air-Adjust Valve
16风机 Blower
17电动调风阀 Electric Air-Adjust Valve
18电动调风阀 Electric Air-Adjust Valve
19仓顶除尘器 Dust fi lter on Top Hopper
20成品料仓 Final Product Hopper

立式难磨系列 *Vertical Slag Mill Series*

表3 Table3

参数 Parameter / 型号 Mode	转盘中径 Plate diameter (mm)	产量 Capacity (t/h)	成品细度 Fineness of finished products		成品水分 Moisture content of finished products	入磨物料粒度D_{80} Feeding size D_{80} (mm)	入磨物料最大尺寸 Max. feeding size (mm)	不需烘干入磨物料水分 Moisture content of dry-free feeding	需烘干入磨物料水分 Moisture content of dry-needed feeding	入磨风温 feeding air temperayure (°C)	出磨风温 Discharging air temperayure (°C)	主电机功率 Main motor power (KW)
			μm	m^2/kg								
LM130N	1300	5~14	170~45	420	≤1%	<10	<38	<4%	4~15%	<350	70~95	200
LM150N	1500	7~20	170~45	420	≤1%	<10	<40	<4%	4~15%	<350	70~95	280
LM170N	1700	9~27	170~45	420	≤1%	<10	<42	<4%	4~15%	<350	70~95	400
LM190N	1900	12~30	170~45	420	≤1%	<10	<45	<4%	4~15%	<350	70~95	500
LM220N	2200	18~55	170~45	420	≤1%	<10	<50	<4%	4~15%	<350	70~95	900
LM240N	2400	25~60	170~45	420	≤1%	<10	<50	<4%	4~15%	<350	70~95	1120
LM280N	2800	40~90	170~45	420	≤1%	<10	<50	<4%	4~15%	<350	70~95	1800
LM340N	3400	60~120	170~45	420	≤1%	<10	<70	<4%	4~15%	<350	70~95	2500
LM370N	3700	70~160	170~45	420	≤1%	<10	<70	<4%	4~15%	<350	70~95	3150

注:以上参数仅供参考。如需更多配置请咨询销售人员。

Note: The specifications above are for reference only.for more configurations please consult our sales stuff.

立式煤磨系列 *Vertical Coal Mill Series*

表2 Table2

参数 Parameter / 型号 Mode	产量 Capacity (t/h)	煤粉细度 Pulverized coal fineness (RO.08)	煤粉水份 Moisture content of pulverized coal	入磨物料粒度D_{80} Feeding size D_{80} (mm)	入磨物料最大尺寸 Max. feeding size (mm)	入磨物料水份 Moisture content of feeding	原煤哈式可磨指数 Raw coal hardgrove grindability index(HGI)	入磨风温 feeding air temperayure (°C)	出磨风温 Discharging air temperayure (°C)	主电机功率 Main motor power (KW)
LM80M	4~6	5~20%	<1%	<10	<20	<15%	>55	<350	75~95	55 ~ 75
LM110M	7~10	5~20%	<1%	<10	<25	<15%	>55	<350	75~95	110 ~ 132
LM130M	10~17	5~20%	<1%	<10	<40	<15%	>55	<350	75~95	185 ~200
LM150M	16~22	5~20%	<1%	<10	<40	<15%	>55	<350	75~95	250 ~280
LM170M	20~30	5~20%	<1%	<10	<42	<15%	>55	<350	75~95	315 ~355
LM190M	26~40	5~20%	<1%	<10	<45	<15%	>55	<350	75~95	400 ~500
LM220M	35~50	5~20%	<1%	<10	<50	<15%	>55	<350	75~95	500 ~630
LM240M	45~65	5~20%	<1%	<10	<50	<15%	>55	<350	75~95	630 ~800
LM280M	65~100	5~20%	<1%	<10	<50	<15%	>55	<350	75~95	800 ~1120
LM340M	100~150	5~20%	<1%	<10	<50	<15%	>55	<350	75~95	1120 ~1400

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主要技术参数 / *Technical Parameters*

立式矿磨系列 *Vertical Mineral Mill Series*

表1 Table1

参数 Parameter / 型号 Mode	转盘中径 Plate diameter (mm)	产量 Capacity (t/h)	成品细度 Fineness of finished products		成品水分 Moisture content of finished products	入磨物料粒度D_{80} Feeding size D_{80} (mm)	入磨物料最大尺寸 Max. feeding size (mm)	不需烘干入磨物料水分 Moisture content of dry-free feeding	需烘干入磨物料水分 Moisture content of dry-needed feeding	入磨风温 feeding air temperayure (°C)	出磨风温 Discharging air temperayure (°C)	主电机功率 Main motor power (KW)
			μm	目 Mesh								
LM80K	800	4~10	170~45	80~325	<1%	<10	<20	<4%	4~15%	<350	70~95	75
LM110K	1100	5~15	170~45	80~325	<1%	<10	<25	<4%	4~15%	<350	70~95	132
LM130K	1300	10~28	170~40	80~325	≤1%	<10	<38	<4%	4~15%	<350	70~95	200
LM150K	1500	13~38	170~40	80~325	≤1%	<10	<40	<4%	4~15%	<350	70~95	280
LM170K	1700	18~48	170~40	80~325	≤1%	<10	<42	<4%	4~15%	<350	70~95	400
LM190K	1900	23~68	170~40	80~325	≤1%	<10	<45	<4%	4~15%	<350	70~95	500
LM220K	2200	36~105	170~45	80~325	≤1%	<10	<50	<4%	4~15%	<350	70~95	800
LM240K	2400	40~130	170~45	80~325	≤1%	<10	<50	<4%	4~15%	<350	70~95	1000
LM280K	2800	50~170	170~45	80~325	≤1%	<10	<50	<4%	4~15%	<350	70~95	1250
LM340K	3400	80~240	170~45	80~325	≤1%	<10	<70	<4%	4~15%	<350	70~95	1800
LM370K	3700	120~300	170~45	80~325	≤1%	<10	<70	<4%	4~15%	<350	70~95	2500

注:以上参数仅供参考。如需更多配置请咨询销售人员。

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