



# LM VERTICAL MILL

TOP 1 BRAND OF CHINA'S CRUSHING  
AND GRINDING INDUSTRY









## Product Presentation

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



### **Four structure innovations show obvious performance advantage**

- 1.The thin oil lubrication station attached to the mill makes the roller shafts lubricated circularly, providing them with a working environment of low temperature and pure lubrication oil, extending their service lives, and ensuring their stability.
- 2.Position-limit mechanism are equipped to prevent direct contact between roller shell and millstone liner plate, avoiding destructive violent vibration caused by friction and collision among metals, greatly enhancing security.
- 3.Hydraulic device is adopted to control the acting force, and the acting force can be automatically adjusted according to different grindability of the raw material, which keeps the grinding mill in a perfect condition, not only reducing the consumption of the idle work, but also prolonging the using life of rollers and liners.
- 4.The drive system consists of main motor, coupling and speed reducer. New-type Spiral bevel and planetary drive system are adopted by the speed reducer. The Babbitt thrust tile with strong wearability can bear more pressure load, which also increases the service life.

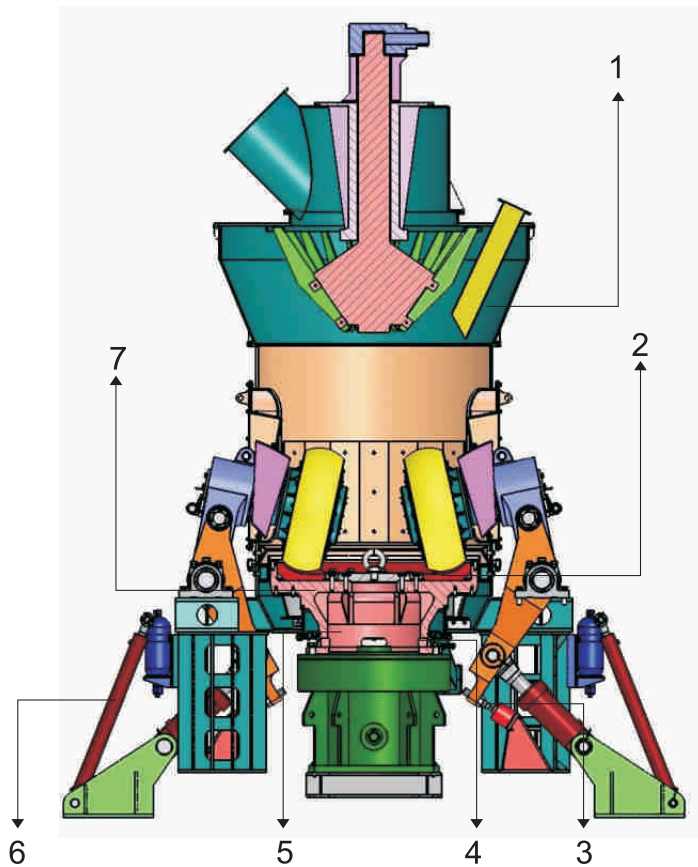


### **Purpose and Application Scope**

LM series vertical mill is widely used in fields like building material, metallurgy, electric power, chemical industry, non-metallic mineral, etc, and it is suitable for grinding medium hardness materials, such as coal, limestone, kaolin, barite, bentonite, alum earth, calcite, pyrophyllite, phosphate rock, marble, quartz, dolomite, iron ore and coal gangue. LM series vertical mill is optimum choice of grinding coal and raw materials.







1. Wide range of product fineness
2. Reasonable Grinding Structure
3. Reliable Limiting Device
4. Thin oil lubrication stable and secure
5. Advanced and reliable drive system
6. Reliable hydraulic device and easy maintenance
7. Automatic Slagging

## PRODUCT STRUCTURE

LM series vertical mill sets fine crushing, drying, grinding, powder choose, transmission in a body, thus it is endowed with high grinding efficiency and large drying ability. LM series vertical mill is composed of powder concentrator, rack section, mainframe grinding part, drive system and lubrication system.

### The working principle of LM series vertical mill:

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 dried when they contact with the hot air. Different humidity materials can be dried to the requirement through adjusting the temperature of hot air. Adjusting the separator can get the required fineness powders.





## PERFORMANCE ADVANTAGES

- 1. Low operation Cost** : (1)、High grinding efficiency: The roller grinds materials on the mill directly, which makes the energy consumption is 30%~40% less than the one of Ball Mill. (2)、Little Wear: The roller and lining plate are made of premium material to have long service life.
- 2. High Drying Ability** : Because the hot wind dries the materials in the mill, a drying machinery is saved. And the temperature of hot wind can be controlled to suit different moisture conditions of different materials.
- 3. The Stability of Product Quality** : The materials stayed shortly in the mill for easily detecting and controlling of the fineness and chemical composition of products, which can make the final size stable. There is few Ferric in final powder and the ferric content come from mechanical wear is easy to remove, the whiteness and purity is high, especially for processing white material.
- 4. Auto-control system** : The mill is equipped with an auto-control system which allows PCL, centralized and DCS control, which makes the operation much easier and meets the different needs from the customers.
- 5. Wide range of product fineness** : Two different classifiers are adopted according to different material and different requirements for fineness. Meanwhile the frequency of the classifier is controllable, which ensures well-distributed particle size and higher product fineness.





## Structure features

### 1.Thin oil lubrication

The thin oil lubrication station attached to the mill makes the roller shafts lubricated circularly, providing them with a working environment of low temperature and pure lubrication oil, extending their service lives, and ensuring their stability.

### 2.Reliable hydraulic device and easy maintenance

Hydraulic device is adopted to control the acting force, and the acting force can be automatically adjusted according to different grindability of the raw material, which keeps the grinding mill in a perfect condition, not only reducing the consumption of the idle work, but also prolonging the using life of rollers and liners.

### 3.Advanced and reliable drive system

The drive system consists of main motor, coupling and speed reducer. New-type Spiral bevel and planetary drive system are adopted by the speed reducer. The Babbitt thrust tile with strong wearability can bear more pressure load, which also increases the service life.

### 4.Environmental-friendly

The mill makes small noises in its running because there is no direct contact between rollers and the grinding table, so it reduces 20-25 dB than that of ball mill. Moreover, the vertical mill is totally sealed and the whole system works in negative pressure, making little dust.





# TECHNICAL PARAMETERS

## 1.Coal mill

Model Items	LM130M	LM150M	LM170M	LM190M	LM220M	LM280M
Disc diameter (mm)	1300	1500	1700	1900	2200	2800
Capacity (t)	10~17	16~22	20~30	26~40	35~50	60~90
Fineness	5~20%	5~20%	5~20%	5~20%	5~20%	5~20%
Coal powder moisture	<1%	<1%	<1%	<1%	<1%	<1%
Maximum feed size(mm)	<38	<40	<42	<45	<50	<50
Input moisture	<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
Power(kw)	185	250	315	400	500	900
Dimension (L×W×H) (mm)	5520×2500×7060	4200×3900×7100	4700×4500×8300	7580×3320×8960	7670×4660×11280	8600×6710×13200
Weight (t)	46	68	88	100	165	258

## TECHNICAL PARAMETERS

### 2.LM for hard materials

Model Items		LM130K	LM150K	LM170K	LM190K	LM220K	LM280K
Disc diameter (mm)		1300	1500	1700	1900	2200	2800
Capacity (t)		5~14	7~20	9~27	12~30	18~55	40~90
Output Fineness	Micron (μm)	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
Final product moisture		≤1%	≤1%	≤1%	≤1%	≤1%	≤1%
Maximum feed size(mm)		<38	<40	<42	<45	<50	<50
Best input moisture		<4%	<4%	<4%	<4%	<4%	<4%
Input moisture		4~15%	4~15%	4~15%	4~15%	4~15%	4~15%
Inlet air temperature (°C)		<350	<350	<350	<350	<350	<350
Outlet air temperature (°C)		70-95	70-95	70-95	70-95	70-95	70-95
Power(kw)		200	280	400	500	900	1800
Dimension (L×W×H) (mm)		5520×2500×7060	6550×3070×7560	7170×3460×8300	7580×3320×8960	7920×4870×12280	8800×6910×13600
Weight (t)		49	72	94	110	170	270



## TECHNICAL PARAMETERS

### 3.Ore mill

Model Items		LM130K	LM150K	LM170K	LM190K	LM220K	LM280K
Disc diameter (mm)		1300	1500	1700	1900	2200	2800
Capacity (t)		10~28	13~38	18~48	23~68	36~105	50~170
Output Fineness	Micron (μm)	170-40	170-40	170-40	170-45	170-45	170-45
	mesh	80-400	80-400	80-400	80-325	80-325	80-325
Final product moisture		≤1%	≤1%	≤1%	≤1%	≤1%	≤1%
Maximum feed size(mm)		<38	<40	<42	<45	<50	<50
Best input moisture		<4%	<4%	<4%	<4%	<4%	<4%
Input moisture		4~15%	4~15%	4~15%	4~15%	4~15%	4~15%
Inlet air temperature (°C)		<350	<350	<350	<350	<350	<350
Outlet air temperature (°C)		70-95	70-95	70-95	70-95	70-95	70-95
Power(kw)		200	280	400	500	800	1250
Dimension (L×W×H) (mm)		5520×2500×7060	6550×3070×7560	7170×3460×8300	7580×3320×8960	7920×4870×12280	8800×6910×13600
Weight (t)		48	70	90	105	180	270

In order to enhance your experience of our equipment during the operation, we strongly recommend spare parts originally manufactured by LIMING Heavy Industry. These high quality spare parts are manufactured using advanced metallurgy techniques, precise machining, and perfect compatibility, ensuring the lowest malfunction operation and creating higher value for our customer.

## Crushing Plant



Sine Liner



Spring



Toggle Plate



Guard Liner Plate



Impact Block



Wearproof Plate



Impact Plate



Tension Rod



Feed Eye Ring



Movable Jaw Plate

## Grinding Plant



Ring



Roller



Shovel Base



Shovel



Gland Arove Roller Sleeve



Roller Sleeve



Roller Shaft



Classifier Impeller



Lining Plate



Air Way Guard Plate



## PRODUCT LIST

### Production Line

Stone Crushing Line

Sand Making Line

Industrial Grinding Line

### Grinding Plant

LM Vertical Mill

MTW European Trapezium Mill

LUM Vertical Roller Mill

TGM Trapezium Mill

T130X Superfine Grinding Mill

YGM Series Suspension Mill

HGM Series Micro Powder Mill

Coarse Powder Mill

Raymond Mill

### Crushing Plant

HJ Series Jaw Crusher

European Type Jaw Crusher

European Type Impact Crusher

Impact Crusher

Jaw Crusher

HPT Hydraulic Cone Crusher

HST Hydraulic Cone Crusher

CS Series Cone Crusher

Spring Cone Crusher

### Sand Making& Screening Plant

VSI5X Vertical Shaft Impact Crusher

VSI Vertical Shaft Impact Crusher

PCL Vertical Shaft Impact Crusher

YKN series vibrating screen

Vibrating Screen

Sand Washing Machine

Belt Conveyor

Vibrating Feeder

### Mobile Crushing Plant

Crawler Mobile Crushing Plant

Mobile Primary Jaw Crusher

Mobile Impact Crusher

Secondary Cone Crusher

Multi-Combination Mobile Crusher

Mobile VSI Crusher

Mobile Vibrating Screen

## QUALIFICATION

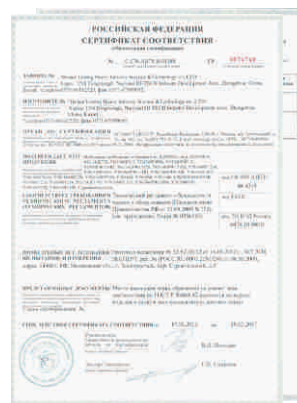
### GOST Certificate



Grinding Plant



Crushing Plant



Mobile Crushing Plant

### CE Certificate



Grinding Plant



Crushing Plant



Sand Making Plant



ISO9001-2008  
Quality Management  
System Certification



Environmental management  
system certificate





## **Service** – With me, enjoy your pleasant journey.

Liming has the most experienced team of engineers with professional knowledge and spirit of dedication. To serve the clients more conveniently, they scattered all over the world to work all year round. From the site planning to the drawing design, from the technical training to the installation and debugging, from the whole working line that values millions to the small pinion that looks insignificant, they fully understand the influence factors of actual situation on customer business, and create successful solution to improve the production efficiency and the environmental quality for customer operating agency.



## WORKSHOP



## ENTERPRISE PROFILE



Henan Liming Heavy Industry Science & Technology Co., Ltd. , established in 1987, is the leading enterprise of mining machinery in China.

Liming Heavy Industry is chronically committed to the research and develop of manufacturing of large infrastructure projects, such as construction, energy, transportation, etc. and provides various technical solutions and auxiliary products. "Made in Liming" is highly praised by our cooperative partners from more than 130 countries and regions overseas, such as Russia, Kazakhstan, Azerbaijan, Turkey, Kuwait, South Africa, Egypt, Vietnam, Malaysia, India, Australia, Korea, Canada and the European Union,etc. Liming is deserved to be one of the most excellent enterprises with the most industry customers and the most widely sales level service network.

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