

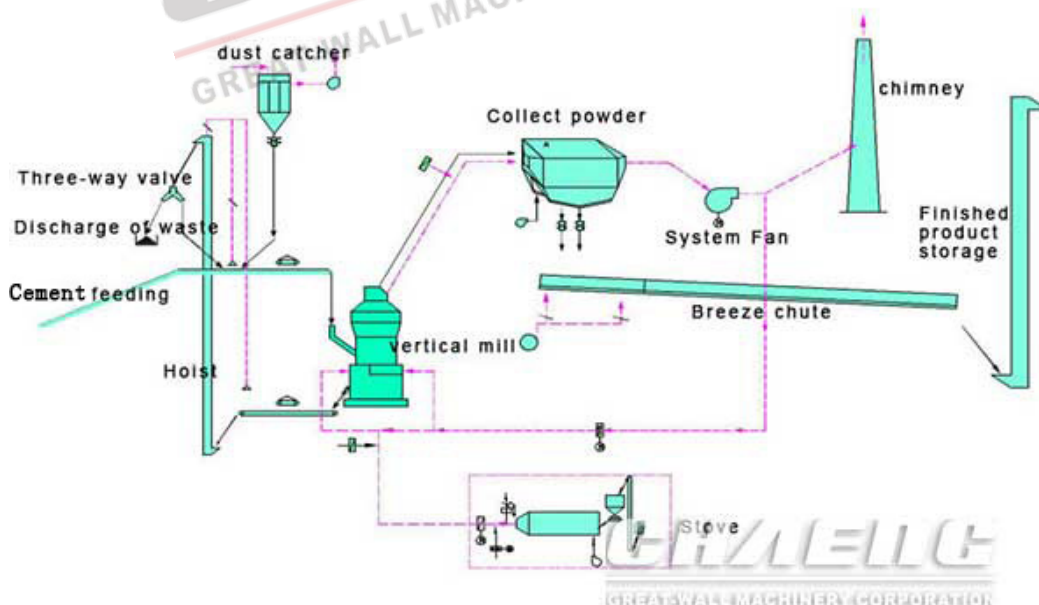
Process introduction

The GRMK vertical cement mill of CHAENG adopts a new generation of cement grinding technology, which integrates grinding, drying and powder selecting functions. It can save 30% of power per ton compared with traditional ball mill. At the same time, it has many advantages, such as less auxiliary equipment, multiple functions, small occupied area and little dust pollution. It is widely used in clinker grinding production of cement plant and grinding plant.

CHAENG can provide various types of vertical cement mills with productivity of 50-250t/h. The biggest advantage of CHAENG is to have a large casting base and large machining workshops, which greatly shortens the delivery cycle of cement vertical mill.

GRMK vertical cement mill has the advantages of compact structure and small volume. It mainly includes high efficiency separator, grinding rollers, grinding table, hydraulic loading device of grinding roller, hydraulic lubrication system, reducer, motor, and electrical components.

1. Separator is an efficient and energy-saving powder selection device.
2. Grinding roller is used to grind and crush materials.
3. The grinding table is fixed on the output shaft of the reducer. It is the place where the grinding rollers grind materials.
4. The hydraulic loading device is a component that provides grinding pressure for the roller. And it provides sufficient pressure to crush the materials.



CHAENG has the domestic first-class technical team and rich production experience, and its cement vertical mill has the following advantages:

1. CHAENG vertical mill comprehensive power consumption is 25kwh/t, saving more than 30% of power compared to the traditional

ball mill system.

2. According to the market demand, it is convenient to adjust the cement varieties.
3. High cement quality to meet the construction requirements
4. Good material adaptability: more adaptable to the materials which has high water content and are hard to be crushed and worn.
5. Simple process, small occupied area, a small number of mechanical and electrical equipment, easy operation and maintenance.
6. Integrate functions of grinding, drying and powder selecting, with small noise and little wear.



Investment return

CHAENG can provide a variety of schemes for cement grinding, and make a choice according to the actual situation and needs of customers:

Items		Scheme I Closed-circuit ball mill system	Scheme II Combined grinding system	Scheme III Vertical roller mill finish- grinding system
Cement types		P·O42.5	P·O42.5	P·O42.5
Cement ratio, %	Clinker	90	90	90
	Limestone	5	5	5
	Plaster	5	5	5
Cement specific surface area, cm ² /g		3500	3500	3500
System output, t/h		170	160	160
System power, kWh/t		41	33	28

Annual electricity savings (×10,000 yuan)	—	400	700
Metal wear, g/t	50 (Steel ball)	30 (Steel ball+roller surface)	5 (Grinding roller+grinding table)
Drying capacity	Weak	Medium	Strong

As can be seen from the table, the vertical roller mill system is superior to the ball mill and roller press system in the aspect of power saving. In terms of power saving, the following includes an account for you:

Economic benefit analysis: the economic benefit caused by the high running rate, power saving and operation maintenance cost of vertical mill system
If one ton of cement saves 4.5kwh/t power, one day produces 5000T cement, one year works 300 days, and electricity cost is 0.7 yuan per kilowatt hour, you can save electricity cost: ¥ 4,725,000 per year
The annual maintenance cost balance: ¥ 3,660,000
Cement maintenance cost balance per ton: ¥ 45,000
Total: ¥ 8430,000

In terms of long-term development and environmental protection, the production line based on cement vertical mill is the most appropriate choice for the investment income.

Specifications

Main equipment list and parameters

Model	Grinding Table Diameter (mm)	Roller Number (n)	Output (t/h)
GRMK30.31	3000	3	55~60
GRMK33.31	3300	3	65~80
GRMK35.41	3500	4	85~100
GRMK40.41	4000	4	115~125
GRMK43.41	4300	4	135~145
GRMK46.41	4600	4	150~160
GRMK48.41	4800	4	170~180
GRMK50.41	5000	4	190~200

GRMK53.41	5300	4	210~230
GRMK56.61	5600	6	235~250

Project

One cement factory in China purchased GRMK53.41 cement vertical mill from CHAENG in 2012. This vertical mill is the first and the largest cement vertical mill in China, adopting new efficient powder separator, easy to operate and operating stably. Its designed output is 220t/h, and the actual output is up to 260t/h. Cement produced by this vertical mill possess good quality not lower than that of ball mill, the leader of Meng Electric Group expressed his great satisfaction.

About CHAENG

Founded in 1958 and located in Xinxiang, Henan province, CHAENG with 60-year experience in equipment manufacturing covers an area of 330,000 m² and its annual production value is 1 billion yuan. The company specializes in manufacturing tube mills, rotary kilns, vertical mills and large steel casting and can undertake the EPC projects of cement production lines, active lime production lines, blast furnace slag/ steel slag/ nickel slag grinding plants, and its products are sold to more than 50 countries and regions in Southeast Asia, Central Asia, South Asia, North America, South America and Europe.

Our long-term strategic partners: Arcelor Mittal, Tata Group, Pohang Iron and Steel Company, Germany CCE, Japan Chiba , Shanghai Baosteel , Voestalpine and ASGT.

CHAENG
GREAT-WALL MACHINERY CORPORATION