

Dedicated to providing better construction machinery Create more value for customers

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# **Grinding Mill Classifier production line**

Daswell aims to provide better construction machinery to create more value for customers

Customers First | Dedication | Perseverance

## **Company** introduction



## 2022

We are specializing in research, design and production of mineral processing EPC solution, and concrete machinery for more than 30 years.

We mainly do calcium carbonate processing solution, lime hydrated plant, etc. Our main supplied equipment is calcium carbonate ball mill and classification plant, micro powder roller mill, wet grinding mill, Raymond roller mill, hydrated lime plant, packing machine and so on. Our team of mining department has the top experts in China, who have been working in this field for many years, with lots of design and operation experience in different mining processing. Also we supply the concrete machinery such as concrete batching plant, concrete pump, block machine and so on.

Till now, our machinery has been sold to more than 80 countries in the world such as Germany, USA,UK, Ireland, Norway, Australia, New Zealand, Russia, Brazil, Philippines, Thailand, Malaysia, Indonesia, Vietnam, Mexico, Colombia, Ecuador, Uruguay, Egypt, Nigeria, South Africa and so on.

And we have several offices and warehouses in the world to do better service for our customers.

We are growing mainly by our good reputation year by year, as we always promise to supply high qualityproducts with good service all the time.

#### **Grinding mill Classifier Production Line**

Superfine powder mill production line for heavy calcium carbonate

Grinding mill Classifier Production Line is a complete production line of ultrafine powder composed of ball mill, eddy current air classifier, dust collector, high-pressure fan, storage bin, packaging machine, control system and so on. Material after coarse broken, the controllable loading equipment to join the ball mill, grinding machine grinding media with kinetic energy gained by the mill rotates to repeated shocks, grinding material crushing, after crushing of the material by ball mill tail into the suction tank, by negative pressure into the classifier for classification, qualified fine powder collected by pulse dust collector, The coarse particles after classification are discharged from the lower end of the classifier and re-enter the ball mill for crushing by the screw conveyor.

Through series and parallel classification, we can produce D97, 5-45 micron products, fineness can be adjusted arbitrarily

The single production scale is from annual output of 10,000 tons, to annual output of 200,000 tons

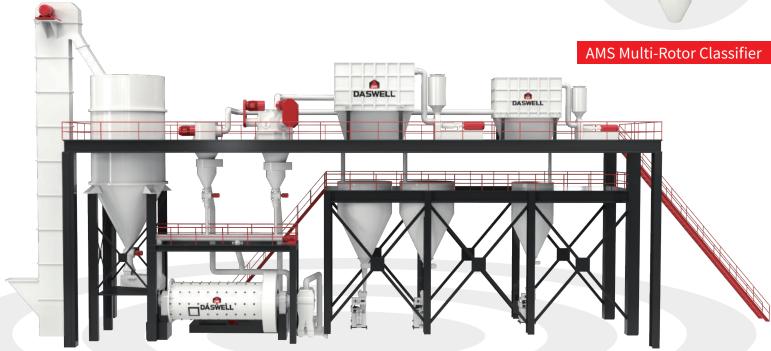
Compared with the conventional classifier, the back pressure can be reduced by more than 30%, and the energy consumption of the main fan can be reduced by 20%-30%











#### Wide application field

#### Material

■ Marble Calcite Limestone Chalk

#### Product application scope

- The heavy calcium carbonate produced by ball mill production line can be used in papermaking, plastics, rubber, ink, chemical building materials, sealing materials, daily chemicals and so on.
- More specific such as: artificial floor, marble, woven bag, masterbatch, plastic, wood and plastic, paint, water-based latex paint, sealing strip, PVC pipes, non-woven, PVC soft calendaring film, agricultural film, profiles, wires and cables, case fabric, gusset plate, advertising film, rolling film, sealing side, corrugated pipe, PVC leather, shoes materials, engineering plastics, amino film plastics, etc.
- It mainly plays the role of filling, reducing the cost of materials, and improving the hardness and whiteness of materials.



Latex paint





Adhesive

Plastic film

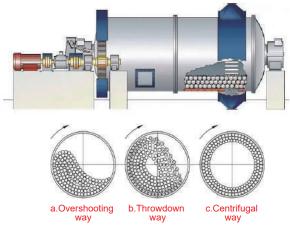


#### Introduction to superfine machinery process

#### i - After two stages of crushing, feed into the ball mill for crushing

After two steps of crushing, the material reaches the feeding size, and is lifted to the raw material bin by the elevator, and then fed by the quantitative weighing belt feeding device

In the ball mill, the material is crushed by the continuous impact of the grinding medium in the ball mill.

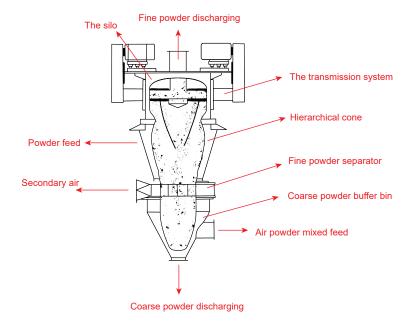


#### Three motion states of the steel balls in a ball mill

#### \_\_\_\_

ii - Classification

■ The ground powder is graded by air flow into the classifier



#### iii - Dust collector for one-time collection

After classification, fine powder and air flow together into the high-pressure pulse dust collector for one-time collection, finished products are discharged to the finished product storage, waiting for packaging.



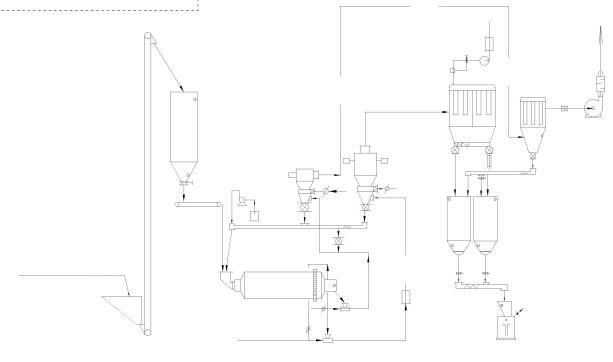
#### iv - Coarse powder can be returned to the ball mill to form a closed cycle

The graded coarse powder can be returned to the feeding end of the mill and mixed with raw materials before entering the ball mill to form a closed-circuit processing system.

#### v - Coarse powder can also be re-graded

The coarse powder under the classification can also be classified again to extract the fine powder, reduce the amount of fine powder back to grinding, can increase production, save energy and reduce consumption, and harvest products with narrow particle size distribution.

#### Process flow diagram











### **Seven** core strengths

German manufacturing process standard automatic processing line ■

- The world's leading production technology
- The ball mill grinds more efficiently
- The grinding machine has a wide adjustment range
- Flexible product strength control



Accurate production state is more stable and efficient

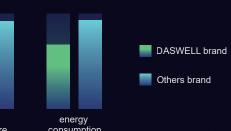
The automatic control system is easier to operate and maintain

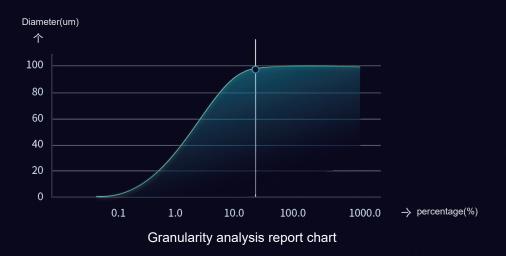
Lower noise and emissions are more environmentally friendly

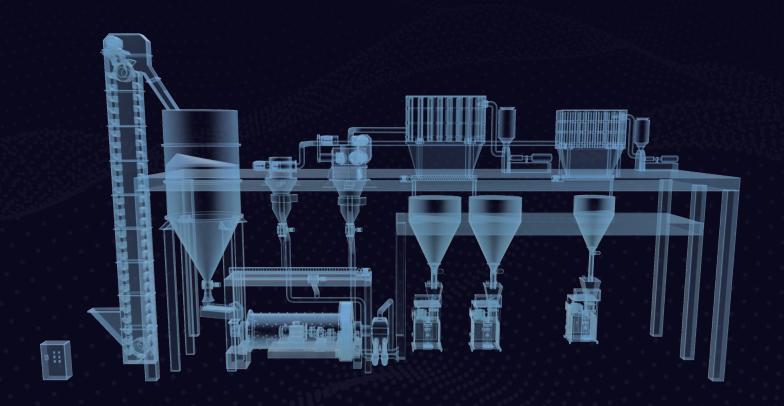
#### NO.1

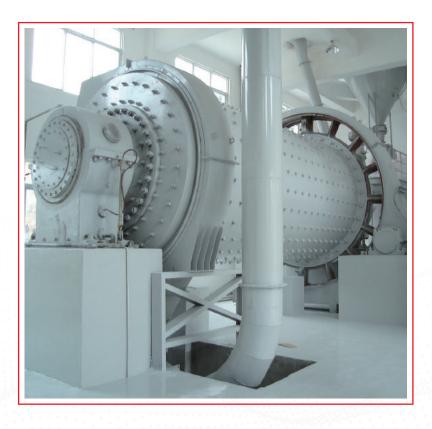
#### The world's leading production technology

International standard non-mineral processing production line, our heavy calcium grinding grading technology, equipment and control level are the world's advanced level.









#### NO.2

## The ball mill grinds more efficiently

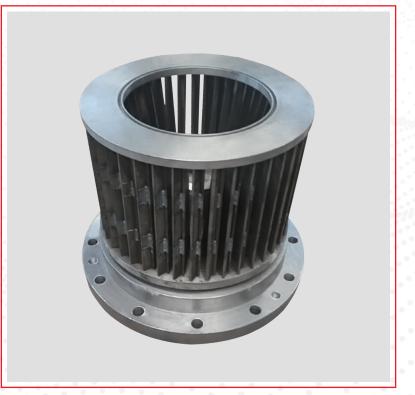
- The selection of ball mill according to the mineral hardness, grindability, product size distribution requirements.
- And with different proportion of grinding medium, maximum improve the grinding efficiency of ball mill, reduce product energy consumption.

#### NO.3

## The grading machine has a wide adjustment range

- The classification impeller is made of back bending folding and trapezoidal combination blades, which can easily classify 5µm ultrafine products. The cutting particle size is accurate, and high-definition micro powder can be obtained without coarse particles. The fineness of the product can be adjusted arbitrarily by adjusting the grading wheel speed and other parameters, and the product variety adjustment is very simple and convenient.
- Compared with the conventional classifier, the back pressure can be reduced by more than 30%, and the energy consumption of the main fan can be reduced by 20%-30%.





#### **NO.4**

## Flexible product strength control

- According to the needs, one production line can produce different kinds of particle size products at the same time, can be equipped with two or more classifier at the same time, to ensure the lowest energy consumption, the largest output, the best particle size distribution.
- The coarse powder can be classified again, and the fine powder can be extracted to reduce the amount of fine powder returned to grinding, which can increase production, save energy and reduce consumption, and harvest products with narrow particle size distribution.
- The fine products can be classified for two or three times to extract finer products or produce characteristic products with a very narrow particle size distribution range.



#### **NO.5**

## Accurate production state is more stable and efficient

- The feed amount of mill and the coarse powder return amount of classifier are interlinked to control, to ensure the feed stability, adjustable at any time, can greatly improve the production efficiency.
- The grinding auxiliaries are added into the ball mill by metering pump to improve the grinding efficiency and stability of product performance.
- The production line is equipped with air volume, air pressure, temperature, speed and other instruments to accurately record the dynamic production process to ensure efficient and stable production.





#### **NO.6**

## The automatic control system is easier to operate and maintain

- Ball mill and grading system adopts automatic control system to control the operation of the whole production line equipment.
- The equipment has good operation stability, simple operation and control, low operation and maintenance.



## Lower noise and emissions are more environmentally friendly

- Environmental protection with special design, through the vibration reduction equipment and part of the soft connection, so that the noise to achieve less.
- Through the use of high-quality filtration materials, ensure lower dust emissions.



#### Construction case

















### What is the difference between ball mill production line and ring roller mill production line?

Ball mill production line is mainly used for the production of D97, 5-45 micron heavy calcium powder; Ring roller mill is mainly used to produce 8-45 micron heavy calcium powder. The product grain shape produced by ball mill is better, generally spherical or close to spherical, while the powder produced by ring roller mill is generally needle-like. The products produced by ball mill are better for the downstream industry, especially the plastic and coating industry, and the products produced by ball mill are more popular. Power consumption: the ball mill consumes more electricity, and the ring roller mill saves more electricity. Site: compared with ball mill, ring roller mill occupies a small area. The particle size distribution of products produced by ball milling is narrow, the cutting particle size is accurate, and high definition of micro powder can be obtained. The particle size distribution of products produced by ring roller mill is wide. The investment of ball mill production line is higher than that of ring mill.

### **Why do customers choose DASWELL as the supplier?**

Our DASWELL experts in this line more than 30 years of work experience, in ball mill grinding classification technology, in the domestic leading level, to design the optimal scheme, the same equipment, according to our design, higher capacity, less power consumption, at the top of the particle size of cutting is better, better particle distribution, the most friendly to the downstream industry.

#### Where do you have ball mill production line cases?

Heavy calcium carbonate ball mill production line this grinding classification technology is favored by European and American countries. We have our calcium carbonate powder grinding production line in Egypt, Pakistan and some other countries. We have more than ten ball mill production lines and more than 40 other roller mill production lines in Egypt, and we have more than 100 powder grinding production lines in China.

#### What is the equipment delivery time?

Delivery time is generally 2-3 months, our company will strictly in accordance with the contract requirements within the delivery period of quality and quantity.

#### **?** How to check and accept the equipment?

After the main production equipment arrives at the site, before installation, our staff and customers will jointly inspect the specifications, models and quality according to the contract and the technical requirements of the contract accessories. For reasons such as project progress, the equipment can also be installed after the customer's consent before acceptance.

#### **?** What are the terms of payment?

Under normal circumstances, the payment method is 30%T/T as deposit, and 70% balance T/T is paid before delivery. If you want to use other terms of payment, we can discuss it according to the specific situation.

# FAQ

#### **Question answer**

