

Ball Mill

The main working part of the [ball mill](#) is the rotary cylinder. Generally, the ball mill machine is supported at both ends, the material is discharged at one end and driven by the motor through the transmission gear, and the other end is fed. The cylinder is equipped with the ball, segment, bar, and other grinding media, which are constantly brought up, dropped, impacted, and ground together with the materials by the rotating cylinder body. The materials are ground in this process.



Types of Ball Mills

There are many specific types of ball mills, the difference lies in the loading of grinding media, discharge method, transmission and support mode. Various types of ball mill grinder can be mainly classified in this way.

According to the Different Grinding Media

1. Ball mill: the steel ball or steel segment is installed in the barrel, which is the most commonly used grinding mill.
2. Rod mill: The steel rod in the cylinder is used as the grinding medium, which is generally suitable for the rough grinding stage. The particle size of [rod mill](#) products is relatively uniform.

According to the Discharge Method

1. Central discharge: The discharge port of the [ball mill machine](#) is located at the central shaft hole of the ball mill, and it can be divided into two types.
 - a. Overflow type central discharge ball mill: when the ball mill machine is grinding, the material surface in the mill must be higher than the discharge port, so that the material overflows. The



overflowing ball mill has a large grinding body load and a simple internal structure.

b. Grid type discharge ball mill: in order to overcome the defects of overflow ball mill, grid type lifting plate is added at the micro end of ball mill to help discharge, so it becomes grid type ball mill. The grid type ball mill are mostly used in cement plants.

2. Peripheral discharge: This ball mill grinder discharges through the peripheral wall of the barrel. The peripheral discharge ball mill grinder has compact equipment, material saving and high unit power capacity. As a new type of ball mill grinder, it is mostly used in the circulation system with powder separator.

According to the Transmission Mode

1. Center drive ball mill machine. The discharge end is directly connected with the output shaft of the reducer through the hollow shaft, driven by the motor, and the center of the transmission shaft is consistent with the center line of the barrel.
2. Edge drive ball mill machine. The rotating device of the ball mill transfers the power of the motor through the reducer to the rotating shaft which is parallel to the center line of the ball mill barrel. The gear on the shaft drives the big gear installed on the ball mill barrel to

make the ball mill rotate.

3. Friction drive ball mill machine. This kind of ball mill belongs to a special edge drive ball mill machine. It is driven by the friction between the wheel belt mounted on the cylinder and the tug on the main shaft.

Other Categories

In addition to the classification of ball mills in the above ways, bearing support and idler support, or the combination of the two supports, etc. can also be used according to the support ways.

Advantages of Ball Mill

- The ball mill grinder has strong adaptability to materials, continuous production, and large production capacity, which can meet the needs of large-scale production.
- The ball mill grinder has a large crushing ratio, which can reach more than 300, and it is easy to adjust the fineness of the product.
- The ball mill grinder can be adapted to work in various situations. It can be used for dry production or wet production, and it can also combine dry grinding processes.
- The ball mill itself is reliable in operation and can run continuously

for a long time.

- Maintenance management is simple and easy.
- The ball mill machine is equipped with sealing device to prevent dust flying.

Other grinding mill you may be interested in:

1. [Vertical Roller Mill](#)
2. [SAG Mill](#)
3. [Cement Ball Mill](#)