

### roller jar mill with dual station for small application

Duplex Roller Jar Mill is a kind of high efficient grinding equipment, which is widely used in many fields, such as electronic materials, ceramics, coatings, glass powder, fluorescent materials, non-metallic minerals, explosives, magnetic materials, battery materials and so on.

#### Roller Jar Mill

This roller jar mill is suitable for small batch production and fine grinding in the laboratory.

#### Features

1. Frequency conversion speed control system: this equipment adopts frequency conversion speed control technology to realize stepless speed regulation by program control, which can precisely control the rotational speed and running time during the grinding process, ensuring high efficiency and precision grinding effect.
2. Handwheel adjustable roller spacing: the spacing between the rollers can be easily adjusted through the handwheel, thus avoiding the ball milling jar running or moving in the process of operation and ensuring the stability and uniformity of grinding.



3. Wear-resistant polyurethane sleeve: the overall roller lining is made of wear-resistant polyurethane material, which enhances the friction coefficient, effectively prevents the ball mill jar from slipping or deformation, and prolongs the service life of the equipment.
4. Feed size requirements: the feed size of the equipment is usually required to be less than 3 millimeters, soil and other materials can be allowed to reach a particle size of 10 millimeters, the discharge size range of 20 to 300 mesh, which is equivalent to between 65 microns and 75 microns, to meet the high requirements of fineness and uniformity.

### **Working Principle**

Roller jar mill is based on the ball milling jar in the process of rotation, with the help of collision, friction and extrusion between the grinding media, such as grinding balls and materials to achieve the refinement and mixing of materials. The speed of the grinding process can be accurately controlled through the frequency conversion speed control system, so as to achieve the required fineness of different materials. During the grinding process, the materials are continuously impacted and rubbed by the grinding balls in the ball milling tank, and gradually broken into smaller particles. Adjusting the roller spacing can prevent the ball milling jar from shifting due to rotation, thus improving the stability and effect of the grinding process.

## Advantages

1. High efficiency and fine grinding: thanks to the frequency conversion speed control technology and precise control, the equipment can provide uniform and detailed grinding effect, which is suitable for processing a variety of materials.
2. Flexible and adaptable: manual adjustment of roller spacing makes the equipment flexible to adapt to the requirements of different materials and processes, avoiding unstable operation caused by material changes.
3. Strong durability: the use of wear-resistant polyurethane sleeve and high-quality grinding tank, the wear resistance and corrosion resistance of the equipment is greatly improved, reducing maintenance costs and downtime.
4. Energy saving and environmental protection: through the design of frequency conversion speed control and high efficiency grinding, the roller mill reduces unnecessary energy consumption and noise, which helps energy saving and emission reduction.
5. High Stability: Duplex design enhances the stability and productivity of the machine, which is suitable for continuous mass production.

## Application Areas

1. Electronic materials: In the manufacturing process of electronic components, the duplex roller mill is used for fine grinding of metals, ceramic materials, etc. to ensure their stability in high-precision applications.
2. Ceramics and Coatings: It is used for fine grinding of ceramic raw materials and coatings to improve the surface quality and uniformity of the products, which is widely used in industrial ceramics, art ceramics and other fields.
3. Glass powder and fluorescent materials: fine grinding of glass powder and fluorescent materials to ensure uniformity of granularity and improve the performance and use of materials.
4. Non-metallic minerals: the mineral processing industry uses this equipment for ore crushing and grinding to improve the morphology and size distribution of mineral particles and improve extraction efficiency.
5. Explosives and magnetic materials: Duplex roller mill is suitable for fine grinding of explosives raw materials and magnetic materials, to ensure the precision and uniformity of its particle size, to meet the safety and performance requirements.
6. Battery materials: in the battery industry, lithium batteries, lead-acid batteries and other battery materials grinding, duplex roller mill plays an important role to ensure that the battery performance.
7. Food Packaging and Biological Agents: Widely used in food packaging materials, plant culture and other fields of grinding and mixing processing, to ensure that the product is fine processing and high purity.

### **Selection of Ball Mill Jars**

1. Nylon ball mill jars: with high hardness and wear resistance, widely used in daily experiments and grinding treatment, suitable for some lighter and does not require high corrosive materials.
2. Stainless steel ball mill jars: 304 stainless steel material, good corrosion resistance, suitable for chemical samples with a certain degree of corrosiveness, suitable for the need for a pollution-free environment for precision grinding.
3. Alumina ball mill jars: high hardness, excellent abrasion resistance, can provide better grinding effect, suitable for high hardness material processing.
4. Polyurethane ball milling jars: high purity, smooth surface, suitable for high-precision mixing, and wear resistance, suitable for mass production.
5. Polytetrafluoroethylene ball milling jars: its outstanding corrosion resistance makes it a good choice for processing acidic and alkaline materials.

### **Selection of Grinding Balls**

1. Agate ball: suitable for fine, high-precision grinding, and no pollution requirements of the application.
2. Zirconium balls: high hardness, suitable for efficient grinding of hard materials.
3. Stainless steel ball: common grinding ball material, suitable for general grinding requirements.

4. Polyurethane balls: suitable for applications requiring high grinding accuracy and no contamination of the material.
5. Alumina ball, tungsten carbide ball: suitable for high wear-resistant requirements of the grinding environment, excellent performance in the grinding of hard materials.

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<b>Model</b>	<b>HB2-3</b>	<b>HB2-5</b>	<b>HB2-10</b>	<b>HB2-20</b>	<b>HB2-30</b>
Jar capacity	500ml to 3L	500ml to 5L	500ml to 10L	500ml to 20L	500ml to 30L
Roller diameterXLength	φ58x250mmx2	φ58x290mmx2	φ68x349mmx1	φ78x349mmx1	φ78x425mmx1
Power	0.75kw	0.75kw	1.1kw	1.5kw	2.2kw
Adjusted manual space	52 to 210mm	67 to 280mm	67 to 230mm	30 to 320mm	35 to 360mm
Jar diameter	φ50 to φ200mm	φ70 to φ260mm	φ60 to φ280mm	φ60 to φ320mm	φ60 to φ360mm
Layer	1	1	1	1	1
Stations	2	2	2	2	2

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Transmission mode	synchronous belt				
Roller speed	5 to 1000rpm	5 to 1000rpm	5 to 1200rpm	5 to 720rpm	5 to 720rpm
Roller Nunmbers	2	2	3	3	3
Power supply	220Vac, 50Hz	220Vac, 50Hz	220Vac, 50Hz	380Vac, 50Hz	380Vac, 50Hz
Dimensions	630x390x500mm	1000x440x540mm	820x900x550mm	880x960x730mm	920x1050x760mm