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Product Brochure



MIXING BALL MILL SERIES

lab stirred ball mill

JM

Lab stirred ball mill for ultra-fine grinding of ceramics, chemicals, paints, and minerals. Ideal for R&D and small batch production.

<https://www.planetaryballmills.com/products/grinding-series/stirring-ball-mill/lab-stirred-ball-mill.html>



Product Overview

Lab stirred ball mill for ultra-fine grinding of ceramics, chemicals, paints, and minerals. Ideal for R&D and small batch production.





Product Introduction

The stirred mill is mainly composed of a stationary grinding barrel filled with small diameter grinding media, a stirring device and other auxiliary devices (such as circulation device, cooling device, timing, speed control, etc.). It has high grinding efficiency and small grinding particle size. It can well achieve various process parameter requirements and simulate various indicators in production. At the same time, due to its advantages of small batch, low power consumption and low price, it is an optional equipment for schools, research units and companies to conduct research on grinding technology, new materials and coatings. It is widely used in the production of various finely ground powders such as zirconium silicate, zirconium oxide, alumina, ceramics, chemicals, electronic materials, magnetic materials, papermaking, coatings, non-metallic minerals, new materials, paints, graphite, calcium carbonate, pharmaceuticals, etc.



Technical parameters

model	Overall dimensions (mm)	Frequency conversion speed (r/min)	Equipment weight (KG)	Loading capacity (L)	Motor power (KW)	Grinding barrel material (material thickness)	Grinding barrel size (without water jacket)	Grinding barrel size (with water jacket)
JM-1L manual lifting	750X450X800	0~1400	29	0.35	0.37	Stainless steel, carbon steel (about 5mm)	Φ107*142	Φ133*142
						Zirconia, corundum (about 10mm)	Φ128*138	Φ168*143
						PTFE, nylon (about 10mm)	Φ115*160	Φ144*165
						Polyurethane (approx. 6mm)	Φ114*165	Φ132*165
JM-2L manual lifting	750X450X800	0~1400	29	0.7	0.37	Stainless steel, carbon steel (about 5mm)	Φ132*180	Φ122*180
						Zirconia, corundum (about 10mm)	Φ158*150	Φ192*155
						PTFE, nylon (about 10mm)	Φ139*195	Φ180*200
						Polyurethane (approx. 6mm)	Φ144*174	Φ176*174
JM-3L manual lifting	750X450X800	0~1400	29	1.05	0.37	Stainless steel, carbon steel (about 5mm)	Φ158*182	Φ192*182
						Zirconia, corundum (about 10mm)	Φ159*205	Φ192*208
						PTFE, nylon (about 10mm)	Φ159*228	Φ192*235
						Polyurethane (approx. 7mm)	Φ158*210	Φ192*215

* JM1~3L has no discharge valve and delivery pump, and the feeding particle size is ≤5mm;

Working Principle

The spindle drives the mixer to rotate at high speed, causing the grinding medium to move irregularly. This chaotic and disordered movement will cause collision, extrusion, friction and shearing of the grinding medium, thereby crushing and finely grinding the material. In addition, the size, shape and proportion of the grinding media are different, and the grinding effects obtained are also different. Generally speaking, the larger the size of the grinding media, the coarser the material will be crushed. On the contrary, the smaller the grinding media, the finer the material is ground. The appropriate ratio of different specifications of grinding media, coupled with the appropriate adjustment of the speed, will result in better grinding effects.

Product Features

1. The energy utilization rate is high and high power density can be obtained, so it saves energy.
2. The product particle size is easy to adjust, and the fineness can be ensured by adjusting the residence time of the material in the cylinder.
3. Small vibration and low noise.
4. Beautiful appearance, high-end atmosphere, excellent performance, simple maintenance, easy and labor-saving operation, and durable.
5. The mixing rod can be raised and lowered automatically, and the grinding barrel can be flipped freely.
6. It can well realize various process requirements and can carry out continuous or intermittent production as needed.
7. Since the ball mill barrel is equipped with a jacket, the grinding temperature can be well controlled.
8. Equipment with various special functions can be made as needed, such as: timing, speed adjustment, circulation, temperature adjustment, etc.
9. You can choose grinding barrels and stirring devices made of different materials (stainless steel, corundum ceramics, polyurethane, zirconia, etc.).

Accessories & Customization

Accessories

Grinding jars, heating elements, sample holders, control modules and other matching accessories can be selected according to the product configuration.

Customization

For voltage, capacity, chamber size, process temperature or application requirements, please contact TENCAN for a suitable configuration.